Arboricultural Impact Assessment

in Relation to Proposed Construction of Detached Timber Framed Garage at

Orchard House, Lower Lane, Longridge, Lancashire, PR3 2YH

Prepared by:

Bowland Tree Consultancy Ltd

June 2024

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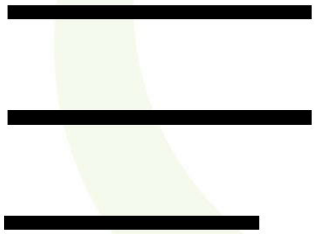

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ARBORICULTURAL IMPACT ASSESSMENT
ORCHARD HOUSE, LOWER LANE, LONGRIDGE

PROJECT DETAILS

Project No.: BTC2944

Site: Orchard House, Lower Lane, Longridge, PR3 2YH

Agent: PSA Design Ltd

Council: Ribble Valley Borough Council

Survey Date: 25 March 2024

Surveyed by: [redacted] FdSc

Prepared by: [redacted] FdSc

Checked by: [redacted] BSc (Hons) FdSc MArborA MICFor

Date of Issue: 06 June 2024

Version No: 2

DISCLAIMER

Survey Limitations: Unless otherwise stated all trees are surveyed from ground level using non-invasive techniques. The disclosure of hidden crown and stem defects, in particular where they may be above a reachable height or where trees are ivy clad or in areas of ground vegetation, cannot therefore be expected. All obvious defects, however, are reported. Detailed tree safety appraisals are only carried out under specific written instructions. Comments upon evident tree safety relate to the condition of said tree at the time of the survey only.

Unless otherwise stated all trees should be re-inspected annually in order to appraise their on-going mechanical integrity and physiological condition. It should, however, be recognised that tree condition is subject to change, for example due to the effects of disease, decay, high winds, development works, etc. Changes in land use or site conditions (e.g. development that increases access frequency) and the occurrence of severe weather incidents are also significant considerations with regards tree structural integrity and trees should therefore be re-assessed in the context of such changes and/or incidents and inspected at intervals relative to identified and varying site conditions and associated risks.

Where trees are located wholly or partially on neighbouring private third-party land then said land is not accessed and our inspection is therefore restricted to what can reasonably be seen from within the site. Stem diameters of trees located on such land are estimated. Any subsequent comments and judgments made in respect of such trees are based on these restrictions and are our preliminary opinion only. Recommendations for works to neighbouring third-party trees are only made where a potentially unacceptable risk to persons and/or property has been identified during our survey. Where significant structural defects of third-party trees are identified and associated management works are considered essential to negate any risk of harm and/or damage then we will first attempt to inform the site occupier of the issues and, if not possible, then inform the relevant Council. Where a more detailed assessment is considered necessary then appropriate recommendations are set out in the Tree Survey Schedule.

Where tree stem locations are not included on the plan(s) provided then they are plotted at the time of the survey using, where appropriate and/or practicable, a combination of measurement triangulation and GPS co-ordination. Where this is not possible then locations are estimated. Restrictions in these respects are detailed in the report.

The tree survey and any report information provided is intended as a guide to identify key tree related constraints to site development only. As such, the potential influence of trees upon existing or proposed buildings or other structures resulting from the effects of their roots abstracting water from shrinkable load-bearing soils is not considered herein. The tree survey information in its current form should not therefore be considered sufficient to determine appropriate foundation depths for new buildings. Accordingly, an updated survey, with reference to the current NHBC Standards Chapter 4.2 - Building Near Trees, must therefore be prepared for the specific purpose of informing suitable foundation depths subsequent to planning approval being granted. The advice of a structural engineer must also be sought with regard to appropriate foundation depths for new buildings.

Third Parties: Any disclosure of this document to a third party is subject to this disclaimer. The report was prepared by Bowland Tree Consultancy Ltd at the instruction of and for use by our client, as named. This report does not in any way constitute advice to any third party who is able to access it by any means. Bowland Tree Consultancy Ltd excludes to the fullest extent lawfully permitted all liability whatsoever for any loss or damage arising from reliance on the contents of this report.

Statutory Tree Protection: It is the client's responsibility to check for the presence of any statutory tree protection measures, such as the site's location within a Conservation Area and/or the presence of any Tree Preservation Orders, directly with the applicable Council's planning department prior to scheduling or carrying out any tree works. In turn, it is also the client's responsibility to check for the need for a felling licence with the Forestry Commission prior to scheduling or carrying out any tree works. Bowland Tree Consultancy Ltd cannot be held responsible for any decisions made by the client to prune or remove trees where any such statutory protection exists.

