

LEGAL AND GENERAL (STRATEGIC LAND NORTH HORSHAM) LIMITED

MOWBRAY (FORMERLY LAND NORTH OF HORSHAM)

EMPLOYMENT ROAD (RMA2) – BS:5837 ARBORICULTURAL REPORT

ISSUE: Tuesday, 16 December 2025

CLIENT Legal and General (Strategic Land North Horsham) Limited

PROJECT Mowbray (formerly Land North of Horsham)

REPORT TITLE Employment Road (RMA2) BS:5837 Arboricultural Report

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CONTENTS:

1. INTRODUCTION	4
2. CONTACTS.....	5
3. PLANNING BACKGROUND	6
4. LEGAL PROTECTION (TREES).....	7
5. ARBORICULTURAL IMPACT ASSESSMENT	8
6. ARBORICULTURAL METHOD STATEMENT (AMS).....	11
7. POST CONSTRUCTION	15

Figures:

1. MAGiC Ancient Woodland Map
2. BGS Geology Viewer Map

Appendices:

1. Survey Key
2. BS:5837 (2012): Cascade chart for tree quality assessment
3. Survey Appraisal
4. Tree Survey Data
5. Tree Protection Fencing Structure
6. All-weather Tree Protection Fencing Signage
7. Qualifications

1. INTRODUCTION

Background

- 1.1 David Jarvis Associates have been commissioned by Legal and General (Strategic Land North Horsham Limited) ('The Applicant') to provide an Arboricultural Report to support an application for full planning permission for the Employment Road and associated ground works connecting the left-In, Left-Out with the A264 to residential Phase 2 of the Mowbray strategic development (outline planning permission DC/16/1677).
- 1.2 The purpose of the report is to identify all trees which may be affected by the construction of the Employment Road and associated works. This report looks at any short or longer-term impact the development will have on the surrounding trees and makes recommendations for amendments or mitigation where appropriate.

Scope

- 1.3 The scope and level of detail included in this report, complies with the requirements of British Standard (BS) 5837:2012 *Trees in Relation to Design, Demolition and Construction – Recommendations* (BS:5837 Table B.1) and includes reference to the following:
- Arboricultural Impact Assessment
 - Arboricultural Method Statement
 - Tree Protection Plan
- 1.4 This report has been prepared on behalf of Legal and General (Strategic Land North Horsham Limited) ('The Applicant') and should be read in conjunction with the arboricultural survey ref: 2898-17-2-DR-0001-S0-P1 Phase 2 BS5837 Arboricultural Survey 100223 (July 2023).
- 1.5 The British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction' is designed to assist those concerned with trees in relation to construction to form balanced judgments. This report does not therefore seek to put arguments for or against development but provides a means of protecting trees which may be affected during development.
- 1.6 The report is for the sole use of the client and their appointed agents. Its reproduction or use by anyone else is forbidden unless written consent is given by the author.

2. CONTACTS

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3. PLANNING BACKGROUND

- 3.1 An application for outline Planning Permission (LPA ref. DC/16/1677: 'the OPP') for the following development was submitted to Horsham District Council on 4th August 2016.
- 3.2 'Outline planning application with all matters reserved except access for a mixed-use strategic development to include housing (up to 2,750 dwellings), business park (up to 46,450m²), retail community, leisure facilities, education facilities, public open space, landscaping and related infrastructure.'
- 3.3 Permission was granted subject to conditions on the 1st of March 2018
- 3.4 The applicant has progressed applications pursuant to the OPP and stand-alone to allow construction to commence and further strategic development to be delivered.
- 3.5 The time limit for the submission of Reserved Matters on the Employment Land has passed. As such, the Applicant is applying for full planning permission for the Primary Road through the Employment Land. Whilst the OPP conditions no longer apply to the Employment Road, their principles and requirements, alongside best practice in assessing impacts on trees/ hedgerows, have informed the approach taken in this report including the requirements of OPP Condition 16:

16. Pre-Commencement Condition:

No development shall commence within any Reserved Matters Area or on works to construct the accesses hereby approved, including demolition pursuant to the permission granted, ground clearance, or bringing equipment, machinery or materials onto the relevant part of the site, until the following preliminaries have been completed in the sequence set out below:

a) A plan shall be submitted to show all trees on the relevant part of the site to be retained as well as those off-site whose root protection areas ingress into the relevant part of the site, such trees shall be fully protected by tree protective fencing affixed to the ground in full accordance with section 6 of BS 5837 'Trees in Relation to Design, Demolition and Construction - Recommendations' (2012).

b) Once installed, the fencing shall be maintained during the course of the development works for that phase or sub-phase and until all machinery and surplus materials have been removed from the site.

c) Areas so fenced off shall be treated as zones of prohibited access, and shall not be used for the storage of materials, equipment or machinery in any circumstances. No mixing of cement, concrete, or use of other materials or substances shall take place within any tree protective zone, or close enough to such a zone that seepage or displacement of those materials and substances could cause them to enter a zone.

Reason: As this matter is fundamental to ensure the successful and satisfactory retention of important trees and hedgerows on the site in accordance with Policy 33 of the Horsham District Planning Framework (2015).

4. LEGAL PROTECTION (TREES)

Tree Preservation Orders

- 4.1 At the time of this report (25/08/2025), I have confirmed on the Horsham District Council TPO Map that there are no Tree Preservation Orders affecting the Employment Road development area.

Conservation Areas

- 4.2 I have confirmed on the Horsham District Council online mapping portal that the Employment Road Area is not within a Conservation Area.

Ancient Woodland

- 4.3 Woodland beyond the northwest boundary of the site is recorded as Ancient Woodland.
- 4.4 For ancient woodlands, Government guidelines recommend a buffer zone of at least 15 metres from the boundary of the woodland. Where assessment shows other impacts are likely to extend beyond this distance, the proposal is likely to need a larger buffer zone.
- 4.5 The proposed new Employment Road and associated pathways are located over 15m from the woodland edge and therefore is outside of the Ancient Woodland Buffer Zone.

