James Royston
Arboricultural Consultant

Arboricultural Method Statement

in accordance with

BS5837:2005

at

Wortley Village

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1 Introduction

1.1 Purpose of report

This report has been created to ensure good practice in the management of trees during the proposed development at: Wortley Village, South Yorkshire.

At this stage this is an outline method statement covering 15 sites. It is possible that further details will be required about individual sites at a later stage.

1.2 Status

The recommendations of this report are based on the plans as provided Ref 21.70, our tree survey Ref 110113, and our implication assessment Ref 110113 AIA.

This report should be included as part of any specifications and schedules of works supplied to all demolition and construction contractors.

2 Preparation for development

2.1 Necessary tree works

The first operation will be the tree pruning and felling works as detailed at **Appendix 1**.

All tree works should be carried out by suitably qualified, experienced and insured contractors in accordance with BS3998: 2010.

2.2 Protective fencing

The protective fences can be installed after the necessary tree works are completed, but they must be fully installed and completed before any other work commences, this includes; demolition, soil stripping or the bringing onto site of materials, supplies or machinery.

Protective fencing must be constructed in such a way as to exclude construction activity and be appropriate to the degree and proximity of likely works. BS5837:2005 states that 2.3m high welded mesh panels securely fixed onto a braced scaffold framework should be used as shown in **Appendix 2**.

Unless otherwise specified in this report or its attached drawings the fenced areas shall be considered complete construction exclusion zones; there shall be no pedestrians, vehicles, materials, equipment or machinery allowed in the fenced areas at any time.

There should be adequate signs informing all relevant persons that access is denied, an example sign is included at **Appendix 3**.

Care must also be taken to prevent fenced areas being contaminated with chemical spillages, including; petrol, diesel, oils, cements and concretes. In addition, water run-off from areas of construction activity must be diverted away from fenced areas.

2.3 Site inspection

Once the necessary tree works have been completed and the protective fences are in place it is recommended that the developer's arboriculturist is invited to visit the site, meet with the relevant local authority representative, and check that the necessary tree works and the protective fences are completed satisfactorily.

3 Development Phase

3.1 The root protection area (RPA)

The root protection area (RPA) is the area of ground it is desirable to leave undisturbed during development. BS5837:2005 recognises that this is not always practical and that some development within the RPA should be allowed.

The RPAs are shown on the attached plan as hatched circles or squares. Where work will be undertaken within an RPA the area must be fenced off until the planned activities are due to commence.

There must be no activity of any kind within any RPA unless it is by prior written agreement of the local authority.

3.2 Demolition of existing hard surfaces within the RPA

Existing hard surfaces must be removed with caution to prevent damage to tree roots. This should be done using hand tools, but suitable machinery may be used in some situations.

Where machinery is to be used then work should be done progressively, starting closest to the trees and working towards the outer edge of the root protection area. Tracks, wheels, or other load bearing parts of machinery used must be on existing hard surfaces at all times when within the root protection area.

Excavation within the RPA must not be deeper than the existing hard surface unless otherwise agreed in writing with the local authority.

Broken up tarmac, concrete and other arisings should be removed by hand using a wheel barrow. Where the use of machinery (such as excavators, mini-diggers, or dump trucks) is permitted by the local authority, then buckets should have a straight edge and vehicle tracks and/or wheels must be located on existing hard surfaces at all times when within the root protection area.

3.3 Demolition of existing buildings within the RPA

Often there are existing buildings within the RPA, these should be demolished inwards and within their existing footprint.

Existing foundations and other below ground or surface features must be either left in place, or must be dismantled and removed as described in section '3.2 - Demolition of existing hard surfaces within the RPA'.

3.4 Construction of special surfaces

Where special surfaces are to be constructed within the RPA then these surfaces must be completed prior to the areas being used for pedestrian or vehicle access.

Until special surfaces within the RPA are complete the RPA must be treated in the same way as an area which has been protected with tree protective fencing. This means that until the surface is fully installed, there must be no; pedestrians, vehicles, materials, equipment or machinery allowed within the RPA at any time, other than as required for construction of the special surface.

The design and construction techniques of special surfaces within tree root protection areas must meet the biological and environmental requirements of tree roots; the expected level and type of traffic; and be practicable in terms of time and resources required for construction.

BS5837:2005 recommends that where the construction of a hard surface is required within the root protection area a “no dig” construction method is used which should be designed to evenly distribute the weight of vehicles over their track width and wheelbase in order to avoid localised soil compaction

around tree roots.

Where possible, it is preferable to construct special surfaces in such a way as to allow the infiltration of moisture and gaseous exchange. This may not be applicable where roads are to be adopted by local authorities due to the frequent requirement that such roads are waterproof.

The various requirements for a hard surface within a RPA are often achieved using a load suspension layer incorporating a three dimensional cellular confinement system.

Any proposed surfaces within the RPA must be fully specified by a suitable engineer and be agreed in writing with the local planning authority prior to implementation.

Examples of a 'no dig' surface are given in **Appendix 4**.

3.5 Service runs

New underground services must not be installed within the tree root protection areas.

Above ground services should be positioned away from the crowns of trees to be retained.

Any works to existing underground services should be done in accordance with current NJUG (National Joint Utilities Group) guidance as shown in **Appendix 5**.

3.6 Changes in ground level

Ground levels should not generally be lowered within the tree root protection area as this could cause serious damage to tree roots.

Occasionally ground levels may need to be raised within the tree root protection area. This can be achieved by the use of a granular material with a no fines content to allow the vertical diffusion of moisture and gasses.

There must be no works within an RPA unless by prior written agreement of the local authority.

3.7 Removal of protective fencing

When the development phase is complete, all drainage and service runs are in place, and the main site machinery has been removed, the protective fencing may be dismantled. This must be done with care, there must be no; vehicles, materials, equipment or machinery allowed within the RPA at any time.

3.8 Post Construction Landscaping

Some trees on the site are likely to be subject to some form of landscaping or seeding beneath the canopy after the main development phase has been completed. At this stage, it is inevitable that some of the protective fencing will have already been removed.

In view of this, the landscaping works must be carried out in such a way as to avoid ground level changes or deep digging. Mechanised cultivation methods must be avoided within the RPA.

There must be no; vehicles, materials, equipment or machinery allowed within the RPA of retained trees at any time.

Any herbicides used must be appropriate for their purpose, and must not be used in such a way as will damage trees to be retained.

4 Completion meeting

Upon completion of all the works specified, it is recommended that the developer’s arboriculturist and the local authority's arboriculturist are invited to meet on site to check that all works are completed satisfactorily and to discuss any remedial works as required.

5 Contact Details

I hope this report provides all the required information. However, if further advice is needed then please contact me and I will be happy to help.

James Royston – Independent Arboricultural Consultant
MSc Arboriculture and Urban Forestry, BSc (Hons) Forestry.
Professional Tree Inspection Qualified – LANTRA Awards.
Professional member of the Arboricultural Association and the Consulting Arborist Society
Chartered Environmentalist

Unit 28 Upper Mill
Slaithwaite
Huddersfield
HD5 7HA

01484 769 011

jr@jamesroyston.co.uk

Report completed 23rd May 2011

Appendix 1: Tree works

Tree number	Common name	Scientific name	Pre-development tree works	Reason for works
1	Lime	*Tilia sp.*	None	N/A
2	Lime	*Tilia sp.*	None	N/A
3	Lime	*Tilia sp.*	None	N/A
4	Beech	*Fagus sylvatica*	Undertake a climbed inspection and assess extent of decay. Assuming tree is generally sound – Major pruning to reduce end weight and leverage of longer or defective limbs. Consideration given to bracing.	To prevent tree failing.
5	Lime	*Tilia sp.*	None	N/A
6	Lime	*Tilia sp.*	None	N/A
7	Lime	*Tilia sp.*	None	N/A
8	Lime	*Tilia sp.*	None	N/A
9	Birch	*Betula pendula*	None	N/A
10	Apple trees	*Malus sp.*	Fell	Trees in poor condition, and to allow for development
G11	Mix	*Mix*	Fell	To allow for development
G11a	Holly	*Ilex aquifolium*	Not decided	N/A
12	Mix	*Mix*	Manage as hedge	To improve value and condition of hedge
13	Sycamore	*Acer pseudoplatanus*	None	N/A
14	Sycamore	*Acer pseudoplatanus*	None	N/A
15	Horse Chestnut	*Aesculus hippocastanum*	If tree is retained then undertake a decay detection analysis and follow recommendations.	To check tree for safety
G16	Ash and sycamore	*Fraxinus excelsior and Acer pseudoplatanus*	Fell	To allow for development
G16a	Ash	*Fraxinus excelsior*	Fell	Safety
17	Lime	*Tilia sp.*	None	N/A
18	Sycamore	*Acer pseudoplatanus*	None	N/A
19	Lime	*Tilia sp.*	None	N/A
20	Lime	*Tilia sp.*	None	N/A
21	Lime	*Tilia sp.*	None	N/A
22	Lime	*Tilia sp.*	None	N/A
23	Ash	*Fraxinus excelsior*	None	N/A
24	Sycamore	*Acer pseudoplatanus*	None	N/A
25	Lime	*Tilia sp.*	None	N/A
26	Horse Chestnut	*Aesculus Hippocastanum*	Fell	Safety
27	Turkey Oak	*Quercus cerris*	None	N/A
28	Norway Spruce	*Picea abies*	Fell	To allow for development
29	Sycamore	*Acer pseudoplatanus*	Fell	To allow for development
30	Sycamore	*Acer pseudoplatanus*	Crown lift to 4m	To allow for development
31	Sycamore	*Acer pseudoplatanus*	Crown lift to 4m	To allow for development
32	Sycamore	*Acer pseudoplatanus*	Crown lift to 4m	To allow for development
33	Sycamore	*Acer pseudoplatanus*	None	N/A
34	Horse Chestnut	*Aesculus hippocastanum*	Extreme pruning – pollarding or topping, or fell	Safety
35	Sycamore	*Acer pseudoplatanus*	None	N/A
36	Sycamore	*Acer pseudoplatanus*	Fell	Safety

Appendix 2: Tree protective fencing

Figure 1: Standard tree protective fencing

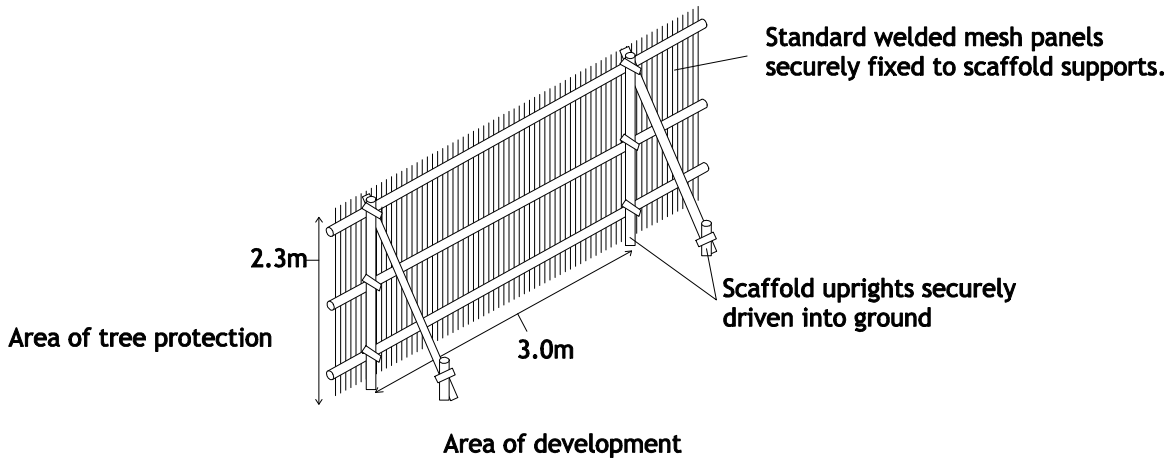
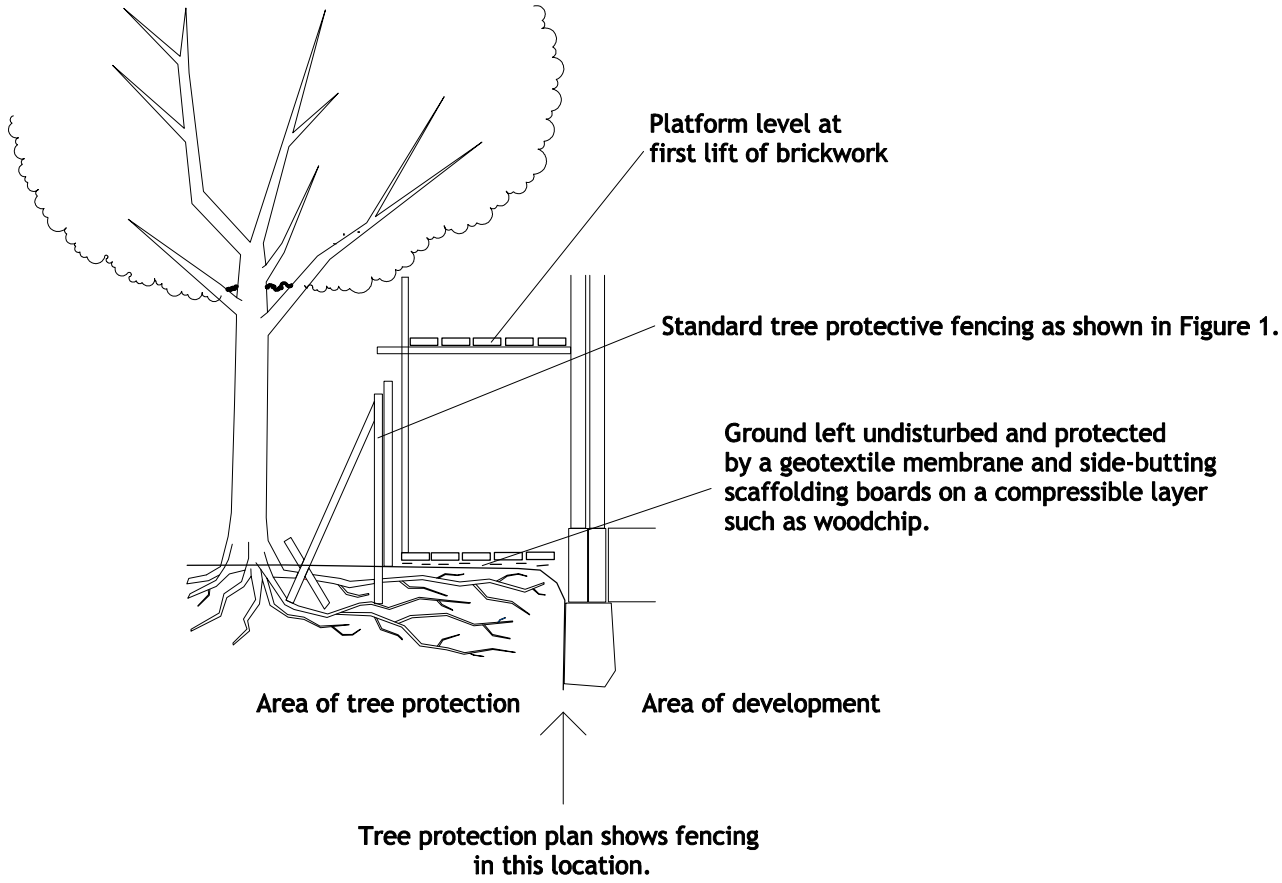


Figure 2: Ground protection and scaffolding to allow access into RPA.



Appendix 3: Example sign to be attached to tree protective fencing



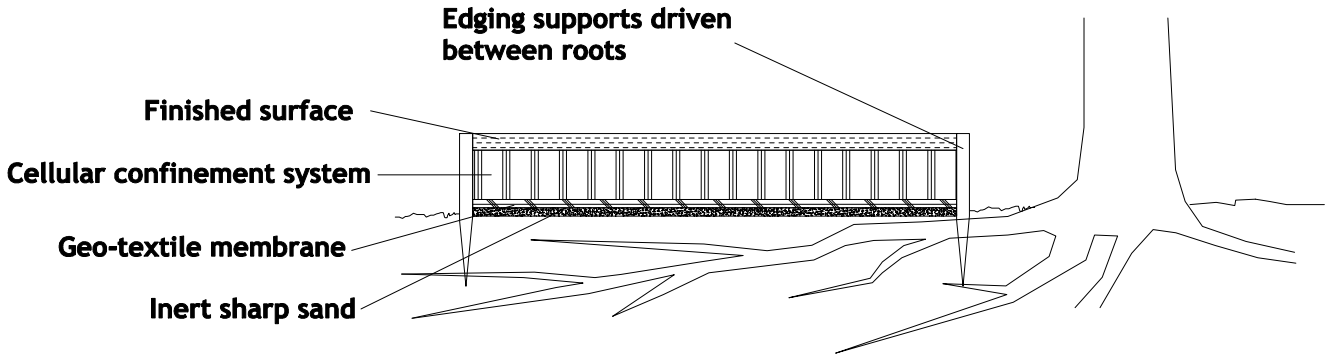
TREE PROTECTION AREA - KEEP OUT

TREES ENCLOSED BY THIS FENCE ARE PROTECTED
BY PLANNING CONDITION AND/OR A TREE PRESERVATION ORDER

NO INCURSION WITHOUT THE PRIOR WRITTEN PERMISSION OF THE
LOCAL PLANNING AUHORITY

Appendix 4: Example special surfaces within the RPA

An example of a 'no dig' construction method incorporating a cellular confinement system.



Appendix 5: Tree protection plan

WARNING: Many of the trees on this site are protected by a Tree Preservation Order (TPO).
Causing damage or harm to protected trees is a criminal offence with potentially severe penalties.
If in doubt stop work and contact either ourselves or the local authority tree officer.

THE FLATS

Lane End

The Gables

Fish Pond

Park Lodge

T8

T7

T6

T5

T4

T3

T2

T1

Existing Access

Area of specialist ground protection:
New surfaces to be constructed in accordance with section 3.4 of this method statement.

SITE 1

N

Indicative

50m

James Royston
Arboricultural Consultant

Unit 28 - Upper Mill - Slaithwaite - Huddersfield - HD7 5HA
jr@jamesroyston.co.uk - 01484 679011- www.jamesroyston.co.uk

Tree Protection Plan to BS5837:2005 at:
Wortley Village, South Yorkshire

1:500	PAPER SIZE A3

Key	
	Tree to be retained
	Tree to be removed
	Root Protection Area (RPA) shown as a circle as an approximate guide.
	Location of tree protective fencing
	Area of root protection. See explanatory notes and main body of report for further details.

Note: Plans are for guidance only. These drawings should not be be used for scaling.

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THE FLATS

PO

Reading Room Row

READING ROOM LANE

Club

Top Lodge

Sorrel Bank

Farm Shop

Estate Office

Parking

Gate

Leylandii Hedge

Mixed thorne and holly hedge

NST

SITE 3

Holly
G11

G11a

Access From existing car park

Leylandii Hedge

Pub Terrace

T36

Approx position of Trees

SITE 15

G12

T13

T14

SITE 2

G10

Fruit trees

T9

Silver Birch

NST

Fruit trees

Fruit trees

The Limes

The School House

Allotment Gardens

School

N

Indicative

50m

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AREA OF WOODLAND
(CANOPY SPREAD AND RPA APPROXIMATE ONLY)

SITE 13

Area of specialist ground protection:
New surfaces to be constructed in accordance with section 3.4 of this method statement. Precise layout and level of development to be agreed at a later date.

AREA OF WOODLAND
(CANOPY SPREAD AND RPA APPROXIMATE ONLY)

SITE 4

Minor incursion into Root Protection Area of T15 assessed and found to be acceptable in the Arboricultural Impact Assessment.

T15

SITE 9

T28
T32
T29
T30
T31
NST

AREA OF WOODLAND
(CANOPY SPREAD AND RPA AP

THE AVENUE
PARK AVE
THE FLATS
THE FLATS

Chimney Cottage
Avenue Cottage
Hi Gables
Barn
Rose Cott
Avenue Villas
Line Flatt
Wortley Park
Top Lodge

N
Indicative

50m

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SITE 6

SITE 7

SITE 8

SITE 10

T17
T18
T19
T20
T21
T22
G16a
G16
T24
T23
T25
T26
T27

The Bungalow
Approx position of extension under construction.
Wall extended into verge?
Borrowdale House
HALIFAX ROAD
HOME FARM COURT
Police Station Row
SMITHY CLOSE
The Cott
Home Farm
Anvil Cott
Smithy Cott
Corner
Beech Villa
Ben
Holmside Road
TREE CANOPY

N
Indicative

50m

James Royston
Arboricultural Consultant

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jr@jamesroyston.co.uk - 01484 679011- www.jamesroyston.co.uk

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1:500	PAPER SIZE A3

Key	
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AREA OF WOODLAND
(CANOPY SPREAD AND RPA APPROXIMATE ONLY)

Area of specialist ground protection:
New surfaces to be constructed in accordance with section 3.4 of this method statement.

SITE 11

Area of specialist ground protection:
New surfaces to be constructed in accordance with section 3.4 of this method statement.

Area of specialist ground protection:
Existing hard surfaces to be broken up with extreme care in accordance with section 3.2 of this method statement.

AREA OF WOODLAND
(CANOPY SPREAD AND RPA APPROXIMATE ONLY)

Path (um)

N
Indicative

50m

James Royston
Arboricultural Consultant

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jr@jamesroyston.co.uk - 01484 679011- www.jamesroyston.co.uk

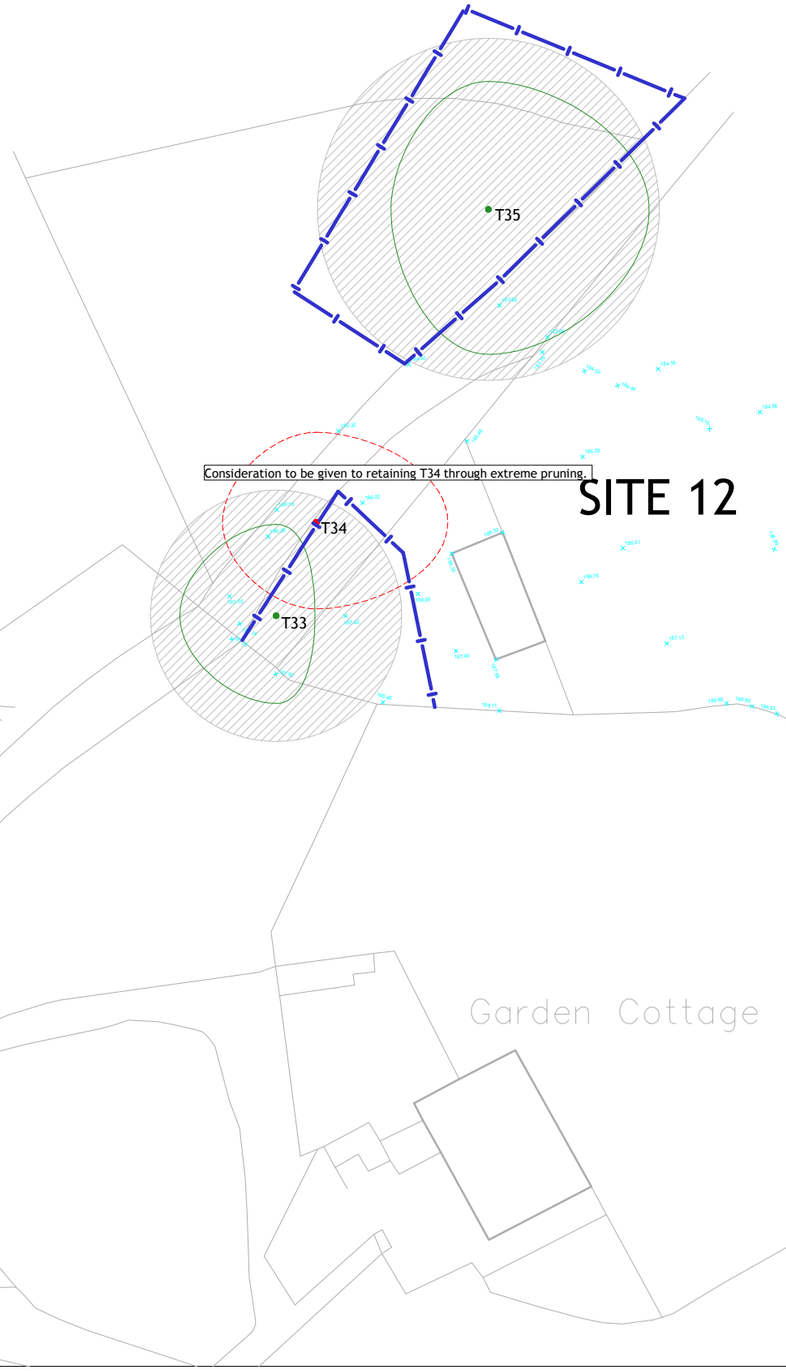
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SITE 12

N

Indicative

50m

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