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Validity: The findings and recommendations contained within this report are, providing its recommendations are observed and the site conditions are retained as per the date(s) of the survey, valid for a period of twelve months from the last survey date. This period of validity may be reduced should there be any changes in factors affecting both the surrounding environment and/or built structures in relative proximity to the trees. The condition of trees should be re-appraised directly, through a site survey, following major weather events such as storms, changes undertaken to the site's conditions, inclusive of demolition and/or ground works, or the removal of existing site vegetation, including trees.

TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT ASSESSMENT		Surveyor:	[redacted] FdSc	Page: 1 of 2
Site:	Orchard House, Lower Lane, Longridge, Lancashire, PR3 2YH	Survey Date:	19 March 2024	
Agent:	PSA Design Ltd	Job Reference:	BTC2944	

No.	Species	Height	Stem Diam.	Branch Spread		Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m^2)	RPA Radius (m)
T1	Portuguese Laurel	3	1x80 1x70 1x60 (ms)	N E S W	1 1 1 1	0 0	SM	G	▪ Located in raised bed with canopy against brick wall. ▪ Multi-stemmed.	▪ Not projected to be impacted by the proposal development works.	10+	C1	7	1.46
T2	Lime	12	600#	N E S W	5 4 5 5.5	5-E 4	M	G	▪ Located on neighbouring land and subsequently not inspected in detail. ▪ Deadwood up to 30mm diameter throughout. ▪ Moderate epicormic growth.	▪ Temporary ground protection to be used to protect the RPA of tree T2 during construction between boundary wall and proposed garage to provide access and working room. Ground protection to be installed in accordance with BS5837: section 6.2, and in accordance with appended specification (See Tree Impact and Protection Plan (TIPP)). ▪ Proposed timber foundation posts within tree T2's RPAs to be constructed following guidance in s7.2 of BS5837: 2012, using hand digging methods whilst avoiding roots greater than 25mm in diameter. Excavation to be lined with visqueen, or similar material, to prevent leaching of concrete into soil prior to back filling. ▪ Installation of timber frame structure in close proximity to retained tree canopies to be conducted under the supervision of a banksman, to ensure adequate clearance from trees is maintained at all times, in accordance with BS5837: section 6.2.4.1.	20+	B1/2	163	7.2
T3	Lime	15.5	600#	N E S W	6.5 5 5 3	8-N 6	M	G	▪ Located on neighbouring land and subsequently not inspected in detail. ▪ Deadwood up to 30mm diameter throughout. ▪ Moderate epicormic growth throughout. ▪ Crown weighted to north.	▪ Not projected to be impacted by the proposal development works.	20+	B1/2	163	7.2

Headings and Abbreviations:

No.: Allocated sequential reference number - Tree ('T'), Group ('G'), Woodland ('W') or Hedge ('H') reference number - refer to plan and to numbered tags where applicable
Species: Common name
Height: In metres, to half nearest metre – where possible approximately 80% are measured using an electronic clinometer and the remainder estimated against the measured trees. In the case of Groups and Woodlands the measurement listed is that of the highest tree
Stem Diam.: Stem diameter in millimetres, to nearest 10mm - measured and calculated as per Annex C of BS5837:2012. MS = multi-stemmed, TS = twin-stemmed
Branch Spread: Crown radius measured (or estimated where considered appropriate) from the four cardinal points (north, east, south and west) to give an accurate visual representation of the crown
Branch & Canopy Clearances: Existing height above ground level, in metres, of first significant branch and direction of growth (e.g. 2.5-N) and of canopy at lowest point – to inform on crown to height ratio, potential for shading, etc.
Life Stage: Estimated age class - Y = young, SM = semi-mature, EM = early-mature, M = mature, PM = post-mature
PC: Physiological Condition - a measure of the tree'(s)' overall vitality, i.e. D = Dead, MD = Moribund, P = Poor, M = Moderate, G = Good
General Observations and Comments: Comments relating to the tree'(s)' overall condition and any other pertinent factors including structural defects, current and potential direct structural damage, physiological decline, poor form, etc.
Management Recommendations: Either Preliminary or In Consideration of the Proposal - In the case of Arboricultural Constraints Surveys the recommended management works only take exiting site and tree circumstances and conditions into account and not proposed developments. Arboricultural Impact Assessment and Method Statement related Surveys take the proposed development into consideration with recommendations made accordingly. More than one option may be given if considered appropriate
ERC: Estimated Remaining Contribution - in years as per BS5837:2012 (i.e. <10, 10+, 20+, 40+)
Cat. Grade: Category Grading - tree retention value listed as U, A, B or C - in accordance with BS5837:2012 Table 1
RPA m^2: Root Protection Area in m^2 - calculated area around the tree that must be appropriately protected throughout the development process in order avoid root damage
RPA Radius (m): Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection
 # (Estimated Dimensions): Where trees are located off-site, or are inaccessible for any other reason, and accurate measurements or other information cannot be taken then the information provided is estimated and is duly suffixed with a "#" symbol

