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Tree Surveys

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Title:	BS:5837 Tree Survey, Arboricultural Impact Assessment, Arboricultural Method Statement & Tree Protection Plan
Client:	Ian Shipley
Site:	Badachro, Steppey Lane, Lesbury, Alnwick, NE66 3PU
Surveyor:	Andrew Burden, HNDip.arb.
Date :	12 April 2023

Forestry

www.northeasttreesurgeons.co.uk

Arboriculture

Environmental

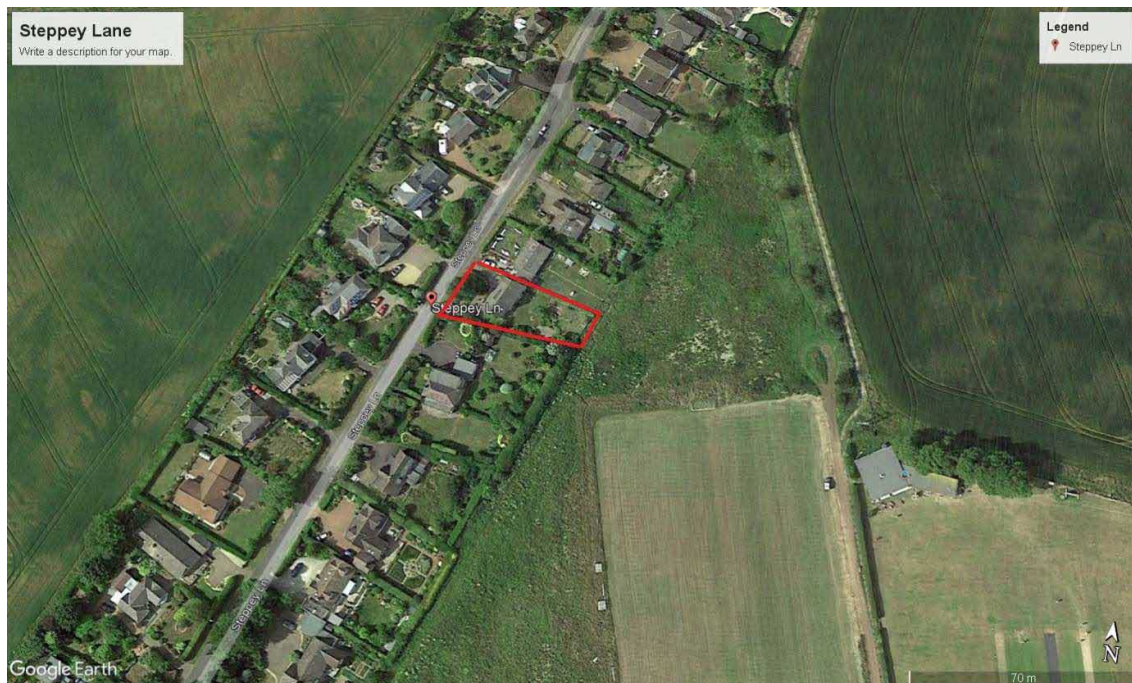
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1.0 Introductory details

- 1.1 The site was visited following a written request from Ian Shipley, the purpose of the visit being to collect arboricultural data to provide a tree survey based upon the guidelines set out within the document BS:5837 (2012) Trees in relation to design, demolition & construction recommendations (BSI London 2012).
- 1.2 The trees surveyed are situated within the gardens of Badachro, Steppey Lane, Lesbury, NE66 3PU which is a residential property and garden.
- 1.3 All trees were visually inspected and surveyed from ground level. Assessment of the trees condition is based upon visual tree assessment (VTA). Tree heights were measured using a Haglof digital clinometer, other measurements taken with the use of specialist tapes.
- 1.4 All trees surveyed are assessed in accordance with sections 4.4 & 4.5 of BS:5837 (2012). Trees are allocated a retention category and colour code reference based upon their quality and value within the existing context. These are:
- * Category A –Trees of high quality with long term future potential –Green
 - * Category B –Trees of moderate quality, medium term future potential –Blue
 - * Category C –Trees of low quality, short term future potential –Grey
 - * Category U –Trees in such condition they cannot be realistically retained for longer than ten years - Red
- 1.5 The surveyor Mr. Andrew Burden is an arborist with thirty four years industry experience, qualified to HND level in arboriculture and woodland management (Houghall Collage, Durham 1994 –96).

