



Arboricultural Impact Assessment

Stukeley Gardens, Holbeach, Spalding, Lincolnshire

Report Reference: BG23.314.4

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www.brindlegreen.co.uk

Head Office

Brindle & Green Limited
Unit 3 Silverhill Court, Radbourne, Derby, DE6 4LY

Tel: 0800 222 9105

Sheffield Office

Brindle & Green Limited
Horizon House
Whiting Street
Sheffield S8 9QR

Barnsley Office

Brindle & Green Limited
Sergeants House
36 Edderthorpe Lane
Barnsley S73 9AT

London Office

Brindle & Green Limited
Nutter Lane
Wanstead
London E11 2HZ

Kent Office

Brindle & Green Limited
Sandy Lane
Sevenoaks
Kent TN13 3TP

Document Control

Report	Name	Signature	Date
Prepared by	Henry Richardson TechArborA Assistant Arboriculturist		08/01/2024
1 st Check by	Laura Emmerson MArborA Arboricultural Consultant		10/01/2024
2 nd Check by	Joe Gilmour Associate Director		23/01/2024
Issued by (PDF)	Henry Richardson TechArborA Assistant Arboriculturist		23/01/2024
REV1 issued by			

Revision Details

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Project Details

Project carried out by:

Brindle and Green

Unit 3, Silverhill Court

Radbourne

Derby

DE6 4LY

Head Office: 01332 825771

Email: info@brindlegreen.co.uk

Website: www.brindlegreen.co.uk

Project carried out for:

Lindum Group Ltd

(c/o Paul Jenkinson)

Lindum Business Park

Jubilee Place

Station Road

North Hykeham

Lincoln

LN6 3QX

Project site:

William Stukeley Church of England Primary School

Spalding Road

Holbeach

Spalding

PE12 7HG

Grid reference: TF 35709 24805

W3W: [ribs.occu.rgadget](#)

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1 Summary

1.1 Scope of report

- 1.1.1 Brindle & Green were commissioned by Lindum Group Ltd to undertake a BS 5837:2012 Tree Survey and Arboricultural Impact Assessment (AIA) on an area of land north of William Stukeley CofE Primary School, in Holbeach, Spalding. This report summarises any potential arboricultural impacts and outlines a tree protection plan in relation to a full planning application for a change of land use and the relocation of boundary fencing at the site. A separate planning application is ongoing for the phased expansion of the school, planning reference PL/0018/23. Design proposals can be found in Appendix 4. The survey was carried out on the 17th of October 2023.
- 1.1.2 This report is concerned with trees that have the possibility to be impacted as a result of development proposals at the site. This includes trees within the site, as well as any outside the boundary that may be impacted by the development and any subsequent post development activity.
- 1.1.3 This report and accompanying tree survey schedule are produced in accordance with the guiding principles of British Standard BS 5837:2012 'Trees in Relation to Design, Demolition and Construction - Recommendations'.
- 1.1.4 This report and associated tree survey aim to inform tree mitigation and/or removal for potential development at the site; it is not a health and safety survey. Observations on tree form and condition, from which management recommendations are made, are based upon ground-level visual assessments only. It is important to note that trees are dynamic and often unpredictable; even apparently healthy trees may occasionally fail.

1.2 Desk study

- 1.2.1 Use of South Holland District Council's online mapping software confirmed that the site was located within the Holbeach Conservation Area, and is covered by a Tree Preservation Order (TPO No. 10 1986). The relevant documents can be found in Appendix 6.

1.3 Summary of conclusions

- 1.3.1 There are no trees recommended for removal to facilitate the proposed land use change and boundary fencing relocation. T1 is recommended for removal as per the recommendations of 'BG22.327.2 William Stukeley School, Holbeach Arboricultural Impact Assessment Report – REV1' produced for the ongoing planning application PL/0018/23. A tree protection plan, complete with mitigation measures, has been proposed for the development. The proposed mitigation will be the use of Construction Exclusion Zones (CEZs) and temporary ground protection. The tree protection plan can be found in Appendix 3.

Table 1: Arboricultural considerations relevant to the site

Arboricultural Considerations	Recommendations	Timing
Construction Exclusion Zone (CEZ)	CEZs should be installed to protect retained trees (including RPAs), where required.	Pre-construction
Site supervision	Supervision by the project arboriculturist may be required when activities are required within the RPAs of retained trees (i.e. removal of existing hard surfacing).	During construction
Ground protection	Ground protection (temporary and/or permanent) should be installed to protect the RPAs of retained trees, where required.	Pre-construction and/or during construction
Removal of CEZs and/or temporary ground protection	Removal of the installed tree protection measures after completion of construction onsite.	Post-construction after approval of project arboriculturist

2 Introduction

2.1 Context

2.1.1 The purpose of this survey was to provide an assessment of trees which may be impacted by development proposals at an area of land north of William Stukeley CofE Primary School, in Holbeach, Spalding. A tree survey schedule, compliant with the guiding principles of BS 5837:2012, is contained within this report.

2.1.2 Results and recommendations contained within this report have been prepared by an experienced arboriculturist and are therefore the view of Brindle & Green Limited. The survey is based on information provided by our client, the development proposals, and the results of the desk study and our survey of the site. This report pertains to this information only.

2.2 Purpose of the report

2.2.1 This AIA will evaluate the direct and indirect effects of the proposed development on the site's trees. It will consider the requirement for tree removal to facilitate the design and any potentially damaging activities to retained trees (British Standards Institution, 2012).

2.2.2 An AIA will typically address some, or all, of the following:

- The tree survey (including survey schedule and maps)
- Trees selected for retention
- Trees to be removed
- Facilitation pruning requirements
- Evaluation of the impact of proposed tree losses
- Mitigation measures to implement the design
- Tree protection plan

2.3 The site

- 2.3.1 The red line boundary is 0.0213 hectares in extent and comprises a small parcel of land adjacent to William Stukeley Church of England Primary School, in Holbeach, Spalding. Only T1 and T2 are present within the redline application area. A number of semi-mature and mature trees, predominantly common ash and common yew, were also surveyed in the surrounding parkland, which provide and landscape value. Boundary fencing is present along the perimeter of the adjacent school, on the southern and western redline boundary. A hard surfacing footpath runs diagonally across the northern edge of the site boundary, extending off-site from Back Lane to the gated pedestrian entrance of the school on the western boundary of the site. The site is located within the parkland immediately adjacent to William Stukeley CofE Primary School, with the wider surroundings predominantly comprised of residential land. The site is located within the centre of the town of Holbeach, approximately 8 miles east of Spalding. The site is the subject of a full planning application for a change of land use and the relocation of boundary fencing at the site. Design proposals can be found in Appendix 4.

3 Methodology

3.1 Tree survey parameters

3.1.1 The tree survey was undertaken in accordance with the guiding principles of British Standard 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations.'

3.1.2 Individual trees, groups of trees, woodlands and hedgerows are surveyed. A group of trees constitutes a cohesive arboricultural feature, either aerodynamically, visually or culturally. Where groups or woodlands are surveyed, individual trees may still be assessed if they vary significantly in their attributes.

3.1.3 Information recorded in the survey includes:

- **Species** – listed by common name. In the case of groups, all woody species present will be recorded.
- **Tree Height** – estimated in metres. In the case of groups, the average group height is recorded.
- **Crown Height** – height to the lowest branch is estimated in metres for each cardinal direction. In the case of groups, the minimum crown height is recorded.
- **Stem Diameters** – diameters of single-stemmed trees on level ground are measured at 1.5 metres above ground to the nearest 10 millimetres. Other commonly encountered trees (i.e. multi-stemmed or those on sloping ground) are measured in accordance with Figure C.1, BS 5837:2012.
- **Crown Spread** – recorded in metres along each of the cardinal points. In the case of groups, the maximum peripheral spread is recorded.
- **Life Stage** – recorded as young, semi-mature, mature, veteran, ancient or dead and defined in Table 2.

Table 2: Definitions of tree life-stages, as recorded in the survey schedule

Tree life-stage	Definition
Young	A tree within its first third of life expectancy. Established, but with significant growth remaining to reach ultimate size.
Semi-mature	A tree within its second third of life expectancy. Reaching its ultimate potential height, with slowing growth rate but will still increase in stem diameter and crown spread.
Mature	A tree within its final third of life expectancy. Limited potential for any significant further increase in size, even when healthy. Reasonable remaining life expectancy.
Veteran	A tree with features of biological, cultural or aesthetic value that are characteristic of individuals surviving beyond the typical age range for the species concerned.
Ancient	A tree that has passed beyond maturity and is very old in comparison to other trees of the same species.
Dead	The tree is dead; age up till death is of no significance.

- **General Observations** – including physiological condition (good, fair, poor, decline, dead) and any preliminary management recommendations. In the case of groups, the category awarded is that typical of the group.
- **Life Expectancy** – estimated remaining contribution in years (<10, 10+, 20+, 40+).

3.1.4 Trees will then be categorised as per the criteria shown in Table 3, to ascertain the quality and value of the existing tree stock.

3.2 Root Protection Areas (RPAs)

3.2.1 The **Root Protection Areas** are calculated and recorded in the survey schedule. RPAs are expressed in both linear and square metres. The RPA comprises the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability. The RPA is where the protection of the roots and soil structure is treated as a priority; it is at this distance/around this area that the tree protective fencing should be erected around any trees to be retained.

- 3.2.2 The default position is that structures are located outside the RPAs of trees to be retained. However, development within RPAs might be proposed when technical solutions allow the tree to remain viable. Such specialist guidance is therefore provided herein, where necessary.

3.3 General information and tree survey limitations

- 3.3.1 Tree surveys will be plotted directly onto a topographical survey whenever possible. If a topographical survey has not been undertaken, a digital OS map of the site will be used.
- 3.3.2 Surveyed trees are plotted using a Trimble TDC600 handheld device, partnered with a Geode GPS receiver (GNS2 Multi-GNSS 1Hz Receiver). Normal error of up to 0.5m can be experienced using this device, however care is taken to use the most accurate reading possible.
- 3.3.3 Where offsite trees have the potential to be impacted by the development proposals, they will be included within the tree survey; all measurements for offsite trees will be estimated from the site. Whenever tree measurements are estimated, this is represented with a # in the survey schedule. Note, detailed visual inspections may not be possible for offsite trees, as potential features/defects may not be visible from the site.

3.4 Report lifespan

- 3.4.1 We expect the results and recommendations of this report to be accurate for 2 years; however, tree condition may change following extreme weather events, damage or other unforeseen circumstances.

Table 3: Cascade chart for tree quality assessment (BS 5837:2012)

Category and definition	Criteria (including sub-categories where appropriate)		
Trees unsuitable for retention			
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	– Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). – Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. – Trees infected with pathogens of significance to the health and/or safety for the trees nearby, or very low-quality trees suppressing adjacent trees of better quality. – <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.</i>		
Trees to be considered for retention	1 Mainly arboricultural values	2 Mainly landscape values	3 Mainly cultural values, including conservation
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; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but	Trees with material conservation or other cultural value

Category and definition	Criteria (including sub-categories where appropriate)		
	unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	situated so as to make little visual contribution to the wider locality	
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young 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	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

4 Arboricultural Impact Assessment

4.1 Presence of Tree Preservation Orders (TPOs) or Conservation Areas

- 4.1.1 Use of South Holland District Council's online mapping software confirmed that the site was located within the Holbeach Conservation Area, and is covered by a Tree Preservation Order (TPO No. 10 1986). The relevant documents can be found in Appendix 6.

4.2 Potential for tree damage during development

- 4.2.1 Many development activities have the potential to damage trees, either directly or indirectly. Direct damage could include root severance, accidental damage to the crown or impact damage, whilst indirect damage predominantly involves soil compaction and the subsequent root loss.
- 4.2.2 Severing just one of a tree's major roots during careless excavation for construction can cause the loss of up to 20 per cent of the root system; this undermines the tree's ability to absorb water and leaves it unstable in high winds. In general, 80-90% of all tree roots are found in the top 600mm of soil, and almost 99% of the tree's total root length occurs within the topmost 1m of soil, with some variations depending on soil porosity. The potential nuisance that fine root systems create for the development of specific sites must be weighed against the importance that they play in soil stabilisation on sloping ground (acting in a similar way to geotextile matting).
- 4.2.3 The early provision of physical protection against damage and technical solutions are essential, to ensure the site's retained trees remain healthy and viable.

4.3 Potential incompatibilities between the layout and trees proposed for retention

Construction Exclusion Zones (CEZs)

- 4.3.1 Three Construction Exclusion Zones are to be established prior to the commencement of any works onsite. Due to the nature of the proposed development, the CEZs will be comprised of exterior grade plywood boards supported on a wooden framework, protecting the stems of T2, T3, and T4. The plywood boards will form a box around each of the stems. The CEZs will be installed as a priority, and be installed prior to the fencing proposed in this area as part of the Tree Protection Plan detailed in 'BG22.327.2 William Stukeley School, Holbeach Arboricultural

Impact Assessment Report – REV1' produced by Brindle & Green in July, 2023 for the ongoing planning application PL/0018/23. Temporary ground protection will also be installed to protect the exposed RPAs of trees T2 – T4, detailed below in section 4.3.5.

- 4.3.2 Following the installation of CEZs and temporary ground protection, the existing school boundary fencing will be dismantled and the new boundary fencing will be installed as detailed in section 4.3.7. Upon the completion of the boundary fencing works, temporary ground protection will be removed and the plywood board CEZs may be removed from trees T2 – T4. Following the removal of the tree protection measures, the CEZ fencing and mitigation measures detailed in the Tree Protection Plan produced for planning application PL/0018/23 will be installed, prior to the commencement of any works onsite for the school expansion.

Permanent ground protection

- 4.3.3 There is no requirement for permanent ground protection within this scheme.

Temporary ground protection

- 4.3.4 Where temporary access or construction working space is required within the RPA of T2 – T4 for the relocation and installation of boundary fencing, temporary ground protection will be installed to prevent soil compaction. The temporary ground protection will be installed 1m from the proposed boundary fencing and 0.5m from the existing boundary fencing, providing sufficient space for construction works. Temporary ground protection will be installed pre-commencement of construction works and may be removed following the completion of fencing installation, as detailed in section 4.3.1.
- 4.3.5 As per BS 5837:2012, temporary ground protection must be capable of supporting the additional load within the RPA. For pedestrian movements only, the temporary ground protection will comprise a single thickness of scaffold boards placed onto a 100mm layer of woodchip, laid on a geotextile membrane. For pedestrian operated plant (up to 2 t), the ground protection will consist of interlinked ground-protection boards, laid on top of a compression resistant layer (as above, 100mm woodchip) on a geotextile membrane. Heavier plant (exceeding 2 tonnes) requires an alternative system to accommodate the load, which must be discussed with the project arboriculturist. The required locations of temporary ground protection can be seen on the tree protection plan in Appendix 2.

Specialist foundations

- 4.3.6 There is no requirement for specialist foundations, due to the nature of the development.

Landscaping works within RPAs

- 4.3.7 To facilitate the proposed land use change, the existing school boundary fencing (currently along the southern site boundary/northern school boundary), is to be relocated to the southern edge of the hard surfacing footpath that leads to the school.
- 4.3.8 The fencing will comprise of 1080mm high euroguard regular fencing. Fence posts will be set at a maximum of 3034mm apart and embedded approximately 690mm below ground, in a 225mm diameter hole infilled with concrete. The fencing will be installed within the notional RPAs of T2 - T4, and the silver birch within G1. The fencing is to be predominantly installed at a considerable distance to the retained trees, approximately 3.5m from T2, but will be within 1m of T4. The fencing is to be installed in a manner that is sensitive to the retained trees and fence posts will be dug by hand. Trial holes will be dug to determine suitable post locations; fence post positions must be sufficiently flexible to allow repositioning if significantly large roots are encountered. Roots under 35mm in diameter should be cleanly severed with a silky saw. If larger structural roots are encountered under 75mm diameter, then a qualified arboriculturist should be consulted to determine the suitability of severance.

4.4 The working and access space needed for construction

- 4.4.1 Construction personnel will access the site using the existing public access through Stukeley Gardens.

4.5 Trees proposed for removal

- 4.5.1 No trees are recommended for removal to facilitate the proposed land use change and fencing installation. However, T1 has been shown for removal to reflect the recommendations in the Tree Protection Plan detailed in 'BG22.327.2 William Stukeley School, Holbeach Arboricultural Impact Assessment Report – REV1' produced by Brindle & Green in July, 2023 for the ongoing planning application PL/0018/23. T1 is identified as T21 in the AIA report for the phased school expansion.

4.6 New planting

- 4.6.1 Due to the absence of recommended removal and the nature of the proposals, mitigatory replanting is not considered an essential requirement for this scheme.

4.7 Proximity of trees to structures – shading, seasonal nuisance and future pressures

- 4.7.1 Due to the nature of the proposals, to incorporate part of Stukeley Gardens into the boundaries of the adjacent school, shading impacts are not considered a concern. A shading plan for all trees surveyed can be seen in Appendix 2.
- 4.7.2 Tree size, future growth and light/shading have received due attention and are not considered to be an issue. Overall, the processes of construction are highly unlikely to have a detrimental effect upon the health of the retained trees, assuming recommendations made in this report are always adhered to by the contractors.

4.8 Installation of services

- 4.8.1 Installation of new services are not expected as part of this scheme. Proposed services for the phased school expansion are detailed in the accompanying AIA report 'BG22.327.2 William Stukeley School, Holbeach Arboricultural Impact Assessment Report – REV1'.

4.9 Facilitative pruning works

- 4.9.1 No facilitative pruning works are required to facilitate the proposed boundary fencing relocation, as part of the land use change.

5 Conclusion

- 5.1.1 No trees are recommended for removal to facilitate the proposed change of land use and boundary fencing relocation. T1 is shown as recommended for removal as per the recommendations of 'BG22.327.2 William Stukeley School, Holbeach Arboricultural Impact Assessment Report – REV1' produced for the ongoing planning application PL/0018/23. T2 – T4 are to be protected via the use of exterior grade plywood boxes around the stems, temporary ground protection and Construction Exclusion Zones.
- 5.1.2 Due to the nature of the development, it is unlikely there will be any major impacts on surveyed trees if CEZs and temporary ground protection are implemented. Fencing should be placed prior to any construction works and can be removed after the works are completed. Appendix 3 provides details of the fencing requirements for Construction Exclusion Zones.

Appendix 1 – Tree Survey Schedule

Tree ID	Common Name	Maturity	Height and direction of first significant branch (m)	Height (m)	No. of Stems	Calculated Stem Diameter (mm)	Radius of Nominal Circle (m)	RPA ^(rad)	Crown Spread (m)				Crown Height (m)				Crown	Stem	Basal Area	BS 5837 Category	Life Expectancy	Phys Condition	Comment
									N	E	S	W	N	E	S	W							
T1	Ash-leaved Maple	Mature	S 1.5	15	1	490	5.9	108.6	6.5	4	6	6	2	2.5	1.5	2	Fair	Fair	Fair	C2	10 to 20 yrs	Fair	Tag number 87. Senesced <i>Auricularia auricula-judae</i> to moderate deadwood limb, north. Visible stem lean west. Minor vandalism damage to lower stem. Minor pruning and failed limbs in the crown. 0.2mx0.2m cavity to stem attachment of first significant branch, with decay. Minor basal wounding. Past management pruning of minor to moderate limbs. Epicormic growth to limbs. Past pruning of major limb, south-east at 4m, now occluded with separate tear-out wound to minor limb and deadwood at attachment.
T2#	Common Yew	Semi-mature	NW 3	13	1	520	6.2	122.3	5.5	3	4	6	1	0	5	1.5	Poor	Fair	Fair	C1,2	10 to 20 yrs	Fair	Tag number 88. Major limb, approximately 80-100mm diameter, pruned at base. Ivy beginning to colonise the lower stem. Considerable amount of minor deadwood over school boundary. Major limb pruned north at 3m. Considerable minor pruning in the crown. Restricted future potential due to constraints of adjacent trees, growing under the crown of T4.
T3#	Common Yew	Semi-mature	SE 4	12	1	410	4.9	76.0	3	5	5.5	2.5	2.5	2.5	1.5	6	Fair	Fair	Fair	C2	10 to 20 yrs	Fair	Tag number 95. Crown skew due to adjacent boundary trees. Growing off-site, within the grounds of William Stukeley Primary School, in close proximity to the boundary fencing. Minor deadwood and pruned limbs in the crown. Moderate pruned limb partially occluded, north.
T4	Sycamore	Mature	NW 4	21	1	895	10.7	362.4	7.5	6	7	9.5	6	5	1.5	7	Good	Fair	Fair	B1,2	20 to 40 yrs	Fair	Tag number 85. Large, late mature sycamore providing significant value to the parkland. Considerable number of pruning wounds to the stem, predominantly to the north-east, resulting in numerous large cavities with decay and potential hollowing (unable to visually assess from ground-level). Epicormic growth at the base. Bird nest in crown. Moderate dead limb hanging in crown south-east at approximately 8m.
T5	Common Yew	Mature	E 2	13	1	820	9.8	304.2	4.5	5.5	4.5	3.5	2	1.5	2	2	Fair	Ivy	Fair	C1,2	10 to 20 yrs	Fair	Prolific ivy to entirety of the stem, extending to the stem tip. Stem appears to trifurcate at approximately 2.5m. Dense ivy limits visual assessment. Growing at top of sloped bank down to brick boundary wall, erosion to the south with exposed rooting material. Crown skew due to minimal foliage in the upper western crown, due to competition. Moderate lower deadwood east.
T6#	Common Elder	Young	N/A	7	1	80	1.0	2.9	2.5	5	2.5	0	5	3.5	5	0	Poor	Poor	Poor	U	<10 yrs	Poor	Growing in close proximity to adjacent yew, T5. Tall, narrow form. Epicormic growth at base. Major crown skew. Considerable wounding to lower stem.
T7#	Common Yew	Mature	N/A	10	1	450	5.4	91.6	4	3.5	3.5	4	0.5	0.5	0.5	1	Fair	Ivy	N/A	C1,2	10 to 20 yrs	Fair	Prolific ivy to entirety of stem obscures visual assessment. Growing on slight slope. Low amount of branching and foliage in upper crown compared to lower crown, covered with dense ivy.
T8	Common Ash	Mature	E 3.5	13	1	510	6.1	117.7	3.5	4.5	6	4.5	5	6	2	2.5	Fair	Good	Good	C1,2	10 to 20 yrs	Fair	Slight crown skew and minor deadwood east due to adjacent tree. Minor deadwood in the lower crown. Recent pruning of southern limb, at 2.5m, approx 5-6m from stem attachment. Minor deadwood and epicormic growth to limb.
T9#	Norway Maple	Semi-mature	SW 3	8	1	355	4.3	57.0	2.5	4	3.5	0	3	3.5	2.5	0	Poor	Fair	Fair	C2	10 to 20 yrs	Poor	Significant crown skew due to adjacent competition. Western crown dead. Crown in poor competition with limited foliage north and south, skewed east. Stem bifurcates at 1.5m with minor adaptive growth. Recent pruning of lower minor to moderate limbs, west. Low quality.
T10	Common Ash	Mature	SW 2.5	13	1	440	5.3	87.6	3	1	6	6.5	7	8	3	3	Fair	Fair	Fair	C1,2	10 to 20 yrs	Fair	Hard surfacing path in close proximity north, within 1m. Heavy crown skew due to pruning and competition east. Considerable pruning of multiple lower minor to moderate limbs, mainly to facilitate access of path, all not occluded. Considerable surface rooting to the south with wounding.
T11	Common Ash	Semi-mature	SW 4	12.5	1	350	4.2	55.4	1	5	5	5.5	12	3	3	8	Poor	Fair	Poor	C2	10 to 20 yrs	Poor	Heavy crown skew due to pruning of northern limbs to facilitate path. Skew and lean south over adjacent land. Growing in close proximity to brick boundary wall, in contact with buttress roots. Minimal northern and western crown. Low quality. Surface rooting.
T12	Common Ash	Semi-mature	E 4.5	11	1	295	3.5	39.4	0	5	4	0	0	3.5	3	0	Poor	Fair	Fair	C2	10 to 20 yrs	Poor	Significant crown skew, no crown north or west. Heavy pruning of minor to moderate limbs to facilitate path use. Hard surfacing path within 1m south. Lean south. Pruning of minor southern limbs over boundary.

Tree ID	Common Name	Maturity	Height and direction of first significant branch (m)	Height (m)	No. of Stems	Calculated Stem Diameter (mm)	Radius of Nominal Circle (m)	RPA ^(rd)	Crown Spread (m)				Crown Height (m)				Crown	Stem	Basal Area	BS 5837 Category	Life Expectancy	Phys Condition	Comment
									N	E	S	W	N	E	S	W							
T13	Common Ash	Mature	W 3.5	18	1	705	8.5	224.8	8.5	6	7	8	3	2.5	5.5	4	Fair	Good	Good	B1,2	20 to 40 yrs	Good	Large, mature ash providing significant value to the park. Off site. Hard surfacing path in RPA. Minor to moderate deadwood, predominantly minor in the lower crown. Considerable past pruning wounds to stem, largely occluded. Wounding to base and surface rooting. Minor branch tip dieback. Recent pruning of moderate lower western limb at 2.5m.

Group ID	Species	BS 5837 Category	Description
G1	Silver Birch, Common Whitebeam	C1,2	Group of three trees; one semi-mature silver birch growing within the school grounds and two young common whitebeam growing off-site in close proximity to the school boundary fencing. Stem diameter of whitebeam approximately 160 and 150mm, tag numbers 89 and 90, respectively. Silver birch within the school grounds approximately 450mm stem diameter. Crowns overhang the hard surfacing access path leading to the school, but have been managed to facilitate use of the path and overhang the boundary fencing (pruning of lower limbs to the whitebeam). Heights of the two common whitebeam approximately 10m and 11m. Silver birch height approximately 16m. Sapling common yew growing at base of whitebeam. Boundary fence situated between the birch and the two whitebeam. Generally in fair condition, providing landscape value to the park and the school.

Appendix 2 – Tree Maps & Tree Protection Plan



Brindle &Green

Project Reference/Name:

BG23.314 Stukeley Gardens, Holbeach

Client:

Lindum Group Ltd

Drawing Title:

Location & Quality

Drawn By:

HR

Date:

08/01/2024

Legend:



Category A Groups



Category B Groups



Category C Groups



Category U Groups



Crown Spread



Root Protection Area



Shading Arc



Category 'A'



Category 'B'



Category 'C'



Category 'U'



Brindle & Green Limited
www.brindlegreen.co.uk
Tel: 0800 222 9105



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Brindle & Green

Project Reference/Name:

BG23.314 Stukeley Gardens, Holbeach

Client:

Lindum Group Ltd

Drawing Title:

Shading

Drawn By:

HR

Date:

08/01/2024

Legend:



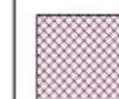
Category A Groups



Category B Groups



Category C Groups



Category U Groups



Crown Spread



Root Protection Area



Shading Arc



Category 'A'



Category 'B'



Category 'C'



Category 'U'



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Brindle & Green

Project Reference/Name:

BG23.314 Stukeley Gardens, Holbeach

Client:

Lindum Group Ltd

Drawing Title:

Root Protection Area (RPA)

Drawn By:

HR

Date:

08/01/2024

Legend:



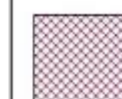
Category A Groups



Category B Groups



Category C Groups



Category U Groups



Crown Spread



Root Protection Area



Shading Arc



Category 'A'



Category 'B'



Category 'C'



Category 'U'



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Brindle &Green

Project Reference/Name:

BG23.314 Stukeley Gardens, Holbeach

Client:

Lindum Group Ltd

Drawing Title:

Location & Quality (Plans Overlaid)

Drawn By:

HR

Date:

08/01/2024

Legend:



Category A Groups



Category B Groups



Category C Groups



Category U Groups



Crown Spread



Root Protection Area



Shading Arc



Category 'A'



Category 'B'



Category 'C'



Category 'U'



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Brindle & Green

Project Reference/Name:

BG23.314 Stukeley Gardens, Holbeach

Client:

Lindum Group Ltd

Drawing Title:

Shading (Plans Overlaid)

Drawn By:

HR

Date:

08/01/2024

Legend:



Category A Groups



Category B Groups



Category C Groups



Category U Groups



Crown Spread



Root Protection Area



Shading Arc



Category 'A'



Category 'B'



Category 'C'



Category 'U'



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Brindle & Green

Project Reference/Name:

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Client:

Lindum Group Ltd

Drawing Title:

RPA (Plans Overlaid)

Drawn By:

HR

Date:

08/01/2024

Legend:



Category A Groups



Category B Groups



Category C Groups



Category U Groups



Crown Spread



Root Protection Area



Shading Arc



Category 'A'



Category 'B'



Category 'C'



Category 'U'



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Brindle & Green

Project Reference/Name:

BG23.314 Stukeley Gardens, Holbeach

Client:

Lindum Group Ltd

Drawing Title:

Tree Protection Plan

Drawn By:

HR

Date:

12/01/2024

Legend:



Construction Exclusion Zone Fencing



Permanent Ground Protection



Temporary Ground Protection



Specialist Foundations



Trees Proposed for Removal



Crown Spread



Root Protection Area



Shading Arc



Category 'A'



Category 'B'



Category 'C'



Category 'U'



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Appendix 3 – Tree Protection General Guidance

Tree protection specification – protective fencing

The protective fencing used must be fit for the purpose of excluding construction activity.

The default fencing specification should be as per Figure 1 and comprise of a vertical and horizontal scaffold framework. The fencing must be a minimum of 2m tall and well braced to resist impacts. Upright scaffold poles must be driven into the ground by a minimum of 0.6m and spaced at maximum intervals of 3m. Onto this framework, welded mesh infill panels will be secured to the uprights and cross-members with wire ties. The fence should be supported on the inner side by bracing poles. Care must be taken when locating the bracing poles to avoid contact with structural roots.

When the site circumstances prevent the use of driven poles (e.g. due to existing hard surfacing), the fencing specification should be as per Figure 2. This will consist of 2m tall welded mesh panels (e.g. Heras) on rubber or concrete feet, with the mesh panels held together with a minimum of two anti-tamper couplers. Distance between the fence couplers should be at least 1m and uniform across the fencing. Stabiliser struts on the inner side of the fence should be attached to a base plate secured with ground pins (Figure 2a) or mounted onto a block tray (Figure 2b).

Tree protective fencing must have all-weather notices attached at regular intervals, such as those in Figure 3 and Figure 4. The notices must include wording such as 'CONSTRUCTION EXCLUSION ZONE – NO ACCESS' or 'TREE PROTECTION AREA – KEEP OUT'. The tree protective fencing must remain *in situ* and intact until completion of construction; they may be removed after agreement with the project arboriculturist and their removal discharged to the Local Planning Authority.

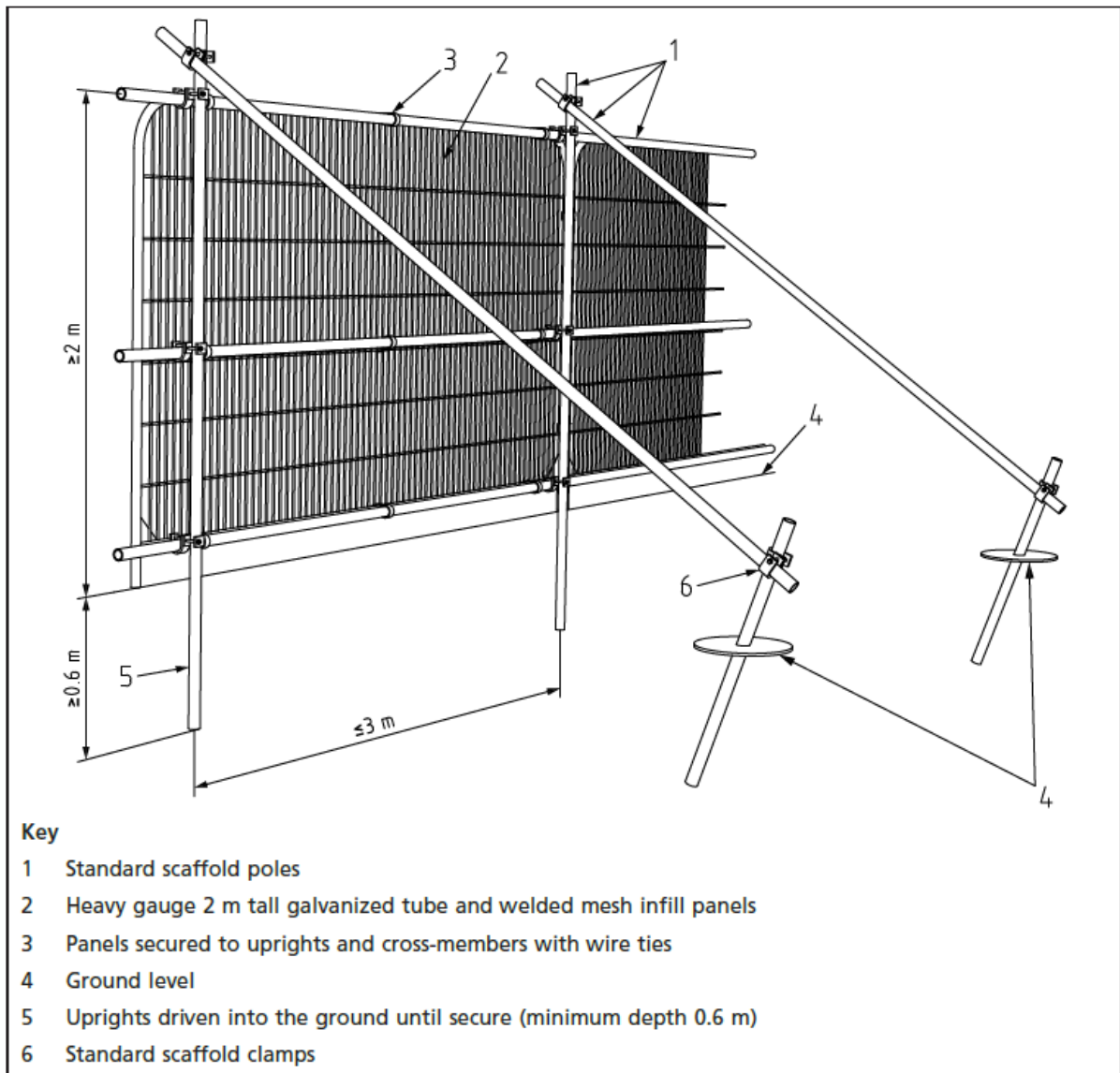


Figure 1: Default specification for tree protection fencing (Figure 2 in BS 5837:2012)

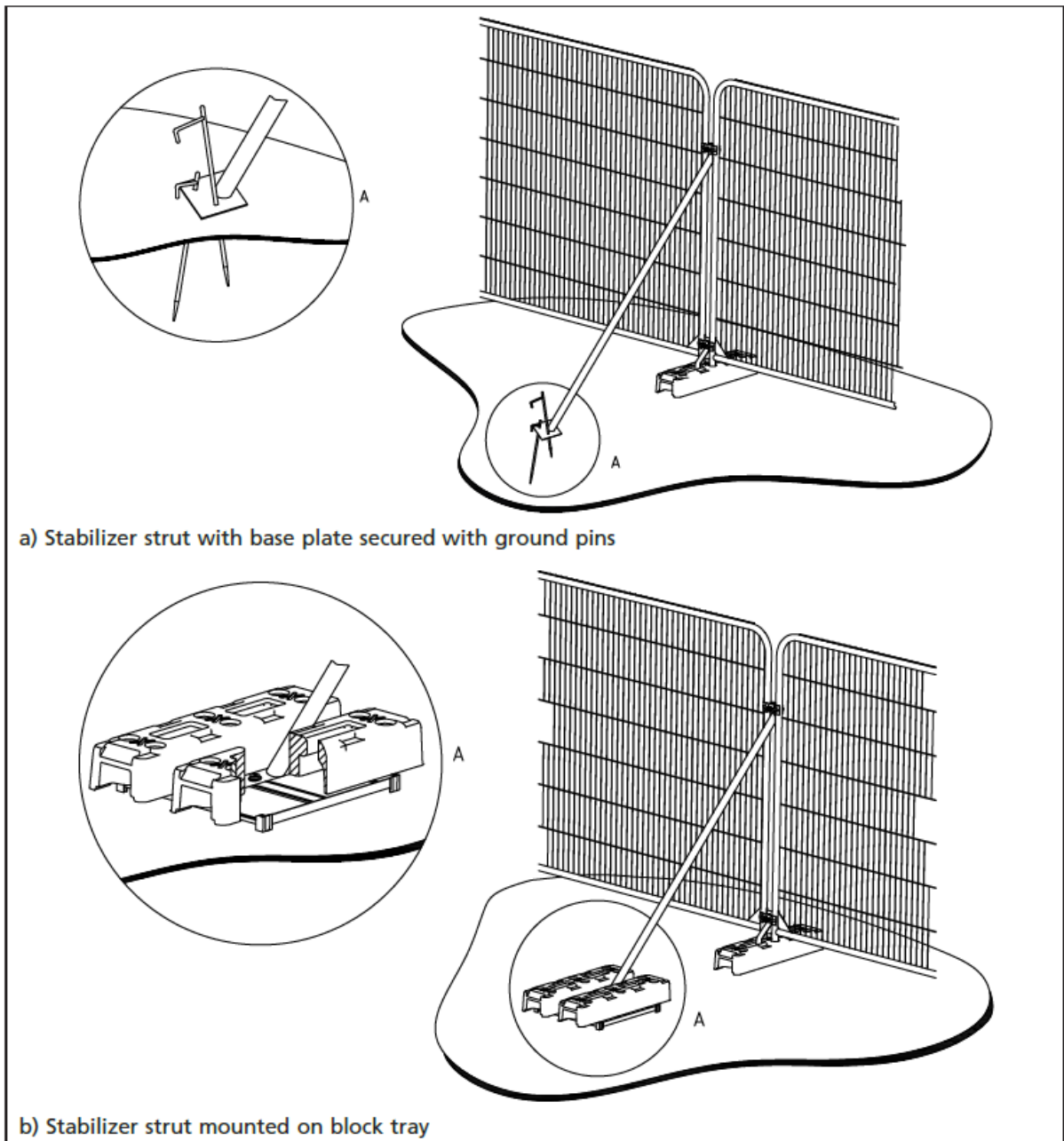


Figure 2: Alternative specification for tree protection fencing (Figure 3 in BS 5837:2012).



TREE PROTECTION AREA KEEP OUT!

(Town & Country Planning Act 1990)

**Trees enclosed by this fence are protected by
planning conditions and/or are the subjects of
a Tree Preservation Order.**

**Contravention of a Tree Preservation Order
may lead to criminal prosecution.**

**Any incursion into the protected area must be
with the written permission of the local
planning authority.**



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www.brindlegreen.co.uk

Unit 3, Silverhill Court,
Radbourne, Ashbourne,
Derbyshire, DE6 4LY

Figure 3: Tree protection fencing signage.



PROTECTIVE FENCING

Fencing must be maintained in accordance with the approved plans and drawings for this development



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Radbourne, Ashbourne,
Derbyshire, DE6 4LY

Figure 4: Tree protection fencing signage.

Other considerations – statutory controls and wildlife

Statutory controls

Trees may be statutorily protected due to their location within a Conservation Area, or by a Tree Preservation Order (TPO). Brindle & Green Ltd have undertaken TPO and Conservation Area searches to inform this report, using Local Planning Authority online mapping services or by confirming directly with the LPA. The protection status of trees may change between the issuing of reports and the commencement of works onsite; therefore, it is strongly recommended that tree protection status is checked directly with the LPA prior to the commencement of any tree work onsite. Separate works applications to protected trees are not required provided that the works are specified in this report, that this report is submitted to the LPA as part of the planning application and that planning consent is granted.

Bats

Several British bat species will roost in trees. All bats in the United Kingdom and their habitats are fully protected under the Wildlife and Countryside Act 1981 (as amended), and the Conservation of Habitats and Species Regulations 2017 (as amended). It is an offence to damage or destroy any bat roost, intentionally or recklessly obstruct a bat roost, deliberately, intentionally or recklessly disturb a bat or intentionally kill, injure or take any bat.

Breeding birds

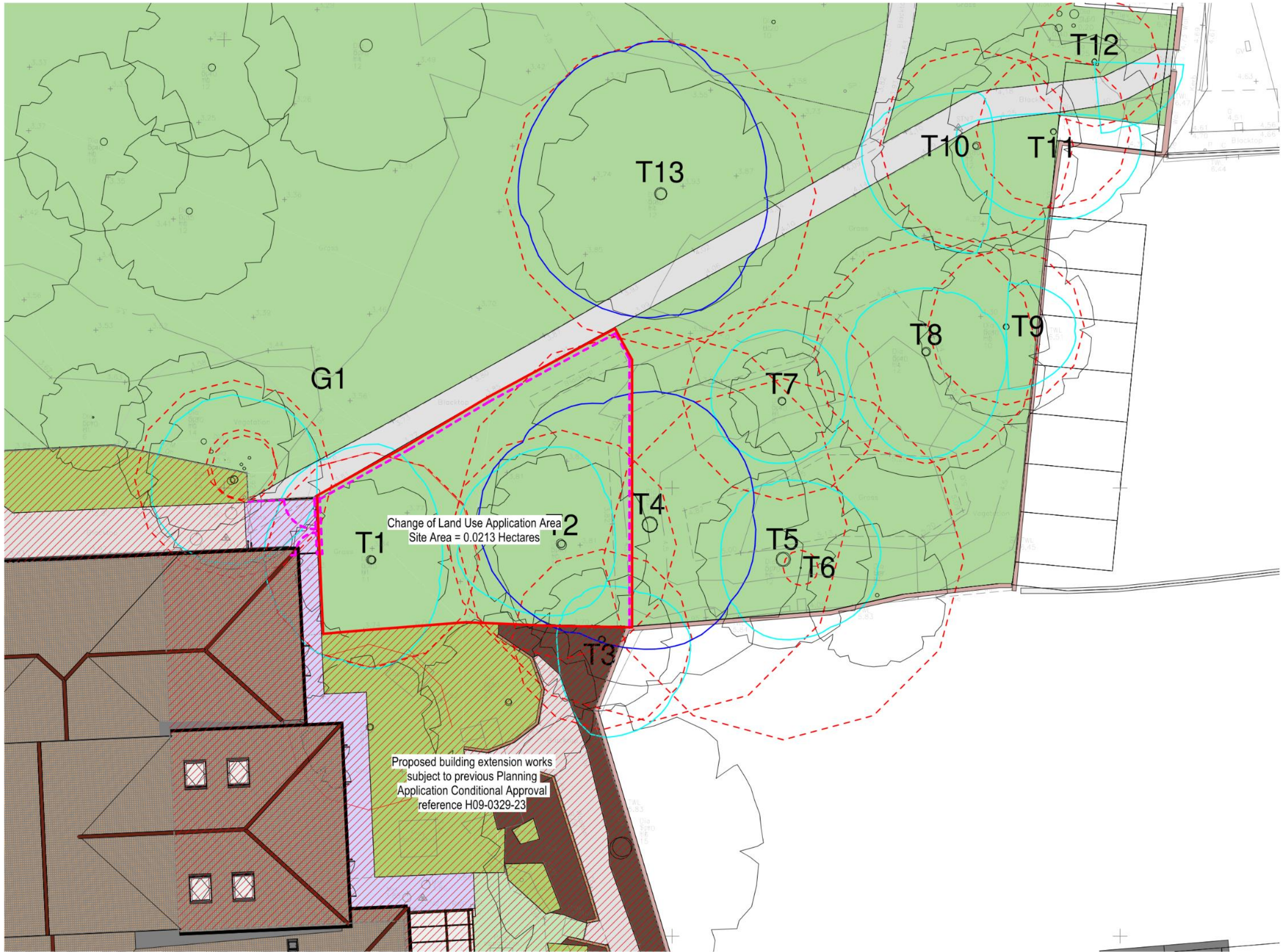
All nesting birds are protected under the Wildlife and Countryside Act 1981, which makes it an offence to intentionally kill, injure or take any wild bird or take, damage or destroy its nest whilst in use or being built, or take or destroy its eggs. In addition, for species listed on Schedule 1 of the Wildlife and Countryside Act 1981 it is an offence to intentionally or recklessly cause disturbance at, on or near an 'active' nest.

Vegetation clearance, including tree and hedgerow removal, during the period March to August can be damaging to active bird nests during the main breeding season. Vegetation clearance on site should ideally take place in the months September to February, outside of the main bird breeding season.

Any vegetation clearance proposed between the months of March and September should be subjected to a search for active birds' nests 24 hours prior to commencement of works. This should confirm whether all or some clearance is achievable. In addition to a pre-works check,

the clearance of vegetation between the months of March and September should be supervised by a suitably experienced ecologist.

Appendix 4 – Site Plans



NOTES

This drawing is presented to Lindum in respect of William Stukeley - Holbeach and may not be used or relied on by any other person in the absence of this drawing. Notwithstanding anything to the contrary contained in the drawing, Kier Business Services Limited is not liable for any loss or damage in the performance of the services required by Lindum and Kier Business Services Limited shall not be liable, except to the extent that it has failed to exercise reasonable skill, care and diligence, and this drawing shall be read and construed accordingly.

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Scale:

Scale	1:100	1:200	1:500	1:1000	1:2000	1:5000	1:10000
mm	0	100	200	500	1000	2500	5000
m	0	1	2	5	10	25	50
km	0	0.1	0.2	0.5	1.0	2.5	5.0

Key

- Site Boundary (Area = 0.0213 Hectares)
- Proposed building extension works subject to previous Planning Application Conditional Approval reference H09-0329-23
- Category 'B' Trees (refer to Brindle & Green drawing ref. BG23.314)
- Category 'C' Trees (refer to Brindle & Green drawing ref. BG23.314)
- Root Protection Area (refer to Brindle & Green drawing ref. BG23.314)
- Proposed line of relocated new Paladin mesh perimeter fencing. Location of fence posts within RPA's to be installed in accordance with Arboriculturalist advice

PS	PS	PS	PS	PS
Version	Amendment	Drawn	Checked	Approved
1		16.12.23	16.12.23	16.12.23
2		16.12.23	16.12.23	16.12.23
3		16.12.23	16.12.23	16.12.23
4		16.12.23	16.12.23	16.12.23
5		16.12.23	16.12.23	16.12.23

KIER

Issuing Office: Lincoln
Telephone: 07823 326047
E-mail: philip.r.stephenson@kier.co.uk
Internal Project Number: 36222
Client: Lindum
Project Name: William Stukeley - Holbeach
Drawing Title: Proposed Site Plan - Change of Land Use
Scale: 1:100
Original Size: A1
RPA 2013 Stage: 3
Date: DEC 23
Drawn: PS
Checked: RM
Approved: GT
Drawing Number: WSP22-DBS-XX-00-DR-A-1111
Revision: P01
Station: S3

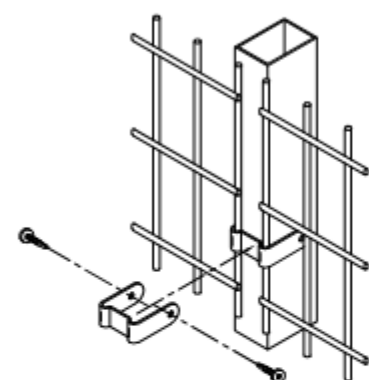
© Kier Business Services Limited

1 Proposed Site Plan
1:100

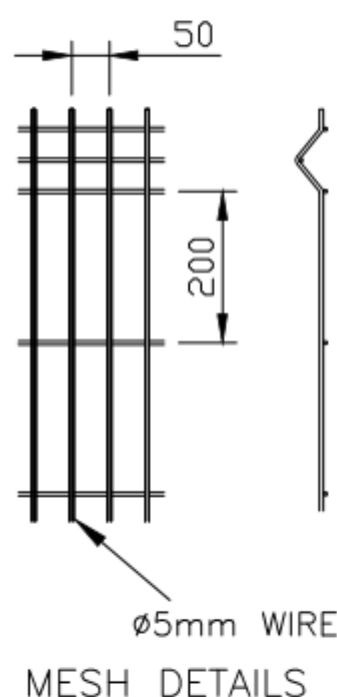
150 x 10 thk x 150
BASEPLATE DRILLED FOR
4 No. M12 CHEMICAL FIXINGS



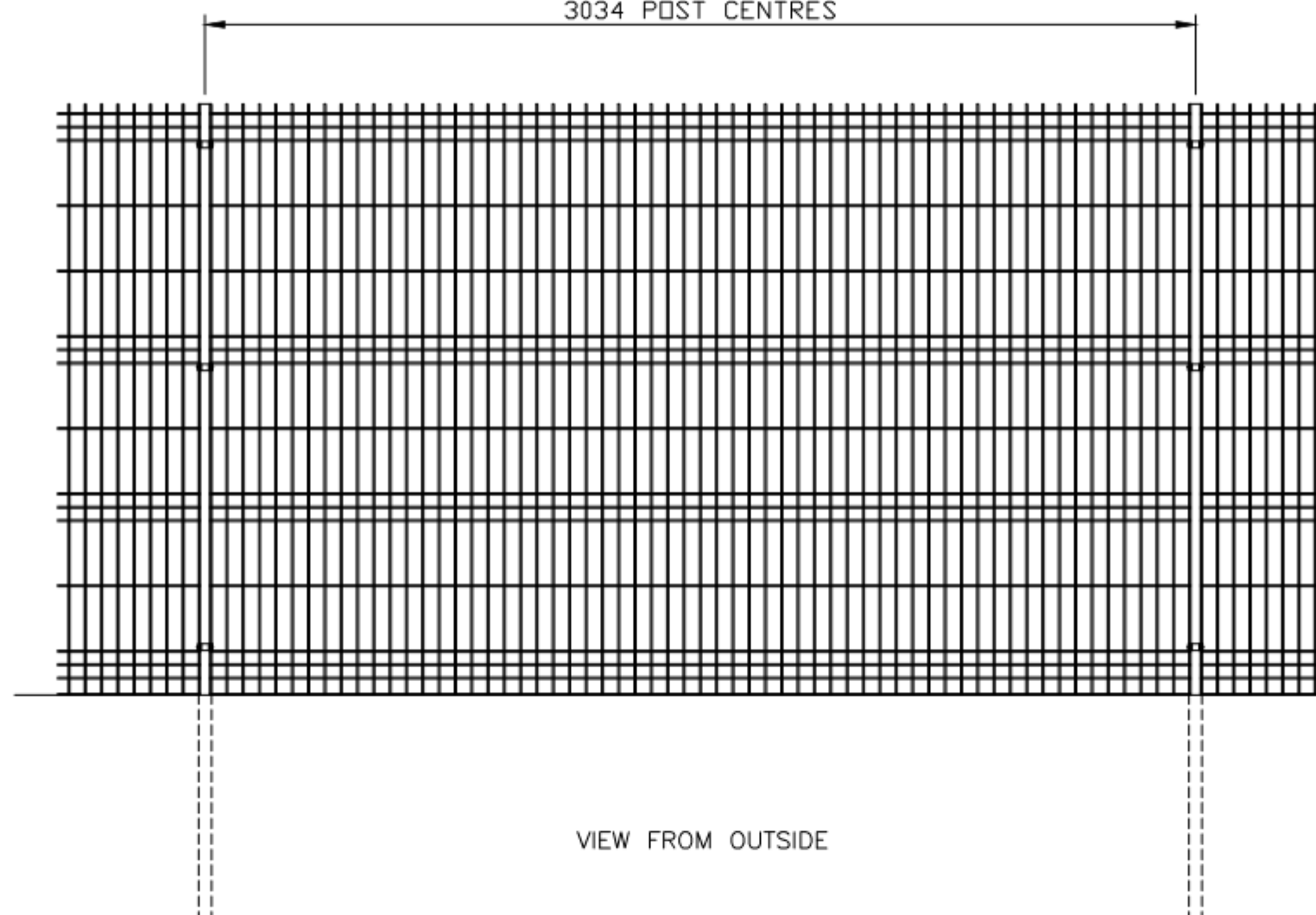
BASEPLATED POSTS
(OPTIONAL)



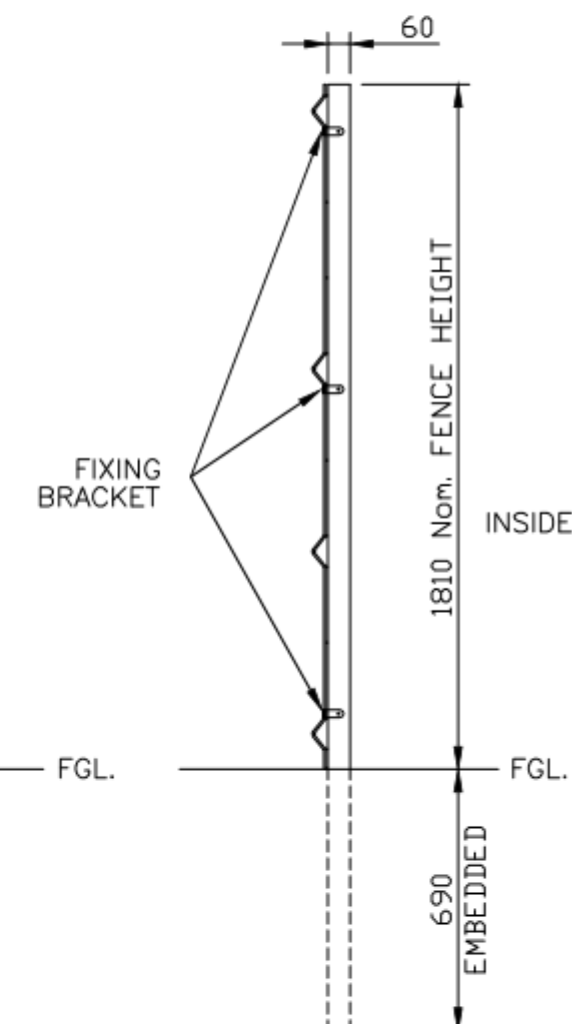
FIXING BRACKET
DETAIL



3034 POST CENTRES



VIEW FROM OUTSIDE



NOTES.

ALL DIMENSIONS ARE IN mm (UNO)
GAPS UNDER GATES ARE
NOMINAL DUE TO GROUND LEVELS.

MATERIALS.

POST: 60 x 40 RHS (TYPICAL)
(POSTS ASSESSED TO SITE LOCATION)

FINISH.

GALVANISED TO BS EN ISO 1461
POWDER COATED: IF REQUESTED

**Jacksons
Fencing**

Stowting Common, Near Ashford,
Kent. TN25 6BN
Telephone: 01233 750393
Fax: 01233 750403
www.jacksons-fencing.co.uk
www.jacksons-security.co.uk

This Drawing Is The Property Of H.S. Jackson & Son (Fencing) Ltd, And May
Not Be Copied Or Reproduced In Any Way Without Prior Written Permission.

DO NOT SCALE – IF IN DOUBT ASK

- ⑤ 19/02/2020 NEW BORDER + NOTES UPDATED
- ④ 25/06/2018 BASEPLATE OPTION
- ③ 25/02/11 50mm Wire Centres
- ② 04/01/10 Panels Corrected
- ① 29/09/08 Panel Width Now 3m

Drawn S.leeper

Date 15/06/2006

Checked Chris J

Size A3 Scale 1:20 U.O.S

TITLE

SALES DRAWING

1.8m HIGH EUROGUARD REGULAR FENCE

CUSTOMER

ACK No.

Drawing No.

J6/01058

Sheet 2

Appendix 5 – Site Photographs

Image	Description
Site Photograph 1	
	Showing a portion of the site including T1 and T2. The hard surfacing footpath can be seen, running to the existing pedestrian school entrance (right).
Site Photograph 2	
	Looking east, showing T7 – T9 (right), and T10 – T12 (left). The hard surfacing footpath can be seen running from Back Lane (left).

Appendix 6 – Tree Preservation Order

FIRST SCHEDULE

Tree Specified Individually
(encircled in black on the map)

No. on Map	Description	Situation
	NONE	

Trees Specified by Reference to an Area
(within a dotted black line on the map)

No. on Map	Description	Situation
A1	The several trees of whatever species standing in the area numbered A1 on the map.	Within the grounds of Stukeley Hall, Holbeach.

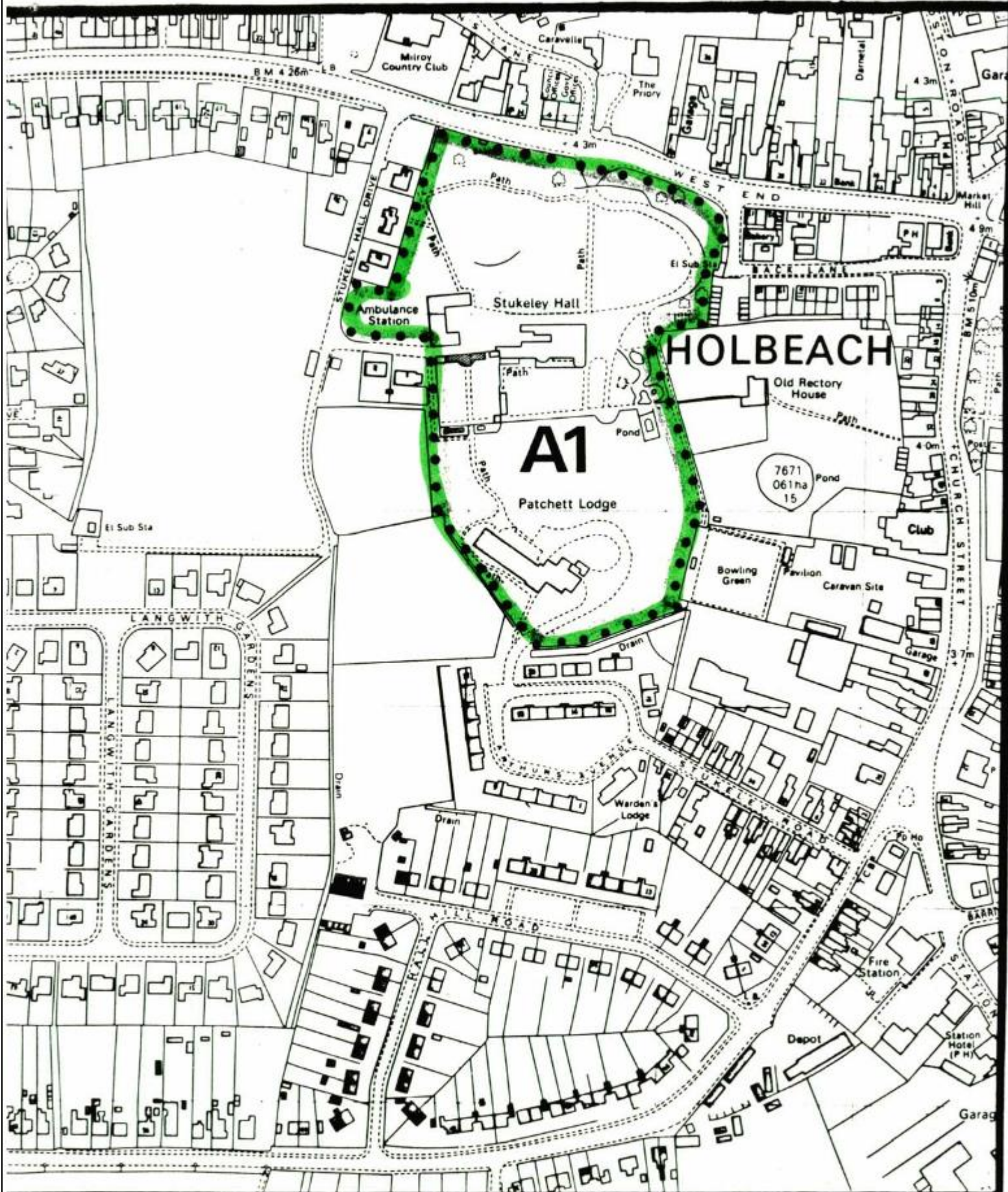
Groups of Trees
(within a broken line on the map)

No. on Map	Description	Situation
	NONE	

Woodlands
(within a continuous black line on the map)

No. on Map	Description	Situation
	NONE	

SOUTH HOLLAND DISTRICT COUNCIL



(HOLBEACH) TREE PRESERVATION ORDER No.10. 1986

PLAN No	
SCALE	1:2500
DATE	OCTOBER '85.
BASE	TF3524

B.SMITH M.R.T.P.I.
District Planning Officer



Appendix 7 – General References

British Standards Institution, 1989. *BS 4428:1989 - Code of practice for general landscape operations (excluding hard surfaces)*. BSI Standards Limited.

British Standards Institution, 2010. *BS 3998:2010 - Tree work - Recommendations*. BSI Standards Limited.

British Standards Institution, 2012. *BS 5837:2012 - Trees in relation to design, demolition and construction*. BSI Standards Limited.

Mattheck, C., Bethge, K. & Weber, K., 2015. *The Body Language of Trees (Encyclopaedia of Visual Tree Assessment)*. Karlsruhe: Karlsruhe Institute of Technology - Campus North, a merger of Forschungszentrum Karlsruhe GmbH.

Roberts, J., Jackson, N. & Smith, M., 2018. *Tree Roots in the Built Environment*. 3 ed. London: The Stationery Office.

Rose, B., 2020. *The Use of Cellular Confinement Systems Near Trees: A Guide to Good Practice*, UK: Arboricultural Association.