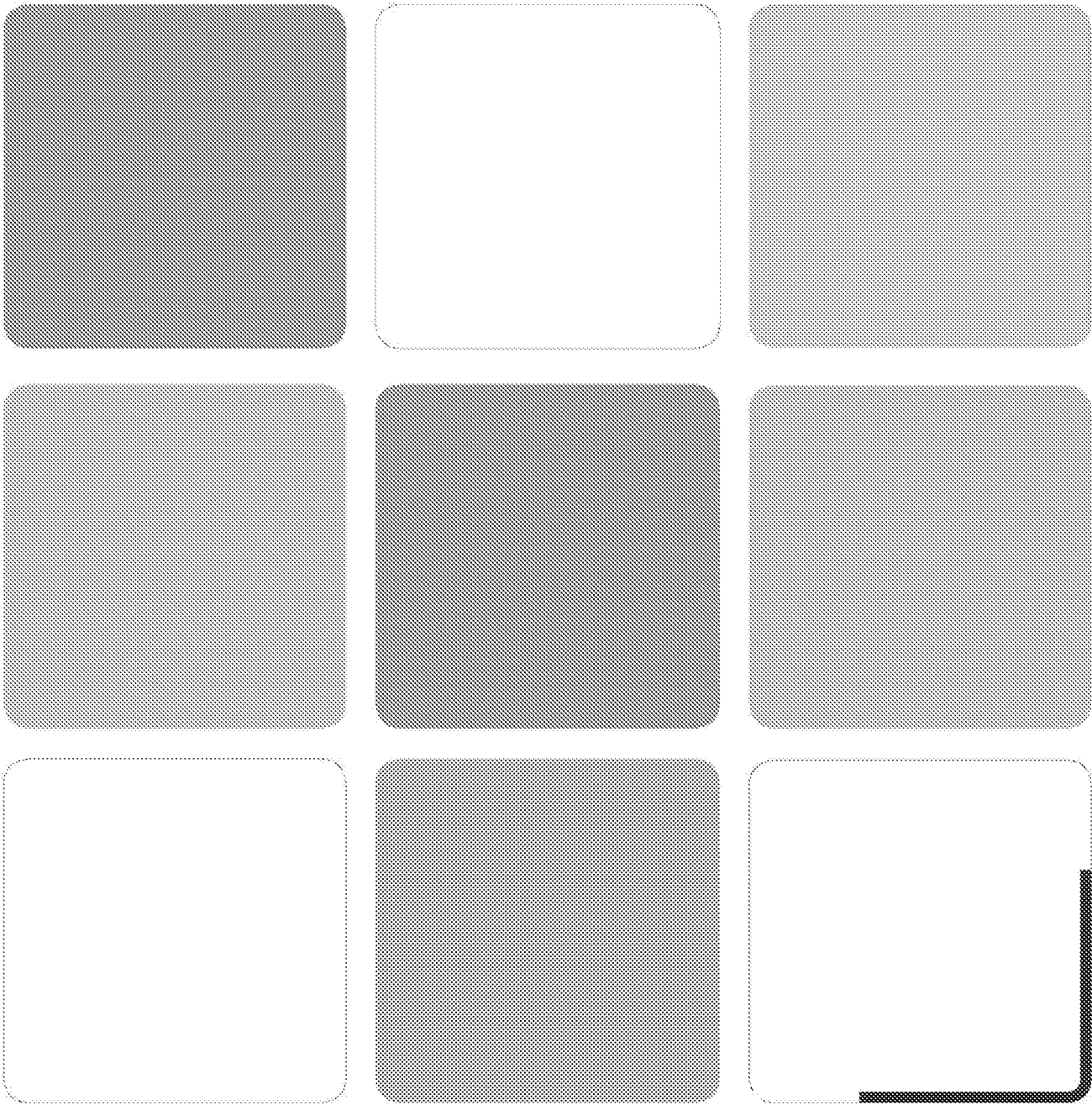




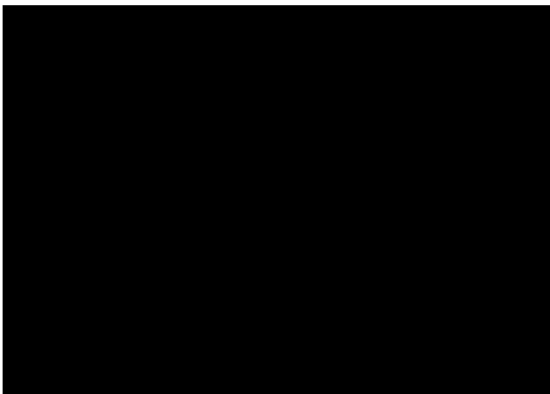
Land at Nyton Nurseries
Westergate
Arboricultural Impact Assessment
& Method Statement





25th August 2017

Our Ref: JSL2869_771



QUALITY MANAGEMENT

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Date:	22nd January 2018
Project Number/Document Reference:	JSL2869_771
Status:	For Planning
Revision:	D

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1 INTRODUCTION

- 1.1 RPS was commissioned by Taylor Wimpey Southern Counties to prepare an Arboricultural Impact Assessment and Method Statement in relation to the proposed development of 268 dwellings on land at Nyton nurseries off Fontwell Avenue, Westergate near Chichester, hereinafter referred to as the 'application site'. The assessment forms part of the planning application for the proposal, which is hereinafter referred to as the 'proposed development'.
- 1.2 A tree survey was carried out by RPS on the 4th of July 2017 and Tree Survey Report JSL2869_770 was completed thereafter, which this document follows on from.
- 1.3 All documents are in broad accordance with the requirements set out in BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'¹.
- 1.4 The purpose of the report is to:
 - Specify measures for the protection of trees throughout development of the site and identify any necessary predevelopment tree works including tree removal. Provide additional arboricultural information and advice in relation to the protection of trees throughout the development of the site.
 - Provide a Tree Protection Plan to detail the proposed protective measures to be taken in respect of the trees during development of the site.
- 1.5 The Tree Protection Plan JSL2869_711-713 (Appendix 3) identify the following:
 - Trees to be retained;
 - Trees and vegetation to be removed;
 - Alignment and design of protective fence;
 - Root Protection Area (RPA) of trees.
- 1.6 The Arboricultural Method Statement shall be made available to all relevant site operatives prior to and throughout the demolition/ construction process, so they understand the scope and importance of the tree protection measures.
- 1.7 To minimise the potential for harm to occur to retained trees all works shall be carried out with regard to the Tree Protection Measures and construction techniques detailed within this report.
- 1.8 In particular the establishment of a Construction Exclusion Zone (CEZ) by erection of Tree Protection Fencing will minimise the potential for harm to occur to retained trees.
- 1.9 This report has been prepared by Jake Bailey (BSc Hons, TechArborA) and authorised by David Cox, a Professional Member of the Arboricultural Association and Chartered Member of the Landscape Institute, of RPS Group PLC.

2 SUMMARY OF TREE SURVEY FINDINGS

- 2.1 The tree cover on site could be broadly divided into 4 main categories; Ornamental planting and dense self-sown native species pertaining to the former nursery and 'Jacaranda' in the south-west of the site, generally of moderate to low quality; linear groups of trees established as screening rows/ shelter belts, comprising ash, poplar and spruce; the high quality mature to veteran age class oak trees which were of prominent visual amenity on the site; and the low quality, pioneer species trees established at field boundaries or as remnant hedgerows.
- 2.2 The majority of the surveyed tree stock was of low quality, where loss could be easily mitigated and/ or replaced. However, a few notable exceptions were of moderate and high quality and efforts should be made to design around these in any potential re-development of the site, particularly the category A trees. Of the 60 trees, 18 tree groups and 4 hedgerows identified in the survey, the tree stock was classified in the following quantities of the BS5837:2012 tree grading criteria;
- 3 of category A (High quality);
 - 9 of category B (moderate quality);
 - 67 of category C (low quality);
 - and 4 of category U (unsuitable for retention).
- 2.3 Generally, trees were in a condition consistent with expectations for age/ management/ species. Much of the low quality category C tree stock comprised pioneer species such as elder, hawthorn and goat willow; species with typically short lifespans, consequently many such trees were approaching the end of their useful lifetime and were in a structurally poor condition (accordingly these were classified as having less than 10 years estimated remaining contribution and therefore merited a category U).
- 2.4 There were 3 BS5837 category A trees identified in the survey. T49, T50 and T51 were all pedunculate oaks with high amenity value and a significant estimated remaining contribution of over 40 years (figs. 1a & 1b, appendix 3). T50 in particular exhibited veteran characteristics of high cultural value (fig 1c, appendix 3). Such trees would offer instant maturity and high landscape value to any built environment and it is recommended the physical constraints of these trees are considered in the design phase of any potential re-development and efforts are made to retain them in such a scheme.

Planning considerations/ statutory checks

- 2.5 A desktop investigation into the planning constraints on this site using the Arun District Council GIS web map² confirmed that there is a Tree Preservation Order in place at the south- west corner of the site. TPO/AL/1/13 was served by Arun District Council in 2013. The TPO protects trees T21 and T15 (T1 and T2 in the TPO schedule). The TPO schedule and map are attached at appendix 5.

-
- 2.6 Trees covered by a Tree Preservation Order are protected under the Town and Country Planning Act 1990 (Trees Regulation 2012) and the local authority must be consulted and permission sought for any works that may affect them.

3 ARBORICULTURAL IMPACT ASSESSMENT

Brief Description of Proposed Development

- 3.1 The proposed development consists of 268 no. residential dwellings, with associated access roads, hard landscaping and soft landscaping, including two LEAPs and tree planting proposals.

Tree Removal

- 3.2 In order for the development to be realised, the removal of the following quantities of trees of will be required (BS5837¹ tree quality categories);
- 3 no. of category B;
 - 50 no. of category C;
 - 2 no. of category U.
- 3.3 The removal of 9. no Category C tree groups and 2. no hedges will also be required.
- 3.4 Additionally, the removal of 7 trees within the linear group T12x 45 and the partial removal of G12 will be required to facilitate the proposed road layout.
- 3.5 G11 will require selective pruning and/ or localised vegetation removal back to the protective fence line as indicated in the Tree Protection & Removal Plans JSL2869_711-713 in order to facilitate the proposed housing layout.
- 3.6 The attached Tree Protection and Removal Plan (appendix 3) and the Tree Works Schedule (appendix 2) indicate the trees to be removed. See also arboricultural checklist, section 6.

Tree Removal- TPO AL/1/13

- 3.7 In order for the proposed cycle path layout at the south-west of the application site to be achieved, removal of T15 would be required. However, T15 is protected by Tree Preservation Order AL/1/13 served by Arun District Council in 2013. In order to undertake any works including removal of this tree, an application would need to be made seeking permission from Arun District council prior to any such works being undertaken.

Tree Planting

- 3.8 The landscape planting scheme associated with this application indicatively proposes 113 no. standard trees (10-12cm girth), 90. no standard-heavy trees (12-14cm girth) and 64. no standard (extra heavy) trees (14-16, 16-18, 18-20cm girths). The palette comprises a diverse mix of native and ornamental species that will reach various mature heights. The species selection is likely to fare well in the slightly acid, loamy soils typical of the area³.
- 3.9 Additionally, a community orchard is proposed at the site frontage comprising a variety of fruit trees.

Summary- Arboricultural Impact

- 3.10 Following the erection of Tree Protection Fencing and laying down of Ground Protection as indicated in Tree Protection & Removal Plan JSL2869_711-713 and specified in the next section/ appendix 3, and adopting the advice given within this report, it is reasonable to predict that the remaining trees can be retained within the scheme without a significant decline in condition.
- 3.11 The trees scheduled for removal in order to realise the development are of a quality and amenity value that would be mitigated and/ or replaced by the proposed landscape planting.

4 DEVELOPMENT WORKS- ARBORICULTURAL METHOD STATEMENT

Construction Exclusion Zone

- 4.1 The Construction Exclusion Zone (CEZ) as defined by the protective fence line shall be regarded as sacrosanct, and the protective fencing shall not be moved or taken down at any time during the main construction phase. Following the main construction phase, protective fencing may be removed to facilitate landscaping works as indicated in the Tree Protection & Removal Plan JSL2869_711-713.
- 4.2 Within the Construction Exclusion Zone there must be no mechanical digging or scraping, no alteration to existing ground levels including soil stripping, no earthworks, no handling or discharge of any chemical substance, concrete washings or of any fuels.
- 4.3 Furthermore vehicular or pedestrian access and the storage of any materials is prohibited within the Construction Exclusion Zone.
- 4.4 Additionally no materials that may contaminate the soil such as concrete mixings, diesel oil and vehicle washings shall be discharged within 10m of the stem of any tree and no fires shall be lit within 10m of the maximum extent of a trees crown.

Tree Protection Fencing

- 4.5 Following completion of tree removal and prior to the commencement of any site works the protective fencing is to be erected in accordance with the locations set out in the Tree Protection Plan JSL2869_711-713 (Appendix 3).
- 4.6 Once the protective fencing is in place it must remain in situ throughout the course of the development until the completion of development.
- 4.7 The construction phase site hoarding will also separate a number of trees and the development site, preventing direct incursion. The site hoarding is to be erected prior to the commencement of any development works.
- 4.8 Copies of the Tree Protection Plan shall be placed in the site office for reference by all site staff.
- 4.9 The Tree Protection Fence will be constructed using wire mesh fences secured to timber posts as shown in Appendix 4. Although not of the default BS5837: 2012 specification, these barriers are tamper-proof and will create a solid physical barrier preventing incursion within the RPAs. No demolition is proposed in close proximity to trees scheduled for retention. The panels will be secured to each other using at least two anti-tamper couplers, installed so that they can only be removed from inside the fence. Care should be taken in the installation to ensure no contact of ground pins is made with major roots over 25mm diameter.
- 4.10 Signs detailing the purpose of the protective fencing shall be attached to the fencing at 10m intervals. Such signs should be weatherproof and shall be substantially in the form of the

specimen provided at Appendix 5. Signs must be replaced as necessary should they be removed or become illegible.

- 4.11 Following erection of the protective fencing but prior to commencement of the development it is recommended that an inspection of the site, by either the LPA Tree Officer, the Arboricultural Consultant or a suitably experienced person e.g. site manager is to be arranged to confirm fencing has been installed in accordance with the Tree Protection Plan and any relevant conditions that may be attached to a grant of planning consent for the development. Fencing is to be signed off and recorded in an Arboricultural Inspection Report.

Ground Protection

- 4.12 Ground protection is proposed at the eastern peripheral RPA of T50 in order to facilitate the proposed private road to the rear of the properties (see following section on no-dig surfacing). Ground protection should be in place prior to any site traffic entering the application site and until the completion of construction.
- 4.13 Ground protection is to consist of proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane.

Works and methodology within the Root Protection Areas

No-Dig Private Road (T50)

- 4.14 Where it is within the RPA of T50, the proposed private road at the rear of the proposed residential dwellings to the west of T50 is to be constructed using a 'no-dig' specification in accordance with APN12⁴ utilising a load bearing, cellular confinement system such as cell-web ® or a similar and equivalent system and finished with a permeable wearing course in the locations shown. No excavation is to occur at all. Ground protection is to be removed in stages as cell-web is added, in a retreating manner away from T50. See Appendix 6 for no-dig surfacing construction detail and Appendix 7 for installation methodology.
- 4.15 Alternatively, should site constraints allow, the road could be re-aligned so that it does not fall within the RPA of T50. In this instance Temporary Protective Fencing is to be re-aligned to encompass the entire RPA.

Site Compounds and Materials Stores

- 4.16 Activities related to the establishment of a temporary site compound have the potential to impact upon retained trees by various means. In particular the storage and mixing of chemicals and materials such as concrete can have a damaging effect on tree health if precautions are not taken.
- 4.17 To prevent harm occurring to trees provision for materials storage, site offices, deliveries and other related activities shall be made available in areas away from retained trees.
- 4.18 Contractor parking and storage is to be located in the existing car park at the south of the site.
- 4.19 Spill kits should be available on site in the event of any spillages and drip trays should be used where applicable to minimise the risk of accidental spillage.

Monitoring and Supervision

- 4.20 Following erection of the protective fencing and prior to commencement of the development an inspection of the site, by either LPA Tree Officer, the Arboricultural Consultant or a suitably experienced person e.g. site manager shall be arranged to confirm fencing has been installed in accordance with the Tree Protection Plan and any relevant conditions that may be attached to a grant of planning consent for the development. Fencing is to be signed off and recorded in an Arboricultural Inspection Report.
- 4.21 Further monitoring visits are recommended following implementation of critical stages of works on site that interface with trees, specifically the installation of the 'no-dig' artificial turf. The frequency of visits is to be confirmed during the pre-start meeting.

Reporting

- 4.22 Should any arboricultural issues become apparent during the works the site manager should immediately contact the Arboricultural Consultant or the Council's Tree Officer for advice upon how to proceed.

5 TREE WORKS

Standard of Work

- 5.1 All tree works shall be carried out in accordance with BS3998:2010 and latest arboricultural best practice, refer to section 6 arboricultural checklist.
- 5.2 All tree work shall be carried out by suitably qualified, competent and insured arboricultural contractors in accordance with Arboricultural Association Standard Conditions of Contract and Specifications for Tree Works (2008) Edition⁵ and BS 3998:2010 Tree Work⁶.
- 5.3 All green and woody waste generated by the tree works shall be removed from site and disposed of in an environmentally sustainable manner, unless otherwise specified.
- 5.4 Prior to the commencement of any tree works an appropriate risk assessment shall be produced by the appointed contractor to describe the measures required to fulfil the statutory safety obligations. It shall aim to identify and prioritise the necessary control measures and precautions.
- 5.5 Following the works it is recommended that the trees are monitored on a regular basis to ensure their ongoing vitality and health. These inspections shall be completed by a suitably qualified and experienced person, see arboricultural checklist, section 6.

Tree Stump Removal

- 5.6 The stumps of trees requiring removal shall be mechanically ground down as appropriate or dug out in accordance with BS3998: 2010⁵ (section 12.3). Stumps are not to be dug out where they are within the RPA of trees to be retained. Wheeled or tracked machinery is not to enter the RPA of trees scheduled for retention in order to grind down a stump, in this instance stumps should be cut as close to the ground as possible and left in place.

Timing of Works

- 5.7 All tree works shall be completed prior to commencement of any construction works on the site. Tree works shall be completed prior to the erection of tree protective fencing, however no heavy vehicles or machinery are to be brought inside the construction exclusion zone (see Tree Protection and Removal Plans, Appendix 3) during tree works.
- 5.8 All works shall be timed to have regard to the phenological cycles of protected species that are associated with trees; notably birds and bats.
- 5.9 Nesting birds are protected by law and any removal / tree works should not be carried out during the bird nesting season (March-August inclusive). Should any vegetation be outlined for removal during this period, then an ecological inspection would be required to check that no nesting birds are present. Should checks reveal nesting birds the vegetation must remain until September or until an ecologist has certified that the fledglings have left the nest. A visual inspection for bats shall also be carried on mature / ivy clad trees prior to commencing operations.

6 ARBORICULTURAL CHECKLIST

<i>Ref</i>	<i>Work Activity</i>	<i>Schedule of Works</i>	<i>Refer</i>	<i>Recommendations</i>
General site works and tree related operations				
01	Pre-start site meeting	Pre-start site meeting with LPA representatives, site manager, client representative and arboriculture consultant to agree scope of any works and tree protection measures, where required.		
02	Protect trees to be retained	Barriers shall be fit for the purpose of excluding construction activity, and should remain rigid and complete. Barriers and ground protection are to be located in accordance with RPS Tree Protection Plan.	BS 5837:2012 Trees in relation to design, demolition and construction ¹ : Figure 2 & 3 RPS Tree Protection Plan JSL2869_711-713	Ongoing monitoring by appointed person
03	Tree Protection Measures and Ground Protection to be inspected by LPA (if required).	CA to give Arboricultural Consultant at least 2 working days notice of the erection of the temporary protective fencing and laying down of ground protection. Tree Protection Measures are to be signed off and recorded by Arboricultural Consultant.	RPS Tree Protection Plan JSL2869_711-713	Appointed person to contact LPA prior on completion of fencing.
04	Removal of identified vegetation	CA to identify vegetation at pre-commencement meeting & agree to establish the extent of any necessary tree works. Carry out inspection of ivy for presence of bats / nesting birds as appropriate; Vegetation identified for removal shall be removed with care in accordance with current H&S requirements and good arboricultural practice to avoid damage to adjacent trees / property. Stumps of felled trees shall be dug out, mechanically ground down or cut low and left as appropriate with regards to the proximity of the	Arboricultural Association Standard Conditions Of Contract And Specifications For Tree Works (2008) Edition ⁴ BS 3998:2010 Tree Work ⁶ RPS Tree Protection Plan JSL2869_711-713 Appendix 2 Tree Works Schedule	All tree work shall be carried out by a suitably tree qualified tree surgeon, preferably an Arboricultural Association approved contractor. Monitoring by appointed person.

<i>Ref</i>	<i>Work Activity</i>	<i>Schedule of Works</i>	<i>Refer</i>	<i>Recommendations</i>
		RPA of trees to be retained.	BS3998:2010 ⁶	
06	Removal of arisings	Removal of all arisings off site unless instructed otherwise by the CA. Fires are NOT permitted on the site	Arboricultural Association Standard Conditions Of Contract And Specifications For Tree Works (2008) Edition ⁵ BS 3998:2010 Tree Work ⁶	Ongoing monitoring by appointed person
Specific tree and construction works				
07	Works within the Root Protection Area (RPA) No- Dig footpath (T49 & T50).	Temporary re-alignment of protective fencing to allow installation of no-dig footpath in accordance with APN12. No wheeled or tracked machinery within RPA.	RPS Tree Protection Plan JSL2869_711-713	Ongoing monitoring by appointed person.
08	No- Dig Private Road (T50)	Ground Protection to be removed in stages as No-Dig surfacing in accordance with APN12 laid down in a retreating manner away from T50.	APN12 Through the trees to development ³ Appendix 6 No dig surface construction detail Appendix 7 No dig surface installation methodology.	
09	LEAP Footpath (T49 & T50)	If site constraints do not allow for re-alignment outside of the RPAs of T49 & T50, sensitive excavation in the peripheral RPA (outer 20%maximum) is to take place using hand tools. Root activity to be monitored and roots under 25mm to be pruned by hand in accordance with BS3998:2010. Should roots over 25mm be encountered works shall be stopped immediately and advice on how to proceed sought from the project arboriculturalist.	BS3998:2010 ⁶	

<i>Ref</i>	<i>Work Activity</i>	<i>Schedule of Works</i>	<i>Refer</i>	<i>Recommendations</i>
10	LEAP Shrub Planting bed (T21 & T22)	Sensitive excavation in the peripheral RPA (outer 20% maximum) is to take place using hand tools. Root activity to be monitored and roots under 25mm to be pruned by hand in accordance with BS3998:2010. Should roots over 25mm be encountered works shall be stopped immediately and advice on how to proceed sought from the project arboriculturalist.	BS3998:2010 ⁶	Ongoing monitoring by appointed person.

7 REFERENCES

- ¹ British Standards Institute. *British Standard (BS5837) Trees in Relation to Design, Demolition and Construction - Recommendations*. 2012.
- ² Arun District Council 'Arun District Council Maps' www.arun.gov.uk. Accessed 3rd July 2017
- ³ DEFRA. 'Magic Map Application'. www.magic.gov.uk. Accessed 3rd July 2017.
- ⁴ Patch, D. Holding B. *Arboricultural Practice Note 12 (APN12), Through the Trees to Development*. Arboricultural Advisory and Information Service (AAIS). 2006.
- ⁵ Hazell, J, et al.. *Guidance Note 8, Framework for Tree Work Contracts: Standard Conditions of Contract between Client and Contractor and Specifications for Tree Work (English Edition)*. Arboricultural Association. 2008.
- ⁶ British Standards Institute. *British Standard (BS3998) Trees Work - Recommendations*. 2010.

APPENDICES

APPENDIX 1

Tree Survey Data

JSL2869_750

Tree Survey Schedule

Site Land off Nyton Nurseries, Westergate
Project schedule ref: JSL2869_750
Drawing reference: JSL2869_700
Survey date: 04/07/2017

Surveyor: Jake Bailey
Status: For Planning
Revision: A
Notes: (Weather) Bright & Clear



Ref. no.	Species	Height (m)	Crown spread (m)				Stem dia. (m)	Stem no. at 1.5m	Height of crown clearance (m)	Dir/ height	Age class	Structural Physiological condition	General observations Management recommendations	Estimated remaining contribution (years)	Tree Quality Category (BS5837)
			N	E	S	W									
1	Crataegus monogyna Common Hawthorn	6.0	2.5	2.0	2.5	1.0	0.19 0.24 0.15	3.00	1.50	NW	EM	Fair/Good	Asymmetric crown, vigorous, multi-stemmed with included growth. Generally scrappy form.	20+	C1/2
2	Acer pseudoplatanus Sycamore	6.0	1.5	1.5	1.5	1.5	0.07 0.08	2.00	1.50	-	Y	Fair/Good	Bifurcates at ground level, co-dominant stems. Typically vigorous.	30+	C2
3	Crataegus monogyna, Sambucus nigra Common Hawthorn, Elder	6.0	4.0	4.0	4.0	2.0	combined est 0.45	9.00	1.00	-	SM/EM	Fair/Good	Elder and Hawthorn established so close together crown was surveyed as a combination of both. Scrappy form. Detailed inspection of stems prevented by dense vegetation.	15+	C2
4	Crataegus monogyna Common Hawthorn	7.0	4.0	3.5	3.5	2.0	0.27 0.48	2.00	1.50	-	OM	Poor/Poor	Bifurcates at ground level. Epicormic regrowth forms much of vertical scaffold limbs on northern stem. Multiple limbs have fused at main stem. Internal and external decay noted. Limited useful life expectancy.	<10	U
5	Crataegus monogyna, Sambucus nigra Common Hawthorn, Elder	4.5	2.5	3.0	2.5	1.0	combined est 0.30	4.00	1.00	-	M	Fair/Good	2 trees established adjacent to one another and surveyed together. Scrappy form.	15+	C2
6#	Sambucus nigra Elder	4.0	2.5	2.0	2.5	2.0	0.10 0.12 0.24	3.00	2.00	-	M	Fair	Off site tree, canopy extends onto site. Dead wood limbs from pruning wounds and die back in crown, limited amenity.	10-20	C2
7	Crataegus monogyna, Sambucus nigra Common Hawthorn, Elder	4.0	2.0	2.5	3.5	1.5	est 0.20	-	0.50	NW	EM	Fair	Unable to determine which side of boundary stem is on. Stem inspection prevented by dense vegetation. Two trees surveyed together. Scrappy form.	10+	C2
8#	Crataegus monogyna Common Hawthorn	7.5	1.0	3.5	4.0	3.5	combined est 0.35	M	1.50	NW	EM	Fair	Living stem is located off site. 2 dead stems are on site, one is heavily Ivy cloaked. Recommend dead stems pollarded to safe height (approximately 2m).	10+	C2
9#	Crataegus monogyna Common Hawthorn	8.0	2.0	4.5	5.5	5.5	0.20 0.27 0.15	4.00	1.00	W	EM	Poor/Good	On site tree, not on topo survey. Hazard beams and external decay noted. Poor form. Asymmetric crown.	10-20	U
10#	Malus domestica Apple	6.0	1.5	3.0	2.0	3.5	0.15 0.20	2.00	1.50	W	EM	Fair/Good	Minor bark wounds. Vigorous. Asymmetric crown form. Off site tree, not on topo survey.	15+	C2

Note: This survey is based on a brief visual inspection from the ground.
It is not intended as a full arboricultural inspection.
- Indicates estimated / offsite tree

Tree Survey Schedule

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 Project schedule ref: JSL2869_750
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 Survey date: 04/07/2017

Surveyor: Jake Bailey
 Status: For Planning
 Revision: A
 Notes: (Weather) Bright & Clear



Ref. no.	Species	Height (m)	Crown spread (m)				Stem dia. (m)	Stem no. at 1.5m	Height of crown clearance (m)	Dir/ height	Age class	Structural Physiological condition	General observations Management recommendations	Estimated remaining contribution (years)	Tree Quality Category (BS5837)
			N	E	S	W									
11#	Quercus robur Pedunculate Oak	14.0	5.5	7.0	7.0	5.0	est 0.50	1.00	1.50	NW	EM	Fair/Good	Off site tree, not on original topo. Minor dead wood in lower crown. Included branch union noted in lower crown, monitor in future inspections.	25+	B2
12	x45 Fraxinus excelsior Common Ash	16.0	1.5	5.0	1.5	5.0	0.30	1.00	1.5/2.5	W/E	EM		Avenue of Ash trees planted at approximately 2.5m intervals. Not all trees are on topo survey. Vigorous. Value lies in group value. Trees would benefit from active management. Ivy should be severed where present. Several trees have included unions whilst others have signs of bacterial canker and hazard beam. A full condition assessment is beyond the scope of this survey but one is recommended.	10-20 20+	B2
13#	x2 Salix caprea Goat Willow	7.0	2.5	2.0	2.0	2.0	combined est <0.30	M	1.50	-	SM	Fair/Good	Vigorous pioneer vegetation. Dense vegetation prevented detailed inspection.	15+	C2
14#	x22 Picea abies Norway spruce	13.0	3.0	1.5	3.0	1.5	<0.25	1.00	1.50	NW	SM/E M	Fair	Trees would benefit from active management. Sporadic spacing. Group value higher than individual. Some trees require Ivy severed. Dense vegetation prevented detailed inspection.	20+	C2
15 TPO	Quercus ilex Holm Oak	9.0	4.5	6.5	4.0	5.5	0.60	1.00	2.00	NW	M	Good	Tree has had crown lifting works undertaken relatively recently. Vigorous if asymmetric crown.	30+	B2
16	Dead	7.0	2.0	2.0	1.0	2.0	0.24	1.00	2.00	NW	-	Dead	Tree has died, unable to ID.	<5	U
17	Fraxinus excelsior Common Ash	13.0	5.0	1.5	0.0	3.5	0.25	1.00	3.00	NW	EM	Fair/Good	Stem off kilter (phototropism) with bias to north west. Crown lacks central leader. Large split on north side of stem.	20+	C1/2
18#	Fraxinus excelsior Common Ash	13.0	4.0	4.0	4.0	5.5	0.21 0.20	2.00	3.00	E	EM	Fair	Bifurcates at ground level. Northern stem shows symptoms of bacterial canker and dead wood/die back, recommend reduction.	15+	C1/2
19	Fraxinus excelsior Common Ash	13.0	4.0	5.0	3.5	5.0	0.20 0.20 0.25	3.00	2.50	NW	EM	Fair/Good	Triple stemmed at ground level, unable to undertake detailed inspection due to dense vegetation. Vigorous crown.	20+	B2
20	Fraxinus excelsior Common Ash	13.0	6.5	5.5	3.5	5.5	0.32 0.18 0.16 0.26	4.00	2.00	N	EM	Fair	Multiple stems at ground level, lacks central leader. Signs of bacterial canker. Root girdling noted. Ivy on stem.	15+	C2

Note: This survey is based on a brief visual inspection from the ground.
 It is not intended as a full arboricultural inspection.
 # - Indicates estimated / offsite tree

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Site Land off Nyton Nurseries, Westergate
Project schedule ref: JSL2869_750
Drawing reference: JSL2869_700
Survey date: 04/07/2017

Surveyor: Jake Bailey
Status: For Planning
Revision: A
Notes: (Weather) Bright & Clear



Ref. no.	Species	Height (m)	Crown spread (m)				Stem dia. (m)	Stem no. at 1.5m	Height of crown clearance (m)	Dir/ height	Age class	Structural Physiological condition	General observations Management recommendations	Estimated remaining contribution (years)	Tree Quality Category (BS5837)
			N	E	S	W									
21 TPO	Fraxinus excelsior Common Ash	12.5	7.0	3.0	5.5	5.5	0.45	1.00	2.00	N	EM	Good	Relatively recently crown lifted on south side of stem. Vigorous. Ivy treated.	25+	B2
22	Fraxinus excelsior Common Ash	10.0	6.0	5.0	5.0	5.0	0.22 0.14 0.17 0.18 0.22	5.00	2.00	N	EM	Fair/Good	Multiple stems, fused in places. Southernmost stem previously removed, remaining southernmost stem has large stem cavity on south side, potential structural weakness (overhangs veterinary practice), further monitor, may need reduction.	15+	C2
23	Acer pseudoplatanus Sycamore	13.0	0.5	2.5	4.5	3.0	0.20 0.16	2.00	2.00	S	SM	Fair/Good	Bifurcates at approximately 1m, included growth at union and stems beginning to fuse further up. Suppressed form.	15+	C2
24	Acer pseudoplatanus Sycamore	14.5	1.5	4.5	3.5	5.5	0.23 0.23 0.20 0.19 0.28	4.00	4.00	E	EM	Fair/Good	Multiple stems at approximately 1m. Ivy cloaked stem. Typically vigorous.	20+	C2
25	Acer pseudoplatanus Sycamore	14.5	3.5	3.5	1.0	4.5	0.14 0.14 0.16	5.00	4.00	E	EM	Fair/Good	Multi-stemmed stand, Ivy and epicormic growth prevented detailed inspection. Typically vigorous.	20+	C2
26#	Picea abies Norway spruce	5.0	1.5	1.5	1.0	1.5	0.10	1.00	0.00	-	Y	Good	Young tree. Strong central leader, suppressed to south.	15+	C2
27	Acer pseudoplatanus Sycamore	12.5	6.0	4.0	4.0	2.0	est 0.20 0.15 0.10 0.25	4.00	2.00	S	SM	Fair/Good	Multi stemmed stand in neighbouring property. Unable to inspect stems in detail. Typically vigorous.	20+	C2
28	Eucalyptus gunnii Cedar gum	8.0	4.5	2.0	5.0	3.0	0.28	1.00	2.00	S	EM	Fair/Good	Previously pollarded. South crown overhangs road.	10+	C2
29	Eucalyptus gunnii Cedar gum	8.0	1.5	1.0	5.0	1.5	0.20	1.00	2.00	S	SM	Poor/Good	Previously pollarded. Stem in poor condition, likely due to pollarding.	10-20	C2
30	Eucalyptus gunnii Cedar gum	14.5	2.5	1.5	1.5	1.5	0.27	1.00	3.50	N	EM	Fair/Good	Narrow crown. Vigorous. Irregular branch attachments in crown.	15+	C2
31	Eucalyptus gunnii Cedar gum	13.5	3.5	3.5	3.5	3.0	0.26	1.00	1.50	S	EM	Fair/Good	Central leader appears to have been pruned/lost. Hazard beam noted on moderate limb.	15+	C2

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			N	E	S	W									
32	Eucalyptus gunnii Cedar gum	13.5	1.5	2.5	1.5	1.0	0.20	1.00	1.50	S	SM	Fair/Good	Narrow crown, bifurcates at approximately 5m, included growth at union.	15+	C2
33	Eucalyptus gunnii Cedar gum	13.0	3.0	3.5	1.5	0.5	0.18	1.00	4.00	N	SM	Fair	stem off kilter. Asymmetric crown. Die back in lower crown.	15+	C2
34	Pittosporum sp. Pittosporum	9.0	4.5	2.5	2.5	4.0	0.24 0.16 0.20 0.15	4.00	2.00	N	M	Fair/Good	Ivy prevented detailed inspection of stem, recommend Ivy removal. Large size for species. Vigorous. Likely limited remaining contribution.	10-20	B1/2
35	Pittosporum sp. Pittosporum	9.0	1.5	3.5	4.0	4.0	0.22 0.30 0.25	3.00	1.50	W	M	Fair	Minor crown die back. Detailed inspection prevented by dense foliage, large size for species.	15+	B1/2
36#	Sambucus nigra Elder	8.5	3.0	2.0	2.0	4.0	0.15 0.22 0.15 0.16 0.12	5.00	2.00	W	OM	Poor	Tree is in decline. Die back and dead wood present.	<10	U
37#	Sambucus nigra Elder	5.5	2.5	2.5	2.5	3.0	combined est 0.45	M	1.75	-	OM	Fair	Extensive Ivy coverage, prevented detailed inspection of stems. Die back in crown noted. Limited life expectancy.	10-20	C2
38	Fraxinus excelsior Common Ash	8.5	2.5	3.0	1.5	2.0	0.28	1.00	2.00	N	EM	Fair	Bifurcates at approximately 1.6m, included growth at union. Compressive stress symptoms at union, Minor die back in crown.	20+	C2
39#	Sambucus nigra Elder	5.0	2.0	2.5	2.0	2.0	est combined 0.25	M	1.50	N	M	Fair/Good	Dense Ivy prevented inspection of stem. Scrappy pioneer vegetation.	10+	C2
40	x3 Picea abies Norway spruce	max 15	2.0	2.0	2.0	2.0	est 0.20	1.00	-	-	SM	Good	Unable to undertake detailed inspection due to dense vegetation preventing access. Typically vigorous crowns.	20+	C2
41	x4 Eucalyptus sp. Gum tree	12.5	2.0	3.0	3.0	2.0	max 0.38	1.00	1.50	E	EM	Good	Off site plantings in neighbouring garden, vigorous.	20+	C2
42	Eucalyptus sp. Gum tree	10.5	3.0	3.0	5.0	5.0	0.29	1.00	2.00	S	EM	Fair/Good	Pruning wounds to lower stem, dead wood fungus present; may affect lateral branch attachment in future.	20+	C2

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			N	E	S	W									
43	Eucalyptus sp. Gum tree	11.0	3.5	4.0	3.5	5.5	0.20	1.00	1.50	E	SM	Fair/Good	Asymmetric form and stem off-kilter, included branch union. Rot pockets.	20+	C2
44	Eucalyptus sp. Gum tree	12.0	2.5	3.0	0.5	5.0	0.27	1.00	1.00	W	EM	Fair	Bifurcated crown at approximately 3m, included growth at union. Minor dead wood and die back.	20+	C2
45	Eucalyptus sp. Gum tree	12.0	2.0	1.5	1.5	2.5	0.24	1.00	6+	-	EM	Fair/Good	Lacks central leader, included growth at unions. Narrow crown, shade avoidance type growth.	20+	C2
46	Eucalyptus sp. Gum tree	12.0	2.0	2.5	1.5	3.0	0.20 0.11	1.00	2.00	W	SM	Fair/Good	Crown lacks central leader. Typically vigorous.	20+	C2
47	Eucalyptus sp. Gum tree	12.0	2.0	2.0	2.0	2.0	0.22	1.00	6+	-	SM	Fair/Good	Narrow crown, shade avoidance response type growth, signs of compressive stress at main union.	20+	C2
48	Eucalyptus sp. Gum tree	12.0	2.5	1.5	1.5	2.0	0.29	1.00	5.00	W	EM	Fair	Central leader previously broken out. Tree not illustrated on tree survey	20+	C2
49	Quercus robur Pedunculate Oak	18.0	9.0	7.5	7.0	7.0	0.90	1.00	2.00	N	M	Good	Bark wounds noted on west stem, part occluded. Otherwise a fine tree, prominent landscape amenity.	40+	A2
50	Quercus robur Pedunculate Oak	15.5	7.5	9.5	10.5	8.0	1.20	1.00	1.75	-	V	Good	Tree has veteran qualities and appears to have retrenched somewhat. Highest amenity tree on site.	40+	A2/3
51	Quercus robur Pedunculate Oak	17.0	10.5	8.5	8.5	8.5	ave 1.2	1.00	1.50	NW	M	Good	Irregular shaped bole, diameter taken as average of 2 measurements. Formed of 2 main trunks, fused. High amenity and landscape presence.	40+	A2
52	Fraxinus excelsior Common Ash	10.0	4.0	4.0	4.0	2.5	0.27 0.15	2.00	1.00	-	EM	Fair/Good	Cluttered main union with included growth present. Vigorous crown, some die back noted.	20+	C2
53	Acer pseudoplatanus Sycamore	11.0	5.5	6.0	4.0	4.0	combined 0.40	4.00	1.50	S	EM	Fair/Good	Tree at boundary of garden.	25+	C2

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			N	E	S	W									
54	Crataegus monogyna Common Hawthorn	8.0	3.0	1.5	3.0	2.0	combined est 0.50	5.00	2.00	-	EM	Fair/Good	Multistemmed at ground level, scrappy form but vigorous.	25+	C2
55	Aesculus hippocastanum Horse Chestnut	7.0	2.5	0.5	4.5	3.0	0.20 0.12	2.00	1.50	N	SM	Fair	Bifurcates at approximately 1m, included growth noted. Crown suppressed to the east.	15+	C2
56	Acer campestre Field Maple	17.0	6.0	8.0	8.0	6.0	0.62	1.00	3.00	E	M	Good	Large size for species. Good form, vigorous.	20+	B2
57	Acer pseudoplatanus Sycamore	15.0	6.0	7.0	5.0	4.0	0.37 0.42	2.00	2.00	E	EM	Fair/Good	Typically vigorous. Bifurcates at approximately 1m, included growth present.	25+	C2
58	Quercus robur Pedunculate Oak	6.0	1.5	3.0	1.5	3.0	0.18 0.15	2.00	1.00	E	SM	Fair	Bark damage to exposed roots noted. Crown bias east and west, mechanically pruned to north and south.	20+	C2
59	Crataegus monogyna Common Hawthorn	7.0	2.0	4.5	2.0	4.5	combined 0.45	5.00	5.00	-	M	Fair	Mechanically pruned to north and south, bias to east and west. Part of remnant hedgerow.	15+	C2
60	Crataegus monogyna Common Hawthorn	6.0	1.0	3.0	1.0	3.0	combined 0.30	2.00	4.00	-	M	Fair	Mechanically pruned to north and south, bias to east and west. Part of remnant hedgerow.	15+	C2
G1	Chamaecyparis lawsoniana, Pyrus domestica, Cupressus x leylandii, Prunus laurocerasus Lawson Cypress, Pear, Leyland Cypress, Cherry Laurel	ave 4	as shown				-	-	-	-	-	Good	Typical ornamental garden vegetation. Screens neighbouring properties, mainly evergreen.	20+	C2
G2	Sambucus nigra Elder	5.0	as shown				ave 0.30	M	1.00	-	M	Fair	Scrappy group of Elder. Limited amenity and useful life expectancy.	10-20	C2
G3	Salix caprea, Buddleja davidii, Sambucus nigra Goat Willow, Butterfly Bush, Elder	max 11	as shown				-	-	-	-	-	Fair/Good	Large area of impenetrable pioneer vegetation, unable to survey trees within but nothing of material constraint.	20+	C2
G4	Acer pseudoplatanus, Fraxinus excelsior Sycamore, Common Ash	14.0	as shown				<0.35	-	2.00	N	EM	Fair/Good	Unable to undertake detailed inspection due to dense vegetation preventing access. Typically vigorous crown.	20+	C2

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G5	Sambucus nigra, Crataegus monogyna, Salix caprea, Ilex aquifolium Elder, Common Hawthorn, Goat Willow, Common Holly	ave 5	as shown				<0.20	M	0.00	-	SM	Fair/Good	Vigorous pioneer vegetation, limited amenity.	15+	C2
G6	Crataegus monogyna Common Hawthorn	10.0	as shown				<0.20	-	2.00	-	EM	Fair/Good	Off site trees. Vigorous. Previously pruned for easement of overhead cables. Ivy on stems.	20+	C2
G7	Fraxinus excelsior Common Ash	ave 8	3.0	3.0	3.0	3.0	<0.25	1.00	1.00	-	SM	Fair	Self sown pioneer Ash. Scrappy condition with included growth at unions.	15+	C2
G8	Ilex aquifolium Common Holly	8.0	as shown				-	-	0.00	-	SM	Fair/Good	Unable to inspect stems due to dense vegetation restricting access. Vigorous and screens garden.	20+	C2
G9	Cupressocyparis leylandii Leyland Cypress	11.0	as shown				<0.30	-	-	-	SM	Good	Leyland Cypress screen.	15+	C2
G10	Corylus avellana, Acer campestre, Acer pseudoplatanus Common Hazel, Field Maple, Sycamore	max 12	as shown				-	-	-	-	SM EM	Fair/Good	Unable to inspect in detail due to dense vegetation. Vigorous pioneer species, limited amenity.	10+	C2
G11	Acer pseudoplatanus, Fraxinus excelsior Sycamore, Common Ash	max 14	as shown				-	-	-	-	EM	Fair/Good	Unable to inspect in detail due to dense vegetation. Screens road, mixed group, scrappy form.	15+	C2
G12	Fraxinus excelsior, Acer pseudoplatanus Common Ash, Sycamore	ave 16	as shown				ave combined est 0.90	3.50	1.50	N	EM	Fair/Good	Beyond fence line. Multistemmed trees, vigorous but scrappy form.	25+	C2
G13	Corylus avellana Common hazel	7.0	as shown				combined <0.30	M	0.00	-	EM	Good	Multistemmed coppice stands of Hazel.	20+	C2
G14	Acer pseudoplatanus Sycamore	15.0	as shown				combined est <0.75	2.00	4.00	E	EM	Fair/Good	Linear belt of multi-stemmed trees, unable to inspect stems in detail.	20+	C2
G15	Crataegus monogyna, Prunus spinosa, Acer campestre Common Hawthorn, Blackthorn, Field Maple	max 5	as shown				<0.25	M	0.00	-	EM	Fair/Good	Multistemmed trees, scrappy form and intertwined crowns. Limited amenity.	15+	C2

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G16	Populus balsamifera Balsam Poplar	ave 25	as shown				<0.50	-	-	-	EM	Fair	Double row of shelter belt trees in a continuous line. Larger trees are to the north. Generally in fair condition and companion shelter present. Some trees with dead wood and rot pockets. Would benefit from active management and full condition survey recommended as species typically weak timbered.	20+	B2
G17	Fraxinus excelsior, Corylus avellana, Sambucus nigra, Crataegus monogyna Common Ash, Common Hazel, Elder, Common Hawthorn	ave 5	as shown				<0.10	-	-	-	Y SM	Good	Dense area of young trees. Screens fields beyond, diverse native pioneer mix. No trees of notable stature.	25+	C2
G18	Sambucus nigra, Prunus spinosa Elder, Blackthorn	ave 5	as shown				<0.15	-	-	-	Y SM	Good	Dense area of pioneer species. Limited value.	20+	C2
H1	Fagus sylvatica Common Beech	2.0	as shown				-	-	-	-	SM	Good	Vigorous Beech hedge managed at approximately 2m. Provides screening of road.	20+	C2
H2	Ligustrum vulgare Wild Privet	3.0	as shown				-	-	-	-	-	Good	Dense garden hedge. Evergreen screen.	20+	C2
H3	Crataegus monogyna, Sambucus nigra Common Hawthorn, Elder	7.0	as shown				<0.35	-	-	-	M	Fair/Good	Remnant hedgerow comprising mature Hawthorn and Elder. Crown lifted on north and south sides.	15+	C2
H4	Crataegus monogyna Common Hawthorn	7.0	as shown				-	-	0.50	-	M	Fair	Mechanically pruned to north and south, bias to east and west. Part of remnant hedgerow.	20+	C2

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APPENDIX 2

Tree Works Schedule

JSL2869_800

Tree works schedule

	Unique Item No.	Identity	Tree Number/ Group Number	Height (m)	DBH (Ø) mm	Particular Schedule of Works Required
	1.1	Fraxinus excelsior <i>Common Ash</i>	T12 x7	4.0	0.2	To be Felled
	1.2	Salix caprea <i>Goat Willow</i>	T13 x2	7.0	0.3	To be Felled
	1.3	Picea abies <i>Norway spruce</i>	T14 x22	7.0	0.25	To be Felled
	1.4	Quercus ilex <i>Holm Oak</i>	T15	9.0	0.6	To be Felled
	1.5	DEAD	T16	7.0	-	To be Felled
	1.6	Fraxinus excelsior <i>Common Ash</i>	T17	13.0	0.25	To be Felled
	1.7	Fraxinus excelsior <i>Common Ash</i>	T18#	13.0	0.20	To be Felled
	1.8	Acer pseudoplatanus <i>Sycamore</i>	T23	13.0	0.20	To be Felled
	1.9	Acer pseudoplatanus <i>Sycamore</i>	T24	14.5	0.25	To be Felled
	1.10	Acer pseudoplatanus <i>Sycamore</i>	T25	14.5	0.28	To be Felled
	1.11	Picea abies <i>Norway spruce</i>	T26#	5.0	0.1	To be Felled
	1.12	Acer pseudoplatanus <i>Sycamore</i>	T27	12.5	0.25	To be Felled
	1.13	Eucalyptus gunnii <i>Cedar gum</i>	T28	8.0	0.28	To be Felled

	Unique Item No.	Identity	Tree Number/ Group Number	Height (m)	DBH (Ø) mm	Particular Schedule of Works Required
	1.14	<i>Eucalyptus gunnii</i> <i>Cedar gum</i>	T29	8.0	0.2	To be Felled
	1.15	<i>Eucalyptus gunnii</i> <i>Cedar gum</i>	T30	14.5	0.27	To be Felled
	1.16	<i>Eucalyptus gunnii</i> <i>Cedar gum</i>	T31	13.5	0.20	To be Felled
	1.17	<i>Eucalyptus gunnii</i> <i>Cedar gum</i>	T32	13.5	0.18	To be Felled
	1.18	<i>Eucalyptus gunnii</i> <i>Cedar gum</i>	T33	13.0	0.18	To be Felled
	1.19	<i>Pittosporum</i> sp. <i>Pittosporum</i>	T34	9.0	0.24	To be Felled
	1.20	<i>Pittosporum</i> sp. <i>Pittosporum</i>	T35	9.0	0.30	To be Felled
	1.21	<i>Sambucus nigra</i> <i>Elder</i>	T36#	8.5	0.22	To be Felled
	1.22	<i>Sambucus nigra</i> <i>Elder</i>	T37#	5.5	0.45	To be Felled
	1.23	<i>Fraxinus excelsior</i> <i>Common Ash</i>	T38	8.5	0.28	To be Felled
	1.24	<i>Sambucus nigra</i> <i>Elder</i>	T39#	5.0	0.25	To be Felled
	1.25	<i>Picea abies</i> <i>Norway spruce</i>	T40 x3	15.0	-	To be Felled
	1.26	<i>Eucalyptus</i> sp. <i>Gum tree</i>	T41 x4	12.5	0.38	To be Felled
	1.27	<i>Eucalyptus</i> sp. <i>Gum tree</i>	T42	10.5	0.29	To be Felled

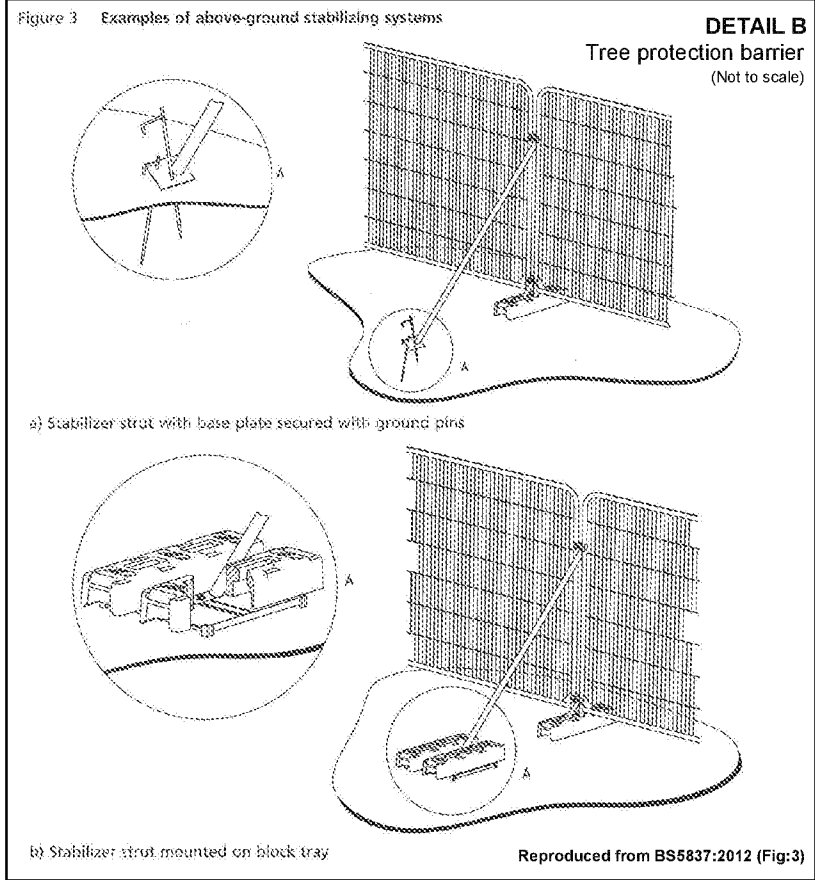
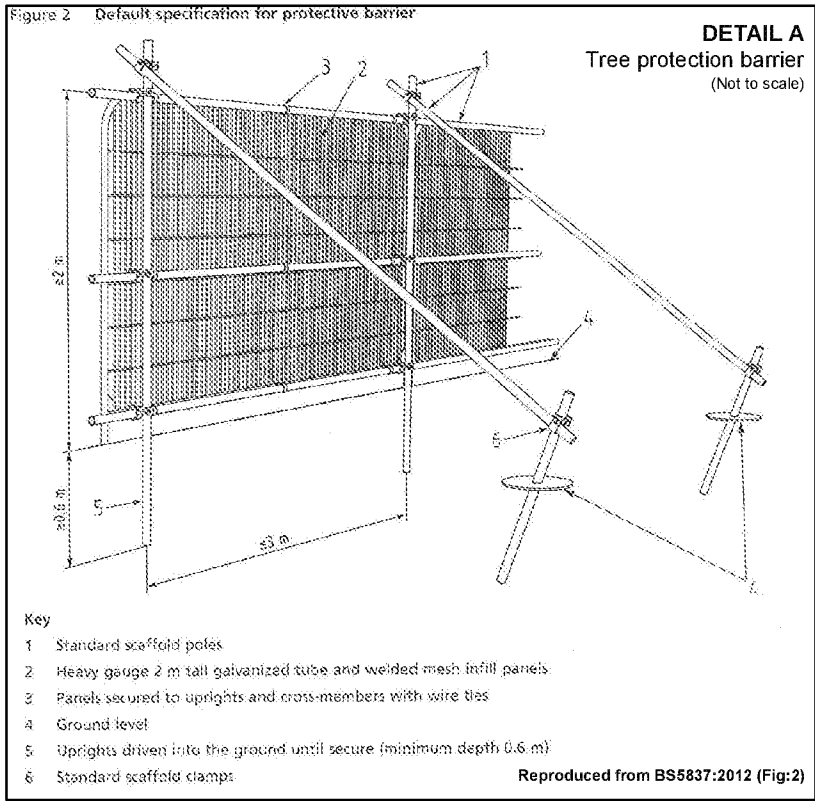
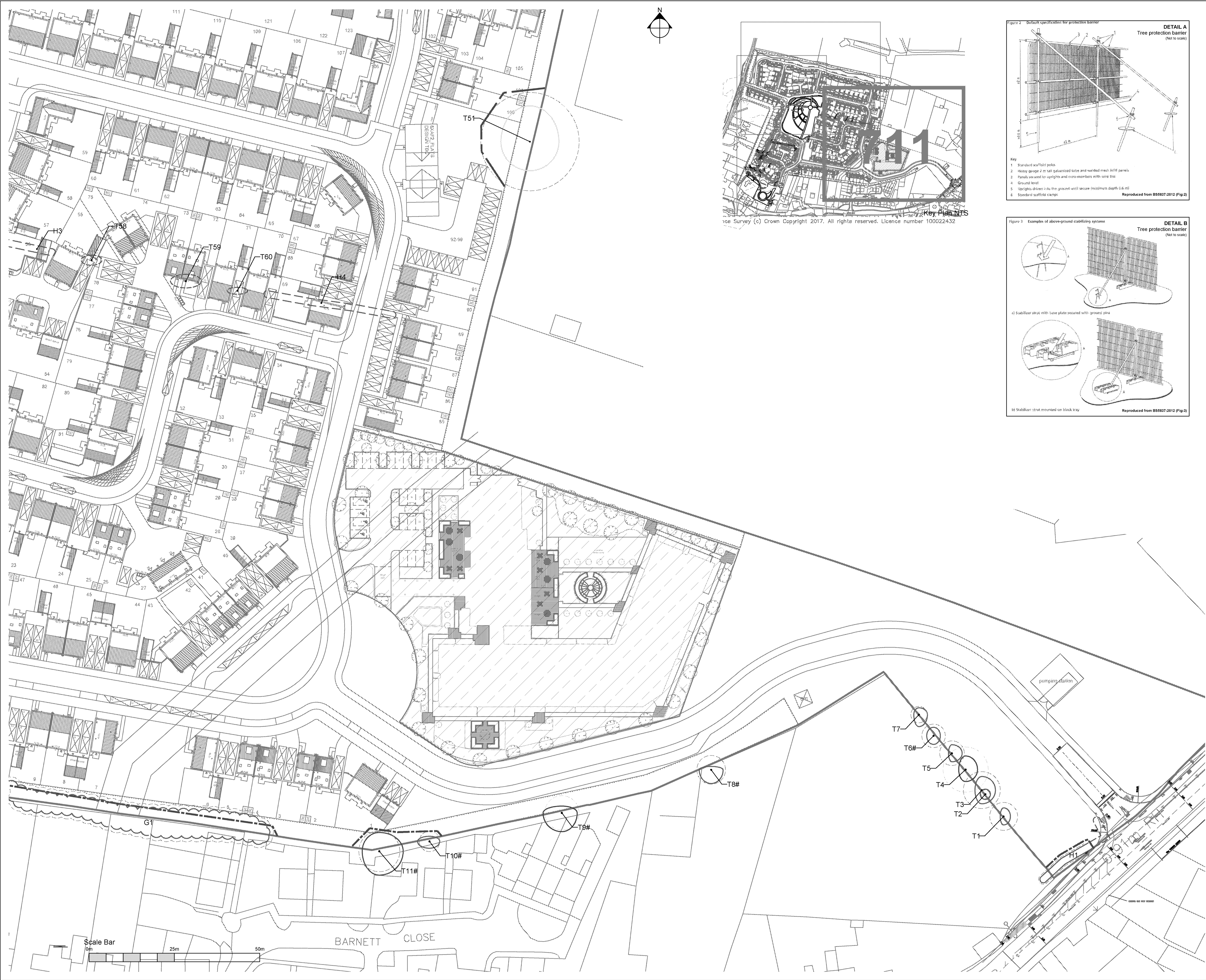
	Unique Item No.	Identity	Tree Number/ Group Number	Height (m)	DBH (Ø) mm	Particular Schedule of Works Required
	1.28	Eucalyptus sp. <i>Gum tree</i>	T43	11.0	0.2	To be Felled
	1.29	Eucalyptus sp. <i>Gum tree</i>	T44	12.0	0.27	To be Felled
	1.30	Eucalyptus sp. <i>Gum tree</i>	T45	12.0	0.24	To be Felled
	1.31	Eucalyptus sp. <i>Gum tree</i>	T46	12.0	0.20	To be Felled
	1.32	Eucalyptus sp. <i>Gum tree</i>	T47	12.0	0.22	To be Felled
	1.33	Eucalyptus sp. <i>Gum tree</i>	T48	12.0	0.29	To be Felled
	1.34	Fraxinus excelsior <i>Common Ash</i>	T52	10.0	0.27	To be Felled
	1.35	Acer pseudoplatanus <i>Sycamore</i>	T53	11.0	0.4	To be Felled
	1.36	Crataegus monogyna <i>Common Hawthorn</i>	T54	8.0	0.5	To be Felled
	1.37	Aesculus hippocastanum <i>Horse Chestnut</i>	T55	7.0	0.20	To be Felled
	1.38	Quercus robur <i>Pedunculate Oak</i>	T58	6.0	0.18	To be Felled
	1.39	Crataegus monogyna <i>Common Hawthorn</i>	T59	7.0	0.45	To be Felled
	1.40	Crataegus monogyna <i>Common Hawthorn</i>	T60	6.0	0.30	To be Felled
	2.1	Sambucus nigra <i>Elder</i>	G2	-	-	To be Felled

	Unique Item No.	Identity	Tree Number/ Group Number	Height (m)	DBH (Ø) mm	Particular Schedule of Works Required
	2.2	Salix caprea, Buddleja davidii, Sambucus nigra <i>Goat Willow, Butterfly Bush, Elder</i>	G3	-	-	To be Felled in Part
	2.3	Acer pseudoplatanus, Fraxinus excelsior <i>Sycamore, Common Ash</i>	G4	-	-	To be Felled
	2.4	Sambucus nigra, Crataegus monogyna, Salix caprea, Ilex aquifolium <i>Elder, Common Hawthorn, Goat Willow, Common Holly</i>	G5	-	-	To be Felled
	2.5	Fraxinus excelsior <i>Common Ash</i>	G7	-	-	To be Felled
	2.6	Ilex aquifolium <i>Common Holly</i>	G8	-	-	To be Felled
	2.7	Acer pseudoplatanus, Fraxinus excelsior <i>Sycamore, Common Ash</i>	G11	-	-	As illustrated on tree survey
	2.8	Fraxinus excelsior, Acer pseudoplatanus <i>Common Ash, Sycamore</i>	G12	-	-	As illustrated on tree survey
	2.9	Sambucus nigra, Prunus spinosa <i>Elder, Blackthorn</i>	G18	-	-	To be Felled
	3.1	Fagus sylvatica <i>Common Beech</i>	H1	-	-	As illustrated on tree survey
	3.2	Crataegus monogyna, Sambucus nigra <i>Common Hawthorn, Elder</i>	H3	-	-	To be Felled
	3.3	Crataegus monogyna <i>Common Hawthorn</i>	H4	-	-	To be Felled

APPENDIX 3

Tree Protection & Removal Plan

JSL2869_711-713



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Key

- Survey boundary.
- Tree with numbered reference.
- Canopy spread and BS5837:2012 tree quality category as shown below.
- Tree (in off-site or estimated location) with numbered reference. Canopy spread and BS5837:2012 tree quality category.
- Vegetation group with numbered reference. Canopy extends and BS5837:2012 tree quality category as shown below.
- Hedge with numbered reference. Width and BS5837:2012 tree quality category as shown below.

BS 5837:2012 Tree Quality Categories - Table 1

- Category A - High quality
- Category B - Moderate quality
- Category C - Low quality
- Category U - Unsuitable for retention

- Tree protected by Tree Preservation Order (TPO). No xxx, xx, xxx. Bracketted number reference relates to the TPO Schedule.
- Root protection area (RPA). Calculated in accordance with Section 4.6 - BS5837:2012
- Tree to be removed with numbered reference. Canopy spread and BS5837:2012 tree quality category.
- Vegetation group or hedge to be removed with numbered reference. Canopy spread and BS5837:2012 tree quality category.
- Temporary protective fencing in accordance with Section 6.2 - BS5837:2012. See inset details for example barriers.
- Above ground construction requiring "No-dig" design principles in accordance with APN12.
- Excavation to be completed by hand, any required root pruning to be in accordance with BS 3998. Pruning of roots over 25mmØ to be monitored by arboriculturalist, with ongoing monitoring of trees condition by an arboriculturalist being recommended.
- Surface area to be protected in accordance with Section 6.2.3 BS - 5837:2012. To be removed in sections in a retreating manner away from the retained tree as no-dig surfacing is installed.

NOTES:

- Refer to RPS Tree Survey Report & Schedule for further details.
- Survey based on a visual inspection from the ground and is not intended as a full arboricultural inspection.
- Plans produced in accordance with recommendations set out in BS 5837:2012 - Trees in Relation to design, demolition and construction.
- Due to the legal protection afforded to breeding birds vegetation removal should not take place during the bird nesting period, generally, although not restricted to, March - August inclusive.
- Survey based upon topographic survey produced by Witmac Geomatics Ltd. in Bournemouth, October 2012.
- Professional vehicular emergency access routes to be maintained at all times.
- All protective fencing to be erected and approved by LPA / CA prior to commencement of any site works.
- All works to conform with requirements of BS 3998:2010 - Tree Works.
- BS 5837:2012 - Trees in relation to design, demolition and construction

Rev	Description	Date	Initial	Checked
A	Revised to latest layout	Aug 17	JL	CP

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Client: **Taylor Wimpey Southern Counties**

Project: **Land at Nyton Nurseries Westergate**

Title: **Tree Protection and Removal Plan Sheet 1 of 3**

Status	Drawn By	PM/Checked by
For Planning	SH	DC

Job Ref	Scale @ A1	Date Created
JSL2869	1:500	15/08/2017

Drawing Number	Rev
711	A

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Key

Survey boundary.

Tree with numbered reference. Canopy spread and BS5837:2012 tree quality category as shown below.

Tree (in off-site or estimated location) with numbered reference. Canopy spread and BS5837:2012 tree quality category.

Vegetation group with numbered reference. Canopy extent and BS5837:2012 tree quality category as shown below.

Hedge with numbered reference. Width and BS5837:2012 tree quality category as shown below.

BS 5837:2012 Tree Quality Categories - Table 1

Category A - High quality

Category B - Moderate quality

Category C - Low quality

Category U - Unsuitable for retention

Tree protected by Tree Preservation Order. No xxx, xx xxx. Bracketed number reference relates to the TPO Schedule.

Root protection area (RPA). Calculated in accordance with Section 4.6 - BS5837:2012

Tree to be removed with numbered reference. Canopy spread and BS5837:2012 tree quality category.

Vegetation group or hedge to be removed with numbered reference. Canopy spread and BS5837:2012 tree quality category.

Temporary protective fencing in accordance with Section 6.2 - BS5837:2012. See inset details for example barriers.

Above ground construction requiring 'no-dig' design principles in accordance with APN12.

Excavation to be completed by hand, any required root pruning to be in accordance with BS 3998. Pruning of roots over 25mmØ to be monitored by arboriculturalist with ongoing monitoring of trees condition by an arboriculturalist being recommended. Surface area to be protected in accordance with Section 6.2.3 BS - 5837:2012. To be removed in sections in a retreating manner away from the retained tree as no-dig surfacing is installed.

NOTES:

- Refer to RPS Tree Survey Report & Schedule for further details.
- Survey based on a visual inspection from the ground and is not intended as a full arboricultural inspection.
- Plan produced in accordance with recommendations set out in BS 5837:2012 - 'Trees in Relation to design, demolition and construction'.
- Due to the legal protection afforded to breeding birds vegetation removal should not take place during the bird nesting period: generally, although not restricted to, March - August inclusive.
- Survey based upon topographic survey produced by Wimer Geomatics Ltd. in Shrewsbury, October 2012.
- Prescribed vehicular emergency access routes to be maintained at all times.
- All protective fencing to be completed and approved by LPA/CA prior to commencement of any works.
- All works to conform with requirements of:
 - BS 3998:2010 - Tree Works
 - BS 5837:2012 - Trees in relation to design, demolition and construction

Figure 2 Default specification for protective barrier

DETAIL A
Tree protection barrier
(Not to scale)

Reproduced from BS5837:2012 (Fig.2)

Figure 3 Examples of above-ground stabilizing systems

DETAIL B
Tree protection barrier
(Not to scale)

Reproduced from BS5837:2012 (Fig.3)

Scale Bar

0m 25m 50m

D	Updated layout	Jan 18	NJ	
C	Amended layout	Jan 18	SH	NJ
B	LEAP and footprint layout revised	Nov.17	CH	NJ
A	Revised to latest layout	Aug.17	JL	CP
Rev	Description	Date	Initial	Checked

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Project **Land at Nyton Nurseries Westergate**

Title **Tree Protection and Removal Plan Sheet 2 of 3**

Status

Drawn By

PMI/Checked by

For Planning

JBI/JMB

CC

Job Ref

Scale @ A1

Date Created

JSL2869

1:500

07/07/2017

Drawing Number

Rev

712

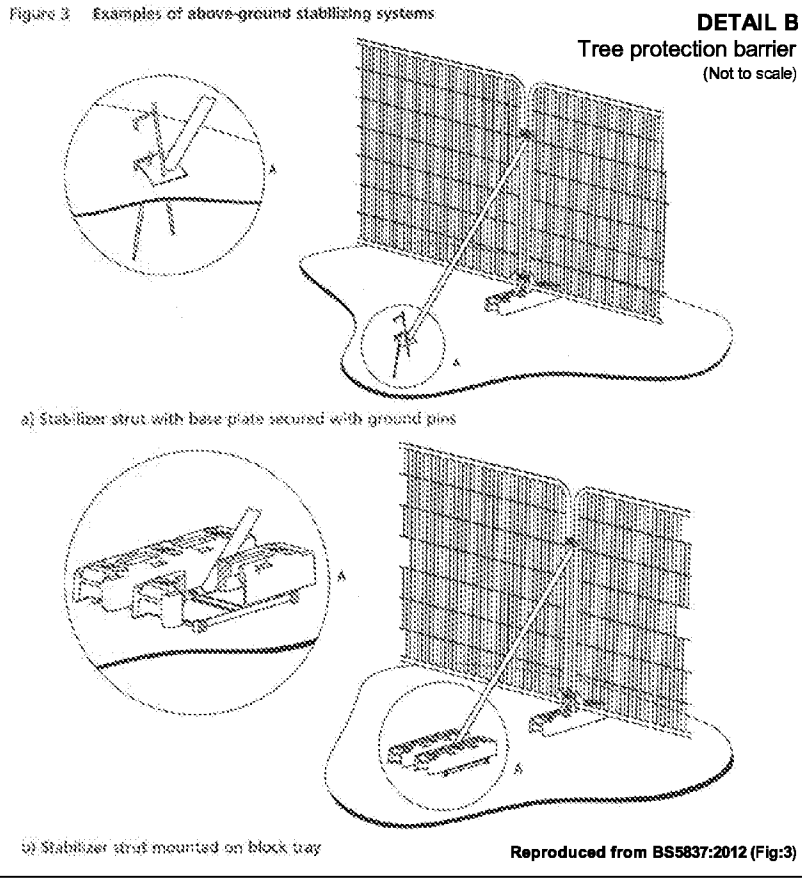
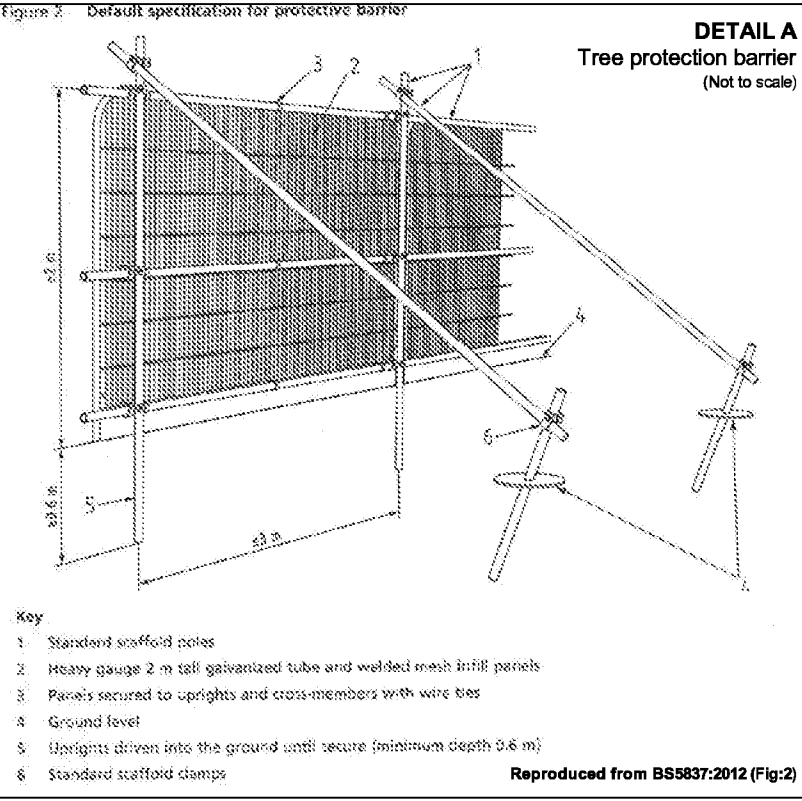
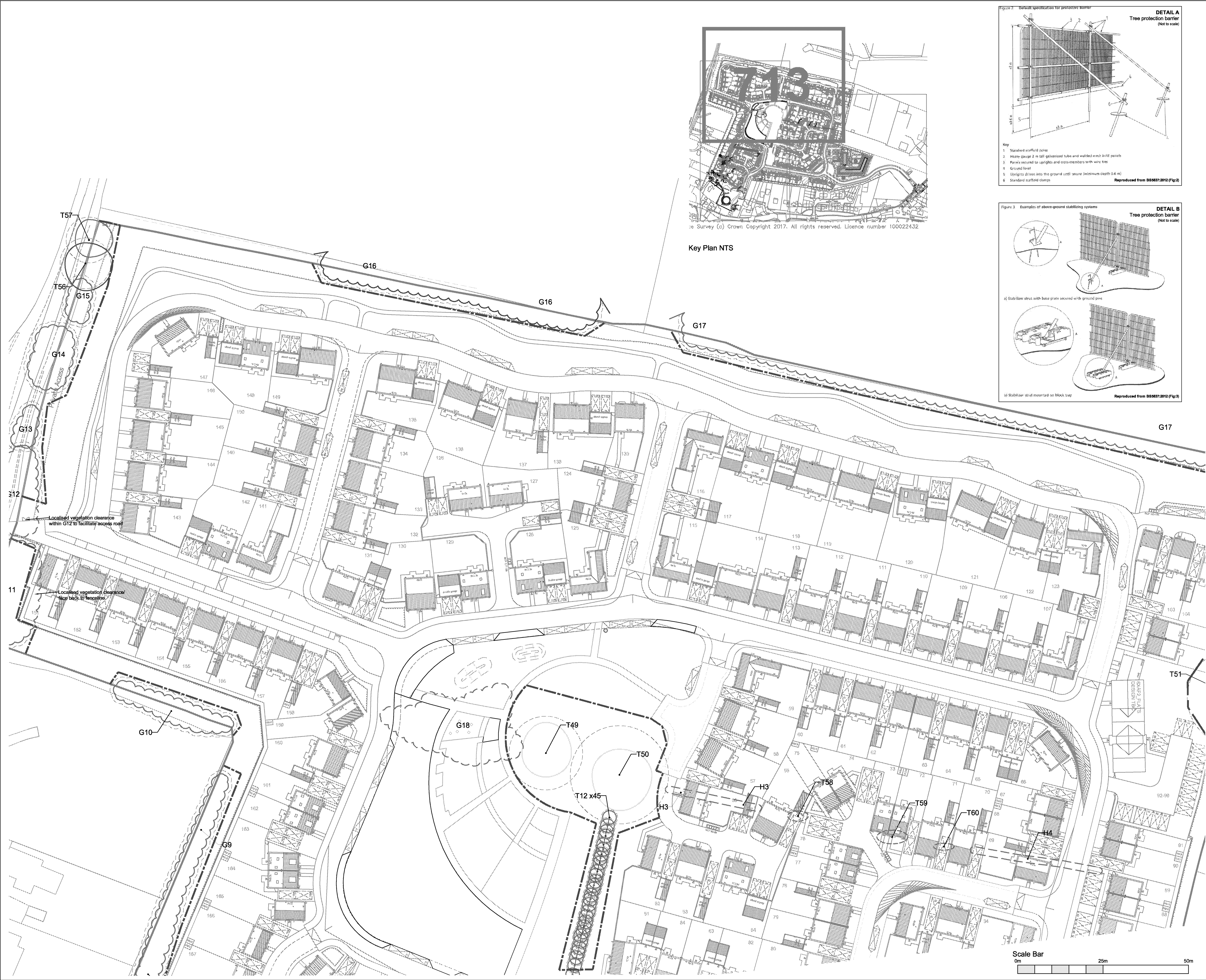
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Key Plan NTS

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ARUN DISTRICT COUNCIL 20/11/2016



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Key

- Survey boundary.
- Tree with numbered reference.
- Canopy spread and BS5837:2012 tree quality category as shown below.
- Tree (in off-site or estimated location) with numbered reference. Canopy spread and BS5837:2012 tree quality category.
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- Hedge with numbered reference. Width and BS5837:2012 tree quality category as shown below.

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- Tree to be removed with numbered reference. Canopy spread and BS5837:2012 tree quality category.
- Vegetation group or hedge to be removed with numbered reference. Canopy spread and BS5837:2012 tree quality category.
- Temporary protective fencing in accordance with Section 6.2 - BS5837:2012. See inset details for example barriers.
- Above ground construction requiring 'No-dig' design principles in accordance with APN12.
- Excavation to be completed by hand, any required root pruning to be in accordance with BS 5838. Pruning of roots over 25mmØ to be monitored by arboriculturalist, with ongoing monitoring of trees condition by an arboriculturalist being recommended. Surface areas to be protected in accordance with Section 6.2.3 BS - 5837:2012. To be removed in sections in a retreating manner away from the retained tree as no-dig surfacing is installed.

- NOTES:
- Refer to RPS Tree Survey Report & Schedule for further details.
 - Survey based on a visual inspection from the ground and is not intended as a full arboricultural inspection.
 - Plan produced in accordance with recommendations set out in BS 5837:2012 - Trees in Relation to design, demolition and construction.
 - Due to the legal protection afforded to breeding birds vegetation removal should not take place during the bird nesting period, generally although not restricted to, March - August inclusive.
 - Survey based upon topographic survey produced by Wimer Geomatics Ltd. in Shrewsbury, October 2012.
 - Proposed vehicular emergency access routes to be maintained at all times.
 - All protective fencing to be completed and approved by LCA/LA prior to commencement of any works.
 - All works to conform with requirements of BS 5838:2011 - Tree Works.
 - BS 5837:2012 - Trees in relation to design, demolition and construction.

D	Updated layout	Jan 18	NJ	
C	Amended layout	Jan 18	SH	NJ
B	Northern Path Removed	Nov 17	CP	NJ
A	Revised to latest layout	Aug 17	JL	CP
Rev	Description	Date	Initial	Checked

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Client **Taylor Wimpey Southern Counties**

Project **Land at Nyton Nurseries Westergate**

Title **Tree Protection and Removal Plan Sheet 3 of 3**

Status **For Planning** Drawn By **JB/JMB** PM/Checked by **CC**

Job Ref **2869** Scale @ A1 **1:500** Date Created **07/07/2017**

Drawing Number **713** Rev **D**

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APPENDIX 4

Root Protection Area Fencing and Direct Trunk Protection Details

Protective Fencing Specifications

Since trees are living organisms which interact with their immediate environment any changes made to their surroundings may have a bearing on that trees future. Developing a site will undoubtedly place any trees within close proximity under some level of stress, which could predispose them to infection.

The most effective way of offering protection is by erecting protective barriers set at a distance from the tree stem using the methods given within BS 5837: 2012 Trees in Relation to Construction. Barriers should be braced and constructed to resist impacts; see figures below for barrier specifications.

Barriers should be erected before any works commence on site with the exception of recommended tree work. Areas of retained and future structure planting should be similarly protected.

All personnel should be made aware of the protected areas and instructed to keep them free of materials, waste and excess soil. Soil disturbance should be prohibited and travel of any kind, including foot traffic should also be excluded within the root protection area (RPA) unless previously agreed and adequate ground protection has been installed. Where foot traffic is agreed within the RPA, single thickness scaffold boards laid over a compressible material on a geotextile, or supported by scaffold should suffice. Where vehicular access through the RPA is agreed an engineer should be consulted to design adequate ground protection methods.

Proposed Barrier specification

Figure 1



Figure 2



APPENDIX 5

Construction Exclusion Zone (CEZ) Sign



APPENDIX 6

No-Dig Surface Construction Detail JSL2869_400

APPENDIX 7

No- Dig Surface Installation Methodology

Prior to the installation of the new surface, existing ground cover and surface vegetation should be killed using an appropriate herbicide.

Specialist advice should be sought in order to determine the most appropriate herbicide to use due to the potential for leaching through soils and the potential impacts that this will have on retained vegetation.

As an alternative or addition to herbicide treatment the existing surface vegetation may be carefully removed by using hand tools.

All dead organic matter is to be removed by hand following herbicide treatment to prevent anaerobic conditions, as a result of the decomposition of dead vegetation, occurring.

All major protrusions such as rocks shall be removed by hand and all tree or shrub stumps from removed vegetation shall be ground out to minimise ground disturbance.

The soil surface **must not** be skimmed or stripped to achieve a level surface and where necessary major hollows shall be filled using a granular fill, such as no-fines gravel, washed aggregate or cobbles, to achieve a level surface.

In some cases it may be appropriate to consider the removal of the top layers of soil by non mechanical means to achieve desired levels, establish rooting patterns and potentially provide for some embedding of the new surface into the existing ground level. Such works shall be completed using pneumatic soil excavation techniques and the works must be supervised by an Arboricultural consultant. The need for such works to occur shall be considered during the detailed design of the surface.

Following surface preparation the soil shall be covered by a permeable geotextile to prevent the cellular confinement fill from migrating into the existing soils.

The geotextile layer shall be laid with overlaps of 300mm beyond the edge of the proposed construction and shall be temporarily retained with pins, stakes or weights.

The cellular confinement system shall then be installed and fixed in position in accordance with the manufacturer's recommendations.

The cellular confinement system shall then be filled with the specified aggregate in accordance with the manufacturer's recommendations. All works involved in the filling of the system with aggregate must be completed by hand and be supervised by the site supervisor.

The infill aggregate shall then be rolled or whacked to ensure cohesion of the granular fill with the cellular confinement system.

The desired finished surface shall then be installed. This shall be permeable and gas porous. Options for the type of finished surface are:

-
- Washed gravel – This retains porosity unless excessively consolidated and will be particularly useful where the final surface is not level. However it may not be suitable in areas with high pedestrian and vehicular passage. If gravel is used, this shall be distributed in a 75mm layer over the exposed infill aggregate.
 - Paving slabs / brick paviours – These shall be laid dry jointed on a bed of sharp sand to allow air and moisture to permeate. Specialist slabs and paviours with inbuilt infiltration holes may be used.
 - Tarmacadam – This shall not be used where it will cover over 20% of a trees Root Protection Area.

Following completion of the hard surface protective fencing shall be erected around the trees until the completion of development.