



ARBORICULTURAL PLANNING CONSULTANTS

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Arboricultural Implications Report

Proposed development at

Land off Ford Road

Arundel



December 2020

Ref. SJA air 19515-01a

SUMMARY

S1. On the basis of our assessment, we conclude that the arboricultural impact of this scheme is of low magnitude, as defined according to the categories set out in **Table 1** of this report.

S2. There are no incursions into the adjacent ancient woodland and only a very small incursion into the associated 15m buffer zone; and consequently, the proposals will not result in any loss of ancient woodland, will avoid any potentially harmful effects on the woodland, and will comply with current UK Planning and development guidance.

S3. Our assessment of the impacts of the proposals on the existing trees concludes that no category 'A' or 'B' trees and no trees of high landscape or biodiversity value are to be removed. None of the main arboricultural features of the site, including veteran trees, are to be removed. The proposed removal of individuals and groups of trees will represent no alteration to the main arboricultural features of the site, only a minor alteration to the overall arboricultural character of the site and will not have a significant adverse impact on the arboricultural character and appearance of the local landscape.

S4. As no trees are to be pruned, and none of the proposed dwellings will be within 10m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

S5. The incursions into the Root Protection Areas of trees to be retained are minor, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix 1**, no significant or long-term damage to their root systems or rooting environments will occur. Furthermore, because of the cessation of grazing and implementation of recommended soil improvements, the physiological condition of these trees will be improved.

S6. None of the proposed dwellings or private gardens are likely to be shaded by retained trees to the extent that this will interfere with their reasonable use or enjoyment by incoming occupiers, which might otherwise lead to pressure on the Local Planning Authority to permit felling or severe pruning that it could not reasonably resist.

S7. The proposed development will retain all protected trees, including the veterans, trees subject to the upcoming updated TPO, and those within the Ancient Woodland. In addition, all potential emerging veterans, and unprotected trees of high or moderate value and quality have been retained to protect the character and appearance of the local area. The retained trees are afforded adequate protection and management through the development process and for the future. The proposed scheme incorporates a comprehensive planting plan to mitigate the proposed loss of trees and to enhance the arboricultural character of the site. As such, the proposed development complies with Policy ENV DM4 of the adopted Arun Local Plan 2011-2031 (July 2018).

S8. As the proposed development will retain all trees subject to the upcoming updated TPO and all unprotected trees of value, and removes only the minimum amount of trees required to accommodate an efficient development layout, it complies with Policy AR2 of the Arundel Neighbourhood Plan Review (2018-2031) October 2019.

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1. INTRODUCTION AND BACKGROUND INFORMATION

1.1. Instructions

1.1.1. SJAtrees has been instructed by The Norfolk Estate to visit the land off Ford Road, Arundel and to survey the trees growing on or immediately adjacent to this site.

1.1.2. We are further asked to identify which trees are worthy of retention within a proposed development of the site; to assess the implications of the development proposals on these specimens, and to advise how they should be protected from unacceptable damage during construction.

1.2. Scope of report

1.2.1. This report and its appendices reflect the scope of our instructions, as set out above. It is intended to accompany an outline planning application to be submitted to Arun District Council (the LPA), and complies with local validation requirements, and with the recommendations of British Standard BS 5837:2012, *Trees in relation to design, demolition and construction – Recommendations* ('BS 5837').

1.2.2. The proposed development comprises the construction of 90 dwellings and associated amenity land on Land at Ford Road, Arundel, with all matters reserved except for means of access"

1.2.3. This report summarises and sets out the main conclusions of the baseline data collected during the tree survey and identifies those trees or groups of trees whose removal could result in a significant adverse impact on the character or appearance of the local area (Section 3). It then details and assesses the impacts of the proposed development on the adjacent ancient woodland (section 4) and on individual trees and groups of trees, including those to be removed (Section 5), those to be pruned (Section 6), those which might incur root damage that might threaten their viability (Section 7) and those that might become under pressure for removal after occupation as a result of shading (Section 8). The summary and conclusions, with regard to local planning policy, are presented in Section 9.

1.3. Site inspection

1.3.1. A site visit and tree inspection were undertaken by Simon Jones, Finn Cullerne and James Bradford of SJAtrees on Wednesday 29th January 2020. Weather conditions at the time were clear, dry and bright. Deciduous trees were not in leaf.

1.4. Site description

1.4.1. The site is approximately 10.18ha in size and is located on the west side of Ford Road, as shown at **Figure 1** below. The north boundary adjoins private residential properties of Dalloway Road, Steward Rise and an area of allotments. The east boundary abuts Ford Road with agricultural fields and the River Arun beyond. The south boundary adjoins Priory Lane with a small hamlet of private dwellings and agricultural fields beyond. The west boundary abuts a field within the applicant's ownership.



Figure 1: Site location shown on Google Earth image

1.4.2. The site is on ground that rises by 26m from its eastern end adjacent to Ford Road to its north-western corner, and currently comprises two large agricultural fields.

1.5. Pre-application

1.5.1. The proposed scheme has undergone a pre-application review by Arun District Council; the subsequent pre-application advice (ref: PAA/35/20) dated 7th July 2019 included the following comments from the Arboricultural Officer:

“The Tree Survey, prepared by SJA trees - Arboricultural Planning Consultants, January 2020 is comprehensive and accords with the requirements of BS5837:2012. The report and plans are of high quality and provide a thorough appraisal of the tree population. I also endorse their identification of 'potential veteran tree status' in respect of T52 & T53 as well as highlighting the 'emerging veteran' status of many of the other field boundary oak trees. For some reason, the extent of the survey appears incomplete relative to the Illustrative Masterplan. The trees growing alongside Priory Lane and overlapping the western parcel have not been considered; and these will need to be included in any subsequent planning application. The site has a Tree Preservation Order (TPO) covering a number of trees along the boundary between the central and eastern fields (TPO/AB/2/16). However, it is recommended that priority is given to the making of a further Tree Preservation Order (TPO) to cover 1x hawthorn, 25x pedunculate oak. The paperwork for the proposed TPO is currently being prepared.”

1.5.2. The LPA officers' comments in respect to the submitted arboricultural information are positive, there are only two items that require discussion: the extent of the proposals and the TPOs on site.

1.5.3. The proposed scheme is limited to two fields (central and eastern fields), and whilst the third field (to the west) is within the ownership of the applicant, it is not included within the current application as shown by the planning red line of the submitted illustrative masterplan. Consequently, the existing trees growing on the west boundary of the western field alongside Priory Lane have not been surveyed.

1.5.4. The comments regarding the TPO status of the site are welcome, SJA trees reviewed the existing TPO documentation and could not conclusively locate and identify all the trees listed in the schedule and plan. An updated TPO will clarify this matter.

1.6. Soil type

1.6.1. The British Geological Survey Solid and Drift Geology map of the area indicates the site lies on superficial deposits of Head Deposits (clay, silt, sand and gravel) that overlies a mixed bedrock of Lambeth Group and London clay.

1.6.2. Previous exploratory hole records from both the online British Geological Survey database and from Southern Testing records (as set out in the Southern Testing Desk Study Report dated 22 January 2020) indicate a topsoil of between 30cm and 40cm in depth above a silty clay, which extends to depths of 1.2m to 5m.

1.6.3. These findings suggest that the soil adjacent to the existing trees is likely to be prone to compaction.

1.7. Statutory controls

1.7.1. As mentioned in 1.5.4. above, several of the trees on site are covered by a tree preservation order (TPO). This is TPO no. AB/2/16 made by Arun District Council, which protects two groups of trees on the site but the schedule and plan within the order do not make it clear which individual trees are covered. SJAtrees has liaised with the LPA tree officer, Mark Warwick; he has confirmed the intention to make a new TPO to address this issue and has provided SJAtrees with a confidential indicative overview of the new TPO to indicate which trees the LPA intends to protect in the future. The trees protected by the existing TPO are identified within our tree survey schedule at **Appendix 2** and on the tree protection plan.

1.7.2. The site is not within a conservation area, and therefore there are no constraints relating to existing trees in this regard.

1.8. Non-statutory designations

1.8.1. As shown at **Figure 2** below, the area of woodland abutting the north-west boundary of the site is classified as 'Ancient'. Ancient woodland is defined as "any area that's been wooded continuously since at least 1600 AD" and is considered an important and irreplaceable habitat. The National Planning Policy Framework (see below) states that development resulting in the loss or deterioration of ancient

woodland should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists.

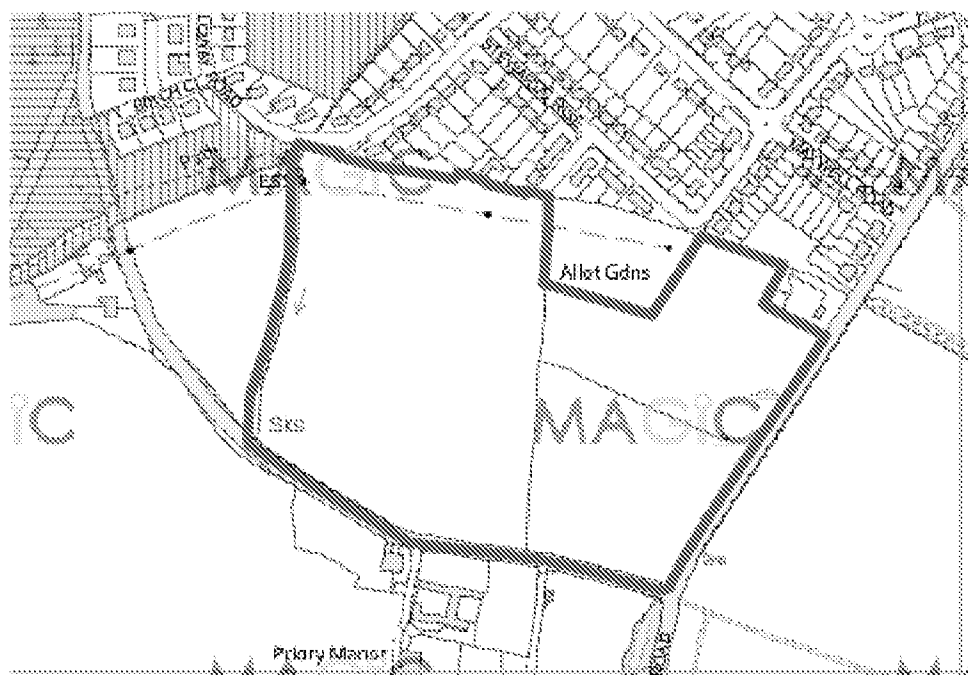


Figure 2: 'Magic' map image showing ancient woodland adjacent to the north-west corner of the site

1.8.2. Current UK planning and development guidance in relation to the development of sites adjacent to ancient woodland¹ is that to avoid negative effects on ancient woodland an appropriate buffer zone of semi-natural habitat of at least 15m should be left between the development and the woodland, but if other impacts are likely to extend beyond this distance, a larger buffer may be needed.

1.8.3. There are two English oaks (nos. 11 and 77) growing along the historic field boundary that separates the two fields of the site, which despite not being included in the Woodland Trust Ancient Tree Inventory² display attributes consistent with them being 'Veterans'. Veteran trees are also considered to be irreplaceable habitats, and contribute to a site's biodiversity, cultural and heritage value, and the National Planning Policy Framework (see below) states that development resulting in the loss or deterioration of ancient or veteran trees should be refused, unless there are wholly

¹ Ancient woodland and veteran trees: protecting them from development (05 November 2018). www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences

² <https://ati.woodlandtrust.org.uk/>

exceptional reasons and a suitable compensation strategy exists. Current government guidance states that ancient or veteran trees should be protected from root damage by inclusion of a buffer zone at least 15 times larger than the diameter of the trunk, or 5m from the edge of the tree's canopy if that area is larger.

2. METHODOLOGY

2.1. National policy context

2.1.1. Under Section 197 of the Town and Country Planning Act 1990, local authorities have a statutory duty to consider the protection and planting of trees when considering planning applications. The effects of proposed development on trees are therefore a material consideration, and this is normally reflected in local planning policies.

2.1.2. The National Planning Policy Framework (NPPF) (June 2019) sets out the Government's planning policies for England and how these should be applied in both plan and decision-making. Paragraph 2 makes it clear that the NPPF is itself a material consideration in the determination of planning application. Paragraph 11 states that **"Plans and decisions should apply a presumption in favour of sustainable development."**

2.1.3. In paragraph 127, within Section 12 "Achieving well-designed places" the NPPF states: **"Planning policies and decisions should ensure that developments:**

a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;

b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;

c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);

d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;

e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and

f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.”

