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BS5837 – Tree Surveys – Ecological Consulting

ARBORICULTURAL IMPACT ASSESSMENT FOR SOUTHCOTE MILL



**Prepared on instructions from:
Mr G Puddephatt
Southcote Mill
Southcote Farm Lane
Reading
RG30 3DZ**

Ref: SPH/PJ/AIA-01/19.11

19th December 2015



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1. Report details

1.1 Arboricultural impact assessment (AIA)

1.1.1 An arboricultural impact assessment (AIA) is a term used to describe a specific type of tree survey which examines the relationship between trees and adjacent features (existing & proposed) such as buildings, roads etc. The study describes how the trees and features will interact and influence each other and should consider both present and future interactions.

1.1.2 AIA studies are commonly used to determine whether a proposed development will adversely affect established trees and whether these trees will be the cause of nuisance to the proposed development.

1.2 Scope

1.2.1 This assessment is concerned with the arboricultural aspects of the site only.

1.2.2 This assessment was undertaken in accordance with British Standard (BS) 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations (BS 5837:2012).

1.3 Limitations

1.3.1 The assessment contained within this document is based upon plans and other supporting information (verbal or documented) as supplied to us by Mr G Puddephatt, and the tree survey conducted by ourselves on 19th November 2015.

1.4 Clients instructions

1.4.1 To determine the effects of the proposed construction works upon the trees.

1.5 Supplied information

1.5.1 A document containing the site plan and concept photos of the proposed development are included at Appendix 1.

2. The site

2.1 Site description

2.1.1 At Southcote Mill, the proposed location for the redevelopment is the remnant building located on an island on the River Kennet, opposite Southcote Mill. The small peninsula is accessed via the canal footbridge and is dominated by the remnant building, mature trees, shrubs and ground cover.



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2.2 Tree survey

- 2.2.1 A tree survey was carried out for this site, ref: SPH/PJ/5837-01/19.11. All tree identification numbers used within this report correspond with those contained within the tree survey schedule at Appendix 2.

2.3 Proposed development

- 2.3.1 The proposal seeks to utilise the existing building to construct a two storey building as indicated in the concept photographs included at Appendix 1.
- 2.3.2 The tree survey ref: SPH/PJ/5837-01/19.11 identified ten individual trees and one group of trees either within the site outline or adjacent to it that might be affected by the proposal. A copy of the tree location drawing is included at Appendix 3.
- 2.3.3 We assessed the impact upon all the trees against the proposal. There are a total of six individual trees and one group of trees that require removal. Five of these trees are unsuitable for retention as they are in Category 'U' of BS5837:2012 and their life expectancy is considered to be less than 10 years. One individual tree and one group of trees in BS 5837:2012 category "C" require removal, they are T7 and group G10.

3. Introduction

3.1 AIA objectives

- 3.1.1 To assess the area within the site where proposed works are to be carried out in close proximity to established trees.
- 3.1.2 To determine whether the proposed works can be carried out successfully without adversely affecting the trees both in the short and long term.
- 3.1.3 To determine whether the trees will have adverse effects on the proposed development both in the short and long term.
- 3.1.4 To suggest ways to mitigate any conflicts that may arise between the trees and the proposed development and to offer recommendations relating to the protection of the trees during redevelopment works.

3.2 Items for consideration

- 3.2.1 Trees and development located within close proximity to each other can influence each other in a number of ways. The following items are normally considered during arboricultural impact studies:
- Root disturbance caused by demolition, excavation & construction e.g. buildings and roads.
 - Location of service runs, welfare/office buildings & materials storage.
 - Changes in levels & surface types.
 - Sunlight shading of exterior amenity areas (such as gardens, patios etc).
 - Physical encroachment by roots, tree stem & branches.
 - Allowance for future tree growth.
 - Health, safety and nuisance items e.g. leaves, fruit and residues.



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3.3 Guidance whilst assessing trees in relation to development includes:

- BS 5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations. Published by the British Standards Institute.
- Tree Preservation Orders: A Guide to the Law and Good Practice. Published by the Department of the Environment, Transport and the Regions.
- NJUG 10 - Guidelines for the planning, installation and maintenance of Utility Services in relation to trees. Published by the National Joint Utilities Group (NJUG).
- BS 8206: Part 2: 2008 Code of Practice for Daylighting. Published by the BSI.
- Site Layout Planning for Daylight and Sunlight. A Guide to Good Practice. Published by the Building Research Establishment.
- CIBSE: Daylighting and window design, lighting guide LG 10: 1999.

4. Analysis

4.1 Introduction

4.1.1 Urban Tree Experts has been instructed to undertake an AIA on trees located within and close to the footprint of the remnant building at Southcote Mill.

4.2 Assessment methodology

4.2.1 The assessment is based on the guidance given in BS 5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations.

4.3 Key issues

4.3.1 The key issues associated with the proposed items identified above in relation to trees are:

- Will there be direct impacts from tree losses on the landscape, both in terms of impacts on visual receptors and impacts on the landscape character and amenity of the area?
- Will the proposed development require grade and ground level alterations that may have significant implications for root systems of trees?
- The tree constraints and tree protection measures.
- Services in close proximity to the retained trees.
- Leaf fall and shade constraints leading to pressure to prune or fell.
- Direct impacts from trees.

4.3.2 These key issues and associated impacts are considered along with possible tree protection measures and mitigation considered necessary as part of any consent.

5. Impact on existing trees

5.1 Tree loss, tree damage and pruning works

5.1.1 A total of six individual trees and one group of trees will be lost to the scheme. Five of these trees are in Category 'U' they are trees (T) T4, T7, T8, T9, T11 and one tree T5 and one group of trees T10 are in Category 'C'



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5.1.2 Roots from trees T1, T2, T3 and T6 could be affected by the proposed development and in particular the trees in close proximity to the building. However the existing footprint is to be retained so impacts are likely to be minimal. However, augmentation of foundations close to retained trees has the potential to cause significant damage to tree roots and therefore must only be undertaken under an arboricultural watching brief.

5.1.3 We have considered the building and tree dimensions and pruning work is anticipated to retained trees. Crown lifting works are required on trees T1, T2, T3 and T6. There is also a risk of physical damage to stems and branches of trees during the construction process if the site is not supervised and protected in accordance with the arboricultural method statement.

5.2 Grade changes

5.2.1 We have not been supplied with any detailed information regarding the extent of grade changes to facilitate this scheme. Lowering or raising levels in the Root Protection Areas (RPAs) of those trees identified in 5.1.2 may be detrimental to their long term stability and survival.

5.2.2 If robust mitigation is not deployed as set out in the AMS, the RPAs of retained trees in close proximity to the work may be compromised by construction works such as alteration of levels for the new building and access to the site. The trees that may be impacted upon are set out in 5.1.2 above.

5.3 Tree protection measures

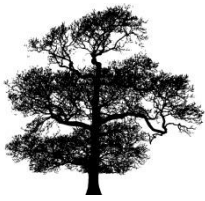
5.3.1 To protect the retained trees from construction activities, notwithstanding the need for an Arboricultural Method Statement (AMS) in specific instances, all trees are to be protected by suitable fencing, as set out on drawing SPH/PJ/MIT-01/19.11, included at Appendix 4. An area of ground surrounding the footprint will also require temporary protection to allow access for construction operations for the duration of the development.

5.4 Services in close proximity to retained trees

5.4.1 There are no detailed service drawings available and therefore we cannot provide a definitive opinion on the impact upon the trees. However, we have received anecdotal evidence that there is an existing conduit beneath the Canal that may permit service installation and if this is utilised there should be no negative impacts on trees as a result. Any underground service installation must conform to the AMS and in all instances comply with the National Joint Utilities Group (NJUG) 2007 Volume 4, Issue 1: *Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees*.

5.5 Leaf fall and shade

5.5.1 The site is subject to a substantial proportion of shade from the trees and understory to the south of the building and design consideration is required to ensure that recreational spaces are planned taking into account available natural light.



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6. Visual impact on the landscape and amenity

- 6.1 The six individual trees and part of a group of trees lost to this scheme will not result in a significant change to the visual appearance both in terms of amenity and landscape character along the River Kennet. The trees are of low quality, with a relatively short remaining contribution and five of the trees are unsuitable for retention regardless of the proposed development.

7. Direct or indirect impacts of trees

- 7.1 The close proximity of retained trees to the proposed building may result in roots close to the foundations. The risk of direct root damage increases with lightly loaded structures and those built before structural engineering techniques factored in tree roots. If the proposed development involves retaining and building upon the existing outer wall specialist engineering advice will be required.
- 7.2 Overhanging stems and branches may come into contact with the building unless they are pruned or removed prior to building. If they are not pruned prior to commencement there will be increased pressure to prune or remove the trees following completion.

8. Conclusions

- 8.1 The proposed scheme will result in a direct loss of trees and pruning of retained trees, but the proposed removals will not cause a significant detriment to the amenity value of the local or wider area. The proposed development uses the remnant outer wall which has existed for many years; therefore we do not foresee any significant negative landscape impacts through the development of this site.
- 8.2 Due to the close proximity of trees, there is a potential to damage the retained trees or tree roots in the implementation of this development. The retained trees should be protected as they will provide continuity of tree cover and help to maintain the sylvan appearance. The impact on retained tree roots is anticipated to be minor as a result of the use of the existing footprint.

9. Recommendations

- 9.1 We recommend that the site is properly supervised by an Arboricultural Consultant (AC) with appropriate experience and qualifications to ensure that all tree protection matters and mitigation relating to the scheme are observed and recorded and that an AC is available should any unforeseen problems arise.

Ben Williams Tech Cert (Arbor A.)
Consultant
Urban Tree Experts

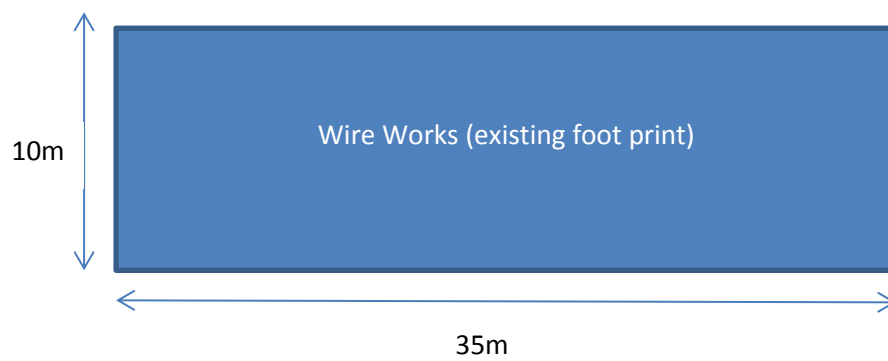
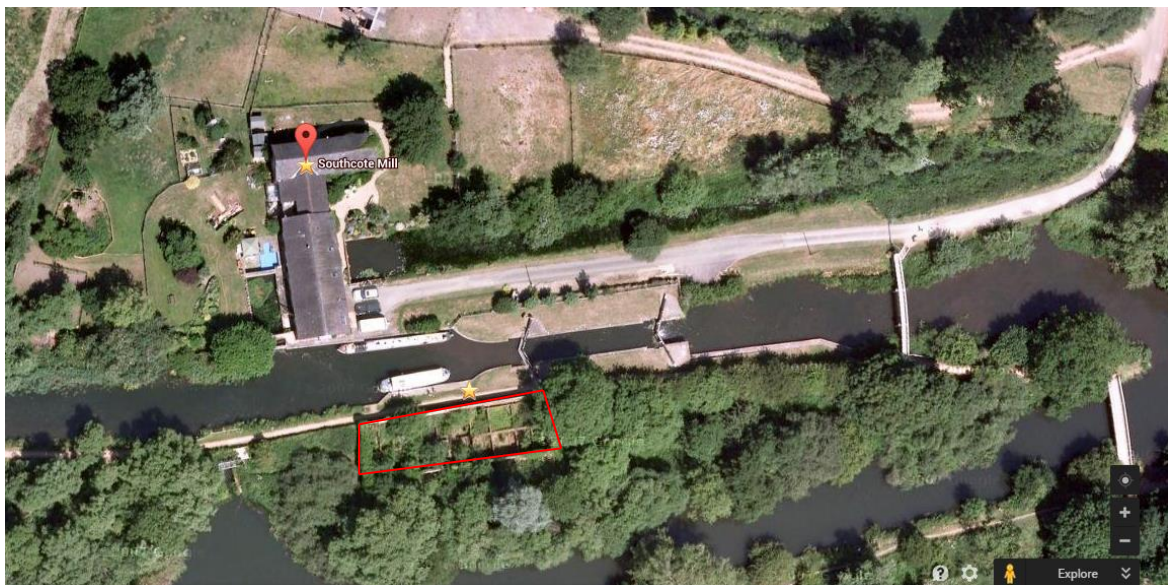
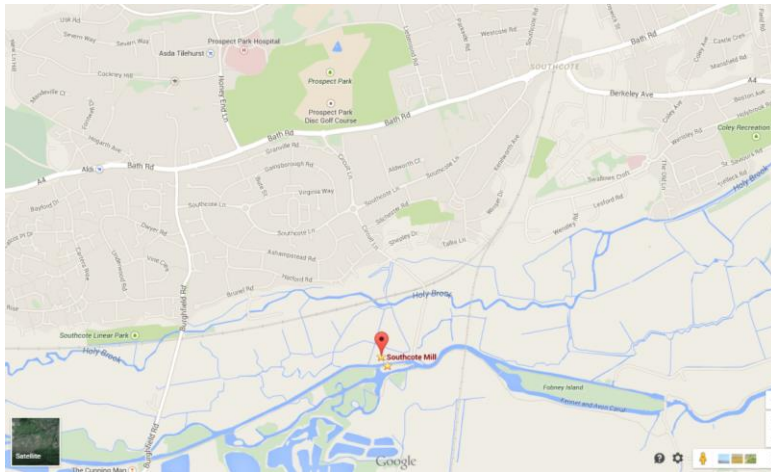


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APPENDIX 1

1) Location and site plan



2) Concept photos of proposed development





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APPENDIX 2

Mr G Puddephatt
Southcote Mill
Southcote Farm Lane
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RG30 3DZ



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Mobile: 0778 616 2202
info@tree-surveys.com

BS5837:2012 Assessment

Tree ID : 1

Species : Common Ash
Fraxinus excelsior

Tag :

TPO :

Assessor : Paul Jones

Inspected : 19 November 2015

Next Insp : Not Required

1st Branch: 6S

Bats :

Cons Area :

Estimated Measurements

Stems			Health					RP		Clearance (m)				Spread (m)			
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m ²)	R (m)	Site Status	Priority	N	E	S	W
15	1	1000	Mature	Fair	Ivy	Good	Fair	B.2	>40 yrs	452.4	12	Pre Construction		2.5	6	6	6

Survey Comment : Ivy impedes inspection and measurement

Tree Comment :

Tree ID : 2

Species : Goat Willow
Salix caprea

Tag :

TPO :

Assessor : Paul Jones

Inspected : 19 November 2015

Next Insp : Not Required

1st Branch: 3.5N

Bats :

Cons Area :

Stems			Health					RP		Clearance (m)				Spread (m)			
H (m)	No	Eq Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m ²)	R (m)	Site Status	Priority	N	E	S	W
14	4	524	Mature	Fair	Poor	Fair	Good	C.2	10 to 20 yrs	124.4	6.29	Pre Construction		3	4	6	5

Survey Comment : Large cavity in most northerly stem - potential wildlife habitat

Tree Comment :

BS5837:2012 Assessment

Tree ID : 3				Tag :				Assessor : Paul Jones				Bats :									
Species : Crack Willow <i>Salix fragilis</i>				TPO :				Inspected : 19 November 2015				Cons Area :									
								Next Insp : Not Required													
								1st Branch: 5.5W													
-----Stems-----				-----Health-----				-----RP-----				-----Clearance (m)-----				-----Spread (m)-----					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
22	1	740	Mature	Good	Fair	Fair	Fair	B.1.2	20 to 40 yrs	247.8	8.88	Pre Construction		6	10	7	5	7	6.5	5	5
Survey Comment : Rib formation on stem indicative of internal defect, historic heave appears stabilised, consider future crown reduction/ management on account of historic heave																					
Tree Comment :																					
				Work Category				Action				Hours				Completed					
				See Comment				Unspecified								No					

Tree ID : 4				Tag :				Assessor : Paul Jones				Bats :									
Species : Goat Willow <i>Salix caprea</i>				TPO :				Inspected : 19 November 2015				Cons Area :									
								Next Insp : Not Required													
								1st Branch: 1.5N													
-----Stems-----				-----Health-----				-----RP-----				-----Clearance (m)-----				-----Spread (m)-----					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
12	1	410	Mature	Fair	Ivy	Poor	Fair	U.1.2	<10 yrs	76.1	4.92	Pre Construction		2	3	2	1	8	3	2	5.5
Survey Comment : Heave evident and heavy lean northwards																					
Tree Comment :																					

Tree ID : 5				Tag :				Assessor : Paul Jones				Bats :									
Species : Goat Willow <i>Salix caprea</i>				TPO :				Inspected : 19 November 2015				Cons Area :									
								Next Insp : Not Required													
								1st Branch: 1N													
-----Stems-----				-----Health-----				-----RP-----				-----Clearance (m)-----				-----Spread (m)-----					
H (m)	No	Eq Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
13	6	441	Mature	Fair	Ivy	Fair	Fair	C.2	10 to 20 yrs	88	5.29	Pre Construction		2	1.5	2	2	8	7.5	2	7
Survey Comment : None																					
Tree Comment :																					

BS5837:2012 Assessment

Tree ID : 6				Tag :				Assessor : Paul Jones				Bats :							
Species : Crack Willow <i>Salix fragilis</i>				TPO :				Inspected : 19 November 2015				Cons Area :							
Estimated Measurements								Next Insp : Not Required											
								1st Branch: 2.5E											
— Stems —				— Health —				— RP —				— Clearance (m) —				— Spread (m) —			
H (m)	No	Eq Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W		
19	2	859	Over Mature	Poor	Fair	Fair	Fair	C.2	10 to 20 yrs	334	10.31	Pre Construction		1	1	1	1		
Survey Comment : Collapsing canopy, over extended branches, reduce/pollard to extend longevity																			
Tree Comment :																			
				Work Category				Action				Hours				Completed			
				See Comment				Unspecified								No			

Tree ID : 7				Tag :				Assessor : Paul Jones				Bats :							
Species : Common Ash <i>Fraxinus excelsior</i>				TPO :				Inspected : 19 November 2015				Cons Area :							
Estimated Measurements								Next Insp : Not Required											
								1st Branch: 2W											
— Stems —				— Health —				— RP —				— Clearance (m) —				— Spread (m) —			
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W		
8	1	150	Semi-mature	Poor	Ivy	Poor	Poor	U.1.2	<10 yrs	10.2	1.8	Pre Construction		2	2	1	2		
Survey Comment : Ivy clad suppressed specimen																			
Tree Comment :																			

BS5837:2012 Assessment

Tree ID : 8				Tag :				Assessor : Paul Jones				Bats :									
Species : Goat Willow <i>Salix caprea</i>				TPO :				Inspected : 19 November 2015				Cons Area :									
Estimated Measurements										Next Insp : Not Required				1st Branch: 1E							
-----Stems-----				-----Health-----				-----RP-----				-----Clearance (m)-----				-----Spread (m)-----					
H (m)	No	Eq Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
6.5	3	234	Semi-mature	Poor	Poor	Poor	Good	U.1.2	<10 yrs	24.8	2.8	Pre Construction		1	1	3	4	4	6	1.5	1
Survey Comment : Windblown leaning tree																					
Tree Comment :																					

Tree ID : 9				Tag :				Assessor : Paul Jones				Bats :									
Species : Common Ash <i>Fraxinus excelsior</i>				TPO :				Inspected : 19 November 2015				Cons Area :									
Estimated Measurements										Next Insp : Not Required				1st Branch: 4E							
-----Stems-----				-----Health-----				-----RP-----				-----Clearance (m)-----				-----Spread (m)-----					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
10	1	150	Young	Good	Good	Fair	Fair	U.1.2	<10 yrs	10.2	1.8	Pre Construction		5	2.5	5	4	2.5	2.5	2.5	2.5
Survey Comment : Unsuitable for long term retention																					
Tree Comment :																					

Tree ID : 10				Tag :				Assessor : Paul Jones				Bats :									
Species : A Group				TPO :				Inspected : 19 November 2015				Cons Area :									
--								Next Insp : Not Required													
Estimated Measurements												1st Branch: 2N									
-----Stems-----				-----Health-----				-----RP-----				-----Clearance (m)-----				-----Spread (m)-----					
H (m)	No	Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m²)	R (m)	Site Status	Priority	N	E	S	W	N	E	S	W
8	1	120	Semi-mature	Fair	Fair	Fair	Fair	C.2	20 to 40 yrs	6.5	1.43	Pre Construction		1	1	1	1	3	3	3	3
Survey Comment : Average tree within group																					
Tree Comment :																					

BS5837:2012 Assessment

Tree ID : 11

Tag :

Assessor : Paul Jones

Bats :

Species : Goat Willow

TPO :

Inspected : 19 November 2015

Cons Area :

Salix caprea

Next Insp : Not Required

1st Branch: 0.5E

Stems			Health					RP		Clearance (m)				Spread (m)			
H (m)	No	Eq Ø (mm)	Maturity	Crown	Stem	Basal	Phy Con	Cat	ERC	A (m ²)	R (m)	Site Status	Priority	N	E	S	W
12	2	450	Mature	Poor	Poor	Fair	Good	U.1.2	<10 yrs	91.6	5.39	Pre Construction		6	2	8	3

Survey Comment : Collapsing with major stem union failure

Tree Comment :

BS5837:2012 Assessment

Report selection criteria.

Projects.

Southcote Mill

Date Range.

Any Date

Work types.

----> -No Selection made-
----> See Comment :: Unspecified

Latest Survey.

All surveys for the selected trees.
---> Last survey for each selected tree.

Work Completed.

---> Work Completed
---> Work Not Completed

Number of trees in selected Project(s) **11**

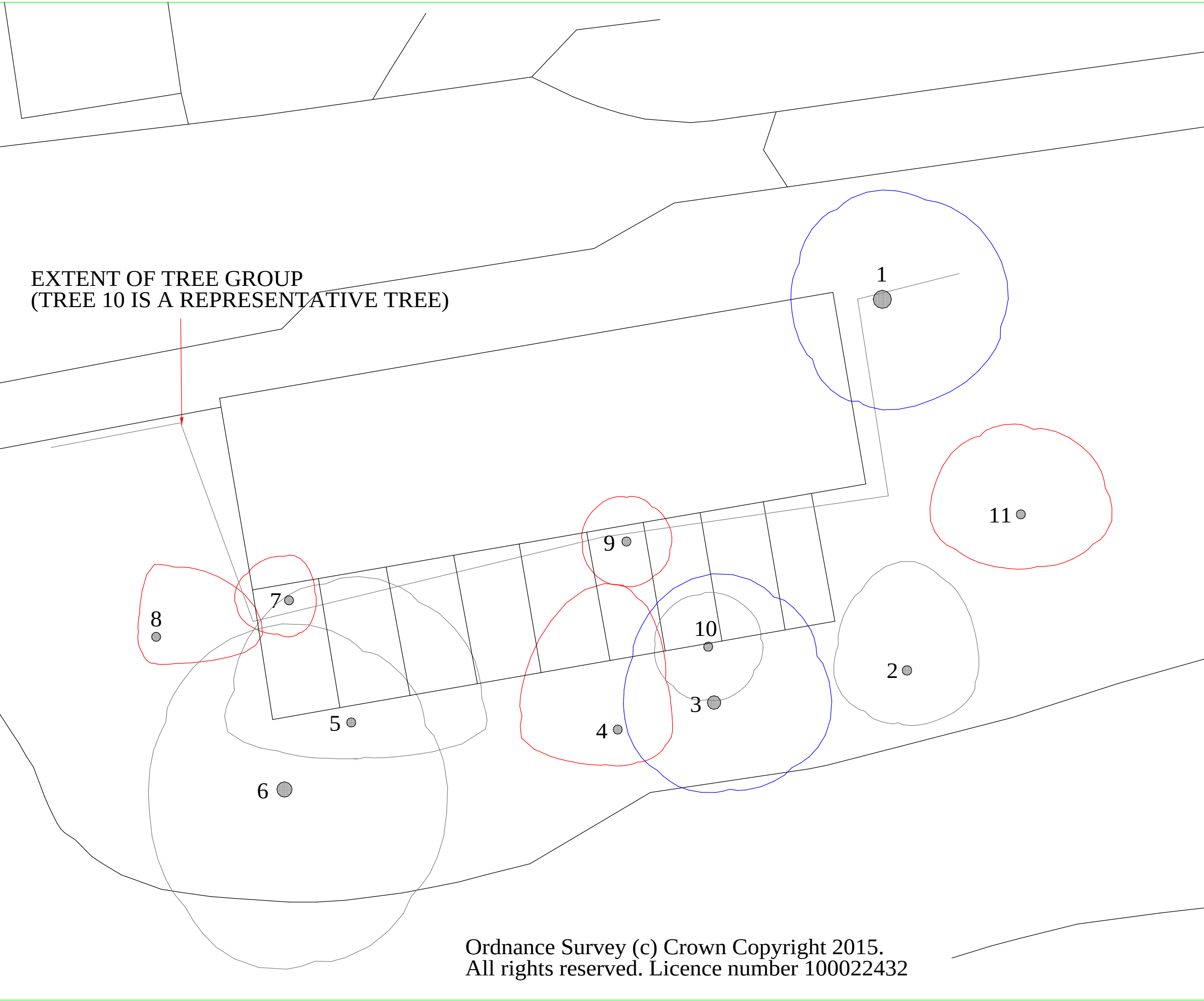
Number of trees in Report selection **11**



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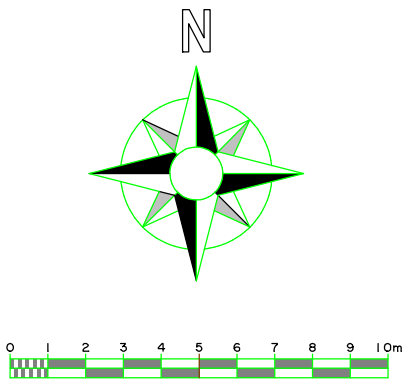
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APPENDIX 3

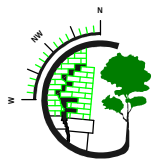


EXTENT OF TREE GROUP
(TREE 10 IS A REPRESENTATIVE TREE)

NOTES
All dimensions must be checked on site and not scaled from this drawing.
The original of this drawing was produced in colour, a monochrome copy should not be relied upon.



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Client	MR G PUDDEPHATT	
Job Title	SOUTHCOTE MILL	
Drawing Title	TREE LOCATIONS	
Scale	1:200 @ A3	
Date	14.12.2015	Drawn by AS
Drg. No.	SPH/PJ/5837-01/19.11	Rev.



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APPENDIX 4

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GROUND PROTECTION

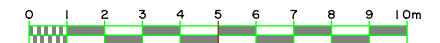
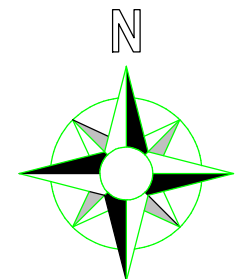
TREE PROTECTION
BARRIER ALLOWS
2m WIDE ACCESS
AROUND BUILDING

TREES TO BE REMOVED :
CATEGORY 'C' : 5 & 10
CATEGORY 'U' : 4, 7, 8, 9 & 11
PLUS A 2m WIDE AREA OF
CATEGORY 'C' UNDERSTORY
TO ALLOW ACCESS

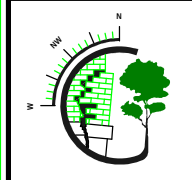
EXTENT OF ROOT
PROTECTION AREAS

NOTES

All dimensions must be checked on site and not
scaled from this drawing.
The original of this drawing was produced in colour, a
monochrome copy should not be relied upon.



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Client MR G PUDDEPHATT

Job Title SOUTHCOTE MILL

Drawing Title
TREE AND GROUND PROTECTION

Scale 1:200 @ A3

Date 14.12.2015

Drawn by AS

Drg. No. SPH/PJ/MIT-01/19.11

Rev.