Tree Impact & Protection Overview

in Respect of Proposal to Demolish Existing Residential Property and Construct Three Detached Residential Properties at

Springfield, Whiteacre Lane, Barrow, Lancashire, BB7 9BJ

Prepared by:

Bowland Tree Consultancy Ltd

December 2013

CONTENTS

TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL	
Site:	Springfield, Whiteacre Lane, Barrow, Lancashire, BB7 9BJ
Agent for Client:	Sunderland Peacock Architects

Surveyor:	Phill Harris – Chartered Arboriculturist
Survey Date:	23 November 2013
Job Ref:	BTC577

No.	Species	Height	Stem Diam.	Branch Spread		Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Recommendations	ERC	Cat. Grade	RPA (m²)	RPA Radius (m)
T1	Ash	10	310	N E S W	3.5 3.5 3.5 3.5	4 4.5	SM	G	▪ Very dense ivy up stem.	▪ Retain in context of development proposals. ▪ Protect Root Protection Area (RPA) throughout construction process, in accordance with Tree Protection Plan (TPP). ▪ Sever ivy from stem at ground level.	40+	B1/2	43	3.72
T2	Common Oak	17	650#	N E S W	10 10 10 10	4 5	M	G	▪ Located on neighbouring land and therefore not inspected in detail.	▪ Protect RPA throughout construction process.	40+	A1/2/3	191	7.8
T3	Elder	5.5	6x90 (ms)#	N E S W	3.5 1.5 3.5 2	N/A 3	PM	M/P	▪ Stem divides into multiple primary branches at a height of approximately 1m with included bark unions. ▪ Crown showing signs of a substantial reduction in vitality. ▪ Short projected remaining life expectancy.	▪ Remove due to short projected remaining life expectancy.	<10	U	22	2.65
T4	Lime	9.5	340	N E S W	4 4 4 4	2-S 1.5	SM	G	▪ Larger number of included bark unions of branches.	▪ Retain in context of development proposals. ▪ Protect RPA throughout construction process, in accordance with TPP.	20+	B1	52	4.08
T5	Hybrid Black Poplar	22.5	660	N E S W	7.5 3 7.5 4	5-S 3	M	G	▪ Evidently located within adjacent site. ▪ Previously very heavily topped at a height of approximately 10m with resultant multiple branch regrowth.	▪ Protect RPA throughout construction process. ▪ Protect RPA throughout construction process, in accordance with TPP.	10+	C1	197	7.92
G1	approx. 6no. Lawson Cypress	≤ 5.5	≤ 1x230 1x200 2x190 (ms)	N E S W	≤ 3 ≤ 3 ≤ 3 ≤ 3	N/A ≥ 0	SM	G	▪ Closely spaced linear group. ▪ All topped to form hedge. ▪ Effective screen.	▪ Retain in context of development proposals. ▪ Protect RPAs throughout construction process, in accordance with TPP.	10+	C1/2	≤ 75	≤ 4.88
G2	approx. 7no. Lawson Cypress	≤ 10.5	≤ 2x300 (ts)	N E S W	≤ 3 ≤ 3 ≤ 3 ≤ 3	N/A ≥ 0	SM	G	▪ Very closely spaced linear group. ▪ Effective screen.	▪ Retain in context of development proposals. ▪ Protect RPAs throughout construction process, in accordance with TPP.	40+	B1/2	≤ 81	≤ 5.09

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 m²:	Root Protection Area in m² - 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

TREE SURVEY SCHEDULE FOR ARBORICULTURAL IMPACT APPRAISAL	
Site:	Springfield, Whiteacre Lane, Barrow, Lancashire, BB7 9BJ
Agent for Client:	Sunderland Peacock Architects

Surveyor:	Phill Harris – Chartered Arboriculturist
Survey Date:	23 November 2013
Job Ref:	BTC577

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)
H1	Hawthorn, Ash, Elm	≤ 1.5	≤ 60#	≤ 2 wide	N/A ≥ 0	SM	G	▪ Hedge in two sections along road frontage. ▪ Mainly made up of Hawthorn.	▪ Remove sections of sufficient length to form two new access points. ▪ Protect remaining lengths throughout construction process, in accordance with TPP.	40+	C1/2	N/A	≤ 0.72

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 **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 attract 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	Blue
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 150 mm	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 significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey

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.

- TEMPORARY PROTECTIVE FENCING SPECIFICATION -

Construction Exclusion Zones (CEZs), enclosed by **Temporary Protective Fencing**, as detailed below and to be agreed with the Local Planning Authority (LPA), shall:

1. be retained in place throughout the development process, as specified in the 'Temporary Protective Fencing Construction' section below and detailed in BS5837:2012 Figure 2 (overleaf);
2. be sited in the area defined on the Tree Protection Plan (TPP);
3. be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project;
4. preclude any delivery of site accommodation and/or materials and/or plant machinery;
5. preclude all construction related activity, with the sole exception of specified arboricultural works and any other works to be carried out under supervision that have been agreed by all parties; and
6. preclude the storage of all development related materials and substances including fuels, oils, additives, cement and/or any other deleterious substance.

Any incursion into CEZs must be by prior arrangement, following consultation with the LPA.

Temporary Protective Fencing Construction

1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
2. The panels shall butt together and be securely fixed to a scaffold framework, as per 3 to 5 below.
3. The scaffold framework shall comprise of upright poles of at least 3.0 metres in length driven no less than 0.6 metres into the ground at maximum 3.0 metre centres with horizontal and diagonal poles fixed to the uprights, as per 4 to 5 below.
4. The two horizontal rail poles shall be attached to the uprights at heights of 0.6 and 1.8 metres with 3 no. clamps to each joint.
5. The diagonal scaffold pole struts be clamped to the top rail of the scaffold framework at a 45º angle and extend back into the CEZ and clamped to a 0.7 metre length of scaffold tube that shall be driven no less than 0.5m into the ground.
6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1, below) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the Consulting Arboriculturist shall inspect the Temporary Protective Fencing.

Figure 1: CEZ Warning Sign

– TREE PROTECTION AREA –
KEEP OUT!

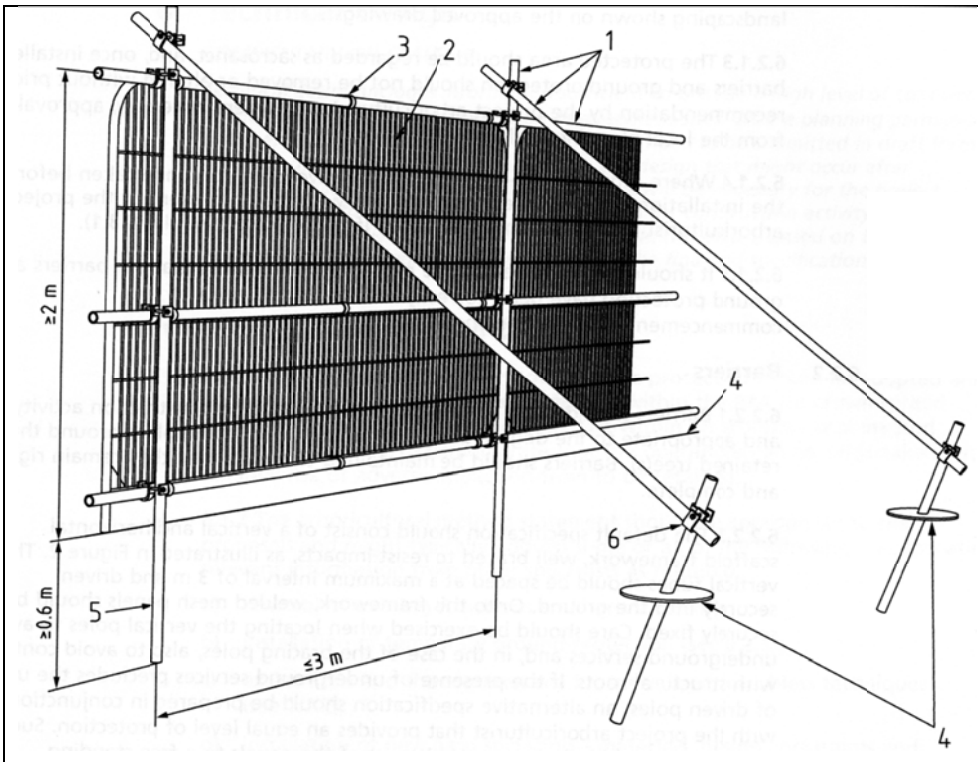
(TOWN & COUNTRY PLANNING ACT 1990)
THE TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR SUBJECTS OF A 'TREE PRESERVATION ORDER', THE CONTRAVENTION OF WHICH MAY LEAD TO CRIMINAL PROSECUTION

