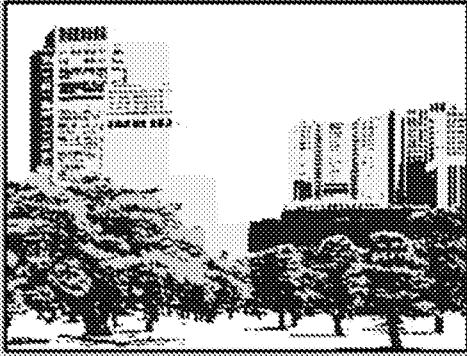




Arboricultural Implications Assessment and Method Statement



Land at Felpham Way. Bognor Regis

Arboricultural Implications Assessment and Method Statement

LAND AT FELPHAM WAY, BOGNOR REGIS

Produced by:

Barrie Draper BSc (Hons) Arb TechCert(ArborA) CertArb(RFS)

Arboricultural Consultant

Report Ref: **14564 - AIA**

Report Date: **20 June 2014**

CONTENTS

No.	Title	Page
1	INTRODUCTION	3
2	SITE VISIT, DESCRIPTIONS AND SURVEY METHODOLOGY	5
3	ARBORICULTURAL IMPLICATIONS ASSESSMENT	7
4	SUMMARY OF THE IMPLICATIONS OF THE DEVELOPMENT ON TREES	11
5	PRELIMINARY ARBORICULTURAL METHOD STATEMENT	12
APPENDIX 1	Tree Protection Plans	15
APPENDIX 2	Tree schedule and inventory	16
APPENDIX 3	Illustrative specification for tree protection barriers	22
APPENDIX 4	BS 5837 (2012) – Assessment categories	23
APPENDIX 5	Qualifications and experience of Barrie Draper	24

1 INTRODUCTION

- 1.1 **Instruction:** I am instructed by Sime Darby London Limited to report on trees that could be affected by a proposal on land at Felpham Way, Bognor Regis and prepare an Arboricultural Implications Assessment (AIA) and preliminary Arboricultural Method Statement (AMS) to support a planning application on the site.
- 1.2 **Document disclosure:** I have been provided with a topographical survey, drawing reference '18613_TOPO Nov 18 2013 Full'. This shows the positions of the significant trees on or near the site, together with existing buildings and other important features. I was also supplied with a copy of the proposed scheme, drawing reference '18' showing some proposed site changes.
- 1.3 **Scope of report:** All my tree observations are of a preliminary nature, with the tree survey carried out from ground level without any investigations using invasive or diagnostic equipment. I was not able to fully view all the trees detailed in this report from all directions, as a small number were not accessible because of the position of deep drainage channels that cross the site toward its northern boundary. I have therefore confined observations of them to what was visible from the closest vantage points. I have not checked the accuracy of the positions of the trees shown on the provided plans and I have estimated all dimensions unless otherwise indicated.
- 1.4 **The Tree Protection Plans:** These are included in Appendix 1 and are composite drawings derived from the information provided. They show the existing landscape features (from the land survey) in grey and the proposed position of the new maintenance track superimposed over the top in blue. This allows the relationship between the two to be clearly seen. The Tree Protection Plans have also been annotated to show protection measures for the trees that could realistically be affected by the proposed site changes. They also show any activities in Root Protection Areas (RPAs) and if trees are to be removed, they are shown with a red dashed crown outline.

- 1.5 **Qualifications and experience:** This report is based on my site observations and I have come to my conclusions in the context of my experience as a former local government tree officer and a private practice arboricultural consultant. I have qualifications in both arboriculture and forestry, and details of these, together with a career summary are provided in Appendix 5.
- 1.6 **Ecological issues and statutory tree protection:** Providing guidance on ecological issues is not within my sphere of expertise. However, trees and other vegetation can often provide nesting, roosting and feeding opportunities for protected species. Therefore, before any tree work proceeds on site, I advise that appropriate advice is sought to see whether the trees to be removed are being utilised by any protected species.

At the time of writing, I have made no checks to ascertain whether any of the trees discussed are covered by tree preservation orders, or if the site is located in a conservation area. Therefore, any person intending to carry out any operations involving trees (before a formal planning consent is issued) should consult the council before any works are carried out.

2 SITE VISIT, DESCRIPTIONS, OBSERVATIONS AND SURVEY METHODOLOGY

2.1 **Site visit:** I visited the site on 3 June 2014 to gather my tree data. The weather at the time of my survey was clear, still and dry, with good visibility.

2.2 **Description of site and surrounds:** The site is located off of Felpham Way, which is situated toward the eastern outskirts of Bognor Regis (Figure 1). The site is positioned to the north west of Felpham Way and is located adjacent to the nearby leisure centre. It is an area of mixed agricultural/grazing land that is bisected by a deep drainage channel ('Lidsey Rife') positioned on the northern part of the site.

2.3 Observations of trees and other

vegetation: Most of the trees surveyed were located on publicly accessed land adjacent to Felpham Way, or positioned next to the access road leading to the leisure centre. The predominant tree species in this area is ash, lime and Norway maple. Beyond the area adjacent to the leisure centre the tree cover is concentrated around 'Lidsey Rife' and a small area beyond. The tree cover in this area is scrub consisting of mainly willow and elder.



Figure 1: Approximate geographical location of site in yellow

2.4 **Description of proposed site changes:** This proposal is to construct a new maintenance access track across the site.

2.5 **Soil assessment:** BS 5837 (2012) advocates that a soil assessment should be carried out to inform decisions relating to RPAs, tree protection, new planting and foundation design. I have consulted the British Geological Survey (BGS) website and their Geology of Britain

viewer and this advises that the bedrock geology for the site is Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation and Culver Chalk Forma. I did not undertake any excavations on site to confirm this and a full geotechnical site investigation may need to be undertaken to provide a more in-depth level of information regarding soil type for the site.

- 2.6 **Tree survey methodology:** My inspection of the trees was visual, and did not involve any climbing or exploratory investigation. During my visit, I identified obvious groups where this was appropriate and I assigned an identification number to each tree or group, as shown on the plans in Appendix 1. I then collected the tree data included in Appendix 2 and placed the vegetation in one of four categories (U, A, B or C), as set out in British Standard (BS) 5837: 2012 Trees in relation to design, demolition and construction – Recommendations. I have included the BS categorisations in Appendix 4 for easy reference. Where of relevance, I also estimated the crown spreads for each tree at the appropriate cardinal compass points and this information is also shown in the tree schedule in Appendix 2.

Although this document is not meant to be a full and detailed report on tree health and safety, any significant visible structural defects or physiological conditions identified, together with preliminary tree works, are also noted in the appropriate columns in the tree schedule in Appendix 2. However, a full post development tree inspection is recommended to establish that the trees retained during construction pose acceptable levels of risk once the development has been completed.

- 2.7 **Data interpretation:** The Root Protection Area (RPA) calculations are included in Appendix 2. As set out in paragraphs 4.6.2 and 4.6.3 of the BS, the RPAs may have been adjusted as a matter of arboricultural judgement, to indicate the estimated likely position of tree roots. These modified (or unmodified) RPAs dictate the location of the tree protection barriers, which encompass the Construction Exclusion Zones (CEZs) and other protective measures as shown on the plans included in Appendix 1. Where there is a need for incursions into RPAs, an assessment of the implications of these activities is set out in Section 3 (Arboricultural Implications Assessment) of this report. Where appropriate, details of suitable work methodologies to mitigate any impact are set out in Section 5 (Arboricultural Method Statement).

3 ARBORICULTURAL IMPLICATIONS ASSESSMENT

- 3.1 **Overview of the implications of the development proposal on trees:** BS 5837 (2012) – Trees in relation to design, demolition and construction – Recommendations sets out in some detail how trees on development sites should be managed. It is generally accepted that Category A (high quality) and Category B (moderate quality) trees are potential constraints on any development proposal, whereas those belonging to Category C (low quality) are considered to be generally less important. Category U trees are in such poor condition that they are considered unsuitable for retention. This is because they cannot realistically be retained as living trees in respect of the current land use for longer than 10 years. Therefore, these trees can be effectively discounted in the context of a planning application.

On this site a total of FIFTY individual trees and groups were recorded during the tree survey and were assigned to the BS 5837 (2012) categories, as set out in Table 1 below:

Category A and B trees	A total of TWENTY FIVE trees and groups (T1, T3, T5, T6, T8, T9, T10, T12, G13, T17, T18, G19, T20, T21, T23, G25, G27, T28a, T29, T31, T33, T34, T35, T37 and T46) were rated Category B
Category C trees	A total of NINETEEN trees and groups (T7, T11, T14, T15, T22, T24, T26, T28, T30, T32, T36, T39, T40, T41, T42, T43, T44, T45, G47, G48 and G49) were rated Category C
Category U trees	A total of FOUR trees (T2, T4, T16 and T38) were rated Category U

Table 1: Tree numbers and BS categories

No Category A trees were recorded during my survey and I have focussed on the implications of the proposal mainly on the Category B trees on or near the site and to a lesser extent on any Category C trees present.

Of the total of FIFTY trees and groups surveyed, only TWO trees/groups will need to be wholly or partially removed to facilitate the proposal. Additionally, ONE tree will have activities arising from the proposed site changes occurring in its RPA. I have summarised

the implications on any Category A, B and C trees in Table 2 below and set these aspects out in more detail in the following paragraphs.

Trees to be removed for development		Activities in RPAs arising from the development proposal	
Category A and B	Category C	Category A and B	Category C
n/a	T7 and part of G49	T8 (construction of access track within RPA)	n/a

Table 2: Trees lost and activities in RPAs arising from the development proposal

3.2 Direct implications of the development proposal - Tree retention and tree loss

3.2.1 BS Category A and B trees to be retained (trees of high and moderate quality): All the Category B trees surveyed will be retained and protected in accordance with the guidance set out in BS 5837 (2012). Consequently, no high or moderate category trees will need to be removed to facilitate this proposal.

3.2.2 BS Category C trees to be removed (or those of low quality): As discussed, trees belonging to Category C are not normally retained where they would impose a significant constraint on the development or redevelopment of a site. In this instance, TWO trees/groups will need to be wholly or partially removed to facilitate the proposal. I set out my view on the implications of the loss of these trees, as follows:

- **Tree T7:** This small multi-stemmed tree is located in an area close to the existing footpath network and near to trees to be retained. The tree will need to be removed to allow the new maintenance access to be formed. Initial proposals for the new access had it positioned further to the north and more within the RPA of tree T8 (Category B). However, the repositioning of the access to the south will take it further away from tree T8, with the new access more or less on the footprint of the existing surfacing. In my mind, T7 has little prospect of maturing into a useful tree. It would therefore seem sensible to reduce the risk of any implications for tree T8, but

accepting the removal of T7. If the council disagree with this assessment, then it would be possible to orientate the access so that T7 could be retained, albeit with the access being constructed using a low invasive technique (see 3.3.1 below).

- **Part of G49:** It will be necessary to cut away a section of the trees in this linear grouping to allow the maintenance access track to be realised. Most of the trees in this group appear to be self-sown and are rather scrubby in appearance. The section to be removed is quite narrow and positioned toward the northern end of the group. Consequently, I do not believe that this will have any significant landscape or amenity implications.

3.3 **Additional implications arising from the development proposal**

- 3.3.1 **BS Category A and B trees and activities in RPAs:** Only ONE tree (T8) will have the new access track formed within its RPA. As discussed above, the position of this has been carefully considered to reduce the implications for this tree. The position of the new access close to T8 sits roughly on the footprint of the existing surfacing and so I feel that there will be a low risk of any additional implications for this tree arising from the changes around its position. Again, as with tree T7 if the council is concerned about any implications for this tree, then it would be feasible to construct the access in this area using a suitable 'low invasive' technique.

- 3.4 **BS Category U trees normally removed for management reasons:** Category U trees are in such poor condition that they considered unsuitable for retention as they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Therefore, these trees can be effectively discounted in the context of the planning process. On this site, I have assessed FOUR trees (T2, T4, T16 and T38) as belonging to Category U. However, these trees are outside the control of my client and so they have been shown as retained on the plan in Appendix 1, despite their obvious poor condition.

- 3.5 **Protection of trees during construction:** A preliminary Arboricultural Method Statement is included in Section 5 and it details the various issues associated with successful tree protection in a development context on this site. If deemed appropriate by the council, this can be specifically referred to in a suitably worded planning condition attached to any subsequent consent.

4 SUMMARY OF THE IMPLICATIONS OF THE DEVELOPMENT ON TREES

- 4.1 **Summary:** Of the total of FIFTY trees and groups surveyed, only TWO trees/groups will need to be wholly or partially removed to facilitate the proposal. Additionally, ONE tree will have activities arising from the site changes occurring in its RPA. The proposal will result in a minimal loss of trees, all of which are low category. Provided the tree protection measures detailed in this report are implement correctly, then I feel that the site changes are arboriculturally acceptable and there will be a minimal risk of any adverse impact on the nearby trees to be retained.

5 PRELIMINARY ARBORICULTURAL METHOD STATEMENT

5.1 Tree protection issues

5.1.1 Tree Protection Plans (TPP): These plans in Appendix 1 are illustrative and based on the layout drawings and topographical survey provided. Therefore, all scaled measurements should be checked against the original design documents. The attached plans and all other information in this report should only be used for dealing with the tree protection issues and all other uses are prohibited, unless authorised by Ecourban Ltd. Normally, all the existing trees will have been numbered, with higher categories (A and B) highlighted in green and blue rectangles and low categories (C and U) highlighted in grey and red respectively. However, on this site no Category A trees were recorded. The plans also show the locations of the proposed protective measures. Additionally, any trees to be removed are indicated with a red dashed crown outline. The TPPs are important drawings and a copies should be kept on site for reference whilst the site is under construction.

5.1.2 Protective barriers: Information on barrier design based on BS 5837 (2012) guidance is included in Appendix 3 and the approximate location of the barriers is illustrated on the plans in Appendix 1. The protective barriers will be erected before any materials or machinery are brought onto the site, and before any clearance or construction activities occur. Once the protective barriers have been positioned, these will stay in situ for the duration of the construction, unless previously agreed with the arboricultural consultant or council's tree officer. There will be no access into the protected area and the storage of excavated debris and building materials will be prohibited in RPAs, unless authorised by the arboricultural consultant, after discussion with the council's tree officer. No fires or fuel storage will be allowed within or near to protected areas under any circumstances.

5.2 Additional tree-related issues

5.2.1 Site supervision: Site personnel will be properly briefed regarding the tree protection issues before any work starts, and the tree protection will be inspected periodically to

ensure the retained trees are protected in accordance with this document and any conditions imposed by the council.

- 5.2.2 **Storage of materials, cement mixing and washing points:** All construction storage areas, cement mixing and washing points for equipment and vehicles will be outside RPAs, unless otherwise agreed with the council.
- 5.2.3 **Contractors car parking, site offices and welfare facilities:** Whilst it is possible to have site offices and welfare facilities within RPAs, care is needed in their positioning and also in the connection of water, electricity and drainage to service them. Therefore, these will generally be sited outside the RPAs, unless agreed previously with the council. Contractor's car parking facilities will also be located away from retained trees.
- 5.2.4 **Tree works:** Any tree pruning or tree removal operations are set out in the tree schedule included in Appendix 2. Additionally, those trees scheduled for removal are also shown on the Tree Protection Plans included in Appendix 1.
- 5.2.5 **Planning, communication and preliminary timing of events:** It is not unusual for the details of timing of operations that could impact on important trees to only be finalised once planning consent has been given. Site managers, clearance and construction teams, and other important personnel are normally only appointed at this stage and it is these people who will be crucial in delivering the tree protection detailed in this report. My experience is that the pre commencement site meeting is critical in terms of avoiding damage to trees and this particular aspect, along with tree protection issues should be specifically referenced in a suitably worded planning condition imposed by the council. In the intervening time I propose the following preliminary cascading timetable of events to help minimise any risk of impact on important trees. However, the following schedule may be modified at the pre-commencement meeting, subject to discussion with all parties and agreement with the council:

1. Pre-commencement site meeting
2. Extent of arboricultural supervision agreed
3. Tree works undertaken

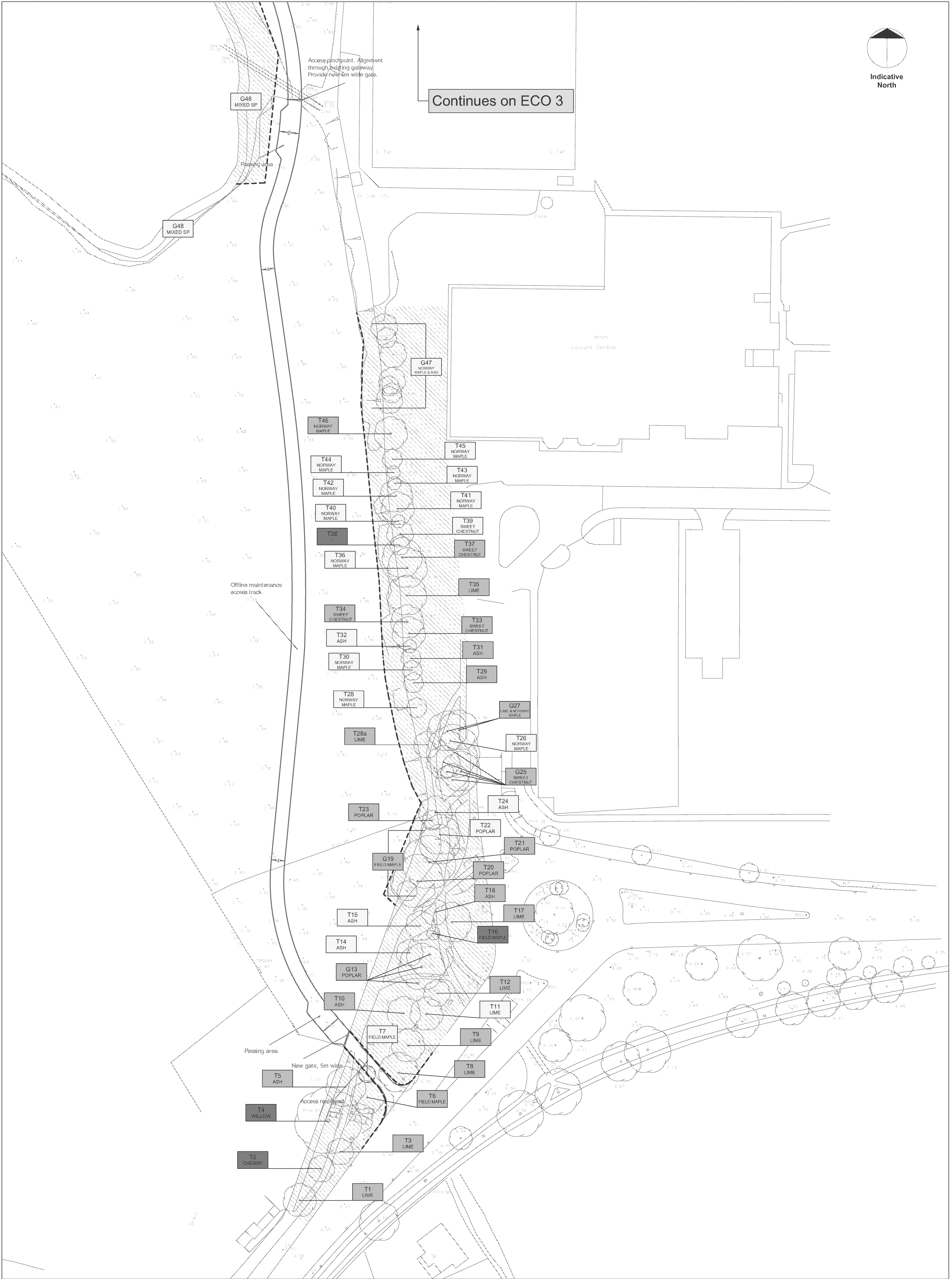
4. Protective barriers erected before any clearance or construction activities occur on site and notification to the council that this is in place
5. Tree protection only removed at the end of the construction phase when there is no longer any risk to trees

Barrie Draper BSc (Hons) Arb TechCert(ArborA) CertArb(RFS)
Arboricultural Consultant

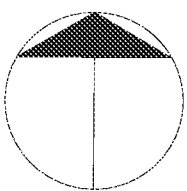
Date: **20 June 2014**

APPENDIX 1: TREE PROTECTION PLANS

2 A1 plans



		ECO 2 - TREE PROTECTION FOR LAND AT FELPHAM WAY, BOGNOR REGIS		SCALE: 1:500 @ A1		COMPOSITE PLAN: LAND SURVEY OUTLINED IN GREY, PROPOSED MAINTENANCE TRACK SHOWN IN BLUE	
T1 Tree sp. BS Category B: Trees of moderate quality	T1 Tree sp. BS Category U: Trees unsuitable for retention	 Tree protective barriers with construction exclusion zone	 Trees to be removed	This drawing was originally produced in colour, therefore any subsequent monochrome photocopies may not show appropriate levels of detail and should not be relied upon for the purposes of dealing with site tree issues			
T1 Tree sp. BS Category C: Trees of low quality							



Indicative
North

G49
MIXED SP

Passing area
paved to ditch

Passing area

Temporary Bridge, 16 x 3.5m
(see drawing SDDLBOGNOR/112)

Passing area

Continues on ECO 2



ECO 3 - TREE PROTECTION FOR LAND AT FELPHAM WAY, BOGNOR REGIS

SCALE: 1:500 @ A1

COMPOSITE PLAN: LAND SURVEY
OUTLINED IN GREY, PROPOSED
MAINTENANCE TRACK SHOWN IN BLUE

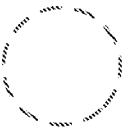
T1
Tree sp.

BS Category B: Trees
of moderate quality

T1
Tree sp.

BS Category U: Trees
unsuitable for retention

Tree protective barriers with
construction exclusion zone



Trees to be removed

T1
Tree sp.

BS Category C: Trees
of low quality

This drawing was originally produced in colour,
therefore any subsequent monochrome
photocopies may not show appropriate levels of
detail and should not be relied upon for the
purposes of dealing with site tree issues

APPENDIX 2: TREE SCHEDULE AND INVENTORY

Background fill colour represents BS 5837 (2012) categories: A Category trees have green backgrounds, B Category trees have light blue backgrounds, C Category trees have grey backgrounds and U Category trees have red backgrounds.

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Height above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
				Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
				1	2	3	4	5		Mean stem dia. (cm)	No. of stems	N	E	S	W							
All trees																	Crown clean all trees. Where appropriate, crown lift trees to 4m over site					
T1	Lime	9	36	-	-	-	-	-	-	-	-	4	4	4	4	3	MA	Tight forks		B1	59	4.3
T2	Cherry	9	35	-	-	-	-	-	-	-	-	4	3	0	4	3	MA	Brown cubical rot main stem, dying.		U	55	4.2
T3	Lime	12	40	-	-	-	-	-	-	-	-	4	4	3	1	3	MA	Unbalanced canopy		B1	72	4.8
T4	Willow	14	-	80*	80*	-	-	-	113	-	-	1	9	10	6	5	M	Unbalanced canopy due to limb failure north		U	579	13.6
T5	Ash	14	43	-	-	-	-	-	-	-	-	7	6	4	6	3	MA	Some crown asymmetry		B1	84	5.2
T6	Field maple	11	40	-	-	-	-	-	-	-	-	5	5	5	3	2	M	Some crown asymmetry		B1	72	4.8
T7	Field maple	5	-	-	-	-	-	-	-	10*	7	2	2	1	2	n/a	MA	Poor structural framework	FELL	C1	32	3.2
T8	Lime	10	41	-	-	-	-	-	-	-	-	4	4	4	4	2	MA			B1	76	4.9
T9	Lime	7	28	-	-	-	-	-	-	-	-	3	3	3	3	2	MA			B1	35	3.4
T10	Ash	10	37	-	-	-	-	-	-	-	-	4	4	4	4	3	MA			B1	62	4.4
T11	Lime	10	35*	-	-	-	-	-	-	-	-	3	3	3	3	2	MA	Twin stemmed with tight fork and included bark union		C1	55	4.2
T12	Lime	10	22	-	-	-	-	-	-	-	-	4	4	4	1	2	MA	Some crown asymmetry		B1	22	2.6

APPENDIX 2: TREE SCHEDULE AND INVENTORY

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Height above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
				Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
				1	2	3	4	5		Mean stem dia. (cm)	No. of stems	N	E	S	W							
G13	Poplar	14	60*	-	-	-	-	-	-	-	-	8	8	8	8	3	MA	Scattered dead throughout canopy		B2	163	7.2
T14	Ash	10	22	-	-	-	-	-	-	-	-	4	0	3	3	3	MA	Influenced by proximity to adjacent tree		C1	22	2.6
T15	Ash	10	-	21	20	-	-	-	29	-	-	4	4	3	4	3	MA	Thin canopy, tight fork		C1	38	3.5
T16	Field maple	7	17	-	-	-	-	-	-	-	-	3	3	3	1	2	MA	Dying		U	13	2.0
T17	Lime	11	36	-	-	-	-	-	-	-	-	5	5	5	4	3	MA			B1	59	4.3
T18	Ash	8	21	-	-	-	-	-	-	-	-	4	3	2	3	3	MA			B1	20	2.5
G19	Field maple	9	25*	-	-	-	-	-	-	-	-	4	2	4	4	3	MA			B2	28	3.0
T20	Poplar	15	60*	-	-	-	-	-	-	-	-	6	8	4	-	5	MA/M			B1	163	7.2
T21	Poplar	15	60*	-	-	-	-	-	-	-	-	6	8	1	-	5	MA/M	Unbalanced canopy		B1	163	7.2
T22	Poplar	15	-	29	17	-	-	-	34	-	-	4	4	1	-	3	MA	Poor structural framework		C1	51	4.0
T23	Poplar	15	45						0			6	6	2	-	3	MA			B1	92	5.4
T24	Ash	15	-	30*	15	18*	-	-	38	-	-	4	5	2	-	3	MA	Influenced by proximity to adjacent tree		C1	66	4.6
G25	Sweet chestnut	11	<50*	-	-	-	-	-	-	-	-	6	8	5	5	3	MA	Scattered dead throughout canopy		B2	113	6.0
T26	Norway maple	8	16	-	-	-	-	-	-	-	-	2	3	1	0	3	MA	Influenced by proximity to adjacent tree		C1	12	1.9
G27	Lime and Norway maple	13	35*	-	-	-	-	-	-	-	-	6	6	4	3	2	MA			B2	55	4.2

APPENDIX 2: TREE SCHEDULE AND INVENTORY

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Height above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
				Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
				1	2	3	4	5		Mean stem dia. (cm)	No. of stems	N	E	S	W							
T28	Norway maple	<9	21	-	-	-	-	-	-	-	-	3	2	1	1	2	MA	Thin canopy		C1	20	2.5
T28a	Lime	<9	32	-	-	-	-	-	-	-	-	3	3	3	3	2	MA	Prolific basal growth		B1	46	3.8
T29	Ash	<9	26	-	-	-	-	-	-	-	-	2	1	3	3	2	MA			B1	31	3.1
T30	Norway maple	<9	20	-	-	-	-	-	-	-	-	2	2	1	3	2	MA	Thin canopy		C1	18	2.4
T31	Ash	<9	19	-	-	-	-	-	-	-	-	3	2	1	3	3	MA			B1	16	2.3
T32	Ash	<9	14	-	-	-	-	-	-	-	-	1	1	0	1	3	MA	Declining		C1	9	1.7
T33	Sweet chestnut	<9	41	-	-	-	-	-	-	-	-	2	1	3	4	2	MA	Unbalanced canopy		B1	76	4.9
T34	Sweet chestnut	<9	-	35	46	-	-	-	58	-	-	5	1	2	5	2	MA	Unbalanced canopy		B1	151	6.9
T35	Lime	<9	-	23	36	-	-	-	43	-	-	4	3	2	4	2	MA	Unbalanced canopy		B1	83	5.1
T36	Norway maple	<9	19	-	-	-	-	-	-	-	-	1	1	1	1	3	MA	Thin canopy		C1	16	2.3
T37	Sweet chestnut	<9	47	-	-	-	-	-	-	-	-	2	1	3	4	2	MA	Unbalanced canopy		B1	100	5.6
T38	-	<9		-	-	-	-	-	-	-	-	-	-	-	-		MA	Dead		U	-	-
T39	Sweet chestnut	<9	26	-	-	-	-	-	-	-	-	3	0	1	3	1	MA	Thin canopy, influenced by proximity to adjacent tree		C1	31	3.1
T40	Norway maple	<9	16	-	-	-	-	-	-	-	-	1	1	1	2	2	MA	Thin canopy		C1	12	1.9
T41	Norway maple	<9	30	-	-	-	-	-	-	-	-	4	5	1	2	2	MA	Thin canopy		C1	41	3.6

APPENDIX 2: TREE SCHEDULE AND INVENTORY

Tree No.	Species	Ht (m)	Single stem dia. at 1.5m (cm)	STEM DIAMETERS (MULTIPLE)								Branch spread (m)				Height above ground (m)	Age class	Notes	Management proposals	BS cat	RPA area (m²)	RPA radius (m)
				Multi stemmed trees with 1 - 5 stems (cm)					Multi stemmed trees with 1 - 5 stems combined (cm)	Multi stemmed trees >5 stems												
				1	2	3	4	5		Mean stem dia. (cm)	No. of stems	N	E	S	W							
T42	Norway maple	<9	28	-	-	-	-	-	-	-	-	5	3	1	3	3	MA	Thin canopy		C1	35	3.4
T43	Norway maple	<9	-	8	9	-	-	-	12	-	-	1	1	1	1	1	Y	Small tree		C1	7	1.4
T44	Norway maple	<9	14	-	-	-	-	-	-	-	-	1	0	1	1	2	Y/MA	Small tree		C1	9	1.7
T45	Norway maple	<9	23	-	-	-	-	-	-	-	-	3	2	2	3	3	MA	Thin canopy		C1	24	2.8
T46	Ash	<9	-	23	33	-	-	-	40			5	4	3	5	3	MA			B1	73	4.8
G47	Norway maple and ash	<9	23*	-	-	-	-	-	-	-	-	-	-	-	4	3	MA	Thin canopies		C1	24	2.8
G48	Mainly grey willow and hawthorn	9	30*									-	-	-	-	n/a	M	Scrub	Cut back where appropriate to facilitate maintenance track construction	C2	41	3.6
G49	Willow and hawthorn	9	25*													n/a	M	Scrub	Cut back/fell trees where appropriate to facilitate maintenance track construction	C2	55	4.2

APPENDIX 2: TREE SCHEDULE AND INVENTORY

ABBREVIATIONS:

Abbreviations	Meaning	Abbreviations	Meaning	Abbreviations	Meaning
T	Individual tree	M	Mature	RPA	Root Protection Area
G	Groups of trees	MA	Maturing	<	Less than
H	Hedge	Y	Young	>	More than

TREE SCHEDULE GUIDANCE NOTES:

Tree number	Assigned during the site visit and also referenced on the plans in Appendix 1.
Species	Common name and referenced to scientific name in the above list. Where I have some doubt over the actual tree species, the genus will have been noted followed by sp. Where trees are numerous and present in groups, not every individual species may have been noted.
Height	Measurement of total tree height using a laser hypsometer to nearest metre or where clear line of site is not possible then an estimate based on interpolation of heights of nearby measured trees.
Stem diameters	Measurement of stem diameter either at 1.5m above ground (or in accordance with BS guidance where trees have multiple stems) with a forester's girth measuring tape. Diameters followed by asterisk symbol indicate estimated diameters because of access difficulties, presence of ivy or other obstructions. Where trees are present in a group, the tree with the largest stem diameter within the group will have been measured/estimated.
Branch spread	Where appropriate and where ground conditions allow, an estimate of the crown spread at each of the cardinal compass points. Where only part of the site is affected by trees, measurement may be in one or two directions only
Existing height above ground level	Distance in metres to first significant branch or canopy or a height above which crown lifting operations would not be appropriate
Age class	Simplistic estimate of tree age in one of FOUR categories (young, maturing, mature or over mature).
Notes	Although this document is not intended to be a full and detailed report on tree health and safety, any significant structural defects or physiological conditions have been identified where these were visible. Where no entries are recorded, this indicates no observable issues were identified. Where there is restricted access to the

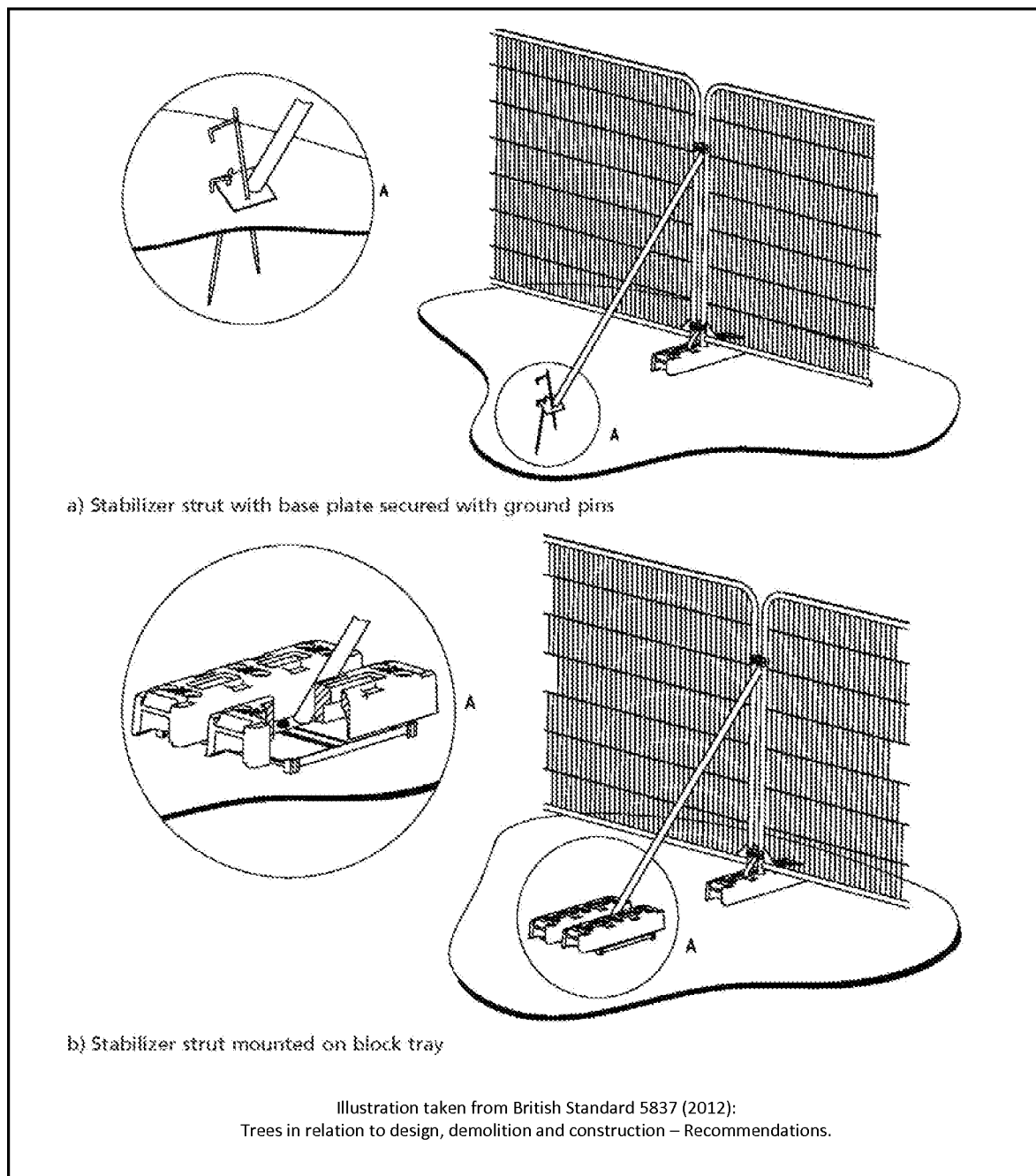
APPENDIX 2: TREE SCHEDULE AND INVENTORY

	<i>base of a tree, its attributes are assessed from the nearest point of access. Climbing inspections are not carried out during a walkover tree survey and, if heavy ivy is present, tree condition is assessed from what can be seen from the ground.</i>
Management proposals	<i>The inspection of all trees was of a preliminary nature and only defects visible from the ground have been identified. Each individual tree may not have been inspected closely because of access difficulties and only defects visible from the inspection point have been identified. Monitoring may be indicated where tree risk can be adequately managed by increased frequency of site inspections. Further investigation may be indicated where additional data may be required beyond a purely visual assessment. However, a full post development tree inspection is recommended to establish that the trees retained during construction pose acceptable levels of risk once the development has been completed.</i>
BS 5837 (2012) Category	<i>Either U, A, B or C based on the BS 5837 (2012) guidance.</i>
RPA and RPA radius	<i>RPA and RPA radius calculations have been undertaken in accordance with the guidance set out in BS 5837 (2012).</i>

TREE INVENTORY:

Common Tree Names	Scientific Tree Names		Common Tree Names	Scientific Tree Names
Ash	<i>Fraxinus excelsior</i>		Lime	<i>Tilia sp</i>
Cherry	<i>Prunus sp</i>		Norway maple	<i>Acer platanoides</i>
Field maple	<i>Acer campestre</i>		Poplar	<i>Populus sp</i>
Grey willow	<i>Salix cinerea</i>		Sweet chestnut	<i>Castanea sativa</i>
Hawthorn	<i>Crataegus monogyna</i>		Willow	<i>Salix sp</i>

APPENDIX 3: ILLUSTRATIVE SPECIFICATION FOR TREE PROTECTION BARRIERS



2 m tall welded mesh panels on rubber or concrete feet might provide an adequate level of protection from cars, vans, pedestrians and manually operated plant. In such cases, the fence panels should be joined together using a minimum of two anti-tamper couplers, installed so that they can only be removed from inside the fence. The distance between the fence couplers should be at least 1 m and should be uniform throughout the fence. The panels should be supported on the inner side by stabilizer struts, which should normally be attached to a base plate secured with ground pins
– BS 5837 (2012)

Ref: Tree Protection Barriers (Type 2)	Drawing No. TPB2
Scale: N/A	

APPENDIX 4: BS 5837 (2012) – ASSESSMENT CATEGORIES

TREES FOR REMOVAL				
Category and definition	Criteria			Identification on plan
<u>Category U</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 of other 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>			RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	Criteria — Subcategories			Identification on plan
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
<u>Category A</u> 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)	GREEN
<u>Category B</u> 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 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)	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 situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	BLUE
<u>Category C</u> Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	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	GREY

APPENDIX 5: QUALIFICATIONS AND EXPERIENCE OF BARRIE DRAPER

- 1 **Qualifications:** I have a BSc degree (with Honours) in Arboriculture from the University of Central Lancashire. I also hold a BTEC Higher National Diploma (HND) in Forestry (Lowland Management), the Arboricultural Association's Technician's Certificate in Arboriculture (Tech Cert), the Royal Forestry Society's Certificate in Arboriculture (Cert Arb) and the National Examinations Board Certificate in Forestry.

- 2 **Career experience:** I began my arboricultural career in 1993 as an arborist with Portsmouth City Council. During my time with the council I worked for both the direct labour organisation and for a private contractor where I obtained valuable hands on experience in all aspects of arboriculture. From 1999 to 2002 I was employed as Senior Arborist by Parchment Housing Group, a housing association based near Portsmouth. I managed the Groups' tree stock on their behalf, carrying out tree inspections and practical management operations. I have also worked in local government, spending time with Thurrock Borough Council in Essex where I was the Tree and Landscape Officer, and with Winchester City Council, where I was Arboricultural Officer for a period of 2 years. During my time working in local government I was responsible for making Tree Preservation Orders, administering applications to work on protected trees and advising on planning applications when trees were considered material constraints on development. Working within a planning environment allowed me to gain valuable experience in the management of trees in development situations and an understanding of the planning process and how it relates to trees. From January 2005 I worked for Barrell Tree Consultancy Ltd advising clients on a wide range of tree related issues. I left the company in September 2008 and set up ecourban ltd, where I am currently the sole practitioner.



ecourban ltd, Radley House, 8 St Cross Road, Winchester, SO23 9HX