Bowland Tree Consultancy Ltd

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m^2)	RPA Radius (m)
T4	Yew	4	400	N 1 E 1 S 1 W 1	N/A N/A	EM	M	▪ Located on neighbouring land and subsequently not inspected in detail. ▪ Crown very heavily topped down to approximately 4m. ▪ Root Protection Area (RPA) reduced by 50%, in consideration of projected root:shoot ratio impacts due to recent heavy pruning.	▪ Not projected to be impacted by the proposal development works.	<10	U	36	2.4
T5	Sycamore	16	550#	N 4 E 4 S 4 W 4	10-E 9	EM	G	▪ Located on neighbouring land and subsequently not inspected in detail. ▪ Minor ivy, which impeded inspection. ▪ Previously crown raised.	▪ Not projected to be impacted by the proposal development works.	20+	B1	137	6.6
T5	Common Oak	13	400#	N 4 E 0 S 7 W 9	10-W 7	EM	G	▪ Located on neighbouring land and subsequently not inspected in detail. ▪ Minor ivy. ▪ Crown heavily weighted to west.	▪ Not projected to be impacted by the proposal development works.	20+	B1	72	4.8
T7	Common Oak	13	400#	N 3 E 0 S 6 W 6	7 7	EM	G	▪ Located on neighbouring land and subsequently not inspected in detail. ▪ Minor ivy. ▪ Crown weighted to south-west.	▪ Not projected to be impacted by the proposal development works.	20+	B1	72	4.8
T8	Yew	6	400#	N 2 E 3 S 3 W 4	1 0	EM	G	▪ Located on neighbouring land and subsequently not inspected in detail. ▪ Historical loss of main leader. ▪ Moderate epicormic growth. ▪ Minor ivy, which impeded inspection.	▪ Not projected to be impacted by the proposal development works.	20+	B1	72	4.8
H1	Beech, Hawthorn, Holly, Elder	≈ 2	N/A	≈ 1 wide	N/A	Y	G	▪ Length of mixed hedge along boundary.	▪ Retain hedge in context of proposed development. ▪ Not projected to be impacted by the proposal development works.	10+	C1	N/A	≈ 0.5

BS5837:2012 Table 1 – Cascade Chart for Tree Quality Assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	▪ Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) ▪ Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline ▪ Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *Note: Category U trees can have existing or potential conservation value which it might be desirable to preserve; see BS5837:2012 paragraph 4.5.7.*			Red
	1. Mainly arboricultural qualities	**2. Mainly landscape qualities**	**3. Mainly cultural values, including conservation**	
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 within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Green
Category B Those of moderate quality and value: those in such a condition as to make a significant contribution. A minimum of 20 years is suggested.	Trees that might be included in the high category, but are downgraded because of impaired condition. Examples include the presence of remediable defects including unsympathetic past management and minor storm damage	Trees present in numbers, usually as groups or woodlands, so they form distinct landscape features which attract a higher collective rating than they might as individuals. But which are not, individually, essential components of formal or semi-formal arboricultural features. For example, trees of moderate quality within an avenue that includes better, A category specimens. Or trees which are internal to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	Blue
Category C Those trees of low quality and value: currently in adequate condition to remain until new planting could be established - a minimum of 10 years is suggested - or young trees with a stem diameter below 150 mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	Grey
	Note – Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150mm should be considered for relocation			

Heavy Duty Temporary Access Mat

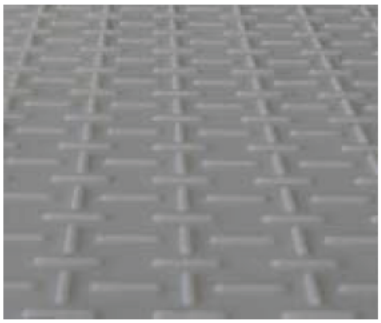
General Description

Key Information

- High pressure compression moulded in one piece
- Quality batch control / mat identification
- 23 x 1200 x 2410mm
- Weight: c. 37kg (manhandable)
- Materials: choice of (a) Mix of HD / LDPE regenerated (b) HD / LDPE virgin / natural or green / UV protection
- Two traction surfaces – vehicular and pedestrian
- Connection holes / cut out hand holds

