Arboricultural Impact Assessment

WC-362.1b

Land adjacent to Grove Street,
Longwood, Huddersfield HD3 4ZQ

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Executive Summary

Woodsage Consulting Ltd have been instructed by Virtue Homes to prepare an Arboricultural Impact Assessment for the land adjacent to Grove Street, Longwood, Huddersfield HD3 4ZQ.

The development proposals are for the erection of five dwellings (and associated works).

According to information which is available on the website of Kirklees Council, the trees located to the south of the site are subject to group and woodland tree preservation orders (TPO Prefix: 04/98). The site is also located within the Longwood Edge Conservation Area, which affords statutory protection to all trees with stem diameters that are greater than 75 mm at 1.5 m above ground level

The site survey identified a total of 12 trees and one group of trees with the potential to be impacted by the development proposals; these include seven category B trees of moderate-quality, and five category C trees and one group of low-quality.

The development proposals will require two category C trees to be removed.

One category C group will also require partial removal and/or facilitation pruning.

The RPAs of the retained trees are to be suitably protected throughout the development process by temporary tree protection fencing.

Providing the recommendations made within this report are followed, the development is considered achievable, with minimal impact in arboricultural terms to the site and surrounding area.

1. Introduction

1.1. Scope of Report

1.1.1. Woodsage Consulting Ltd have been instructed by Virtue Homes to prepare an Arboricultural Impact Assessment for the land adjacent to Grove Street, Longwood, Huddersfield HD3 4ZQ.

1.1.2. The purpose of this report is to allow the local planning authority (LPA) to assess information regarding trees at the site as part of the planning submission, and to demonstrate to the LPA that appropriate consideration has been given to the subject of trees as part of the development proposals.

1.1.3. In accordance with *BS 5837: 2012*[1] this report sets out to:

- assess the quality and value of the trees on and immediately adjacent to the site;
- identify trees for removal and/or retention, in consideration of the development proposals (where feasible, removals will be restricted to the less significant specimens on site);
- prescribe tree protection measures where necessary, which will ensure the successful retention of the retained trees at the site - in accordance with *BS 5837: 2012*, these measures will be further detailed in an Outline Arboricultural Method Statement (AMS); and,
- where necessary, provide preliminary recommendations for mitigation tree planting.

1.1.4. The contents of this report are concerned with arboricultural issues alone; although other disciplines such as engineering and ecology may be referenced, it is important to gain advice from an appropriate expert on these matters.

1.2. Site Details

1.2.1. The application site - hereafter referred to as 'the site' and shown in ***Fig. 1.1***, below - is located in the village of Longwood, approximately 2.5 miles west of Huddersfield. The site is centred on OS Grid Reference SE 10477 16796.

Figure 1.1: *Aerial imagery showing the approximate boundaries of the site, outlined in red*[2]

[1] British Standards (2012). *BS 5837: 2012 - Trees in Relation to Design, Demolition and Construction: Recommendations*. London: British Standards Institute.

[2] Google Earth Pro (2025). *Google Earth* [online]. Available at: > www.google.co.uk/earth < [accessed 24th February 2025].

1.3. Site Topography and Elevation

1.3.1. The site lies at an altitude ranging between 150-160 m above sea-level.

1.3.2. The topography of the northern portion of the site is level; however, the south of the site is features a steep wooded banking.

1.4. Desk Based Study and Planning Context

1.4.1. Cranfield University[3] states that the soils at site and surrounding area consist of *Soilscape 6*; these are slightly acidic and loamy soils, that are freely draining. No further detailed soil analysis was carried out as part of the survey.

1.4.2. According to information which is available on the website of Kirklees Council[4], the trees located to the south of the site are subject to group and woodland tree preservation orders (TPO Prefix: 04/98). The site is also located within the Longwood Edge Conservation Area, which may afford statutory protection to all trees with stem diameters that are greater than 75 mm at 1.5 m above ground level.

1.4.3. ***Fig. 1.2***, below, shows the locations of group and woodland TPOs, and the extent of the Longwood Edge Conservation Area, in relation to the site.

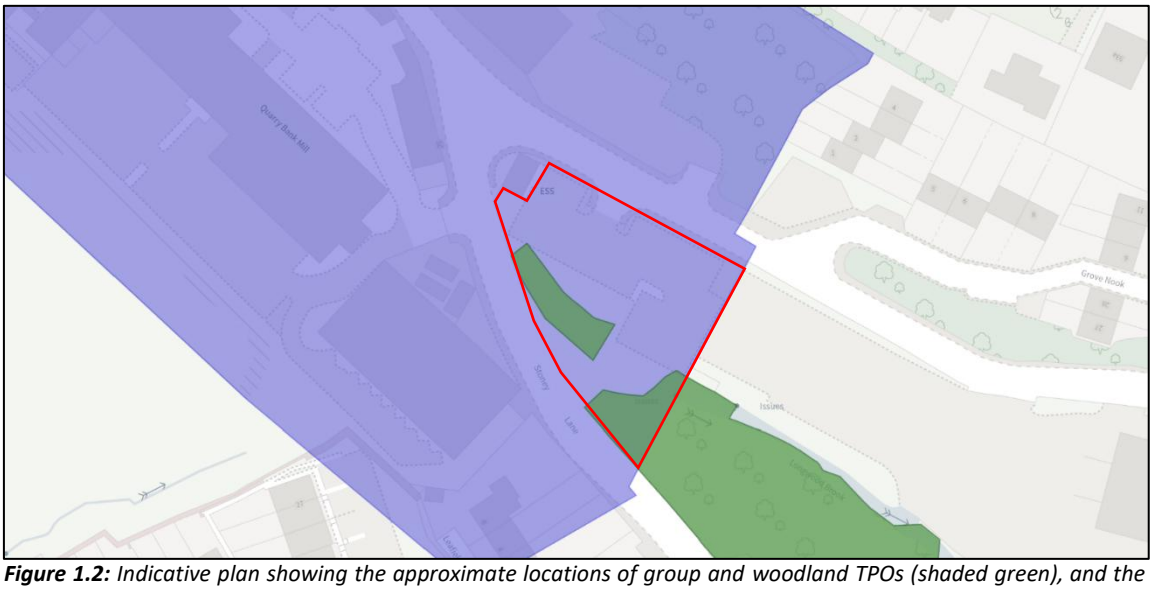


Figure 1.2: *Indicative plan showing the approximate locations of group and woodland TPOs (shaded green), and the extent of the Longwood Edge Conservation Area (shaded purple)[4].*

1.5. Development Proposals

1.5.1. The development proposals are for the erection of five dwellings (and associated works).

[3] Cranfield University (2025). *Soilscapes* [online]. Available at: > www.landis.org.uk/soilscapes < [accessed 24th February 2025].

[4] Kirklees Council (2025). *TPO/Conservation Area Interactive Map* [online]. Available at: > www.kirklees.gov.uk < [accessed 24th February 2025].

2. Methods

2.1. Survey Details

2.1.1. The site survey was carried out on Tuesday the 18th of February 2025.

2.1.2. There weather at the time of the survey was fine and dry; the visibility of the trees was not impeded.

2.2. Survey Personnel

2.2.1. The survey was carried out by Jack Delaney. Jack is a Chartered Arboriculturalist (Member of the Institute of Chartered Foresters), and has worked in the arboricultural sector for over 15 years. Jack holds an FdSc in Arboriculture with distinction, and is a Professional Member of the Arboricultural Association. Jack is also a LANTRA qualified Professional Tree Inspector, and is a trained and registered user of Quantified Tree Risk Assessment (QTRA).

2.3. Survey Methodology

2.3.1. Only substantial trees with a stem diameter of 75 mm or above were included as part of the survey, as is recommended in *BS 5837:2012*.

2.3.2. The trees were inspected from ground level, using the Visual Tree Assessment (VTA)[5]. Although notable defects of trees were recorded, the site survey did not constitute a full tree safety assessment. No specialist decay detection equipment was used as part of the survey, though sounding and probing tools were used where necessary.

2.3.3. Tree information was collected in accordance with *BS 5837: 2012*, and includes species, height, diameter at breast height (DBH), crown spread, crown clearance, age class, condition, vitality, and safe useful life expectancy (SULE).

2.3.4. Trees were allocated to one of four categories (U, A, B or C) as defined in ***Tab. 2.1***, below, to reflect amenity value and suitability for retention, in consideration of the development proposals.

Table 2.1: *BS 5837: 2012* cascade chart *(adapted from British Standards, 2012).*

BS 5837: 2012 Category	Definition	Retention	Colour code
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.	Highly desirable	Light green
Category B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years; trees lacking the special quality to merit category A designation.	Desirable	Dark blue
Category C	Trees of low quality with an estimated remaining contribution of at least 10 years, or trees with a stem diameter below 150 mm; unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Feasible, but should be removed if posing a constraint to development	Grey
Category U	Trees that have serious, irremediable, structural and/or physiological defects, including those that will become unviable after removal of other category U trees.	Unfeasible	Red

[5] Mattheck, C., Breloer, H. (1994). The Body Language of Trees, a Handbook for Failure Analysis. London: Her Majesty's Stationary.

2.3.5. Subcategories 1, 2 and 3 were also given to trees, and reflect arboricultural and landscape qualities, and cultural values, respectively.

2.3.6. Tree heights were measured using a clinometer to the 0.5 m; crown spreads were measured to the north, east, south, and west aspects, using a laser measurer to the nearest 0.5 m.

2.3.7. The DBH of trees was measured at 1.5 m above ground level, and rounded to the nearest centimetre. This was then used to calculate the root protection area (RPA) of trees using methods prescribed in *BS 5837:2012*:

1. For single stem trees, the RPA was calculated as a circle with a radius 12 times the DBH
2. For trees with 2-5 stems, the combined stem diameter was first calculated using the formula:

$$\sqrt{(\mathbf{Stem\ 1\ DBH})^2 + (\mathbf{Stem\ 2\ DBH})^2 + \ldots (\mathbf{Stem\ 5\ DBH})^2}$$

3. For trees with 6 or more stems, the combined stem diameter was first calculated using the formula:

$$\sqrt{(\mu\, \boldsymbol{DBH})^2 \text{ x number of stems}}$$

2.3.8. Where access to trees was obstructed or obscured, DBH, height, and crown spread measurements have instead been estimated

2.4. Constraints

2.4.1. The survey was constrained by the season in which it took place; certain tree pathogens and/or defects, for example, the fructifications of decay fungi are only visible at specific times of the year.

2.4.2. The locations of the trees shown in the ***Tree Constraints Plan*** in ***Appendix 4*** were aided by a topographical plan which was provided by the client. The accuracy of this topographical plan is unknown to the author of this report.

2.4.3. There are trees on and adjacent to the site which:

- are situated within dense areas of understorey vegetation;
- display dense adventitious growth on the main stems; and/or,
- have epiphytic plants established upon them.

Whilst such trees were surveyed insofar as was reasonably practicable, the accuracy of such data cannot be guaranteed.

3. Survey Results

3.1. Tree Population Observations

3.1.1. The survey identified a total of 12 individual trees and one group of trees with the potential to be impacted by the proposed development.

3.1.2. The tree species recorded during the survey include sycamore *Acer pseudoplatanus*, common ash *Fraxinus excelsior*, wild cherry *Prunus avium*, blackthorn *Prunus spinosa*, goat willow *Salix caprea*, and elder *Sambucus nigra*.

3.1.3. The surveyed trees are predominantly located to the south of the site. Owing to their size and prominent position at the junction of Grove Street and Stoney Lane, the trees here contribute moderately to the local amenity.

3.1.4. There are also trees within the northern portion of the site, however, these are generally self-seeded, multiple-stemmed, and of limited arboricultural merit.

3.2. Tree Categorisation

3.2.1. The surveyed trees include seven category B trees of moderate-quality, and five category C trees and one group of low-quality.

3.2.2. There were no category A trees of high-quality or category U trees with SULEs of less than 10 years identified at the site.

3.2.3. A summary of the *BS 5837: 2012* categories of trees at the site is given in ***Tab. 3.1***, below.

Table 3.1: *Summary of BS 5837: 2012 tree categories.*

Category	Description	Tree/Group Ref. Numbers	Line Totals
A	Trees of high-quality, which should be retained throughout the proposed development	-	-
B	Trees of moderate-quality, which should where possible be retained throughout the proposed development	T003, T004, T005, T009, T010, T011, T012	7 Trees
C	Trees of low-quality, which should not be considered a constraint to the development	T001, T002, T006, T007, T008 G003	5 Trees 1 Group
U	Trees of such a condition that they cannot realistically be retained in the context of the current land use for longer than 10 years	-	-
		Totals:	**12 Trees** **1 Group**

3.2.4. The full results of the survey can be viewed in ***Appendix 1: Tree Survey Schedule***. Images of the trees can be viewed in ***Appendix 2: Images of Trees***. Tree locations, and the above and below ground constraints posed by trees, can be viewed in the ***Tree Constraints Plans*** in ***Appendix 4***.

4. Impact Assessment

4.1. Tree Removals

4.1.1. To facilitate the proposed development, T001 and T002 will necessitate removal.

4.1.2. T001 is located within the garden of a proposed dwelling. Although T001 could potentially be retained throughout the development, removal would likely be required once the dwelling is occupied to create a functional garden space.

4.1.3. T002 is located within 1 m of a proposed dwelling, and therefore the proposals would not be feasible if this tree was to be retained.

4.1.4. T001 and T002 are both category C trees of low-quality, and therefore removal of these trees will have a negligible impact upon the local amenity.

4.2. Facilitation pruning

4.2.1. The northern edge of G001 is comprised of sapling trees, which owing to phototropism, lean heavily towards the development site and would encroach onto the proposed rear gardens, car park, and turning head.

4.2.2. Approximately 150 m^2 of G001 will therefore require partial removal and/or crown lifting to facilitate the proposals.

4.3. Tree Root Protection Areas (RPAs)

4.3.1. The RPAs of T003, T010, T011, and T012 will all be encroached onto by various aspects of the proposed development:

- T003 will be encroached onto by the proposed rear gardens and boundary treatments of three dwellings;
- T010 will be encroached onto by a proposed dwelling, the rear garden and boundary treatment, and also the proposed car park; and,
- T011 and T012 will be encroached onto by the proposed car park and vehicle turning head.

4.3.2. A summary of the tree RPAs which potentially may be impacted by the development is provided in ***Tab. 4.1***, below.

Table 4.1: *Summary of tree RPAs which potentially may be impacted by the development.*

Tree Ref:	Total RPA (m^2)	Aspect of the development impacting the RPA			Total impacted RPA (%)
		Gardens (m^2)	Car park/turning head (m^2)	Buildings (m^2)	
T003	539.1	52.8	-	-	9.8
T010	307.9	13.3	45.3	-	19
T011	332.6	-	79.3	-	23.8
T012	109.4	-	36.8	-	33.6

4.3.3. The proposals to create rear gardens within the RPAs of T003 and T010 are considered feasible and potentially beneficially to tree roots, since significant areas of existing impermeable hardstanding within the RPAs will be removed and replaced with permeable soft-landscape. This will help improve infiltration of water and free gaseous exchange between tree roots and the atmosphere. The following guidance should however be followed during the removal of the existing hardstanding within tree RPAs:

- The existing hardstanding and edgings within the RPAs of T003 and T010 should be removed using hand-operated tools only, and the sub-base beneath the removed asphalt should be left in-situ.
- If roots are encountered during the removal of the existing hardstanding and edgings which occur in clumps or that are greater than 25 mm diameter, then these should not be severed without first consulting with the Project Arboriculturalist. If roots under this diameter are present, then these can be pruned using an appropriate sharp pruning tool, such as pruning saw or secateurs. Any tree roots which are temporarily exposed be covered with sharp sand or dampened hessian sacks to prevent desiccation.
- To minimise disruption to tree roots, the boundary treatment shall be comprised of timber close board fencing (or similar). The post dimensions are to be a maximum of 150 mm x 150 mm, and holes should be hand-dug in tree RPAs. Installation of fencing within tree RPAs shall follow the guidance provided in ***Section 9*** of the ***Outline AMS*** in ***Appendix 3***.

