Arboricultural Impact Assessment

WC-160.1a

Linthwaite Methodist Church,
31 Chapel Hill, Huddersfield HD7 5NR

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Executive Summary

Woodsage Consulting Ltd have been instructed by ABM Developments Ltd to undertake an Arboricultural Impact Assessment of the land at Linthwaite Methodist Church, 31 Chapel Hill, Huddersfield HD7 5NR, in relation to the proposed development of the site.

The proposals are for residential redevelopment of an existing church building, with a new access drive and off-road car parking facilities.

According to information provided on the website of Kirklees Council (2023), several trees to the east of the site are subject to an area Tree Preservation Order (TPO Ref: 03/82/g1). The site is also located within the Linthwaite Conservation Area, which affords statutory protection to all trees with a stem diameter of > 75 mm, at 1.5 m above ground level.

The site survey identified a total of 10 trees with the potential to be affected by the development proposals. The trees situated on or immediately adjacent to the site include four Category B trees of moderate-quality and six Category C trees of low-quality.

The development proposals will necessitate the removal of six Category C trees of low-quality. To allow for the installation of scaffolding during the development, three Category B trees will also require facilitative pruning.

To avoid alterations to the existing levels within the RPA of two Category B trees, a proposed parking area and access driveway are to be constructed upon an elevated platform, that is to be supported by a cantilever type retaining wall which employs screw/auger pile foundations of the smallest feasible diameter.

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

Although the removal of Category C trees from the site is anticipated to have a negligible impact upon the local amenity, it is recommended that a minimum of eight trees are included within a post-development mitigation planting scheme.

Although the removal of trees to facilitate the development proposals is unfortunate, a scheme of mitigation planting will present an opportunity to diversify the age and species composition of the local tree population.

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

1. Introduction

1.1. Introduction & Scope of Report

1.1.1. Woodsage Consulting Ltd have been instructed by ABM Developments Ltd to undertake an Arboricultural Impact Assessment of the land at Linthwaite Methodist Church, 31 Chapel Hill, Linthwaite HD7 5NR, 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 Arboricultural Method Statement.
- Assess the site and detail requirements for mitigation tree planting, where tree removals have been specified to facilitate the proposed development.

1.1.4. The contents of this report are concerned with arboricultural issues alone; although other disciplines such as engineering and ecology may 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 09567 13991 and lies within the village of Linthwaite, approximately 4 miles west of Huddersfield. The site is accessed east off Waingate.



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

1.2.2. The site comprises the former site of Linthwaite Methodist Church, and is bound by neighbouring residential properties to the north and southeast, by mixed-deciduous woodland to the east, by Waingate to the south, and by Chapel Hill to the west.

1.3. Topography

1.3.1. The site lies at an altitude ranging between 140 - 150 m above sea-level. The topography of the site falls from west to east, with retaining walls on the west and northeast boundaries.

1.4. Desk Based Study and Planning Context

1.4.1. Cranfield (2023) states that the site and surrounding area consists of Soilscape 6; these are "*freely draining, slightly acid, 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), several trees to the east of the site are subject to an area Tree Preservation Order (TPO Ref: 03/82/g1). The site is also located within the Linthwaite Conservation Area, which affords statutory protection to all trees with a stem diameter of > 75 mm, at 1.5 m above ground level.

1.5. Development Proposals

1.5.1. The proposals are for residential redevelopment of an existing church building, with a new access drive and off-road car parking facilities.

2. Methods

2.1. Survey Details

2.1.1. The site survey was carried out on Friday 24th March 2023. There were frequent rain showers at time of survey, though the 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 (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, crown spread, crown clearance, age class, condition, vitality, and estimated remaining contribution.

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

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

BS 5837: 2012 Category	Definition	Retention	Colour code
Category A	Trees of high quality with an estimated remaining life expectancy of at least 40 years; trees that are particularly good examples of their species, especially if rare or unusual.	Highly desirable	Light green
Category B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years; trees lacking the special quality to merit category A designation.	Desirable	Dark blue
Category C	Trees of low quality with an estimated remaining contribution of at least 10 years, or trees with a stem diameter below 150mm; 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 metre; crown spreads were measured to the north, east, south, and west aspects, using a laser measurer to the nearest metre.

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 diameter at breast height (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:

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

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

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

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 10 trees with the potential to be affected by the development proposals.

3.1.2. The tree species recorded at the site include sycamore (*Acer pseudoplatanus*), silver birch (*Betula pendula*), common holly (*Ilex aquifolium*), common ash (*Fraxinus excelsior*), wild cherry (*Prunus avium*), sessile oak (*Quercus petraea*), elder (Sambucus nigra) and rowan (*Sorbus aucuparia).*

3.1.3. The trees are all located to the east and south of the site:

- Trees to the east are predominantly early-mature and mature, forming the western boundary of a wider area of mixed-deciduous clough woodland.
- Trees to the south are predominantly young and semi-mature, and are positioned within an overgrown garden area which adjoins the property.

3.2. Tree Categorisation

3.2.1. The trees situated on or immediately adjacent to the site include four Category B trees of moderate-quality and six Category C trees of low-quality.

3.2.2. There were no Category A trees of high-quality, or Category U trees which display serious physiological and/or structural defects, 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 tree categories*

BS 5837: 2012 Category	Description	Tree/Group Numbers	Totals
B	Trees of moderate-quality, which should where possible be retained throughout any proposed development	T006, T007, T009, T010	4 Trees
C	Trees of low-quality, which should not be considered a constraint to development	T001, T002, T003, T004, T005, T008	6 Trees
		Subtotal:	**10 Trees**

3.2.4. Tree data 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, T003, T004, T005 and T008 will necessitate removal.

4.1.2. T001, T002, T003, T004, T005 and T008 are positioned within the footprint of the proposed parking area and access drive, and therefore without their removal the development proposals would be unfeasible.

4.1.3. T001, T002, T003, T004, T005 and T008 include Category C trees of low-quality only, which are of limited amenity value; in accordance with *BS 5837: 2012*, these should not be considered a constraint to the development.

4.2. Facilitative Pruning

4.2.1. Branches extending north-west from T007, and west from T009 and T010 encroach upon the existing building, and will therefore necessitate reduction and/or crown lifting to create circa 2 m clearance. These works will allow for the installation of scaffolding during construction and will reduce future nuisances relating to branch encroachment upon completion of the development.

4.2.2. To facilitate future inspections of T006, T007 and T009, it is also recommended that ivy (*Hedera helix*) which is established on the main stems is severed at ground level.

4.2.3. To reduce nuisances from falling tree debris, it is recommended that all deadwood > 50 mm in diameter - which is positioned over the car park and building - is removed from the crown of T007.

4.3. Tree Root Protection Areas (RPAs)

4.3.1. The RPAs of T006 and T007 will be encroached upon by the proposed parking area and access drive, by approximately 28% and 22% of the total RPAs, respectively.

4.3.2. Since the majority of tree roots are typically found within the first 100 cm of ground level, to avoid alterations of the existing levels within the RPA of T006 and T007, it is proposed the parking area and access driveway are constructed upon an elevated platform, that is supported by a cantilever type retaining wall which employs screw/auger pile foundations of the smallest feasible diameter - as detailed in ***Section 8*** of the ***Outline Arboricultural Method Statement*** in ***Appendix 3***,

4.3.3. The application of screw/auger piles will significantly reduce the disturbance of tree roots in comparison to traditional strip footings; however, if major tree roots > 25 mm are found present at the proposed locations of the piles, alternative locations should be used. No roots > 25 mm in diameter should be severed without first consulting with the Project Arboriculturalist.

4.3.4. The tree protection fencing and ground protection - detailed in ***Section 5*** and ***Section 7*** of the ***Outline Arboricultural Method Statement*** in ***Appendix 3***, and illustrated in the ***Tree Protection Plan*** in ***Appendix 6*** - will ensure that the RPAs of the retained trees are suitably protected from construction activities.

4.4. Shade Analysis

4.4.1. The proposed development is not anticipated to incur excessive shading by the adjacent trees, with southern and western aspects largely unobstructed.

4.4.2. A visual representation of the anticipated shading at the site can be viewed in ***Appendix 5: Shade Analysis Plan***.

4.5. Services and Other Considerations

4.5.1. Underground services should be installed outside of the RPAs of the retained trees, ideally utilising those which already exist. If there are any areas which conflict with tree RPAs however, this should first be reported to the Project Arboriculturalist, so that appropriate measures may be taken.

5. Recommendations

5.1. Tree Works

5.1.1. To facilitate the development proposals, T001, T002, T003, T004, T005 and T008 will necessitate removal.

5.1.2. Branches extending north-west from T007, and west from T009 and T010 will necessitate reduction and/or crown lifting, to create circa 2 m clearance from the existing building.

5.1.3. Ivy which is established on the main stems of T006, T007 and T009 should be severed at ground level.

5.1.4. All deadwood > 50 mm in diameter - which is positioned over the car park and existing building - should be removed from the crown of T007.

5.2. Legal Constraints

5.2.1. According to information available on the website of Kirklees Council (2023), T006, T007, T009 and T010 are subject to an area Tree Preservation Order (TPO Ref: 03/82/g1). The site is also located within the Linthwaite Conservation Area, which affords statutory protection to all of the trees referenced within this document.

5.2.2. The recommended tree works will therefore require prior written consent from Kirklees Council[1]. 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, and small foliage, 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 prior to development works commencing, and should remain in place until completion.

[1] Note, that LPA consent is not usually required to sever or remove ivy, as is recommended to T006, T007 and T009, or to remove deadwood, as is recommended to T007.

5.3.5. The location of tree protection fencing, and ground protection can be viewed in ***Appendix 6: Tree Protection Plan***; details of its specification can be found in ***Appendix 3: Outline Arboricultural Method Statement***.

5.3.6. 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.

5.3.7. 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 Arboriculturalist. No roots > 25 mm in diameter should be severed without first consulting the Project Arboriculturalist.

5.3.8. It is recommended that construction works follow the ***Outline Arboricultural Method Statement*** provided in ***Appendix 3***. This includes further details regarding tree removals and facilitative pruning, along with specifications for tree protection fencing, ground protection, and other protective measures to be adhered to throughout the development.

5.3.9. As aspects of the development may be subject to change, the Outline Arboricultural Method Statement should be reviewed by the Project Arboriculturalist prior to the commencement of development works.

5.4. Mitigation

5.4.1. The development proposals will necessitate the removal of six Category C trees of low-quality.

5.4.2. To account for the losses incurred to the amenity and ecology of the site, and to diversify the age and species composition of the tree population, it is recommended that eight trees - regular-standard in size - are included within a post-development mitigation planting scheme.

5.4.3. Suggested species, of an appropriate size at full-maturity, which will thrive on the freely draining, slightly acid, loamy soils present at the site, include rowan (*Sorbus aucuparia*), wild-service tree (*Sorbus torminalis*), silver birch (*Betula pendula*), woodland hawthorn (*Crataegus laevigata*), field maple (*Acer campestre*), sessile oak (*Quercus petraea*), sweetgum (*Liquidambar styraciflua*), and wild cherry (*Prunus avium*).

5.4.4. To ensure the best possible chances of successful establishment, the trees should be planted in accordance with *BS 8545:2014: Trees: from Nursery to Independence in the Landscape - Recommendations*:

- The trees planted should be container grown or root balled[2] and regular-standard in size.
- Trees should be supported with a wooden stake and secured to the stake by a biodegradable tie; ties should be adjusted as necessary to allow for secondary stem growth without constriction.
- An organic woodchip mulch should be applied annually to a depth of 10 cm, in a 1 m radius around the tree stems, though with the base of the stem kept clear.
- Trees should be watered regularly during the first two growing seasons, though if water does not drain away within ten minutes, the trees are in danger of overwatering.

[2] The pots of containerised trees must be proportionate to the size of the tree in accordance with table D4 of *BS 8545: 2014,* and the rootball of trees in accordance with table D5 of *BS 8545:2014.*

5.4.5. In the interests of biosecurity, all trees should be sourced from a UK based nursery. Trees should ideally be grown from seed within the UK, or if this is not possible, should have been grown in the UK for at least one year after import.

5.4.6. Aftercare for trees will be required for a period of at least five years after planting. Any trees which fail to establish within this period will require replacement.

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 various other forms of wildlife. In accordance with the Wildlife and Countryside Act 1981, the risks posed to these should be suitably assessed before any recommendations within this report are completed.

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

References

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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 (1.5m), 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		**Vitality (V)**: An assessment of physiological condition for species and age of tree. **F** = Fair; **P** = Poor; **D** = Dead	
Species: Common (and *binomial name*)		**#:** Denotes estimated value	
Age	**Young (Y):** Newly planted or self-seeded tree	**Early-mature (EM):** Trees in second-third of life expectancy for species type	**Over-mature (OM):** Mature trees which have entered stages of natural decline
	Semi-mature (SM): Trees in within first-third of life expectancy for species type	**Mature (M):** Trees in final-third of life expectancy for species type	**Veteran (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	V	SC	*BS 5837:2012* Category	Recommendations
						N	E	S	W						
T001	Wild Cherry *(Prunus avium)*	EM	< 5	7	380	1	2.5	5	3	5	Dense ivy (*Hedera helix*) established on main stem and structural branches, obscuring tree features and potential defects. Extensive deadwood < 100 mm throughout the with general appearance of low vitality and vigour.	P	D	C1	Remove tree
T002	Common Ash *(Fraxinus excelsior)*	SM	20-40	10	180	1.5	2.5	3	1.5	2	Bifurcates at 3 m into two co-dominant primary stems; union appears included with slight lateral broadening of parent stem directly beneath.	F	PD	C1	Remove tree

Tree Ref:	Species	Age	SULE	Ht.	DBH	CS				CC	Comments	V	SC	*BS 5837:2012* Category	Recommendations
						N	E	S	W						
T003	Common Holly *(Ilex aquifolium)*	Y	40-80	6	130	2	2	2	2	0	No obvious significant defects, though lacks qualities for higher *BS 5837* categorisation.	G	G	C1	Remove tree
T004	Elder *(Sambucus nigra)*	Y	5-10	5	190	1	5	1.5	1	0	Main stem leans heavily to south, likely due to partial failure of root plate historically.	F	PD	C1	Remove tree
T005	Common Holly *(Ilex aquifolium)*	Y	40-80	6	100	1	1	1	1	0	No obvious significant defects, though lacks qualities for higher *BS 5837* categorisation.	G	G	C1	Remove tree
T006	Sycamore *(Acer pseudoplatanus)*	M	40-80	20	940	10	9#	10	9	4.5	Dense ivy (*Hedera helix*) established on main stem and structural branches, obscuring tree features and potential defects. Minor deadwood < 100 mm in diameter scattered throughout crown	F	G	B2	Sever ivy at base to facilitate future inspections
T007	Common Ash *(Fraxinus excelsior)*	M	40-80	21	760	9	7	9	10	3.5	Dense ivy (*Hedera helix*) established on main stem, obscuring tree features and potential defects. Deadwood > 100 mm in diameter scattered throughout crown. Bifurcates at 4.5 m into two co-dominant primary stems union is acute, though detailed inspection was obscured by ivy.	F	F	B2	• Crown lift/reduce branches extending northwest to allow for installation of scaffolding • Remove deadwood > 50 mm in diameter • Sever ivy at base to facilitate future inspections
T008	Elder *(Sambucus nigra)*	Y	5-10	4	160	0.5	0.5#	1	2	0	Asymmetrical crown spread and leaning main stem to west, anticipated to have developed due to proximity with adjacent trees.	F	F	C1	Remove tree

Tree Ref:	Species	Age	SULE	Ht.	DBH	CS				CC	Comments	V	SC	*BS 5837:2012* Category	Recommendations
						N	E	S	W						
T009	Common Ash *(Fraxinus excelsior)*	SM	40-80	18	350# 350#	3.5	4#	5	4	9	Positioned on neighbouring third-party property, approx. 1 m below site levels: RPA offset by 40% to the east. Bifurcates at ground level into two co-dominant primary stems. Dense ivy (*Hedera helix*) established on main stem and structural branches, obscuring tree features and potential defects. Minor deadwood < 100 mm in diameter scattered throughout the crown. Branches extending west are within 0.5 m of property.	F		B1	• Sever ivy at base to facilitate future inspections • Crown lift/reduce branches extending west by approx. 2 m, to allow installation of scaffolding
T010	Sessile Oak *(Quercus petraea)*	SM	80+	15	400# 280#	6#	3#	3	5	9	Positioned on neighbouring third-party property, approx. 1.5 m below site levels: RPA offset by 60% to the east. Bifurcates at ground level into two co-dominant primary stems. Asymmetrical crown spread to north due to proximity with adjacent tree. Branches extending west are within 0.5 m of property.	F		B1	Crown lift/reduce branches extending west by approx. 2 m, to allow for installation of scaffolding

Appendix 2: Images of Trees



Plate 1: *T001 & T002*



Plate 2: *T003 & T004*



Plate 3: *T005 & T008*



Plate 4: *T006*



Plate 5: *T007*



Plate 6: *T006 & T007*



Plate 7: *T009*



Plate 8: *T010*

Appendix 3: Outline Arboricultural Method Statement

A3.1 Introduction

A3.1.1 Woodsage Consulting Ltd have been instructed by ABM Developments to produce an Outline Arboricultural Method Statement in relation to the proposed development of the land at Linthwaite Methodist Church, 31 Chapel Hill, Linthwaite HD7 5NR.

A3.1.2 The proposals are for residential redevelopment of an existing church building, with a new access drive and off-road car parking facilities.

A3.1.3 This Outline Arboricultural Method Statement should be read in conjunction with the Arboricultural Impact Assessment. (Ref: WC-160.1a).

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 and facilitative pruning
3	Install temporary tree protection fencing and ground protection as specified in ***Appendix 6: Tree Protection Plan***
4	Inspection of tree protection measures by the Project Arboriculturalist
5	Carry out construction of cantilever retaining structure within root protection areas (RPAs) of T006 and T007
6	Partial removal of tree protection fencing and ground protection to west of cantilever retaining wall once construction is completed (remaining tree protection measures to be left in-situ as specified in ***Appendix 6: Tree Protection Plan***)
7	Inspection of tree protection measures by the Project Arboriculturalist
8	Carry out construction of elevated platform, including parking facilities and access ramp.
9	Remove tree protection fencing once development works are completed
10	Final inspection by the Project Arboriculturalist

A3.3 Timing of Works

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 Arboricultural Method Statement, and a copy of the ***Tree Protection Plan*** (***Appendix 6***) should be made available to all contractors attending the site.

A3.4 Tree Works

A3.4.1 Prior to development works commencing, T001, T002, T003, T004, T005 and T008 will necessitate removal.

A3.4.2 Branches extending north-west from T007, and west from T009 and T010 will necessitate reduction and/or crown lifting, to create circa 2 m clearance from the existing building.

A3.4.3 Ivy, which is established on the main stems of T006, T007 and T009 should be severed at ground level.

A3.4.4 All deadwood > 50 mm in diameter - which is positioned over the car park and existing building - should be removed from the crown of T007.

A3.4.5 According to information available on the website of Kirklees Council (2023), T006, T007, T009 and T010 are subject to an area Tree Preservation Order (TPO Ref: 03/82/g1). The site is also located within the Linthwaite Conservation Area, which affords statutory protection to all of the trees referenced within this document.

A3.4.6 The recommended tree works will therefore require prior written consent from Kirklees Council. Killing or damaging a protected tree is a criminal offence and can result in an unlimited fine.

A3.4.7 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*.

A3.5 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*, as is set out below.



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.

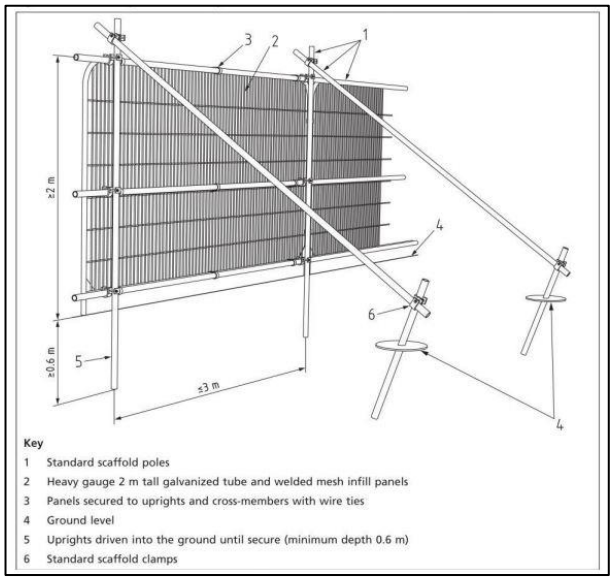


Figure A5.2*: Temporary 2 m steel protective fencing*

A3.5.3 The vertical tubes should 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 should be attached to the barriers at 9 m intervals with the words 'TREE PROTECTION ZONE - NO ACCESS' clearly visible.

A4.5.5 **Location:** Tree protection fencing shall be positioned as specified in the ***Tree Protection Plan*** in ***Appendix 6***.

A4.5.6 The protected area 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 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 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. 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 Arboriculturalist. No roots > 25 mm in diameter should be severed without first consulting the Project Arboriculturalist.

A3.7 Ground Protection

A3.7.1 Where tree protection fencing has been set back within the RPAs of T006 and T007, ground protection should be installed prior to the commencement of construction works.

A3.7.2 The ground protection should cover all areas of soft-landscaping within RPAs that is left exposed and should remain in place as is directed in ***Appendix 6: Tree Protection Plan***.

A3.7.3 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***, below.



Figure A7.1: *Examples of ground protection panels*

A3.7.4 Any plant or machinery operating within the RPAs of T006 and T007, must ensure it does so upon ground protection at all times.

A3.8 Cantilever Retaining Structure and Elevated Parking/Driveway Platform

A3.8.1 To avoid alterations of the existing levels within the RPA of T006 and T007, the parking area and access driveway are to be constructed upon an elevated platform, which is supported by a cantilever type retaining structure that employs screw/auger pile foundations of the smallest feasible diameter, as illustrated in ***Fig. A8.1***, below.

A3.8.2 The application of screw/auger piles will significantly reduce the disturbance of tree roots; however, if major tree roots > 25 mm are found present at the proposed locations of the piles, alternative locations should be used. No roots > 25 mm in diameter should be severed without first consulting with the Project Arboriculturalist.

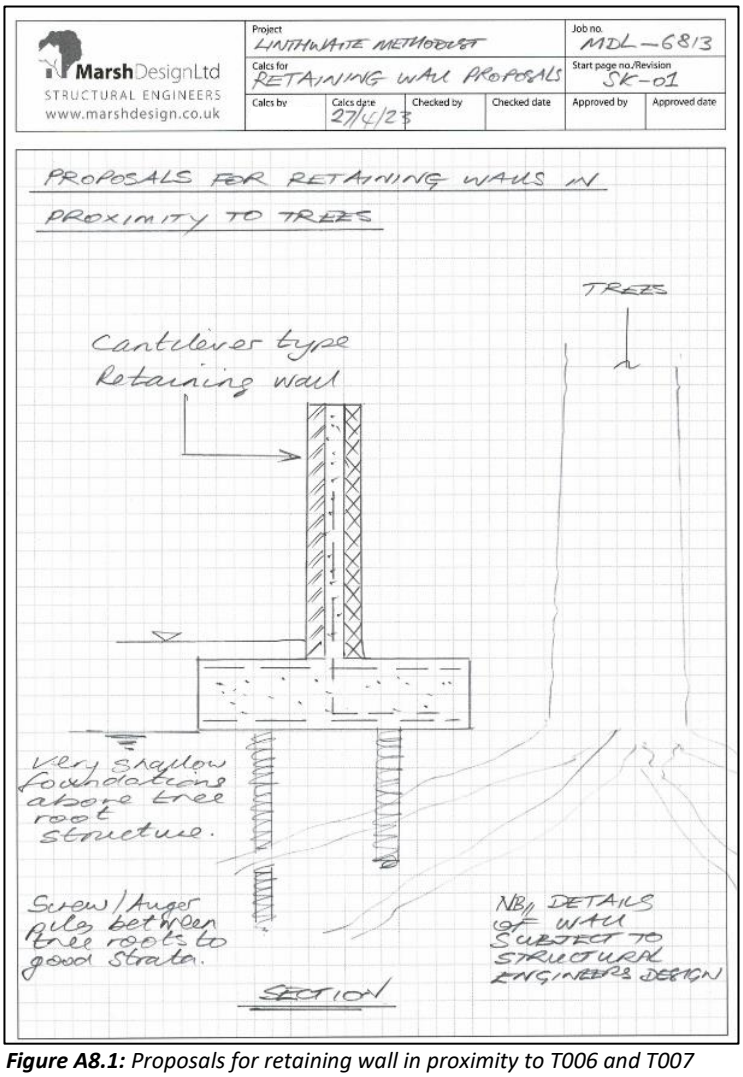


Figure A8.1: *Proposals for retaining wall in proximity to T006 and T007*

A3.8.3 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 within the RPAs of T006 and T007, which should remain in-situ beneath the elevated platform. No excavations should be carried out within the RPAs without first notifying the Project Arboriculturalist.

A3.8.4 The location of the cantilever retaining structure is shown in ***Appendix 6: Tree Protection Plan***.

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:

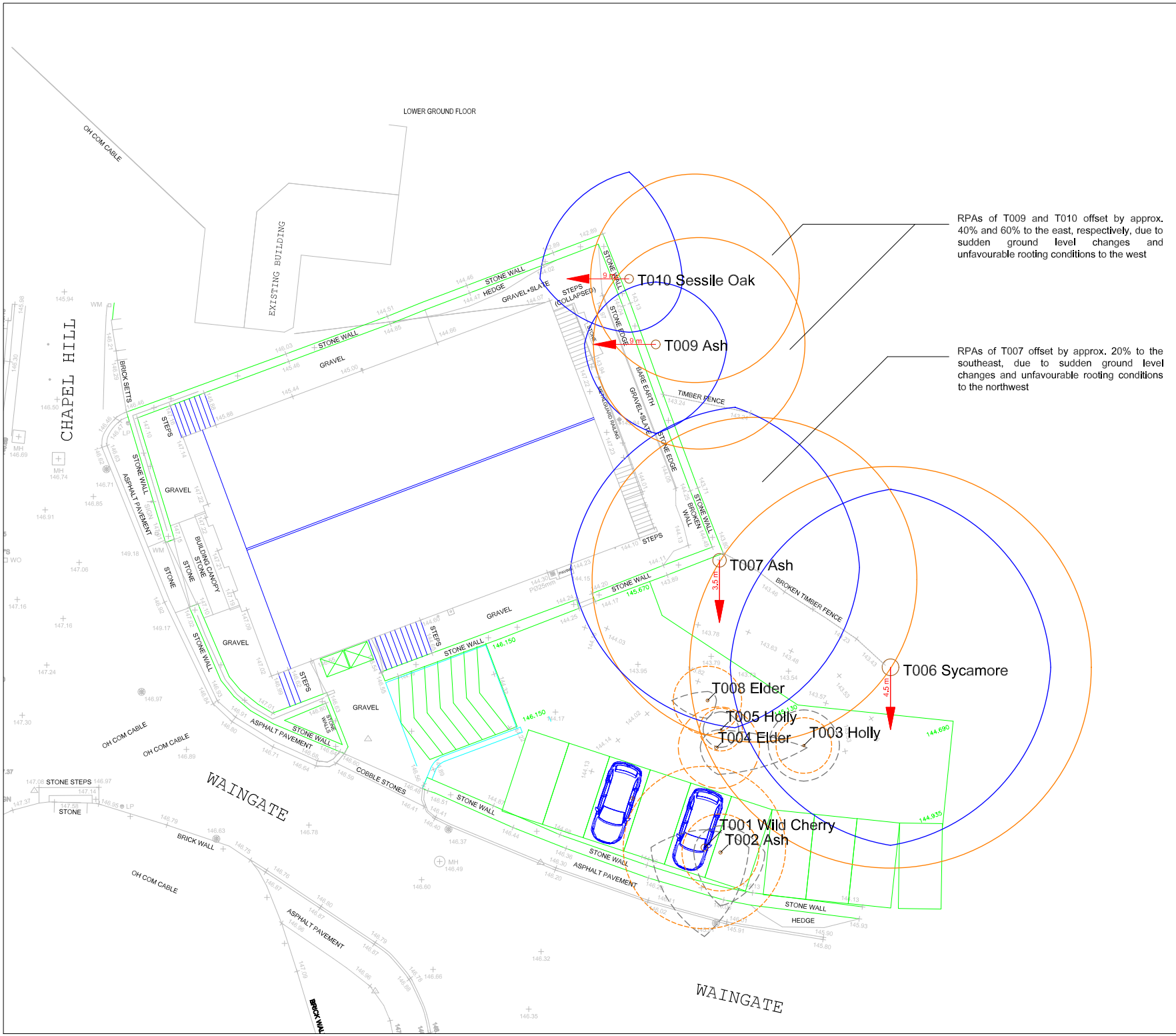
1. Once tree protection fencing and ground protection has been installed, to determine if these measures are satisfactory.
2. Once the cantilever retaining structure has been constructed, and tree protection measures have been partially removed.
3. Upon completion of the development works.

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 construction works.

A3.9.4 Project Arboriculturalist Details:

Mr Jack Delaney
Woodsage Consulting Ltd
Unit 2, Hey End Farm,
Shield Hall Lane,
Luddendenfoot,
West Yorkshire HX2 6JN

Tel: 07962401997
Email: info@woodsage.co.uk



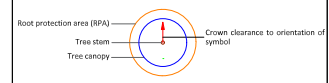
Appendix 4: Tree Constraints Plan

Project:	Linthwaite Methodist Church, Huddersfield
Drawn by:	Jack Delaney
Date:	9th May 2023
Scale:	1:100 @ A1
Drawing Number:	WC-160.1a.4

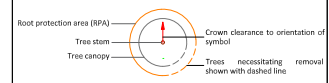
Do not scale off this drawing - to be reproduced in colour only

Key:

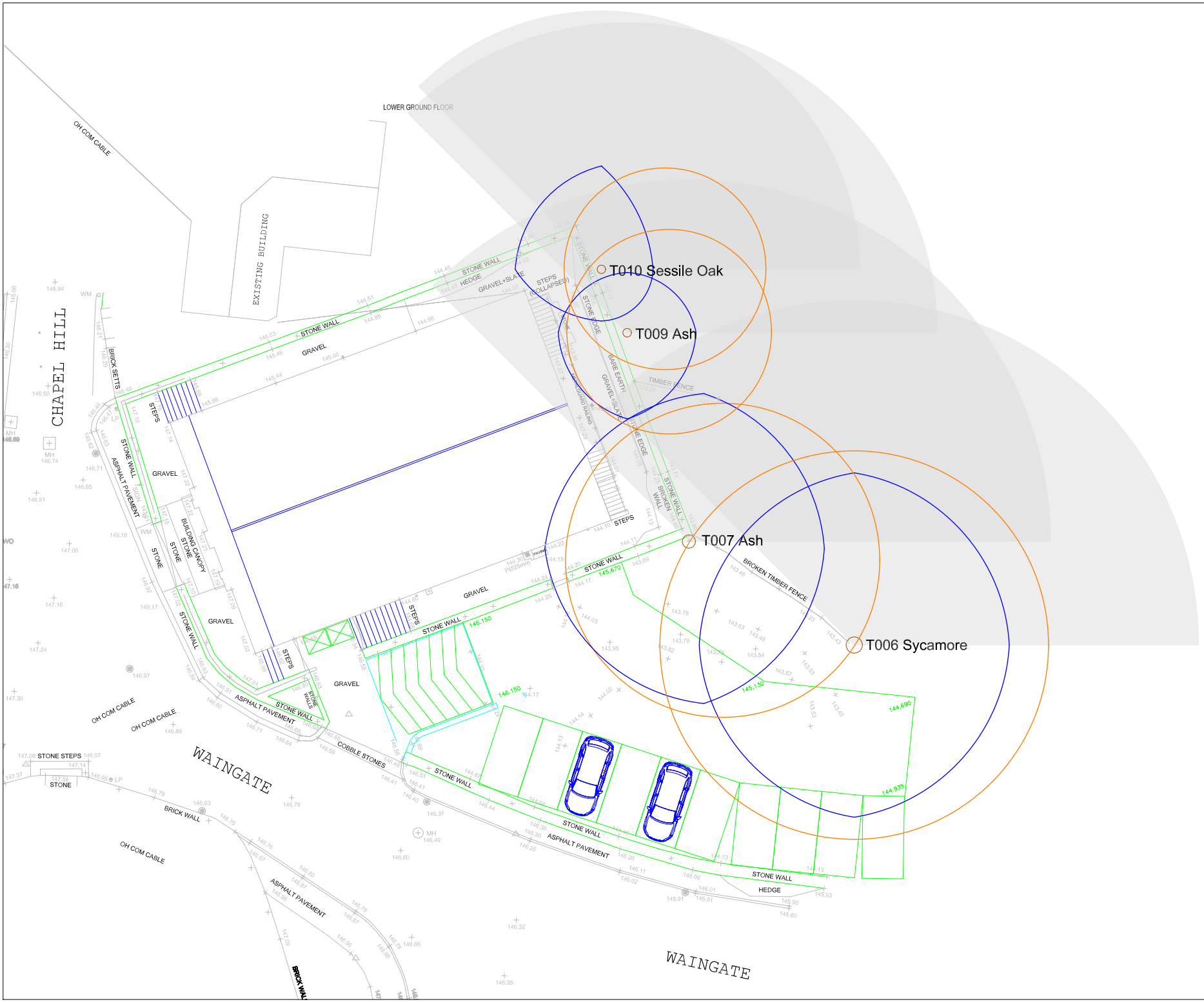
Category B trees of moderate-quality



Category C trees of low-quality



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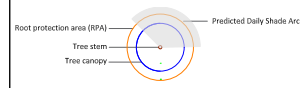
Appendix 5: Shade Analysis Plan

Project:	Linthwaite Methodist Church, Huddersfield
Drawn by:	Jack Delaney
Date:	9th May 2023
Scale:	1:100 @ A1
Drawing Number:	WC-160.1a.5

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

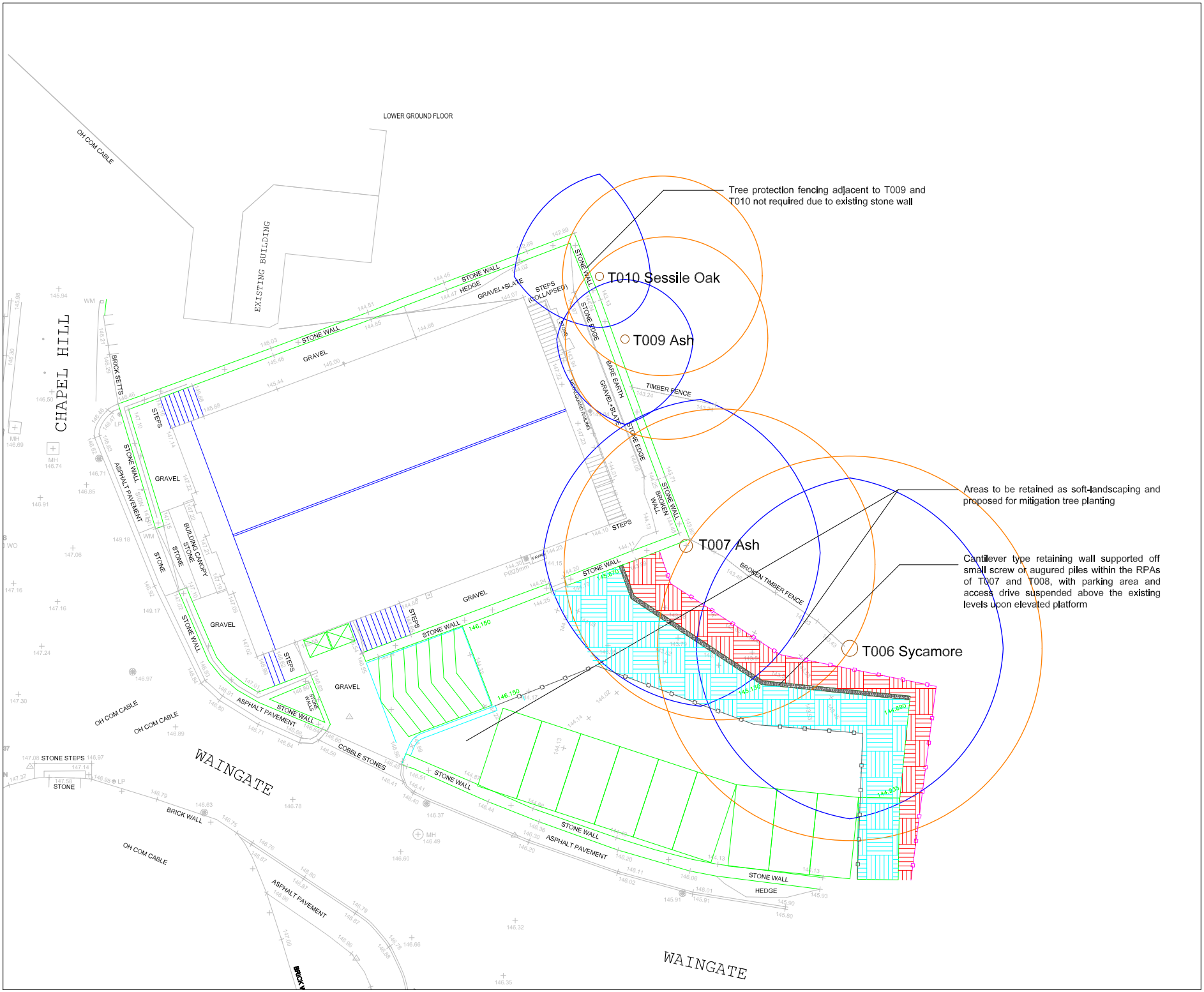
Key:

Category B trees of moderate-quality





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Appendix 6: Tree Protection Plan

Project:	Linthwaite Methodist Church, Huddersfield
Drawn by:	Jack Delaney
Date:	9th May 2023
Scale:	1:100 @ A1
Drawing Number:	WC-160.1a.6

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

Key:

Category B trees of moderate-quality



- Temporary tree protection fencing, to specification detailed in ***Appendix 3: Arboricultural Method Statement***, to remain in place throughout the development
- Temporary ground protection, to specification detailed in ***Appendix 3: Arboricultural Method Statement***, to remain in place throughout the development
- Temporary tree protection fencing, to specification detailed in ***Appendix 3: Arboricultural Method Statement***, to remain in place during construction of cantilever retaining wall structure
- Temporary ground protection, to specification detailed in ***Appendix 3: Arboricultural Method Statement***, to remain in place during construction of cantilever retaining wall structure

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