

Appendix 1 Tree survey and explanatory notes

Estimated

Site: Land adj 1 High Street Lesiton
 Date of Survey: 02/12/2022 Rev 09 02 24
 Arboricultural Consultant/Surveyor: J Choat
 Weather: Overcast/light wind

Tree ref	Species	Height in m	Stem diameter in mm	RPA in M2	distance required for RPA	Branch spread				crown clearance in m	Age class	Ground condition	Water demand	Observations	Preliminary management recommendations	Works urgency	remaining contribution in years	Category grading
						N	E	S	W									
T1	<i>Oak Quercus robur</i>	17	1600	1158.26688	19.2	6	6	6	6	1-2	M	Grass / Bare soil	High	Lapsed pollard with veteran associations (decay column, fungus, deadwood). 1 Pollard stem (north side) has failed (historical) resulting in large tear wound and decay within stem. Old decayed fungal fruit body within pollard head and at base, likely <i>Fistulina hepatica</i> , evidence of cubical brown rot. Low epicormic / lower crown. Recent high pollard / crown reduction, good vigorous regrowth at pruning point (15-25cm extension growth), good inner crown as a result of crown reduction. Ivy clad stem.	Sever ivy around base from ground level to 1m up stem, do not remove lower crown / epicormic growth.	3	30+	A2/3
T2	<i>Holly Ilex aquifolium</i>	3	100	4.52448	1.2	1	1	1	1	1	Y	Grass / Bare soil	Low	Good condition.	Do not allow to compete with Oak.	3	10+	C1
T3	<i>Sycamore Acer pseudoplatanus</i>	15	280	35.4719232	3.36	3	3	3	3	2	EM	Grass / Bare soil	Moderate	Compression fork at 3m.	None	0	20+	C1
T4	<i>Ash Fraxinus excelsior</i>	13	300	40.72032	3.6	3	3	3	3	2	EM	Grass / Bare soil	Moderate	Ivy clad unable to assess.	Sever ivy around base from ground level to 1m up stem.	3	20+	C1

Explanatory Notes

Referencing

Each tree is given a unique reference number and plotted on the attached plans for clear identity. Individual trees are referenced as T1, T2 etc., Groups G1, G2 etc. Hedgerows H1, H2 etc. and Woodlands W1, W2 etc.

Species

All species are recorded using common names. Identification is made using experience and knowledge.

Tree dimensions

Tree height is measured and recorded in meters and taken from the base of the stem to the tip of the crown. Height is estimated using experience and knowledge.

Diameter at Breast Height (DBH) is measured at approximately 1.5m from the ground up the stem and is measured and recorded in millimeters. DBH is measured accurately using a diameter tape.

Crown spread is measured in meters from the stem to the extent of the crown spread to each compass point (NESW). Crown spread is estimated using experience and knowledge.

Crown clearance is the height from ground level to the lowest branch and is measured in meters. Crown clearance is estimated using experience and knowledge.

Age class

Age class falls in to 4 categories:

Y	Young
EM	Early Mature
M	Mature
OM	Over Mature

Observations

The biological condition of the tree is assessed and noted. Notable defects are recorded; fruiting bodies, cankers, die back, exudates, etc. are recorded.

The mechanics of the tree are assessed and noted. Notable defects are recorded; buckling, rib formation, stresses, bulges, soil cracks, large cavities or wounds, tight branch junctions, etc. are recorded.

Preliminary management recommendations

Tree management is recommended following the assessment of physiological and structural condition. Recommended works may include, no work required, crown reduction, crown lift, fell, crown thin, monitor etc.

Estimated remaining contribution in years

An estimate of remaining life expectancy recorded in years. Estimated remaining contribution is made using experience considering the structural and physiological condition of the tree, nuisance, previous management, etc.

Category grading and colour coding on plan

A (Green square) high quality and value

B (Blue square) moderate quality and value

C (Grey square) low quality and value

U (Red Square) those that cannot be retained as living trees

Sub categories

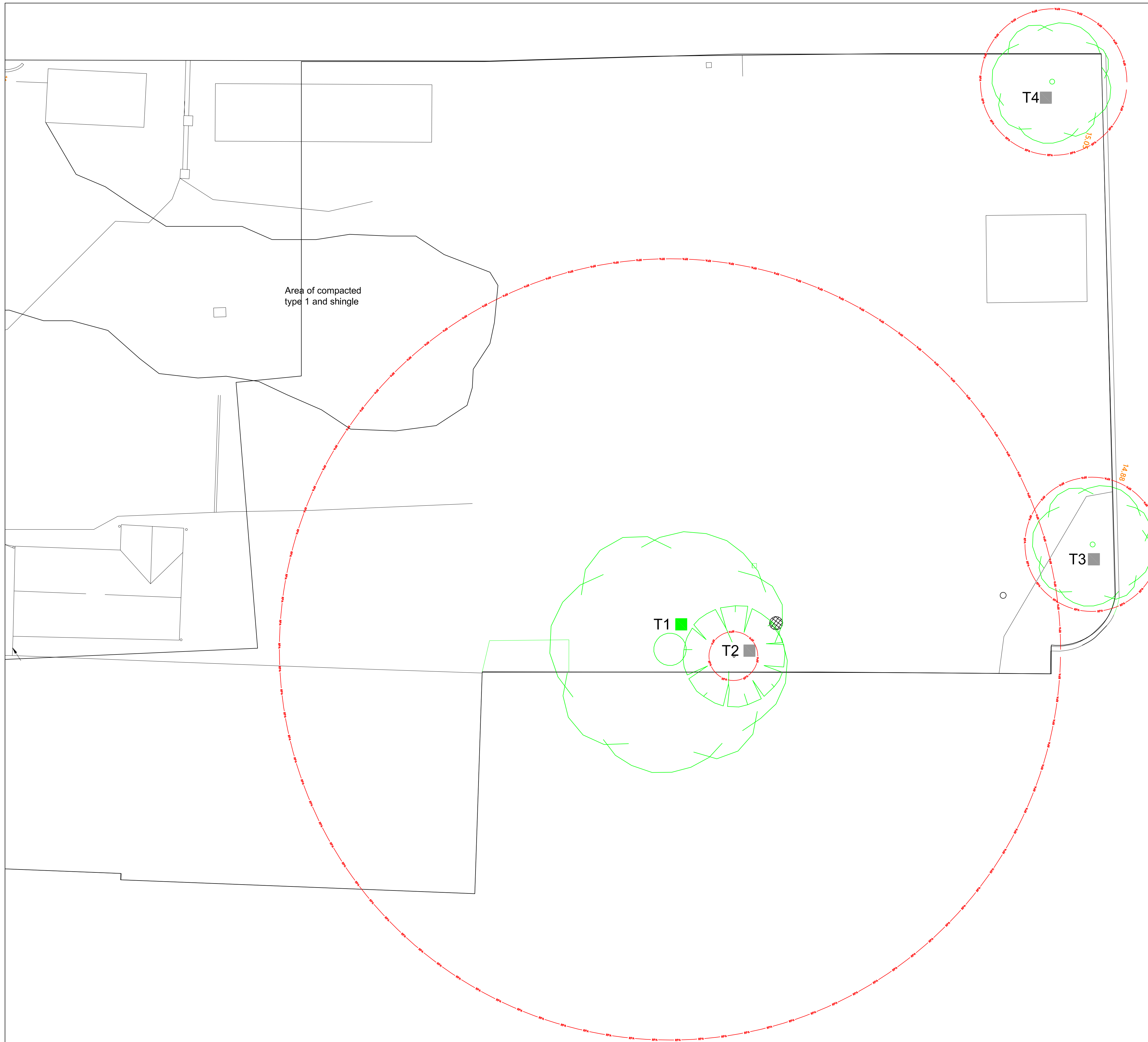
- 1 arboricultural values
- 2 landscape values
- 3 cultural values, including conservation

Works priority

- 1 Works required immediately to make the tree safe
- 2 Works required within 60 days
- 3 Works required as part of routine operations
- 0 no works required

TPS

Appendix 2 Tree survey and constraints plan

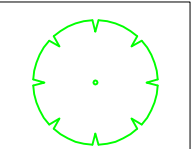


Legend:

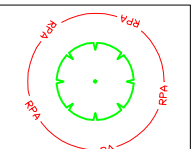
Tree reference



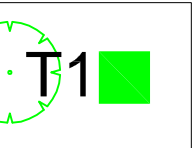
Tree and crown spread



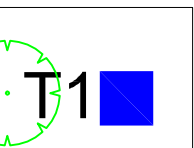
Root protection area



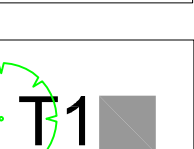
BS 5837 Retention Category A



BS 5837 Retention Category B



BS 5837 Retention Category C



BS 5837 Retention Category U



Notes:

This drawing was produced in colour; a monochrome copy should not be relied upon.

Project:

Land adj 1 High Street, Leiston

Drawing Title:

Tree Survey and Constraints Plan

TPS

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Scale: 1:100 @ A1

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Appendix 3 Barrier construction profile

Permission to reproduce extracts from BS 5837:2012 is granted by the British Standards Institution (BSI). No other use of this material is permitted. The complete British Standard can be purchased from the BSI online shop: <http://shop.bsigroup.com/en/ProductDetail/?pid=00000000030213642>

Diagram 1 Weldmesh panels with block supports pegged to brace light impact

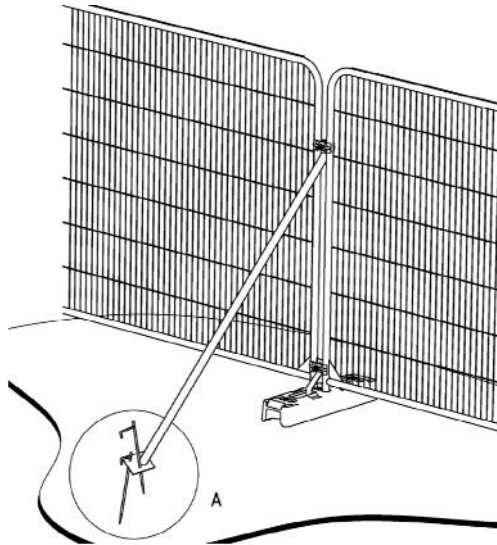


Diagram 2 Weldmesh panels with block supports and further block supports to brace intermediate impacts

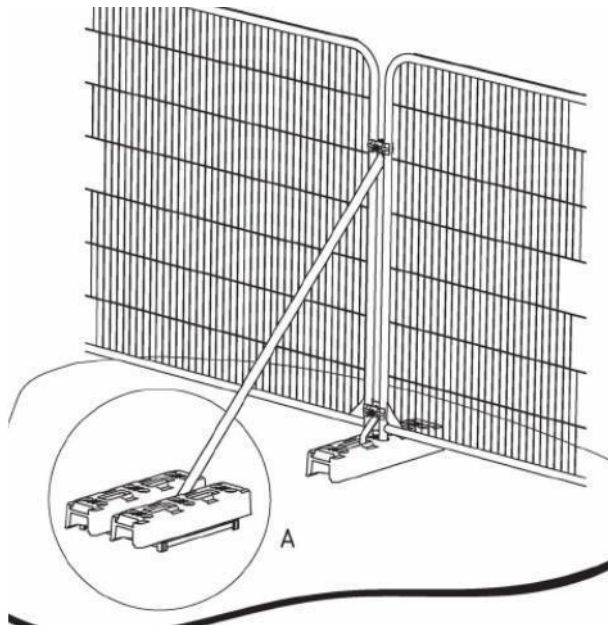
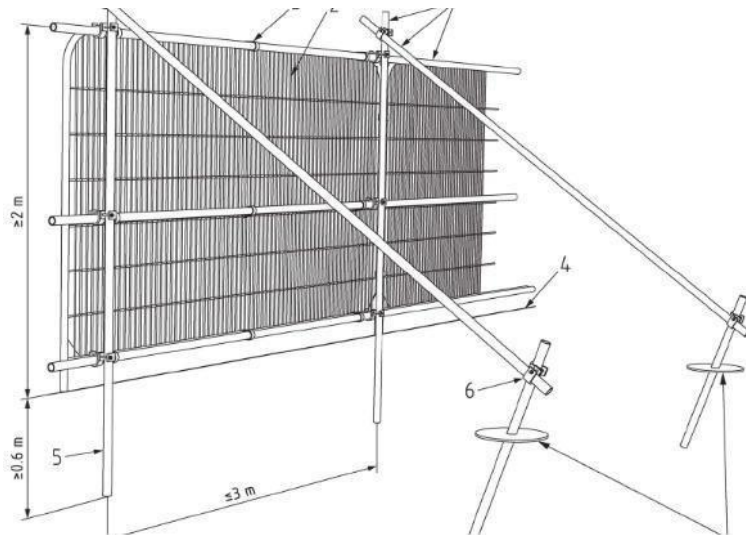


Diagram 3 Weldmesh panels with scaffold frame posts driven into the ground to brace heavy impacts



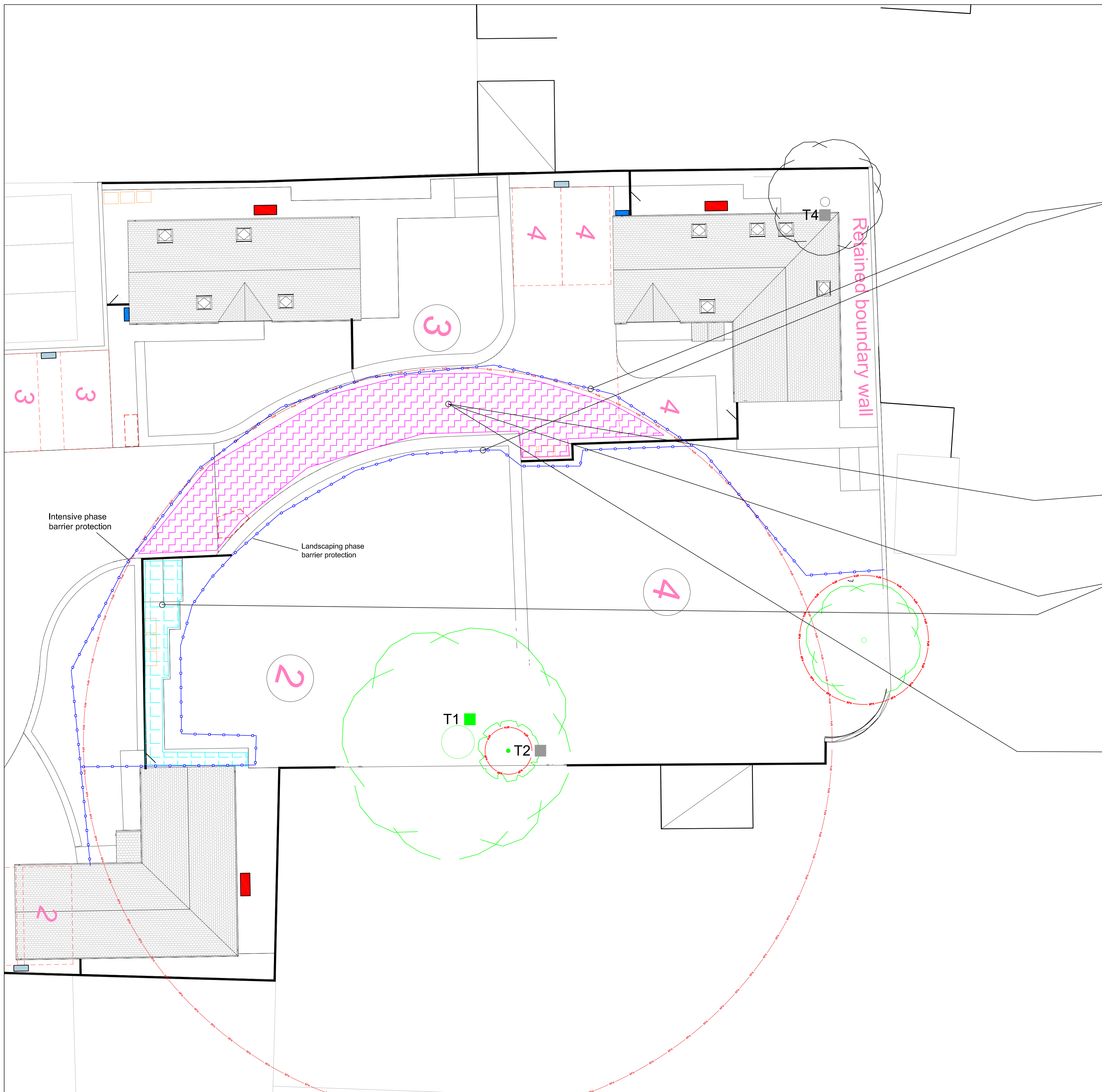
Construction Exclusion Zone

These trees have been retained and protected as part of the planning permission for this site.

Any breach of the protection will result in enforcement action from the Local Authority.



Appendix 5 Tree protection plan



Key Arboricultural Work Phasing

All methods statements below and annotations to the plan are to be read in conjunction with the arboricultural impact assessment Ref TFSarb7751122

The installation and removal of the tree protection is to be supervised by the project arboriculturalist and confirmed in context to the monitoring specification section 10.2.3.5.4 within the accompanying impact assessment Ref TFSarb7751122. Further monitoring assessments during the construction phase are recommended with the monitoring specification. The duration of tree protection will be assessed during each visit.

Phase 1 - Tree works - See section 7 of accompanying impact assessment, no vehicle movements within the RPA

Phase 2 - Build / demolition phase barrier protection

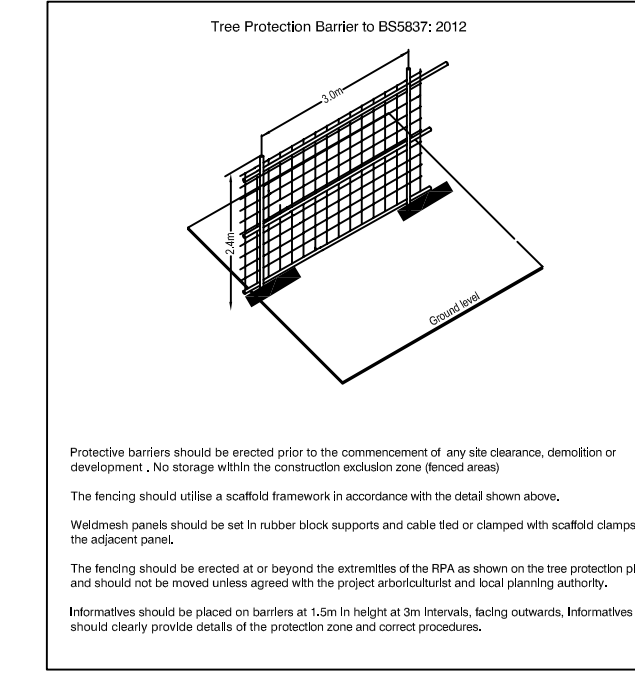
- Erect scaffold frame as per drawing provided below and location shown to left
- Install heavy gauge, 160 mm rubber shock supports and cable ties to scaffold frame and to each additional panel ensuring continuous barrier. A gap for garden maintenance may be created but no wider than 800mm.
- Cable tie weatherproof information to barrier

Phase 3 - Intensive build phase

Phase 4 - Soft and hard landscaping phase barrier protection

- Move barriers to location shown in drawing to the left (landscaping phase barrier protection)
- Hand excavation and no-dig construction as per drawing provided below, location shown to left and constructed using method statement below.

Phase 5 - Removal of ground and barrier protection. Temporary barrier is to be removed first then any ground protection as the end phase of development once the intensive build and landscaping phase is complete.

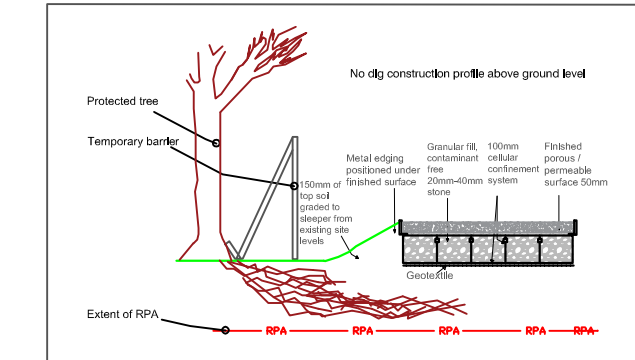


Construction Exclusion Zone

No access is permitted

The trees beyond this protected zone are subject to planning conditions and statutory protection

Any breach of this zone will result in enforcement action by the Local Authority



- Sequential method statement for excavation within the RPA.**
- Remove all ground surfaces with turf removed set at 100mm, hand barrow and store all turf, outside RPA. Loosen exposed soil with an spade or fork / rake. Carefully remove topsoil / upper soil horizon using hand-held tools only (spade, shovel, soft fork, trowel). Excavation not to exceed 500mm for preparation of levels only. The resulting level shall be level with the surrounding area. No roots will be removed and hand excavation to depth not exceeding 600mm and 100mm width, unless to be hand barrowed and stored outside of the RPA. Root holes will be back with plants growing to prevent heaving of material into the soil. Should roots be encountered within the excavated hole pit, step 2 onwards will be applied.
 - Where roots are encountered but viable and will not damage from movement, push to side of pit or downwards, pit with hand tool and cover with minimum of 100mm of soil.
 - Any exposed roots should immediately be wrapped or covered in damp hessian to prevent desiccation and to protect them from rapid temperature change.
 - If required, sever any roots with a diameter less than 25mm using a sharp tool to provide a clean cut across the cross-section near to a root junction or growth point.
 - Avoid severing roots greater than 25mm or slumps of roots (root mats). If this is necessary, then request an arboriculturalist to attend the site to assess likely impact upon tree health and future stability.
 - Prior to backfilling any roots should be removed from the protective wrapping and surrounded by sharp sand, or other loose granular fill before soil or other material is replaced. The backfill is to be free from any contaminants or foreign objects.
 - Monitor tree health during next 2 growth seasons. Check leaf colour, soil density and extension growth.

- Sequential method statement for installation and construction of no-dig surface.**
- Point 2 may not be necessary if the levels have been prepared as above for hand excavation. Kill any ground vegetation using black plastic sheets laid over existing soft surface for around 32 weeks prior to construction.
 - Make off dead vegetation. Loosen topsoil / leaf litter with an spade or rake and carefully remove to achieve excavation depth. Remove top preparation of levels only (some excavation blocks to be retained due to removal of type 1 surface within RPA, see above method statement for hand excavation).
 - Remove major obstructions such as rocks or old tree stumps.
 - Fill major hollows with sharp sand to prepare a levelled flat surface.
 - Add the geotextile to cover the working area.
 - Lay the 100mm 3d cellular confinement system directly on to the geotextile as detailed within the tree protection plan appendix 5.
 - Install sleepers or metal banding for edge support with use of surveyors pegs as support flags.
 - Working from outside of the RPA or suitable ground protection as described in section 8, tip the 20-40mm stone / aggregate for the sub-base just before the start point of the cellular system. Initially only shovel the 20-40mm stone for the first 2.3m of the area into place covering the cellular confinement system to the 100mm depth, compact and level using movements from the tracked mini excavator. Following the first 2.3m of construction of the access, then push the remaining stone using the tracked mini excavator working directly on the newly created surface (do not sit on any soft surface, compacting and tamping on the surface is not using movements of the tracked mini excavator).
 - Complete and / or repeat point 8 until the sub-base is constructed and covers the length of the cellular confinement / access route to the required depth. Leave the finished surface until the intensive phase of development is complete.
 - Lay the final / finished surface following intensive phase of development. Top dress to the edge support with topsoil and lawn seed mix.

Soft surfaces within RPA

- No tractor mounted or heavy plant equipment should be used unless working on surface for purpose to reduce / spread load and prevent soil compaction.
- Cultivation is to be completed using manual hand tools only.
- Existing soil to be used, where additional soil is required it should be contained free, well drained and suitable pH, texture and structure for the site and planting existing trees / shrubs.
- Damage to roots is to be avoided, large structural roots may be seen at or near the surface and where they rubble from one side of the tree from large sub-roots. After around 6m radial distance structural roots tend to taper to around 5cm in diameter.
- Changes in ground levels are to be avoided, any lowering or raising of levels should be carried out using a suitable method statement that provides continued soil conditions of gas exchange and water percolation.
- Planting is to be done with care and to avoid severing tree roots; generally, planting should be completed outside the RPA.

Legend:

Tree reference: T1

Tree and crown spread: [Diagram]

Root protection area: [Diagram]

Temporary barrier protection: [Diagram]

Hand excavation / preparation of levels and no-dig construction: [Diagram]

Hand excavation hard landscaping features: [Diagram]

Tree to be removed: [Diagram]

Notes:

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Project: Land adj 1 High Street, Leiston

Drawing Title: Tree Protection Plan

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Drawing Number: TFSarb7751122 TPP

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Appendix 6

Example of arboricultural monitoring form

Tree Planning Solutions

Contract Monitoring Form

Details

Date	
Time	
Surveyor	
Client	
Site	
Ref	

Trees

Tree ref	Condition	Recommendations

Barrier

Tree ref	Barrier type	RPA radial distance as per planning permission	Actual barrier radial distance at site	Condition of barrier	Condition of signage	Comments

Tree Planning Solutions

Ground Protection

Tree ref	Type of ground protection installed	RPA distance as per planning permission	Actual distance of ground protection at site	Condition of ground protection	Comments

Additional Comments