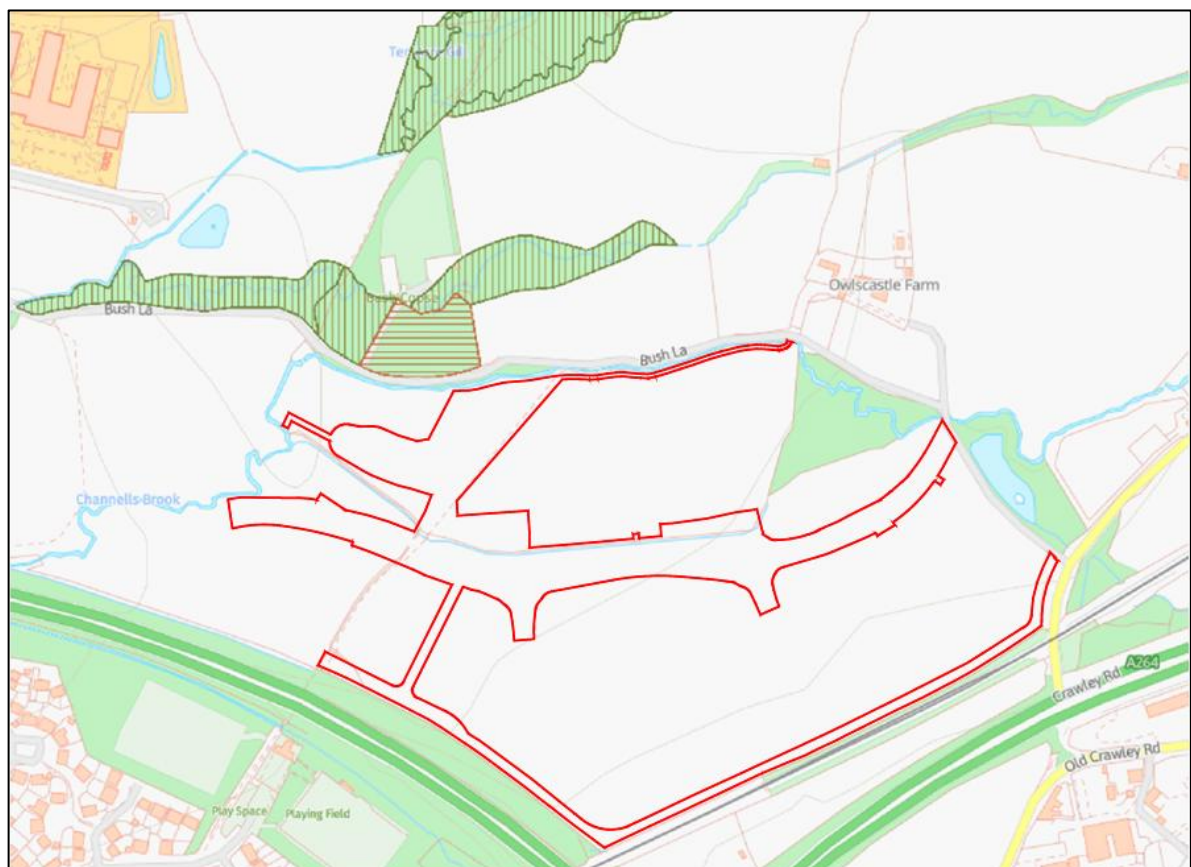


Figure 1 – MAGiC Map showing Ancient Woodland (green & red hatch) in relation to the Employment Road Site

5. ARBORICULTURAL IMPACT ASSESSMENT

Introduction

- 5.1 The purpose of this Arboricultural Impact Assessment is to evaluate the direct and indirect effects of the proposed construction of the new Employment Road connecting the Left-In, left-Out ('LILO') with the A264 to residential Phase 2 of the Mowbray Strategic Development Site.
- 5.2 This assessment will take account of the effects of any potentially damaging activities proposed near the trees growing on and adjacent to the site. Where conflict is identified, this report will recommend solutions or mitigation as appropriate.

Site Description

- 5.3 The development consists of a new access road which will eventually run through the centre of the employment land, linking to the A264 LILO junction to the west and Phase 2 to the east.
- 5.4 The proposed new road is bordered by areas of Open Green Space.
- 5.5 The site currently consists of arable fields divided by mature hedgerows within which are growing a number of individual mature trees. Beyond the northwest boundary of the development site is an Ancient Woodland known locally as Bush Copse.
- 5.6 The site is level with no pre-existing development.

Soil

- 5.7 The British Geological Survey 1:50 000 scale bedrock geology description for this area is Weald Clay Formation to the north, and Upper Tunbridge Wells Sand to the south consisting of Sandstone and mudstone.

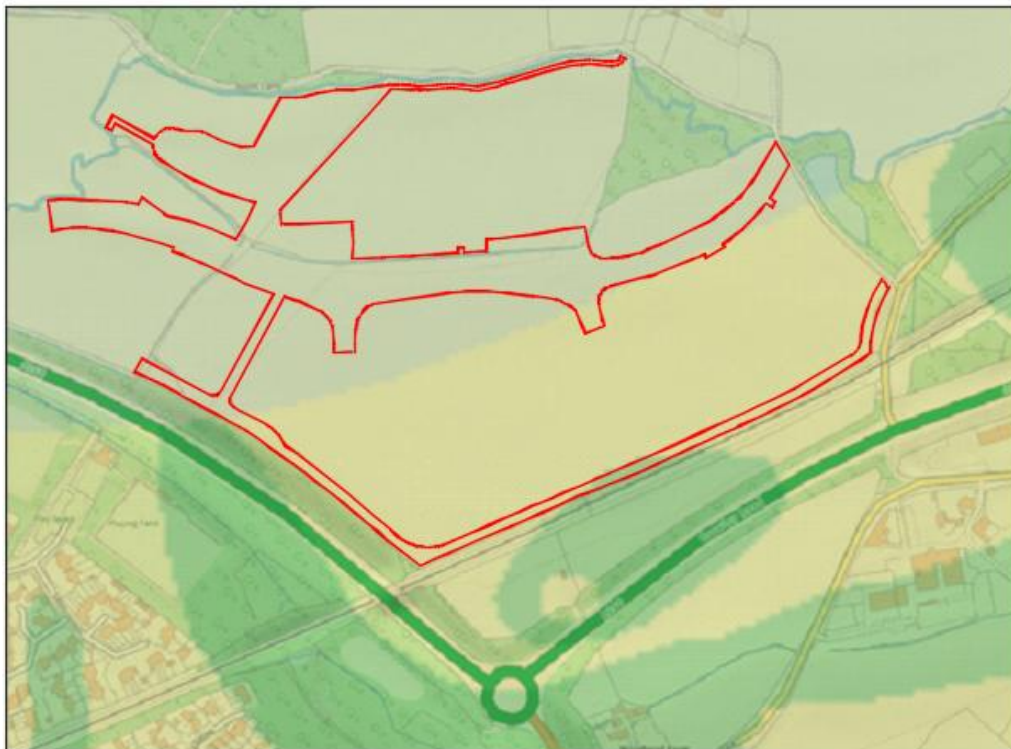


Figure 2 – BGS Geology Viewer Map

- 5.8 The soil in this area is therefore vulnerable to damage through compaction. Where clay is present, soil may be 'shrinkable' and may have some capacity to shrink and swell with changing moisture levels.
- 5.9 Due care must be taken to construct foundations to a depth sufficient to resist soil shrinkage through desiccation, taking into account the presence and future growth of the adjacent trees.

Site specific Assessment

- 5.10 The suitability of planning development in relation to trees is assessed by the Local Authority in accordance with the British Standard 5837: 2012 'Trees in Relation to Design, Demolition and Construction.
- 5.11 This document requires that the conception and design of the final development layout must take into account the constraints posed by the trees on site. These constraints include not only the existing canopy and likely root spread but also:
- The ultimate height and spread of the trees.
 - Potential impact of species characteristics for future residents – evergreen / deciduous, density of foliage, seasonal leaf drop / berries etc.
 - Current and future shade patterns.
- 5.12 The default position in planning is that every effort should be made to retain and protect the category A and B trees on site and that new structures should be located outside of the identified RPA's of trees to be retained.
- 5.13 The route of the new Employment Road, and all associated works have been designed with consideration to the constraints posed by the mature trees on site.
- 5.14 The following trees/ tree groups are to be removed to facilitate construction:

Tree Ref:	Species	Description	BS:5837 Category
T272	Holly x5	Linear group of multi-stem hedging plants.	C2
T273	Alder	Lapsed coppice stool, no access to base due to dense vegetation	C2
T356	Pedunculate Oak	Hedgerow tree. On ditch bank. Ivy clad. Base obscured by dense vegetation.	B1

- 5.15 The following trees groups will be partially cleared for new roadway / footpath routes:

Tree Ref:	Species	Description	BS:5837 Category
G45 PA	Mixed species group	Partial clearance of Blackthorn on edge of woodland group.	B2
G54 PA	Mixed species group	Clearance of small trees/ vegetation as required to facilitate new drainage outflow	B2
T263	Mixed species group	Partial cut back of shrub group for new footpath	C2
T269	Mixed species group	Partial clearance of a short length of hedge for new footpath	C2
T270	Hazel	Coppice at ground level	C2
T332	Hazel, Hornbeam	Cut back northern end of hedgerow group for new Road	B2
T358	Mixed species	Clear three areas of hedgerow for new road and footpaths	C2

- 5.16 In addition to the above works, T270 (Goat Willow) is recommended to be re-coppiced just above ground level in order to clear the new footpath from which point it can be allowed to regrow and managed in a reduced form.
- 5.17 The removal of two trees and one tree group, coppicing of T270 and partial clearance of other areas of trees / hedgerows will be mitigated with a robust scheme of new tree and landscape planting to ensure there is no net loss of tree canopy cover on site.
- 5.18 In several areas, the new pedestrian footpaths encroach marginally into the root protection areas of trees. These footpaths will be of a 'low-dig' construction with the removal of surface vegetation only, to limit the impact on trees and tree roots. In addition, the footpath surface will be porous to ensure tree roots can continue to thrive under the footpath on completion of construction.
- 5.19 A new surface water outfall to Channells Brook is to be routed through a Phase 1 tree survey group (ref: G54 PA). A localised area of dense vegetation will need to be cleared for this drainage channel. The clearance of trees and vegetation in this small area will be agreed on site with the appointed Arboricultural Consultant present to ensure any tree removal is kept to the absolute minimum as required for the drainage route and to ensure the long-term stability of the adjacent trees

Temporary Tree Protection

- 5.20 Where at risk of harm during the roadway construction, the rooting areas of the retained category 'A' and 'B' trees will be protected with fit for purpose Tree Protection Fencing set out as shown in the Tree Protection Plans and in accordance with BS:5837 (2012).
- 5.21 The Tree Protection Fencing will consist of Heras panels supported on vertical wooden posts. The fencing will be rigid to resist movement from work operatives and vehicle impact.

