

BS5837 ARBORICULTURAL IMPACT ASSESSMENT

KNOLL HOUSE HOTEL, FERRY ROAD,
STUDLAND, DORSET, BH19 3AH

for

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CONTROL SHEET

Kingfisher Resorts Studland Ltd

Knoll House Hotel, Ferry Road, Studland, Dorset

BS5837 Arboricultural Impact Assessment

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Template Version: V1 (January 2018).

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1. INTRODUCTION

1.1 Overview & Client Brief

Focus Environmental Consultants was commissioned by Kingfisher Resorts Studland Ltd to undertake an Arboricultural Impact Assessment (AIA) for Knoll House Hotel, Ferry Road, Studland, Dorset.

1.2 Personnel & Quality Assurance

This report was revised by an experienced arboricultural consultant (Edward Cleverdon BSc (Hons) Arb MArborA) from Focus Environmental Consultants. It is based on the Tree Survey Report completed in January 2018 for Focus Ecology and an additional site visit completed by the author on 22 October 2022 to review details and update the tree survey schedule as required. This AIA report has been produced in accordance with the recommendations of British Standard 5837:2012 *Trees in Relation to Design, Demolition and Construction*.

1.3 Site Location

The site is located at Knoll House Hotel, Ferry Road, Studland, Dorset, BH19 3AH. The site is centred on Ordnance Survey grid reference SZ030833.



Figure 1: Location Plan, with approximate red-line survey boundary.

1.4 Site Description

The site consists of a complex of hotel buildings set within grounds containing a number of well-established and significant trees which make a positive contribution to the local landscape. The arboricultural character of the site is very much defined by the presence of tall, mature Scots pine trees. There is also a mature woodland that forms a backdrop to the complex.

1.5 Assessment Method

Trees, groups, hedgerows and woodland onsite or immediately adjacent to the site have been assessed for their quality and value. This has been done according to the BS5837:2012 categorisation method (Annex 5.2). The position of each tree, group, hedgerow and woodland with retention category, canopy spread and Root Protection Area (RPA) is shown on the Tree Protection Plans (Annex 5.3).

Category 'A' and 'B' trees are usually considered to provide an important contribution to the landscape and should be retained as part of the proposed development, wherever possible. Category 'C' trees are not usually considered to be a constraint to the development. Category 'U' trees have been assessed as having a very limited future contribution due to structural and/or physiological defects.

2. RESULTS

2.1 Tree Preservation Orders & Conservation Areas

A check made with the Local Planning Authority, Purbeck District Council, confirmed that a Tree Preservation Order (TPO Ref: 494) is present on site. The TPO includes:

- An Area TPO (Ref: A1) protecting T1 – T39 and G1 within this report.
- Two individual TPOs (Ref: T1 & T2) protecting an English oak and a sweet chestnut (T40 & T82 within this report respectively).
- A group TPO (Ref: G1) protecting two sweet chestnuts (T73 & T75 within this report).

In the case of trees that are subject of TPO, Conservation Area controls or planning application procedures, it is essential the Local Authority's advice is sought and where necessary consent obtained prior to undertaking any tree removal or pruning operations.

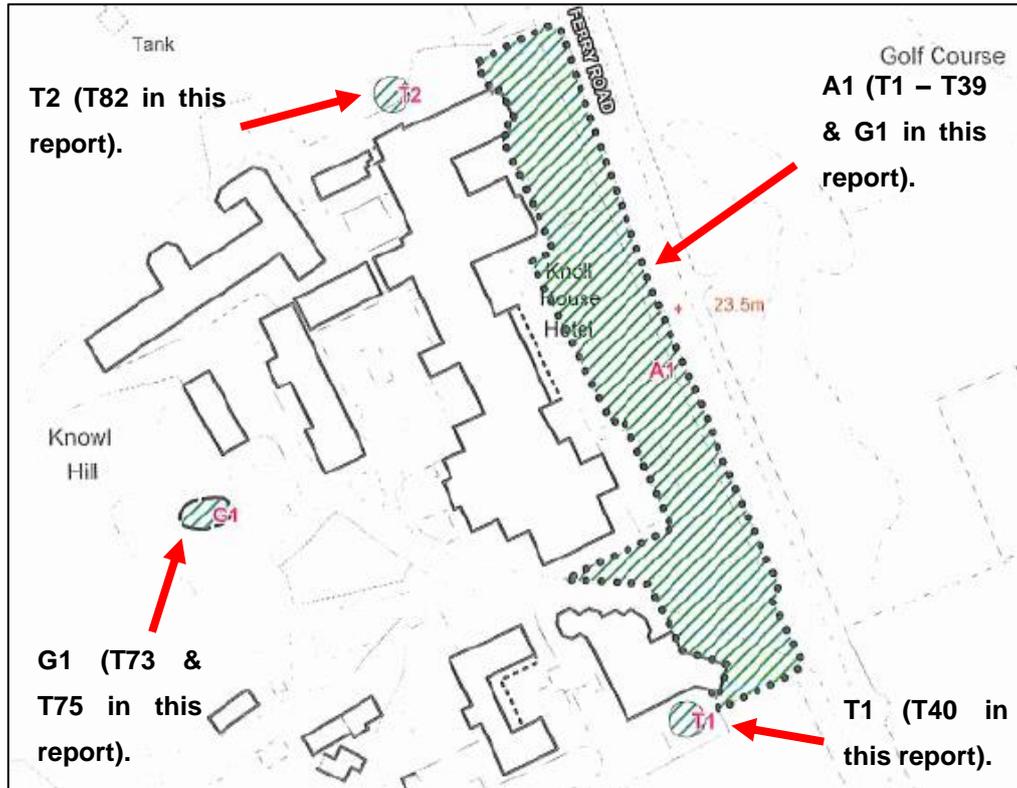


Figure 2: Extract from Purbeck District Council's TPO – Ref 494. Displayed are Tree Preservation Orders present onsite shown as green hatched areas.

2.2 Site Geology

Geology of Britain viewer has been used to check the prevailing soil type in the area. This indicates that the underlying bedrock on the main part of the site consists of Parkstone Sand Member – Sand, no superficial deposits were recorded. The edge of the site consists of Broadstone Clay Member - Clay, silty, no superficial deposits were recorded.

2.3 Tree Stock

The tree stock is made-up of seventy-seven trees, eleven groups, three hedgerows and one woodland. This includes one Category ‘A’, fifty-eight Category ‘B’ and thirty-three Category ‘C’ items. The trees range in age from young to mature. Sixteen different tree species were recorded during the survey.

A categorised summary of the existing tree, groups, hedgerows and woodland situated on, and immediately adjacent to the site has been provided in accordance to BS5837: 2012 (Table 1). The details of all surveyed trees, groups, hedgerows and woodland are listed in the Tree Survey Schedule (Annex 5.1).

Table 1: Summary of tree stock with reference to BS5837 retention categories.

	Total	A	B	C
Trees	77	0	55	22
Groups	11	0	1	10
Hedgerows	3	0	0	3
Woodlands	1	1	0	0
	92	1	58	33

3. ARBORICULTURAL IMPACT ASSESSMENT (AIA)

3.1 Development Proposals

The proposals involve the refurbishment of the main hotel building, demolition of a number of outbuildings and construction of new holiday accommodation, with associated landscape, drainage strategy and car parking.

The following assessment only considers the impact of these proposals upon the surveyed trees, groups, hedgerows and woodland. This is with regard to the direct or indirect impacts of the proposals, including assessment of above and below ground constraints. The assessment is based on the surveyor’s findings and drawings provided by the client’s architect.

3.2 Direct Impacts of Development

3.2.1 Tree Felling/Removal

The removal of twenty-nine trees, seven groups, two hedgerows and a section of one group is required to facilitate the proposed development (Table 2).

Table 2: summary of the tree stock that requires removal to accommodate the development proposal with reference to BS5837 retention categories.

Tree Category	Retained & Protected	Removed for Development
‘A’	W1	Nil
‘B’	T1 – T4, T6 – T10, T12 – T14, T17, T19 – T24, T25, T26, T27, T29, T31, T32, T35 – T40, T58 – T60, T75, T76, T78 – T81 G1, G2	T34, T41 – T45, T48, T49, T51 – T54, T61, T64, T72, T73 (16 total)
‘C’	T5, T11, T15, T16, T18, T28, T30, T32 T74, T82 G10* H3*	T33, T46, T48, T62, T65 – T68, T70, T71, T74, T77, T83 (13 total) G3, G4, G5, G6, G8, G9, G10*, G11 H1, H2,
‘U’	Nil	Nil

* = Where asterisk is present next to a group (G), only refers to a section of the group either for retention or removal.

3.2.2 Below Ground Constraints

The proposed demolition and construction phase of the proposed development breaches the RPA of eight trees, one group and one woodland highlighted for retention (Table 3).

Table 3: summary of the retained tree stock with RPAs that will be impacted upon by the proposed demolition and construction works.

Tree Category	Demolition Phase	Construction Phase
'A'	Nil	W1
'B'	<p>T4, T6 & T26: Demolition of light structures to ground level only, existing patio to be retained or replaced with ground protection.</p> <p>T40: Existing building to be demolished using a 'top-down pull back' method working away from the tree.</p> <p>T82 and G1: Ground protection required around the outside of existing building to allow access for works.</p>	<p>T40: tree protection fencing to be removed at the landscape stage to allow construction of an above-ground pool structure with no-dig surfacing.</p>
'C'	Nil	Nil
'U'	Nil	Nil

3.2.2.1 Demolition

Access and demolition of the existing buildings impact upon the RPAs of T4, T6, T26, T40, T82 and G1. These works should be completed as advised within the Recommendations (Section 4.2.1) and as specified within an Arboricultural Method Statement.

3.2.2.2 Construction

Construction of the proposed pool structure within the RPA of T40 will consist of an above-ground system supported by individual hand hand-dug posts in order to avoid severing roots greater than 25mm diameter. Further detail regarding the foundation design and position of post locations may be provided within an Arboricultural Method

Statement for the site, along with a system on arboricultural monitoring for the works, secured within suitably worded planning conditions.