Vehicular Traction Surface

- Rugged raised surface profile for excellent traction for light to heavy (80 tonnes) vehicles, plant and machinery
- Sand blasted finish for micro-traction
- Low trip hazard
- Chevron pattern for high visibility strips



Pedestrian/Tire Traction Surface

- Uniform raised surface profile pattern for pedestrian use
- Good traction for vehicular use
- Sand blasted finish for micro-traction
- Low trip hazard (hand cut outs blanked off on pedestrian surface)

Connection

- 2-way and 4-way bolt in connectors
- 'Quick fit' metal connectors for fast turnaround
- Flexible webbing / anchor plate connectors
- U-pins for stability on sideways ground
- High visibility colour options

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Heavy Duty Temporary Access Mat

Mechanical Testing of HD/LDPE Regenerated Material

Factor	Value
Tensile Strength (MPa)	23 - 26
Flexural Strength (MPa)	25 - 28
Flexular Modulus (MPa)	1936 – 1967
Charpy Notched Impact Strength (kJ/m^2)	5 - 6
Poisson's Ratio (theoretical)	0.35 – 0.38
Compression testing – maximum value reached before test terminated (tonnes)*	250

*Refers to the material strength on a firm subtrate as tested by the National Physical Laboratory. The weight load distribution performance is subject to ground conditions. Lineman's Testing Laboratories, its agents or employees are not liable for any damage to existing ground or property through the use of this mat. The information provided is for guidance only. In all cases, qualified engineering / geotechnical advise should be sought regarding bearing capacity of the ground where the mat is to be used.

Generic Properties of HDPE and LDPE

Properties:

- low density
- high toughness (LDPE provides flexibility)
- high elongation
- very good electrical and dielectric properties
- very low water absorption
- low steam permeability
- high chemical resistance
- good protection against stress cracking

Resistence to Chemicals

- Dilute Acid ****
- Dilute Alkalis ****
- Oils and Greases ** variable
- Aliphatic Hydrocarbons *
- Aromatic Hydrocarbons *
- Halogenated Hydrocarbons *
- Alcohols ****

*Key: * poor ** moderate *** good **** very good*

Factor	HDPE Value	LDPE Value	Unit
Thermal expansion	110 - 130	150 - 200	e-6/K
Thermal conductivity	0.46 - 0.52	0.3 – 0.33	W/m.K
Specific heat	1800 - 2700	1800 - 3400	J/kg.K
Melting temperature	108 - 134	125 - 136	°C
Glass temperature	-110 - -110	-110 - -110	°C
Service temperature	-30 - 85	-30 - 70	°C
Density	940 - 965	910 - 928	kg/m^3
Resistivity	5e+17 - 1e+21	5e+17 – 1e+21	Ohm.mm^2/m
Breakdown potential	17.7 - 19.7	17.7 – 39.4	kV/mm
Dielectric loss factor	0.0005 - 0.0008	0.0002 – 0.001	
Friction coefficient	0.25 - 0.3	0.3 – 0.5	
Refraction index	1.52 - 1.53	1.51 – 1.53	
Shrinkage	2 - 4	1.5 - 3	%
Water absorption	0.01 – 0.01	0.005 0 0.015	%

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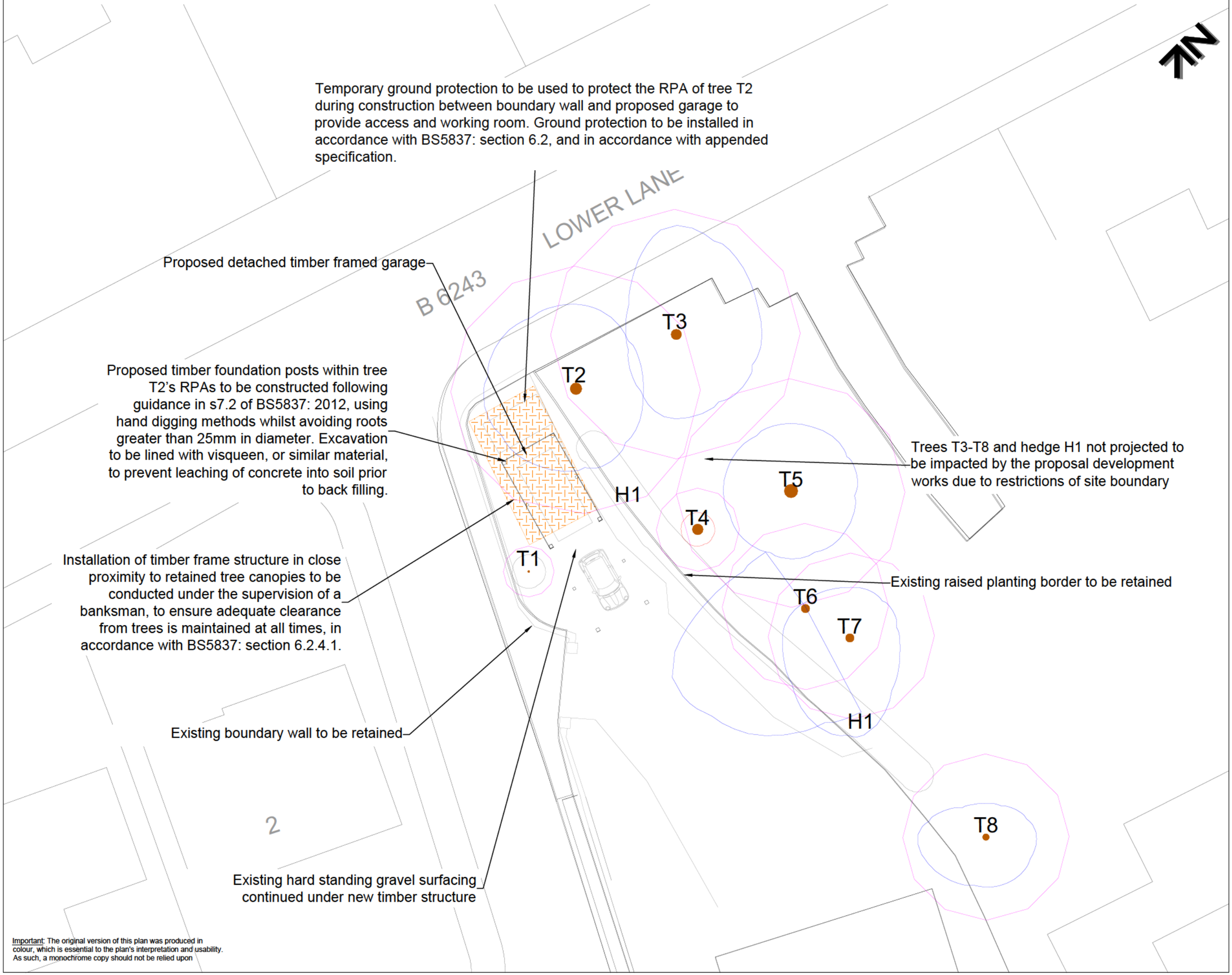

Important: The original version of this plan was produced in colour, which is essential to the plan's interpretation and usability. As such, a monochrome copy should not be relied upon

KEY

T = Individual Tree
H = Hedge

Please refer to associated Tree Survey Schedule and appendices for specific details in respect of items below:

Tree Categorisations:

Those to be Considered for Retention:

Category 'A' Tree/Hedge
Those of a High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years

Category 'B' Tree/Hedge
Those of a Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years

Category 'C' Tree/Hedge
Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Considered Unsuitable for Retention:

Category 'U' Tree/Hedge
Those in Such a Condition that they Cannot Realistically be Retained as Living Trees in the Context of the Current Land Use for Longer Than 10 Years

Note: The locations and extents of all trees and hedges were not included on the topographical survey plan provided, and were subsequently plotted by the arboriculturist at the time of the survey using GPS and, where possible, measurement from existing site features or, where not possible, estimation. As such, the locations and extents of this group cannot therefore be considered to be entirely accurate

Root Protection Areas (RPAs):

RPAs
Area(s) of Ground Around Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - see Temporary Protective Fencing Specification

Temporary Ground Protection
Areas within retained trees' RPAs in which temporary ground protection is to be used and installed during construction following guidance outlined in BS5837: section 6.2.3. (See appended specification)

Project:
ORCHARD HOUSE
LOWER LANE
LONGRIDGE
LANCASHIRE
PR3 2YH

Agent:
PSA DESIGN LTD

Title:
TREE IMPACT AND PROTECTION PLAN
in Relation to Proposed Construction of Detached Timber Framed Garage

Scale:	1:200@A3
Date:	June 2024
Drawn by:	MH
Checked by:	JL

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Ref: BTC2944-TIPP Rev: