BELLWAY HOMES LIMITED

aspect arboriculture

PHASES KM5 & KM22
KINGSMERE
BICESTER

Arboricultural Method Statement

August 2016
9352_AMS.001

Aspect Arboriculture
Hardwick Business Park
Noral Way
Banbury
Oxfordshire
OX16 2AF

t 01295 276066
f 01295 265072

e info@aspect-arbor.com
w www.aspect-arbor.com

CONTENTS

APPENDICES

1 INTRODUCTION

1.1 Background

1.1.1 Aspect Arboriculture has been instructed by Bellway Homes Limited to prepare an Arboricultural Method Statement (hereafter the AMS) to inform Phases KM5 and KM22 of proposed residential development at Kingsmere, Bicester.

1.1.2 It is our understanding that this work will be submitted to, and approved by Cherwell District Council (hereafter CDC) prior to the commencement of any development works on site. Once approved, the works should be implemented as specified and maintained to CDC's satisfaction until completion of the development.

1.1.3 Permission for the development has been granted subject to conditions (ref. 16/00192/REM). Condition no.9 includes the requirement for the production of an Arboricultural Method Statement to ensure the continued health of retained trees/hedges and to ensure that they are not adversely affected by the construction works.

1.1.4 The confident protection of retained trees will be achieved through the use of the appended Tree Protection Plan (Appendix A) and Works Auditing Schedule (Appendix B) alongside other supporting documents included within Appendices C & D.

1.2 Scope

1.2.1 This work relates to arboriculture therefore reliance should not be given to comments made in respect of other disciplines i.e. civil engineering or construction phasing, without first referencing an appropriate expert.

1.3 Limitations

1.3.1 This document has been prepared in respect to development works at Kingsmere, Bicester to facilitate the proposed construction works. It should not be interpreted as a report on tree health and safety. Reasonable effort has been made to identify visible defects whilst undertaking the tree survey, however trees are prone to natural failure without warning; no guarantee can be made as to the absolute safety of any of the trees surveyed. Aspect's opinion of tree condition and structural potential is valid for

a limited period of 12 months from the date of survey. Validity is assumed in the absence of inclement weather and no change to the trees' existing context.

2 ESSENTIAL WORK

2.1 Tree Protection Plan

2.1.1 The tree protection drawing provided in Appendix A will be relied upon during construction works. It should be read in conjunction with the entirety of this document.

2.1.2 To prevent avoidable damage to retained trees or erroneous tree loss, a scaled A1 copy of the TPP accompanied by a copy of this document will be provided to the site manager. This will ensure they are able to:

- Identify retained trees;
- Identify the correct locations for tree protection barriers and ground protection;
- Identify features of the site that must be prepared/installed under an arboricultural watching brief;
- Request attendance of the project arboriculturist on site for site monitoring and to provide advice in case of any emerging issue;
- Demonstrate compliance with the Council's consent for development by completing the Construction Works Auditing Schedule (Appendix B).

2.2 Tree Removals

2.2.1 In order to implement the approved scheme, it will be necessary to remove c.17m of category C hedgerow H2 to facilitate the construction of an internal roadway.

The Works Auditing Schedule (Appendix B) shall be signed on completion of tree removals.

2.2.2 Felling works should be timed to avoid the main nesting season for birds between 1st March and 31st August. If scheduled within this period an ecologist must be present to confirm that tree works are not likely to cause disturbance to nesting birds and advise on any protective measures, should they be required.

2.2.3 This work should be undertaken in accordance with the principles within BS3998:2010 and by a competent tree contractor to ensure that cuts are performed correctly, and positioned so as to avoid damage/harm to surrounding retained trees.

2.3 Necessary Pruning Works

2.3.1 It will be necessary to selectively prune hedgerow H2 as annotated within Appendix A to facilitate the construction of the proposed built forms. The final positioning of pruning cuts are to be determined on site by the tree contractor, but are anticipated to consist of the shortening of lower secondary branches only.

2.3.2 The pruning works detailed above are to be carried out following the principles contained within section 7.8 (Selective pruning) of BS3998:2010. This is to ensure the works are carried out without detriment to the future vitality and amenity potential of the retained trees.

2.4 Protective Barriers

2.4.1 To safeguard the retained tree cover from damage during development, it will be necessary to protect the trees using tree protection barriers. The location for the barriers has been informed by the retained trees' RPA's and their canopy extents.

Default tree protection barriers' locations are illustrated within Appendix A with a bold blue line.

2.4.2 The default barrier specification is required for direct tree protection and is to be of the specification provided in BS5837:2012 (shown below). It is essential that this is erected prior to occupation of the site for demolition or construction related purposes.

2.4.3 The project arboriculturist will inspect tree protection barriers and provide written confirmation to the Cherwell District Council's arboricultural officer on completion. The **site manager** will be responsible for arranging attendance of the project arboriculturist to monitor barriers at appropriate intervals for the duration of the development; issues will be resolved on site and reported to CDC's arboricultural officer by the project arboriculturist.

Plate.1 Default Protective Barrier Specification

2.4.4 The temporary relocation of protective barriers is required to provide access for necessary works within RPAs as detailed within section 2.5 of this document. In summary the barrier positions around components g and j of group G1 will need to be revised.

2.4.5 Following the above works, the barriers are to be reinstated to the secondary position (illustrated within Appendix A with a dotted yellow line). The **site manager** will be

responsible for coordinating arboricultural attendance to oversee any alterations to barrier positions to safeguard intermediate RPAs.

2.4.6 Where tree protection barriers are required to protect hedgerows, protective barriers of a reduced specification should be utilised (refer to barrier type B below). This lighter specification has the absence of 45° braces (which would necessitate disturbance to the hedgerows) and includes pinned rubber feet and driven 100x100mm timber posts on every second panel as shown. The locations where the lighter specification tree protection barriers are to be utilised is illustrated within Appendix A with a light blue dashed line.

Plate.2. Reduced specification Barrier

NOTE: Barrier type A is the default BS5837 barrier shown in Plate1, Barrier type B is the lighter specification detailed above.

2.4.7 The project arboriculturist will inspect tree protection barriers and provide written confirmation to CDC's arboricultural officer on completion. This will be informed by the extent of RPAs as identified during the tree survey and as illustrated within Appendix A.

2.4.8 The **Site Manager** will be responsible for arranging the attendance of the project arboriculturist to monitor barriers at 4 week intervals for the duration of the works;

issues will be resolved on site and reported to CDC's arboricultural officer by the project arboriculturist.

The Works Auditing Schedule (Appendix B) will be used as a record to show that barriers have been correctly sited.

2.5 Supervised Excavation

2.5.1 There are 2no. sections of proposed pedestrian footpath close to the northern boundary where it will be necessary to undertake excavation works within the RPAs of retained components g and j of G1. These excavations must be undertaken manually under arboricultural supervision, adopting the principles detailed within section 7.2 of BS5837:2012 *Avoiding physical damage to the tree roots during demolition or construction.* These areas are illustrated within Appendix A with an orange hatch.

2.5.2 During supervised excavations within the RPAs, the following procedure will be adopted:

a) The breaking up and clearance of the existing soils must be undertaken under arboricultural supervision.

b) During the works the protective bark of larger roots is not to be damaged.

c) If necessary, roots that are less than 25mm diameter can to be pruned back, preferably to a side branch, using sharp cutting tools i.e. bypass secateurs or pruning saw.

d) No roots over 25mm are to be severed without approval of CDC's Arboricultural Officer and the appointed onsite arboriculturist as they may be integral to tree health and stability.

e) Areas adjacent to roots that are to be filled with concrete will be lined with an impermeable membrane to prevent concrete leachate coming into contact with tree roots.

f) Exposed roots must be covered in hessian sack or clean top soil to protect from dehydration and temperature flux. The hessian sack is to be removed prior to

backfilling. Exposed roots are to be surrounded with sharp sand. Builders' sand will not be used because of its' high salt content which is toxic to roots.

g) Any use of an excavator to complete excavations must occur from outside of the RPA (which will be spray-marked on the ground in advance of the works taking place). A toothless bucket will be utilised at all times.

h) A record of exposed roots will be made and accompanied by a photographic log.

i) Should any issues be raised during supervision then the arboriculturist should inform the developer and LPA's arboricultural officer immediately, indicating the nature of the problem and recommendations for action required.

j) Tree protection barriers are to be reinstated or repositioned on completion - whichever is within the interest of protecting RPAs. This is to be determined by the supervising arboriculturist.

k) Written confirmation of the works being undertaken to a satisfactory standard will be provided to the Site Manager and the LPA's Arboricultural Officer by the supervising arboriculturist.

The Works Auditing Schedule (Appendix B) will be signed on completion of the works detailed above.

2.6 Proposed Order of Works

a) Pre-commencement site meeting between the project arboriculturist, site manager, tree contractor and CDC's arboricultural officer. Supervision of works inspection and monitoring requirements will be identified/agreed.

b) Necessary hedgerow removal as illustrated within Appendix A to be carried out prior to installation of tree protection barriers and commencement of construction works.

c) Tree protection barriers to be installed following removals, and prior to arrival of construction related plant, machinery and materials on site. Barrier positions to be set-out by the project arboriculturist and as detailed within this document.

d) CDC's arboricultural officer shall be informed of the proposed commencement date as soon as practicable prior to that date to allow inspection of protection measures.

e) The site manager will assume responsibility for arranging attendance of project arboriculturist to oversee relocation of barriers and works within RPAs as detailed with the auditing schedule (Appendix B).

f) The **site manager** will assume responsibility for arranging attendance of the project arboriculturist for the monitoring of barriers on an appropriate basis for the duration of works. Erection of barriers and monitoring is included within the auditing schedule (Appendix B).

2.7 Site Manager's Point of Contact For Arboricultural Input:

Dr Richard Curtis or Mr James Bardey (Aspect Arboriculture)
Telephone: 01295 276066
Email: Richard.Curtis@aspect-arbor.com James.Bardey@aspect-arbor.com

3 CONCLUSIONS

3.1 This document has been prepared in response to condition no. 9 of the planning permission (Ref: 16/00192/REM) for residential development at Phases KM5 and KM22, Kingsmere, Bicester. It has been informed by guidance provided in BS5837:2012 including an arboricultural survey of the site's existing trees (carried out in August 2016).

3.2 Pursuant to the instruction, this document and its supporting work (Appendices A - D) identifies all features of the development that must be managed to facilitate confident tree retention during the construction process.

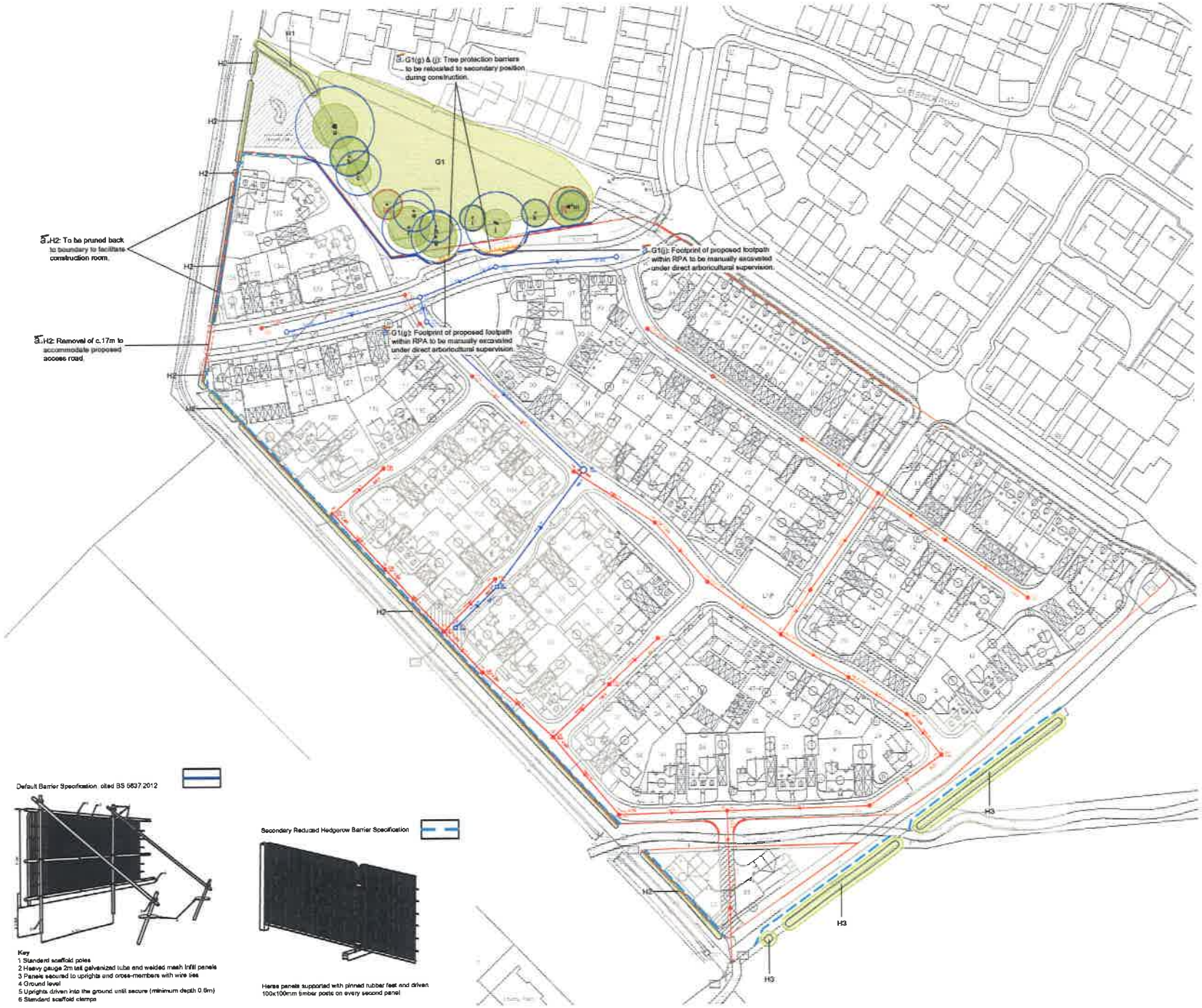
3.3 To ensure confident tree retention; aspects of the development, including siting of tree protection barriers and specified excavation works within RPAs, will be supervised and audited by the project arboriculturist; the outcome of these works will be reported to CDC's arboricultural officer on completion. These areas are specified within the checklist for auditing of works (Appendix B).

3.4 It is Aspect's opinion that, subject to strict adherence to this document, the construction works can be undertaken without incurring harm to retained tree groups and hedgerows.

APPENDICES

APPENDIX A

TREE PROTECTION PLAN (9352 TPP 01)



1:1250 @ A3

0m 10m 20m 50m

KEY:

- 15 Tree Numbers
- Tree Canopies
- Category 'U' Trees
- Category 'B' RPA
- Category 'C' RPA
- Trees to be Removed
- Manual Excavation
- Tree Protection Barrier
- Tree Protection Barrier (Secondary Specification)
- Tree Protection Barrier (2nd Position)

Cited from Google Earth

REV	DATE	NOTE	Drawn	Chkd

REVISIONS

Default Barrier Specification cited BS 5837:2012

Key
1 Standard scaffold poles
2 Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6m)
6 Standard scaffold clamps

Secondary Reduced Hedgerow Barrier Specification

Heras panels supported with pinned rubber feet and driven 100x100mm timber posts on every second panel

aspect arboriculture

TITLE
Kingsmere, Bicester
Tree Protection Plan

CLIENT
Bellway Homes Ltd

SCALE	DATE	DRAWN
1:1000 @ A3	AUG 2016	GW

DRAWING NUMBER	REVISION
9352 TPP 01	

Based on proposed layout ref: Base Layout XREF WIP 14-07-16 Bound.dwg

APPENDIX B

WORKS AUDITING SCHEDULE

aspect arboriculture

Works Auditing Schedule

Works Requiring Auditing	Tree No.	Date Undertaken	Date Reported to LPA
Stage 1. Pre-commencement meeting identifying tree removals and tree protection barrier locations as specified within 9352_AMS.001 and illustrated on drawing no. 9352 TPP 01.	As drawn	.....	.....
Stage 2. Inspection of Tree protection barriers prior to commencement of construction works by LPA's arboricultural officer/project arboriculturist.	As drawn	.....	.....
Stage 3. Arboricultural supervision of any excavation within RPAs including relocation of tree protection barriers as specified within 9352_AMS.001 and illustrated on drawing no. 9352 TPP 01.	g & j of group G1	....	....
Monitoring of installed tree protection barriers as illustrated on drawing no. 9352 TPP 01	As drawn	.....	.....

This schedule will be completed as evidence that works have been undertaken as per the approved methodology.

APPENDIX C

TREE SURVEY SCHEDULE (9352 TS 01)

aspect
arboriculture

BS 5837:2012 Tree Schedule: Kingsmere, Bicester

9352 TS 01

aspect arboriculture

BS5837:2012 Tree Survey: Explanation of Survey Criteria

*Area around tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of roots and soil structure is a priority. *The RPA has been manipulated to allow for various site features, i.e. roads, structures or changes in levels. Please refer to the Tree Constraints Plan for these changes.*

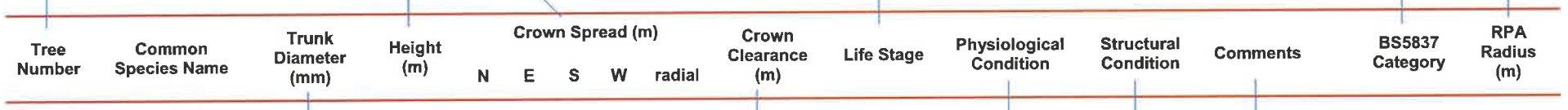
e.g.: young, semi-mature, early-mature, mature or over-mature

Sequential reference number cited on all aspect drawing.

Height and Crown spread measured to the nearest half meter; # denotes where this is estimated.

Category prefix A-C denotes arboricultural quality, decreasing from A (high) to C (low); Subcategories 1, 2 and 3 highlight associated arboricultural (1), landscape (2) and ecological (3) qualities.

Category U trees are those in such a condition that they cannot be realistically retained as living trees in the current context for the long term.



Measured to the nearest 10mm; # denotes estimated diameter where access is not possible.

Height of first significant branch and/or canopy

e.g.: above-average, average, below average or dead

General observations, i.e. defects, preliminary management recommendation, presence of pests/disease, perceived significance.

Colour band key:

Category A
Category B
Category C
Category U

e.g.: good, indifferent, poor, or hazardous

The following survey should not be interpreted as a report on tree health and safety. Aspect's opinion of tree condition and structural potential is valid for a limited period of 12 months from the date of inspection. Validity is assumed in the absence of inclement weather and no change to the trees existing setting.

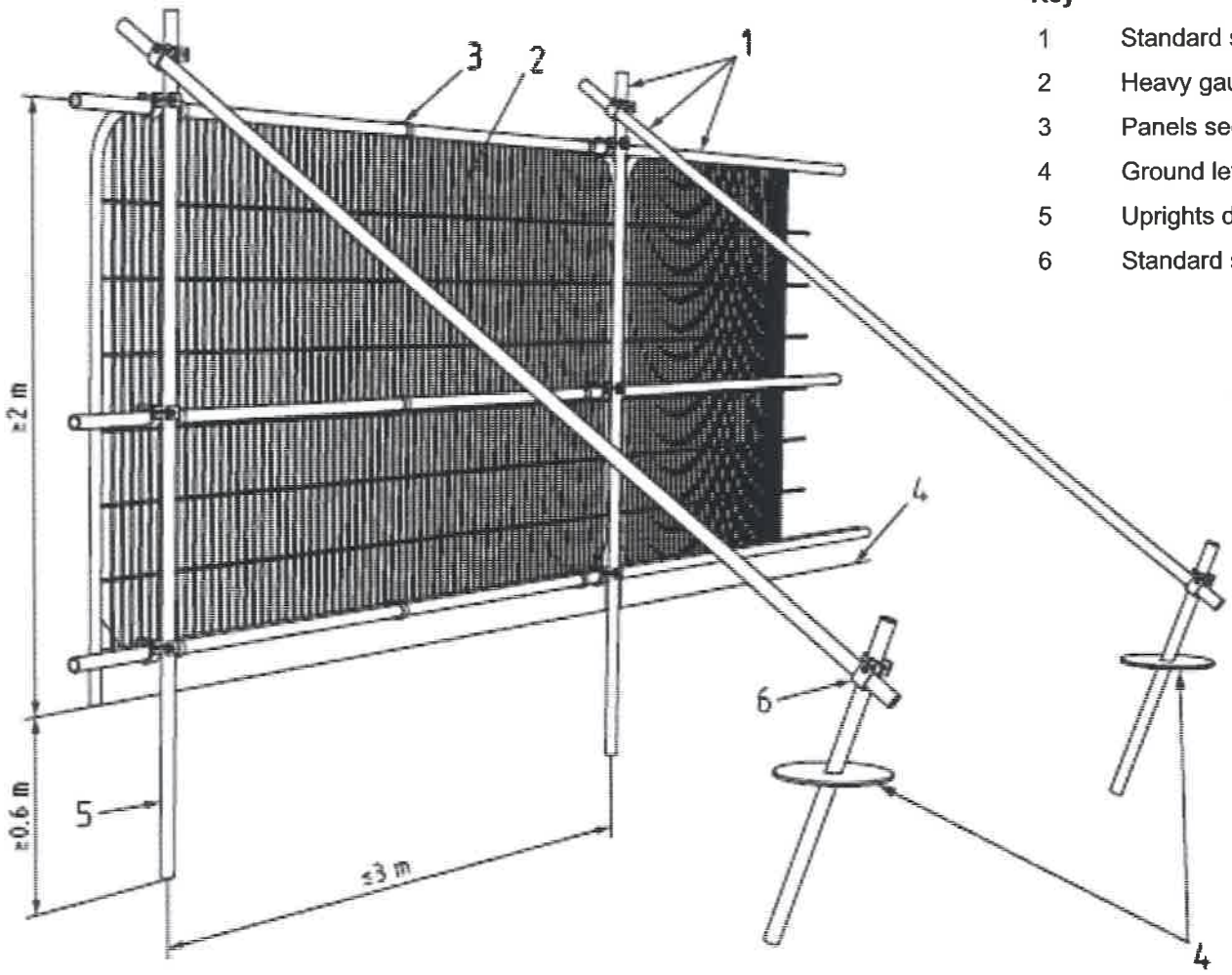
Tree Number	Common Species Name	Trunk Diameter (mm)	Height (m)	Crown Spread (m) N	E	S	W	Radial	First Significant Branch (m)	Crown Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments	BS5837 Category	RPA Radius (m)
G1	Sycamore Horse Chestnut Ash Hawthorn Blackthorn Elm Elder	a. 450 370 380 595 360 490 280	16m max					a. 7.5	a. 0	a. 1	Mature	Average	Indifferent	Small parcel of woodland to the northern extent of site, comprising of various species and age class A sylvan feature providing dense screening benefits for a new development of residential properties to the north and east Structures within appear fairly typical for the species within their current context Understory species include Hawthorn, Blackthorn, Elm and Elder **Stem d.** is a category U Horse Chestnut and currently standing deadwood, **Stem l.** is also a category U Horse Chestnut in a state of decline close to a children's play area. Both trees have hazardous structural conditions and should not be considered for retention within a residential setting. Individually the specimens within are of limited merit but should be considered as a collective of moderate amenity value	B2	13.2
		b. 560						b. 6.25	b. 2.5	b. 3	Early Mature	Average	Indifferent			6.6
		c. 620						c. 4.25	c. 3.5	c. 4	Mature	Average	Indifferent			7.5
		d. 500#						d. 5	d. 3.5	d. 3	Early Mature	Dead	Hazardous		U	N/A
		e. 585 oi						e. -	e. 4	e. 1	Early Mature	Average	Indifferent			6.9
		f. 760 oi						f. 7	f. 4	f. 2	Mature	Average	Indifferent			9
		g. 700 oi						g. 7	g. 5	g. 2	Mature	Average	Indifferent			8.4
		h. 440 oi						h. -	h. 6	h. 6	Early Mature	Average	Indifferent			5.4
		i. 290 180						i. 4.5	i. 0	i. 2.5	Early Mature	Average	Poor		B2	4.2
		j. 515 340 170 590						j. 4.75	j. 1	j. 3	Mature	Average	Indifferent			10.5
		k. 260 280						k. 4.75	k. 0	k. 4	Early Mature	Average	Indifferent			4.5
		l. 440 300 320 380 3*140						l. 6.75	l. 0	l. 4	Mature	Below Average	Hazardous		U	N/A
		m. 410						m. 5.25	m. 3	m. 2.5	Early Mature	Average	Indifferent		B2	4.8
H1	Blackthorn Elm Apple Hawthorn	100# av	4m max					2 max	0.5 av	0.5 av	Semi Mature	Average	Indifferent	Extending to the west from G1 Unmaintained internal field boundary hedgerow Dead Elm stems to the western extent	C1	1.2
H2	Blackthorn Hawthorn Hornbeam Beech	75# max	1m to 3m					1 av	0.5 av	0.5 av	Young	Average	Indifferent	Recently planted hedgerow Currently unmaintained Readily replaced	C1	0.9
H3	Hawthorn Ash Elder Apple Blackthorn	100# av	2m to 4m					2.5 max	0.5 av	0.5 av	Semi Mature	Average	Indifferent	Unmaintained internal field boundary hedgerow to southeast of site Provides a boundary screen separating external views	C1	1.2

APPENDIX D

TREE PROTECTION BARRIER SPECIFICATIONS

Recommended Tree Protection Fencing Specification for this Development

(Source: BS 5837: 2012)



Key

1	Standard scaffold poles
2	Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3	Panels secured to uprights and cross-members with wire ties
4	Ground level
5	Uprights driven into the ground until secure (minimum depth 0.6m)
6	Standard scaffold clamps

Notes:

- *Supports are to be sited tree side of the panel front face.*
- *All weather notices should be attached to every fourth panel highlighting the importance of the barrier in its correct position. An example is provided overleaf which may be duplicated for use on this development.*

aspect arboriculture

TREE PROTECTION BARRIER

- DO NOT MOVE THIS FENCE
- NO SITE ACTIVITY TREE SIDE OF FENCE
- NO STORAGE TREE SIDE OF FENCE

- For assistance call Aspect Arboriculture: 01295 276066

aspect arboriculture

landscape planning • ecology • arboriculture

aspect

Aspect Arboriculture Ltd
West Court
Hardwick Business Park
Noral Way
Banbury
Oxfordshire OX16 2AF

T: 01295 276066
F: 01295 265072
E: info@aspect-arbor.com
W: www.aspect-arbor.com