Conclusions

- 5.22 Trees on site have been surveyed in accordance with the guidelines and recommendations from BS:5837 'Trees in Relation to Design, Demolition and Construction'. The survey identified a number of high quality, mature trees growing around the site and within the existing field boundaries.
- 5.23 Following the tree survey, the new Employment Road layout was designed around the identified arboricultural constraints to ensure a very minimal impact on trees and tree canopy cover.
- 5.24 Minor pruning works are required to cut back tree and hedge groups and three trees will be removed. However, the overwhelming majority of trees and tree groups on site will be retained and these can be fully protected during the proposed road construction.
- 5.25 The Arboricultural Method Assessment which accompanies this report details the steps which will be taken to ensure the retained trees on site will be protected during the roadway construction works. Provided the steps detailed in the Arboricultural Method Statement are followed in full, the application to construct the new Employment Road as part of the North Horsham Strategic Development Site is considered to be acceptable as it relates to trees.

6. ARBORICULTURAL METHOD STATEMENT (AMS)

Introduction

- 6.1 The correct and timely installation of tree protection measures such as tree protection fencing are critical to ensure the long-term retention of the tree within the development site.
- 6.2 This method statement will be read, approved, and agreed to by all key personnel prior to the commencement of works.
- 6.3 A copy of the Arboricultural Method Statement and Tree Protection Plan will be available on site for reference.

Phasing of works

STAGE 1 (PRE-COMMENCEMENT)

FACILITATIVE TREE WORKS
(CLEARANCE OF TREES / VEGETATION WITHIN GROUP 'G54 PA'
UNDER ARBORICULTURAL SUPERVISION)



ERECTION OF TREE PROTECTION FENCING,
& SITE HOARDING



PRE-COMMENCEMENT SITE MEETING
(NOTIFY LOCAL AUTHORITY -MIN 5 DAYS)



STAGE 2 (DEMOLITION AND CONSTRUCTION)

TREE PROTECTION MEASURES TO REMAIN RIGID & INTACT



STAGE 3 (POST ROAD CONSTRUCTION)

ROAD CONSTRUCTION



CONSTRUCTION OF LOW-DIG PEDESTRIAN FOOTPATHS



REMOVE TREE PROTECTION FENCING, SITE HOARDING ETC
(NOTIFY LOCAL AUTHORITY -MIN 5 DAYS)



LANDSCAPE & TREE PLANTING OPERATIONS

Arboricultural Supervision

- 6.4 A pre-commencement site visit will be held once the Tree Protection Fencing is installed as shown on the Tree Protection Plan and prior to the commencement of building works on site. The Local Authority Tree Officer will be given a minimum of five days' notice of the time and date of the meeting so that they may attend should they wish to do so.
- 6.5 The purpose of the pre-commencement meeting will be to confirm the location and construction of the Tree Protection Measures and ensure a common understanding of the requirements for Tree Protection within the site. If the Local Planning Authority is unable to attend, photographic evidence of the tree protection fencing will be emailed to the appointed planning officer once it has been erected.
- 6.6 The appointed Arboricultural Consultant will also attend site during the works to clear small trees and vegetation within the Phase 1 tree group (ref: G54 PA) prior to the construction of the surface water outfall into Channells Brook
- 6.7 The Arboricultural Consultant will oversee the tree removal works to ensure only essential vegetation is removed and that any trees which are retained are not undermined by the trenching works.

On-site Supervisor

- 6.8 In addition to the appointed Arboricultural Consultant, there will be a designated on-site Supervisor who will be responsible for ensuring no works are undertaken on site except in complete accordance with the approved Arboricultural Method Statement when the Arboricultural Consultant is not present.
- 6.9 The on-site Supervisor will:
- Be present on site most of the time.
 - Be aware of the arboricultural responsibilities relating to the retained trees on site.
 - Have the authority to stop any work that will, or have the potential to, cause harm to any tree.
 - Be responsible for ensuring that all site personnel are aware of their responsibilities towards trees on site and the consequences of the failure to observe those responsibilities.
 - Make immediate contact with Horsham District Council and/or the retained arboriculturalist in the event of any related tree problems occurring whether actual or potential.
 - To ensure a commitment from all parties to the healthy retention of the trees. These details will be passed to any contractors working on site, so that the practical aspects of the above precautions are included in their method statements, and financial provision made for these.
 - Notify the local authority 5 days prior to the tree protection measures being removed on completion of development.
- 6.10 The designated on-site Project Arboricultural Supervisor will be responsible for ensuring no works are undertaken on site except in complete accordance with the approved Arboricultural Method Statement.

Tree Works

- 6.11 A full list of the required tree works is included in paragraphs 5.12 & 5.13 (page 9) of this report.
- 6.12 All tree works shall be undertaken in accordance with BS:3998 2010 'Tree Work Recommendations'.
- 6.13 No vehicles will be driven under the canopies of retained trees onto unprotected ground during the tree work operations.
- 6.14 Chippings arising from the work will not be piled around the bases of trees on or off the site. Wood, brash and any other arisings from the tree work will not be burnt on site.
- 6.15 A properly qualified and experienced company will be employed who carry Public and Products Liability Insurance with a minimum of £2,000,000 cover and the relevant Employers Liability Insurance. A List of approved contractors is available from the Arboricultural Association – www.trees.org.uk.

Protected Species

- 6.16 In accordance with the Wildlife and Countryside Act - 1981, Conservation - Natural Habitats - Regulations 1994 and Countryside Rights of Way Act - 2000, the timing and type of tree work operations will be scheduled to avoid causing disturbance to any nesting or breeding birds or bat roosts that may be present within trees.
- 6.17 It is an offence (subject to exceptions) to intentionally kill, injure, or take, possess, or trade in any wild animal listed, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places.
- 6.18 Non-urgent major tree work involving tree removal or reduction and hedge cutting operations should not be undertaken during the bird nesting or breeding season, which is from 1 March to 31 July. However, depending on seasonal temperatures, some birds continue breeding into August and September.
- 6.19 All wild birds, their young, their eggs and active nests are protected under law. It is an offence to damage a nest intentionally while it is in use or being built and hedge cutting is highly likely to damage nests or cause them to be deserted.

Tree Protection Fencing

- 6.20 Following the facilitative tree works, no further works in relation to the ground works will be undertaken, including deliveries, excavation, demolition or demolition, prior to the Tree Protection Fencing being installed, as identified in the Tree Protection Plan.
- 6.21 The Tree Protection Fencing will be constructed from wooden posts sunk into the ground which will support Heras fence panels. This style of fencing will reduce risk of injury to operatives with the installation of fencing near to over / underground services. The fencing will be robust and fit for purpose. Panels will be rigidly attached to the posts to prevent movement.
- 6.22 All-weather signage stating 'TREE PROTECTION AREA – KEEP OUT' will be attached to the outer perimeter of the Tree Protection Fencing. A sample sign is attached in Appendix 6 of this report.
- 6.23 The fencing will be located to protect the trees and their rooting areas and will remain rigid and complete during the demolition and ground works.
- 6.24 At no time will Tree Protection Fencing be removed or relocated contrary to the recommendations in this report, without professional arboricultural advice and without the prior consent of the Local Authority Tree Officer.

Construction Exclusion Zone

- 6.25 The area behind the tree protection fencing is designated the Construction Exclusion Zone and is to be isolated from all activity during work on the site.
- 6.26 Construction Exclusion Zones are to remain completely undisturbed for the duration of all development works. No construction activity of any description including (but not limited to) the following will occur within these areas at any time:
- No storage, disposal of soil, rubble or materials of any other description.
 - No alterations to existing levels or ground conditions.
 - No vehicular access, parking or use of any tracked or wheeled machinery of any description.
 - No tree works, without the written consent of the Council's Tree Service.
 - No erection of temporary structures of any description.
 - No storage disposal handling or use of any Chemicals including cement washings.
 - No fixtures or fittings of any description, security lighting, signage etc shall be attached to any part of a tree.
 - No fires shall be lit within 10 metres of the canopies of any tree or spread of any hedge.
 - No chemicals, fuel, liquids/waste residues of any other description to be stored or disposed of within close proximity to or drained towards/into protection areas.

THERE WILL BE NO STORAGE, PARKING, VEHICLE MOVEMENT OR PEDESTRIAN ACTIVITY, TEMPORARY OR OTHERWISE, WITHIN THE ROOT PROTECTION AREAS OF RETAINED TREES OR WITHIN THE CONSTRUCTION EXCLUSION ZONES, AT ANY TIME DURING THE COURSE OF THE PROPOSED ROAD CONSTRUCTION AND ASSOCIATED WORKS.

General Considerations

- 6.27 Roots can be killed by pollution of the rooting area by chemicals and leaching. Loose, granular or liquid materials, including cement mix and fuel will be stored well away from Tree Protection Fencing and root protection areas.
- 6.28 Care will be taken in the planning of deliveries if they require wide or tall loads and plants with booms, rigs or counterweights which can cause serious and permanent damage to trees making their safe retention impossible.
- 6.29 There will be no open fires on site during the building works.

Unforeseen Circumstances

- 6.30 In the event of unforeseen circumstances whereby it is not possible to work in accordance with the Arboricultural Method Statement then advice should be sought immediately from a qualified Arboriculturist.
- 6.31 **THERE SHALL BE NO DEVIATION FROM THIS METHOD STATEMENT WITHOUT CONSULTATION WITH A QUALIFIED ARBORICULTURIST AND / OR THE WRITTEN CONSENT OF THE LOCAL PLANNING AUTHORITY.**

7. POST CONSTRUCTION

Low-Dig Access Pathway within Rooting Areas of Retained Trees.

- 7.1 Within the identified rooting areas of trees, existing turf can be scraped back by hand or with the toothless bucket of a long-armed excavator working from outside the trees' rooting areas and taking care not to damage surface woody tree roots.
- 7.2 Any woody roots exposed during this work will be covered by a fine layer of topsoil to prevent desiccation. Any ruts in the ground following the removal of the hardcore / vegetation will be levelled with the application of a coarse pH neutral sand or clean angular stone.
- 7.3 Timber or aluminium edging boards will be installed to provide an upstand of approximately 200mm between the ground level and finished driveway surface to contain the gravel as per the manufacturer's recommendations. A Geotextile Fabric will be laid across the site, overlapping adjacent rolls by a minimum of 150mm. It may be necessary to lightly pin the Geotextile in place until the overlying layers are installed.
- 7.4 A Cell web system minimum 150mm deep will then be opened out and pinned in place between the edging boards. Pin spacing will vary according to the site conditions but will generally be required at 1m – 2m centres on flat surfaces, mainly placed around the perimeter of the area and where adjacent sections of the cellular confinement system abut each other, with less in the middle of the area.
- 7.5 The open cells will be filled with clean, open graded aggregate with particles between 20 and 45mm, (no fines Roadstone of a non-marine source) working toward the tree from the furthest point away and using the filled cells as a platform.
- 7.6 The final aesthetic porous surface will be filled as required to level off the pathway surface up to the point of the adjacent kerb or edging boards.
- 7.7 Where necessary, following completion of the path construction, quality topsoil can be used to grade the edge of the pathway to meet the adjacent ground levels.

Landscaping

- 7.8 Only on completion of all construction works and hard landscaping will the Tree Protection Fencing be removed in preparation for landscape / tree planting.
- 7.9 The following rules will be followed during all future landscaping works in order to prevent harm to the trees:
 - New plants within the identified RPAs of retained trees will be in small pots (nothing larger than 3lt). All planting within RPA of existing trees shall be notched planted and locally adjusted to avoid tree roots. All shrub planting to be undertaken by hand using hand tools only to minimize root damage. If significant roots are encountered, these will be left undamaged and dug around.
 - Tree roots can be damaged by severance, compaction, pollution and desiccation. In view of this, there should be no excavation or changes in ground levels within the identified rooting areas of retained trees following completion of the development.
 - The area will be maintained with irrigation and post planting maintenance as per the landscape specifications.
 - Where new fencing is proposed, post holes within the rooting areas of trees will be dug using a post hole digger to keep hole size to a minimum. Where substantial roots over 30mm are

encountered, the location of the hole will be moved in order to avoid them. Post holes will be fully lined in order to prevent concrete coming into direct contact with tree roots.

Tree Planting

- 7.10 New trees will be planted as per the approved landscaping scheme within the next or current planting season November to March (whichever is soonest) on completion of the building project. Planting will be undertaken when soils are moist and free from frost.
- 7.11 Planting trees too deep is a major cause for premature decline. Tree planting pits will be dug to the same depth as the woody roots to prevent settlement and sinking post planting. The soil backfilled into the planting pit will consist of 1/3 organic matter (well rooted manure or other compost) with 2/3 existing soil.
- 7.12 During the third year, the new plants will continue to be monitored, with irrigation resumed during periods of drought or where plants are showing signs of drought stress. Any new trees or plants which fail to establish and thrive, or which die, are removed or become seriously diseased within a period of 5 years following completion of the development, will be replaced with another of a similar size and species.

APPENDIX 1

Survey Key

Ref:	SCD T001 = Tree 1 SCD A001 = Area 1	SCD G001 = Group 1 SCD W001 = Woodland 1
Species:	Common name (Botanical name)	
Height:	Measured with a clinometer (m) where possible or estimated when part of a group	
Stem:	Stem diameter taken at 1.5m with girth tape or rule and recorded in millimetres	
Branch spread:	Paced measurements at compass points or with a laser measure.	
	Crown clearance: Existing height above ground level of canopy and / or first significant branch direction of growth in metres e.g. 2.4 (N) where relevant.	
Epics:	Lower canopy created by epicormic growth.	
Age Class:	Newly planted - 3 years following planting Young - Tree well established but with juvenile crown form Young Mature - Tree in first third of usual life expectancy for species Mature - Tree in second third of usual life expectancy for species Over Mature - Tree in final third of usual life expectancy for species / exhibiting signs of crown retrenchment & senescence Veteran - Older than usual for species or with historical/ cultural / ecological value	
General Observations:	Made with reference to physiological condition (health, vigour) and structural condition, noting evidence of decay, structural weakness and physical defect and preliminary management recommendations.	

Estimated Remaining Contribution: Estimated in years - less than 10, 10-20, 20-40, 40+

BS: 5837:2012 category rating: In accordance with the guidelines of the British Standard.

- | | |
|---|--|
|  Category 'A' tree (Green) |  Category 'C' tree (Grey) |
|  Category 'B' tree (Blue) |  Category 'U' tree – Fell (Red) |

RPA Area BS:5837 (2012) Root Protection Area calculation in square metres

RPA Radius BS:5837 (2012) Root Protection Area calculation circle radius in metres. ¹

¹ The root protection area radius is for information only and may not be appropriate in every case. BS:5837 advises that 'the RPA for each tree should initially be plotted as a circle centred on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting may have occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distributions.'