Proposed drainage has been located within the vehicle access routes. Any additional drainage or utilities services should be completed as advised within the Recommendations (Section 4.2.2) and as specified within an Arboricultural Method Statement.

3.2.3 Above Ground Constraints

The proposed development will impact upon the crowns of two trees (T40 & T82). Pruning works have been specified below to facilitate the demolition and construction works for the development (Table 4). All pruning works are to be carried out by suitably qualified personnel according to the principles set out in British Standard 3998:2010 *Tree work – Recommendations*.

Please note that both of these trees are covered by a TPO (see Section 2.1) and therefore approval from Purbeck District Council is required to complete these pruning works.

Table 4: Specification of Tree Pruning Works

Ref	Species	Pre-demolition & Construction Pruning Specification	Reasons for works
T40	English oak	Crown lift tree to 4-5m as required to provide sufficient clearance over proposed pool area.	To provide vertical clearance over proposed structure.
T82	Sweet chestnut	Reduce lateral branches on southern side only by up to 3.5m, pruning back to suitable growth points. Preserve flowing outline of branches with remainder of the crown.	To provide clearance of lateral branches from the new building and to allow access for scaffolding / machinery.

3.3 Indirect Impacts of Development

3.3.1 Foundations

Damage can occur to buildings due to subsidence or heave from seasonal changes in moisture content of the soil caused by nearby trees and vegetation. In this instance if shrinkable clay soil is found to be present, this should be assessed with regard to the potential for seasonal movement caused by vegetation. The foundation design may need to take this into account.

3.3.2 Future Growth

Pruning works associated with one English oak and one sweet chestnut (T40 & T82) (see Section 3.2.3) will ensure that there is no risk of direct damage of branches touching buildings. English oak and sweet chestnut are usually capable of withstanding pruning works to this extent and regrowth can be removed in due course. The issue of future growth can be addressed as part of a normal tree maintenance regime.

The pine tree will oversail the 2-storey building edge of the associated block but will have limited overhang and may be seen as a continuation of the existing relationship between the tree and buildings on site.

3.3.3 Seasonal Nuisance

Falling debris (leaves, twigs and cones) from the adjacent trees will be present at certain times of the year. As a precaution, gutter guards are recommended to be fitted to the new buildings to prevent debris blocking gutters (Hedgehog gutter brushes or similar).

4. RECOMMENDATIONS

4.1 Protection Measures

4.1.1 Tree Protection Fencing

A protective fence will be erected prior to the commencement of any site works. The fence will have signs attached to it stating this is a Construction Exclusion Zone (CEZ) and that no works are permitted within the CEZ (Annex 5.4). The protective fence may only be removed following completion of all construction works.

4.1.2 Temporary Ground Protection

Temporary ground protective matting will be laid within the RPAs of T4, T82 and G1. The type of ground protection will depend on the weight of the vehicles, machinery, plant or pedestrians that will require access within these areas. If the heaviest vehicle, machinery, plant or pedestrians cannot be defined pre-development an over-cautious approach should be taken, installing ground protection capable of supporting wheeled or tracked construction traffic exceeding 2 tonnes gross weight.

4.1.3 Site Supervision

Any works that are required within the RPAs and CEZs should be completed sympathetically as specified within an Arboricultural Method Statement, and supervised by a qualified arboriculturalist.

4.2 Demolition Methodology

4.2.1 Building Demolition

Demolition works within close proximity to trees and especially within the RPAs of T4, T6, T40 and G1 will be carried out in a sympathetic manner. Machinery will be set outside of RPAs and 'top down, pull back' techniques used, pulling debris away from the trees. These works should be completed under the supervision of a qualified arboriculturalist.

4.2.2 Removal of Hard Surfaces

Removal of hard surfaces within RPAs and CEZs will be completed sympathetically. Manual, hand-held tools will be used and these works will be completed under the supervision of a qualified arboriculturalist.

4.3 Construction Methodology

4.3.1 Drainage Installation

Proposed drainage is currently located within the vehicle access network for the site. Any drainage or utilities within the RPA of retained trees will need to be installed using compressed air excavation tools (e.g. Air Spade) and not mechanically dug. These works will be completed under arboricultural supervision and should be detailed within an Arboricultural Method Statement for the site.

4.4 Mitigation

4.4.1 Proposed Landscaping & Tree Planting

Planting of new trees is proposed to mitigate the loss of those trees being removed. A detailed planting plan and schedule has not yet been formulated. This detail may be secured within suitably worded planning conditions with advice and recommendations sought from the Purbeck District Council tree officer to be incorporated into these plans.

4.4.2 Planting Standards & Aftercare

Any planting scheme for the site will need to be followed up with good quality planting and aftercare in accordance with BS 8545:2014 – *Trees: from nursery to independence in the landscape*, to ensure the trees have the best opportunity to successfully establish and thrive.

4.5 Tree Management

All tree felling/removal works and pruning required to facilitate the development should be carried out in accordance with BS3998:2010 – *Recommendations for Tree Work*.

4.6 Arboricultural Method Statement (AMS) Guidance

Due to the conflict between the trees highlighted for retention and the development an AMS is advised to ensure the risk of negative impact to the condition of the trees is minimised. An AMS can be conditioned as part of planning approval of the finalised site layout.

The AMS should provide further detail and specifications regarding:

- The demolition and removal of existing structures and hard surfacing within the vicinity of retained trees.
- Installation and specifications for temporary ground protection (Annex 5.5).
- Erecting of scaffolding within RPAs and CEZs (Annex 5.5).
- Installation of underground services within RPAs and CEZs.
- Preparatory works for new landscaping.
- Dimensioned and finalised Tree Protection Plans.
- Auditable/audited system of arboricultural site monitoring, including a schedule of specific site events requiring input or supervision.
- A list of contact details for the relevant parties.

5. ANNEXES

- 5.1 Tree Survey Schedule
- 5.2 BS5837:2012 Cascade Chart for Tree Quality Assessment
- 5.3 Tree Protection Plans
- 5.4 Tree Protection Fencing & Signage
- 5.5 Temporary Ground Protection & Scaffolding for RPAs
- 5.6 Cellular Confinement System for Footpath (Example)
- 5.7 Scope & Limitations
- 5.8 Legislation, Planning Policy & Guidance
- 5.9 Trees in the Planning System (Overview)
- 5.10 References & Bibliography

5.1 Tree Survey Schedule¹

5.1.1 Individual Trees

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T1	Scots pine	15.0	1	-	500	4-2-6-5	6.0	10	S	M	Upright form. Just off site. No significant defects. One of many pines at frontage of hotel.	Good	Good	20+	B1	6.0	113	Yes Ref: TPO 494 A1
T2	Scots pine	14.0	1	-	800	7-6-8-10	5.0	6	SW	M	Broad form with two limbs emerging at 1.5m. Prominent in hotel frontage.	Good	Good	20+	B1	9.6	290	Yes Ref: TPO 494 A1
T3	Scots pine	8.0	1	-	230	4-3.5-3-3	2.0	2	NE	SM	Younger tree with potential to be suppressed on south side by adjacent tree.	Good	Good	20+	B1	2.8	24	Yes Ref: TPO 494 A1
T4	Scots pine	15.0	1	-	560	7-6-5-5	8.0	8	N	M	Approximately 4m from structure. Significant tree on hotel frontage. Approx. 4m from hotel building.	Good	Good	20+	B1	6.7	142	Yes Ref: TPO 494 A1
T5	Scots pine	16.0	1	-	630	6-5-2.5-1	8.0	11	E	M	Comparatively thin foliage density. Numerous scars associated with previous limb loss. Longitudinal defect on lowest limb E.	Fair	Fair	10+	C1	7.6	180	Yes Ref: TPO 494 A1

¹ Data from Barton Hyett, 2017.

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T6	Scots pine	17.0	1	-	660	3-3-7-7	5.0	5	SW	M	Canopy form orientated towards hotel building. Sulphur tuft decay fungi at base E. Further investigation of tree base merited. Prominent in frontage of hotel. Hanging branch at 5m west.	Good	Fair	20+	B1	7.9	197	Yes Ref: TPO 494 A1
T7	Scots pine	13.0	1	-	520	4-3-5-5	6.0	6	NW	EM	Smaller tree on site frontage.	Good	Good	20+	B1	6.2	122	Yes Ref: TPO 494 A1
T8	Scots pine	10.0	1	-	400	5-4-3.5-2.5	8.0	8	N	EM	Thinner than average density of foliage. Smaller, yet characterful tree on frontage.	Fair	Good	20+	B1	4.8	72	Yes Ref: TPO 494 A1
T9	Scots pine	14.0	1	-	500	3.5-4-3-5.5	6.0	7	NW	M	Crown form orientated towards hotel. Significant tree on frontage.	Good	Good	20+	B1	6.0	113	Yes Ref: TPO 494 A1
T10	Scots pine	16.0	1	-	710	5-3-5-6	10.0	11	W	M	Abnormal adaptive growth ribbing on lower trunk. Slight lean towards hotel. Larger tree, important to setting.	Good	Good	20+	B1	8.5	228	Yes Ref: TPO 494 A1
T11	Scots pine	14.0	1	-	330	3.5-4-2-1	12.0	8	NE	EM	Smaller tree with suppressed form W.	Good	Fair	10+	C1	3.9	49	Yes Ref: TPO 494 A1

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T12	Scots pine	15.0	1	-	520	4-5-7.5-3	8.0	9	S	M	Prominent on edge of site. Some evidence previous limb loss - not significant.	Good	Good	20+	B1	6.2	122	Yes Ref: TPO 494 A1
T13	Scots pine	15.0	1	-	610	5-3-4.5-6	10.0	8	N	M	Bracket fungi at base N - suspect heterobasideon annosum. Merits further inspection.	Good	Fair	20+	B1	7.3	168	Yes Ref: TPO 494 A1
T14	Scots pine	15.0		-	560	6.5-1-5-5.5	9.0	9	S	M	Thinner than average density of foliage.	Fair	Good	20+	B1	6.7	142	Yes Ref: TPO 494 A1
T15	Scots pine	2.5	1	#	80	1-1-1-1.5	1.0	1	W	Y	Small tree that could be transplanted or simply retained as part of proposals. Remove stake.	Good	Good	10+	C1	1.0	3	Yes Ref: TPO 494 A1
T16	Scots pine	3.0	1	#	110	1.5-1.5-2-1.5	1.0	1	N	Y	Small tree that could be transplanted or simply retained as part of proposals. Remove stake.	Good	Good	10+	C1	1.3	5	Yes Ref: TPO 494 A1
T17	Scots pine	7.0	2	#	210	3-2-3-3	2.0	2	S	SM	A well-established smaller specimen.	Good	Good	20+	B1	2.5	20	Yes Ref: TPO 494 A1

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T18	Palm	3.0	1	#	100	1.5-1-1-1	1.5	1.5	N	SM	Smaller tree. Well established.	Good	Good	10+	C1	1.3	5	Yes Ref: TPO 494 A1
T19	Scots pine	13.0	1	-	510	5.5-6-2.5-2.5	9.0	8	E	EM	Suppressed form with significant lean over road. Substantial adaptive growth ribs on lower trunk.	Good	Fair	20+	B1	6.1	118	Yes Ref: TPO 494 A1
T20	Scots pine	10.0	1	-	290	6-5-3-2	6.0	6	NE	EM	Central tree within group hence slightly suppressed form.	Good	Fair	20+	B1	3.5	38	Yes Ref: TPO 494 A1
T21	Scots pine	15.0	1	-	600	7-4.5-4-5	9.0	7	N	M	Growing within walled planter. Cracking to planter on east side. Small amounts of deadwood.	Good	Good	20+	B1	7.2	163	Yes Ref: TPO 494 A1
T22	Scots pine	16.0	1	-	540	6-7-5-4	8.0	6	E	M	Trunk divides at 5m. Crown form weighted east towards road. Mechanical damage to paved path and wall at base.	Good	Good	20+	B1	6.5	132	Yes Ref: TPO 494 A1
T23	Scots pine	10.0	1	#	150	3.5-3-3.5-3	3.0	3	SE	EM	Well-established attractive tree on site frontage. Good structural form and potential.	Good	Good	20+	B1	1.8	10	Yes Ref: TPO 494 A1

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T24	Scots pine	8.0	1	#	230	4-4-4-3.5	2.0	2	S	EM	Well-established attractive tree. Good structural form and potential.	Good	Good	20+	B1	2.8	24	Yes Ref: TPO 494 A1
T25	Scots pine	8.0	1	#	190	3.5-4-4-4	2.0	2	S	EM	Reasonable tree. Thinner than average density of foliage.	Good	Good	20+	B1	2.3	16	Yes Ref: TPO 494 A1
T26	Scots pine	16.0	1	-	620	7-3.5-6-7.5	8.0	8	W	M	Larger tree with crown form weighted to W.	Good	Good	20+	B1	7.4	174	Yes Ref: TPO 494 A1
T27	Scots pine	15.0	1	#	300	3-5.5-4.5-2.5	8.0	8	E	M	Prominent tree at site entrance.	Good	Good	20+	B1	3.6	41	Yes Ref: TPO 494 A1
T28	Scots pine	7.0	1	#	110	2-4-3.5-3.5	2.0	2	S	EM	Smaller tree with good potential-like other trees of similar size in this area - to eventually succeed the taller specimens.	Good	Good	10+	C1	1.3	5	Yes Ref: TPO 494 A1
T29	Scots pine	16.0	1	#	310	2-2.5-3.5-4	12.0	12	SW	M	Taller tree with no lower branch structure.	Good	Good	20+	B1	3.7	43	Yes Ref: TPO 494 A1

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T30	Scots pine	2.5	1	#	100	1.5-1-1-1	1.0	1	E	Y	Small tree that could be transplanted or simply retained as part of proposals. Remove stake.	Good	Good	10+	C1	1.3	5	Yes Ref: TPO 494 A1
T31	Scots pine	16.0	1	#	320	3-3-2.5-4	12.0	9	W	M	Taller tree with no lower branch structure.	Good	Good	20+	B1	3.8	46	Yes Ref: TPO 494 A1
T32	Scots pine	15.0	1	-	300	1.5-1.5-5-2	12.0	9	S	EM	Asymmetric crown form with eastern crown die back.	Fair	Fair	10+	C1	3.6	41	Yes Ref: TPO 494 A1
T33	Palm	5.0	1	-	200	1-1-1.5-1	3.0	2.5	W	EM	Attractive ornamental tree.	Fair	Fair	10+	C1	2.4	18	Yes Ref: TPO 494 A1
T34	Scots pine	15.0	1	#	450	6-5-4-6	13.0	12	N	M	Unable to view base due to shrubs. Ivy on stem obscured limb unions at 5m. Leans north over access road. Previous limb loss tear at 3/4 height on S side of northern limb.	Good	Fair	20+	B1	5.4	92	Yes Ref: TPO 494 A1
T35	Scots pine	7.0	1	-	280	4.5-5-5-4	2.5	2	S	EM	Smaller tree that is well-established.	Good	Good	20+	B1	3.3	35	Yes Ref: TPO 494 A1

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T36	Scots pine	14.0	1	-	380	3.5-6-2.5-3.5	11.0	12	S	M	Larger tree at entrance to site. Adaptive growth ribs on N side of trunk.	Good	Good	20+	B1	4.5	65	Yes Ref: TPO 494 A1
T37	Palm	6.0	3	#	390	1.5-2-3-3	2.0	2	S	M	Attractive ornamental tree at site entrance.	Good	Good	20+	B1	4.7	69	Yes Ref: TPO 494 A1
T38	Scots pine	9.0	1	#	260	4-5-4-2.5	2.0	2	E	EM	Offsite. Well established with good potential.	Good	Good	20+	B1	3.1	31	Yes Ref: TPO 494 A1
T39	Scots pine	9.0	1	#	250	3-2-3.5-3.5	2.0	2	S	EM	Offsite. Well established with good potential.	Good	Good	20+	B1	3.0	28	Yes Ref: TPO 494 A1
T40	English oak	13.0	1	-	630	7-7-6-8	4.5	3.5	E	EM	Good condition. No significant defects.	Good	Good	20+	B1	7.6	180	Yes Ref: TPO 494 T1
T41	Scots pine	17.0	1	-	470	3-4-3-4	12.0	14	W	M	Good condition. No significant defects.	Good	Good	20+	B1	5.6	100	None
T42	Scots pine	17.0	1	-	460	0-4-4-1	12.0	12	E	M	All lower branches removed. Crown form weighted south.	Good	Good	20+	B1	5.5	96	None

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T43	Scots pine	3.5	1	-	260	2-2-2-2	2.0	2	S	SM	Small tree that could be transplanted or simply retained as part of proposals. Remove stake.	Good	Good	20+	B1	3.1	31	None
T44	Scots pine	3.5	1	-	260	2-2-2-2	2.0	2	T	SM	Small tree that could be transplanted or simply retained as part of proposals. Remove stake.	Good	Good	20+	B1	3.1	31	None
T45	Scots pine	15.0	1	-	530	5.5-5-4-3.5	12.0	11	SW	M	Previous large limb removal on south side has left a large flush cut likely to be prone to decay formation.	Good	Fair	20+	B1	6.4	127	None
T46	Sweet chestnut	6.0	1	#	300	3-5-5-4.5	3.0	2	W	EM	Previously twin stemmed but one stem now removed. Previously crown reduced. Poor medium and long term prospects.	Fair	Fair	10+	C1	3.6	41	None
T48	Scots pine	15.0	1	-	400	2-5-3-2	9.0	9	W	M	Thinner than average density of foliage. Probably due to excavation on south side of trunk.	Fair	Fair	10+	C1	4.8	72	None

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T49	Scots pine	14.0	1	-	450	3-3-2.5-3.5	10.0	11	S	M	Branch previously removed at 4m S. Relatively sparse density of foliage.	Good	Fair	20+	B1	5.4	92	None
T51	Scots pine	13.0	1	#	420	1-3.5-5-4	9.0	9	S	M	Trunk in contact with adjacent timber structure with some abrasion. Reaction wood ribbing down northern side of trunk.	Good	Fair	20+	B1	5.0	80	None
T52	English oak	9.0	1	#	430	5-7-7-3	4.0	3	SW	EM	Low spreading form.	Good	Fair	20+	B1	5.2	84	None
T53	English oak	14.0	1	#	450	7-8.5-9-5	4.0	4	S	EM	Leans east due to suppression by adjacent holm oak.	Good	Fair	20+	B1	5.4	92	None
T54	Holm oak	13.0	1	#	410	7-5.5-7-2	3.0	3.5	E	EM	One sided crown form	Good	Fair	20+	B1	4.9	76	None
T55	Scots pine	15.0	1	#	500	3.5-3-4.5-3.5	12.0	12	W	M	Large tree in good condition. Located immediately adjacent to concrete slab for heating oil tanks.	Good	Good	20+	B1	6.0	113	None
T57	Scots pine	14.0	1	#	380	3.5-3.5-2-3	12.0	12	W	M	Almost dead. Recommend removal.	Dead	Dead		U	4.5	65	None
T58	Scots pine	11.0		-	250	2-1-2-2	9.0	9	NE	EM	Small tree on edge of car park. Offsite.	Good	Good	20+	B1	3.0	28	None

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T59	Scots pine	13.0		-	400	5-4.5-3-2	6.0	6	E	M	Larger tree on edge of car park.	Good	Good	20+	B1	4.8	72	None
T60	Sweet chestnut	10.0		-	550	6.5-8-5-6	4.0	5	N	M	Leaning tree on edge of car park. Form influenced by woodland to W.	Good	Fair	20+	B1	6.6	137	None
T61	Scots pine	14.0		-	300	2-4-4-3	11.0	11	E	M	No lower branches. Standalone tree in gravel car park. Recent branch loss on W side.	Good	Good	20+	B1	3.6	41	None
T62	Scots pine	4.0		-	100	2-2-2-2	1.0	1	S	SM	Smaller tree, well established as an eventual replacement for adjacent larger trees.	Good	Good	10+	C1	1.3	5	None
T63	No tree.																	
T64	Scots pine	14.0	1	-	350	3-3-4-3	11.0	11	W	M	Located in children's play area.	Good	Good	20+	B1	4.2	55	None
T65	Cockspur thorn	3.0		-	100	2-1.5-1.5-1.5	2.0	1.5	S	SM	Ornamental tree in circular stone wall planter.	Good	Good	10+	C1	1.3	5	None
T66	Blue atlas cedar	4.0		-	100	2-2-2-2.5	1.0	1	N	SM	Ornamental tree in grass area at centre of paved turning areas.	Good	Good	10+	C1	1.3	5	None

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T67	Scots pine	5.0	5	#	260	2.5-2.5-2-2	1.0	1	E	SM	Smaller tree, well established as an eventual replacement for adjacent larger trees.	Good	Good	10+	C1	3.1	31	None
T68	Scots pine	4.0	1	#	100	3-2.5-2-2	1.0	1	N	SM	Smaller tree, well established as an eventual replacement for adjacent larger trees.	Good	Good	10+	C1	1.3	5	None
T70	Scots pine	3.5	1	#	100	2-2-2.5-2.5	1.0	1	E	SM	Smaller tree, well established as an eventual replacement for adjacent larger trees.	Good	Good	10+	C1	1.3	5	None
T71	Scots pine	4.0	1	#	100	2.5-2.5-2-2	1.0	1	N	SM	Smaller tree, well established as an eventual replacement for adjacent larger trees.	Good	Good	10+	C1	1.3	5	None
T72	Scots pine	16.0	1	#	400	3.5-3-4-2	11.0	11	N	M	Standalone tree in gravel car park.	Good	Good	20+	B1	4.8	72	None
T73	Sweet chestnut	9.0	1	#	350	4-6-5.5-3.5	3.0	3	S	EM	Larger tree within 'island area' of car park.	Good	Good	20+	B1	4.2	55	Yes Ref: TPO 494 G1
T74	Scots pine	4.0	1	#	180	2-3-2.5-2	1.0	1	E	SM	Smaller tree, well established as an eventual replacement for adjacent larger trees.	Good	Good	10+	C1	2.2	15	None

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T75	Sweet chestnut	10.0	1	-	580	6-6-7-6	3.0	2.5	T	EM	Larger tree within 'island area' of car park. Possibly offsite.	Good	Good	20+	B1	7.0	152	Yes Ref: TPO 494 G1
T76	Scots pine	15.0	1	-	430	3.5-0-3-5.5	13.0	12	W	M	Standalone tree in gravel car park. Likely to be offsite.	Good	Good	20+	B1	5.2	84	None
T77	Sweet chestnut	7.0	2	#	670	4-7-5-4	2.0	1	E	M	Located on bank. Previously topped with substantial regeneration. If retained should be managed by cyclical pollard pruning.	Good	Fair	10+	C1	8.0	203	None
T78	Scots pine	14.0	1	#	300	4-3.5-3-2	10.0	10	N	M	Offsite tree at edge of car park	Good	Good	20+	B1	3.6	41	None
T79	Scots pine	14.0	1	-	430	2-2-4.5-3	8.0	9	S	M	Offsite tree at edge of car park. One of a linear group of three trees.	Good	Good	20+	B1	5.2	84	None
T80	Scots pine	14.0		-	430	2-5-4-2	9.0	10	N	M	Offsite tree at edge of car park. One of a linear group of three trees.	Good	Good	20+	B1	5.2	84	None
T81	Scots pine	16.0		-	470	3-6-3.5-3	9.0	9	W	M	Offsite tree at edge of car park. One of a linear group of three trees.	Good	Good	20+	B1	5.6	100	None

Ref	Species	Height (m)	No. of Stems	Est. diam	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²	TPO
T82	Sweet chestnut	13.0	1	#	500	5-6-6-7	3.0			M	Located within dense tree group. Unable to assess in any detail. A previously topped tree with substantial regeneration.	Good	Fair	10+	C1	6.0	113	Yes Ref: TPO 494 T2
T83	Cryptomeria japonica 'Elegans'	194.0	1	-	150	2.5-2.5-2-2	1.0	0.5	N	EM	Smaller ornamental tree within shrub bed.	Good	Good	20+	B1	1.8	10	None

5.1.2 Tree Groups

Ref	Species	Height range (m)	No. of trees	Est. diam	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	TPO
G1	Scots pine, Eucalyptus	11-13	5	#	550	5	4.0	M	Offsite cohesive tree group with overhang into site.	Good	Good	20+	B2	6.6	Yes Ref: TPO 494 A1
G2	Sycamore, oak	6-8	3	#	280	3.5	2.0	EM	Offsite in field. Separated from pool area by grassed earth bund.	Good	Good	20+	B2	3.3	None
G3	Palm	3-6	5	#	250	0.5	2.0	EM	Compact ornamental group at centre of paved seating area.	Fair	Fair	10+	C2	3.0	None
G4	Leyland Cypress, Lawson cypress, palm	1.5-3	8	#	250	1	0.5	EM	Consisting of ornamental border planting at north and cypress hedge to south. Of limited merit.	Good	Fair	10+	C2	3.0	None
G5	Juniper, pine	3-4	4	#	180	1	1.0	EM	Ornamental border planting. Limited merit.	Good	Fair	10+	C2	2.2	None
G6	Lawson cypress and Scots pine	3-5	3	#	250	1.5	0.5	EM	Informal group beside path. Contains a good young Scots pine that could be transplanted or retained but remainder of group is of limited merit.	Good	Fair	10+	C2	3.0	None
G7	Scots pine, holm oak, holly, birch	14	4	-	500	3	3.0	EM	Informal group behind storage units. Dominated by pine and holm oak. Holm oak suppressed form and Scots pine dying back on west side. Overall, very limited medium- and long-term benefits.	Fair	Fair	10+	C2	6.0	None
G8	Eucalyptus	12	2	#	400	4	5.0	EM	Feature tree group in triangular walled planter within paved area. Previously crown lifted.	Good	Fair	10+	C2	4.8	None

Ref	Species	Height range (m)	No. of trees	Est. diam	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	TPO
G9	Leyland Cypress, cherry laurel.	3-6	20+	#	250	1.5	0.0	EM	Dense and unmanaged screen planting.	Good	Fair	10+	C2	3.0	None
G10	Lawson cypress	6-6	30+	#	250	2	0.5	EM	Dense screen planting. Unmanaged but for sporadic topping. Limited merit.	Good	Fair	10+	C2	3.0	None
G11	Lawson cypress, Scots pine, holly	4-7	10	#	180	2	0.5	EM	Screen at edge of car park. Some good young pines, otherwise limited merit and with potential to outgrow the setting.	Fair	Fair	10+	C2	2.2	None

5.1.3 Hedgerows

Ref	Species	Av. Height range (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
H1	Leyland cypress	2.0	1.5	80	0.0	EM	Trimmed to maintain form	Good	Good	10+	C2	1.0
H2	Leyland cypress	3.0	1.5	80	0.0	EM	Trimmed to maintain form	Good	Good	10+	C2	1.0
H3	Lawson cypress	2-5	2.0	130	0.5	EM	Edge of car park planting	Good	Fair	10+	C2	1.6

5.1.4 Woodland

Ref	Species	Height range (m)	No. of trees	Est. diam	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	Special Importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	TPO
W1	Scots pine, sweet chestnut, English oak	20	100+	#	750	5	5.0	M	None	Large and well-established woodland. Offsite.	Good	Good	40+	A2	9.0	None

5.2 BS5837:2012 Cascade Chart for Tree Quality Assessment

Table 1 Cascade chart for tree quality assessment					
Category and definition		Criteria (including subcategories where appropriate)			Identification on plan
Tree unsuitable for retention (see Note)					
Category U Those in a such condition that they cannot realistically be retained as living trees in the context of the current land us for longer than 10 years		<ul style="list-style-type: none"> 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 <p><i>NOTE: Category U trees can have existing or potential conservation value which might be desirable to preserve; see 4.5.7.</i></p>			See Table 2
	1 Mainly Arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	Identification on plan	
Trees to be considered for retention					
Category A 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 with 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)	See Table 2	
Category B 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 attach 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	See Table 2	
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm	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 scientifically greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2	

5.3 Plans

5.3.1 Tree Survey Plan

5.3.2 Proposed Plan

5.3.3 Tree Protection Plan – Demolition

5.3.4 Tree Protection Plan – Construction



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BS 5837:2012 TREE RETENTION CATEGORIES

Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years.

Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.

Category C
Trees of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm.

