

Arboricultural Assessment

WC-541.1a

Land adjacent to Huddersfield Road,
Thongsbridge HD9 3TX



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Report type:	Arboricultural Assessment
Report reference:	WC-541.1
Revision:	a
Client:	Mr. Gerald Kemp
Site address	Land adjacent to Huddersfield Road, Thongsbridge HD9 3TX
OS Grid reference:	SE 14637 09643
Report prepared by:	Jack Delaney MICFor MArborA
Date:	21 st July 2025

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1. Introduction

1.1. Instruction and Scope of Report

- 1.1.1. Woodsage Consulting Ltd have been instructed by Mr. Gerald Kemp to carry out an Arboricultural Assessment of the land adjacent to Huddersfield Road, Thongsbridge HD9 3TX.
- 1.1.2. This report has been instructed following a Structural Engineers Inspection (Report Ref: 25_677 SR 01) and Calculation Sheet (Drawing Ref: SK001 Rev A) of an existing boundary wall, which was prepared by Sawyer Consulting Engineers in May 2026.
- 1.1.3. The purpose of this report will be to:
- Assess the quality and value of the trees on and immediately adjacent to the site
 - Evaluate whether on-site trees can feasibly be retained throughout the proposed remedial works to the subject wall

1.2. Site Details

- 1.2.1. The site, which is shown in **Fig. 1.1**, below, is centred on OS Grid Reference SE 14637 09643 and comprises a former quarry.



Figure 1.1: Aerial imagery showing the approximate boundaries of the site, outlined in red¹.

- 1.2.2. The site covers approximately 511 m² and is bounded by residential properties to the north and south, by Huddersfield Road (A6024) to the east, and by agricultural grassland to the west.

1.3. Site Elevation and Topography

- 1.3.1. The site lies at an altitude ranging between 134 – 140 m above ordnance datum.

¹ Microsoft Corporation (2026). *Bing Maps* [online]. Available at: <https://www.bing.com/maps?cp=53.583437%7E-1.779331&lvl=17.5&style=h> (accessed 20th July 2026).



- 1.3.2.** The topography of the site falls away steeply from the west to east. The retaining wall which is the subject of Structural Engineers Inspection extends along the east boundary of the site and ranges between 2.6 – 3.5 m in height.

1.4. Desk Based Study and Planning Context

- 1.4.1.** According to the Cranfield Soil and Agrifood Institute², the soils at the site 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 Kirklees Council website³, there are trees on and adjacent to the site which are subject to tree preservation orders. The locations of TPOs are shown in **Fig. 1.2**, below.

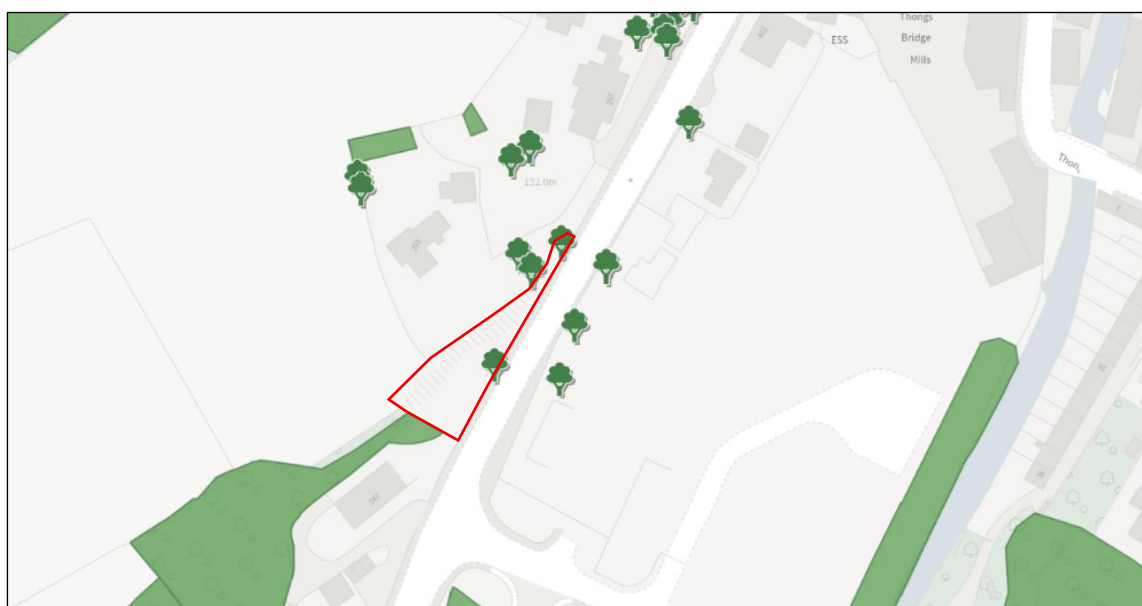


Figure 1.2: Plan showing the approximate locations of individual TPOs (tree icons) and area TPOs (hatched in green)³.

- 1.4.3.** According to information which is available on the Multi-Agency Geographic Information for the Countryside (MAGIC)⁴ website, there are no ancient woodland, traditional orchard, or woodpasture and parkland priority habitats on or immediately adjacent to the site.

1.5. Wall Condition

- 1.5.1.** The Structural Engineers Inspection Report makes the following observations:
- Significant out of plane movement of the wall is apparent, which comprises outwards bulging and ‘bellying’ of the wall, together with stepped lateral movement between masonry units
 - The displacement extends a total length of approximately 7.5 m, with maximum movement of approximately 150 mm over a 1200 mm spirit level length.

² Cranfield University (2026). *Land Information System (LandIS) - Soilscape Viewer* [online]. Available at: <https://www.landis.org.uk/soilscape> (accessed 20th July 2026).

³ Kirklees Council (2026). *TPO and Conservation Areas Web Map* [online]. Available at: <https://www.kirklees.gov.uk/beta/trees-listing-and-conservation/tree-preservation-orders.aspx> (accessed 20th July 2026).

⁴ MAGIC (2026). *Magic Map* [online]. Available at: <https://magic.defra.gov.uk/MagicMap.html> (accessed 20th July 2026).



- The significant defect and out of plane movement is centred about the position of a mature tree and has almost certainly occurred through physical damage from the close proximity of the tree.
- The movement and defect in the wall has left it in a potentially unstable condition and remedial action is considered necessary with some urgency to mitigate risk of further movement and instability in the wall.
- Remedial support of the existing wall through construction of support in front of the existing wall (using king post retaining wall techniques or similar) is unlikely to be possible due to the wall immediately adjoining the footway to Huddersfield Road.
- The extent and degree of damage to the existing wall near the tree is beyond localised repair or remedial support through ground anchorage and accordingly it is considered that rebuilding of the defective section of wall will be necessary.
- The rebuilding of the defective section of wall will inevitably require removal of the existing (defective) masonry and excavation into the high-level ground.
- Given the close proximity of the existing mature tree to the subject wall, it will not be possible to carry out the safe removal of the existing wall and excavation whilst the tree remains in place.

1.5.2. The Structural Engineers Calculation Sheet illustrates the extent of the inspection and highlights the excavation zone required for rebuilding the wall.



2. Methods

2.1. Survey Details

- 2.1.1. The site survey was carried out on Wednesday the 8th of July 2026.
- 2.1.2. The weather at the time of the 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, a Chartered Arboriculturalist and Member of the Institute of Chartered Foresters, with 20 years' experience in the arboricultural sector. Jack holds a Foundation Degree (FdSc) in Arboriculture with distinction, is a Professional Member of the Arboricultural Association, a LANTRA-qualified Professional Tree Inspector, and 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 5837:2012⁵.
- 2.3.2. The trees were inspected from ground level using the Visual Tree Assessment (VTA)⁶. Although notable defects of trees were recorded, the site survey did not constitute a full tree safety assessment. The risks posed by trees to people and property has not been assessed. No specialist decay detection equipment was used as part of the survey.
- 2.3.3. In circumstances where trees form a cohesive feature, they have been recorded, assessed and plotted as groups, hedgerows, or woodlands. Whilst not every tree within a group, hedgerow, or woodland has been surveyed, a representative sample has been measured in order to calculate the crown spread and root protection area (RPA).
- 2.3.4. Tree information was recorded in accordance with *Section 4.4* of BS 5837: 2012, and includes tree species, height, stem diameter at breast height (DBH), crown spread, crown clearance, life stage, condition (physiological and structural), and safe useful life expectancy (SULE).
- 2.3.5. 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 chart⁵.

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

⁵ British Standards (2012). *BS 5837:2012 - Trees in Relation to Design, Demolition and Construction: Recommendations*. British Standards Institute, London.

⁶ Mattheck, C., Breloer, H. (1994). *The Body Language of Trees, a Handbook for Failure Analysis*. Her Majesty's Stationary, London.



BS 5837: 2012 Category	Definition	Retention	Colour code
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 may 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.	Potentially unfeasible	Red

2.3.6. Subcategories 1, 2 and 3 have also been applied to the trees, to reflect arboricultural (1) and landscape (2) qualities, and cultural values (3), respectively.

2.3.7. Tree dimensions were determined using the following methods⁷:

- Tree heights were measured from the base of the main stem to the top of the crown, using an electric clinometer
- Crown spreads were measured at each cardinal point, using a laser distometer
- Crown clearances were measured from the base of the main stem to the first significant branch, using an electric clinometer
- The DBH of trees was measured at 1.5 m above ground level using a diameter tape measure, employing the methods detailed in *Annex C* of BS 5837:2012

2.3.8. DBHs were then used to calculate tree RPAs using the following equations:

- 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:

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

2.3.9. The default RPA for individual trees has been plotted as a circle centred on the base of the main stem. Where pre-existing site conditions (e.g. roads, structures or underground services) are likely to have constrained root development, RPAs have been modified to a polygon of equivalent area to reflect probable asymmetric rooting patterns.

2.3.10. For tree groups, hedgerows, and woodlands, the calculated RPAs are based on an offset from the canopy edge. This offset is determined with reference to the trees with the largest stem diameters and crown spreads located at the edge of the group, hedgerow, or woodland feature.

⁷ Height, crown spread and crown clearance have been recorded to the nearest half metre for dimensions up to 10 m, and the nearest whole metre for dimensions over 10 m.



- 2.3.11.** For ancient and veteran trees (including those on the boundary of tree groups or woodlands), RPAs have been calculated in accordance with government standing advice⁸. This is based on a calculation of fifteen times the DBH or a minimum of five metres beyond the crown spread, whichever results in the greater area, with adjustments made where necessary to reflect pre-existing site conditions.
- 2.3.12.** Where access to trees was obstructed or obscured, DBH, height, and crown spread measurements may 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 Plan*** in **Appendix 3** have been determined from a topographical plan of the site (Drawing No. 4140FP/1), which was prepared by CT Surveys in May 2018.
- 2.4.3.** Where tree stem locations are not shown on the topographical plan, these have been plotted using a combination of GPS, site features, and manual measurements. Aerial imagery has also been utilised to plot tree group canopy spreads. Although these methods provide a good representation of the surveyed trees, it should be noted that the GPS used is not sub-metre accurate and aerial imagery may not reflect the exact current dimensions of the trees.
- 2.4.4.** 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 these trees were surveyed insofar as was reasonably practicable, the accuracy of the data cannot be guaranteed.
- 2.4.5.** 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.
- 2.4.6.** 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.
- 2.4.7.** The contents of this document 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.

⁸ Natural England (2026). *Ancient woodland, ancient trees, and veteran trees: Advice for making planning decisions* [online]. Available at: www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions (accessed 20th July 2026).



3. Recommendations

3.1. Tree Works

- 3.1.1.** The rebuilding of the defective section of wall will require removal of the existing (defective) masonry and excavation into the high-level ground. The extent of these excavations is shown in the Calculation Sheet (Ref: SK001 Rev A) and in the **Tree Plan** in **Appendix 3**. Since T004 is situated within the excavation zone required to rebuild the wall, retention of the tree throughout the repairs will unfortunately not be feasible.
- 3.1.2.** G001 also extends into the excavation zone and will therefore require partial removal and/or facilitation pruning.

3.2. Legal Constraints

- 3.2.1.** According to information which is available of the Kirklees Council Website, T004 is subject to a TPO (ID: 14/18/t1). Removal of T004 should therefore only be completed following the submission and approval of an application for works to protected trees by Kirklees Council. It is an offence to carry out works to a protected tree without consent, and such actions may result in enforcement action and prosecution.
- 3.2.2.** 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: 2010⁹.
- 3.2.3.** Trees and woodlands provide valuable habitat for wild birds, bats, and many other forms of wildlife. The potential impacts on wildlife should be suitably assessed before the recommendations within this report are implemented.
- 3.2.4.** Under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and the Wildlife and Countryside Act 1981 (as amended):
- it is an offence to intentionally or recklessly disturb any wild bird listed on Schedule 1 while it is nest building, or in, on or near a nest containing eggs or young, or to disturb the dependent young of such a bird; and
 - it is an offence to deliberately damage or destroy a bat roost (breeding site or resting place), even if the roost is not occupied at the time.

⁹ British Standards (2010). *BS 3998:2010 - Tree Works: Recommendations*. British Standards Institute: London.



Appendices

Appendix 1: Tree Survey Schedule

Table Key						
Tree/Group Ref: Reference numbers, as shown in the <i>Tree Plan</i>			DBH: Diameter at breast height (1.5 m), in millimetres			
Height (Ht.): Height of the tree, from the base of the main stem to the top of the crown, in metres			SULE: Safe useful estimated life expectancy of the tree, in years			
Crown Spread (CS): Radius of crown, measured at each cardinal point, in metres			Crown Clearance (CC): Clearance from ground level of the lowest branch, in metres			
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 <i>binomial name</i>)			Root Protection Area (RPA) Radius: Radius of <i>BS 5837: 2012</i> RPA, in metres			
			#: 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: High-quality trees with a SULE of at least 40 years, that are particularly good examples of their species type, especially if rare or unusual			Category C: Low-quality trees offering limited arboricultural merit and/or of such impaired condition that they do not warrant in higher categorisation, or young trees with a DBH which is less than 150 mm		
	Category B: Moderate-quality trees with a SULE of at least 20 years, that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects)			Category U: Trees which display serious, irremediable, structural and/or physiological defects, that realistically cannot be retained as living trees in the context of the current land use for longer than 10 years.		

Individual Trees

Tree Ref:	Species	Age	SULE	Ht.	DBH	CS				CC	Comments	RPA Radius	PC	SC	BS 5837: 2012 Category	Recommendations
						N	E	S	W							
T001	Wych elm <i>Ulmus glabra</i>	SM	10-20	11	230 250	3	6	4	1	0.5	Bifurcates at ground level into two co-dominant stems. Asymmetrical form due to proximity with adjacent trees. Branches extending south encroach onto adjacent streetlamp.	4.1	G	F	C1	No works recommended
T002	Sycamore <i>Acer pseudoplatanus</i>	M	40-80	19#	600#	5#	7.5	6	5#	3.5	Positioned on steep embankment and unable to access the base of the main stem. Dense ivy <i>Hedera helix</i> established on the main stem and first order branches, which obscures tree features and potential defects.	7.2	G	F	B1	No works recommended



Tree Ref:	Species	Age	SULE	Ht.	DBH	CS				CC	Comments	RPA Radius	PC	SC	BS 5837: 2012 Category	Recommendations
						N	E	S	W							
T003	Common ash <i>Fraxinus excelsior</i>	M	10-20	16#	500#	5#	6	5#	5#	3.5	Positioned on steep embankment and unable to access the base of the main stem. Dense ivy <i>Hedera helix</i> established on the main stem and first order branches, which obscures tree features and potential defects. Extensive deadwood < 100 mm in diameter around the extremities of the crown, which may indicate infection by ash dieback <i>Hymenoscyphus fraxineus</i> .	6	P	F	C1	No works recommended
T004	Horse chestnut <i>Aesculus hippocastanum</i>	M	40-80	23	1150	5	8	7.5	6	6.5	Dense epicormic and ivy <i>Hedera helix</i> on the main stem up to 4 m, which obscures tree features and potential defects. Positioned immediately to the rear of retaining structure, with asymmetrical rooting pattern therefore likely. Damage to foliage by horse chestnut leaf miner apparent throughout the crown. Minor deadwood < 100 mm in diameter scattered throughout the crown.	13.8	F	G	A2	Remove the tree
T005	Sycamore <i>Acer pseudoplatanus</i>	SM	40-80	10#	300#	3#	3#	3#	3#	5	Positioned on steep embankment and unable to access the base of the main stem.	3.6	G	F	C1	No works recommended



Groups of Trees

Group Ref:	Species Composition	Age	SULE	Mx. Ht.	Mx. DBH	CC	Comments	PC	SC	BS 5837:2012 Category	Recommendations
G001	Sycamore <i>Acer pseudoplatanus</i> Horse chestnut <i>Aesculus hippocastanum</i> Common dogwood <i>Cornus sanguinea</i> Common hawthorn <i>Crataegus monogyna</i> Common ash <i>Fraxinus excelsior</i> Common holly <i>Ilex aquifolium</i> Privet <i>Ligustrum vulgare</i> Laurel cherry <i>Prunus laurocerasus</i> Goat willow <i>Salix caprea</i> Wych elm <i>Ulmus glabra</i>	Y SM	20-40	5	200	0	Dense group of self-seeded trees. No obvious significant defects, though of limited arboricultural merit and lacks the necessary qualities for higher BS 5837 categorisation.	F	F	C1	Partial removal/facilitation pruning
G002	Sycamore <i>Acer pseudoplatanus</i> Common hawthorn <i>Crataegus monogyna</i> Common ash <i>Fraxinus excelsior</i> Common holly <i>Ilex aquifolium</i> Laurel cherry <i>Prunus laurocerasus</i>	Y SM	10-20	7	250	3	Dense group of self-seeded trees. No obvious significant defects, though of limited arboricultural merit and lacks the necessary qualities for higher BS 5837 categorisation.	F	F	C1	No works recommended



Group Ref:	Species Composition	Age	SULE	Mx. Ht.	Mx. DBH	CC	Comments	PC	SC	BS 5837:2012 Category	Recommendations
	Elder <i>Sambucus nigra</i> Wych elm <i>Ulmus glabra</i>										



Appendix 2: Images of Trees



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



Plate 2: T004



Plate 3: T004



Plate 4: T004



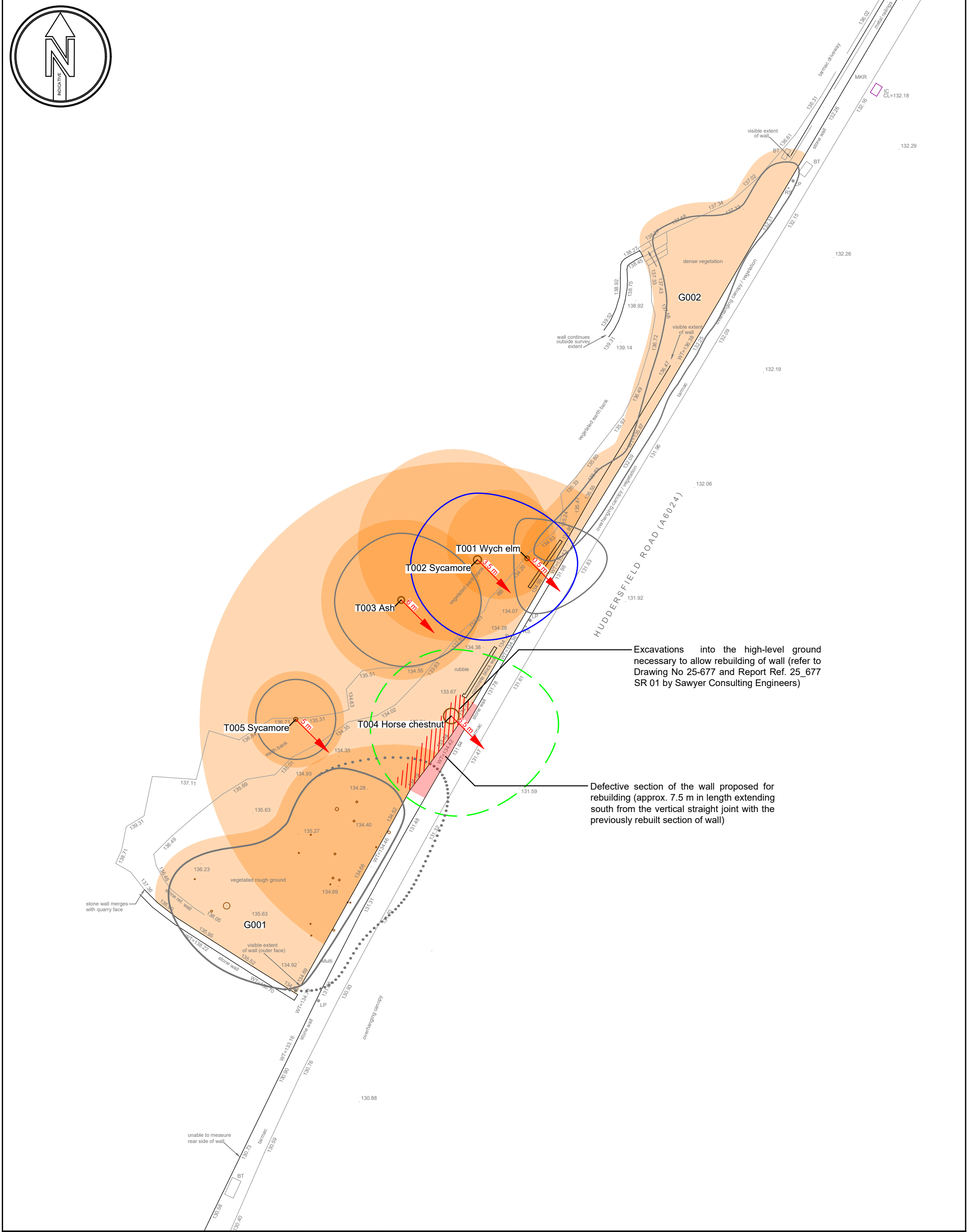
Plate 5: T005



Plate 6: G001



Plate 7: G002



Appendix 3: Tree Plan



Woodsage Consulting Ltd

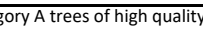
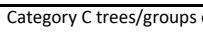
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Site name:	Land adjacent to Huddersfield Road, Thongsbridge HD9 3TX
Drawing No:	WC-541.1a.3
Client:	Mr. Gerald Kemp
Revision:	A
Drawn by:	Jack Delaney
Date:	21st July 2026
Scale:	1:250 @ A3

Map Key

Category A trees of high quality	Category C trees/groups of low quality
 <p>Root protection area (RPA)</p> <p>Crown clearance</p> <p>Combined stem diameter</p> <p>Tree canopy</p> <p>Trees requiring removal shown with dashed line</p>	 <p>RPA</p> <p>Crown clearance</p> <p>Combined stem diameter</p> <p>Tree canopy</p> <p>Groups of trees requiring partial removal and/or facilitation pruning shown with dotted line</p>
Category B trees of moderate quality	
 <p>RPA</p> <p>Crown clearance</p> <p>Combined stem diameter</p> <p>Tree canopy</p>	

The diagram shows a cross-section of a tree trunk and its canopy. A vertical line represents the tree's stem, with a red flame-like shape at the top. A blue circle represents the tree canopy. Labels with leader lines point to the following components:

- RPA (Redundant Point Area) - points to the top of the stem.
- Crown clearance - points to the gap between the stem and the canopy.
- Combined stem diameter - points to the width of the stem.
- Tree canopy - points to the blue circle.

The diagram shows a cross-section of a tree canopy. A solid orange circle represents the 'Tree canopy'. Inside this circle, a smaller orange circle represents the 'Crown clearance'. The area between the crown clearance and the outer edge of the canopy is labeled 'RPA' (Removal Pruning Area). A dotted line within the RPA area is labeled 'Groups of trees requiring partial removal and/or facilitation pruning shown with dotted line'. The 'Combined stem diameter' is indicated by a vertical line passing through the center of the canopy.