APPENDIX 2

BS:5837 (2012): Cascade chart for tree quality assessment

CATEGORY & DEFINITION	CRITERIA (INCLUDING SUB-CATEGORIES WHERE APPROPRIATE)		
Trees unsuitable for retention			
CATEGORY U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	- Trees that have a serious, irremediable, structural defect such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning. - Trees that are dead or 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 supressing adjacent trees of better quality. - NOTE: Category U trees can have existing or potential conservation value which it might be desirable to preserve		
	Mainly Arboricultural Qualities	Mainly Landscape Qualities	Mainly cultural values including conservation
Trees considered suitable for retention			
CATEGORY A Trees of High Quality with an estimated remaining life expectancy of at least 40 years.	Trees that are particularly good examples of their species especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and / or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood pasture)
CATEGORY B Trees of Moderate Quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remedial defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little contribution to the wider locality.	Trees with material conservation or other cultural value.
CATEGORY C Trees of Low Quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands but without this conferring on them significantly greater collective landscape value; and/ or trees offering low or only temporary / transient landscape benefits.	Trees with no material conservation or other cultural value.

APPENDIX 3

Survey Appraisal

The trees were surveyed as part of a wider survey of trees within the Phase 2 North Horsham Development Area in July 2023.

Trees were viewed from ground level only. The weather conditions were generally dry and sunny. Visibility was satisfactory.

Heights were estimated where part of a group. Girth and canopy spread was measured with a laser measure or estimated where trees were not accessible. Soil samples were not taken.

The trees on site were assessed for their quality and benefits within the context of the proposed development and categorised in accordance with the recommendations in the BS:5837:2012.

Obvious defects have been noted on the trees, however, this survey is for planning use only and does not constitute a detailed health and safety survey of the trees. Its use as such is invalid.

Trees are dynamic living organisms subject to change, whose health and condition can be subject to significant change influenced by internal and external factors. The assessment of trees in this report are based on the condition assessed at the time of inspection and are valid for 18 months.

If the condition of the trees evidently changes or the trees are subject to extreme weather conditions before this date; further inspection may be required. No tree is ever absolutely safe due to the unpredictable laws and forces of nature.

APPENDIX 4**Tree Survey Data²**

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements
G45 PA	Mixed (hazel, hawthorn, blackthorn, holly, ash, oak)	Group	Height (m): 8 Stem Diam (mm): <200 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3 E:3 S:3 W:3	Dense scrub along field boundary with small trees. Failed ash and holly stems. Minor encroachment beyond boundary fence.	B1,2	Area: - sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair
G54 PA	Mixed (ash, oak, field maple, willow, hazel, holly, hawthorn, blackthorn)	Group	Height (m): 10 Stem Diam (mm): <400 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3 E:3 S:3 W:3	Woodland belt along ditch beyond field boundary. Group of ash towards north end of group exhibit poor vitality.	B1,2	Area: - sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair
T263	Elder (<i>S. nigra</i>) Blackthorn (<i>Prunus spinosa</i>) Goat Willow (<i>Salix caprea</i>)	Group	Height (m): 5 Stem Diam (mm): 100 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 20+ Years	N:3 E:3 S:3 W:3	Scrubby shrub group.	C2	Area: 625 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Poor
T264	Goat Willow (<i>Salix caprea</i>)	Tree	Height (m): 10 Stem Diam (mm): 1000 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 20+ Years	N:4.5 E:5 S:4 W:5	Very large multi-stem tree. One large trunk and mature sucker growth around base. Lower branches cut back over field.	C2,3	Radius: 12.0m. Area: 452 sq m.	Physiological Cond: Fair Structural Cond: Fair
T265	Goat Willow (<i>Salix caprea</i>)	Tree 3 stems	Height (m): 10 3 stems, avg.(mm): 400 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 20+ Years	N:2 E:6 S:7 W:3	Very large multi-stem tree. Three mature stems, one cut back hard leaving asymmetrical canopy. Lower branches cut back over field.	C2,3	Radius: 8.3m. Area: 216 sq m.	Physiological Cond: Fair Structural Cond: Fair
T266	Goat Willow (<i>Salix caprea</i>)	Tree	Height (m): 10 Stem Diam (mm): 700 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 20+ Years	N:5.5 E:7 S:4 W:5	Very large multi-stem tree. One large trunk and mature sucker growth. Lower branches cut back over field.	C2,3	Radius: 8.4m. Area: 222 sq m.	Physiological Cond: Fair Structural Cond: Fair

² Tree Survey data extracted from the full North Horsham Phase 1 BS:5837 Pre-Planning Arboricultural Survey ref PJC ref: 5265/19-01 Rev 03 (August 2020) (**bold**) and the North Horsham Phase 2 BS:5837 Pre-Planning Arboricultural Survey ref: 2898-17-2-DR-0001-S0-P1 Phase 2 BS5837 Arboricultural Survey 100223 (July 2023).

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements
T267	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 9 Stem Diam (mm): 680 Crown Clearance (m): 1.5 Life Stage: Mature Rem. Contrib.: 40+ Years	N:6 E:6.5 S:4 W:6.5	Well-formed tree on railway embankment	B2	Radius: 8.2m. Area: 211 sq m.	Physiological Cond: Good Structural Cond: Fair
T268	Bramble (<i>Ribes fruticosum</i>)	Group	Height (m): 1.5 Stem Diam (mm): 50 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 20+ Years	N:1 E:1 S:1 W:1	Low bramble hedge	C1	Area: 2901 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Poor
T269	Common Hawthorn (<i>C. monogyna</i>) Blackthorn (<i>Prunus spinosa</i>)	Group	Height (m): 3.5 Stem Diam (mm): 80 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	N:1 E:1 S:1 W:1	Dense, high hedge buffering woodland area.	C2	Area: 1507 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair
T270	Goat Willow (<i>Salix caprea</i>)	Tree	Height (m): 8 Stem Diam (mm): 320 Crown Clearance (m): 0 Life Stage: Over Mature Rem. Contrib.: 20+ Years	N:6 E:6 S:6 W:6	Large coppice stool with broad, spreading stems resting on adjacent vegetation.	C2	Radius: 3.8m. Area: 45 sq m.	Physiological Cond: Fair Structural Cond: Poor
T271	Hornbeam (<i>Carpinus betulus</i>)	Tree	Height (m): 12 Stem Diam (mm): 40 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:6.5 E:6.5 S:6.5 W:6.5	Ivy clad tree	B2	Radius: 0.5m. Area: 1 sq m.	Physiological Cond: Fair Structural Cond: Fair
T272	Common Holly x5 (<i>Ilex aquifolium</i>)	Group 5 trees	Height (m): 6 5 stems, avg.(mm): 150 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3 E:3 S:3 W:3	Linear group of multi-stem hedging trees	C2	Area: 17 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair
T273	Alder (<i>Alnus sp.</i>)	Tree 5 stems	Height (m): 11 5 stems, avg.(mm): 260 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 20+ Years	N:3.5 E:3.5 S:3.5 W:3.5	Lapsed coppice stool, no access to base due to dense vegetation	C2	Radius: 7.0m. Area: 154 sq m.	Physiological Cond: Fair Structural Cond: Fair
T274	Hazel (<i>C. avellana</i>) Common Holly (<i>Ilex aquifolium</i>) Hornbeam (<i>Carpinus betulus</i>)	Hedge	Height (m): 2 Stem Diam (mm): 80 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	N:1 E:1 S:1 W:1	Low clipped hedge	C2	Area: 91 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements
T277	Common Ash (<i>Fraxinus excelsior</i>)	Tree 2 stems	Height (m): 13 2 stems, diam(mm): 600, 150 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:4 S:9 W:4	Far side of stream. Ivy clad trunk. Asymmetrical canopy over field. Advanced symptoms of Ash Dieback in canopy.	U	Radius: 7.4m. Area: 172 sq m.	Physiological Cond: Diseased Structural Cond: Fair
W281	Pedunculate Oak (<i>Quercus robur</i>)	Group	Height (m): 17 Stem Diam (mm): 500 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:5 E:5 S:5 W:5	Dense woodland group of similar aged oak and other broadleaf deciduous trees. Hazel, Holly and <i>Rhododendron ponticum</i> understorey. High amenity landscape group. Ditch around southern boundary. Allow buffer 4.5m on south side for canopy clearance. Lower branches cut back as hedge on northeast side with high canopy giving 4m+clearance for smaller trees - Oaks etc 6m.	A2	Area: 9929 sq m, plus a 1m buffer.	Physiological Cond: Good Structural Cond: Good
T286	Yew(<i>Taxus baccata</i>) Beech (<i>Fagus sp.</i>) Field Maple (<i>Acer campestre</i>) Common Holly (<i>Ilex aquifolium</i>)	Group 4 trees	Height (m): 7 4 stems, avg.(mm): 200 Crown Clearance (m): 0 Life Stage: Early Mature Rem. Contrib.: 40+ Years	N:4 E:4 S:4 W:4	Lower canopy clipped to form hedge	C2	Area: 16 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair
T294	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 16 Stem Diam (mm): 800 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:6 E:8 S:9.5 W:10	Backside tree. Broad canopy. Restricted access to base due to dense vegetation.	A1	Radius: 9.6m. Area: 290 sq m.	Physiological Cond: Good Structural Cond: Good
T295	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 16 Stem Diam (mm): 800 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:9 E:7 S:3 W:10	Backside tree. Broad canopy. Restricted access to base due to dense vegetation. Foliage slightly sparse, low vitality. Dead branch stubs in canopy.	B1	Radius: 9.6m. Area: 290 sq m.	Physiological Cond: Fair Structural Cond: Fair
T296	Mixed Species Group	Hedge	Height (m): 2 Stem Diam (mm): 60 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	N:1 E:1 S:1 W:1	Broadleaf hedge. Hazel, Holly, Field maple in group	C2	Area: 420 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair
T297	Alder (<i>Alnus sp.</i>)	Tree	Height (m): 11 Stem Diam (mm): 340 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 20+ Years	N:5.5 E:5.5 S:5.5 W:5.5	Ivy clad tree in dense vegetation group.	B1	Radius: 4.1m. Area: 53 sq m.	Physiological Cond: Fair Structural Cond: Fair

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements
T298	Alder (<i>Alnus sp.</i>) Holly (<i>Ilex aquifolium</i>) Hazel (<i>Corylus avellana</i>)	Group	Height (m): 7 Stem Diam (mm): 200 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3 E:3 S:3 W:3	Shrubby group of low-quality trees. Decay on Holly stems. Dense bramble throughout.	C2	Area: 11 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Poor
T299	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 12 Stem Diam (mm): 590 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:4 E:9 S:9 W:8	Swept stem over stream. Decay pockets in old pruning cuts. Ivy clad. No access to base due to dense vegetation. Good vitality.	B1	Radius: 7.1m. Area: 158 sq m.	Physiological Cond: Good Structural Cond: Fair
T300	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 15 Stem Diam (mm): 450 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:7 E:7 S:8.5 W:6	No access to base due to dense vegetation. Good vitality.	B1	Radius: 5.4m. Area: 92 sq m.	Physiological Cond: Good Structural Cond: Fair
T301	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 13 Stem Diam (mm): 480 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:5 E:5 S:7.5 W:4	Ivy clad trunk. Reasonable vitality.	B1	Radius: 5.8m. Area: 106 sq m.	Physiological Cond: Good Structural Cond: Fair
T302	Alder (<i>Alnus sp.</i>)	Tree	Height (m): 13 Stem Diam (mm): 400 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:4 E:2 S:5 W:4	Wound on south side of trunk at 1.5m. decay pocket. Reasonable vitality.	B1	Radius: 4.8m. Area: 72 sq m.	Physiological Cond: Good Structural Cond: Fair
T303	Alder (<i>Alnus sp.</i>)	Tree 2 stems	Height (m): 10 2 stems, avg.(mm): 250 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3.5 E:3.5 S:3.5 W:3.5	Low grade tree with dense epicormic growth around base.	C2	Radius: 4.2m. Area: 55 sq m.	Physiological Cond: Good Structural Cond: Fair
T304	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 13 Stem Diam (mm): 540 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:6.5 E:6.5 S:6.5 W:6.5	Bankside tree. Reasonable form, low vitality.	B1	Radius: 6.5m. Area: 133 sq m.	Physiological Cond: Fair Structural Cond: Fair
T305	Alder (<i>Alnus sp.</i>)	Tree 2 stems	Height (m): 10 2 stems, diam(mm): 140,200 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3.5 E:3.5 S:3.5 W:3.5	Low grade tree with dense epicormic growth around base.	C2	Radius: 2.9m. Area: 26 sq m.	Physiological Cond: Fair Structural Cond: Fair

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements
T306	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 15 Stem Diam (mm): 600 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:6 E:6.5 S:6.5 W:3	Bankside tree. Ivy clad stem. Asymmetrical canopy.	B1	Radius: 7.2m. Area: 163 sq m.	Physiological Cond: Fair Structural Cond: Fair
T307	Alder (<i>Alnus sp.</i>)	Tree 4 stems	Height (m): 16 4 stems, avg.(mm): 500 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:7.5 E:7.5 S:7.5 W:7.5	Multi-stem tree. Dense suckering from base.	B1	Radius: 12.0m. Area: 452 sq m.	Physiological Cond: Fair Structural Cond: Fair
T308	Alder (<i>Alnus sp.</i>)	Tree 3 stems	Height (m): 15 3 stems, avg.(mm): 260 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:4 E:5 S:6.5 W:5	Multi-stem bankside tree. Asymmetrical canopy. Dense suckering of alder and Oak around base.	C1,2	Radius: 5.4m. Area: 92 sq m.	Physiological Cond: Fair Structural Cond: Fair
T309	Common Holly (<i>Ilex aquifolium</i>)	Tree 6 stems	Height (m): 6 6 stems, avg.(mm): 90 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:2 E:2 S:2 W:2	Multi-stem tree.	C2	Radius: 2.6m. Area: 21 sq m.	Physiological Cond: Fair Structural Cond: Fair
T310	Common Holly (<i>Ilex aquifolium</i>)	Tree 6 stems	Height (m): 6 6 stems, avg.(mm): 90 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:2 E:2 S:2 W:1	Multi-stem tree. Suppressed form.	C2	Radius: 2.6m. Area: 21 sq m.	Physiological Cond: Fair Structural Cond: Fair
T311	Hazel (<i>Corylus avellana</i>) Common Holly (<i>Ilex aquifolium</i>)	Hedge	Height (m): 2 Stem Diam (mm): 80 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	N:1 E:1 S:1 W:1	Gappy boundary hedge.	C2	Area: 69 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair
T312	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 13 Stem Diam (mm): 550 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:7 E:7 S:7 W:7	No access to base due to dense vegetation. Sparse buds, low vitality and deadwood in canopy.	B1	Radius: 6.6m. Area: 137 sq m.	Physiological Cond: Fair Structural Cond: Fair
T313	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 13 Stem Diam (mm): 500 Crown Clearance (m): 5 Life Stage: Mature Rem. Contrib.: 40+ Years	N:7 E:8 S:8.5 W:2	Asymmetrical canopy. End tree in linear group.	B2	Radius: 6.0m. Area: 113 sq m.	Physiological Cond: Fair Structural Cond: Fair

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements
T314	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 10 Stem Diam (mm): 320 Crown Clearance (m): 5 Life Stage: Mature Rem. Contrib.: 40+ Years	N:5 E:3 S:1 W:2	Suppressed, asymmetrical canopy. Within linear group.	B2	Radius: 3.8m. Area: 45 sq m.	Physiological Cond: Fair Structural Cond: Fair
T315	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 15 Stem Diam (mm): 600 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3 E:5 S:9 W:6	Asymmetrical canopy. Within in linear group. Ivy clad.	B2	Radius: 7.2m. Area: 163 sq m.	Physiological Cond: Fair Structural Cond: Fair
T316	Common Holly (<i>Ilex aquifolium</i>)	Tree 2 stems	Height (m): 6 2 stems, avg.(mm): 90 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 20+ Years	N:2.5 E:2.2 S:2.2 W:2.2	Twin stem, feathered form.	C2	Radius: 1.5m. Area: 7 sq m.	Physiological Cond: Fair Structural Cond: Fair
T317	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 15 Stem Diam (mm): 370 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:7 E:3 S:9 W:4	Suppressed canopy form. Within in linear group. Ivy clad.	B2	Radius: 4.4m. Area: 61 sq m.	Physiological Cond: Fair Structural Cond: Fair
T318	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 15 Stem Diam (mm): 600 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:6 E:6 S:6 W:6	End tree in linear group. Ivy clad.	B2	Radius: 7.2m. Area: 163 sq m.	Physiological Cond: Fair Structural Cond: Fair
T319	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 13 Stem Diam (mm): 870 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:8.5 E:7.5 S:9 W:6.5	Well-formed single tree in open field	A1	Radius: 10.4m. Area: 340 sq m.	Physiological Cond: Good Structural Cond: Good
T320	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 17 Stem Diam (mm): 600 Crown Clearance (m): 5 Life Stage: Mature Rem. Contrib.: 40+ Years	N:5 E:7 S:6 W:6	Bankside tree on edge of stream. Reasonable vitality.	B2	Radius: 7.2m. Area: 163 sq m.	Physiological Cond: Good Structural Cond: Fair
T321	Alder (<i>Alnus sp.</i>)	Tree	Height (m): 14 Stem Diam (mm): 250 Crown Clearance (m): 5 Life Stage: Mature Rem. Contrib.: 40+ Years	N:1 E:1 S:4 W:4	No access to base due to dense vegetation.	B2	Radius: 3.0m. Area: 28 sq m.	Physiological Cond: Fair Structural Cond: Fair

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements
T322	Hornbeam (<i>Carpinus betulus</i>)	Tree	Height (m): 15 Stem Diam (mm): 400 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:1 E:3 S:4 W:2	Restricted access to base due to dense vegetation.	B2	Radius: 4.8m. Area: 72 sq m.	Physiological Cond: Fair Structural Cond: Fair
T323	Alder (<i>Alnus sp.</i>)	Tree	Height (m): 14 Stem Diam (mm): 250 Crown Clearance (m): 5 Life Stage: Mature Rem. Contrib.: 40+ Years	N:1 E:1 S:4 W:4	No access to base due to dense vegetation.	B2	Radius: 3.0m. Area: 28 sq m.	Physiological Cond: Fair Structural Cond: Fair
T324	Common Holly (<i>Ilex aquifolium</i>) Hazel (<i>C. avellana</i>) Pedunculate Oak (<i>Quercus robur</i>) Alder (<i>Alnus sp.</i>) Hornbeam (<i>Carpinus betulus</i>)	Group	Height (m): 16 Stem Diam (mm): 440 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:4 E:4 S:4 W:4	Dense bankside group of trees. No access due to dense vegetation.	B2	Area: 721 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair
T325	Alder (<i>Alnus sp.</i>)	Tree	Height (m): 11 Stem Diam (mm): 420 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3 E:4 S:5 W:4	No access to base due to dense vegetation	B1	Radius: 5.0m. Area: 79 sq m.	Physiological Cond: Fair Structural Cond: Fair
T326	Alder (<i>Alnus sp.</i>)	Tree	Height (m): 10 Stem Diam (mm): 400 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3 E:3 S:3 W:4	No access to base due to dense vegetation. Ivy clad tree.	B1	Radius: 4.8m. Area: 72 sq m.	Physiological Cond: Fair Structural Cond: Fair
T329	Blackthorn (<i>Prunus spinosa</i>) Hornbeam (<i>Carpinus betulus</i>) Hawthorn (<i>C.monogyna</i>)	Hedge	Height (m): 2 Stem Diam (mm): 80 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	N:1 E:1 S:1 W:1	Mature boundary hedge growing adjacent to ditch	C2	Area: 513 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair
T330	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 11 Stem Diam (mm): 800 Crown Clearance (m): 2.5 Life Stage: Mature Rem. Contrib.: 40+ Years	N:7.5 E:8 S:8.5 W:8.5	Hedgerow tree. Broad canopy.	A1	Radius: 9.6m. Area: 290 sq m.	Physiological Cond: Fair Structural Cond: Fair

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements
T331	Hornbeam (<i>Carpinus betulus</i>)	Tree	Height (m): 8 Stem Diam (mm): 400 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3.5 E:3.5 S:3.5 W:3.5	Regeneration from old stump. Multiple decay pockets in lower stems. Reasonable vitality.	C2	Radius: 4.8m. Area: 72 sq m.	Physiological Cond: Fair Structural Cond: Poor
T332	Hazel (<i>Corylus avellana</i>) Hornbeam (<i>Carpinus betulus</i>)	Hedge	Height (m): 2 Stem Diam (mm): 80 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	N:1 E:1 S:1 W:1	Mature field hedgerow	C2	Area: 500 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair
T333	Hornbeam (<i>Carpinus betulus</i>)	Tree 10 stems	Height (m): 9 10 stems, avg.(mm): 120 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:5.5 E:5.5 S:5.5 W:5.5	Large, lapsed coppice stool	C2	Radius: 4.5m. Area: 64 sq m.	Physiological Cond: Good Structural Cond: Fair
T334	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 12 Stem Diam (mm): 220 Crown Clearance (m): 3 Life Stage: Early Mature Rem. Contrib.: 40+ Years	N:3 E:4 S:3 W:3	Slender ivy clad tree.	B2	Radius: 2.6m. Area: 21 sq m.	Physiological Cond: Fair Structural Cond: Fair
T335	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 12 Stem Diam (mm): 300 Crown Clearance (m): 3 Life Stage: Early Mature Rem. Contrib.: 40+ Years	N:1 E:6 S:5 W:1	Slender ivy clad tree.	B2	Radius: 3.6m. Area: 41 sq m.	Physiological Cond: Fair Structural Cond: Fair
T336	Not identified	Tree 2 stems	Height (m): 8 2 stems, avg.(mm): 600 Crown Clearance (m): 0 Life Stage: Veteran Rem. Contrib.: 40+ Years	N:3 E:4.5 S:3 W:4	Regeneration from old stumps. Habitat value	C3	Radius: 12.7m. Area: 507 sq m.	Physiological Cond: Fair Structural Cond: Decaying
T337	Alder (<i>Alnus sp.</i>)	Tree	Height (m): 10 Stem Diam (mm): 270 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3.5 E:3.5 S:3.5 W:3.5	Backside tree. Suckering at base	B1	Radius: 3.2m. Area: 32 sq m.	Physiological Cond: Fair Structural Cond: Fair
T338	Common Beech (<i>Fagus sylvatica</i>)	Tree 5 stems	Height (m): 8 5 stems, avg.(mm): 100 Crown Clearance (m): 1 Life Stage: Mature Rem. Contrib.: 40+ Years	N:2.5 E:2.5 S:2.5 W:2.5	Regeneration from old stumps.	C2	Radius: 2.7m. Area: 23 sq m.	Physiological Cond: Fair Structural Cond: Fair

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements
T339	Turkey Oak (<i>Quercus cerris</i>)	Tree 3 stems	Height (m): 7 3 stems, avg.(mm): 110 Crown Clearance (m): 1 Life Stage: Mature Rem. Contrib.: 40+ Years	N:2 E:2 S:2 W:2	Regeneration from old stumps.	C3	Radius: 2.3m. Area: 17 sq m.	Physiological Cond: Fair Structural Cond: Fair
T340	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 6 Stem Diam (mm): 200 Crown Clearance (m): 1 Life Stage: Mature Rem. Contrib.: 40+ Years	N:4.5 E:4.5 S:5 W:3	Small tree, suppressed upper crown.	C2	Radius: 2.4m. Area: 18 sq m.	Physiological Cond: Fair Structural Cond: Fair
T341	Scots Pine (<i>Pinus sylvestris</i>)	Tree	Height (m): 15 Stem Diam (mm): 780 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:6 E:6 S:8 W:6	Good vitality. Asymmetrical canopy. Deadwood in lower crown.	B1	Radius: 9.4m. Area: 278 sq m.	Physiological Cond: Fair Structural Cond: Fair
T342	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 6 Stem Diam (mm): 200 Crown Clearance (m): 1 Life Stage: Mature Rem. Contrib.: 40+ Years	N:3 E:4.5 S:2 W:3	Small tree, suppressed upper crown.	C2	Radius: 2.4m. Area: 18 sq m.	Physiological Cond: Fair Structural Cond: Fair
T343	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 11 Stem Diam (mm): 700 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:7 E:7 S:7.5 W:7	Hedgerow tree. On ditch bank. Ivy clad. Broad canopy.	A1	Radius: 8.4m. Area: 222 sq m.	Physiological Cond: Good Structural Cond: Good
T344	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 12 Stem Diam (mm): 800 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:8.5 E:8.5 S:8.5 W:8.5	Hedgerow tree. On ditch bank. Ivy clad. Broad canopy.	A1	Radius: 9.6m. Area: 290 sq m.	Physiological Cond: Good Structural Cond: Good
T345	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 9 Stem Diam (mm): 550 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:5.5 E:7 S:5 W:5	Hedgerow tree. On ditch bank. Ivy clad. Broad canopy. Base and lower trunk obscured by dense vegetation.	A1	Radius: 6.6m. Area: 137 sq m.	Physiological Cond: Good Structural Cond: Good
T346	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 11 Stem Diam (mm): 550 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:5 E:6 S:5 W:4.5	Hedgerow tree. On ditch bank. Ivy clad. Broad canopy. Base and lower trunk obscured by dense vegetation.	A1	Radius: 6.6m. Area: 137 sq m.	Physiological Cond: Good Structural Cond: Good

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements
T347	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 9 Stem Diam (mm): 850 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:8 E:7.5 S:8 W:6.5	Hedgerow tree. On ditch bank. Ivy clad. Broad canopy. Base and lower trunk obscured by dense vegetation.	A1	Radius: 10.2m. Area: 327 sq m.	Physiological Cond: Good Structural Cond: Good
T348	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 12 Stem Diam (mm): 730 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:7.5 E:7.5 S:7.5 W:7.5	Hedgerow tree. On ditch bank. Ivy clad. Broad canopy. Base and lower trunk obscured by dense vegetation. Tip dieback in lower crown.	A1	Radius: 8.8m. Area: 243 sq m.	Physiological Cond: Good Structural Cond: Good
T349	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 12 Stem Diam (mm): 710 Crown Clearance (m): 4 Life Stage: Mature Rem. Contrib.: 40+ Years	N:6 E:6 S:5 W:6	Hedgerow tree. On ditch bank. Ivy clad. Broad canopy. Base and lower trunk obscured by dense vegetation. Foliage slightly sparse.	A1	Radius: 8.5m. Area: 227 sq m.	Physiological Cond: Fair Structural Cond: Good
T350	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 12 Stem Diam (mm): 700 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:7 E:6.8 S:6.8 W:6.8	Hedgerow tree. On ditch bank. Ivy clad. Broad canopy.	A1	Radius: 8.4m. Area: 222 sq m.	Physiological Cond: Good Structural Cond: Good
T351	Turkey Oak (<i>Quercus cerris</i>)	Tree	Height (m): 8 Stem Diam (mm): 350 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:4 E:4 S:4 W:4	Hedgerow tree. On ditch bank. Ivy clad. Multiple branching from 1.8m.	C1	Radius: 4.2m. Area: 55 sq m.	Physiological Cond: Fair Structural Cond: Fair
T352	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 11 Stem Diam (mm): 370 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:6 E:3 S:5 W:4	Hedgerow tree. On ditch bank. Ivy clad. Base obscured by dense vegetation.	B1	Radius: 4.4m. Area: 61 sq m.	Physiological Cond: Fair Structural Cond: Fair
T353	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 10 Stem Diam (mm): 370 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:8.5 E:4 S:7 W:4	Hedgerow tree. On ditch bank. Ivy clad. Base obscured by dense vegetation.	B1	Radius: 4.4m. Area: 61 sq m.	Physiological Cond: Fair Structural Cond: Fair
T354	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 5.5 Stem Diam (mm): 340 Crown Clearance (m): 4 Life Stage: Dead	N:1 E:2 S:1 W:1	Standing dead tree.	U	None - due to Retention Category of U.	Physiological Cond: Dead Structural Cond: Decaying

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Measurements
T355	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 8 Stem Diam (mm): 410 Crown Clearance (m): 2 Life Stage: Mature Rem. Contrib.: 40+ Years	N:4.5 E:4.5 S:4.5 W:4.5	Well-formed tree, good vitality. Compact crown. Base and trunk obscured by dense vegetation.	A1	Radius: 4.9m. Area: 75 sq m.	Physiological Cond: Good Structural Cond: Good
T356	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 10 Stem Diam (mm): 400 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:5.5 E:5.5 S:5.5 W:6	Hedgerow tree. On ditch bank. Ivy clad. Base obscured by dense vegetation.	B1	Radius: 4.8m. Area: 72 sq m.	Physiological Cond: Fair Structural Cond: Fair
T357	Pedunculate Oak (<i>Quercus robur</i>)	Tree	Height (m): 10 Stem Diam (mm): 750 Crown Clearance (m): 3 Life Stage: Mature Rem. Contrib.: 40+ Years	N:5.5 E:5.5 S:5.5 W:5.5	Hedgerow tree. On ditch bank. Ivy clad. Base obscured by dense vegetation.	A1	Radius: 9.0m. Area: 254 sq m.	Physiological Cond: Good Structural Cond: Good
T358	Mixed Species Group	Hedge	Height (m): 2 Stem Diam (mm): 100 Crown Clearance (m): 0 Life Stage: Mature Rem. Contrib.: 40+ Years	N:1 E:1 S:1 W:1	Mixed boundary hedge group. Hazel, Blackthorn, Hawthorn, Field maple.	C2	Area: 1270 sq m, plus a 1m buffer.	Physiological Cond: Fair Structural Cond: Fair

APPENDIX 5

Tree Protection Fencing³



³ Tree protection fencing within the North Horsham Strategic Development Area will be formed Heras fence panels supported on wooden posts sunk into the ground. This style of fencing will reduce risk of injury to operatives with the installation of fencing near to over / underground services. The fencing will be robust and fit for purpose. Panels will be rigidly attached to the posts to prevent movement.

APPENDIX 6**All-weather Tree Protection Fencing Signage**

APPENDIX 7

Qualifications

This Arboricultural report has been prepared by Sarah Duckworth, Independent Arboricultural Consultant, trading as Duckworth's Arboriculture Limited.

I have over 19 years' experience working in the field of Arboriculture and for the past 16 years I have worked as a Local Authority Tree Officer both directly and independently providing contracted support. Since 2010 I have worked as a private consultant carrying out a range of Arboricultural Reports and Assessments for private clients.

I hold the Royal Forestry Society's Professional Diploma (Level 6) for which I received the Lockhart Garrett Award. I also hold the Arboricultural Association's Technicians Certificate (with Distinction).

I am a LANTRA qualified Professional Tree Inspector and a Professional Member of the Arboricultural Association.