

Arboricultural Impact Assessment

WC-201.1a

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Executive Summary

Woodsage Consulting Ltd have been instructed by Mr N Blake & Mr P Mitchell to undertake an Arboricultural Impact Assessment of the land adjacent to 71 Woodhead Road, Honley, Holmfirth HD9 6PP, in relation to the proposed development of the site.

The development proposals are to construct a new access drive to the lower sections of the site.

According to information provided on the website of Kirklees Council (2023), all of the trees at the site are subject to a group tree preservation order (TPO Ref: 34/91/g1).

The site survey identified a total of seven trees with the potential to be affected by the development proposals, these include four category B trees of moderate-quality and three category C trees of low-quality.

The development proposals will necessitate the removal of two category B trees of moderate-quality and one category C tree of low-quality.

The RPA of one category B tree, will be encroached upon by the proposed access drive, which therefore is to be constructed upon a 'no-dig' geo-cellular confinement system.

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

To mitigate for the losses incurred to the local amenity by the removal of trees, it is recommended that a minimum of six trees are included within a post-development mitigation planting scheme.



1. Introduction

1.1. Introduction & Scope of Report

- 1.1.1.** Woodsage Consulting Ltd have been instructed by Mr N Blake & Mr P Mitchell to undertake an Arboricultural Impact Assessment of the land adjacent to 71 Woodhead Road, Honley, Holmfirth HD9 6PP, in relation to the proposed development of the site.
- 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: Trees in Relation to Design, Demolition and Construction - Recommendations* (hereafter referred to as *BS 5837: 2012*), 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).
 - 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 site – shown in **Fig. 1.1**, below - is centred on OS Grid Reference SE 14255 11704, within the village of Honley, approximately three miles to the south of Huddersfield. The site is accessed east off Woodhead Road.



Figure 1.1: Aerial imagery showing the approximate boundaries of the site outlined in red (Google Earth, 2023).

- 1.2.2.** The development site covers approximately 0.1 ha, and comprises rough land with early-mature trees to the west.



- 1.2.3.** The site is bound by a residential property to the north and south, by the River Holme to the east, and by Woodhead Road to the west.

1.3. Topography

- 1.3.1.** The site lies at an approximate altitude of 110-120m above sea-level.
- 1.3.2.** The topography of the site slopes from west to east.

1.4. Desk Based Study and Planning Context

- 1.4.1.** Cranfield (2023) states that the site and surrounding area consists of Soilscape 6, which are freely draining, slightly acidic, loamy soils. No further detailed soil analysis was carried out as part of the survey.
- 1.4.2.** According to information provided on the website of Kirklees Council (2023), all of the trees at the site are subject to a group tree preservation order (TPO Ref: 34/91/g1). The location of TPO Ref: 34/91/g1 in relation to the site is shown in **Fig. 1.2**, below.



Figure 1.2: Indicative plan showing the approximate locations of TPOs in relation to the site (Kirklees Council, 2023).

1.5. Development Proposals

- 1.5.1.** The development proposals are to construct a new access drive to the lower sections of the site.
- 1.5.2.** The existing access to lower sections of the site belongs to Mr Blake and Mr Mitchell has a legal right of access over this land to access his own property.
- 1.5.3.** To prevent further damage to this unadopted private access, the right of way will extinguish with the creation of the proposed access drive.



2. Methods

2.1. Survey Details

- 2.1.1. The site survey was carried out on Monday the 18th of September 2023. The weather at the time of survey was fine and dry; visibility of the trees was not impeded.

2.2. Survey Personnel

- 2.2.1. The survey was carried out by Jack Delaney. Jack has worked in the arboricultural sector for 15 years, holds an FdSc in Arboriculture, and is a Professional Member of the Arboricultural Association and an Associate Member of the Institute of Chartered Foresters. 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 method (VTA, Mattheck and Breloer, 1994). 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 relation to 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

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

2.3.8. 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*:

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

$$\sqrt{(\text{Stem 1 DBH})^2 + (\text{Stem 2 DBH})^2 + \dots (\text{Stem 5 DBH})^2}$$

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

$$\sqrt{(\mu \text{ DBH})^2 \times \text{number of stems}}$$

2.4. Constraints

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

2.4.2. The locations of trees plotted during the survey were aided using a topographical plan of the site; the accuracy of this plan is unknown to the author of this document.



3. Survey Results and Observations

3.1. Tree Population Observations and Amenity Value

- 3.1.1.** The site survey identified a total of seven trees with the potential to be affected by the development proposals.
- 3.1.2.** Sycamore (*Acer pseudoplatanus*) was the sole tree species recorded at the site.
- 3.1.3.** All of the trees recorded during the survey are located to the west of the site, at the boundary with Woodhead Road.

3.2. Tree Categorisation

- 3.2.1.** The trees recorded during the survey include four category B trees of moderate-quality and three category C trees of low-quality.
- 3.2.2.** There were no category A trees of high-quality or category U trees with SULEs of < 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.

BS 5837: 2012 Category	Description	Tree Numbers	Totals
B	Trees of moderate-quality, which should where possible be retained throughout any proposed development	T001, T003, T004, T005	4 Trees
C	Trees of low-quality, which should not be considered a constraint to development	T002, T006, T007	3 Trees
Subtotal:			7 Trees

- 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 **Appendix 4: Tree Constraints Plan**.



4. Impact Assessment

4.1. Tree Removals

- 4.1.1. To facilitate the development proposals, T001, T002 and T003 will necessitate removal.
- 4.1.2. T001, T002 and T003 are all positioned within the footprint of the proposed access drive, and therefore the proposals would not be feasible if these trees were to be retained.
- 4.1.3. T002 is a category C tree of low-quality, which offers limited amenity value; in accordance with *BS 5837: 2012*, this should not be considered a constraint to the development.
- 4.1.4. Although the removal of T001 and T003, which are category B trees of moderate-quality, is unfortunate, the mitigation planting recommended as part of the proposals will present an opportunity to diversify the age and species of trees at the site.

4.2. Tree Root Protection Areas (RPAs)

- 4.2.1. Approximately 18.5% of the RPA of T004 will be encroached upon by the upper section of the proposed access drive.
- 4.2.2. Since the majority of tree roots are typically found within the first 100 cm of ground level, the installation of hardstanding within the RPA of T004 should avoid major alterations to the existing levels. Furthermore, to avoid irreparable damage to tree roots:
 - geo-cellular confinement should be installed – to the specification detailed in **Section 8** of the **Outline AMS** in **Appendix 3** - in all areas where hardstanding is proposed within the RPA of T004.
 - any proposed kerbs or edgings within the RPA of T004 should also incorporate a design which avoids strip trenching; for example, tanalised board edging positioned directly on top of existing grade levels and secured with track or road pins.
- 4.2.3. A section of the boundary wall, to the west of the site, and within the RPA of T004, is proposed to be removed in order to create an opening for the proposed access drive. To ensure tree roots are not adversely impacted during these works, the wall should be removed using hand-operated tools only.
- 4.2.4. The temporary tree protection fencing and ground protection - detailed in **Section 5** and **7** of the **Outline Arboricultural Method Statement** in **Appendix 3**, and demonstrated in the **Tree Protection Plan** in **Appendix 5** - will ensure that the RPAs of the retained trees are suitably protected from construction activities throughout the development process.

4.3. Shade Analysis

- 4.3.1. The proposals are for construction of a new access drive only and therefore an assessment of shading by the adjacent trees has not been carried out.

4.4. Services and Other Considerations

- 4.4.1. The proposals are for construction of a new access drive only and therefore underground services are not included in the proposals.



5. Recommendations

5.1. Tree Works

- 5.1.1. It is recommended that T001, T002 and T003 are removed.

5.2. Legal Constraints

- 5.2.1. According to information provided on the website of Kirklees Council (2023), T001, T002 and T003 are subject to a group TPO (Ref: 34/91/g1).
- 5.2.2. No tree removals or pruning works should therefore be carried out without prior written consent from Kirklees Council. 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*.

5.3. 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 regarded as the most 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, small foliage and poor extension growth; however, these are usually not evident until well after the occurrence of compaction. Even one pass of a vehicle in wet conditions can cause irreparable soil compaction.
- 5.3.4. To avoid direct and indirect damage to the roots of the adjacent trees, temporary tree protection fencing, and ground protection should be installed prior to development works commencing. Temporary tree protection fencing, and ground protection should be positioned as directed in the ***Tree Protection Plan***, which can be viewed in ***Appendix 5***.
- 5.3.5. Since the majority of tree roots are typically found within the first 100 cm of ground level - particular attention should be paid to existing levels - which should be observed and maintained within tree RPAs.
- 5.3.6. Any unavoidable excavations into the soil within tree RPAs should be carried out by use of hand-operated tools only and only under prior approval of the Project Arboriculturalist. No roots > 25 mm in diameter should be severed without first consulting the Project Arboriculturalist.
- 5.3.7. It is recommended that development works follow the ***Outline AMS*** provided in ***Appendix 3***. This includes the specifications for tree protection fencing, ground protection, geo-cellular confinement, and other protective measures to be adhered to throughout the development.



5.3.8. 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. The proposals will necessitate the removal of two category B trees of moderate quality and one category C tree of low-quality from the site.

5.4.2. To mitigate for the losses incurred to the local amenity from the removal of trees, it is recommended that a minimum of six trees - regular-standard in size - are included within a post-development mitigation planting scheme.

5.4.3. The specifications, locations and maintenance requirements for the proposed mitigation tree planting should be detailed in a supplementary Mitigation Tree Planting Plan.

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

5.5.3. 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 a nest containing eggs or young.
- it is an offence to damage or destroy a bat roost site, even if the roost is not occupied at the time.

5.5.4. Trees are dynamic living organisms, and their condition can change rapidly; the information given in this report is therefore valid for a period of 18 months. This period may be reduced if significant changes occur to the trees, or the ground conditions, which surround them.



References

British Standards (2010). *BS 3998:2010: Tree Works - Recommendations*. London: British Standards Institute.

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Appendices

Appendix 1: Tree Survey Schedule

Table Key					
Tree Ref: Reference numbers, as illustrated in Appendix 4: Tree Constraints Plan			DBH: Diameter at breast height (1.5m), 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 physiological condition for the species and age of tree. F = Fair; P = Poor; D = Dead		
Species: Common (and <i>binomial name</i>)			#: 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 (V): Trees of any age, which display ancient characteristics
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 (<i>Acer pseudoplatanus</i>)	SM	20-40	16	340 350	7	8	3	6	5	Bifurcates at ground level into two co-dominant stems. Basal area obscured by piled debris. Adventitious epicormic shoots on main stems to 5 m.	F	F	B2	Remove tree
T002	Sycamore (<i>Acer pseudoplatanus</i>)	SM	20-40	16	340	6	4	2	7	9	Asymmetrical crown spread due to proximity with adjacent trees. Minor deadwood < 100 mm in diameter scattered throughout crown	F	F	C2	Remove tree
T003	Sycamore (<i>Acer pseudoplatanus</i>)	EM	40-80	19	510	5.5	7	4.5	3.5	6.5	Asymmetrical crown spread due to proximity with adjacent trees. Slightly sparse foliage with deadwood < 100 mm scattered throughout the crown. Multiple pruning wounds on main stem from 1-5 m from	F	F	B2	Remove tree



Tree Ref:	Species	Age	SULE	Ht.	DBH	CS				CC	Comments	PC	SC	BS 5837:2012 Category	Recommendations
						N	E	S	W						
											previous crown lifting works. Minor historic mechanical damage to base of main stem on east aspect.				
T004	Sycamore (<i>Acer pseudoplatanus</i>)	EM	20-40	21	640	4.5	6	4.5	8	5.5	Bifurcates at 1-6 m into five co-dominant primary stems; unions all appear structurally optimised. Slightly sparse foliage with deadwood < 100 mm scattered throughout the crown.	F	F	B2	No works recommended
T005	Sycamore (<i>Acer pseudoplatanus</i>)	EM	40-80	19	560	2.5	7	6.5	8.5	6.5	Asymmetrical crown spread due to proximity with adjacent trees. Multiple pruning wounds on main stem from 1-4 m from previous crown lifting works.	F	F	B2	No works recommended
T006	Sycamore (<i>Acer pseudoplatanus</i>)	SM	20-40	17	390	2.5	5.5	4	5.5	3	Bifurcates at 3.5 m into two co-dominant primary stems; union is acute and possibly included. Asymmetrical crown spread due to proximity with adjacent trees. Minor deadwood < 100 mm in diameter scattered throughout crown. Minor historic mechanical damage to base of main stem on east aspect.	F	PD	C2	No works recommended
T007	Sycamore (<i>Acer pseudoplatanus</i>)	SM	20-40	18	350	2	4.5	2.5	5	6	Asymmetrical crown spread due to proximity with adjacent trees. Minor deadwood < 100 mm in diameter scattered throughout crown.	F	F	C2	No works recommended



Appendix 2: Images of Trees



Plate 1: T001, T002, T003 & T004 (left to right)



Plate 2: T001, T002 & T003 (left to right)



Plate 3: T001, T002, T003 & T004 (right to left)



Plate 4: T004, T005 & T006 (right to left)



Plate 5: T004, T005 & T006 (left to right)



Plate 6: T004, T005, T006 & T007 (right to left)



Appendix 3: Outline Arboricultural Method Statement (AMS)

A3.1 Introduction

- A3.1.1** Woodsage Consulting Ltd have been instructed by Mr N Blake & Mr P Mitchell to produce an Outline AMS in relation to the proposed development of the land adjacent to 71 Woodhead Road, Honley, Holmfirth HD9 6PP.
- A3.1.2** The development proposals are to construct a new access drive to the lower sections of the site.
- A3.1.3** This Outline AMS should be read in conjunction with the Arboricultural Impact Assessment. (Ref: WC-202.1a).

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. The phasing of works should be carried out in accordance with **Tab. A2.1**, below.

Table A2.1: *Timing of Works*

Stage	Works
1	Site induction
2	Carry out tree removals
3	Install temporary tree protection fencing and ground protection, as directed in Appendix 5: Tree Protection Plan
5	Inspection of tree protection measures by the Project Arboriculturalist
6	Carry out construction works (geo-cellular confinement should be installed at an early stage of construction, to the specification detailed in Section A3.7 of this Outline AMS)
7	Remove tree protection fencing and ground protection once construction works are completed
8	Final inspection by the Project Arboriculturalist

A3.3 Timing of Works

- A3.3.1** Prior to development 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 a copy of the **Tree Protection Plan** - which can be found in **Appendix 5** - should be made available to all contractors attending the site.

A3.4 Tree Removals and Pruning

- A3.4.1** Prior to development works commencing, T001, T002 and T003 should be removed.
- A3.4.2** According to information provided on the website of Kirklees Council (2023), T001, T002 and T003 are subject to a group TPO (Ref: 34/91/g1).
- A3.4.3** No tree removals or pruning works should therefore be carried out without prior written consent from Kirklees Council. Killing or damaging a protected tree is a criminal offence and can result in an unlimited fine.
- A3.4.4** All tree works 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*.



A3.5 Tree Protection Fencing

A3.5.1 Tree protection barriers 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*.



Figure A5.1: Example of mesh welded type barriers in-situ

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. A5.1**, above, and **Fig. A5.2**, below.

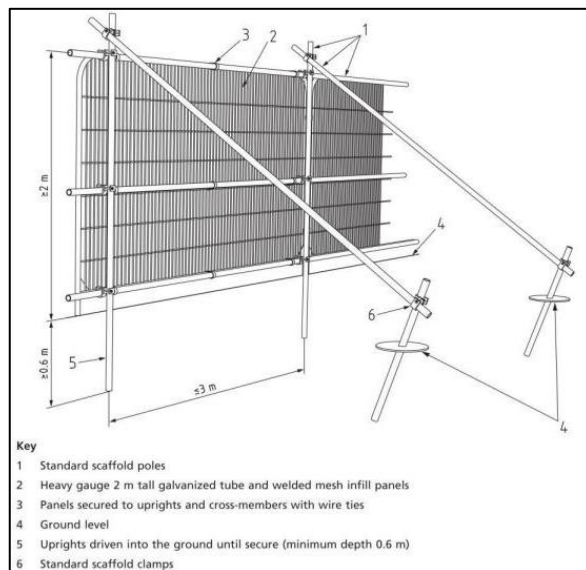


Figure A5.2: Temporary 2 m steel protective fencing

- 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.
- A4.5.4** All-weather notices shall be attached to the barriers at 9 m intervals with the words 'TREE PROTECTION ZONE - NO ACCESS' clearly visible.
- A4.5.5 Location:** Temporary tree protection fencing should be installed prior to development works commencing, and should be positioned as directed in the **Tree Protection Plan**, which can be viewed in **Appendix 5**.



A4.5.6 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.

A4.5.7 If any breach in the tree protection fencing occurs, it is the Site Manager's responsibility to report this to the Project Arboriculturist, 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.

A3.6 Additional Details

A3.6.1 No materials hazardous to tree health, such as oil, bitumen or cement should be stored within the 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 RPAs should be carried out by use of hand-operated tools only, and only under prior approval of the Project Arboriculturist. No roots > 25 mm in diameter should be severed without first consulting the Project Arboriculturist.

A3.7 Ground Protection

A3.7.1 Due to site constraints, to allow for suitable working space, the temporary tree protection fencing adjacent to T004, T005 and T006 will be setback from the default *BS 5837:2012* position; as a result, soft-landscape within the RPAs of T004, T005 and T006 will be exposed to development activities.



Figure A7.1: Examples of ground protection panels

A3.7.2 Temporary ground protection should be installed within the exposed RPAs of T004, T005 and T006, as directed in the **Tree Protection Plan** in **Appendix 5**, and prior to the commencement of construction works.

A3.7.3 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. A7.1**, above.

A3.7.4 Any plant or machinery operating within the RPA of T004, T005 and T006 must ensure it does so upon ground protection at all times.

A3.7.5 Temporary ground protection shall remain in place until construction works have been completed.



A3.8 Geo-cellular Confinement

A3.8.1 The western extent of the proposed access drive is to be constructed upon a 'no-dig' geo-cellular confinement system (recommended products include Cellweb and Terram Geocell) in all areas where this passes over the RPA of T004.

A3.8.2 A cross-sectional diagram illustrating the installation of the geo-cellular confinement system can be viewed in **Figure A8.1**, below.

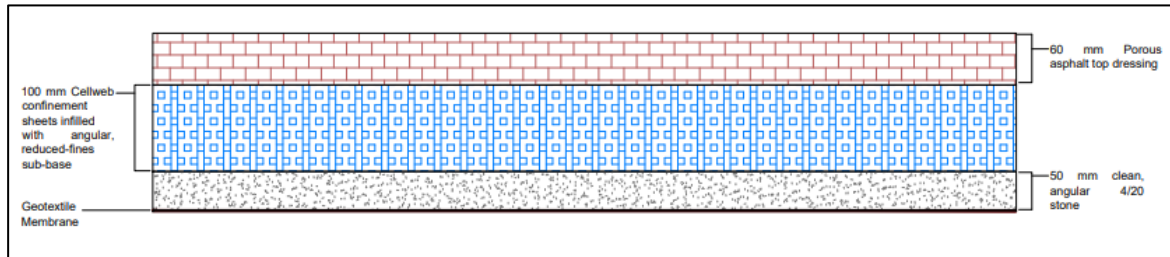


Figure A8.1: Cross-sectional diagram of the proposed Cellweb confinement

A3.8.3 Installation of geo-cellular confinement should be carried out in the following stages:

1. Clear existing vegetation/hard-standing from surface using hand-operated tools only.
2. Fill any major hollows with sharp sand.
3. Cover surface with a non-woven, geotextile separation filtration layer.
4. Apply 50 mm clean angular 4/20 stone.
5. Apply 100 mm Cellweb confinement sheets and infill with angular, reduce fines sub-base.
6. Install tanalised board edging directly on top of existing grade levels. The edging boards shall be held in place with track or road pins and subsequently concealed by grading into the adjoining ground levels, using good quality topsoil.
7. Install 60 mm porous asphalt, porous resin, or permeable block paving top dressing. To minimise damage to the finished top-dressing, this should be installed upon completion of the construction phase.

A3.8.4 Since the majority of tree roots are typically found within the first 100 cm of ground level - particular attention should be paid to existing levels – and no excavations should be carried out within the RPAs of T004, T005 and T006 without first consulting the Project Arboriculturalist.

A3.9 Responsibility and Site Management

A3.9.1 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.

A3.9.2 It is recommended that inspections by the Project Arboriculturalist are undertaken at the following stages:

1. Once the tree protection fencing and ground protection has been installed and prior to development works commencing.
2. During the installation of 'no-dig' geo-cellular confinement.
3. Upon completion of the development works.

A3.9.3 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.



A3.10 Contact Details

A3.10.1 *Tab. A8.1*, below, has been included to ensure that all lines of communication are established prior to the commencement of development works.

Table A10.1: *Contact details of project stakeholders.*

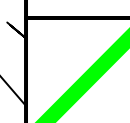
Role	Name/s	Contact Number/s	Contact Email/s
Site Manager	TBC	TBC	TBC
Project Architect	Paul Matthews	07946872499	paul@paulmatthewsarchitectural.co.uk
LPA Arboricultural Officer	Matthew Moss	01484 221000	Trees.planning@kirklees.gov.uk
Project Arboriculturalist	Jack Delaney	0792401997	info@woodsage.co.uk
Project Applicants	Mr P Mitchell Mr N Blake	TBC	TBC

Appendix 4: Tree Constraints Plan

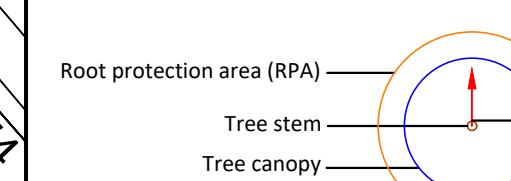
Project:	71 Woodhead Road, Honley, Holmfirth HD9 6PP
Drawn by:	Jack Delaney
Date:	22nd September 2023
Scale:	1:100 @ A1
Drawing Number:	WC-201.1a.4

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

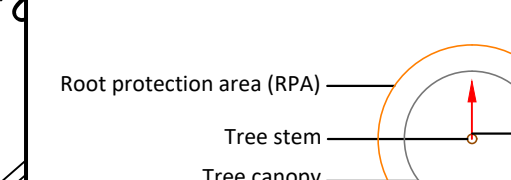
Map Key:

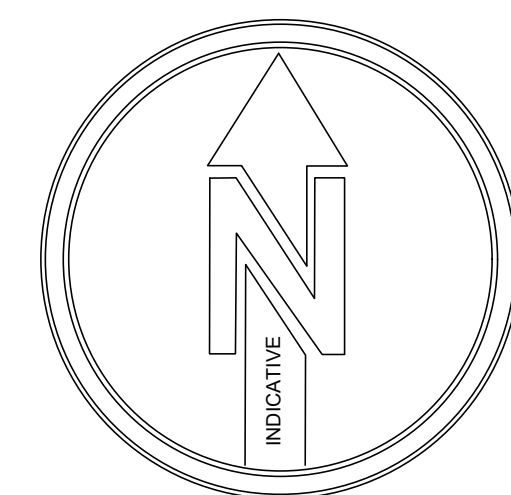
 Development site boundaries (Mr P Mitchell owned)

Category B trees of moderate-quality

 Root protection area (RPA) — Tree stem — Tree canopy — Crown orientation of symbol — clearance to — Trees necessitating removal shown with dashed line

Category C trees of low-quality

 Root protection area (RPA) — Tree stem — Tree canopy — Crown orientation of symbol — clearance to — Trees necessitating removal shown with dashed line



Site Location 1:1250



T001 Sycamore

T002 Sycamore

T003 Sycamore

T004 Sycamore

T005 Sycamore

T006 Sycamore

T007 Sycamore

Woodsage Consulting Ltd

T: 07962401997
E: info@woodsage.co.uk
W: <https://woodsage.co.uk>

Appendix 5:
Tree Protection Plan

Project:	71 Woodhead Road, Honley, Holmfirth HD9 6PP
Drawn by:	Jack Delaney
Date:	22nd September 2023
Scale:	1:100 @ A1
Drawing Number:	WC-201.1a.5

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

Map Key:

Category B trees of moderate-quality	
Root protection area (RPA)	
Tree stem	
Tree canopy	
Category C trees of low-quality	
Root protection area (RPA)	
Tree stem	
Tree canopy	
	Development site boundaries (Mr P Mitchell owned)
	Land owned by Mr N Blake, which includes existing right of way to Mr P Mitchell's land
	Sloped ramp to lower part of the site
	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
	Geo-cellular confinement to be installed throughout level plateaux at top of ramp, to specification detailed in the Outline AMS