4.3.4. Although the portions of impacted RPAs for T010, T011, and T012 appear relatively substantial, the proposed car park and turning bay will be constructed where impermeable hardstanding already exists. The existing asphalt is also to be replaced largely by block paving - which will have greater porosity - and therefore may improve rooting conditions by enabling infiltration of water and free gaseous exchange between tree roots and the atmosphere. The following guidance should however be followed if the existing hardstanding is to be removed:

- The existing hardstanding and edgings within the RPAs of T010, T011, and T012 should be removed using hand-operated tools only, and the sub-base beneath the removed asphalt should be left in-situ
- If roots are encountered during the removal of the existing hardstanding and edgings which occur in clumps or that are greater than 25 mm diameter, then these should not be severed without first consulting with the Project Arboriculturalist. If roots under this diameter are present, then these can be pruned using an appropriate sharp pruning tool, such as pruning saw or secateurs. Any tree roots which are temporarily exposed be covered with sharp sand or dampened hessian sacks to prevent desiccation.

4.3.5. The temporary tree protection fencing - detailed in ***Section 5*** of the ***Outline AMS*** in ***Appendix 3***, and illustrated in the ***Tree Protection Plans*** in ***Appendices 6***, ***7***, and ***8*** - will ensure that the RPAs of the retained trees are suitably protected from development activities.

4.4. Shade Analysis

4.4.1. Since woodland trees are located to the south of the site, the proposed dwellings will inevitably endure shading. The site layout has however now been amended, so that the dwellings are positioned as close to the site frontage with Grove Street as is feasibly possible. These alterations have reduced the anticipated impacts of shading by trees.

4.4.2. The dwellings have also been designed to take advantage of the unobstructed north elevations: kitchens and utility rooms are positioned to the south of the dwellings (where shading by trees is more likely), whilst habitable rooms will be positioned to the north.

4.4.3. A ***Solar Model*** has been provided by ADS Consulting Engineers, which can be viewed in ***Appendix 5***.

4.4.4. The Solar Model indicates that the dwellings and gardens will be unshaded between 10:00-13:00 during spring, and between 10:00-16:00 during summer. Shading will be most severe during autumn and winter, when the solar altitude angle is lower.

4.4.5. The impacts of shading by trees during winter are less severe than summer, since the deciduous trees do not have foliage. It is also reasonable to assume that the residents are less likely to frequent their gardens during winter.

4.4.6. The impacts of shading by the trees can also be reduced by carrying out woodland management. This will include thinning of the understorey and by removing ivy *Hedera helix* from the affected trees.

4.5. Services and Other Considerations

4.5.1. At the time of writing, details of proposed service routes and/or soakaways have not been provided by the client; however, it is assumed that the utilities and drainage be routed from Grove Street to the north of the site, where there are no trees that can be impacted.

4.5.2. If there are any aspects of the service routes which conflict with tree RPAs however, these should first be reported to the Project Arboriculturalist, so that appropriate measures may be taken.

5. Recommendations

5.1. Tree Works

5.1.1. Prior to the development works commencing:

- T001 and T002 should be removed;
- ivy *H. helix* should be removed from the crowns of T008, T009, T010, and T011;
- approximately 150 m^2 of G001 should be removed and/or crown lift, as is shown in the ***Tree Constraints Plan*** in ***Appendix 4***; and,
- The understorey in G001 should be thinned by approximately 30%.

5.2. Legal Constraints

5.2.1. According to information available on the website of Kirklees Council[4], T001, T002, T008, T009, T010, T011, and G001 may be subject to TPOs. These trees are also located within the Longwood Edge Conservation Area.

5.2.2. Written consent should therefore be obtained from Kirklees Council prior to the commencement of works[6]. Killing or damaging a protected tree is a criminal offence and can result in an unlimited fine.

5.2.3. All tree works, including tree removals, should be carried out by a fully insured and suitably qualified arboricultural contractor who is able to comply with *BS 3998: 2010: Tree Works - Recommendations*.

5.2.4. Trees provide valuable habitat for wild birds, bats, and many other forms of wildlife. The risks posed to these should be suitably assessed prior to the commencement of works.

5.2.5. Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the Wildlife and Countryside Act 1981:

- it is an offence to intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or destroy at a nest containing eggs or young; and,
- it is an offence to intentionally or recklessly damage or destroy a bat roost site, even if the roost is not occupied at the time.

5.3. Tree Protection

5.3.1. Construction, and any other works involving excavations, can cause irreversible damage to trees - particularly those which have reached maturity - which are far less capable of adapting to alterations in their surrounding environment. Whilst above-ground injuries are usually obvious, root damage is often concealed, though can have equally devastating impacts to tree health.

5.3.2. Direct root damage includes root severance, which can be caused by digging of trenches and ditches, and the stripping of topsoil. Indirect damage may involve the raising of soil levels, alterations in drainage patterns, the laying of impervious surfaces, and soil compaction.

5.3.3. Compaction of soils is a common cause of death or damage to retained trees on development sites. Soil compaction reduces soil pore space, which in turn reduces soil air, the passage of water and available nutrients. These anaerobic conditions prevent root growth and the proliferation of soil microbes essential to tree health. Symptoms in trees may include crown die-back, sparse and small foliage, and poor extension growth; however, these are usually not evident until well after

[6] Note, that the removal of ivy *H. helix* from living trees does not usually require planning consent.

the occurrence of compaction. Even one pass of a vehicle in wet conditions can cause irreparable soil compaction.

5.3.4. To avoid both direct and indirect damage to the roots of the retained trees, temporary tree protection fencing and ground protection should be installed in the following phases:

1. Prior to development works commencing, temporary tree protection fencing should be installed in the locations shown in ***Tree Protection Plan (1)***, which can be viewed in ***Appendix 6***
2. Once removal of the existing hardstanding and other ground preparation works have been completed, the tree protection fencing should be repositioned, and temporary ground protection should be installed - in the locations shown in ***Tree Protection Plan (2)*** - which can be viewed in ***Appendix 7***
3. Once construction of the buildings has been completed, remove the temporary ground protection, and carry out the remaining soft- and hard-landscaping works

5.3.5. It is recommended that development works follow the ***Outline AMS*** provided in ***Appendix 3***. This includes the specifications for the temporary tree protection fencing, ground protection, and other protective measures to be adhered to throughout the development.

5.3.6. As aspects of the development may be subject to change, the ***Outline AMS*** should be reviewed by the Project Arboriculturalist prior to the commencement of development works.

5.4. Mitigation

5.4.1. To enhance the amenity of the site, it is recommended that on-site tree planting is carried out upon completion of the development.

5.4.2. The specifications, locations, and maintenance requirements of the proposed trees should be further detailed in a tree planting plan, which should comply with *BS 8545:2014*[7].

5.5. Additional Information

5.5.1. All visual observations and recommendations specified within this document relate to the condition of the trees and surroundings at the time of the survey. As such, any subsequent changes to landform in the proximity of the trees could invalidate the advice given.

5.5.2. Trees are dynamic living organisms, and their condition can change rapidly; the information given in this report is therefore valid for a period of 12 months. This period may be reduced if significant changes occur to the trees, or the ground conditions, which surround them.

[7] British Standards (2014). *BS 8545:2014 Trees - From nursery to independence in the landscape: Recommendations.* London: British Standards Institute.