THE FOLLOWING MUST BE OBSERVED BY ALL PERSONNEL:

- **THE PROTECTIVE FENCING MUST NOT BE MOVED**
- **NO PERSON SHALL ENTER THE CONSTRUCTION EXCLUSION ZONE**
- **NO MACHINE, PLANT OR VEHICLES SHALL ENTER THE EXCLUSION ZONE**
- **NO MATERIALS SHALL BE STORED IN THE EXCLUSION ZONE**
- **NO SPOIL SHALL BE DEPOSITED IN THE EXCLUSION ZONE**
- **NO EXCAVATION SHALL OCCUR IN THE EXCLUSION ZONE**
- **NO FIRES SHALL BE LIT IN THE EXCLUSION ZONE**

ANY INCURSION INTO THE EXCLUSION ZONE MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

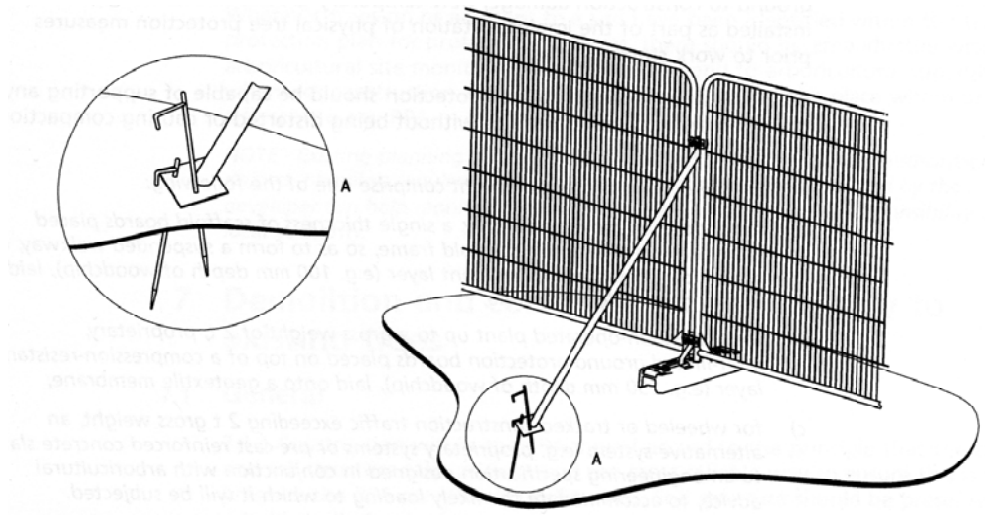
Figure 2: BS5837:2012 Default specification for protective barrier