Category U
Those in such a condition that the tree cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

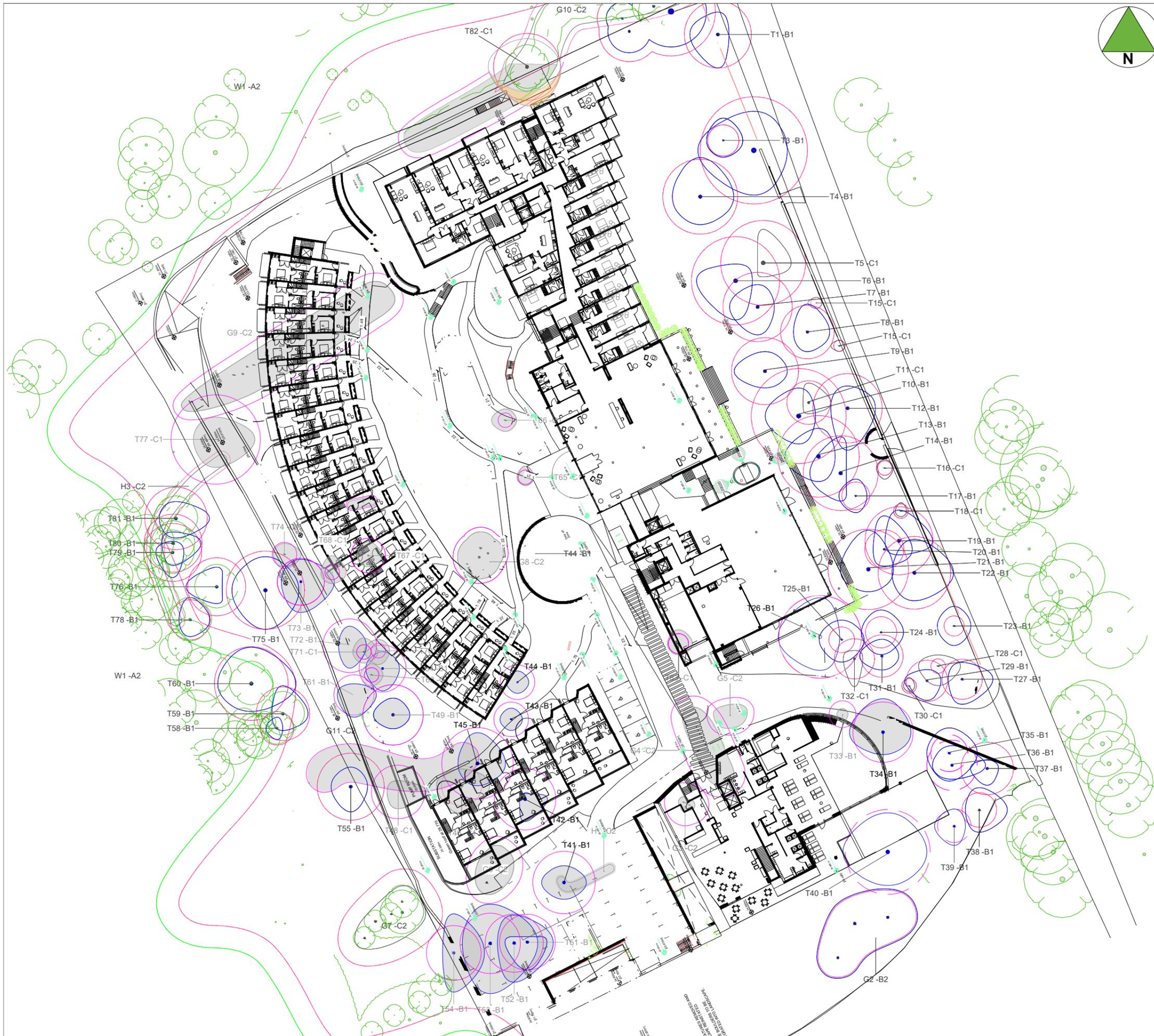
BS5837 Root Protection Areas
Precautionary areas within which tree roots and soil structure must be protected. All works within these areas will require special methods of work.



REV	DATE	DESCRIPTION	DRAWN
-	-	Base Drawing	-

Title		
Tree Survey		
Client		
Kingfisher Resorts Studland Ltd		
Project		
Knoll house Hotel, BH19 3AH		
Date	Drawn by	Checked by
October 2022	EC	-
Drawing No	Rev	Scale
1122-P-10	-	NTS





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BS 5837:2012 TREE RETENTION CATEGORIES

- 
Category A
 Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- 
Category B
 Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- 
Category C
 Trees of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm.
- 
Category U
 Those in such a condition that the tree cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

BS5837 Root Protection Areas
 Precautionary areas within which tree roots and soil structure must be protected. All works within these areas will require special methods of work.

Trees to be removed shown shaded



Trees to be reduced shown shaded



REV	DATE	DESCRIPTION	DRAWN
-	-	Base Drawing	-

Title
Proposed Layout and Tree Removals

Client
Kingfisher Resorts Studland Ltd

Project
Knoll house Hotel, BH19 3AH

Date
October 2022

Drawn by
EC

Checked by
-

Drawing No
1122-P-11

Rev
-

Scale
NTS



ARBORICULTURAL METHOD STATEMENT

TREE WORKS

Only the tree works specified within this report may be undertaken, after the appropriate planning consents have been acquired and in order to implement the consent. In the event of any uncertainty regarding tree works, the retained arboricultural consultant will be consulted and where appropriate the Local Planning Authority.

All tree works will be undertaken, in accordance with the best-practice recommendations provided in BS 3998:2010. The statutory responsibilities as outlined in the Wildlife and Countryside Act 1981 (as amended) and the Habitat Regulations 2010 will also be complied with.

TREE PROTECTION FENCING

The tree protection fencing and (where appropriate) ground protection, will be installed as specified within this plan, prior to the commencement of any demolition and construction works. No plant or materials will be delivered to site prior to the construction of the tree protective fencing other than those required to install the tree protection fencing. On every third panel, a sign will be fixed that states "Tree Protection Zone (TPZ). Keep out. Any incursion into this area must be agreed in advance with the retained arboricultural consultant and Local Planning Authority." An example of this sign is provided within this plan.

The position of the tree protection fencing must not be amended and no individual panels will be uncoupled, without the agreement of the retained arboricultural consultant and/or Local Planning Authority.

SERVICES AND DRAINAGE

The installation of drainage runs, manholes, storage tanks, and utilities will be positioned outside the root protection areas of retained trees. If the installation of new services and drainage runs are required within the root protection areas (RPAs) of retained trees, all methods of working will follow the guidance within Table 3 of BS 5837 or the National Joint Utilities Group's (NJUG) Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees (volume 4, issue 2).

Excavation works within the RPAs of retained trees will be undertaken manually with the use of hand tools only (under the supervision of the retained arboricultural consultant), unless otherwise agreed in advance by the retained arboricultural consultant. It is recommended that an air lance - and if required a soil vacuum - is used, to excavate service trenches within RPAs. If soil conditions are not suitable for this method of excavation, alternative hand tools can be used once agreed in advance by the retained arboricultural consultant.

All roots greater than 25mm in diameter will be retained and will immediately be wrapped in hessian or another appropriate material, to prevent desiccation and temperature fluctuations. Roots will be pushed aside to allow for runs to be installed, where this is practical and without causing root damage.

No machinery will be permitted within the TPZ, at any time, unless agreed in advance with the retained arboricultural consultant.

NO-DIG CONSTRUCTION AREAS

Areas that will require no-dig methods of construction are shown within this plan. Working methods within these areas will comply with the details outlined in the main report and in advance of works being undertaken will be agreed with the retained arboricultural consultant.

ARBORICULTURAL CLERK OF WORKS

The monitoring of activities at the Site will occur, at the following points:

- To sign-off the tree protection measures;
- To sign-off the tree works;
- At other points as specified within this Report and the TPP.

It will be the responsibility of the main contractor (or other managing individual or organisation) to confirm the date and time of attendance, providing at least five working days of notice so that the project arboriculturalist can confirm attendance.

GENERAL PROTECTION METHODS

No fires will be permitted, within 20m of the crown of any tree or other area of vegetation that includes hedgerows and groups of trees.

No changes in soil level will occur, within the TPZs and RPAs, without agreement in advance with the retained arboricultural consultant.

The TPZs will at all times remain free of liquids, materials, vehicles, plant, and personnel, without agreement in advance with the retained arboricultural consultant.

Any liquid materials spilled on site will immediately be cleared up. If liquids are spilled within 2m of any TPZ or RPA, the incident will immediately be reported to the retained arboricultural consultant, to determine the appropriate response.

All damage to trees and other vegetation will immediately be reported to the retained arboricultural consultant, to determine the appropriate response.

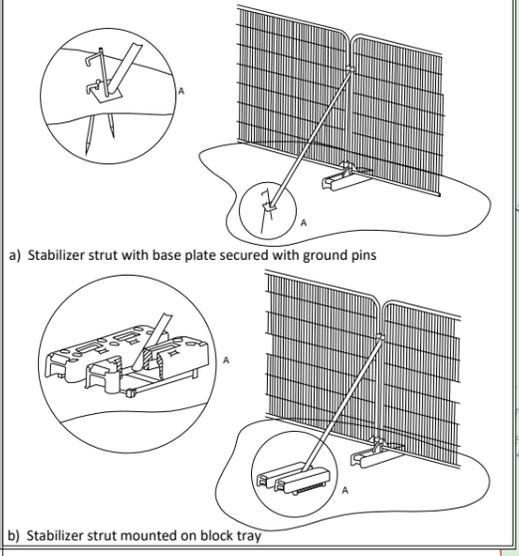


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BS 5837:2012 TREE RETENTION CATEGORIES

- Category A**
Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- Category B**
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- Category C**
Trees of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm.
- Category U**
Those in such a condition that the tree cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.
- BS5837 Root Protection Areas**
Precautionary areas within which tree roots and soil structure must be protected. All works within these areas will require special methods of work.
- Position of protective fencing and tree protection zones during demolition**
- Ground protection during demolition to provide access around building formed of 100mm woodchip or sand laid on a geotextile membrane with plastic mat ground guard surfacing.**
- Demolition of brick planters and other light structures to ground level only, existing paving retained or removed and replaced with ground protection.**

Figure 3 Examples of above-grounds stabilizing systems



REV	DATE	DESCRIPTION	DRAWN
-	-	Base Drawing	-

Title		
Tree Protection Plan for Demolition		
Client		
Kingfisher Resorts Studland Ltd		
Project		
Knoll house Hotel, BH19 3AH		
Date	Drawn by	Checked by
October 2022	EC	-
Drawing No	Rev	Scale
1122-P-12	-	NTS



ARBORICULTURAL METHOD STATEMENT

TREE WORKS

Only the tree works specified within this report may be undertaken, after the appropriate planning consents have been acquired and in order to implement the consent. In the event of any uncertainty regarding tree works, the retained arboricultural consultant will be consulted and where appropriate the Local Planning Authority.

All tree works will be undertaken, in accordance with the best-practice recommendations provided in BS 3998:2010. The statutory responsibilities as outlined in the Wildlife and Countryside Act 1981 (as amended) and the Habitat Regulations 2010 will also be complied with.

TREE PROTECTION FENCING

The tree protection fencing and (where appropriate) ground protection, will be installed as specified within this plan, prior to the commencement of any demolition and construction works. No plant or materials will be delivered to site prior to the construction of the tree protective fencing other than those required to install the tree protection fencing. On every third panel, a sign will be fixed that states "Tree Protection Zone (TPZ). Keep out. Any incursion into this area must be agreed in advance with the retained arboricultural consultant and Local Planning Authority." An example of this sign is provided within this plan.

The position of the tree protection fencing must not be amended and no individual panels will be uncoupled, without the agreement of the retained arboricultural consultant and/or Local Planning Authority.

SERVICES AND DRAINAGE

The installation of drainage runs, manholes, storage tanks, and utilities will be positioned outside the root protection areas of retained trees. If the installation of new services and drainage runs are required within the root protection areas (RPAs) of retained trees, all methods of working will follow the guidance within Table 3 of BS 5837 or the National Joint Utilities Group's (NJUG) Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees (volume 4, issue 2).

Excavation works within the RPAs of retained trees will be undertaken manually with the use of hand tools only (under the supervision of the retained arboricultural consultant), unless otherwise agreed in advance by the retained arboricultural consultant. It is recommended that an air lance - and if required a soil vacuum - is used, to excavate service trenches within RPAs. If soil conditions are not suitable for this method of excavation, alternative hand tools can be used once agreed in advance by the retained arboricultural consultant.

All roots greater than 25mm in diameter will be retained and will immediately be wrapped in hessian or another appropriate material, to prevent desiccation and temperature fluctuations. Roots will be pushed aside to allow for runs to be installed, where this is practical and without causing root damage.

No machinery will be permitted within the TPZ, at any time, unless agreed in advance with the retained arboricultural consultant.

NO-DIG CONSTRUCTION AREAS

Areas that will require no-dig methods of construction are shown within this plan. Working methods within these areas will comply with the details outlined in the main report and in advance of works being undertaken will be agreed with the retained arboricultural consultant.

ARBORICULTURAL CLERK OF WORKS

The monitoring of activities at the Site will occur, at the following points:

- To sign-off the tree protection measures;
- To sign-off the tree works;
- At other points as specified within this Report and the TPP.

It will be the responsibility of the main contractor (or other managing individual or organisation) to confirm the date and time of attendance, providing at least five working days of notice so that the project arboriculturalist can confirm attendance.

GENERAL PROTECTION METHODS

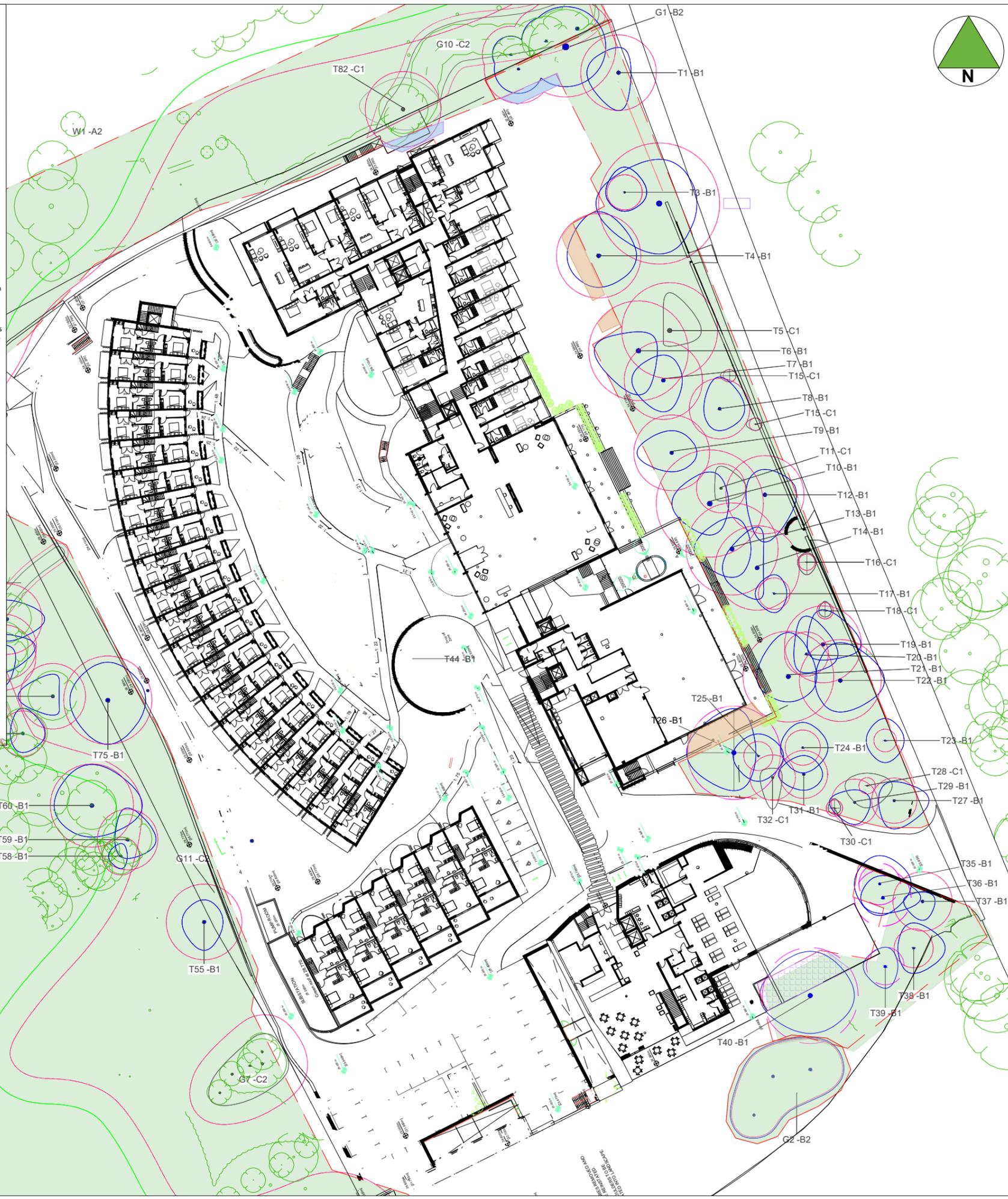
No fires will be permitted, within 20m of the crown of any tree or other area of vegetation that includes hedgerows and groups of trees.

No changes in soil level will occur, within the TPZs and RPAs, without agreement in advance with the retained arboricultural consultant.

The TPZs will at all times remain free of liquids, materials, vehicles, plant, and personnel, without agreement in advance with the retained arboricultural consultant.

Any liquid materials spilled on site will immediately be cleared up. If liquids are spilled within 2m of any TPZ or RPA, the incident will immediately be reported to the retained arboricultural consultant, to determine the appropriate response.

All damage to trees and other vegetation will immediately be reported to the retained arboricultural consultant, to determine the appropriate response.



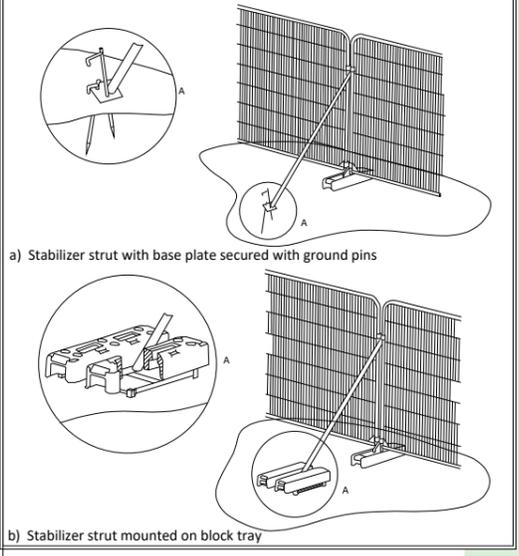
The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

BS 5837:2012 TREE RETENTION CATEGORIES

- Category A**
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- BS5837 Root Protection Areas**
Precautionary areas within which tree roots and soil structure must be protected. All works within these areas will require special methods of work.
- Position of protective fencing and tree protection zones during construction.** Position may be amended for landscaping.
- Ground protection during demolition** to provide access around building formed of 100mm woodchip or sand laid on a geotextile membrane with plastic mat ground guard surfacing.
- Demolition of brick planters and other light structures** to ground level only, existing paving retained or removed and replaced with ground protection.
- Tree protection fencing** to be removed at the landscaping stage in order to construct above ground pool structure supported by individually hand dug posts under arboricultural guidance to retain all roots greater than 25mm.

Figure 3 Examples of above-grounds stabilizing systems



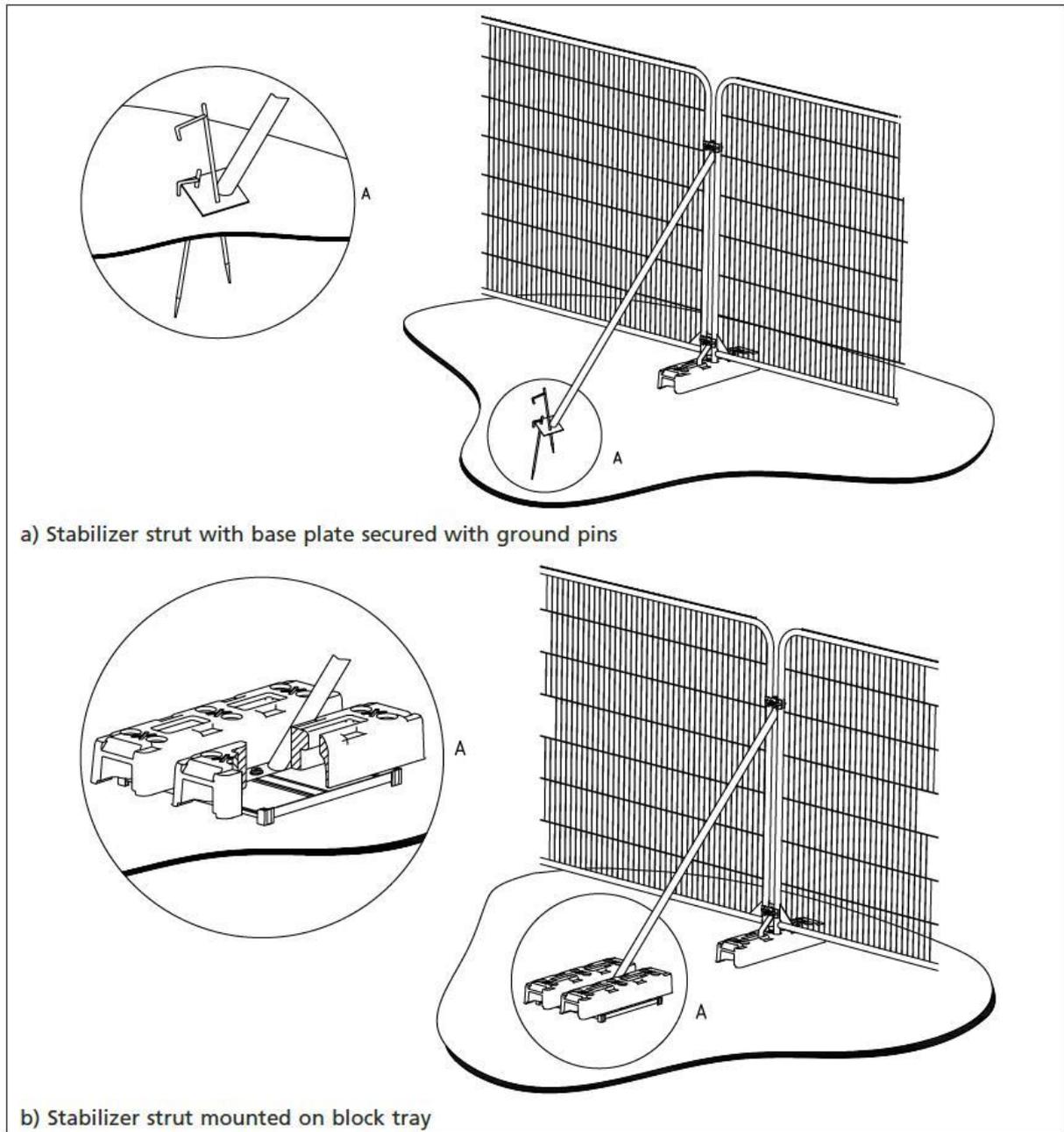
REV	DATE	DESCRIPTION	DRAWN
-	-	Base Drawing	-

Title		
Tree Protection Plan for Construction		
Client		
Kingfisher Resorts Studland Ltd		
Project		
Knoll house Hotel, BH19 3AH		
Date	Drawn by	Checked by
October 2022	EC	-
Drawing No	Rev	Scale
1122-P-13	-	NTS



5.4 Tree Protection Fencing & Signage

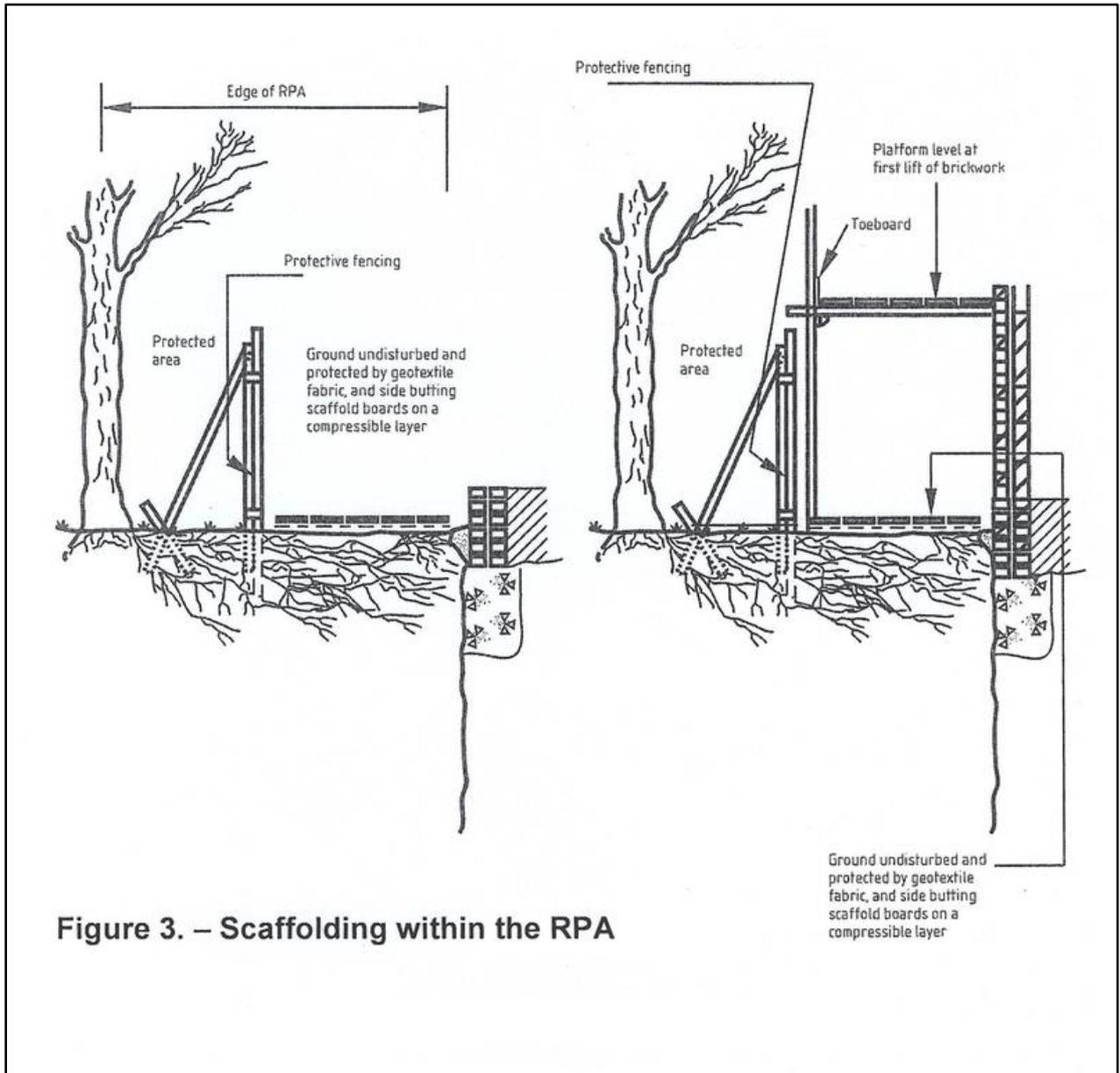
5.4.1 Alternative Fencing Design



5.4.2 Signage for Tree Protection Fencing



5.5 Temporary Ground Protection & Scaffolding for RPAs



5.6 Cellular Confinement System for Footpaths (Example)

PRODUCT DATA SHEET

Geosynthetics Limited Tel: 01455 617 139 Fax: 01455 617 140 Email: sales@geosyn.co.uk

Cellweb® TRP Installation Guide



Step 1: Prepare Surface



Step 2: Lay out Treetex™



Step 3: Lay out Cellweb® TRP

- Cellweb® TRP is a NO DIG tree root protection measure and it is recommended that no excavation be performed without prior approval and guidance from the Local Authority Arboricultural Officer.
- Soil compaction from vehicles, machinery and materials is to be strictly prohibited during construction within Root Protection Areas (RPAs).
- Approval must be obtained from the Local Authority that the design and the method of construction is acceptable.
- Further information is available from the following two documents;
 - British Standard BS5837: 'Trees in Relation to Design, Demolition and Construction' (2012).
 - Arboricultural Advisory and Information Service: Practice note 12 – 'Through the Trees to Development' (APN12).

Installation Method

1. Prepare the Surface

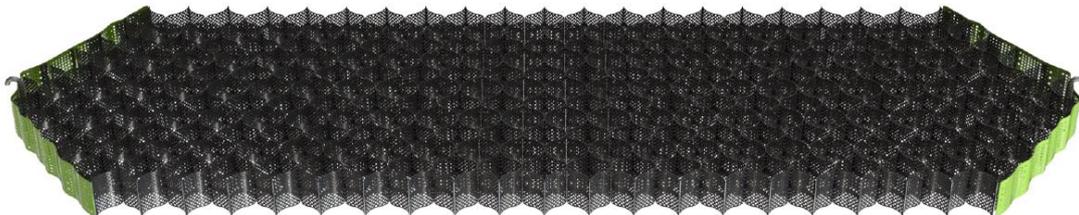
- Remove the surface vegetation using appropriate hand held tools or herbicide (see Note 1).
- Remove any surface rocks, debris and organic material.
- Create a level surface by filling any hollows with clean angular stone or sharp sand.
- Do not level off high spots or compact the soil through rolling.

2. Lay out the Treetex™ Non-Woven Geotextile

- Lay out the Treetex™ over the prepared area, overlaying the edges of the required area by 300mm.
- Overlap any joins by 300mm minimum or more, depending on soil structure (see Note 2).

3. Lay out the Cellweb® TRP Cellular Confinement System

- Lay out the collapsed Cellweb® TRP on-top of the Treetex™.
- Place one of the supplied J pins into the centre cell at the end of the panel and secure into the ground.



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Cellweb® TRP - Installation Guide

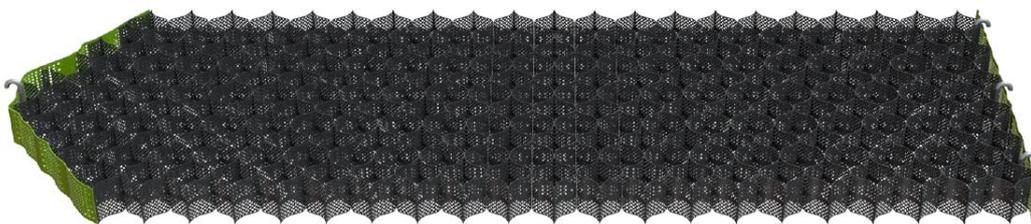


Step 3: Pinning Cellweb® TRP

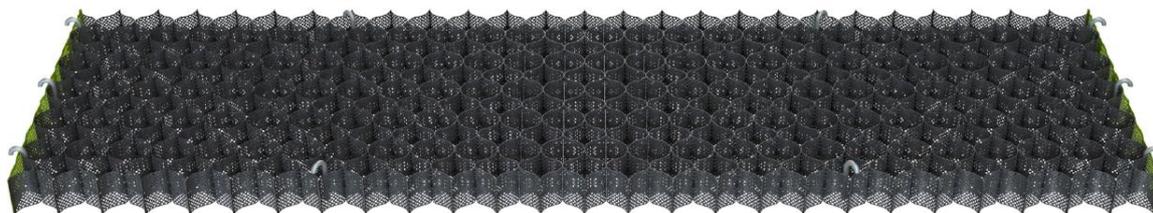


Step 3: Stapling Cellweb® TRP

- Pull out the Cellweb® TRP to its full 8.1m length and secure its length with another J pin.



- Now measure its width to 2.56m and secure in each of the corners with the J pins.
- Use 10 pins per panel to create a panel measuring 8.1m x 2.56m.



- This will produce a cell size of 259mm x 224mm which is the required cell diameter. Each cell must be fully extended and under tension.
- Staple adjacent panels together at each cell (see Note 3).
- If a curved path or shape is required, this should be cut when the Cellweb® TRP panel is pinned out to 8.1 x 2.56m, ensuring complete cells remain. Do not try to curve or bend the Cellweb® TRP panels into place.
- All cells must be fully opened to the required diameter.

Cellweb® TRP - Installation Guide



Step 4: Clean Angular Stone



Step 5: Edge Restraints



Step 6: Surface Options

4. Infill the Clean Angular Stone

- The infill material must be a clean angular stone, Type 4/20mm or Type 20/40mm (see Note 4).
- Do not use M.O.T type 1 or crushed stone with fines for tree root protection.
- Infill the Cellweb® TRP cells with the clean angular stone, working towards the tree and using the infilled panels as a platform.
- Minimum 25mm overfill of clean angular stone when used in conjunction with a hard surface.
- No compaction is required of the infill. Do not use a whacker plate or other means of compaction.
- Encourage settlement of the stone with the use of a light roller or with 2-3 passes of the construction plant used for installation.
- If the clean angular stone is being used as the final surface; regular maintenance will be required to ensure a minimum overfill of 50mm.

5. Edge restraints

- Excavations for kerbs and edgings should be avoided within the RPAs.
- Where edging is required for footpath and light structures, a peg and treated timber board edging is acceptable
- Other options include wooden sleepers, kerb edging constructed on-top of the Cellweb® TRP system, plastic and metal edging etc.

6. Surface options

- All surfaces in Root Protection Areas must be porous. Surfaces can include block paving, asphalt, loose gravel, grass and gravel retention systems (e.g Golpla), resin bound gravel, concrete etc.

NOTES

- 1. Herbicide:** According to BS5837:2012 "The use of herbicides in the vicinity of existing trees should be appropriate for the type of vegetation to be killed, and all instructions, warnings and other relevant information from the manufacturers should be strictly observed and followed. Care should be taken to avoid any damaging effects upon existing plants and trees to be retained, species to be introduced, and existing sensitive habitats, particularly those associated with aquatic or drainage features."
- 2. Geotextile:** We recommend the installation of a Treetex™ under the Cellweb® TRP, or under the sub-base, if installed. The overlapping between adjacent rolls of Geotextile should be: CBR > 3%: 300mm minimum, CBR between 1% and 3%: 500mm minimum. CBR ≤ 1%: 750mm minimum.
- 3. Staples:** Number of staples per join: 200mm: 5 staples. 150mm: 4 staples. 100mm: 3 staples. 75mm: 3 staples.
- 4. Granular Fill:** Open graded sub-base, clean angular stone Type 4/20 or Type 20/40. Please refer to BS7533-13:2009 and to the Design Manual for Roads and Bridges (DMRB), Volume 4 Geotechnics and Drainage, Section 1 Earthworks, HA44/91, Volume 7 – IAN 73/06 Design Guidance for road pavement foundations and Manual of Contract Documents for Highway Works (MCHW), Volume 1 Specification for Highway Works for the construction and maintenance of the fill material.

This information corresponds to our current knowledge on the subject. It is offered solely to provide possible suggestions for your own experimentation. It is not intended, however, to substitute for any testing you may need to conduct to determine for yourself the suitability of our products for your particular purposes. This information may be subject to revision as new knowledge becomes available. Since we cannot anticipate all variations in actual end use conditions, Geosynthetics Limited makes no warranties and assumes no liabilities in connection with this information. Nothing in this publication is to be considered as a licence to operate under or a recommendation to infringe any patent right.
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5.7 Scope & Limitations

The scope of this report is as follows:

- To undertake a BS5837: 2012 arboricultural impact assessment of trees, hedgerows and woodlands within the area identified by the client as being potentially affected by future development proposals.
- To provide tree protection plans (demolition and construction), provided with reference to a detailed development design in order to inform a planning application for this site.

This report is valid for a period of not more than 12 months from the date of the inspection or less in the event of significant changes to the condition of trees present on site (e.g. following major storm damage, fire or disease) or prevailing site conditions.

No detailed assessment has been undertaken as part of this report with regard to managing the trees in relation to their risk of failure (either parts of the trees or the entire trees).

Trees and hedgerows can support a variety of vertebrate and invertebrate fauna, including species that are afforded protection under wildlife legislation (e.g. The Wildlife and Countryside Act 1981 (as amended), The Conservation of Habitats and Species Regulations (2017)).

Where the presence of legally protected species is known or suspected, advice should always be sought from an experienced ecological consultant and/or the relevant statutory nature conservation organisation (e.g. Natural England) for formal advice. Such detailed advice is beyond the remit of this report, but obvious wildlife constraints will be identified wherever feasible.

The author has relied on the accuracy of the drawings provided in the production of this report.

5.8 Legislation, Planning Policy & Guidance

This report is principally designed to satisfy the requirements of BS5837: 2012 *Trees in Relation to Design, Demolition and Construction*.

The information and advice contained within this report will facilitate the correct application of The Town and Country Planning Act 1990 (specifically Part VIII 'Special Controls', Chapter 1 'Trees' S.197 and sequential).

Advice contained within this report is designed to address local plan policies in relation to trees in the planning process.

This advice contained within this report is also designed to address the requirements of The National Planning Policy Framework (NPPF); specifically paragraph 118, which states:

"118. When determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

- *if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
- *development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;*
- *opportunities to incorporate biodiversity in and around developments should be encouraged;*
- *planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss;"*

5.9 BS5837:2012 Trees in the Planning System (Overview)

Table B.1 Delivery of tree related information into the planning system		
Stage of process	Minimum detail	Additional information
Pre-application	Tree survey	Tree retention/removal plan (draft)
Planning application	<p>Tree survey (in the absence of pre-application discussions)</p> <p>Tree retention/removal plan (finalized)</p> <p>Retained trees and RPAs shown on proposed layout</p> <p>Strategic hard and soft landscape design, including species and location of new tree planting</p> <p>Arboricultural impact assessment</p>	<p>Existing and proposed finished levels</p> <p>Tree protection plan</p> <p>Arboricultural method statement - heads of terms</p> <p>Details for all special engineering within the RPA and other relevant construction details</p>
Reserved matters/ planning conditions	<p>Alignment of utility apparatus (including drainage), where outside the RPA or where installed using a trenchless method</p> <p>Dimensioned tree protection plan</p> <p>Arboricultural method statement – detailed</p> <p>Schedule of works to retained trees, e.g. access facilitation pruning</p> <p>Detailed hard and soft landscape design</p>	<p>Arboricultural site monitoring schedule</p> <p>Tree and landscape management plan</p> <p>Post-construction remedial works</p> <p>Landscape maintenance schedule</p>

5.10 References & Bibliography

Barton Hyett Associates (2018). *Knoll House Hotel, Dorset. Tree Survey Report.*

British Geological Survey (2019). *Geology of Britain viewer.*

<http://mapapps.bgs.ac.uk/geologyofbritain3d/index.html>

British Standards Institute (2010). *British Standard 3998:2010 Tree Work – Recommendations.*
BSI, London UK.

British Standards Institute (2012). *British Standard 5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations.* BSI, London UK.

British Standards Institute (2014). *British Standard 5845:2014 Trees: from Nursery to Independence in the Landscape – Recommendations.* BSI, London UK.

6. QUALIFICATIONS & EXPERIENCE

Focus Environmental Consultants® has the expertise to provide sure-fire environmental solutions to a wide range of projects. The company ethos forges the highest standards of professional scientific practice with a best value approach for our clients. Our core area of expertise is in the production of specialist environmental reports and advice to support planning applications. Our comprehensive services include tree constraints surveys, Arboricultural Impact Assessments (AIA) and Method Statements, Health and Safety tree assessments, reports to accompany insurance/mortgage applications and production of Woodland Management Plans. The arboricultural team at Focus Environmental Consultants are all members of the Arboricultural Association and Institute of Chartered Foresters. Our flexible approach, range of skills and broad project experience from major infrastructure contracts to small private developments allows us to adapt to your individual requirements. As well as offering a full suite of arboricultural services, Focus Environmental Consultants is able to provide expert ecological advice and reports and is building an enviable reputation for innovative habitat creation and management solutions. Focus Environmental Consultants is situated in Worcestershire, providing a convenient and central UK location

Edward Cleverdon BSc (Hons) MArborA

This report has been prepared by Edward Cleverdon. Edward is a senior arboricultural consultant dealing with trees in relation to all forms of human activity including the built environment. Edward is a professional member of the Arboricultural Association, an associate member of the Institute of Chartered Foresters, graduated with a BSc (hons) degree in Arboriculture from The University of Central Lancashire, is a LANTRA qualified professional tree inspector; and a registered user of Quantified Tree Risk Assessment.