Appendices

Appendix 1: Tree Survey Schedule

Table Key			
Tree/Group Ref: Reference numbers, as illustrated in the ***Tree Constraints Plan*** in ***Appendix 4***		**DBH:** Diameter at breast height (1.5 m), in millimetres	
Height (Ht.): Overall height of tree, measured to nearest metre		**SULE:** Safe useful estimated life expectancy of tree, in years	
Crown Spread (CS): Radius of crown to N, E, S, and W aspects, measured to nearest metre		**Crown Clearance (CC):** Clearance from ground level of lowest branch, measured to nearest metre	
Structural Condition (SC): An assessment of structural condition. **G** = Good; **F =** Fair; **D =** Decaying; **C** = Collapsing; **PD** = Physical Defect		**Physiological Condition (PC)**: An assessment of vitality and vigour **F =** Fair; **P =** Poor; **D =** Dead	
Species: Common (and *binomial name*)		**#:** Denotes estimated value	
Age	**Young (Y):** Newly planted or self-seeded tree	**Early-mature (EM):** Trees in second-third of life expectancy for species type	**Over-mature (OM):** Mature trees which have entered stages of natural decline
	Semi-mature (SM): Trees in within first-third of life expectancy for species type	**Mature (M):** Trees in final-third of life expectancy for species type	**Veteran/Ancient (V/A):** Trees of any age with veteran characteristics or which are remarkably old for the species type
BS 5837: 2012 **Categories**	**Category A:** Trees of high-quality with an estimated remaining life expectancy of at least 40 years, and that are particularly good examples of their species type	**Category C:** Unremarkable trees of low-quality offering limited arboricultural merit and/or of such impaired condition that they do not warrant in higher categorisation	
	Category B: Trees of moderate-quality with an estimated remaining life expectancy of at least 20 years, though lacking the necessary qualities to warrant Category A designation	**Category U:** Trees which display serious, irremediable, structural and/or physiological defects	

Individual Trees

Tree Ref:	Species	Age	SULE	Ht.	DBH	CS				CC	Comments	PC	SC	*BS 5837: 2012* Category	Recommendations
						N	E	S	W						
T001	Sycamore *(Acer pseudoplatanus)*	SM	20-40	10	120 130 140 160 180 180 190 200	5	5	3.5	5	0	Self-seeded and multiple-stemmed tree. Limited arboricultural merit and lacking qualities for higher *BS 5837* categorisation.	G	F	C2	Remove tree
T002	Sycamore *(Acer pseudoplatanus)*	SM	20-40	15	180 190 400	5	7	7	6.5	1.5	Self-seeded and multiple-stemmed tree, which is growing through and distorting the existing site boundary fence. Acute first order branch union at 1 m which potentially may contain included bark.	G	PD	C2	Remove tree

Tree Ref:	Species	Age	SULE	Ht.	DBH	CS				CC	Comments	PC	SC	*BS 5837: 2012* Category	Recommendations
						N	E	S	W						
T003	Sycamore *(Acer pseudoplatanus)*	M	40-80	24	870 660	12	9.5	8	8	3.5	Bifurcates at 0.5 m into two co-dominant stems; union is acute and potentially may contain included bark. Major deadwood > 100 mm in diameter scattered throughout the crown	F	F	B2	No works recommended
T004	Sycamore *(Acer pseudoplatanus)*	EM	40-80	23	460	8	3	3.5	2.5	8	Asymmetrical form due to proximity with adjacent trees. Minor deadwood < 100 mm in diameter scattered throughout the crown	F	F	B2	No works recommended
T005	Sycamore *(Acer pseudoplatanus)*	EM	40-80	20	340 350 370 480	4.5	5	8.5	6.5	4.5	Bifurcates at ground level into four co-dominant stems; one union is very acute and likely contains included bark. Major deadwood > 100 mm in diameter scattered throughout the crown	F	PD	B2	No works recommended
T006	Common ash *(Fraxinus excelsior)*	SM	20-40	17	270	2	0.5	7.5	7	3	Asymmetrical form and leaning main stem due to proximity with adjacent trees.	F	F	C2	No works recommended
T007	Goat willow *(Salix caprea)*	EM	20-40	13	310 340	4.5	5.5	7.5	4	6	Bifurcates at 0.5 m into two co-dominant stems; union is acute and potentially may contain included bark. Minor deadwood < 100 mm in diameter scattered throughout the crown	F	F	C2	No works recommended
T008	Wild cherry *(Prunus avium)*	SM	40-80	16	260	8	3.5	2	3	5	Dense ivy *Hedera helix* established on main stem and first order branches, which obscures tree features and potential defects.	G	F	C2	Remove ivy from crown
T009	Wild cherry *(Prunus avium)*	SM	40-80	17	380	4.5	3	4.5	3.5	5	Bifurcates at 5 m into two co-dominant stems; union appears structurally optimised. Ivy *Hedera helix* established on main stem up to 5 m, which partially obscures tree features and potential defects.	G	F	B2	Remove ivy from crown
T010	Sycamore *(Acer pseudoplatanus)*	M	40-80	22	610 560	8.5	5.5	7	4.5	3.5	Bifurcates at ground level into two co-dominant stems; unions appear structurally optimised. Dense ivy *Hedera helix* established on main stems and first order branches, which obscures tree features and potential defects.	F	F	B2	Remove ivy from crown

Tree Ref:	Species	Age	SULE	Ht.	DBH	CS				CC	Comments	PC	SC	*BS 5837: 2012* Category	Recommendations
						N	E	S	W						
T011	Sycamore *(Acer pseudoplatanus)*	M	40-80	22	720	8.5	3.5	8	7	3.5	Bifurcates at 2.5 m into two co-dominant stems; union is acute and potentially may contain included bark. Dense ivy *Hedera helix* established on main stems and first order branches, which obscures tree features and potential defects. Minor deadwood < 100 mm in diameter scattered throughout the crown	F	F	B2	Remove ivy from crown
T012	Sycamore *(Acer pseudoplatanus)*	EM	40-80	20	490	7	1.5	5	5.5	3.5	Bifurcates at 1 m into three co-dominant stems; unions are acute and potentially may contain included bark. Asymmetrical form due to proximity with adjacent trees. Cavity opening on south aspect of main stem at ground level, approx. 10 cm (w) x 20 cm (l); some visible decay to exposed ripewood, though with extensive wound wood forming around margins of defect.	F	F	B2	No works recommended

Groups of Trees

Group Ref:	Species Composition	Age	SULE	Mx. Ht.	Mx. DBH	Approx. No. of Stems	CC	Comments	V	SC	*BS 5837*:2012 Category	Recommendations
G001	Wild cherry *(Prunus avium)* Common ash *(Fraxinus excelsior)* Blackthorn *(Prunus spinosa)* Elder *(Sambucus nigra)* Sycamore *(Acer pseudoplatanus)* Goat willow *(Salix caprea)*	Y SM	40-80	12	310	100	0	Woodland understorey group. Multiple specimens display features that are typical of the woodland setting, such as acute branch unions, leaning main stems and asymmetrical forms, branch cavities, and branch tear-out wounds.	F	PD	C2	• Crown lift/remove approx. 150 m^2 of trees on northern edge of group which encroach onto the development site • Thin understorey by approx. 30%

Appendix 2: Images of Trees

Plate 1: *T001 (left) & T002 (right)*

Plate 2: *T003*

Plate 3: *T004*

Plate 4: *T005*

Plate 5: *T006*

Plate 6: *T007*

Plate 7: *T008 (left) & T009 (right)*

Plate 8: *T010*

Plate 9: *T010, T011, & T012 (left to right)*

Plate 10: *G001*

Plate 11: *G001*

Plate 12: *G001*

Appendix 3: Outline Arboricultural Method Statement (AMS)

A3.1 Introduction

A3.1.1 Woodsage Consulting Ltd have been instructed by Virtue Homes to prepare an Outline AMS in relation to the proposed development of the land adjacent to Grove Street, Longwood, Huddersfield HD3 4ZQ.

A3.1.2 The development proposals are for the erection of five dwellings (and associated works).

A3.1.3 This Outline AMS should be read in conjunction with the Arboricultural Impact Assessment (Ref: WC-362.1b).

A3.2 Timing of Works

A3.2.1 It is not the Project Arboriculturist's role to determine the timing and implementation of works on site however, an input into the process can avoid issues once work is underway.

A3.2.2 The phasing of works should be carried out in accordance with ***Tab. A3.1***, below.

Table A3.1: *Timing of Works.*

Stage	Works
1	Site induction
2	Carry out the tree removals and facilitation pruning specified in ***Section A3.4*** of this ***AMS***
3	Install temporary tree protection fencing, to the specification detailed in ***Section A3.5*** of this ***AMS***, in the locations shown in ***Tree Protection Plan (1)***
4	Inspection of tree protection measures by the Project Arboriculturalist
5	Carry out removal of existing hardstanding and other ground preparation works (removal of hardstanding within tree RPAs to follow the guidance provided in ***Section A3.7*** of this ***AMS***)
6	Reposition temporary tree protection fencing and install temporary ground protection, to the specification detailed in ***Section A3.8*** of this ***AMS***, in the locations shown in ***Tree Protection Plan (2)***
7	Inspection of tree protection measures by the Project Arboriculturalist
8	Carry out construction of dwellings
9	Remove temporary ground protection once construction works have been completed
10	Carry out remaining soft- and hard-landscaping (installation of permanent wooden fencing within tree RPAs to follow guidance provided in ***Section A3.9*** of this ***AMS***)
11	Final inspection by the Project Arboriculturalist

A3.3 Site Supervision

A3.3.1 Prior to works commencing, it is the responsibility of the main contractor, or assigned agent, to ensure that details regarding tree protection are understood and adhered to by all site personnel.

A3.3.2 During the site induction, the final AMS and copies of the ***Tree Protection Plans*** - which can be viewed in ***Appendices 6***, ***7***, and ***8*** - should be made available to all contractors attending the site.

A3.4 Tree Works

A3.4.1 Prior to the development works commencing:

- T001 and T002 should be removed;
- ivy H. helix should be removed from the crowns of T008, T009, T010, and T011;
- approximately 150 m2 of G001 should be removed and/or crown lift, as is shown in the Tree Constraints Plan in Appendix 4; and,
- The understorey in G001 should be thinned by approximately 30%.

A3.4.2 According to information available on the website of Kirklees Council, T001, T002, T008, T009, T010, T011, and G001 may be subject to TPOs. These trees are also located within the Longwood Edge Conservation Area. Written consent should therefore be obtained from Kirklees Council prior to the commencement of works. Killing or damaging a protected tree is a criminal offence and can result in an unlimited fine.

A3.4.3 All tree works, including removals, should be carried out by a fully insured and suitably qualified arboricultural contractor, who is able to comply with *BS 3998: 2010 - Tree Works: Recommendations*.

A3.4.4 Trees provide valuable habitat for wild birds, bats, and many other forms of wildlife. The risks posed to these should therefore be suitably assessed before the recommendations within this AMS are completed

A3.5 Temporary Tree Protection Fencing

A3.5.1 The temporary tree protection fencing shall be installed prior to the commencement of development works, and should be fit for the purpose of excluding site personnel and machinery. The default specification should be in accordance with *BS 5837: 2012 - Trees in Relation to Design, Demolition and Construction: Recommendations.*

A3.5.2 **Specification:** Barriers shall be a minimum 2 m high, and should consist of a vertical and horizontal scaffold framework, well braced to resist impacts, as illustrated in ***Fig. A3.1***, below, and ***Fig. A3.2***, on the next page.

A3.5.3 The vertical tubes shall be spaced at a minimum interval of 3 m and driven securely into the ground. Onto this framework, welded mesh panels should be securely fixed.

Figure A3.1*: Example of mesh welded type barriers in-situ.*

A3.5.4 All-weather notices shall be attached to the barriers at 9 m intervals with the words 'TREE PROTECTION ZONE - NO ACCESS' clearly visible.

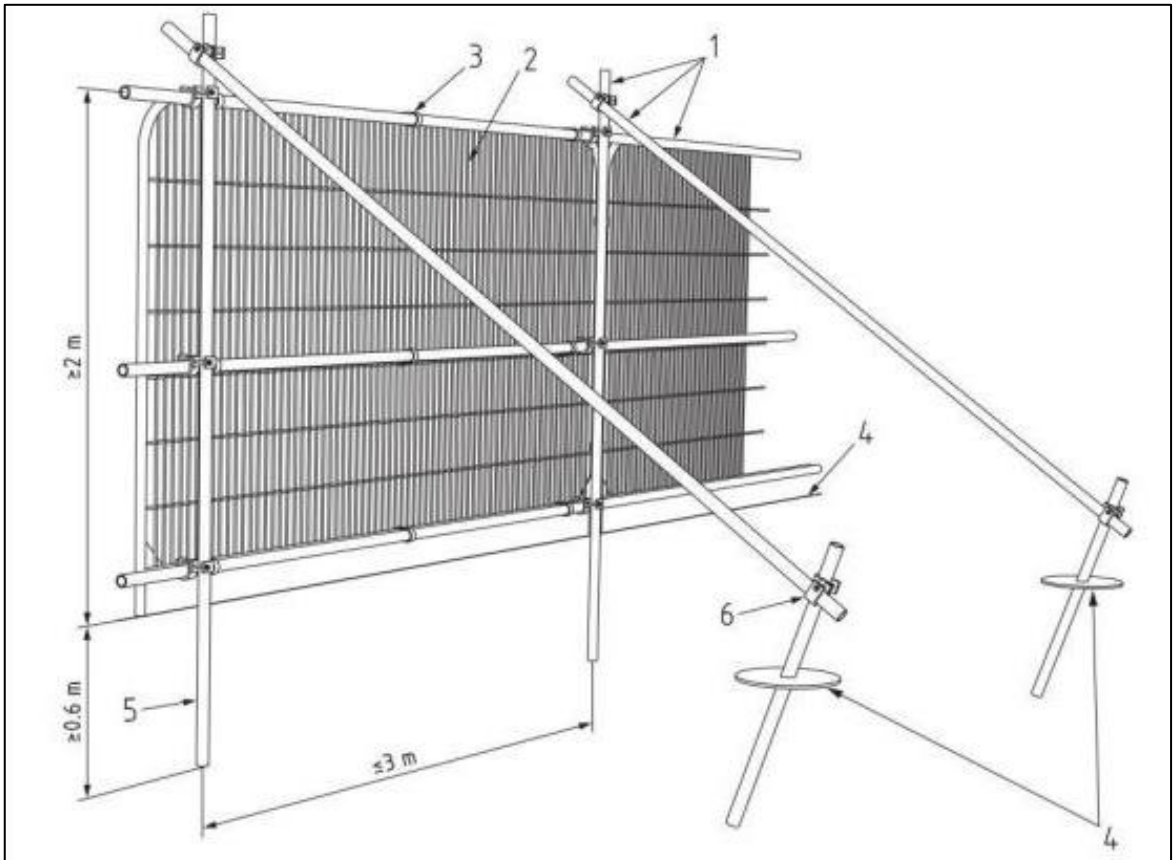
A3.5.5 **Location:** The temporary tree protection fencing should be installed in the following phases:

1. Prior to development works commencing, temporary tree protection fencing should be installed in the locations shown in ***Tree Protection Plan (1)***

2. Once removal of the existing hardstanding and other ground preparation works have been completed, the tree protection fencing should be repositioned, and temporary ground protection should be installed - in the locations shown in ***Tree Protection Plan (2)***
3. Once construction of the buildings has been completed, remove the temporary ground protection, and carry out the remaining soft- and hard-landscaping works

A3.5.6 The protected areas should be regarded as sacrosanct, and once installed, tree protection fencing should not be removed or altered without prior consultation with the Project Arboriculturist.

A3.5.7 If any breach in the tree protection fencing occurs, it is the Site Manager's responsibility to report this to the Project Arboriculturalist, so that appropriate measures may be taken. Any breach which results in death or damage to the trees could result in a criminal offence being committed.



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Figure A3.2*: Temporary 2 m steel protective fencing.*

A3.6 Additional Precautions

A3.6.1 No materials hazardous to tree health, such as oil, bitumen or cement should be stored within the temporary protective fencing. Where possible, this area should be extended to 10 m away from the fencing.

A3.6.2 Where there is a risk of polluted water runoff into root protection areas (RPAs), heavy duty plastic sheeting and sandbags must be used to contain any spillages and prevent contamination. No fires should be lit within 20 m of the protective fencing.

A3.6.3 As the majority of tree roots are typically found within the first 100 cm of ground level - particular attention should also be paid to existing levels - which should be observed and maintained within tree RPAs.

A3.6.4 Any unavoidable excavations into the soil within tree RPAs should be carried out by using compressed air soil displacement or hand-operated tools, and only under prior approval of the Project Arboriculturalist. If roots are encountered which occur in clumps or which are greater than 25 mm in diameter, these should not be severed without first consulting the Project Arboriculturalist.

A3.7 Removal of Existing Hardstanding within Tree RPAs

A.3.7.1 Removal of the existing hardstanding and edgings within the RPAs of T003, T010, T011, and T012 should be carried out sensitively, and should adhere to the following guidelines:

- Any existing hardstanding and/or edgings which are to be removed within tree RPAs, should be carried out using hand-operated tools only. The sub-base beneath the removed asphalt should be left in-situ.
- If roots are encountered during the removal of the existing hardstanding and/or edgings which occur in clumps or that are greater than 25 mm diameter, then these should not be severed without first consulting with the Project Arboriculturalist. If roots under this diameter are present, then these can be pruned using an appropriate sharp pruning tool, such as pruning saw or secateurs. Any tree roots which are temporarily exposed should be covered with sharp sand or dampened hessian sacks to prevent desiccation.

A3.8 Temporary Ground Protection

A3.8.1 Due to site constraints, and to allow for suitable working space, the temporary tree protection fencing adjacent to T003, T009, and T010 will be setback from the default *BS 5837:2012* positioning; as a result, soft-landscape within the RPAs will be exposed to development activities.

***Figure A3.3**: Examples of ground protection panels.*

A3.8.2 Temporary ground protection should therefore be installed throughout the exposed RPAs of T003, T009, and T010 - in the locations shown in ***Tree Protection Plan (2)*** - and shall remain in place until construction phase has been completed.

A3.8.3 The temporary ground protection should consist of inter-linked boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip) which are laid onto a geotextile membrane, as illustrated in ***Fig. A3.3***, on the previous page.

A3.8.4 Any vehicles, plant, or machinery operating within the RPAs of T003, T009, and T010 must ensure it does so upon the ground protection at all times.

A3.9 Installation of Permanent Timber Fencing within Tree RPAs

A.3.9.1 Installation of permanent timber fencing within tree RPAs should adhere to the following guidelines:

- No part of any fencing is to be attached to the adjacent trees.
- The post dimensions are to be a maximum of 150 mm x 150 mm; holes are to be hand-dug in tree RPAs, to an approximate depth of 600-800 mm.
- If tree roots are encountered during installation of the posts - with a diameter that is greater than 25 mm diameter, or which occur in clumps - then these shall not be severed without first consulting with the Project Arboriculturalist. If roots under this diameter are present, these will be pruned using an appropriate sharp pruning tool such as pruning saw or secateurs. Any temporarily exposed tree roots shall be covered with sharp sand or dampened hessian sheets.
- The posts will be set in concrete and in holes lined with polythene to minimise leaching.
- The concrete will be mixed outside of tree RPAs and transported to site for use.

A3.10 Responsibility and Site Management

A3.10.1 It is the responsibility of the main contractor or assigned agent to ensure that details regarding tree protection are understood and followed by all site personnel.

A3.10.2 Inspections by the Project Arboriculturalist are to be undertaken at the following stages:

1. Once the temporary tree protection fencing has been installed - in the locations shown in ***Tree Protection Plan (1)*** - and prior to development works commencing
2. Once the existing hardstanding and other ground preparation works have been completed, the temporary tree protection fencing has been repositioned, and temporary ground protection has been installed, in the locations shown in ***Tree Protection Plan (2)***
3. Upon completion of the development works

A3.10.3 After each inspection, a letter should be submitted by the Project Arboriculturalist to the LPA Arboricultural Officer, to confirm if the method statement has been followed correctly, and if trees have not been adversely affected by development works.

A3.11 Project Arboriculturalist Contact Details

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Luddendenfoot,
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Email: jack@woodsage.co.uk

Appendix 4: Tree Constraints Plan

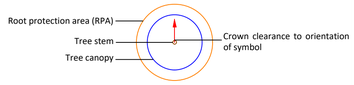
Project:	Land off Grove St, Longwood, Huddersfield HD3 4ZQ
Drawn by:	Jack Delaney
Date:	14th June 2025
Scale:	1:200 @ A1
Drawing Number:	WC-362.1b.4

Do not scale off this drawing - to be reproduced in colour only

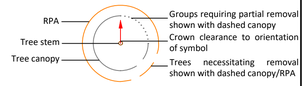
Map Key:

Application site

Category B trees of moderate-quality



Category C trees/groups of low-quality



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E: info@woodsage.co.uk
W: https://woodsage.co.uk

APPENDIX 5 - SOLAR STUDY

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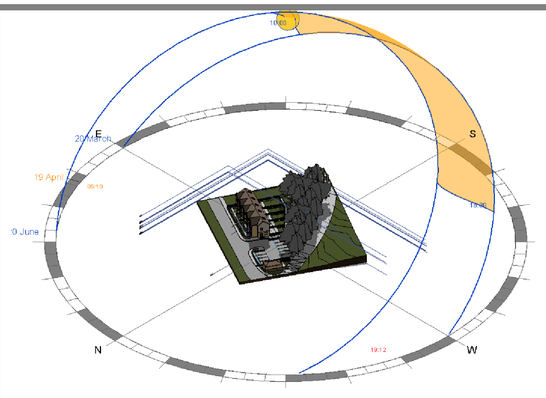
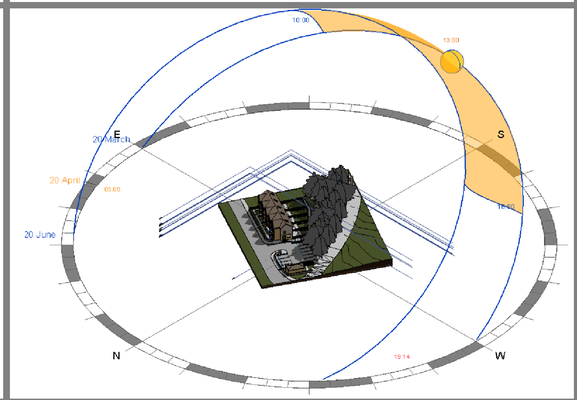
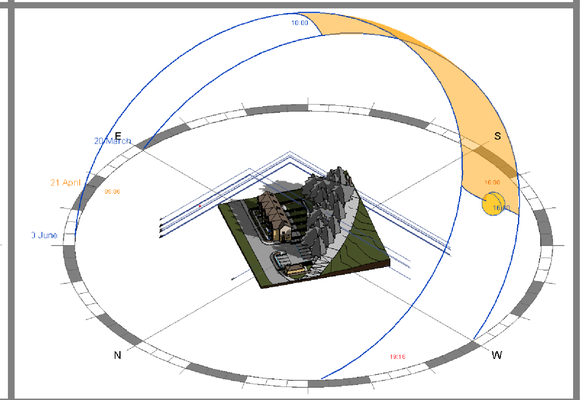
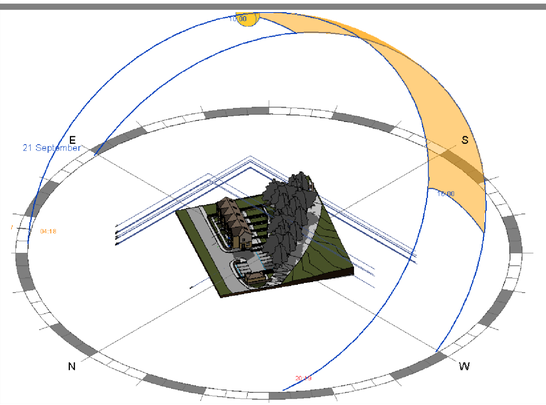
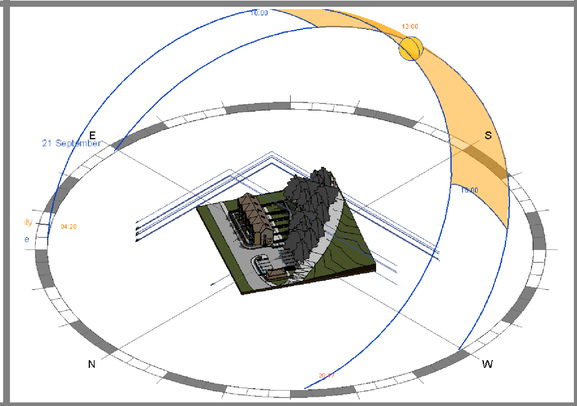
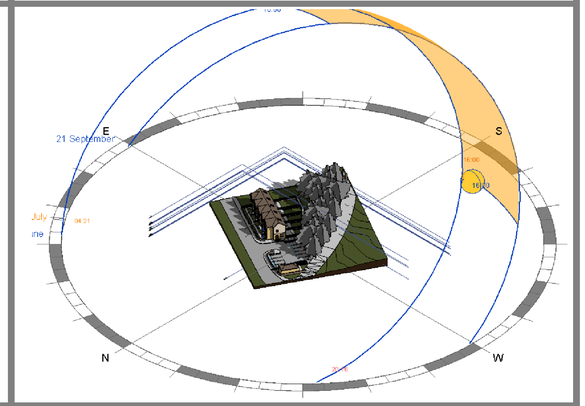
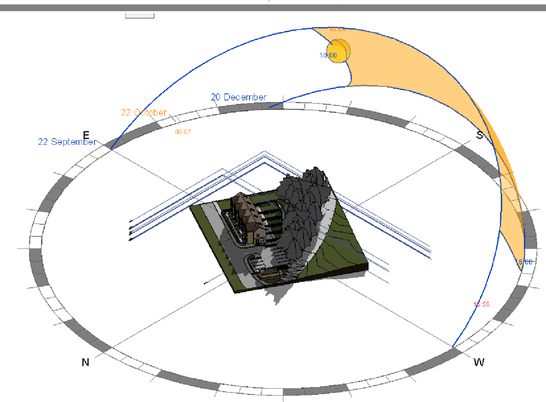
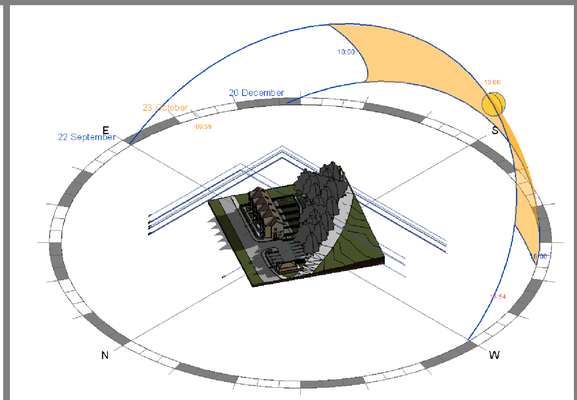
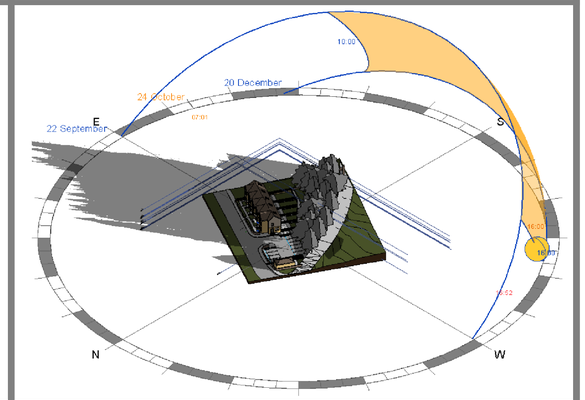
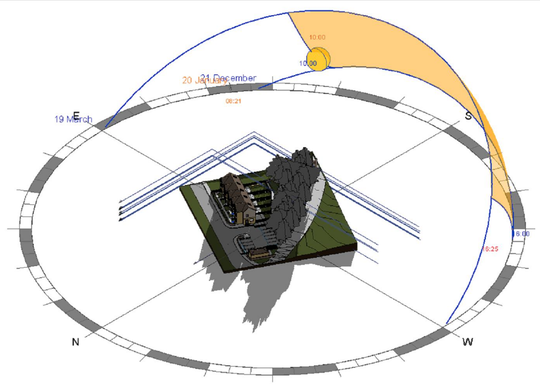
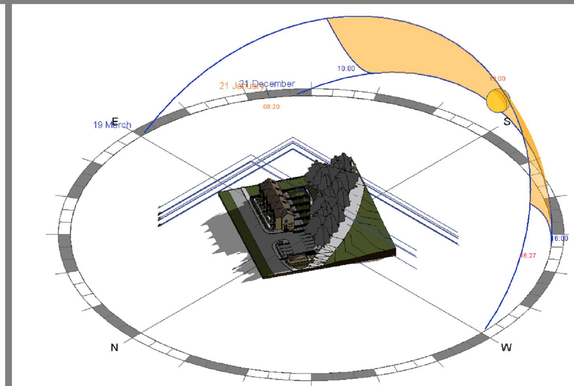
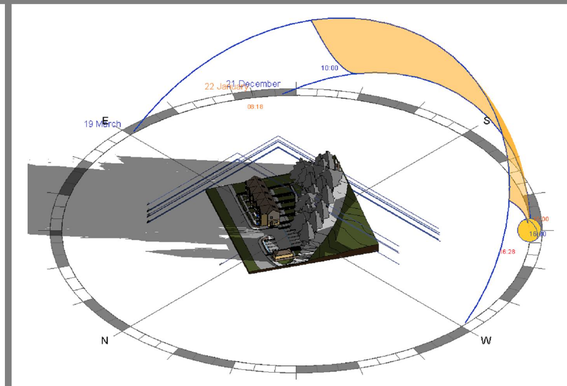
SPRING			
SUMMER			
FALL			
WINTER			

NOTES

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2. DO NOT SCALE FROM THIS DRAWING. ALL SETTING OUT DIMENSIONS ARE TO BE CHECKED AND VERIFIED ON SITE PRIOR TO COMMENCEMENT OF ANY BUILDING WORKS & FABRICATION OF MATERIALS. ANY DISCREPANCIES ARE TO BE REPORTED TO THE ENGINEER.
3. ALL WORKMANSHIP AND MATERIALS ARE TO COMPLY WITH THE CURRENT BUILDING REGULATIONS, BRITISH STANDARDS AND CODES OF PRACTICE. ALL MATERIALS SHALL BE FIXED OR APPLIED IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATIONS. THE CONTRACTOR IS TO TAKE INTO ACCOUNT EVERYTHING DEEMED NECESSARY FOR THE PROPER EXECUTION OF THE WORKS WHETHER INDICATED ON THE DRAWINGS OR NOT TO THE COMPLETE SATISFACTION OF THE LOCAL AUTHORITY
4. FOR FINAL SETTING OUT INFORMATION RELATING TO WALL POSITIONS REFER TO ARCHITECTS DRAWINGS.

REV	DATE	REVISION DETAILS	DRN	CHK	APP
P2	30.04.2025	ADJUSTMENT	AMS	SH	ADS
P1	08.04.2025	FIRST ISSUE	AMS	SH	ADS

CLIENT
VIRTUE HOMES

PROJECT:
HUDDERSFIELD HOUSES

DRAWING TITLE:
SOLAR STUDY

DRAWING STATUS:
PRELIMINARY

A1

ads consult consulting engineers
107 Mere Grange
Business Park, Leaside, St
Helens, WA9 5GG
Tel: 0151 541 4000
info@adsstructural.co.uk

SCALE	PROJECT - ORIGINATOR - ZONE - LEVEL - TYPE - ROLE - NUMBER	REV
N/S	8548-ADS-A-600	P2

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Appendix 6: Tree Protection Plan (1)

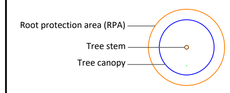
Project:	Land off Grove St, Longwood, Huddersfield HD3 4ZQ
Drawn by:	Jack Delaney
Date:	14th June 2025
Scale:	1:200 @ A1
Drawing Number:	WC-362.1b.6

Do not scale off this drawing - to be reproduced in colour only

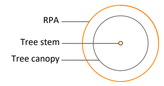
Map Key:

Application site

Category B trees of moderate-quality



Category C trees/groups of low-quality



Temporary tree protection fencing, to *BS 5837: 2012* specification, as detailed in the ***Outline Arboricultural Method Statement (AMS)***

Existing hardstanding removed. Hardstanding removed from within tree RPAs to follow the guidance provided in the ***Outline AMS***.

Woodsage Consulting Ltd
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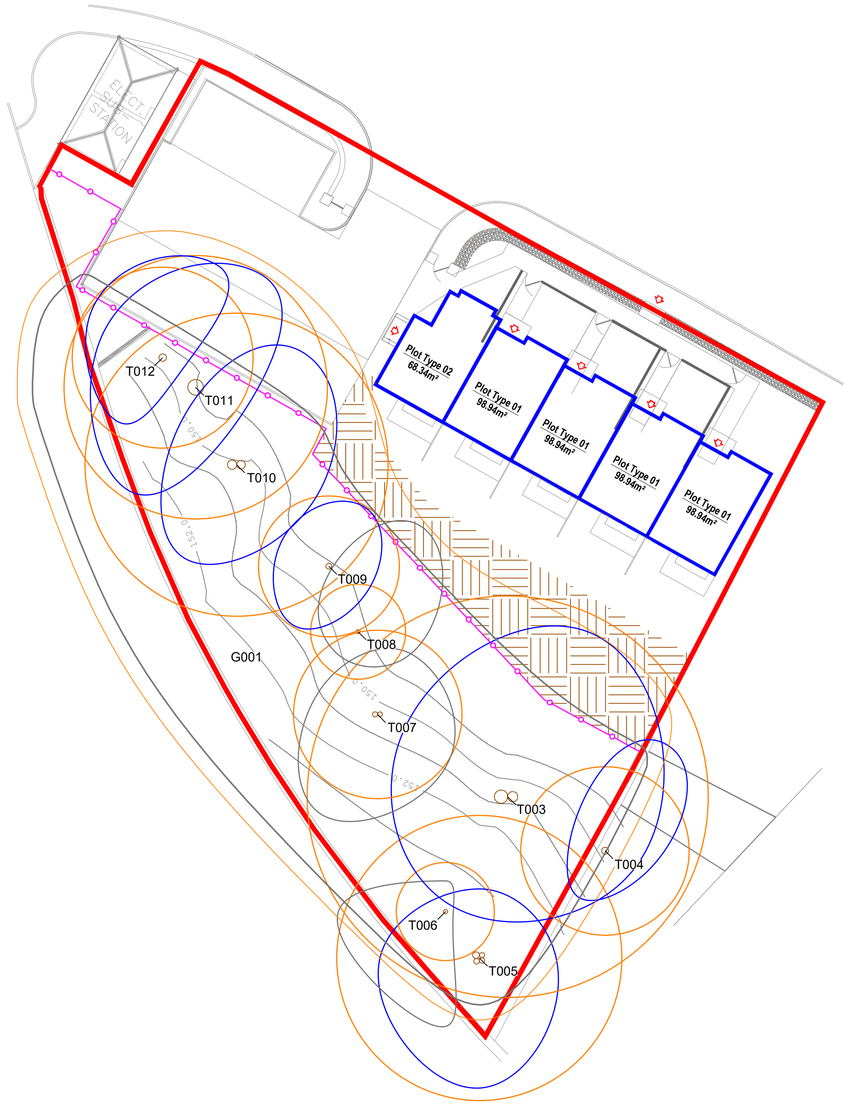


Appendix 7: Tree Protection Plan (2)

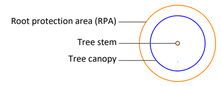
Project:	Land off Grove St, Longwood, Huddersfield HD3 4ZQ
Drawn by:	Jack Delaney
Date:	14th June 2025
Scale:	1:200 @ A1
Drawing Number:	WC-362.1b.7

Do not scale off this drawing - to be reproduced in colour only

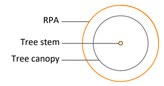
Map Key:

Application site

Category B trees of moderate-quality



Category C trees/groups of low-quality



Temporary tree protection fencing, to *BS 5837: 2012* specification, as detailed in the ***Outline Arboricultural Method Statement (AMS)***

Temporary ground protection, to *BS 5837: 2012* specification, as detailed in the ***Outline AMS***

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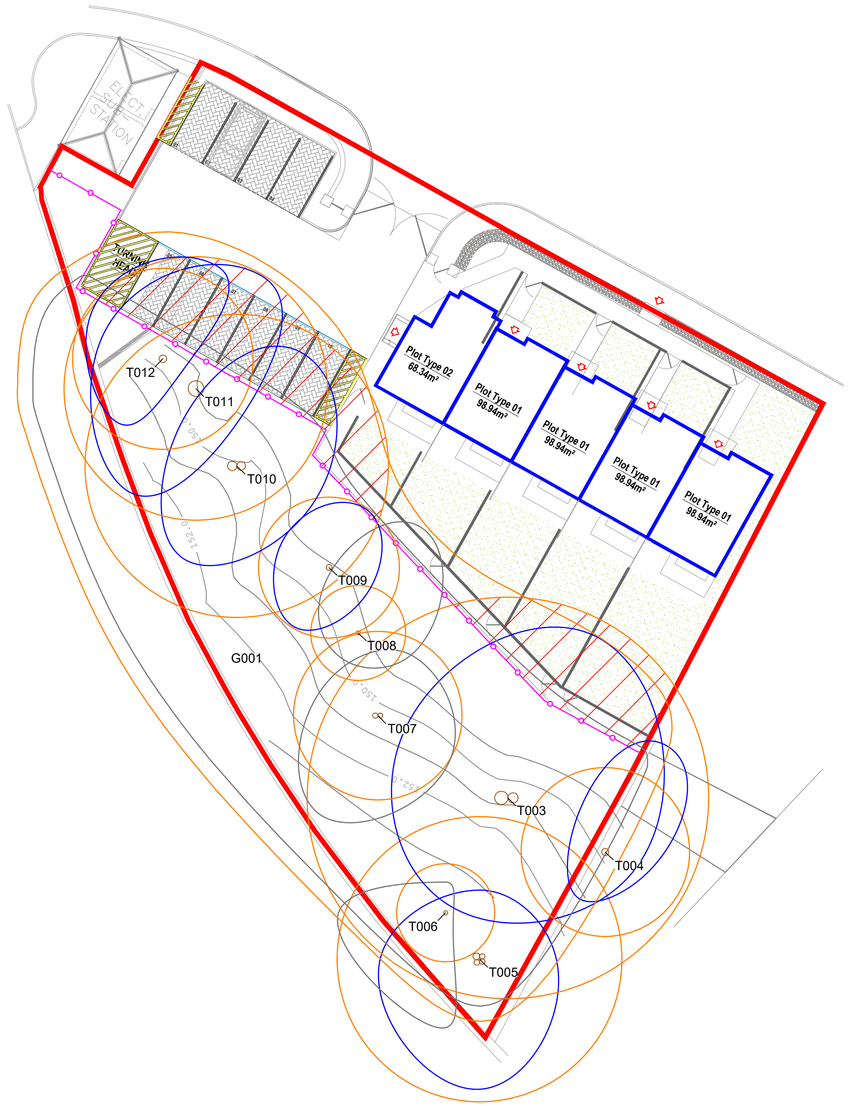


Appendix 8: Tree Protection Plan (3)

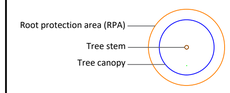
Project:	Land off Grove St, Longwood, Huddersfield HD3 4ZQ
Drawn by:	Jack Delaney
Date:	14th June 2025
Scale:	1:200 @ A1
Drawing Number:	WC-362.1b.8

Do not scale off this drawing - to be reproduced in colour only

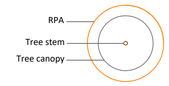
Map Key:

Application site

Category B trees of moderate-quality



Category C trees/groups of low-quality



Temporary tree protection fencing, to *BS 5837: 2012* specification, as detailed in the ***Outline Arboricultural Method Statement (AMS)***

Removal of existing hardstanding to follow the guidance provided in the ***Outline AMS***. No excavations are to be carried out within tree RPAs

Proposed permeable block paving

Proposed soft-landscape

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