2.1.4. In paragraph 170, within Section 15 “Conserving and enhancing the natural environment” the NPPF states: **“Planning policies and decisions should contribute to and enhance the natural and local environment by:**

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);

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...”

2.1.5. In paragraph 175 the NPPF states: **“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....”

2.2. Local policy context

2.2.1. Local planning policies are contained in the adopted Arun Local Plan 2011-2031 (July 2018).

2.2.2. Policy DM4 of the core strategy states:

“ Development will be permitted where it can be demonstrated that trees protected by a Tree Preservation Order(s), (TPO) identified as Ancient Woodland, in a Conservation Area or contributing to local amenity, will not be damaged or destroyed now and as they reach maturity, unless development:

a. Would result in the removal of one or more trees in the interests of good arboricultural practice. This shall be demonstrated by the developer following the advice of a suitably qualified person which shall be guided by BS 5837 (2012). Details

of any advice received having regard to BS 5837 (2012) shall be submitted, in writing, as part of a planning application; or

b. Would enhance the survival and growth prospects of other protected trees;

c. The benefits of the proposed development in a particular location outweigh the loss of trees or woodland, especially ancient woodland.

Where planning permission is granted in any of the above instances, conditions shall be used to ensure that, for any trees which are removed as part of a development, at least an equivalent number of a similar species and age (where practical) are planted on the proposed development site. Sufficient space for replacement trees to mature without causing future nuisance or damage shall be provided. The planting of new trees shall form an integral part of the design of any development scheme.

Proper provision must be made for the protection and management of trees or areas of woodland on-site when undertaking development. A management plan shall be provided as part of a planning application in accordance with BS 5837 (2012) in order to ensure that trees are adequately protected during development and appropriately maintained in the future. Conditions for the continued protection of trees on sites shall be included in any planning permission given.

Where there are existing trees on or adjacent to a development site, developers shall be required to provide:

d. Land and tree surveys

e. A tree constraints plan

f. An arboricultural impact assessment to include a tree protection plan and arboricultural method statement These will ensure that development is planned to take a comprehensive view of tree issues at an early stage in the design process and that development works do not have a negative impact on existing trees.”

2.3. Neighbourhood policy context

2.3.1. The neighbourhood planning policies are contained in The Arundel Neighbourhood Plan Review (2018-2031) Submission Plan (Post Examination) October 2019.

2.3.2. The relevant section of Policy AR2: Land off Ford Road, states:



“...i. All trees subject to a Tree Preservation Order are retained and protected and all other mature trees and hedgerows within the site are retained unless their removal is essential, and the minimum required to facilitate an efficient development layout;...”

2.4. Tree survey and baseline information

2.4.1. We surveyed individual trees with trunk diameters of 75mm and above³, trees with trunk diameters of 150mm and above growing in groups or woodlands, and shrub masses, hedges and hedgerows⁴ growing within or immediately adjacent to the site; and recorded their locations, species, dimensions, ages, condition, and visual importance in accordance with BS 5837 recommendations.

2.4.2. The baseline information collected during the site survey was recorded on site using a hand-held digital device. This information was then imported into an Excel spreadsheet and used to produce the tree survey schedule at **Appendix 2**. The numbers assigned to the trees in the tree survey schedule correspond with those shown on the appended tree protection plan.

2.4.3. We surveyed trees as groups where they have grown together to form cohesive arboricultural features, either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally⁵. However, where it might be necessary to differentiate between specific trees within these groups, we also surveyed these individually.

2.4.4. We inspected the trees from the ground only, aided by binoculars as appropriate, but did not climb them. We took no samples of wood, roots or fungi. We did not undertake a full hazard or risk assessment of the trees, and therefore can give no guarantee, either expressed or implied, of their safety or stability.

³ BS 5837, paragraph 4.2.4 b), recommends that all trees over 75mm stem diameter should be included in a pre-planning land and tree survey.

⁴ Ibid, 4.4.2.7

⁵ Ibid, 4.4.2.3

2.4.5. We have categorised the trees in accordance with BS 5837, and details of the criteria used for this process can be found in the notes that accompany the tree survey schedule.

2.4.6. We have applied this methodology in line with the NPPF's presumption in favour of sustainable development, giving greater weighting to the contribution of a tree to the character and appearance of the local landscape, to amenity, or to biodiversity, where its removal might have a significant adverse impact on these factors.

2.5. Tree constraints

2.5.1. In line with the NPPF's presumption in favour of sustainable development, we have assessed whether any trees should be retained in the context of a proposed development. To do this, we identified the main arboricultural features within or immediately adjacent to the site, whose removal we considered could have an adverse impact on the character and appearance of the local landscape, on amenity or on biodiversity.

2.5.2. Whilst BS 5837 states that trees in categories 'A', 'B' and 'C' are all a material consideration in the development process, the retention of category 'C' trees, being of low quality or of only limited or short-term potential, will not normally be considered necessary should they impose a significant constraint on development.

2.5.3. Furthermore, BS 5837 makes it clear that young trees, even those of good form and vitality, which have the potential to develop into quality specimens when mature **"need not necessarily be a significant constraint on the site's potential"**⁶.

2.5.4. Moreover, BS 5837 states that **".... 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"**⁷.

⁶ Ibid. 4.5.10.

⁷ Ibid. 5.1.1.

2.5.5. The 'Root Protection Areas' (RPAs)⁸ of the trees identified for retention were calculated in accordance with Section 4.6 of BS 5837; and were assessed taking account of factors such as the likely tolerance of a tree to root disturbance or damage, the morphology and disposition of roots as influenced by existing site conditions (including the presence of existing roads or structures), as well as soil type, topography and drainage. Where considered appropriate, the shapes of the RPAs (although not their areas) were modified based on these considerations, so that they reflect more accurately the likely root distribution of the relevant trees.

2.5.6. To assess whether the trees identified for retention would be in a sustainable relationship with the proposed development (without casting excessive shade or otherwise unreasonably interfering with incoming residents' prospects of enjoying their properties, and thereby leading inevitably to requests for consents to fell), we plotted a segment or "shading arc" from each trunk, with a radius equal to the current height of the tree concerned, from due north-west to due east. This gave an indication of potential direct obstruction of sunlight and the shadow pattern cast through the main part of the day⁹.

2.5.7. Based on these principles and recommendations, the tree survey and assessment of suitability for retention informed the production of a tree constraints plan (TCP) which indicates the most suitable trees for retention, and their associated below-ground and above-ground constraints.

2.5.8. As a design tool, the TCP also indicates how close to those trees selected for retention the proposed development could be positioned, in terms of three key criteria:

- a). avoidance of unacceptable root damage;
- b). avoidance of the necessity for unacceptable pruning works; and

⁸ The minimum area around a retained tree "deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority." BS 5837, paragraph 3.7.

⁹ BS 5837, paragraph 5.2.2 Note 1.

c). avoidance of future felling or pruning works to prevent unacceptable shading or apprehension on behalf of the occupants.

2.5.9. The TCP was then used to inform the siting of the proposed dwellings and areas of hard surfacing, about both of which we were consulted on several occasions during the design process. In this way, it has been ensured that the existing trees have made a significant contribution to the design of the proposed development, rather than the design having dictated which trees are to be removed.

2.6. Arboricultural impact assessment and tree protection plan

2.6.1. Once finalised, we assessed the arboricultural impacts of the proposed layout, by overlaying it onto the TCP, and produced the tree protection plan (TPP) presented at **Appendix 3**. This is based on the illustrative masterplan by Savills, drawing no. IM003.

2.6.2. The TPP identifies the trees which will be removed to accommodate the proposed development, either because they are situated within the footprints of proposed structures or surfaces, or because in our judgment they are too close to these structures or surfaces to enable them to be retained. These are shown by means of **red crosses** on the TPP.

2.6.3. The TPP also shows how trees to be retained will be protected from damage during construction, and the measures identified are set out and described at **Appendix 1** to this report. The implementation of, and adherence to, these measures can readily be secured by the imposition of appropriate planning conditions.

2.6.4. For the trees shown to be retained, all measurements for pruning specifications, percentage estimates of RPA incursions and shading issues have been calculated using AutoCAD software.

2.6.5. Details of the impacts identified within these categories, and our assessment of their respective significance, are analysed in Sections 4 to 8 below.

2.6.6. Based on these findings, we have assessed the magnitude of the overall arboricultural impact of the proposals according to the categories defined in Table **1** below.

Category	Description
High	Total loss of or major alteration to main elements/ features/ characteristics of the baseline, post-development situation fundamentally different
Medium	Partial loss of or alteration to main elements/ features/ characteristics of the baseline, post-development situation will be partially changed
Low	Minor loss of or alteration to main elements/ features/ characteristics of the baseline, post-development changes will be discernible but the underlying situation will remain similar to the baseline
Negligible	Very minor loss of or alteration to main elements/ features/ characteristics of the baseline, post-development changes will be barely discernible, approximating to the 'no change' situation

Table 1: Magnitude of impacts¹⁰

¹⁰ Determination of magnitude based on DETR (2000) Guidance on the Methodology for Multi-Modal Studies, as modified and extended.

3. THE TREES

3.1. Survey findings

3.1.1. We surveyed 91 individuals and seven groups of trees, one hedgerow and one area of woodland growing within or immediately adjacent to the site. Their details can be found in the tree survey schedule at **Appendix 2**. A summary of this information can be found at **Table 2** below.

		No.	% of total
No. of individual trees		91	n/a
No. of groups of trees		7	n/a
No. of different species		7	n/a
Broadleaved specimens		90	99%
Conifers		1	1%
Most common	English oak	47	47.5%
2nd	Crack willow	16	17.6%
3rd	Ash	12	13.2%
4th	Hawthorn	8	8.9%
5th	Field maple	3	3.3%
No. over 25m in height		0	0%
No. over 20m in height		4	4.4%
No. over 15m in height		29	31.9%
No. over 1500mm trunk diameter		2	2.2%
No. over 1000mm trunk diameter		18	19.8%
No. over 500mm trunk diameter		50	54.9%
No. over 250mm trunk diameter		77	84.6%
Age: Veteran		2	2%
Age: Over Mature		17	19%
Age: Mature		31	34%
Age: Semi-mature		34	37%
Age: Young		7	8%

Table 2: Summary of information in tree survey schedule

3.1.2. The trees are growing along the historic field boundaries and around the periphery of the site. Within these areas tree density is high. The trees are predominantly broadleaved, with a single Monterey cypress growing adjacent to Priory Lane. English oak is the most dominant species, which is reflected in the wider arboricultural character of the area.

3.1.3. The trees form a well-formed age class hierarchy with good numbers of semi-mature, mature and over-mature trees. The presence of two veterans is a strong feature of the site character and this could be strengthened as more veterans emerge from the existing mature and over-mature specimens on site. There are relatively low levels of young trees on the site.

3.1.4. The arboricultural character of the site is consistent with, and contributes to, the character and appearance of the surrounding landscape.

3.2. Assessment of suitability for retention

3.2.1. As noted above in Section 2.3, local planning policies require the retention of trees that are “**protected trees and those contributing to local amenity.**” The individuals and groups of trees within or adjacent to the site, whose attributes we consider meet these criteria, are as follows:

- the group of English oaks (G4 including nos.1 to 2, 4 to 15, 77, 79 and 80) growing along the field boundary in the middle of the site, containing two veteran oaks and several large prominent specimens, which are readily visible from Ford Road and Priory Lane and make a significant contribution to local arboricultural amenity;
- the off-site woodland (W1) growing adjacent to the north-west corner of the site that is designated as ancient woodland and is visible from within the site and from Dalloway Road and Priory Lane;
- the group of trees (G3 including nos. 25, 28, 29, 31 to 35 and 84) growing along and adjacent to the north boundary of the east field, visible from Ford Road and providing screening from residential developments beyond;
- the row of off-site English oaks (nos. 52-56, 58-59, 61, 62 and 64) growing adjacent to the west site boundary, visible from Priory Lane and Dalloway Road; and
- the row of English oaks (nos. 66 to 72 and 76) growing adjacent to the north site boundary, visible from Priory Lane, Dalloway Road and High Ridge Close.

3.2.2. Five individual trees (nos. 4, 24, 54, 59 and 85) have been assessed as category 'U'. These are trees that are unsuitable for retention, on the basis of them being 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. On-site trees that need removing solely to accommodate the proposed development are not placed in this category. Category 'U' trees are indicated on the accompanying and protection plan by **bracketed red** numbers.

3.2.3. There are eight category 'A' trees and thirty category 'B' specimens. The remaining forty-eight trees are assessed as category 'C' trees, being either of low quality, very limited merit, only low landscape benefits, no material cultural or conservation value, or only limited or short-term potential; or young trees with trunk diameters below 150mm; or a combination of these.

3.2.4. Of the groups of trees, hedges, hedgerows and woodlands, two have been assessed as category 'A', one as category 'B', and the remaining six as category 'C'.

4. IMPACTS ON ANCIENT WOODLAND

4.1. Details

4.1.1. As noted above, current planning policy guidance requires that unless there are wholly exceptional reasons and a suitable compensation strategy exists, development resulting in the loss or deterioration of ancient woodland should be refused.

4.1.2. The proposed development does not encroach into the ancient woodland adjacent to the north-west boundary.

4.1.3. A small section of the proposed internal road turning head encroaches within the minimum 15m ancient woodland buffer.

4.2. Assessment

4.2.1. Consequently, there will be no loss of ancient woodland, and no direct damage to it as a result of either construction or occupation.

4.2.2. The incursion by the pavement of the internal road turning head encroaches into the buffer zone by an area of 8.6m² and is no closer than 13m from the woodland edge. The incursion is located on ground that has been heavily ploughed; as such the upper surface of the soil has been recently and historically disturbed, this will have significantly reduced the establishment of roots and the valued soil conditions that the buffer zone is intended to protect. As such, the proposed incursion will not lead to root damage or to any diminishment of the associated high value soil conditions.

4.2.3. As the incursion into the 15m buffer is very minor and is situated outside the RPAs of trees within the woodland, none of the potentially harmful effects the buffer is designed to avoid will occur, and the scheme will comply with current UK planning and development guidance on ancient woodland.

4.2.4. The ancient woodland is to be separated from the proposed development by the existing boundary features and strengthened with additional buffer planting of trees and shrubs, as shown on the landscape plans submitted with the application. This will

prevent access into the woodland, thereby minimising damage or compaction of the soil, disturbance to wildlife or fly-tipping.

4.2.5. Accordingly, there will be no loss or deterioration of the adjacent ancient woodland, and the planting of the buffer zone will enhance and maintain the landscape character of the area. Consequently, there is no reason why the proposals should be refused on these grounds.

5. TREES TO BE REMOVED

5.1. Details

5.1.1. Neither of the veteran trees on site are to be removed to facilitate the proposed development.

5.1.2. Eight individual trees are to be removed, either because they are situated within the footprints of proposed structures or surfaces, or because they are too close to these to enable them to be retained.

5.1.3. All trees to be removed have been assessed as either category 'C' or 'U'. None of the Category 'A' or 'B' trees are to be removed. The trees to be removed are shown and listed on the TPP and at **Table 3** below.

5.1.4. One group of trees is to be removed entirely and a further three groups of trees (G1 and G2) and one hedgerow (H1) are to be partially removed as part of the proposals.

Tree no.	TPO No.	Species	Height	Trunk diameter	Age class	BS category
3	G2-T18	English oak	14.5m	830mm	Over-mature	C (3)
4		Crack willow	6m	350mm est.	Over-mature	U
18		Hawthorn	6m	130mm 210mm	Semi-mature	C (3)
45-47		Crack willow	13m	#T45 395mm #T46 340mm #T47 280mm all ivy	Semi-mature	C (23)
74-75		English oak	13m	#T74 800mm est. #T75 955mm est.	Mature	C (2)
G1		Various	Max 10m Avg 5m	Min 70mm Max 400mm Avg 200mm	Various	C (23)
G2		Various	4m	Min 210mm Max 390mm	Various	C (3)
G6		Hawthorn and elder	5m	Avg 200mm est.	Semi-mature	C (1)
H1		Hawthorn	2m	Avg 75mm	Semi-mature	C (23)

Table 3: Trees to be removed

5.2. Assessment

5.2.1. All those trees or groups of trees that constitute the main arboricultural features of the site and which make the greatest contribution to the character and appearance of the local landscape, to amenity or to biodiversity (see paragraph 3.2.1), will be retained.

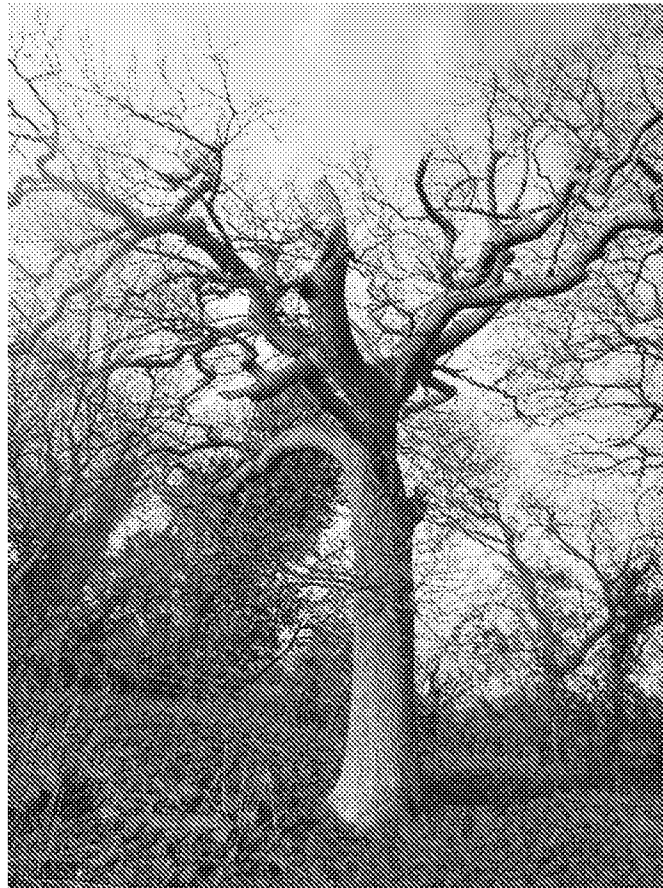
5.2.2. Neither of the veteran trees on the site are to be removed. In addition, none of the mature or over-mature English oaks that could be considered emerging veterans are to be removed.

5.2.3. The illustrative masterplan dated February 2019 shown in the Arundel Neighbourhood Plan Review has evolved to address the concerns raised by the LPA tree officer regarding the impact of the main internal road connecting the east field to the west field on the high valued group of English oaks (G4). The central location of the internal road would have led to the loss of one or more of the oaks and would have resulted in significant harm or loss of the veteran oak no. 11.

5.2.4. The design team worked with SJAtrees and the LPA officer to provide an alternative access route that was more ‘tree-friendly’ in the updated masterplan. The chosen access route is located to the south of the previous access and successfully balances arboricultural constraints against highways constraints and layout design.

5.2.5. The revised access to the west field of the development will result in the removal of five individual trees and the partial removal of one group of trees (G1). All the specimens to be removed are assessed as category ‘C’ specimens, except crack willow no. 4 that is assessed as category ‘U’.

5.2.6. The most significant specimen to be removed is the English oak no. 3, which is 14.5m tall and has a trunk diameter of 830mm. However, this specimen is exhibiting low physiological condition and has an impaired structure with a large 400mm wound on the central stem as a result of storm damage, as shown in **Photograph 1** below. The removal of the oak will be mitigated through the retention of the remaining English oaks within G4, including the veterans nos. 11 and 77, and the proposed planting strategy outlined below.



Photograph 1: Showing the storm-damaged central stem and resultant poor form of English oak no. 3 to be removed

5.2.7. The two English oaks nos. 74 and 75 are to be removed to facilitate the turning head of the internal road servicing the north section of the development. The two specimens have been heavily reduced in the past, with pruning extending well beyond the recommendations of BS 3998:2010, as shown in ***Photographs 2 and 3*** below.



Photographs 2 and 3: Views of the English oaks nos. 74 and 75 from on and off site

5.2.8. The inappropriate pruning has resulted in a significant risk of decline as the trees attempt to compensate for the large loss of photosynthetic area and are developing impaired structures due to the sizes and number of pruning wounds. As the specimens are of low quality and value, their removal will be readily mitigated by the retention of the main arboricultural features of the site and the proposed planting strategy.

5.2.9. The partial removal of the hedge (H1), group of trees (G2) and the removal of the hawthorn no. 18 and the group of trees (G6) is required to facilitate the main site access from Ford Road (including appropriate visibility splays), the access road and the construction of two dwellings. The trees to be removed are all assessed as category 'C' and are either of low quality, low value or young specimens, which BS 5837 states "**need not necessarily be a significant constraint on the site's potential**". The loss of these trees will be readily mitigated through the proposed planting strategy.

5.2.10. One of the individual trees to be removed (the English oak no. 3) is covered by a TPO (see 1.6.1 above); this is shown on the TPP and identified in **Table 3** above.

5.2.11. However, it should be noted that the presence of a TPO on a tree does not mean that that specimen necessarily meets the criteria for a TPO: the tree may not have fully met the criteria for a TPO at the time it was made, the tree might have deteriorated since the time the TPO was made or its visibility or impact on the local landscape may have decreased since the time the Order was made. What must be remembered is the principle that a tree should be protected by a TPO because it is of value; it is not of value because it's covered by a TPO.

5.2.12. Current Planning Practice Guidance states (paragraph 007) that TPOs should be used to protect selected trees and woodlands if their removal would have "a significant negative impact on the local environment and its enjoyment by the public." In this case, the small number of TPO trees to be removed in comparison with the number of mature trees, groups and woodlands to be retained will not result in a significant negative impact on the local environment, and that the fact they are covered by a TPO should not be given any additional weight in considering the magnitude of the arboricultural impacts of this scheme.

5.2.13. Furthermore, the proposals incorporate considerable replacement tree planting; this is shown on the illustrative master plan. This will mitigate the proposed removals, improve the age class balance of the trees on site, enhance the local landscape, and re-establish a framework for the ongoing and long-term wooded character of the site. The establishment of the replacement planting will offset the impact of the proposed removals on the character and appearance of the site.

5.2.14. In the light of these considerations, and taking account of the numbers, sizes and locations of the trees to be retained, the felling of the trees and groups identified for removal will represent only a minor alteration to the main arboricultural features of the site.

6. TREES TO BE PRUNED

6.1. Details

6.1.1. None of the trees to be retained are to be pruned to facilitate implementation of the proposals.

6.2. Assessment

6.2.1. As no trees are to be pruned, and none of the proposed dwellings will be within 10m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

7. ROOT PROTECTION AREA INCURSIONS

7.1. Details

7.1.1. Parts of the proposed hard surfacing will encroach within the RPAs of three of the trees to be retained. These are shown in **Table 4** below.

7.1.2. There will be one small incursion by proposed hard surfacing into the veteran buffer zone (VBZ) of one of the veteran trees (English oak no. 11); but this incursion does not extend into the RPA.

Tree no.	Species	Incursion	Extent of incursion	% of RPA	Incursion - into VBZ	% of VBZ
5	English oak	Proposed internal road	2.5m ²	0.65%	n/a	n/a
11	English oak	Proposed internal road	n/a	n/a	2.7m ²	0.15%
13	English oak	Proposed internal road turning head	4.2m ²	0.8%	n/a	n/a
76	English oak	Proposed internal road turning head			n/a	n/a

Table 4: Proposed incursions within RPAs

7.2. Assessment

7.2.1. The incursions into the buffer zone of the veteran trees (no. 11) is by a proposed internal road. This is on the west side of the tree, and at its closest point, will be 10m from the trunk. It will encroach within the buffer zone by 2.7m², the equivalent of 0.15% of the total area of the buffer.

7.2.2. Considering the minor extent of the incursion, the fact the incursion will be outside the RPA of the tree, and that the area lost can be made up in the area of soft landscaping on the north and south side of the tree (where there is to be no development or disturbance), there will be no detrimental impact on the veteran oak's root system, soil conditions or health and vitality.

7.2.3. The incursions by parts of the proposed internal road into the RPAs of the three trees listed at **Table 4** extend no closer than 9.5m to the trunks, and equate to no more than 0.8% of individual RPAs. Any potential adverse impacts can be satisfactorily mitigated as set out below.

7.2.4. Considering existing levels and likely finished levels of the proposed internal road, it is likely that some degree of excavation will be required. To minimise impacts on these specimens, excavation within these RPAs will be undertaken manually, under the direct control and supervision of an appointed arboricultural consultant, so that any over dig into the RPAs is avoided, and any roots encountered can be treated appropriately.

7.2.5. To minimise impacts, the sub-base will be of a design to avoid excavation deeper than 600mm. Studies have shown that typically as much as 90% of tree root length occurs in the upper metre of the soil¹¹ and so it is possible that these incursions into the RPAs will not result in all the roots in these areas being severed. For example, as only the upper 600mm of the upper metre of soil will be removed, the 0.8% incursion into the RPA of the English oak no. 13 may result in a reduction of only 0.48% of roots within the RPA. In addition, As a species English oak has been identified as good to moderate at tolerating root pruning and disturbance¹², so these specimens should be able to tolerate the severance of small roots in these small areas.

7.2.6. Furthermore, on-site observations of the ground conditions around the group of English oaks (G4) show the ground is heavily compacted and disturbed by grazing animals. The buttress roots and bases of the large oaks also exhibit evidence that grazing animals have impacted these areas historically, which may be contributing to the below average physiological health of many of the oaks. As such, the opportunity exists for the soil used by these trees for root growth to be improved. Subject to proposed landscaping, the soil and rooting environments within the RPAs of these specimens could be enhanced to promote improved root growth by de-compaction, aeration fertilisation or mulching, as appropriate, and this can be ensured by condition.

7.2.7. The proposed landscape and boundary planting plans show some plantings within the RPAs of existing trees to be retained. To prevent further soil compaction and to minimise tree root severance, within all root protection areas all new planting should be undertaken manually.

¹¹ Roberts J., Jackson N., & Smith M. (2006). Tree Roots in the Built Environment. TSO.

¹² MATHENY, N. P. and CLARK, J. R. (1998). Trees and Development. International Society of Arboriculture.

7.2.8. Implementation of measures to prevent other incursions into the RPAs of retained trees and to protect them during construction can be assured by the erection of appropriate protective fencing as shown on the TPP at **Appendix 3**.

7.2.9. Accordingly, subject to implementation of the above measures, and considering the ages, current physiological condition and tolerance of disturbance of these retained trees, no significant or long-term damage to their root systems or environments will occur as a result of the proposed development and their physiological condition will actually be improved by the cessation of animal grazing and improvement of the soil.

8. RELATIONSHIP OF RETAINED TREES TO NEW DWELLINGS

8.1. Details

8.1.1. In none of the proposed new dwellings or apartments does the fenestration of their main habitable rooms (living rooms, kitchens) exclusively and directly face trees within the shadow patterns¹³ of which they are situated; that is, where proposed dwellings or apartments are sited in an arc between the north-west and the east of retained trees and are closer to them than the current heights of these specimens.

8.2. Assessment

8.2.1. As none of the proposed dwellings or private gardens lie within the shadow patterns of any retained trees, they will not be shaded by trees to the extent that this will interfere with their reasonable use or enjoyment by incoming occupiers; which might otherwise lead to pressure to permit felling or severe pruning that the LPA could not reasonably resist.

¹³ BS 5837, 5.2.2, Note 1: "An indication of potential direct obstruction of sunlight can be illustrated by plotting a segment, with a radius from the centre of the stem equal to the height of the tree, drawn from due north-west to due east, indicating the shadow pattern through the main part of the day."

9. CONCLUSIONS

9.1. Summary

9.1.1. There are no incursions into the adjacent ancient woodland and only a very small incursion into the associated 15m buffer zone; and consequently, the proposals will not result in any loss of ancient woodland, will avoid any potentially harmful effects on the woodland, and will comply with current UK Planning and development guidance.

9.1.2. Our assessment of the impacts of the proposals on the existing trees concludes that no category 'A' or 'B' trees, and no trees of high landscape or biodiversity value are to be removed. None of the main arboricultural features of the site or veteran trees are to be removed. The proposed removal of individuals and groups of trees will represent no alteration to the main arboricultural features of the site, only a minor alteration to the overall arboricultural character of the site and will not have a significant adverse impact on the arboricultural character and appearance of the local landscape.

9.1.3. As no trees are to be pruned, and none of the proposed dwellings will be within 10m of the extents of the canopies of trees to be retained, there will be adequate working space for construction close to trees, and a reasonable margin of clearance for future growth.

9.1.4. The incursions into the Root Protection Areas of trees to be retained are minor, and subject to implementation of the measures recommended on the Tree Protection Plan and set out at **Appendix 1**, no significant or long-term damage to their root systems or rooting environments will occur.

9.1.5. None of the proposed dwellings or private gardens are likely to be shaded by retained trees to the extent that this will interfere with their reasonable use or enjoyment by incoming occupiers, which might otherwise lead to pressure on the Local Planning Authority to permit felling or severe pruning that it could not reasonably resist.

9.2. Compliance with national planning policy

9.2.1. As the proposals will retain all the main arboricultural features of the site, its arboricultural attractiveness, history and landscape character and setting will be maintained, thereby complying with Paragraph 127 of the National Planning Policy Framework.

9.2.2. As the proposals will not result in the loss or deterioration of any ancient woodland or any ancient or veteran trees, they comply with paragraph 175 of the

9.3. Compliance with local planning policy

9.3.1. The proposed development will retain all protected trees, including the two veterans, trees subject to the upcoming updated TPO and those within the Ancient Woodland. In addition, all potential emerging veterans, and unprotected trees of high or moderate value and quality have been retained to retain the character and appearance of the local area.

9.3.2. The retained trees are afforded adequate protection through the development process and appropriate management for the future. The proposed scheme incorporates a comprehensive planting plan to mitigate the proposed loss of trees and to enhance the arboricultural character of the site.

9.3.3. As such, the proposed development complies with Policy ENV DM4 of the adopted Arun Local Plan 2011-2031 (July 2018).

9.4. Compliance with neighbourhood planning policy

9.4.1. As the proposed development will retain all trees subject to the upcoming updated TPO and all unprotected trees of value, and removes only the minimum amount of trees required to accommodate an efficient development layout, it complies with Policy AR2 of the Arundel Neighbourhood Plan Review (2018-2031) October 2019.

9.5. Conclusion

9.5.1. On the basis of our assessment, we conclude that the arboricultural impact of this scheme is of low magnitude, as defined according to the categories set out in **Table 1** of this report.

APPENDIX 1

Outline Arboricultural Method Statement



Outline arboricultural method statement

A1.1. Tree Protection Plan

A1.1.1. The TPP at **Appendix 4** shows the general and specific provisions to be taken during construction of the proposed development, to ensure that no unacceptable damage is caused to the root systems, trunks or crowns of the trees identified for retention. These measures are indicated by coloured notations in areas where construction activities are to occur either within, or in proximity to, retained trees, as described in the relevant panels on the drawing.

A1.2. Pre-start meeting

A1.2.1. Prior to the commencement of any site preparation or construction works the developer will convene a pre-start site meeting. This shall be attended by the developer's contract manager or site manager, the fencing/boarding contractor, the groundwork contractor(s) and the arboricultural consultant. The LPA tree officer will be invited to attend. If appropriate, the tree felling/surgery contractor should also attend. At that meeting contact numbers will be exchanged, and the methods of tree protection shall be fully discussed, so that all aspects of their implementation and sequencing are made clear to all parties. Any clarifications or modifications to the TPP required as a result of the meeting shall be circulated to all attendees.

A1.3. Protective fencing

Construction exclusion zones (CEZs) will be formed by erecting protective fencing around the RPAs of all on-site trees to the specification recommended in BS 5837, Section 6.2, prior to the commencement of construction. This will consist of a scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at maximum intervals of 3.5m. Onto this, welded mesh panels should be securely fixed with wire or scaffold clamps, as shown in **Figure 2** of that document. "**TREE PROTECTION ZONE - KEEP OUT**" or similar notices will be attached with cable ties to every third panel.

A1.3.1. The RPAs of the off-site trees will also be enforced by the erection of protective fencing to the same specification, prior to the commencement of construction, thereby

safeguarding them from incursions by plant or machinery, storage and mixing of materials, or other construction-related activities which could have a detrimental effect on their root systems.

A1.3.2. The recommended positions of the protective fencing are shown by **bold blue lines** on the TPP. The precise positioning of the fencing around the trees will be considered in conjunction with any other protective hoarding/fencing which may be required around the site boundary.

A1.3.3. Within the CEZs safeguarded by the protective fencing, there will be no changes in ground levels, **no soil stripping**, and no plant, equipment, or materials will be stored. Oil, bitumen, diesel, and cement will not be stored or discharged within 10m of any trees. Areas for the storage or mixing of such materials will be agreed in advance and be clearly marked. No notice boards, or power or telephone cables, will be attached to any of the trees. No fires will be lit within 10m of any part of any tree.

A1.4. Manual excavation within RPAs

A1.4.1. The first 750mm depth of excavations required within the RPAs of the trees to be retained (as shown by **bold orange lines** on the TPP) will be dug by hand, using a compressed air soil pick if appropriate, and under on-site arboricultural supervision, in order to safeguard against the possibility of unacceptable root damage being caused to these specimens. Any roots encountered of over 25mm diameter will be cut back cleanly to the face of the dig nearest to the tree, using a sharp hand saw or secateurs, and their cut ends covered with hessian to prevent desiccation.

APPENDIX 2

Tree survey schedule



ARBORICULTURAL PLANNING CONSULTANTS

17 CROSS ROAD
TADWORTH
SURREY KT20 5ST



Principal: Simon R. M. Jones Dip. Arb. (RFG), F. Arbor. A.,
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Tree Survey Schedule

Land off Ford Road, Arundel, West Sussex

January 2020

Tree Survey Schedule: Explanatory Notes

Land off Ford Road, Arundel, West Sussex

This schedule is based on a tree inspection undertaken by Simon Jones, Finn Cullerne and James Bradford of SJAtrees (the trading name of Simon Jones Associates Ltd.), on Wednesday the 29th January 2020. Weather conditions at the time were clear, dry and bright. Deciduous trees were not in leaf.

The information contained in this schedule covers only those trees that were examined, and reflects the condition of these specimens at the time of inspection. We did not have access to the trees from any adjacent properties; observations are thus confined to what was visible from within the site and from surrounding public areas.

The trees were inspected from the ground only and were not climbed, and no samples of wood, roots or fungi were taken. A full hazard or risk assessment of the trees was not undertaken, and therefore no guarantee, either expressed or implied, of their safety or stability can be given.

Trees are dynamic organisms and are subject to continual growth and change; therefore the dimensions and assessments presented in this schedule should not be relied upon in relation to any development of the site for more than twelve months from the survey date.

1. Tree no.

Given in sequential order, commencing at "1".

2. TPO no.

Number assigned to tree in the Arun District Council Tree Preservation Order no. AB/2/16, as shown in the TPO schedule and plan.

3. Species.

'Common names' are given, taken from MITCHELL, A. (1978) A Field Guide to the Trees of Britain and Northern Europe.

4. Height.

Estimated with the aid of a hypsometer, given in metres.

5. Trunk diameter.

Trunk diameter measured at approx. 1.5m above ground level; or where the trunk forks into separate stems between ground level and 1.5m, measured at the narrowest point beneath the fork. Given in millimetres.

6. Radial crown spread.

The linear extent of branches from the base of the trunk to the main cardinal points, rounded up to the closest half metre, unless shown otherwise. For small trees with reasonably symmetrical crowns, a single averaged figure is quoted.

7. Crown break.

Height above ground and direction of growth of first significant live branch.

8. Crown clearance.

Distance from adjacent ground level to lowest part of lowest branch, in metres.

9. Age class.

Young: Age less than 1/3 life expectancy

Semi-mature: 1/3 to 2/3 life expectancy

Mature: Over 2/3 life expectancy

Over-mature: Mature, and in a state of decline

Veteran: Mature, with a large trunk diameter for the species; but showing signs of ancientness, irrespective of actual age, with decay or hollowing, and a crown that has undergone some retrenchment and has a structure characteristic of the latter stages of life.

Ancient: Beyond the typical age range and with a very large trunk diameter for species; with extensive decay or hollowing; and a crown that has undergone retrenchment and has a structure characteristic of the latter stages of life.

10. Physiology.

Health, condition and function of the tree, in comparison to a normal specimen of its species and age.

11. Structure.

Structural condition of the tree – based on both the structure of its roots, trunk and major stems and branches, and on the presence of any structural defects or decay.

Very good: No significant physiological or structural defects, an upright and reasonably symmetrical structure; a particularly good example of its species.

Good: No significant physiological or structural defects, and an upright and reasonably symmetrical structure.

Moderate: No significant pathological defects, but a slightly impaired physiological structure; however, not to the extent that the tree is at immediate or early risk of collapse.

Indifferent: Significant physiological or pathological defects; but these are either remediable or do not put the tree at immediate or early risk of collapse.

Poor: Significant and irremediable physiological or pathological defects, such that there may be a risk of collapse.

Hazardous: Significant and irremediable physiological or pathological defects, with a risk of imminent collapse.

12. Comments.

Where appropriate comments have been made relating to:

- Health and condition
- Safety, particularly close to areas of public access
- Structure and form
- Estimated life expectancy or potential
- Visibility and impact in the local landscape

13. Category.

Based on the British Standard "Trees in relation to design, demolition and construction - Recommendations", BS 5837: 2012, Table 1, adjusted to give a greater weighting to trees that contribute to the character and appearance of the local landscape, to amenity, or to biodiversity.

Category U: Trees 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.

Category A: Trees of high quality with an estimated remaining life expectancy of at least 40 years.

- (1) Trees that are particularly good examples of their species, especially if rare or unusual.
- (2) Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.
- (3) Trees, groups or woodlands of significant conservation, historical, commemorative or other value.

Category B: Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

- (1) 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 minor 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.
- (2) Trees present in numbers, usually growing as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals; or trees present in numbers but situated so as to make little visual contribution to the wider locality.
- (3) 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.

- (1) Unremarkable trees of very limited merit or of such impaired condition that they do not qualify in higher categories.
- (2) 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 landscape benefits.
- (3) Trees with no material limited conservation or other cultural value.

TREE SURVEY SCHEDULE

Land off Ford Road, Arundel, West Sussex

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
1	G2-T20	English oak	13.5m	970mm	N 6.6m NE 9.9m E 6.9m S 8.7m W 6m	2.5m	2m	Mature	Below average	Moderate	Significant waterlogging and heavily compacted soil within root plate from livestock; prominent buttress roots; single trunk to 2.5m; becomes codominant with a strong tensile union; significant amounts of major deadwood in canopy, typical of species and age; short, squat canopy with evidence of historical storm damage in upper canopy; significant component of the group in which it stands; readily visible in views from Ford Road and surrounding landscape to the E; visible from access road Priory Lane.	B (123)
2	G2-T19	English oak	16m	1035mm	N 10.5m E 11.1m SE 12.3m S 11m W 7.5m	2.5m	2m	Mature	Average	Moderate	Significant waterlogging and heavily compacted soil within root plate from livestock; small cavity between E buttress roots; when sounded with acoustic hammer, there is variance in tone, indicative of hollow trunk. Single trunk; main unions tensile; significance amount of deadwood within canopy, typical of species and age; canopy crown lifted to 2.5m with historic pruning wounds fully occluded; stem failure at 5m resulting in wound 300mm wide and approximately 800mm long, exposing internal wound wood, small heavily degraded bracket visible not possible to ID due to degradation. Notable specimen and a potential ; essential component of the group in which it stands; potential emerging veteran; visible from Ford Road and fields to the east; visible from Priory Lane to the south; makes a significant contribution to the tree belt character.	B (23)
3	G2-T18	English oak	14.5m	830mm	N 3.8m E 3.6m S 6m W 6.8m	4m	1.5m	Over-mature	Low	Indifferent	Above average deadwood in crown; extensive storm damage in crown, largest wound 400mm diameter; inessential component of group in which it stands; of low quality and value but of material conservation potential.	C (3)
4		Crack willow	6m	350mm est.	NE 5m SE 4m SW 2m NW 2m	1m	3.5m	Over-mature	Dead	Dead	Dead tree.	U

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
5	G2-T17	English oak	16m	920mm	N 5.9m E 6.6m S 5.6m W 7.4m	3.5m	3.5m	Mature	Average	Moderate	Significant waterlogging and heavily compacted soil within root plate from livestock; prominent buttress; small cavities between buttresses, indicative of hollow stem; sounding with the acoustic hammer produces no variance in tone; single trunk; burr growth from 1.5m to 3.5m; trunk becomes co-dominant at 3.5m with a strong tensile union; average deadwood within canopy; moderate epicormic growth; dominant canopied specimen. Essential component of the group in which it stands; readily visible from Ford Road and the surrounding landscape to the east visible, visible from Priory Lane to the south and from the fields to the north.	A (2)
6	G2-T16	English oak	16m	610mm	N 5m E 7.4m S 3.6m W 4.2m	5m	2.5m	Mature	Average	Moderate	Soil heavily compacted within RPA due to cows; no significant defects at base; single-stemmed; tensile unions; deadwood typical for age and species; nest visible in upper canopy; slightly suppressed canopy; inessential component of group in which it stands; visible from Ford Road and surrounding countryside to E.	B (13)
7	T15? Shown as ash	Hawthorn	6m	100mm 220mm	N 1.3m E 4.2m S 2m W 4m	0m	1m	Semi-mature	Average	Indifferent	Small suppressed understorey specimen.	C (3)
8	T14 shown as field maple	Crack willow	12m	120mm 190mm 330mm	N 3m E 2.8m S 4m W 3.5m	0m	3m	Semi-mature	Below average	Indifferent	Multi-stemmed from base with tight forks; growing in waterlogged ditch; above average dead wood in crown; of only low-level screening value.	C (2)
9	G2	English oak	15.5m	815mm	N 3.6m E 7.4m SE 8.9m S 7m W 7m	4m	3m	Mature	Average	Moderate	Significant waterlogging and heavily compacted soil within root plate from livestock; prominent buttress roots; single trunk; main unions tensile; deadwood typical of species and age; asymmetric canopy as a result of suppression by adjacent trees; moderates epicormic growth. Essential component of group in which it stands; readily visible from Ford Road and the surrounding countryside to the east, visible from the Priory Lane to the south, and visible from fields to the west.	B (12)
10	G2	English oak	18.5m	1075mm	N 8.1m E 11.1m S 7.5m W 8m	5m	1.5m	Mature	Average	Moderate	Significant waterlogging and heavily compacted soil within root plate from livestock; prominent buttress roots; single-stemmed specimen; main unions are tensile; deadwood typical of species and age; moderate epicormic growth; dominant canopied tree. Notable specimen; essential component of the group in which it stands; readily visible from Ford Road and the surrounding countryside to the east visible from the Priory Lane to the south and visible from fields to the west.	A (2)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
11	G2-T12	English oak	16.5m	1600mm	N 12.1m NE 10.4m E 10.9m SE 11.3m S 7.8m W 12m NW 13m	3.5m	1.5m	Veteran	Below average	Indifferent	Significant waterlogging and heavily compacted soil within root plate from livestock; prominent buttress roots in all directions; single-stemmed specimen; main unions tensile; several large limbs have failed historically and recently, all four of the lower large scaffold limbs have failed, resulting in wounds of up to 600mm diameter; the majority of the southern canopy has been lost; sitting deadwood around tree base, of conservation value; historic storm damage and pruning wounds across canopy, forming cavities of up to 200mm diameter; deadwood typical species in age; dominant canopied specimen; essential component of the group in which it stands. Veteran tree; of high landscape value; readily visible from Ford Road and the surrounding countryside.	A (23)
12	G2-T11	English oak	14m	790mm	N 3m E 7.9m S 5.7m W 8m	2m	1.5m	Mature	Below average	Indifferent	Significant waterlogging and heavily compacted soil within root plate from livestock; prominent buttress roots; single-stemmed; main unions tensile; above average deadwood in crown, including dead leader; woodpecker holes present; much epicormic growth on major structural branches within inner canopy, suggestive of reduced physiological function; significant component of group in which it stands; readily visible from Ford Road and surrounding countryside.	B (23)
13	G2-T10	English oak	14m	1085mm	N 6m NE 2m E 3.8m S 5.2m W 7.8m	4m	1.5m	Over-mature	Low	Poor	Significant waterlogging and heavily compacted soil within root plate from livestock; buttress roots; single-stemmed specimen; trunk becomes co-dominant at 8m; dominant stem growing E has failed, resulting in a large wound of 600mm in diameter, exhibiting extensive decayed wood; above average deadwood in canopy; poor annual extension growth, indicative of low physiological health; significant component of group in which it stands but of limited arboricultural quality; visible from Ford Road and surrounding landscape.	C (23)
14	G1-T9	English oak	21m	1000mm	N 3.9m NE 8.2m E 9.6m S 8.3m SW 10m W 2m	3.5m	2.5m	Mature	Average	Moderate	Significant waterlogging and heavily compacted soil within root plate from livestock; prominent buttress roots; single-stemmed; main unions tensile; deadwood typical of species and age; moderate epicormic growth; asymmetric canopy has grown up mutually suppressed with the adjacent oak forming one aerodynamic crown. Essential component of group in which it stands readily visible from Ford Road and the surrounding landscape to the south and east.	B (12)
15	G1-T8	English oak	21m	1020mm	N 8.2m NE 8m E 3m SE 3.9m S 4.3m W 10.2m	2.5m	3m	Mature	Average	Moderate	Significant waterlogging and heavily compacted soil within root plate from livestock; prominent buttress roots; single-stemmed; main unions tensile; deadwood typical of species and age; asymmetric canopy has grown up mutually suppressed with the adjacent oak forming one aerodynamic crown; visible from settlement to W and residential properties to N; screened in long range views from the E by adjacent trees.	B (12)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
16	G1	Ash	13m	430mm	N 6m E 6.3m S 1m W 5m	2.5m	1m	Semi-mature	Average	Indifferent	Leaning trunk; asymmetric canopy as suppressed by large oaks; inessential component of group in which it stands.	C (12)
17		Hawthorn	5m	315mm	N 3.5m E 4.2m S 2.5m W 4.8m	2m	1.5m	Semi-mature	Average	Moderate	Of moderate quality, but currently of low value due to small size.	C (1)
18		Hawthorn	6m	130mm 210mm	3m	0.5m	0m	Semi-mature	Average	Indifferent	Unremarkable tree of very limited merit.	C (3)
19		Hawthorn	10m	430mm ivy	N 4.3m E 3.8m S 4m W 4.8m	0.5m	1m	Semi-mature	Average	Moderate	Of moderate quality, but currently of low value due to small size.	C (1)
20		Hawthorn	3.5m	169mm 140mm	3m	0m	0m	Semi-mature	Average	Moderate	Off-site tree; small hawthorn of moderate quality but limited value due to small size.	C (1)
21		Ash	13m	480mm est.	N 2m E 5m S 6m W 5.1m	2m	3m	Semi-mature	Below average	Indifferent	Off-site tree; twin-stemmed from 2m with tight compression fork; above average deadwood in crown; slightly sparsely foliated; unremarkable tree of very limited merit.	C (2)
22		Ash	13m	380mm 2 stems @ 215mm	N 3.6m E 4m S 3.2m W 4.4m	0m	5m	Semi-mature	Average	Indifferent	Multi-stemmed from base with tight forks but no evidence of branch bark inclusion; drawn-up and mutually suppressed; inessential component of group in which it stands.	C (12)
23		English oak	12m	930mm	NE 6m SE 4m SW 5.8m NW 6m	3m	5m	Over-mature	Low	Indifferent	Moribund with only small live canopy; large amounts of stable deadwood; of low quality; significant component of group in which it stands.	C (23)
24		English oak	13m	500mm est.	4m	5m	5m	Over-mature	Low	Poor	Moribund tree; largely dead with very small live canopy; large wound from upper canopy to base, up to 400mm wide.	U
25		English oak	13m	640mm	NE 3m SE 4m SW 6.6m NW 4.4m	4m	3m	Mature	Average	Moderate	No significant defects observed at base; single-stemmed with ivy cover; tensile unions; mutually suppressed canopy; significant component of group in which it stands.	B (1)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
26		Ash	14m	330mm	NE 0.5m SE 2m SW 5m NW 3m	6m	4m	Semi-mature	Average	Moderate	Of moderate quality, but currently of low value due to small size.	C (1)
27		English oak	12m	600mm ivy	N 2m E 2m S 6m W 2m	4m	2.5m	Over-mature	Low	Indifferent	Off-site tree; unremarkable tree of very limited merit; small suppressed canopy.	C (3)
28		English oak	20m	860mm ivy	NE 3m SE 7m SW 9m NW 8m	5m	2m	Mature	Average	Moderate	Off-site tree; ivy-covered; single trunk; tensile unions; dominant canopy; essential component of group in which it stands.	B (12)
29		English oak	16m	590mm ivy	NE 3m SE 4m SW 10m NW 6m	8m	3m	Mature	Average	Moderate	No significant defects at base; heavily ivy-covered; single trunk; tensile unions; drawn-up and mutually suppressed; significant component of group in which it stands.	B (1)
30		English oak	10m	620mm	N 0m E 4m S 12m W 5.5m	5m	2m	Mature	Average	Poor	Heavily leaning trunk over site, at 8m trunk grows horizontally; heavily suppressed; of poor quality and limited landscape merit.	C (2)
31		English oak	22m	1015mm	NE 4m SE 6m SW 9.8m NW 8m	8m	7m	Mature	Average	Fair	Off-site tree; heavily ivy-covered; single trunk; tensile unions; N canopy heavily reduced over private garden; essential component of group in which it stands.	B (23)
32-35		English oak	19m	#T32 700mm #T33 620mm #T34 670mm #T35 920mm all ivy	NE 4m SE 6m NW 5.4m	3m	3m	Mature	Average	Moderate	Row of four English oak growing adjacent to N boundary; drawn up and mutually suppressed; all heavily ivy-covered; of moderate quality; screening residential development to N; significant component of group in which they stand.	B (12)
36		Crack willow	6m	385mm ivy	3m	2m	2m	Semi-mature	Average	Indifferent	Heavily ivy-covered; recently topped to 5m for powerline clearance; unremarkable tree of very limited merit.	C (3)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
37		Crack willow	9m	260mm	N 2.5m E 3m SE 4m S 3m W 2.6m	1.5m	1m	Semi-mature	Average	Indifferent	Ivy-covered; twin-stemmed from 1.5m, tight fork;; above average deadwood in crown; inessential component of group in which it stands.	C (3)
38		Crack willow	6m	130mm	2m	1m	1m	Young	Average	Moderate	Young tree with stem diameter below 150mm.	C (1)
39		Crack willow	12.5m	325mm 310mm all ivy	N 7m E 3m S 6.3m W 5.4m	0.5m	4m	Semi-mature	Average	Indifferent	Growing on ditch bank; twin-stemmed from 0.5m with tensile union; ivy-covered; rubbing branches; inessential component of group in which it stands.	C (12)
40-42		Crack willow	12m	#T40 420mm #T41 295mm #T42 2 stems @ 300mm all ivy	N 5m E 3m S 5m W 6m	2m	3.5m	Semi-mature	Average	Indifferent	Small suppressed specimens; ivy-covered; inessential component of group in which they stand; of limited screening value.	C (23)
43-47		Crack willow	13m	#T43 350mm #T44 330mm #T45 395mm #T46 340mm #T47 280mm all ivy	4m	2m	4m	Semi-mature	Average	Indifferent	Row of five willow of similar age and size; heavily ivy-covered; of limited quality and value; inessential components of group in which they stand.	C (23)
48	G1	Field maple	10m	280mm	N 2.9m E 3m S 3.4m W 3m	3m	3m	Semi-mature	Average	Moderate	Of moderate quality, but currently of low value due to small size.	C (1)
49		Crack willow	8m	260mm	NE 2.3m SE 0m SW 3m NW 4m	3m	2.5m	Semi-mature	Average	Indifferent	Small suppressed specimen of limited quality and value.	C (3)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
50	G1	Ash	14m	490mm	N 0.5m E 3m S 7.3m SW 5m W 4m	5m	4m	Semi-mature	Average	Poor	Single trunk forming a bow shaped lean to the S; heavily suppressed by adjacent oak; inessential component of group in which it stands.	C (3)
51		Monterey cypress	18.5m	960mm est.	N 4m E 3m SE 5.6m SW 7.6m NW 5.2m	4m	4m	Mature	Below average	Indifferent	Wound at base N; majority of E canopy has died off, leaving 'stag wood' framework, with evidence to suggest multiple historic failures; broken branches hung up in crown; one sided canopy due to condition of crown; prominent in views from Priory Lane to S, Ford Road to E and private properties on Dalloway Road to N.	C (2)
52		English oak	15m	1400mm	N 9.2m NE 11.1m E 9.6m S 6.1m SW 10.5m W 7.8m	3.5m	5m	Over-mature	Below average	Moderate	No fungal fruiting bodies present at base at time of inspection; 2.1m from ploughed agricultural ground to E; prominent buttress roots, specifically on NE; burrows and disturbed soil between buttress roots E, evident of animal activity; single, ivy-covered trunk; tensile main crown break union at 3.5m; wide spreading crown with epicormic growth on main structural limbs; deadwood scattered throughout canopy, typical of age and species; field boundary specimen; of long term potential; visible from Priory Lane and private properties on Dalloway Road; significant component of the group in which it stands.	A (12)
53		English oak	13.5m	1450mm	N 9.6m NE 10.2m E 6.9m S 7.5m W 8m	3m	4m	Over-mature	Average	Indifferent	No fungal fruiting bodies present at base at time of inspection; 2.1m from ploughed agricultural ground to E; prominent buttress roots all around base; cavity at base E, probeable to 0.6m, indicative of significant internal decay; single trunk, heavily ivy-covered; large semi-occluded wound at 3.5m N, suggesting historical limb failure; lowest limb at 3m W failed, leaving the remaining canopy high on this side; large low limb S heavily reduced; deadwood scattered throughout canopy, some of it 'stag' wood, typical of age and species; notable specimen and a potential future veteran; visible from Priory Lane and private properties on Dalloway Road; significant component of the group in which it stands.	B (123)
54		English oak	12.5m	850mm est.	N 5m E 4.5m S 6m SW 7.5m W 5.5m	4.5m	5m	Mature	Low	Indifferent	Off-site tree; 2.6m from ploughed agricultural ground to E; moribund; fungal fruiting body, consistent with the decay fungus <i>Ganoderma applanatum</i> on trunk at 1m NE; one live branch at 4.5m SW; of moderate ecological value.	U

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
55		English oak	15.5m	1080mm est.	N 8.5m E 7.6m S 7m SW 8.5m W 8m	3m	E 1m	Over-mature	Average	Indifferent	Off-site tree; 5.8m from ploughed agricultural ground to E; unable to access tree to conduct thorough inspection as it is off-site; prominent buttress roots; single trunk; low branch at 3.5m E has significant decay, potentially leading down into trunk; tensile main crown break union at 3m, multi-stemmed from here; woodpecker holes at 8m E; historic pruning work carried out in E canopy to give clearance to the overhead cables; slightly suppressed by adjacent specimen (no. 54) to S; significant component of the group in which it stands.	A (123)
56		English oak	13.5m	980mm est.	N 8m NE 10.1m E 9.5m S 5m W 4m	3.5m	4m	Mature	Below average	Indifferent	Off-site tree; 4.5m from ploughed agricultural ground to E; located on W side of ditch and bank boundary; main crown break union at 3.5m appears tensile, dividing into four stems from this point; potentially historically suppressed on S, indicated by short laterals in the S canopy; major deadwood in SE canopy, typical of suppression; slightly sparsely foliated in E upper canopy; significant component of the group in which it stands.	B (123)
57		Ash	11m	2 stems @ 210mm 235mm 190mm all est.	N 6m E 5.2m S 4.7m W 5m	2m	1m	Semi-mature	Average	Indifferent	Off-site tree; multi-stemmed from base with acute unions, some with minor bark inclusion; broken branches hung up in crown.	C (12)
58		English oak	12.5m	800mm est.	N 5.8m E 6.2m S 6.5m W 7.5m	2m	3m	Mature	Below average	Indifferent	1.9m from ploughed agricultural ground to E; much epicormic growth on major structural branches within inner canopy, suggestive of reduced physiological function; flail damage to lower limbs in E canopy; significant component of the group in which it stands, despite being of low quality; visible from Priory Lane and private properties on Dalloway Road to N.	C (2)
59		English oak	10m	1000mm	N 8m E 6m S 4.5m W 6m	3m	5m	Over-mature	Low	Indifferent	Off-site tree; 4.7m from ploughed agricultural ground to E; moribund; small live growth in NE canopy despite tree looking stone dead; of low quality, but of moderate ecological value and moderate landscape value;	U
60		Ash	9m	180mm est.	N 2.5m E 3m S 2m W 1.5m	1m	2m	Young	Average	Indifferent	Self-seeded specimen; asymmetrical crown as suppressed by adjacent specimens; unremarkable tree of very limited merit.	C (12)
61		English oak	17m	680mm est.	N 5.6m E 6.5m S 7m W 8.5m	4m	4m	Semi-mature	Average	Moderate	2.1m from ploughed agricultural ground to E; single trunk; tensile main branch unions; asymmetrical canopy as suppressed by adjacent specimen to N; deadwood scattered throughout canopy, typical of age and species; significant component of group in which it stands; visible from Priory Lane and private properties on Dalloway Road to NE.	B (12)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
62		English oak	12.5m	985mm est.	N 7.4m E 6.2m S 6.5m W 8m	4m	3m	Mature	Below average	Moderate	Off-site tree; 3.7m from ploughed agricultural ground to E; three large limbs historically removed at 3m N and E; tensile main branch unions; woodpecker hole at 7m E, indicative of habitat potential; deadwood scattered throughout canopy, typical of age and species; historic limb failure at 6m N, remaining tear is an ideal bat roost; minor dieback in S canopy, potentially from suppression; significant component of the group in which it stands; visible from Priory Lane and private properties on Dalloway Road to NE.	B (123)
63		Field maple	9m	170mm est.	N 1.5m E 2.25m S 2.5m W 0.5m	3m	3.5m	Young	Below average	Poor	Small self-seeded specimen; drawn-up individual; unremarkable tree of very limited merit.	C (12)
64		English oak	17.5m	910mm	N 5.5m E 10m SE 12.2m S 9.4m W 9.5m	4m	5.5m	Mature	Average	Moderate	Off-site tree; 8.4m from ploughed agricultural ground to E; no fungal fruiting bodies or visible defects at base at time of inspection; single trunk; lowest branch at 4m S nearly touches ground; one-sided crown as suppressed by adjacent specimens to N; deadwood scattered throughout canopy, typical of age and species; significant component of the group in which it stands, visible from Dalloway Road to N.	B (12)
65		Field maple	8.5m	250mm est.	N 2m E 3m SE 3m S 2.8m W 4m	2.6m	2m	Semi-mature	Average	Moderate	Growing within deciduous group in NW corner of site; suppressed specimen; ivy-covered; of only low-level screening value; visible from Dalloway Road to N.	C (12)
66		English oak	14m	1125mm	N 3m E 4m S 6.5m W 6m	8m	5.5m	Over-mature	Below average	Indifferent	Off-site tree; prominent buttress roots; fungal fruiting body, consistent with root decay fungus <i>Ganoderma resinaceum</i> at base E; evidence of root decay at base SE; cavity at 8m E, providing moderate habitat value; heavily reduced canopy (potentially done after recognising a root decaying fungus at base) with up to 1m regrowth; of moderate ecological value; readily visible in views from Priory Lane to SE and Dalloway Road to N.	B (23)
67		English oak	13.5m	1200mm est.	N 6m E 5m S 5.5m W 4.5m	5m	4m	Over-mature	Average	Indifferent	Off-site tree; prominent buttress roots; slightly leaning trunk; owl box in main crown break union, with evidence of nesting and regular use; historic wound on limb at 9m SE with good recovery growth; heavily reduced to match adjacent tree (no. 66), with up to 1m regrowth from pruning points; readily visible in views from Priory Lane to SE and Dalloway Road to N.	B (23)
68		English oak	15m	750mm ivy est.	N 6m E 6.3m S 6.6m W 6m	4m	S 4m	Semi-mature	Average	Good	2.5m from ploughed agricultural ground to S; single, ivy-covered trunk; tensile main crown break union where tree becomes triple-stemmed; well balanced canopy; deadwood scattered throughout canopy, typical of age and species; of long term potential; visible in views from Priory Lane to S and glimpsed in views from Dalloway Road to N.	B (12)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
69		English oak	10m	1050mm est.	N 6m E 5m S 6.2m W 4.5m	4m	5.5m	Over-mature	Below average	Moderate	5.1m from ploughed agricultural ground to S; swollen buttress area, typical of age, but also indicative of potential internal decay; single trunk; tensile main crown break union at 4m where trunk divides into two co-dominant stems and a significant limb (emanating S); significant dieback at branch tips; major deadwood in crown; historically failed top at 9m; visible from Priory Lane to S.	B (23)
70		English oak	14m	540mm est.	N 6m E 2m S 5m SW 5.7m W 4m	3.5m	2m	Semi-mature	Average	Indifferent	3.6m from ploughed agricultural ground to S; single trunk; ivy-covered; evidence of lower limb pruning on S giving clearance to site; suppressed specimen; minor deadwood scattered throughout canopy, typical of species and being suppressed; visible in views from Priory Lane to S.	C (2)
71		English oak	15.5m	1350mm est.	N 7m E 9m S 8.3m SW 7.6m W 7m	3m	1.5m	Over-mature	Average	Moderate	Off-site tree; 3.9m from ploughed ground to S; prominent buttress roots; historically reduced to 13m, with 2.5m regrowth from pruning points; would possibly be showing veteran characteristics such as retrenchment and internal canopy if not managed; notable specimen and a potential emerging veteran; epicormic on most structural limbs as a response to recent pruning work; no major deadwood visible but multiple pruning wounds suggest there was some, prior to works; multiple small cavities in crown, providing ideal habitat; of moderate ecological value; visible in views from Priory Lane to S.	B (123)
72		English oak	11m	900mm est.	N 6.5m E 6m S 5.5m W 5m	4.5m	5m	Over-mature	Below average	Indifferent	2.5m from ploughed agricultural ground to S; large wound starting at base W and extending up to 3.5m, potentially from lightning strike. Heart wood exposed in places with flaky bark, but wound is semi occluded, showing good recovery; tensile main crown break union, trunk divides into two co-dominant stems; small cavity in old pruning wound at 4.5m S; evidence of regular management; visible in views from Priory Lane to S.	B (23)
73		English oak	18m	1050mm est.	N 6.5m E 7m S 6.9m W 6m	5.5m	5m	Mature	Below average	Good	3.9m from ploughed agricultural ground to S; prominent buttress roots; historically reduced to 15m. 3m regrowth indicative of good physiological function; of long term potential; top of crown visible from High Ridge Close to NE, whole tree visible from Priory Lane to S.	B (123)
74-75		English oak	13m	#T74 800mm est. #T75 955mm est.	N 5m E 6.5m S 4.4m W 4m	3.5m	4m	Mature	Below average	Moderate	No visible defects or fungal fruiting bodies at base S; #74 is 2.4m from ploughed agricultural ground to S and #75 is 6m from ploughed agricultural ground to S; both recently heavily reduced, with very little growth left; of low quality and landscape value.	C (2)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
76		English oak	15m	1125mm est.	N 8m E 8m S 7.5m SW 7.4m W 8m	4m	SW 4m	Over-mature	Average	Good	Off-site tree, in allotments; prominent buttress roots; unable to access base to check for defects as off-site; tensile main crown break union at 4m, where trunk divides into two co-dominant stems; well rounded canopy; epicormic on main structural limbs, indicative of early retrenchment; very minor dieback at some branch tips; deadwood (some of it 'stag' wood) scattered throughout canopy, typical of age and species; low lateral in N canopy has been pruned back from adjacent property; of long term potential; field boundary marker; visible from High Ridge Close to NW and Priory Lane to SW.	A (1)
77	G1	English oak	22m	1650mm	N 11.9m E 13.5m S 12m W 7.3m	6m	4m	Veteran	Below average	Moderate	Base of the tree directly abutting heavily ploughed field, root damage within structural route plate; large buttress roots; evidence of borrowing into cavities (can be probed to 600mm) between buttress roots, indicating hollow trunk; bottle but; heavily ivy-covered, impeding full inspection; single trunk; main unions tensile; light epicormic growth ; sparse outer canopy, indicative of physiological stress; spreading canopy with long overextended lateral limbs; suppressing adjacent trees; significant amount of deadwood within the canopy; historic storm damage evident in several locations around the canopy, wounds up to 250mm in diameter; woodpecker hole visible on the low branch going to the west. Specimen exhibiting several characteristic traits of a veteran with a large them diameter; essential component of the group in which it stands visible from the fields to the West, Priory Lane to the south, and residential property to the north; screened in long-range views to E by the adjacent trees.	A (3)
78		Crack willow	7m	200mm 140mm all ivy	NE 3m SE 0m SW 3m NW 6m	1m	2m	Semi-mature	Average	Poor	Small suppressed specimen with heavily leaning stems.	C (3)
79	G1	English oak	19m	950mm	N 10.4m E 9m S 5m W 6.5m	1.5m	5m	Mature	Average	Moderate	Off-site tree; no significant defects at base; twin-stemmed at 1.5m with strong tensile union; large spreading canopy, suppressed to the S by veteran oak. Significant component of group; readily visible from Ford Road and surrounding countryside to E.	B (12)
80	G1	English oak	18m	700mm	N 4m NE 11m E 13m SE 8m S 5m W 1m	3m	2m	Mature	Average	Poor	Off-site tree; single trunk; heavy lean from 9m, canopy heavily suppressed; inessential component of group in which it stands.	C (12)
81		Ash	15m	450mm ivy est.	5.5m	3m	5m	Semi-mature	Below average	Moderate	Off-site tree; heavily ivy-covered; of moderate quality but short annual extension growth indicates physiological stress; readily visible from Ford Rd.	B (2)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
82		English oak	13m	400mm 470mm	6m	1m	5m	Mature	Average	Indifferent	Off-site tree; twin-stemmed from 1m with tight fork and evidence of branch bark inclusion, stable snub nose response wood; of moderate value; readily visible from Ford Road.	B (2)
83		Ash	13.5m	410mm	5m	3m	5m	Semi-mature	Below average	Moderate	Off-site tree; sparsely canopy; above average deadwood in crown; of low quality but readily visible from Ford Road.	C (2)
84		English oak	19m	950mm est.	9m	4m	3m	Mature	Average	Moderate	Off-site tree; heavily ivy-covered impeding full inspection; strong unions; deadwood typical age and species; extended lower limb growing NE; essential component of group; dominant canopied, visible from Ford Road; contributes to N boundary skyline and screening.	A (2)
85		English oak	11m	800mm est.	7m	4m	3m	Over-mature	Dead	Dead	Off-site tree; dead tree.	U
86		Ash	8m	95mm	2m	1.5m	1.5m	Young	Average	Moderate	Young tree with stem diameter below 150mm.	C (1)
87		Hawthorn	9m	210mm 170mm	N 1m E 3m S 4.6m W 2m	0.5m	2m	Semi-mature	Average	Indifferent	Unremarkable tree of very limited merit.	C (3)
88		Ash	14m	395mm ivy	N 2m E 4m S 5m W 3.2m	3m	3m	Semi-mature	Average	Moderate	Of moderate quality, but currently of low value due to small size.	C (1)
89-90		Hawthorn	5m	#T89 90mm 3 stems @ 65mm #T90 120mm 100mm	2m	0m	1m	Young	Average	Indifferent	Unremarkable trees of very limited merit.	C (1)
91		Ash	4.5m	110mm	2m	1.5m	2m	Young	Average	Moderate	Young tree with stem diameter below 150mm.	C (1)
G1		Various	Max 10m Avg 5m	Min 70mm Max 400mm Avg 200mm	3m	1m	1m	Various	Average	Indifferent	Group of trees growing along the ditch; group comprised of oak, willow, ash and hawthorn with understory of ivy and bramble; individuals of limited quality and value readily replaceable and of low-level screening value.	C (23)
G2		Various	4m	Min 210mm Max 390mm	3m	0.5m	0m	Various	Average	Indifferent	Group of scrub trees growing along ditch; comprised of hawthorn, willow blackthorn and elder with dene bramble; of low quality and value.	C (3)

No.	TPO no.	Species	Height	Trunk diameter	Radial crown spread	Crown break	Crown clearance	Age class	Physio -logy	Structure	Comments	Category
G3		Various	Min 8m Max 22m Avg 18m	Min 140mm Max 920mm Avg 500mm	6m	3m	3m	Various	Average	Moderate	Belt of trees growing along, and adjacent to, the north boundary; of moderate quality; readily visible in views from Ford road and surrounding landscape to S; contributes to N boundary skyline and screening.	B (123)
G4		English oak	16m	Avg 800mm	8m	2m	2m	Various	Average	Moderate	Group of mature trees growing along field boundary separating the two on-site fields; predominantly comprised of English oak. Individuals of variable quality and includes two veterans; of high landscape value; prominent feature in views from E, including Ford Road.	A (3)
G5		Hawthorn and crack willow	4m	Max 250mm Avg 100mm	3m	1m	1m	Various	Average	Moderate	Group of small semi-mature and young trees; semi-mature willows recently pollarded at 1.5m; remaining trees all young with stem diameters below 150mm.	C (1)
G6		Hawthorn and elder	5m	Avg 200mm est.	3m	0.5m	1m	Semi-mature	Average	Moderate	Group of small scrubby trees adjacent to marshy pond; of limited value.	C (1)
G7		Various	4m	Avg 190mm	1.5m	0.2m	0.2m	Semi-mature	Average	Moderate	Boundary group comprised of predominantly elm and hawthorn specimens; 80% of group has been managed as a hedge, leaving the E and W ends to grow; of low quality, but moderate ecological value; readily visible from Priory Lane.	C (23)
W1		Various	20m	Avg 600mm est.	5m	2m	2m	Various	Average	Moderate	Off-site woodland' part of Tortington Common; no access so all measurements estimated, comprised of predominantly English oak with understorey of hazel, hawthorn and holly; ground cover of ivy. Visible from Dalloway Road but screened in views from the site by English oak no. 64. Identified as ancient woodland in the revised Ancient Woodland Inventory for West Sussex (January 2010).	A (3)
H1		Hawthorn	2m	Avg 75mm	2m	0m	0m	Semi-mature	Average	Fair	Row of closely planted specimens, designed to form a hedge around the E and S boundaries of the lower field; comprised predominantly of hawthorn with dense bramble; of only low-level screening value.	C (23)

Root Protection Areas (RPAs)

Root Protection Areas have been calculated in accordance with paragraph 4.6.1 of the British Standard 'Trees in relation to design, demolition and construction – Recommendations', BS 5837:2012. This is the minimum area which should be left undisturbed around each retained tree. RPAs are portrayed initially as a circle of a fixed radius from the centre of the trunk; but where there appear to be restrictions to root growth the circle is modified to reflect more accurately the likely distribution of roots.

<i>Tree No.</i>	<i>Species</i>	<i>RPA</i>	<i>RPA Radius</i>
1	English oak	425.7m ²	11.6m
2	English oak	484.6m ²	12.4m
3	English oak	311.7m ²	10.0m
4	Crack willow	55.4m ²	4.2m
5	English oak	382.9m ²	11.0m
6	English oak	168.3m ²	7.3m
7	Hawthorn	26.4m ²	2.9m
8	Crack willow	72.1m ²	4.8m
9	English oak	300.5m ²	9.8m
10	English oak	522.8m ²	12.9m
11	English oak	706.9m ²	15.0m
12	English oak	282.3m ²	9.5m
13	English oak	532.6m ²	13.0m
14	English oak	452.4m ²	12.0m
15	English oak	470.7m ²	12.2m
16	Ash	83.6m ²	5.2m
17	Hawthorn	44.9m ²	3.8m
18	Hawthorn	27.6m ²	3.0m
19	Hawthorn	83.6m ²	5.2m
20	Hawthorn	21.8m ²	2.6m
21	Ash	104.2m ²	5.8m
22	Ash	107.1m ²	5.8m
23	English oak	391.3m ²	11.2m
24	English oak	113.1m ²	6.0m
25	English oak	185.3m ²	7.7m
26	Ash	49.3m ²	4.0m
27	English oak	162.9m ²	7.2m
28	English oak	334.6m ²	10.3m
29	English oak	157.5m ²	7.1m
30	English oak	173.9m ²	7.4m
31	English oak	466.1m ²	12.2m
32-35	English oak	221.7m ² 173.9m ² 203.1m ² 382.9m ²	8.4m 7.4m 8.0m 11.0m
36	Crack willow	67.1m ²	4.6m
37	Crack willow	30.6m ²	3.1m
38	Crack willow	7.6m ²	1.6m
39	Crack willow	91.3m ²	5.4m
40-42	Crack willow	79.8m ² 39.4m ² 81.4m ²	5.0m 3.5m 5.1m

43-47	Crack willow	55.4m ²	4.2m
		49.3m ²	4.0m
		70.6m ²	4.7m
		52.3m ²	4.1m
		35.5m ²	3.4m
48	Field maple	35.5m ²	3.4m
49	Crack willow	30.6m ²	3.1m
50	Ash	108.6m ²	5.9m
51	Monterey cypress	416.9m ²	11.5m
52	English oak	706.9m ²	15.0m
53	English oak	706.9m ²	15.0m
54	English oak	326.9m ²	10.2m
55	English oak	527.7m ²	13.0m
56	English oak	434.5m ²	11.8m
57	Ash	81.2m ²	5.1m
58	English oak	289.5m ²	9.6m
59	English oak	452.4m ²	12.0m
60	Ash	14.7m ²	2.2m
61	English oak	209.2m ²	8.2m
62	English oak	438.9m ²	11.8m
63	Field maple	13.1m ²	2.0m
64	English oak	374.6m ²	10.9m
65	Field maple	28.3m ²	3.0m
66	English oak	572.6m ²	13.5m
67	English oak	651.4m ²	14.4m
68	English oak	254.5m ²	9.0m
69	English oak	498.8m ²	12.6m
70	English oak	131.9m ²	6.5m
71	English oak	706.9m ²	15.0m
72	English oak	366.4m ²	10.8m
73	English oak	498.8m ²	12.6m
74-75	English oak	289.5m ²	9.6m
		412.6m ²	11.5m
76	English oak	572.6m ²	13.5m
77	English oak	706.9m ²	15.0m
78	Crack willow	27.0m ²	2.9m
79	English oak	408.3m ²	11.4m
80	English oak	221.7m ²	8.4m
81	Ash	91.6m ²	5.4m
82	English oak	172.3m ²	7.4m
83	Ash	76.0m ²	4.9m
84	English oak	408.3m ²	11.4m
85	English oak	289.5m ²	9.6m
86	Ash	4.1m ²	1.1m
87	Hawthorn	33.0m ²	3.2m
88	Ash	70.6m ²	4.7m
89-90	Hawthorn	9.4m ²	1.7m
		11.0m ²	1.9m
91	Ash	5.5m ²	1.3m
G1	Various	72.4m ²	4.8m
G2	Various	68.8m ²	4.7m
G3	Various	382.9m ²	11.0m
G4	English oak	289.5m ²	9.6m
G5	Hawthorn and crack willow	28.3m ²	3.0m
G6	Hawthorn and elder	18.1m ²	2.4m
G7	Various	16.33m ²	2.3m
H1	Hawthorn	2.5m ²	0.9m

APPENDIX 3

Tree Protection Plan

Impact	No. of Trees
Trees to be removed	8
Groups of trees to be removed	1
Groups of trees to be partially removed	3
TPO trees to be removed	0
Trees to be pruned	0
Trees where manual excavation needed within RPAs	2
Trees where above soil surfacing needed within RPAs/VBZ	1
Trees with proposed underground services within RPAs	0

Trees to be Removed			
No	Species	Category	
3	English oak	C (3)	
4	Crack willow	U	
18	Hawthorn	C (3)	
45-47	Crack willow	C (23)	
74-75	English oak	C (2)	
G1	Various (partially removed)	C (23)	
G2	Various (partially removed)	C (3)	
G6	Hawthorn and elder	C (1)	
H1	Various (partially removed)	C (23)	

Category	No. of trees	Category	No. of trees
A	0	B	0
C	7	U	1

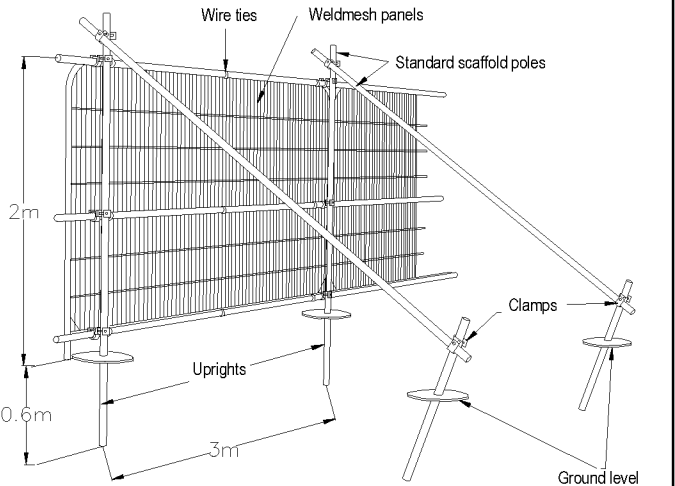
No.	Species	Type of structure
5	English oak	Proposed internal road
13	English oak	Proposed internal road

within veteran buffer zone		
No.	Species	Type of structure
11	English oak	Proposed access road

The arboricultural consultant will directly supervise all construction works that have to be undertaken within root protection areas. These include:

1. Location of protective fencing and ground protection.
2. Construction of above-ground hard surfacing.
3. All excavations, whether for proposed foundations, hard surfacing or underground services.

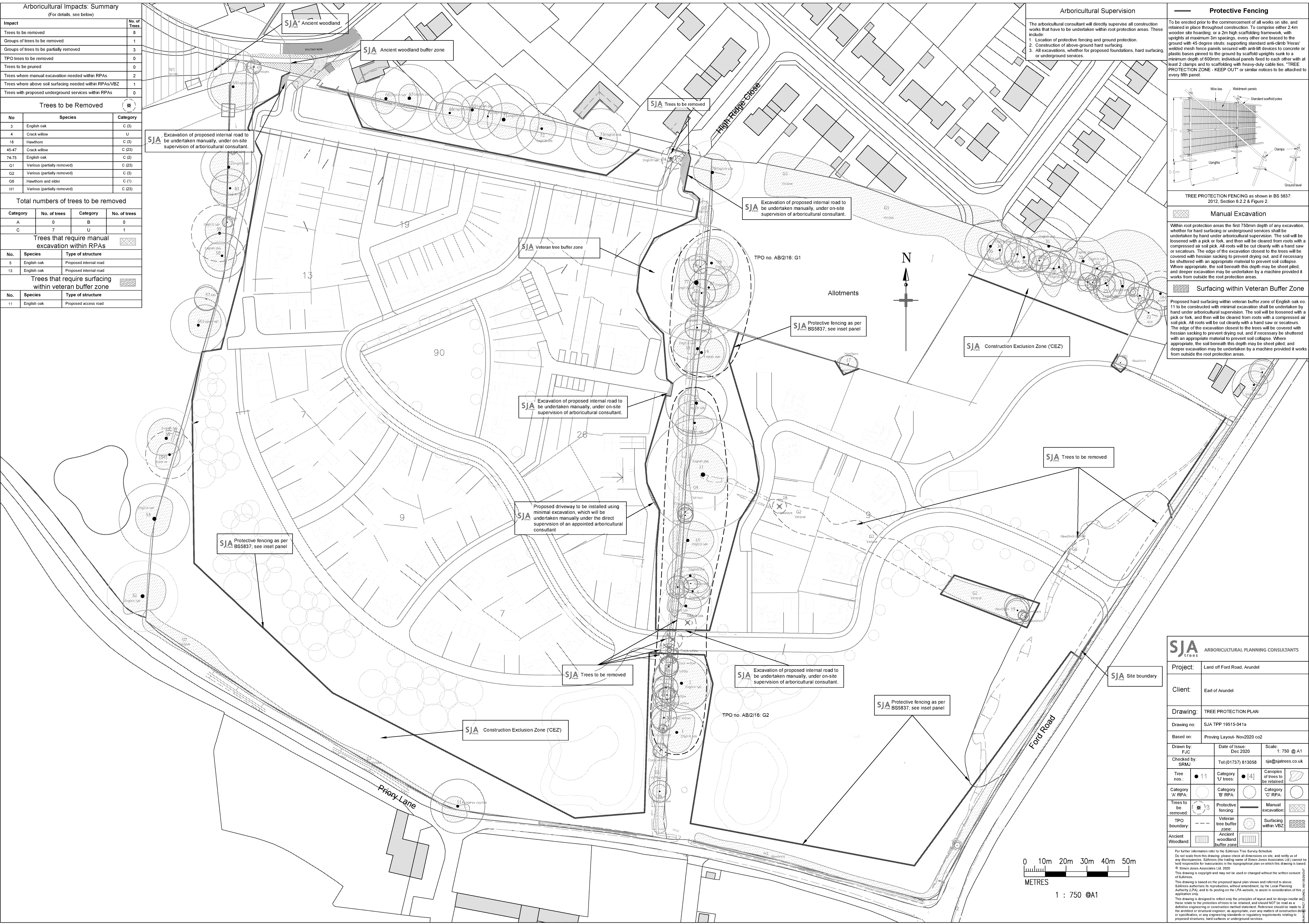
To be erected prior to the commencement of all works on site, and retained in place throughout construction. To comprise either 2.4m wooden site hoarding; or a 2m high scaffolding framework, with uprights at maximum 3m spacings, every other one braced to the ground with 45 degree struts; supporting standard anti-climb 'Heras' welded mesh fence panels secured with anti-lift devices to concrete or plastic bases pinned to the ground by scaffold uprights sunk to a minimum depth of 600mm; individual panels fixed to each other with at least 2 clamps and to scaffolding with heavy-duty cable ties. "TREE PROTECTION ZONE - KEEP OUT" or similar notices to be attached to every fifth panel.



TREE PROTECTION FENCING as shown in BS 5837
2012, Section 6.2.2 & Figure 2.

Within root protection areas the first 750mm depth of any excavation, whether for hard surfacing or underground services shall be undertaken by hand under arboricultural supervision. The soil will be loosened with a pick or fork, and then will be cleared from roots with a compressed air soil pick. All roots will be cut cleanly with a hand saw or secateurs. The edge of the excavation closest to the trees will be covered with hessian sacking to prevent drying out, and if necessary be shuttered with an appropriate material to prevent soil collapse. Where appropriate, the soil beneath this depth may be sheet piled; and deeper excavation may be undertaken by a machine provided it works from outside the root protection areas.

Proposed hard surfacing within veteran buffer zone of English oak no. 11 to be constructed with minimal excavation shall be undertaken by hand under arboricultural supervision. The soil will be loosened with a pick or fork, and then will be cleared from roots with a compressed air soil pick. All roots will be cut cleanly with a hand saw or secateurs. The edge of the excavation closest to the trees will be covered with hessian sacking to prevent drying out, and if necessary be shuttered with an appropriate material to prevent soil collapse. Where appropriate, the soil beneath this depth may be sheet piled; and deeper excavation may be undertaken by a machine provided it works from outside the root protection areas.



SJA ARBORICULTURAL PLANNING CONSULTANTS

Project:	Land off Ford Road, Arundel
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Client:	Earl of Arundell
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Drawing:	TREE PROTECTION PLAN
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Drawing no: SJA TPP 19515-041a

Based on:	Proving Layout- Nov2020 co2
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Drawn by: FJC	Date of Issue: Dec 2020	Scale: 1: 750 @ A1
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SRMJ	Tel: (01737) 813058	sjd@sjdcees.co.uk
		Cambridge

nos.:		'U' trees:		of trees to be retained:	
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Category 'A' RPA:		Category 'B' RPA:		Category 'C' RPA:	
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be removed:		Protective fencing: 	Manual excavation: 
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TPO boundary	---	Veteran tree buffer		Surfacing within VBZ	
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Ancient Meadowland		Ancient woodland	
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For further information refer to the SJAtrees Tree Survey Schedule

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This drawing is based on the proposed layout plan shown and referred to above.

Authority (LPA), and to its posting on the LPA website, to assist in consideration of this application only.

these relate to the protection of trees to be retained, and should NOT be read as a definitive engineering or construction method statement. Reference should be made to the architect or structural engineer, as appropriate, over any matters of construction detail.

proposed structures, hard surfaces or underground services.

0 10m 20m 30m 40m 50m

METRES

1 : 750 @A1