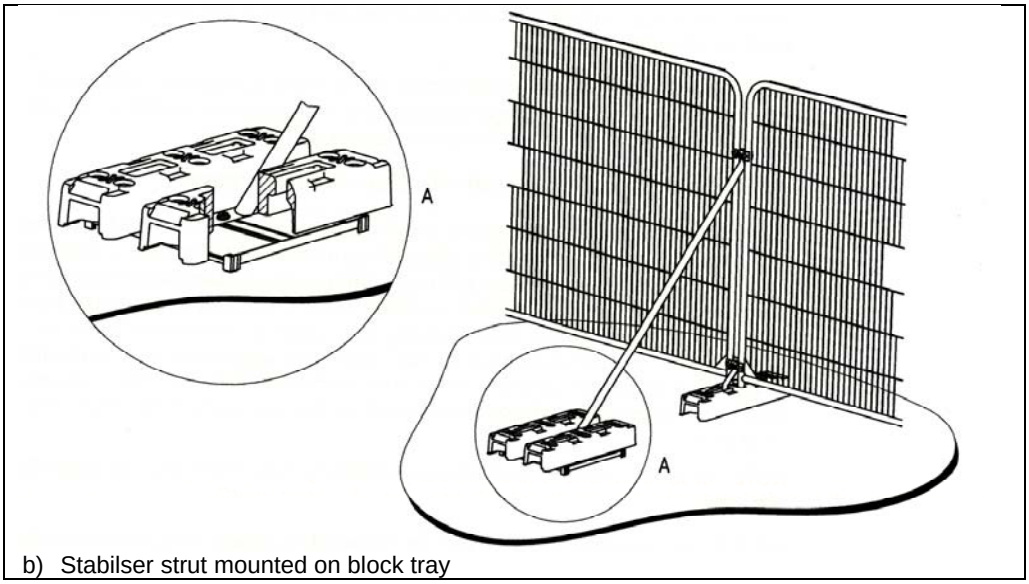
Key

1. Standard scaffold poles.
2. Heavy gauge 2 metre tall galvanised tube and welded mesh infill panels
3. Panels secured to uprights and cross members with wires ties
4. Ground level
5. Uprights driven into the ground until secure (minimum depth 0.6 metres)
6. Standard scaffold clamps

Figure 3: BS5837:2012 Examples of above-ground stabilising systems



a) Stabilser strut with base plate secured with ground pins



b) Stabilser strut mounted on block tray

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
G = Group of Trees
H = Hedge

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

Tree Categorisations:

Trees to be Considered for Retention:

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

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

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

Trees Unsuitable for Retention:

Category 'U' Tree/Group/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 1: The locations of trees T2 to T4 and the groups were not included on the scaled topographical site plan provided, and their stems were subsequently plotted by the arboricultural surveyor at the time of the site visit using a combination of GPS siting and measurement from existing land features, and cannot therefore be considered to be precise. This should therefore be taken into consideration when planning for tree retention in the context of the proposals

RPAs & CEZs:

Root Protection Areas (RPAs)
Area(s) of Ground Around Retained Trees that Should be Protected Throughout Development Works with Protective Fencing to form a Construction Exclusion Zone - see CEZs, below

Construction Exclusion Zones (CEZs)
Ground Area to be Enclosed with Temporary Protective Fencing Throughout the Development Process - see Temporary Protective Fencing Specification

Note 2: The CEZs detailed on the plan are approximations. The precise locations and extents of the fencing should therefore be agreed with the LPA on site prior to development commencement

Project:
SPRINGFIELD
WHITEACRE LANE
BARROW
LANCASHIRE
BB7 9BJ

Agent for Client:
SUNDERLAND PEACOCK ARCHITECTS

Title:
TREE PROTECTION PLAN
in Respect of Proposal to Construct 3no. Detached Residential Units

Scale:	1:200@A2
Date:	November 2013
Drawn by:	PH

Bowland Tree Consultancy Ltd
e: info@bowlandtreeconsultancy.co.uk
t: 01200 441117

Ref: BTC577-TCP Rev: