

Arboricultural Impact Assessment

WC-294.1a

Greenhead College, Huddersfield
Road, Huddersfield HD1 4ES



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Executive Summary

Woodsage Consulting Ltd have been instructed by Geckops Ltd to produce an Arboricultural Impact Assessment of the land at Greenhead College, Huddersfield Road, Huddersfield HD1 4ES, in relation to the proposed development of the site.

The proposals are to dismantle and rebuild two areas of failing boundary wall, and to demolish an existing store building, which currently present a health and safety concern to public footpaths on Park Drive South and Greenhead Road.

According to information available on the website of Kirklees Council (2024), the site is located within the boundaries of the Greenhead Park/New North Road Conservation Area, which affords statutory protection to all trees with a stem diameter that is greater than 7.5 cm at 1.5 m above ground level.

The site survey identified a total of five trees with the potential to be affected by the development proposals; these include one category A tree of high-quality, two category B trees of moderate-quality, and two category C trees of low-quality.

The proposals to make safe two failing retaining walls will necessitate the removal of two category C trees of low-quality and one category B tree of moderate-quality.

The root protection areas (RPAs) of the retained trees are to be suitably protected throughout the development process by temporary tree protection fencing, ground protection, and by site supervision by the Project Arboriculturalist.

To mitigate for the unavoidable removal of trees from the site, which include one category B tree of moderate-quality and two category C trees of low-quality, it is recommended that a minimum of six new trees are planted at the site upon completion of the development.



1. Introduction

1.1. Introduction and Scope of Report

- 1.1.1.** Woodsage Consulting Ltd have been instructed by Geckops Ltd to produce an Arboricultural Impact Assessment of the land at Greenhead College, Huddersfield Road, Huddersfield HD1 4ES, 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)
 - 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 site, which is shown in **Fig. 1.1**, below, is centred on OS Grid Reference SE 09522 24184, and comprises the buildings and surrounding grounds of Greenhead College.



Figure 1.1: Aerial imagery showing the approximate boundaries of the site, outlined in red, and study areas, highlighted in yellow (Google Earth, 2024).



- 1.2.2. The site covers a total area of approximately 2.5 ha, and is bound by a Park Drive South to the north, by Park Avenue to the east, by Greenhead Road to the south, and by residential properties to the west.
- 1.2.3. The study areas, which are shown in **Fig. 1.1**, on the previous page, are located to the north-west and south-east of the site.

1.3. Site Topography and Elevation

- 1.3.1. The site lies at an approximate altitude ranging between 120-140 m above sea-level.
- 1.3.2. There are retaining walls within both study areas, which border Park Drive South and Greenhead Road, respectively.

1.4. Desk Based Study and Planning Context

- 1.4.1. Cranfield (2024) states that the site and surrounding area consists of *Soilscape 6*; these are slightly acidic, 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 available on the website of Kirklees Council (2024), the site is located within the boundaries of the Greenhead Park/New North Road Conservation Area, which affords statutory protection to all trees with a stem diameter that is greater than 7.5 cm at 1.5 m above ground level.

1.5. Development Proposals

- 1.5.1. The proposals are to dismantle and rebuild two areas of failing boundary wall, and to demolish an existing store building, which currently present a health and safety concern to public footpaths on Park Drive South and Greenhead Road.
- 1.5.2. The proposals as shown in drawings produced by Paul Matthews Architectural Ltd (Refs: 24/1013/03, 24/1013/04, 24/1013/05, and 24/1013/06) have been used to inform this report.



2. Methods

2.1. Survey Details

- 2.1.1. The site survey was carried out on Tuesday the 18th of June 2024.
- 2.1.2. The weather at 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 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, 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 consideration of the development proposals.

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

<i>BS 5837: 2012</i> 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 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. A topographical plan of the site was not provided for the purpose of the survey; trees have instead been plotted using a combination of land features, manual measurements, and GPS.

2.4.3. A number of trees at the site are situated within dense areas of understorey vegetation, or had dense epiphytic plants established on them, which restricted visual inspection. As such, defects may be present which could not be inspected in detail.



3. Survey Results and Observations

3.1. Tree Population Observations and Amenity Value

- 3.1.1. The site survey identified a total of five trees with the potential to be affected by the development proposals.
- 3.1.2. The tree species recorded within the study areas include (*Acer pseudoplatanus*), horse-chestnut (*Aesculus hippocastanum*), and European beech (*Fagus sylvatica*).
- 3.1.3. The trees within the study areas are located around the site boundaries:
- To the north-west, there are young, semi-mature, and early-mature trees, which are predominantly self-seeded, multiple stemmed, and of limited amenity value. The trees here are also colonised by ivy (*Helix heder*a)
 - To the south-east, there are early-mature and mature trees, which are located in a prominent location adjacent to a college entrance, and as such offer significant amenity value
- 3.1.4. The trees within both study areas are located within the Greenhead Park/New North Road Conservation Area.

3.2. Tree Categorisation

- 3.2.1. The trees recorded during the survey include one category A tree of high-quality, two category B trees of moderate-quality, and two category C trees of low-quality.
- 3.2.2. There were no category U trees with SULEs of 10 years or less 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 Numbers	Totals
A	Trees of high-quality, which should be retained throughout the proposed development	T004	1 Tree
B	Trees of moderate-quality, which should where possible be retained throughout the proposed development	T001, T005	2 Trees
C	Trees of low-quality, which should not be considered a constraint to the development	T002, T003	1 Tree
Subtotal:			5 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. The development proposals will necessitate the removal of T002, T003, and T005.
- 4.1.2. T002, T003, and T005 are all located within 0.5 m of the existing compromised retaining walls which are to be dismantled and rebuilt. The proposed repairs are likely to require adequate working space behind the wall, which if retained, T002, T003, and T005 would not permit.
- 4.1.3. T002 and T003 are both category C trees of low-quality only; in accordance with *BS 5837: 2012*, these should not be considered a constraint to the development.
- 4.1.4. Although removal of T005 - which is a category B tree of moderate-quality - is unfortunate, on-site mitigation tree planting will be carried out.

4.2. Tree Root Protection Areas (RPAs)

- 4.2.1. The RPAs of T001 and T004 - which have been offset due to the proximity of both trees to the retaining walls - will be temporarily exposed whilst the walls are temporarily dismantled.
- 4.2.2. It is also anticipated that excavations backwards into the RPAs of T001 and T004, in the region of 0.5 – 1 m, will be required during the process of rebuilding the retaining walls.
- 4.2.3. All excavations into the soil within the RPAs of T001 and T004 shall be carried out using compressed air soil displacement or hand-operated tools, and only under the supervision of the Project Arboriculturalist
- 4.2.4. Root pruning to T001 and T004 may be required to facilitate the rebuilding of both retaining walls, and should adhere to the following guidance:
 - If roots that are encountered that occur in clumps or that are greater than 25 mm diameter, these should not be severed without first consulting with the Project Arboriculturalist
 - If roots under 25 mm in diameter are present, these may be pruned using an appropriate sharp pruning tool, such as pruning saw or secateur, under the supervision of the Project Arboriculturalist
 - To prevent desiccation, any temporarily exposed roots - including fine roots - that are to be preserved should be covered with a hessian fabric which is kept moist
- 4.2.5. An existing store building which is currently in a state of disrepair is also to be removed, and is positioned partially within the RPA of T001. The proposals to remove the structure are considered feasible, providing that the building is demolished using hand-operated tools only.
- 4.2.6. The temporary tree protection fencing and ground protection - detailed in **Section 5** and **7** of the **Outline AMS** in **Appendix 3**, and illustrated in the **Tree Protection Plans** in **Appendices 5** and **6** - will ensure that the RPAs of the retained trees are suitably protected from development activities.

4.3. Shade Analysis

- 4.3.1. Due to the nature of the proposals, shade analysis has not been carried out.

4.4. Services and Other Considerations

- 4.4.1. At time of writing, details of proposed service routes have not been provided by the client; however, if there are any alterations 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. T002, T003, and T005 shall be removed.

5.2. Legal Constraints

- 5.2.1. According to information available on the website of Kirklees Council (2024), T002, T003, and T005 are located within the Greenhead Park/New North Road Conservation Area.
- 5.2.2. Planning consent from Kirklees Council should therefore be obtained prior to the commencement of works. 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 a nest containing eggs or young
 - 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 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 and 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 both direct and indirect damage to the roots of the retained trees, temporary tree protection fencing and ground protection should be installed throughout the development - in the locations shown in the **Tree Protection Plans** - which can be viewed in **Appendices 5** and **6**.
- 5.3.5. It is recommended that development works follow the **Outline AMS** provided in **Appendix 3**. This includes the specifications for 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 mitigate for the unavoidable removal of trees from the site, which include one category B tree of moderate-quality and two category C trees of low-quality, it is recommended that a minimum of six new trees are planted at the site upon completion of the development.
- 5.4.2. The tree species selected for planting should take into account the slightly acidic, loamy, and freely draining soils which are recorded at the site.
- 5.4.3. The specifications, locations, and maintenance requirements of the proposed tree planting should be further detailed in a tree planting plan, which should adhere to *BS 8545:2014 - Trees from nursery to independence in the landscape: Recommendations*.

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 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.
- British Standards (2012). *BS 5837: 2012: Trees in Relation to Design, Demolition and Construction – Recommendations*. London: British Standards Institute.
- Cranfield (2024) *Soilscapes* [online]. Available at: >www.landis.org.uk/soilscapes< [accessed 19th June 2024].
- Google Earth Pro (2024). *Google Earth* [online]. Available at: >www.google.co.uk/earth< [accessed 19th June 2024].
- Kirklees Council (2024) *Interactive Mapping Service* [online]. Available at: >www.kirklees.gov.uk< [accessed 19th June 2024].
- Lonsdale, D (2015) *The principles of Tree Hazard Assessment and Management*. Stonehouse: The Arboricultural Association.
- Mattheck, C., Breloer, H. (1994). *The Body Language of Trees, a Handbook for Failure Analysis*. London: Her Majesty's Stationary.



Appendices

Appendix 1: Tree Survey Schedule

Table Key				
Tree/Group Ref: Reference numbers, as illustrated in Appendix 4: Tree Constraints Plan			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 <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>)	EM	40-80	16	180 370 380 530	5.5	6.5	5.5	5	5.5	Bifurcates at ground level into multiple co-dominant primary stems. Dense ivy (<i>Hedera helix</i>) established on main stem and primary branches, obscuring tree features and potential defects	F	F	B2	No works recommended
T002	Sycamore (<i>Acer pseudoplatanus</i>)	Y	10-20	5	120	6	1	0.5	3	4.5	Suppressed by the adjacent trees, with heavily leaning main stem and asymmetrical form in result.	F	PD	C1	Remove tree
T003	Sycamore (<i>Acer pseudoplatanus</i>)	EM	40-80	11	100 120 180 210	4	4	4	3	3	Bifurcates at ground level into multiple co-dominant primary stems. Dense ivy established on main stem and primary	F	F	C2	Remove tree



Tree Ref:	Species	Age	SULE	Ht.	DBH	CS				CC	Comments	PC	SC	BS 5837:2012 Category	Recommendations
						N	E	S	W						
					300						branches, obscuring tree features and potential defects				
T004	Common beech (<i>Fagus sylvatica</i>)	M	40-80	21	1050	8.5	8	12	10	4	Somewhat sparse foliage, possibly relating to ground works recently carried out within RPA. Minor deadwood <100 mm in diameter scattered throughout crown	F	F	A2	No works recommended
T005	Horse chestnut (<i>Aesculus hippocastanum</i>)	EM	40-80	19	600#	5	4.5#	8.5	4	2.5	Base and lower main stem obscured by dense vegetation, though upper portion of crown appears of fair vitality and vigour with no indication of physiological dysfunction. Asymmetrical crown spread due to proximity with adjacent trees.	F	F	B2	Remove tree



Appendix 2: Images of Trees



Plate 1: T001



Plate 2: T002



Plate 3: T001 & T002 (viewed from Park Drive South)



Plate 4: T003



Plate 5: T003 (viewed from Park Drive South)



Plate 6: T004



Plate 7: T004 (viewed from Greenhead Road)



Plate 8: T005 (viewed from Greenhead Road)



Appendix 3: Outline Arboricultural Method Statement (AMS)

A3.1 Introduction

- A3.1.1** Woodsage Consulting Ltd have been instructed by Geckops Ltd to produce an Outline AMS in relation to the proposed development of the land at Greenhead College, Huddersfield Road, Huddersfield HD1 4ES.
- A3.1.2** The proposals are to dismantle and rebuild two areas of failing boundary wall, and to demolish an existing store building, which currently present a health and safety concern to public footpaths on Park Drive South and Greenhead Road.
- A3.1.3** This Outline AMS should be read in conjunction with the Arboricultural Impact Assessment (Ref: WC-294.1a).

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.
- 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 tree removals
3	Install temporary tree protection fencing and ground protection, in the locations shown in the Tree Protection Plans
4	Inspection of tree protection measures by the Project Arboriculturalist
5	Carry out wall repair works (excavations within the RPAs of T001 and T004 to be carried out under the supervision of the project Arboriculturalist, using compressed air soil displacement or hand-operated tools)
6	Remove tree protection fencing and ground protection once construction works have been completed
7	Carry out soft-landscaping and tree planting
8	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 a copy of the **Tree Protection Plans** - which can be viewed in **Appendices 5** and **6** - should be made available to all contractors attending the site.

A3.4 Tree Removals

- A3.4.1** Prior to works commencing, T002, T003, and T005 shall be removed.
- A3.4.2** According to information available on the website of Kirklees Council (2024), T002, T003, and T005 are located within the Greenhead Park/New North Road Conservation Area. Planning consent from Kirklees Council should therefore be obtained 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 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*.



A3.4.4 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

A3.5 Tree Protection Fencing

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



Figure A3.1: 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. A3.1**, above, and **Fig. A3.2**, below.

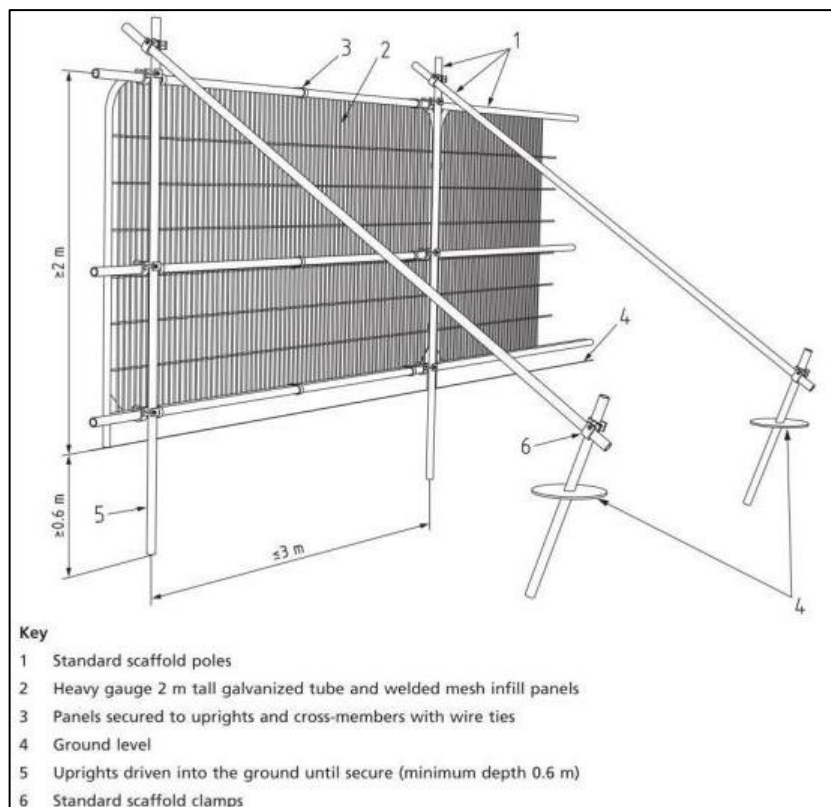


Figure A3.2: Temporary 2 m steel protective fencing.



- 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:** The temporary tree protection fencing should be installed prior to works commencing - in the locations shown in the **Tree Protection Plans** - and shall remain in place throughout the construction process.
- 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 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.

A3.6 Additional Protection Measures

- 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 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 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 Ground Protection

- A3.7.1** Due to site constraints, to allow for suitable working space, the temporary tree protection fencing adjacent to T001 will be setback from the default BS 5837:2012 positioning; as a result, soft-landscape within RPA will be exposed to construction activities.



Figure A3.3: Examples of ground protection panels.



A3.7.2 Temporary ground protection should be installed throughout the exposed RPA of T001 - as shown in **Tree Protection Plan (1)** - and shall remain in place until the construction phase has been completed.

A3.7.3 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.

A3.7.4 Any plant or machinery operating within the RPA of T001 must ensure it does so upon the ground protection at all times.

A3.8 Excavations within Tree RPAs

A3.8.1 The RPAs of T001 and T004 will be exposed whilst the failing retaining walls are temporarily dismantled. It is also anticipated that excavations backwards into the RPAs of T001 and T004, in the region of 0.5 – 1 m, will be required during the process of rebuilding the retaining walls.

A3.8.2 All excavations into the soil within the RPAs of T001 and T004 shall be carried out using compressed air soil displacement or hand-operated tools, and only under the supervision of the Project Arboriculturalist

A3.8.3 Root pruning to T001 and T004 may be required to facilitate the rebuilding of both retaining walls, and should adhere to the following guidance:

- If roots that are encountered that occur in clumps or that are greater than 25 mm diameter, these should not be severed without first consulting with the Project Arboriculturalist.
- If roots under 25 mm in diameter are present, these may be pruned using an appropriate sharp pruning tool, such as pruning saw or secateur, under the supervision of the Project Arboriculturalist
- To prevent desiccation, any temporarily exposed roots - including fine roots - that are to be preserved should be covered with a hessian fabric which is kept moist

A3.9 Demolition of Structures within Tree RPAs

A3.9.1 An existing store building which lies partially within the RPA of T001, and is currently in a state of disrepair, is to be removed using hand-operated tools only.

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 and ground protection have been installed – in the locations shown in the **Tree Protection Plans** – and prior to demolition works commencing
2. Whilst excavations and/or root pruning are carried out within the RPAs of T001 and T004
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

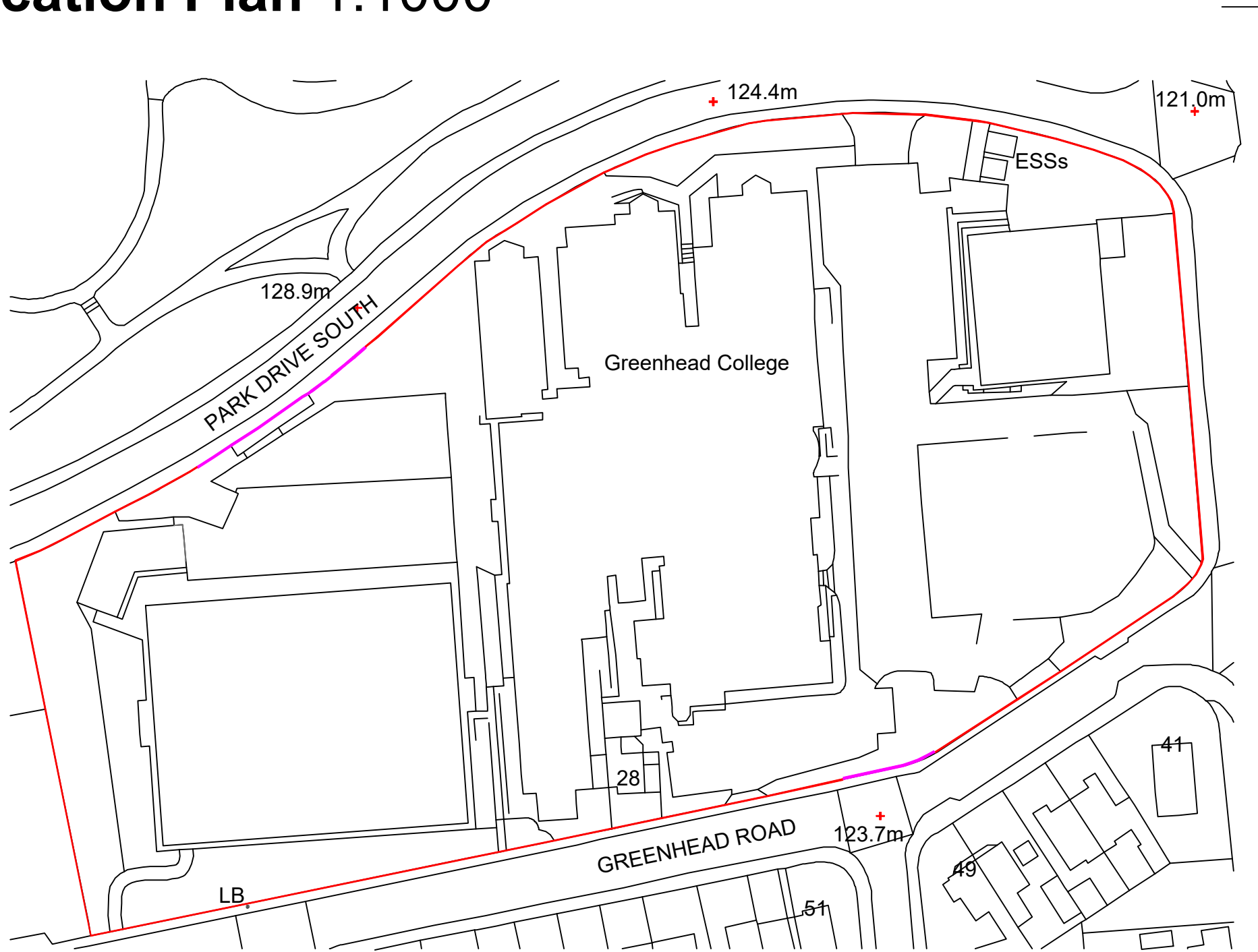
Mr Jack Delaney
Woodsage Consulting Ltd



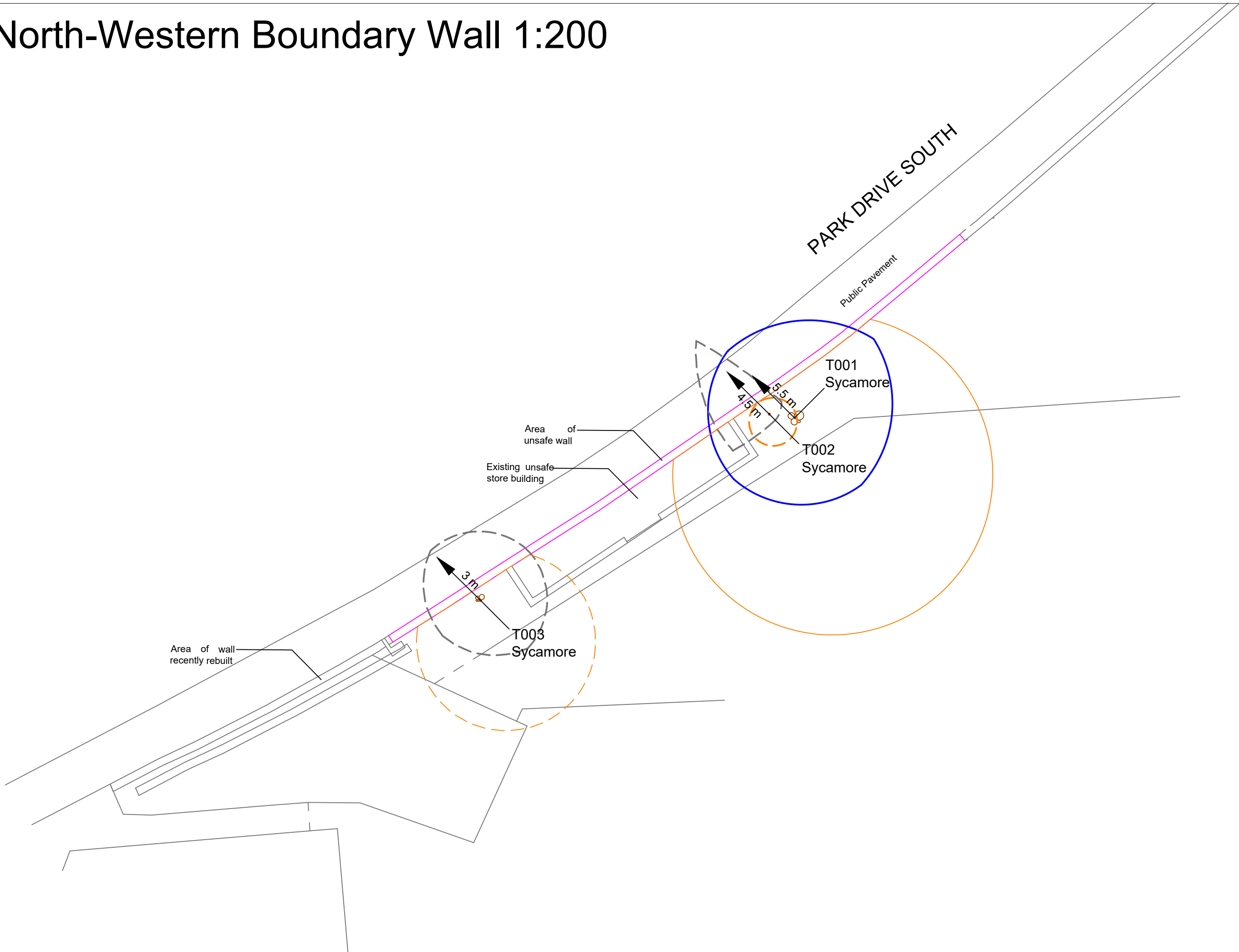
Greenhead College, Huddersfield Road, Huddersfield HD1 4ES
WC-294.1a
Arboricultural Impact Assessment

Unit 2, Hey End Farm,
Shield Hall Lane,
Luddendenfoot,
West Yorkshire HX2 6JN
Tel: 07962401997
Email: info@woodsage.co.uk

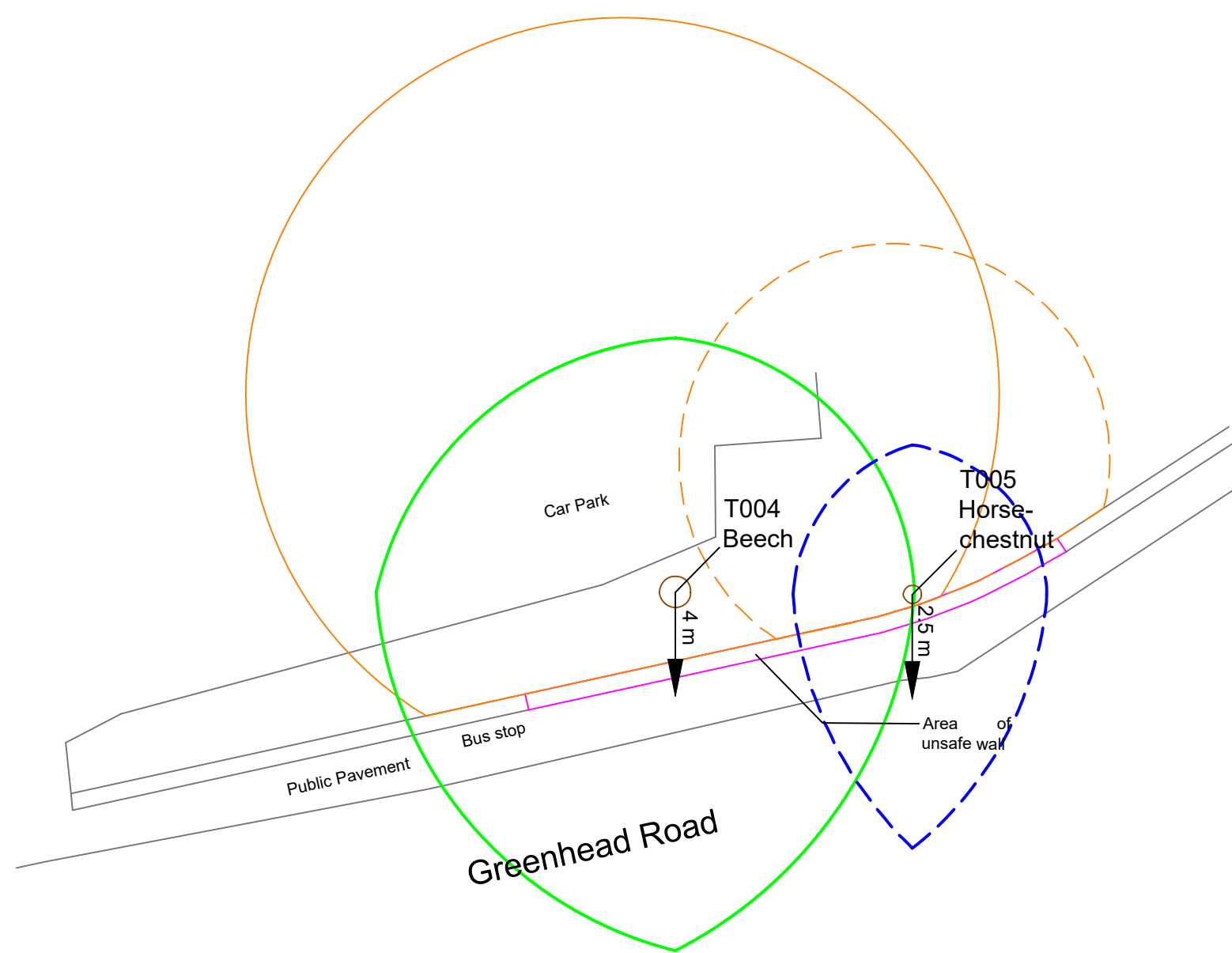
Location Plan 1:1000



North-Western Boundary Wall 1:200



South-Eastern Boundary Wall 1:200



Appendix 4:
Tree Constraints Plan

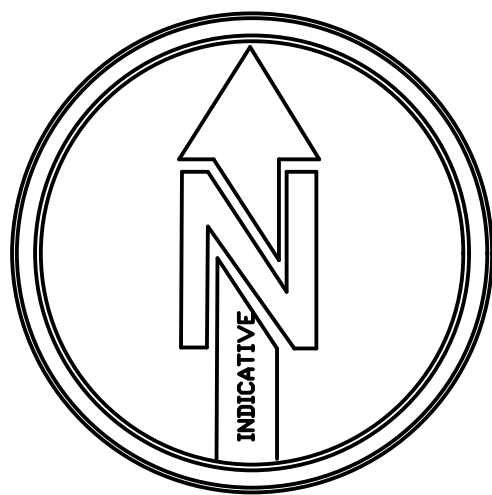
Project:	Greenhead College, Huddersfield HD1 4ES
Drawn by:	Jack Delaney
Date:	19th June 2024
Scale:	As shown
Drawing Number:	WC-294.1a.4

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

Map Key:

Category A trees of high-quality	
Root protection area (RPA)	Crown clearance to orientation of symbol
Tree stem	
Tree canopy	
Category B trees of moderate-quality	
RPA	Trees necessitating removal shown with dashed line
Tree stem	Crown clearance to orientation of symbol
Tree canopy	
Category C trees of low-quality	
RPA	Trees necessitating removal shown with dashed line
Tree stem	Crown clearance to orientation of symbol
Tree canopy	

	Application boundary
	Sections of boundary wall to be repaired



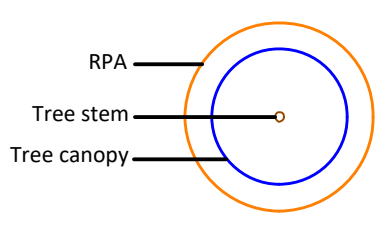
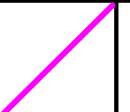
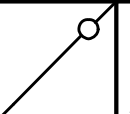
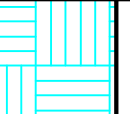
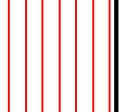
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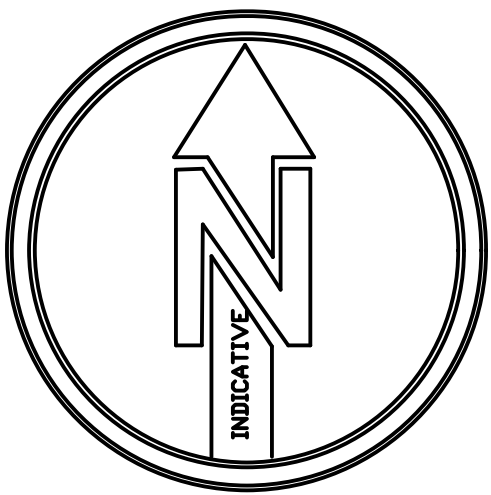
Appendix 5:
Tree Protection Plan (1)

Project:	Greenhead College, Huddersfield HD1 4ES
Drawn by:	Jack Delaney
Date:	19th June 2024
Scale:	1:100 @ A1
Drawing Number:	WC-294.1a.5

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

Map Key:

Category B trees of moderate-quality	
	
	Section of boundary wall to be repaired
	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
	Excavations within RPAs to be carried out using compressed air soil displacement/hand tools only, and supervised by the Project Arboriculturalist



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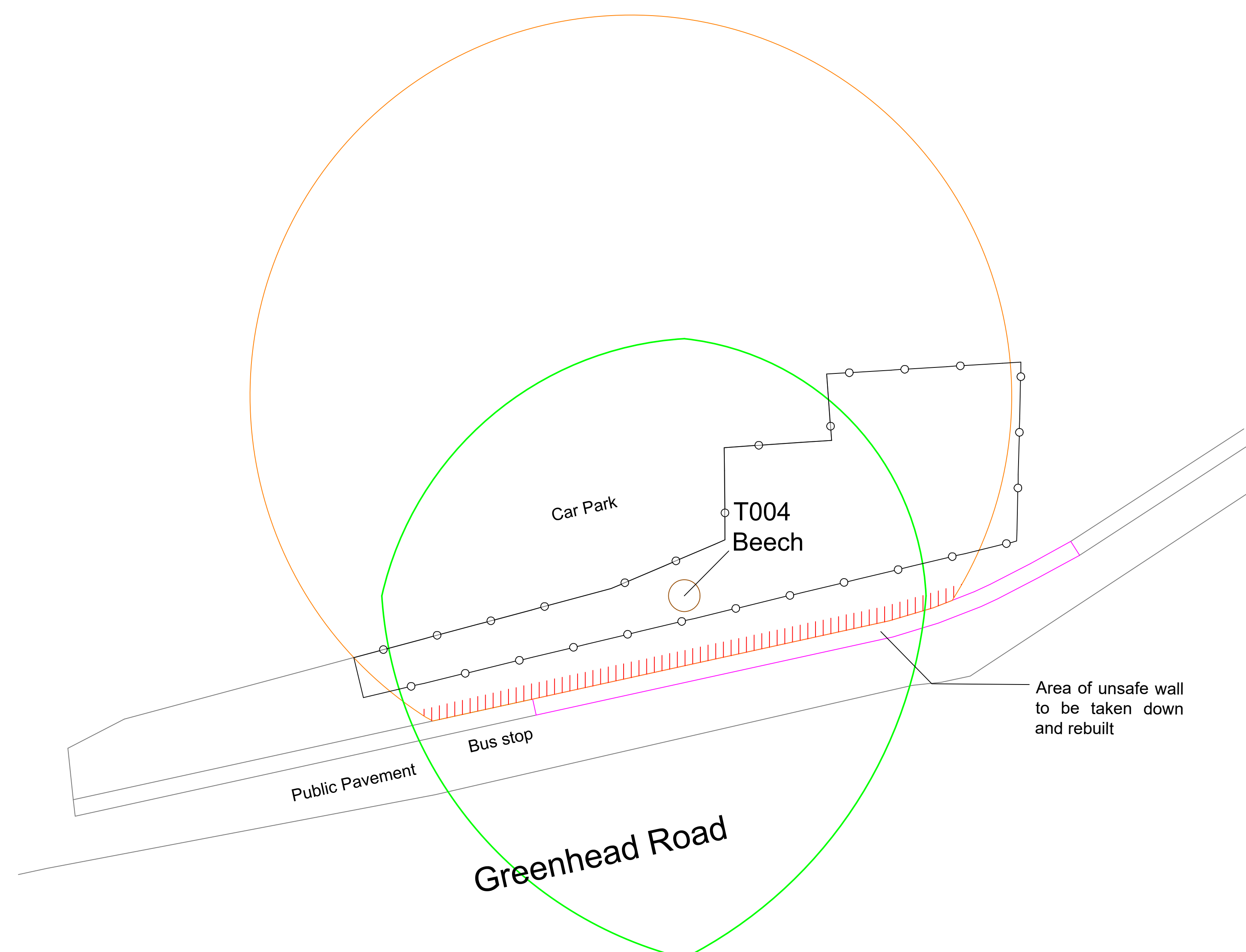
PARK DRIVE SOUTH

Public Pavement

Wall taken down circa 1500mm and rebuilt

T001
Sycamore

Existing unsafe store dismantled using hand-operated tools only within the RPA of T001

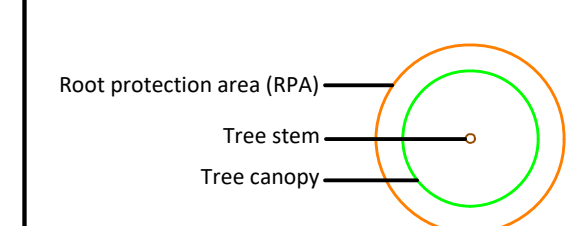
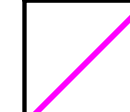
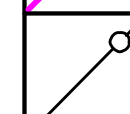
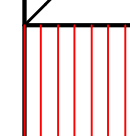


Appendix 6:
Tree Protection Plan (2)

Project:	Greenhead College, Huddersfield HD1 4ES
Drawn by:	Jack Delaney
Date:	19th June 2024
Scale:	1:100 @ A1
Drawing Number:	WC-294.1a.6

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

Map Key:

Category A trees of high-quality	
	
	Section of boundary wall to be repaired
	Temporary tree protection fencing, to BS 5837: 2012 specification, as detailed in the Outline Arboricultural Method Statement (AMS)
	Excavations within RPAs to be carried out using compressed air soil displacement/hand tools only, and supervised by the Project Arboriculturalist

