

Arboricultural Method Statement

For construction works on

Land West of Pagham Road, Pagham

On behalf of

Pagham Homes

Inspected and prepared by

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Appendix 1: Tree Management Schedule, Group Management Schedule, Hedge Management Schedule and Schedule Key

Appendix 2: Tree Removal Plan – Drawing # TR-1I & TR-2I

Appendix 2: Tree Protection Plan – Drawing # TPP-1I & TPP-2I

1 INTRODUCTION

1.1 Background information

- 1.1.1 Outline planning for a mixed-use development was granted in 2018 (ref P/140/16/OUT). This report details which trees will need to be removed and how retained trees will be protected during construction for Phase A and B.
- 1.1.2 This report has been made to support an updated reserved matters submission (P/167/21/RES) pursuant to outline planning permission (P/140/16/OUT). Specifically, to discharge Condition 9 of the outline planning permission:

“Prior to the commencement of each phase of the development an Arboricultural Method Statement and Tree Protection Plan shall be submitted for that phase to and approved in writing by the Local Planning Authority and the development shall be undertaken in strict accordance with the details so approved.”

- 1.1.3 Some of the roadside trees are protected by a tree preservation order (Arun District Council ref. TPO/P/3/19), the protected trees are highlighted grey in the tree schedule at the rear of this document.

1.2 Changes from previous AMS

- 1.2.1 The previous arboricultural method statement (dated 21st September 2022) did not specify enough space between trees and temporary protective fencing and so this report has been produced to improve that matter. Specific method statements are also included for excavations near trees and the installation of cellular confinement systems.
- 1.2.2 A Section 278 agreement has been approved by the local Highway Authority which includes the improvement of several drainage ditches along south-eastern boundary of the site. The excavation of these ditches will require nine additional trees to be removed (T419, T420, T434–T438, T469 & T479).
- 1.2.3 Improved drainage works and the new attenuation pond will also require two additional trees (T12 & T462), part of one tree group (G12) and two hedges (H5 & H6) to be removed.

1.2 Instruction

- 1.2.1 Bosky Trees has been employed to advise on the project design and specify suitable measures to protect retained trees during construction.
- 1.2.2 This method statement provides details of how planned operations near trees will be carried out. However, arboricultural supervision will be required if any unforeseen construction activity is to take place within or adjacent to the root protection area (RPA) of any of the retained trees at the site (the RPAs are indicated on the Tree Protection Plan). This supervision must be carried out by a suitably qualified arboriculturist. It is recommended that the project arboriculturist and the local authority's tree officer are informed of necessary works near trees as soon as they become apparent.

1.3 Contacts and responsibilities

1.3.1 **Project arboriculturist:** Ben Rose, Tel. 0787 2609633; ben@boskytrees.co.uk

1.3.2 The project arboriculturist shall be responsible for independently monitoring the effectiveness of tree protection at regular intervals and report all findings in writing back to the client, the project site manager and the local planning authority. They may also be instructed to provide additional advice should unforeseen circumstances develop.

1.3.3 **Site manager:** TBC

1.3.4 The site manager must be provided with a copy of this document and a copy should be available be kept available in the main site office for quick and easy reference. It is the site manager's responsibility to pass on the information in this document to all construction staff and site contractors.

1.3.5 The Arboricultural Method Statement must be used as a reference source for site operatives in order to guide tree-related aspects of the construction process. A precautionary approach is required.

2 GENERAL METHOD STATEMENT FOR EFFECTIVE TREE PROTECTION

- 2.1.1 Trees are vulnerable to root damage caused by ground disturbance, direct injury of the trunk or branches, environmental change, pests, and diseases. Construction work often exerts pressures on existing trees, and a tree that has taken many decades to reach maturity can be damaged irreparably in a few minutes by unwitting or negligent actions.
- 2.1.2 For this project temporary fencing will be used during construction to protect the retained trees at the site. The extent of the tree protection fencing that will be required is shown on the Tree Protection Plans, TPP-1I & TPP-2I (these are provided at the rear of the document). For effective tree protection it is crucial that the protective fencing is installed before any heavy plant machinery is used on the site. The fenced off areas will be construction exclusion zones.
- 2.1.3 Soil compaction quickly occurs if vehicles pass over an area of soil. Compaction may cause reduced infiltration rates of water, poor drainage, reduced availability of water, and reduced air and oxygen supply to roots. This leads to reduced root growth and as a result the health of the tree is impacted. Therefore, to ensure that soil compaction is avoided, it is very important that no vehicles enter the fenced-off areas during construction operations.
- 2.1.4 All construction staff should be made aware of the following restrictions that apply to the construction exclusion zone:
1. No excavation or raising of soil levels is permitted within the construction exclusion zones without written permission from the project arboriculturist.
 2. Site offices and staff welfare facilities must be located outside of the construction exclusion zones unless agreed with the local authority's arboricultural officer.
 3. No materials of any kind are to be stored within the construction exclusion zone.
 4. No utility trenches are to be routed through a construction exclusion zone without written permission from the local authority's arboricultural officer.
 5. Care must be taken when planning site operations to ensure that wide or tall loads, or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Branches may be tied back so that they are out of the way if necessary.
 6. Potential contaminants such as fuel, oils and chemicals must be stored on an impervious base within a bund able to contain at least 110% of the volume stored. Provision must also be made for any spillage or run off to be contained away from the protected area.
 7. Cement and concrete mixing must take place at least 10m from any trees, over a suitable hard surface to prevent soil contamination from spillage or washing out.
 8. Fires should be avoided, however if permitted by the site manager, they must not be lit in a position where heat could affect foliage or branches (at least 15m from the base of a tree would normally be sufficient).

3 SPECIFICATION FOR TREE PROTECTION FENCING

3.1 The location of tree protection fencing

3.1.1 The extent of the tree protection fencing that will be required is shown on the accompanying Tree Protection Plans (TPP-1I & TPP-2I). For effective tree protection it is crucial that the protective fencing is installed before any heavy plant machinery is used on the site. The tree protection fencing must remain in place until the construction works have been completed (unless under arboricultural supervision). The fenced off areas will be construction exclusion zones.

3.1.2 The supervising arboriculturist will check the positioning of the tree protection fencing and confirm that it is fit for purpose before works start near by.

3.2 Installing the tree protection fencing

3.2.1 Fencing (or other forms of barrier) must be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees. In most cases fencing should consist of a scaffold framework comprising a vertical and horizontal framework, well braced to resist impacts, with vertical tubes spaced at a maximum interval of 3m (as detailed in in Figure 2 of BS5837). That would be appropriate, but for this project I expect that the most practical fencing to use would be Heras fencing that has been fixed in place (as detailed in figure 3a of BS5837). Therefore, it is proposed that Heras fencing is used, and that the feet are pinned, or the panels braced, to prevent contractors from being able to easily move the feet and alter the fence alignment during construction. Heras produce support braces that can be used to stabilise fence panels.

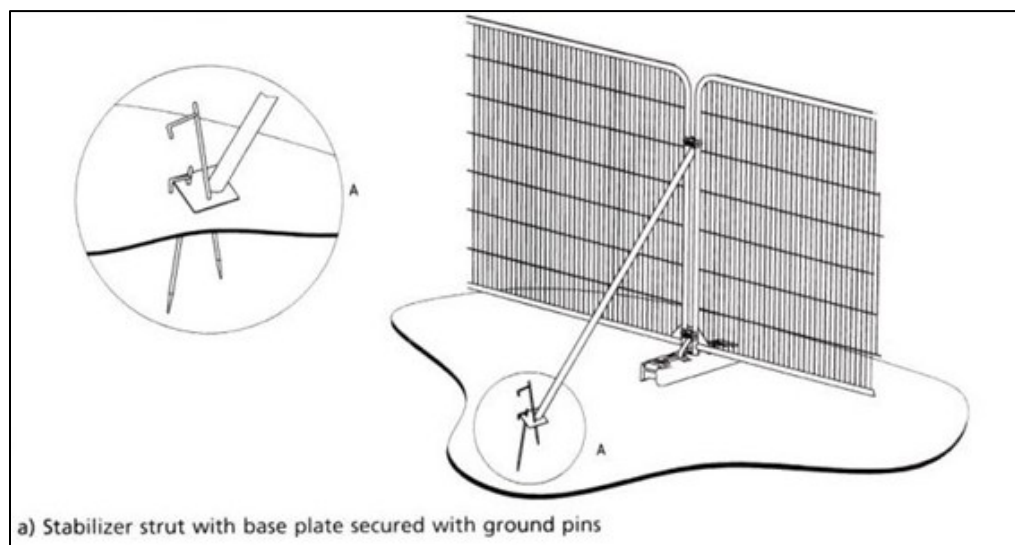


Figure 3a of BS5837:2012.

3.2.2 Once the barriers have been erected the areas of land within the construction exclusion zone should be regarded as sacrosanct and must not be removed or altered without prior consultation with the project arboriculturist and, where necessary, approval from the local planning authority.

4 METHOD STATEMENT FOR THE INSTALLATION OF CELLULAR CONFINEMENT SYSTEMS

4.1 The approach to ground protection

- 4.1.1 The development proposal includes new pedestrian path between the roadside trees and new attenuation ponds, another path is also proposed in the allotment field in the southern section of the site. The adjacent trees (T439–T443, T482, T483, T485–T488, T491–T494, T499, T500, G12, G20 & G21) are likely to be rooting in soil beneath the areas to be surfaced. Therefore, it will be necessary to use a cellular confinement system to create hard surfacing in these areas because this approach avoids the requirement for digging into the soil and damaging tree roots. A 100mm thick cellular confinement system will be used in this project and the final surface will be approximately 125mm above the existing ground level.
- 4.1.2 The areas where the cellular confinement system will need to be used is hatched with a honeycomb pattern on the tree protection plan. The initial ground preparation works in these areas are to be carried out under the supervision of the project arboriculturist.
- 4.1.3 The purpose of using this technology is to avoid damaging the soil structure through compaction. Soil damage of this nature may disrupt the efficient exchange of water and gasses in and out of the soil and inhibit root growth. Mature trees are more vulnerable to disturbance of this nature when compared to younger trees. Soil compaction is commonly caused by repeated walking over soil or vehicular traffic. The use of a cellular confinement system reduces the bearing pressure on the subsoil by preventing aggregate surfaces from rutting by vehicle wheels or tracking. Even one pass over soil by a vehicle compacts the soil and so it is therefore crucial to protect the area that is to be covered with a cellular confinement system from the beginning of construction works.
- 4.1.4 To install a cellular confinement system the first step is to lay a geotextile on the ground. This is followed by the cellular confinement system, which is then filled with clean angular stone 4–20mm or 20–40mm with no fine material. Settlement of the stone is achieved by tracking the digger over the cells. A wearing course of resin-bound gravel, open textured asphalt would be suitable for the final surfacing.

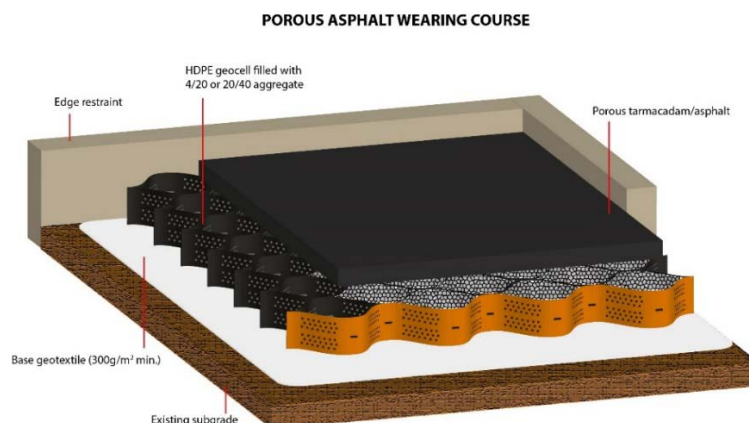


Figure A: An example of a cellular confinement system with porous asphalt.

- 4.1.5 Standard installations require a tracked excavator and a dumper truck. The excavator should be fitted with an un-toothed spreading bucket. The ground-pressure of a tracked excavator is sufficiently small to prevent soil compaction and so it may be used on unprotected ground; works should start at one end of the surface and work progressively past the trees so that the need for manoeuvring is reduced. However, the dumper should not be allowed to pass over unprotected soil. The dumper can tip stone directly into the cells and the spreading bucket of the excavator can be used to distribute the stone into the cells.
- 4.1.6 It will be necessary to take steps to create a relatively even surface beneath the area where the cellular confinement system is to be laid. A small degree of ground preparation may be required before the bottom geotextile is laid; this will involve the removal of up to uneven ground and surface vegetation. Rocks may be removed and any depressions may be filled with sharp sand or clean angular stone prior to the geocell being laid. No herbicide will be necessary because the geotextile and surface layers will be sufficient to prevent vegetation growth beneath the path.
- 4.1.7 The trenching required for conventional kerb edging set in concrete is likely to result in damaged roots and should be avoided. Edging is not required for the cellular confinement system but it will be required to retain the surface layer. Either kerb stones set above ground level or treated timber 'peg and board' edging is advised.
- 4.1.8 Cellular confinement system providers include Greenfix (Tel. 01608 666027); Wrekin ProtectaWeb (Tel: 01453 440440) and Core LP (Tel. 0800 118 2278).

4.2 Installing the cellular confinement system

- 4.2.1 When it is time to install the cellular confinement system the following procedure must be followed:
1. Ensure that all of the necessary materials are on site and an arboriculturist is on site to supervise the works.
 2. To prepare the ground any debris, mulch and vegetation will need to be removed from the soil surface. Any major protrusions such as rocks should be carefully removed by hand and a mini-digger with a grading bucket can be used to remove the very top layer of vegetation.
 3. Install the kerb stones in concrete that is laid on top of the geotextile. Wooden pegs may be used to further stabilise the kerb stones if required. Alternatively install peg and board edging, these must be treated timber boards (min 25mm thick) set above the existing ground level (so that root damage is avoided). Pegs will be required at 1m spacing to prevent the side boards from bowing.
 4. The area to be surfaced must be covered with a non-woven geotextile that will prevent different mineral materials mixing while allowing water to pass through. This geotextile must cover the entire area to be paved. If several sheets are required ensure that they overlap by at least 30cm.
 5. Once the surface is ready expand the cellular confinement panels to their full length. Pin the geogrid with staking pins to anchor open the cells and staple adjacent panels together to create a continuous mattress. Remove surplus cells using a Stanley knife with a hooked blade. Immediately adjacent panels shall be connected by providing four staples at each overlap.

6. The expanded panels shall be infilled with the appropriate aggregate (clean angular stone 4–20mm with no fine material). The cells need to be overfilled by 25mm to protect their upper edges from being bent out of shape. Construction vehicles may only track over cells that have already been stone-filled.



Figure A: An example of a cellular confinement system being laid.

7. Settlement of the gravel should be with 4 passes of a smooth roller (max weight of 1000kg/m width without vibration) or several passes with a mini-digger. Once the gravel has settled more should be added to provide 25mm excess above the upper edge of the cells.
8. Lay the permeable top dressing in the standard manner.
9. Once the top dressing has been installed a layer of topsoil and leaf litter may be applied to the soil surface near the trees to create a new gradient. This new layer must be no deeper than 250mm.

5 METHOD STATEMENT FOR SOIL EXCAVATIONS NEAR TREES

- 5.1.1 The agreed S278 works include larger drainage features which will require some of the trees to be removed but to retain as many trees as possible, small excavations will be required within the root protection areas of five retained trees (T433, T439, T473, T474 & T482). Drainage is also to be improved in the southern boundary so further excavations will be required near an oak tree within one group (G12).
- 5.1.2 In the areas immediately adjacent to the trees only hand tools should be used when excavating the soil, taking care not to damage underlying tree roots. Tracked vehicles may be used for the excavations if it not practical to excavate with hand tools but they must always be positioned beyond the tree's root protection area. If tracked vehicles are used then extra care must be taken not to disturb the soil with the bucket as this will damage underling roots.
- 5.1.3 When it is time carry out the excavations for the drainage improvement works from the areas indicated on the tree protection plans, the following procedure must be followed:
1. Ensure a suitable qualified arboriculturist is on site to supervise the works.
 2. Adjust the tree protection fencing to facilitate access to the area that requires excavation.
 3. Use hand tools to excavate the areas that require excavation or use a mini-digger if required to slowly pull away at the soil to create the new excavation.
 4. The excavation should stop as soon as roots are found. Roots less than 25mm in diameter may be severed using a sharp tool but roots larger than 25mm must be left intact wherever possible.
 5. Exposed roots should be covered over with a fresh layer of topsoil to avoid them from drying out.
 6. Re-install the tree protection fencing as per the tree protection plans.

6 AGENDA FOR ARBORICULTURAL SUPERVISION

- 6.1.1 There will be a pre-commencement site meeting between the project arboriculturist and the construction site manager. During this 'toolbox talk' the arboriculturist will explain how trees could potentially be damaged by construction works and discuss how such damage can be avoided, and the agreed methodology for the works will be fully explained. The toolbox talk will also provide an opportunity for the contractor to raise and issues with working methods or features that they think could potentially impact the retained trees. At this point the location and suitability of the tree protection fencing will be checked by the project arboriculturist. A record of this meeting will be produced by the arboriculturist and this will be supplied to the planning case officer.
- 6.1.2 The necessary ground preparation prior to the installation of the cellular confinement system will need to be carried out under arboricultural supervision. The supervising arboriculturist will make a record of this visit and make this available to the planning case officer.
- 6.1.3 Arboricultural supervision will also be required when carrying out the excavations near retained trees for the drainage improvement works. The supervising arboriculturist will make a record of this visit and make this available to the planning case officer
- 6.1.4 A final visit will be required at the end of the project when the fencing can be removed and soft landscaping operations discussed.

Table 1: Agenda for arboricultural supervision.

Item no.	Phase	Works description
1	Pre-commencement	Check of tree protection fencing, meeting with site manager and provision of toolbox talk.
2	Construction	Supervision of the ground works required to install the cellular confinement systems.
3	Construction	Supervision of the excavations works near T433, T439, T473, T474 & T482 to create the new drainage features for the approved S278 works.
4	End	Tree protection measures removed and subsequent landscaping operations discussed. Certificate of tree protection compliance issued by the project arboriculturist.

- 6.1.5 Supervision by a suitably qualified arboriculturist will also be required if any unforeseen construction activity is to take place within the root protection area of any trees retained on or near the site. The project arboriculturist and the local authority's arboricultural officer should be informed of necessary works near trees as soon as they become apparent.

Tree Schedule

Site: Land South of Summer Lane and West of Pagham Road, Pagham

Surveyor: Nick Baxter

Date of Survey: 6th July 2021



Tree Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T11	Elm	6	1	9	1	1	1	1	2	EM	G	<10	This tree will soon reach the age of getting Dutch elm disease.	No action required at present.	U
T12	Oak	8	1	48	5	2	5	5	3.5	M	F	20+	Minor crown dieback. The south side of the crown appears to have been trimmed back with a flail. Arboreal ivy. Ditch immediately to the north.	Fell to enable improved drainage works.	C2
T13	Oak	8	1	18	2.5	1	1.5	1.5	3	EM	F	20+	Minor crown dieback. Ditch immediately to the south. Ploughed field to the north.	No action required at present.	C2
T14	Oak	11	1	38	4.5	4.5	4.5	4.5	3	M	G	40+	Slight trunk lean to the north. Arboreal ivy. No obvious significant defects. Ditch immediately to the north.	Fell and remove the stump.	B1
T15	Field maple	7	MS	64	3	4	4	3	2	M	G	40+	Multi stemmed from base. Crown flailed on the east side. Arboreal ivy. No obvious significant defects. Ditch immediately to the west. Ploughed field to the east.	Fell and remove the stump.	C2
T16	Field maple	7	MS	64	3	4	4	3	2	M	G	40+	Multi stemmed from base. Crown flailed on the east side. Arboreal ivy. No obvious significant defects. Ditch immediately to the west. Ploughed field to the east.	Fell and remove the stump.	C2
T401	Ash	10	1	53	5	3	5	5	3	M	F	20+	Minor crown dieback. Past crown lift over road. A ditch lies directly north of the tree.	Fell as already agreed in accordance with planning ref P/140/16/OUT.	C2
T402	Ash	10	1	64	3	4	5	5	2.5	M	F	20+	Minor crown dieback. Past crown lift over road.	Fell as already agreed in accordance with planning ref P/140/16/OUT.	C2
T415	Sycamore	9	1	30	3.5	3.5	4	2.5	3.5	M	G	40+	Past crown lift. Upper crown leans to the east. No obvious significant defects. Ditch immediately to the west.	Fell as already agreed in accordance with planning ref P/140/16/OUT.	C2
T416	Sycamore	12	1	45	6.5	7	6	5	4	M	G	40+	Past crown lift. Upper crown leans to the east. No obvious significant defects. Ditch immediately to the west.	Fell as already agreed in accordance with planning ref P/140/16/OUT.	B2

A key explaining each category is provided at the rear of the schedule

Tree Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T417	Sycamore	8	1	38	4	4	5	5	4	M	G	40+	Past crown lift over the field. A ploughed field lies 2m to the west and a ditch to the east.	Fell as already agreed in accordance with planning ref P/140/16/OUT.	B2
T418	Oak	8	1	20	2	3	4	4	3	EM	F	40+	Suppressed crown. A ploughed field lies 2m to the west and a ditch to the east.	No action required at present.	C2
T419	Oak	7	2	23	3	2	3	3	3	EM	F	40+	Suppressed crown. A ploughed field lies 2m to the west and a ditch to the east.	Fell to enable the agreed S278 works.	C2
T420	Oak	9	1	63	6	4	6	6	4	M	G	40+	Arboreal ivy. No obvious significant defects. A ploughed field lies 2m to the west and a ditch to the east.	Fell to enable the agreed S278 works.	B2
T421	Sycamore	6	1	27	2.5	2	3	3	3	EM	P	10+	Dieback in lower crown from farm machinery damage. Arboreal ivy. A ploughed field lies 2m to the west and a ditch to the east.	No action required at present.	U
T422	Sycamore	6	1	18	2	2	2	2	3	EM	F	20+	Dieback in lower crown from farm machinery damage. A ploughed field lies 2m to the west and a ditch to the east.	No action required at present.	C2
T423	Field maple	5	1	20	2	2	2	2	3	EM	F	20+	Dieback in lower crown from farm machinery damage. A ploughed field lies 2m to the west and a ditch to the east.	Fell as already agreed in accordance with planning ref P/140/16/OUT.	C2
T433	Field maple	5	3	20	3	2	2	2	4	EM	G	40+	Dieback in lower crown from farm machinery damage. A ploughed field lies 1m to the west and a ditch to the east. Protected by a TPO (TPO/P/3/19).	No action required at present.	C2
T434	Oak	8	1	35	4.5	2	5	4	4	M	G	40+	Minor damage to lower branches on west side from farm machinery. A ploughed field lies 1m to the west and a ditch to the east. Protected by a TPO (TPO/P/3/19).	Fell to enable the agreed S278 works.	B2
T435	Sycamore	7	1	37	2	3	4	3	4	M	F	20+	Crown dieback. Minor damage to lower branches on west side from farm machinery. A ploughed field lies 1m to the west and a ditch to the east. Protected by a TPO (TPO/P/3/19).	Fell to enable the agreed S278 works.	C2
T436	Oak	6	1	19	2	2	2	2	3	EM	G	40+	No obvious significant defects. A ploughed field lies 1m to the west and a ditch to the east. Protected by a TPO (TPO/P/3/19).	Fell to enable the agreed S278 works.	C1
T437	Goat willow	5	3	31	4	4	4	4	4	M	G	40+	Multi stemmed from base. Damage to lower crown on west side. A ploughed field lies 1m to the west and a ditch to the east. Protected by a TPO (TPO/P/3/19).	Fell to enable the agreed S278 works.	C2

A key explaining each category is provided at the rear of the schedule

Tree Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T438	Oak	5	2	20	2	2	3	0.5	2	EM	G	40+	Suppressed crown. A ploughed field lies 1m to the west and a ditch to the east. Protected by a TPO (TPO/P/3/19).	Fell to enable the agreed S278 works.	C2
T439	Oak	9	1	45	5.5	3	6	5	4	M	G	40+	Crown extends from 2m. Minor damage to lower branches on west side from farm machinery. No obvious significant defects. A ploughed field lies 1m to the west and a ditch to the east. Protected by a TPO (TPO/P/3/19).	No action required at present.	B2
T440	Oak	8	2	25	2	3	5	4	4	EM	F	40+	Minor crown dieback. A ploughed field lies 1m to the west and a ditch to the east. Protected by a TPO (TPO/P/3/19).	No action required at present.	C2
T441	Oak	8	1	32	4	4	5	5	3	M	G	40+	Minor crown dieback. A ploughed field lies 1m to the west and a ditch to the east. Protected by a TPO (TPO/P/3/19).	No action required at present.	B2
T442	Ash	8	2	27	4.5	4.5	4.5	4.5	3	M	G	40+	Minor damage to lower branches on west side from farm machinery. A ploughed field lies 1m to the west and a ditch to the east. Protected by a TPO (TPO/P/3/19).	No action required at present.	B2
T443	Ash	7	1	44	4.5	4.5	4.5	4.5	3	M	G	40+	Recent branch failure at 3m. Past crown lift. A ploughed field lies 1m to the west and a ditch to the east. Protected by a TPO (TPO/P/3/19).	No action required at present.	B2
T444	Field maple	5	1	25	4.5	1	4	1	2	M	G	40+	Three stems from 2m. Windswept crown leans to the north. No obvious significant defects. Ditch immediately to the east.	No action required at present.	C2
T445	Sycamore	8	3	26	3.5	3.5	3.5	3.5	3	M	G	40+	Crown lift on west side over field. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2
T446	Sycamore	8	2	27	3.5	3.5	3.5	3.5	3	M	F	20+	Crown lift on west side over field. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2
T447	Sycamore	10	1	48	5	5	5	4	3	M	G	40+	Roadside tree. Three stems from 2m. Past crown lift on east side over road. No obvious significant defects. Ditch immediately to the west.	No action required at present.	B2
T448	Sycamore	12	1	48	6.5	7	6	5	4	M	G	40+	Roadside tree. Three stems from 2m. Past crown lift on east side over road. No obvious significant defects. Ditch immediately to the west.	No action required at present.	B2

A key explaining each category is provided at the rear of the schedule

Tree Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T449	Oak	9	1	45	4	4	5	2	4	M	G	40+	Arboreal ivy. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east. Tree not tagged.	No action required at present.	B2
T450	Oak	7	1	28	2	1	4	2	4	EM	P	<10	Crown dieback. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	U
T451	Ash	6	1	13	1	1	1	1	3	SM	F	40+	Small self sown tree. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C1
T452	Oak	6	1	27	3	2	4	3	3	EM	F	20+	Crown extends east. Minor crown dieback. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2
T453	Ash	8	1	25	3	0.5	3	1	3	M	F	<10	Major crown dieback as a result of Chalara ash dieback. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	U
T454	Oak	8	1	45	5	5	6	4	4	M	G	40+	Arboreal ivy. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B2
T455	Oak	5	1	25	3	3	5	4	3	EM	G	40+	Minor damage to lower branches on west side from farm machinery. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2
T456	Ash	5	1	32	4	2	4	2	3	M	G	40+	Low crown. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2
T457	Ash	9	1	28	4	2	4	2	4	EM	F	10+	Crown dieback. Two stems extend from 2m. Crown extends north away from larger companion. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2
T458	Ash	11	1	45	4	2	5	4	4	M	G	40+	Arboreal ivy. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B2
T459	Oak	9	1	48	3	3	4	5	3	M	G	40+	Arboreal ivy. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B2
T460	Sycamore	8	1	55	3	5	5	5	3	M	G	40+	Arboreal ivy. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B2
T461	Sycamore	16	1	48	6.5	6.5	5	6	3.5	M	G	40+	Slight crown lean to the east. No obvious significant defects. Prolific arboreal ivy. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B2
T462	Cherry	5	2	23	4.5	4.5	4.5	4.5	3	M	P	<10	Two stems from base. Major crown dieback. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	U

A key explaining each category is provided at the rear of the schedule

Tree Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T463	Goat willow	4	MS	29	4	2	3	2	1	EM	G	40+	Multi stemmed from base. Damage to lower crown on west side. Situated on the edge of the ditch.	No action required at present.	C1
T464	Oak	5	1	29	3	3	3	3	2	EM	G	40+	Arboreal ivy. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	Fell to enable space for the attenuation pond.	C2
T465	Goat willow	6	MS	29	4	1	3	3	2	M	G	40+	Multi stemmed from base. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2
T466	Goat willow	7	MS	29	4	1	3	3	2	M	G	40+	Multi stemmed from base. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2
T467	Sycamore	7	MS	40	4	4	4	4	3	M	G	40+	Multi stemmed from base. Arboreal ivy. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B2
T468	Sycamore	8	1	35	5	5	5	5	3	M	P	<10	Major crown dieback. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	U
T469	Ash	7	1	28	4	4	4	4	3	M	G	40+	No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	Fell to enable the agreed S278 works.	B2
T470	Ash	7	2	25	3	3	3	3	3	EM	G	40+	Two stems from base. Arboreal ivy. Ploughed field to the west. Large ditch immediately to the east.	Fell as already agreed in accordance with planning ref P/140/16/OUT.	C2
T471	Ash	7	1	26	3	3	3	3	3	EM	G	40+	Arboreal ivy. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	Fell as already agreed in accordance with planning ref P/140/16/OUT.	C2
T472	Sycamore												This tree has now been removed.		
T473	Whitebeam	7	1	25	3	3	3	3	3	M	G	40+	Arboreal ivy. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B1
T474	Goat willow	4	MS	22	2.5	2.5	2.5	2.5	1	EM	G	20+	Multi stemmed from base. Ploughed field to the north. Large ditch immediately to the south	No action required at present.	C2
T479	Oak	9	1	50	4.5	4.5	4.5	4.5	3	M	G	40+	Two stems extend from 3m. Arboreal ivy. Ploughed field to the west. Large ditch immediately to the east.	Fell to enable the agreed S278 works.	B2
T480	Field maple	5	2	17	2	2	2	2	2	EM	G	40+	Suppressed crown. Arboreal ivy. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2

A key explaining each category is provided at the rear of the schedule

Tree Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T481	Goat willow	4	MS	45	3	3	3	3	2	M	G	40+	Multi stemmed from base. Ploughed field to the west. Large ditch immediately to the east.	Fell as already agreed in accordance with planning ref P/140/16/OUT.	C2
T482	Ash	7	1	55	4	4	4	4	4	M	G	40+	Symmetrical crown. Arboreal ivy. Tree not tagged. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B2
T483	Whitebeam	4	1	18	3	3	2	2	3	M	G	40+	Past machinery damage to lower crown. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C1
T484	Oak	3	1	15	2	2	2	2	2	EM	G	40+	No obvious significant defects. Ploughed field 3m to the west. Large ditch immediately to the east.	No action required at present.	C2
T485	Hawthorn	4	MS	15	2	2	2	2	2	EM	G	40+	No obvious significant defects.	No action required at present.	C2
T486	Field maple	5	2	21	3	3	3	3	3	EM	G	40+	Two stems from base. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2
T487	Field maple	5	3	25	3	3	3	3	3	EM	G	40+	No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2
T488	Field maple	5	3	31	3.5	3.5	3.5	3.5	3	M	G	40+	Minor damage to lower branches on west side from farm machinery. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B1
T489	Elm	5	1	9	1	1	1	1	2	EM	G	<10	This tree will soon reach the age of getting Dutch elm disease. Tree not tagged.	No action required at present.	U
T490	Elm	7	1	12	1	1	1	1	2	EM	D	<10	Standing dead tree. Tree not tagged.	No action required at present.	U
T491	Whitebeam	5	1	18	1	2	2	2	3	M	P	<10	Major crown dieback. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	U
T492	Ash	7	1	24	3	3	3	3	4	M	G	40+	No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B2
T493	Whitebeam	5	1	21	1.5	1.5	1.5	1.5	3	M	G	40+	Suppressed crown. Recent branch torn in lower crown. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	C2
T494	Whitebeam	5	2	26	3	3	3	3	3	M	G	40+	Two stems from base. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B2

A key explaining each category is provided at the rear of the schedule

Tree Number	Tree Species	Height (m)	Number of Stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch (m)	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
T495	Elm	6	1	10	1	1	1	1	2	EM	G	<10	This tree will soon reach the age of getting Dutch elm disease. Tree not tagged.	No action required at present.	U
T496	Elm	6	1	10	1	1	1	1	2	EM	G	<10	This tree will soon reach the age of getting Dutch elm disease. Tree not tagged.	No action required at present.	U
T497	Elm	6	1	10	1	1	1	1	2	EM	G	<10	This tree will soon reach the age of getting Dutch elm disease. Tree not tagged.	No action required at present.	U
T498	Elm	6	1	10	1	1	1	1	2	EM	G	<10	This tree will soon reach the age of getting Dutch elm disease. Tree not tagged.	No action required at present.	U
T499	Ash	8	1	38	5	5	5	5	3	M	G	40+	Arboreal ivy. No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B2
T500	Field maple	8	1	48	5	5	5	5	3	M	G	40+	No obvious significant defects. Ploughed field to the west. Large ditch immediately to the east.	No action required at present.	B2

A key explaining each category is provided at the rear of the schedule

Group Schedule

Site: Land South of Summer Lane and West of Pagham Road, Pagham

Surveyor: Nick Baxter

Date of Survey: 6th July 2021



Group Number	Tree Species	Number in Group	Height (m)	Number of stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
G2	Leyland cypress and field maple	3	11	1	25	4	4	5	4	2	M	G	40+	Arboreal ivy. Multi stemmed from 2m. No obvious significant defects. Large ditch immediately to the east.	No action required at present.	C2
G3	Field maple and ash	7	9	1	35	4	4	4	4	3	M	G	40+	These have all been crown lifted over both the road on the field. No obvious significant defects. Tag no's. 403-410.	Remove these trees as already agreed in accordance with planning ref P/140/16/OUT.	B2
G4	Sycamore	4	9	1	35	4	4	4	4	3	M	G	40+	These have all been crown lifted over the road. No obvious significant defects. A ditch lies to the east of these trees. Tag no's. 411-414.	Remove these trees as already agreed in accordance with planning ref P/140/16/OUT.	B2
G5	Oak and sycamore	8	10	1	30	2	2	4	4	3	M	G	40+	These have all been crown lifted over the field. No obvious significant defects. A ditch lies to the east of these trees and a ploughed field 1-2m to the west. Tag no's. 424-432.	Remove these trees as already agreed in accordance with planning ref P/140/16/OUT.	B2
G6	Oak	4	8	1	30	4	4	4	4	3	M	G	40+	Arboreal ivy. No obvious significant defects. A ditch lies to the west of these trees and a ploughed field 1-2m to the east. Tag no's. 475-478.	Remove these trees as already agreed in accordance with planning ref P/140/16/OUT.	B2
G11	Elm	5	9	1	12	1.5	1.5	1.5	1.5	2	EM	G	<10	This group will soon reach the age of getting Dutch elms disease. Ditch immediately to the north.	No action required at present.	U
G12	Ash and oak	5	14	1	25	4	4	4	4	5	M	G	40+	Arboreal ivy. No obvious significant defects. One oak within this tree-group is protected by a TPO. Ditch immediately to the north.	Partially remove this tree group as indicated on the tree removal plans (TR-1 & TR-2) to enable improved	B2
G13	Elm	5	3	1	9	1	1	1	1	1	SM	F	<10	This group will soon reach the age of getting Dutch elms disease. Ditch immediately to the east.	No action required at present.	U
G14	Goat willow	4	6	MS	30	5	7	7	2.5	2	M	G	20+	Multi stemmed from base. Recent pruning work on the west side for clearance of farm track. Growing on the south side of a ditch.	Remove these trees as already agreed in accordance with planning ref P/140/16/OUT.	C2

A key explaining each category is provided at the rear of the schedule

Group Number	Tree Species	Number in Group	Height (m)	Number of stems	Stem Ø (cm)	N - Radius (m)	S - Radius (m)	E - Radius (m)	W - Radius (m)	1st Branch	Age Class	Overall Health	ULE (Years)	Tree Structural Condition & Site Notes	Recommended Management	Category
G15	Blackthorn	20	4	1	9	2	2	2	2	2	M	G	20+	Blackthorn scrub. Brambles growing within group.	No action required at present.	C2
G16	Hybrid black poplar	40	22	1	45	4	4	8.5	8.5	4	M	G	40+	A linear planting of trees acting as a screen and shelterbelt for the buildings behind. Prominent trees in the landscape. Arboreal ivy. Ploughed field to the east of this group.	No action required at present.	B2
G17	Willow	7	5	1	15	3	3	3	3	1	M	G	40+	Dense area of willow scrub.	Remove.	C2
G18	Field maple	2	7	1	25	4	4	4	4	3	M	F	20+	No obvious significant defects. Growing to the west side of a farm track and ditch.	No action required at present.	C2
G19	Leyland cypress	3	15	1	55	4	4	4	4	4	M	F	40+	Previously reduced in height. Hanging branch in crown.	No action required at present.	C2
G20	Oak, elm, hawthorn and pine	10	14	1	30	4	4	4	4	4	M	G	40+	This is an old field boundary hedgerow with oak and pine that have established through the middle.	No action required at present.	B2
G21	White willow	4	17	1	70	7	7	7	7	4	M	G	40+	Large trees at the edge of the field. Ploughed field to north.	No action required at present.	B2

A key explaining each category is provided at the rear of the schedule

Hedge Schedule

Site: Land South of Summer Lane and West of Pagham Road, Pagham

Surveyor: Nick Baxter

Date of Survey: 6th July 2021



Hedge Number	Tree Species	Height (m)	No. of Stems	Stem Ø (cm)	Width (m)	Length (m)	Age Class	Overall Health	ULE (Years)	Condition & Notes	Recommended Management	Category
H1	Sycamore and blackthorn	6	MS	10	2	20	EM	G	20+	These appear to be self sown trees that now act as a field boundary hedgerow.	Remove a 4m length from the northern end (as indicated in the tree removal plan, TR-1D). This has already been agreed in accordance with planning ref P/140/16/OUT.	C2
H2	Hawthorn, blackthorn and willow	6	MS	9	2	30	EM	G	20+	This is a field boundary hedgerow. It seems that it has never been managed. Ploughed field to the west of this hedge. Large ditch immediately to the east.	No action required at present.	C2
H3	Hawthorn, blackthorn and willow	4	MS	9	3	135	EM	F	20+	This is a field boundary hedgerow. It seems to be flailed on the west side. Ploughed field to the west of this hedge. Large ditch immediately to the east.	Remove a 52m section of this hedgerow (as indicated in the tree removal plan, TR-1D). This has already been agreed in accordance with planning ref P/140/16/OUT.	C2
H4	Blackthorn and elm	5	MS	10	1.5	15	EM	G	20+	This is a field boundary hedgerow. It seems to be flailed on the west side. Ploughed field to the west of this hedge. Large ditch immediately to the east.	No action required at present.	C2
H5	Blackthorn	2	MS	9	2	5	EM	G	20+	This is a field boundary hedgerow. It seems to be flailed. Ditch immediately to the north.	Remove.	C2
H6	Blackthorn and hawthorn	3	MS	10	2	75	M	G	20+	Few gaps. This is a field boundary hedgerow. It seems to be flailed. Ditch immediately to the north.	Remove.	C2
H7	Blackthorn	3	MS	10	2	25	M	G	20+	Few gaps. This is a field boundary hedgerow. It seems to be flailed. Ditch immediately to the south.	No action required at present.	C2
H8	Blackthorn and willow	4	MS	10	3	30	M	G	20+	This is a field boundary hedgerow. It seems to be partly flailed. Ditch immediately to the east.	No action required at present.	C2

A key explaining each category can be found at the rear of the schedule.

Tree Schedule - KEY

Tree/Group/Hedge Number

Tree, tree-groups or hedges have been allocated a number for the purpose of this survey. Numbers within the Tree Schedule relate to those marked on the Tree Removal Plan and Tree Protection Plan drawings.

Trees protected by a tree preservation order (TPO) are highlighted by grey colouration in the tree schedule.

Species

Common names are listed.

Number in Group

Number of trees within a group. A group of trees may comprise of more than one species.

Height (m)

All heights are estimated in metres.

Number of Stems

The number of stems is either 1, 2, 3, 4, 5 or MS (multi-stemmed). This feature influences how the area of the recommended root protection area is calculated.

Stem or Combined Diameter (cm)

Single stem diameters are measured at 1.5m with a diameter tape. The combined stem diameters for trees with up to five stems and trees with more than five stems (MS) trees are calculated in accordance with the guidance.

Crown Spread Radius (m)

The crown radius from tree trunk to crown limit identified at the four cardinal points (N, S, E and W) in order to allow presentation of the above ground constraints on the Tree Protection Plan.

Measurements are approximate and recorded to the nearest half metre.

1st Branch (m)

This is a record of the height of the lowest branch. This is useful when planning access routes or considering if pruning will be required to site new features under a tree crown.

Age Class

(Y) Young, (SM) Semi-Mature, (EM) Early-Mature, (M) Mature, (FM) Fully-Mature or (V) Veteran.

Overall Health

An overall assessment of the physiological condition of the tree recorded as (G) Good, (F) Fair, (P) Poor, (D) Dead.

ULE (Years)

Useful Life Expectancy. Anticipated future contribution to amenity, in years.

Tree Structural Condition & Site Notes

Observations on the form of the tree, condition and structural integrity.

Site notes are detailed when relevant to the growth conditions or rooting constraints.

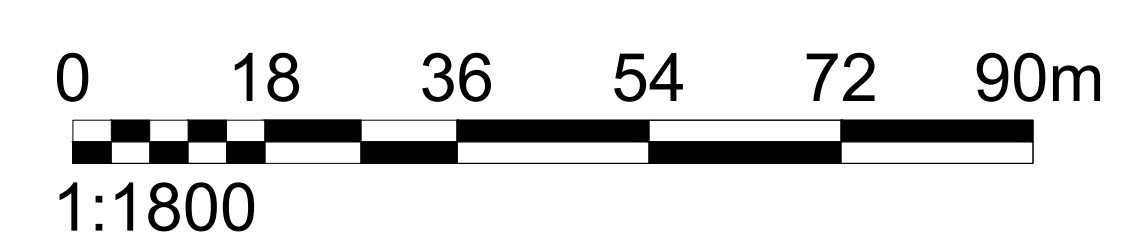
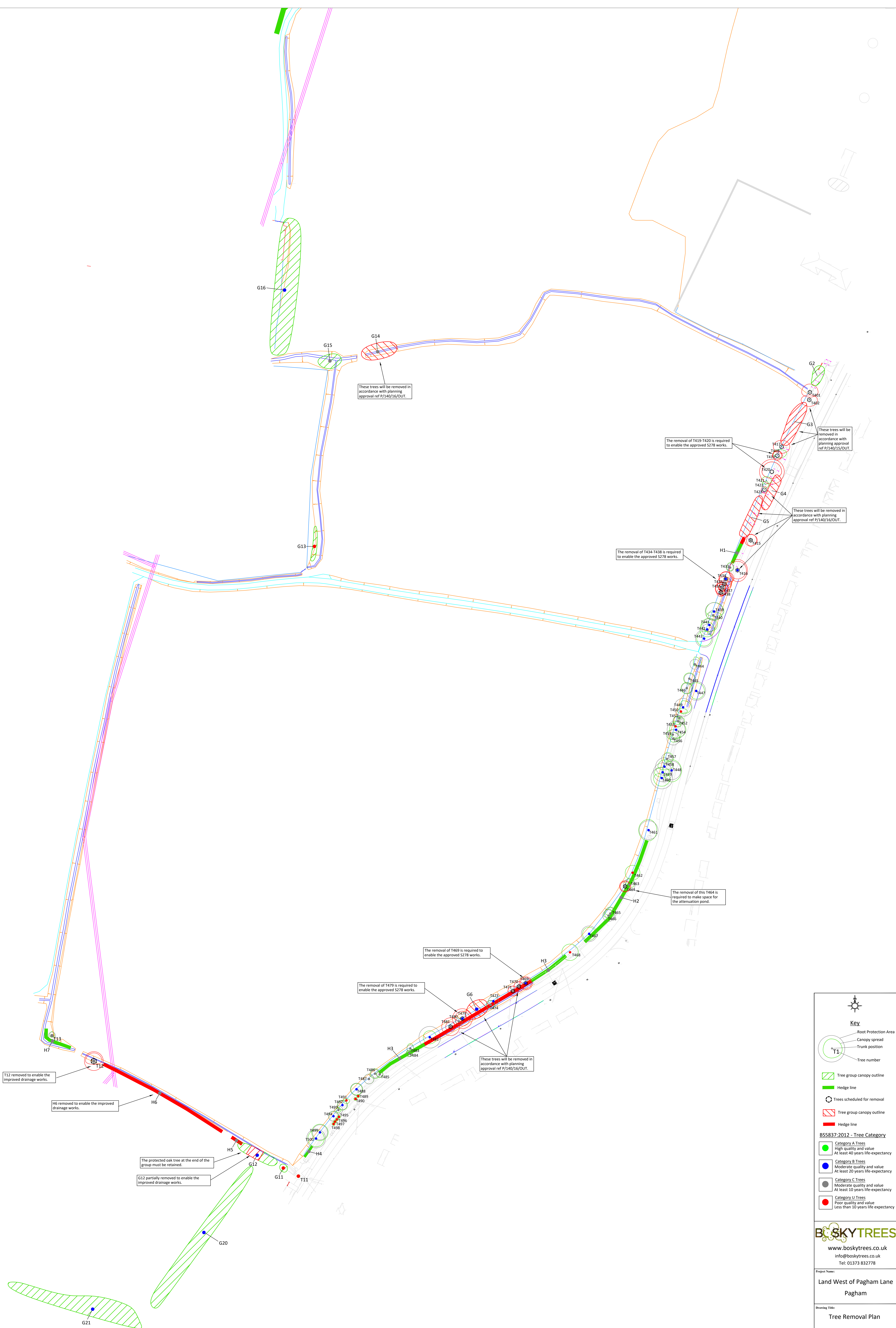
Management Recommendations

Recommended tree surgery works to be carried out prior to construction. Terminology used is based on guidance detailed in BS3998:2010 – Recommendations for tree work¹.

Category

Tree category as defined within BS5837:2012. Categories A (high quality), B (moderate quality) and C (low quality) are trees that should be considered for retention. Category U trees are unsuitable for retention.

¹ British Standards Institution (2010). BS3998 - Recommendations for Tree Work. BSI, London.





Key

-  Root Protection Area
-  Canopy spread
-  Trunk position
-  Tree number

-  Tree group canopy outline
-  Hedge line
-  Trees scheduled for removal
-  Tree group canopy outline
-  Hedge line

B55837:2012 - Tree Category

	Category A Trees High quality and value At least 40 years life-expectancy
	Category B Trees Moderate quality and value At least 20 years life-expectancy
	Category C Trees Moderate quality and value At least 10 years life-expectancy
	Category U Trees Poor quality and value Less than 10 years life-expectancy

BOSKYTREES

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Tel: 01373 832778

Project Name:

Land West of Pagham Lane

Pagham

Tree Removal Plan

Drawing Number:	Revision
TR-2	I

(Scale)

Pagham Homes

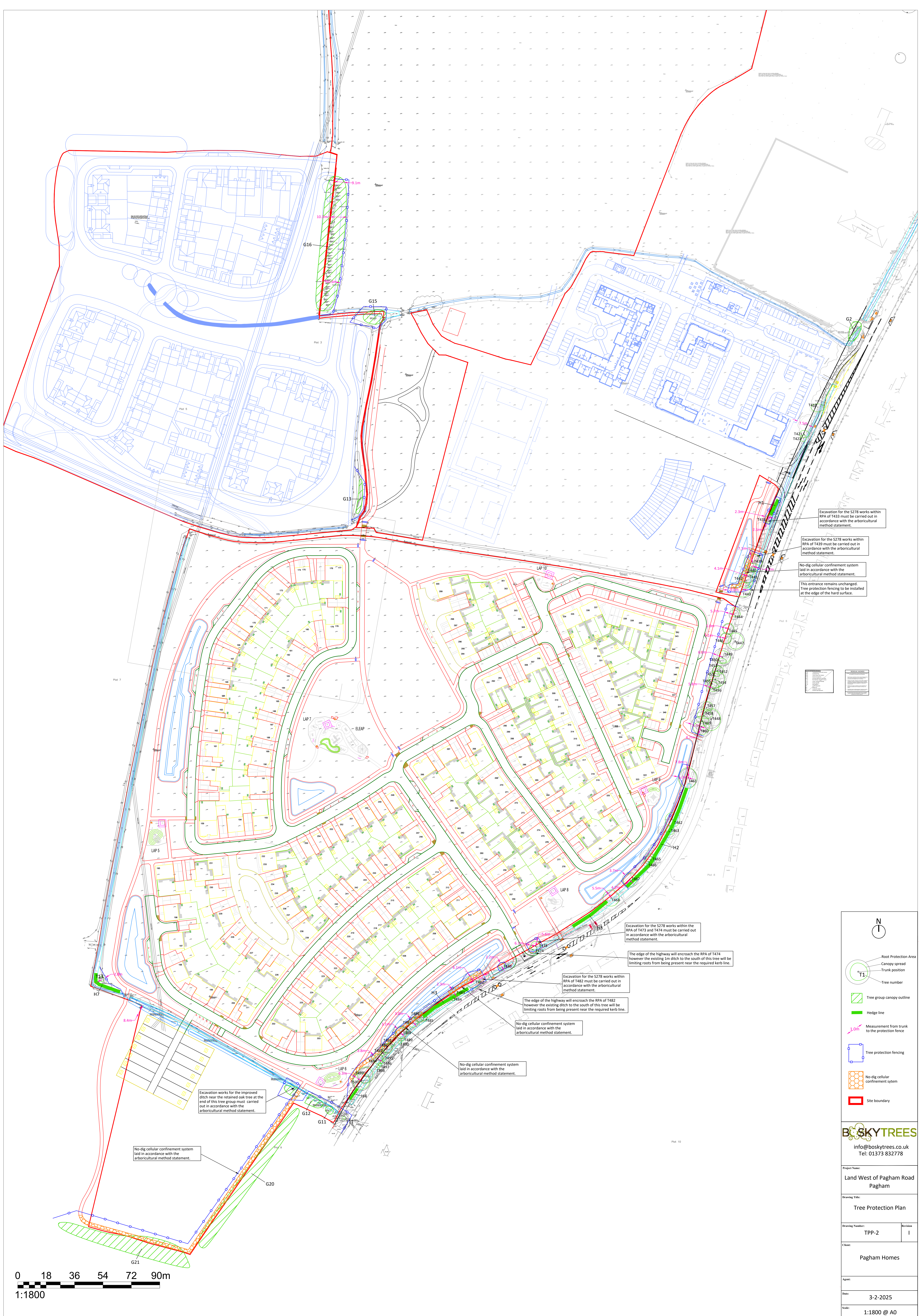
Agent:

Date:

3-2-2025

Asker:

1:1800 @ A0



Excavation for the S278 works within RPA of T433 must be carried out in accordance with the arboricultural method statement.

Excavation for the S278 works within RPA of T439 must be carried out in accordance with the arboricultural method statement.

No-dig cellular confinement system laid in accordance with the arboricultural method statement.

This entrance remains unchanged. Tree protection fencing to be installed at the edge of the hard surface.

Excavation for the S278 works within the RPA of T473 and T474 must be carried out in accordance with the arboricultural method statement.

The edge of the highway will encroach the RPA of T474 however the existing 1m ditch to the south of this tree will be limiting roots from being present near the required kerb line.

Excavation for the S278 works within RPA of T482 must be carried out in accordance with the arboricultural method statement.

The edge of the highway will encroach the RPA of T482 however the existing ditch to the south of this tree will be limiting roots from being present near the required kerb line.

No-dig cellular confinement system laid in accordance with the arboricultural method statement.

No-dig cellular confinement system laid in accordance with the arboricultural method statement.

Excavation works for the improved ditch near the retained oak tree at the end of this tree group must be carried out in accordance with the arboricultural method statement.

No-dig cellular confinement system laid in accordance with the arboricultural method statement.

N

T1

Root Protection Area

Canopy spread

Trunk position

Tree number

Tree group canopy outline

Hedge line

Measurement from trunk to the protection fence

Tree protection fencing

No-dig cellular confinement system

Site boundary

0

18

36

54

72

90m

1:1800

BOSKY TREES

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Tel: 01373 832778

Project Name:

Land West of Pagham Road Pagham

Drawing Title:

Tree Protection Plan

Drawing Number:

TPP-2

Client:

Pagham Homes

Agmt:

Date:

3-2-2025

Scale:

1:1800 @ A0