- 1.6 We have been provided with the current and proposed site drawings, the proposed development works are demolition of the existing property and construction of new dwelling.
- 1.7 All individual trees surveyed on site have been number ID tagged.
- 1.8 Full details relating to the trees current physiological and structural condition are contained within the attached BS:5837 Tree Survey Data Sheets (Appendix 7.1).
- 1.9 This independent report is based upon arboricultural merit alone.
- 1.10 Survey area



2.0 Protected status of trees

- 2.1 A Tree Protection Enquiry requested from Northumberland County Council on 12 April 2023 shows that there are no Tree Preservation Orders or Conservation Areas within or close to the survey area.

3.0 Discussion

3.1 The Himalayan Birch tree present within the front garden to the West of the existing property is a prominent feature in the street scene, of good quality and its long-term retention is desirable. The tree can safely be retained throughout the period of proposed development. The proposed site layout shows an incursion into the tree's Root Protection Area (RPA) for proposed vehicle parking, this is not an issue for this age and species of tree. Some crown lift pruning works will be required to assist access facilitation for tree protection fencing. An Arboricultural Method Statement (AMS) will be required for works within this tree's root protection area (RPA).

3.2 The existing hedges along the North, West & Southern boundaries of the garden are to be retained although a short section of H 02 adjacent to the existing vehicle entrance to the property will require removal to allow a vision splay (as indicated on the proposed site drawing) for purpose of vehicles safely exiting the driveway.

3.3 Two existing low value category C trees (T 587 Magnolia & T 588 Birch) will require removal to facilitate the proposed development.

3.4 Some low value shrubs adjacent to the Southern boundary hedge will require cutting back to allow enough space for construction works and paving.

4.0 Arboricultural Impact Assessment (AIA)

4.1 The Arboricultural Impact Assessment (AIA) considers the following factors in relation to the proposed development:

* Tree location.

* Ground conditions

* Likely tree root morphology.

* Current dimensions & future growth

- * The tolerance of the trees in relation to possible disturbance based on species, age and condition.

4.2 **Above ground impacts**

4.3 All trees being retained throughout the period of proposed development will require fenced protection to prevent any accidental interface from construction works or disturbance of the tree root protection areas (RPA's). The position of the tree protection fencing is detailed within the Tree Protection Plan appendix 7.5. The required specification for the tree protection fencing is given in appendix 7.6.

4.4 Care should be taken throughout the period of proposed development to prevent any spillage of liquid construction materials (fuel, cement / concrete washings etc) from entering the area of soil close to the tree protection areas. These materials can have a harmful effect upon a tree's health. Spill kits should be available on site, of a sufficient size to immediately deal with any accidental spillages. Any liquid construction materials should be stored and mixed well away from the tree protection areas.

4.5 The fenced tree protection area is a construction works exclusion zone, the tree protection fencing should not be moved or altered without seeking arboricultural advice. The tree protection fencing should remain in place until all works are completed and signed off.

4.6 All construction staff working on the proposed development project should be clearly briefed on these recommendations prior to commencing works on site.

4.7 **Site specific Arboricultural Impacts & Solutions**

4.8 **Potential Impact:** Damage to trees being retained throughout the period of proposed development.

Solution: Tree protection fencing will be required to prevent accidental interface from construction works with the Root Protection Areas (RPA's) of trees being

retained. The Tree Protection Plan (appendix 7.5) shows the required position of the protective fencing. The specification for the tree required protection fencing is given in appendix 7.6

- 4.9 Potential Impact:** Hard surfacing works required within Tree Root Protection Area (RPA) of hedges H 01 & H 03, and T 586.

Solution: Hard surfacing works within RPA of hedges to be carried out under arboricultural supervision. No excavation within RPA's. Finished surfacing to be permeable, any sub-base to be inert non limestone based granular fill.

Hard surfacing within RPA of T 586 will require installation of cellular confinement system (CellWeb or similar). An arboricultural method statement is included for these works.

4.10 Underground Impacts

- 4.11 It is assumed that services required will tie into existing service runs, if any new utility service runs are required the following shall apply.
- 4.12 The National Joint Utilities Group (NJUG) document "Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees" should be strictly adhered to when considering the proposed routes of any underground service runs that may be required.
- 4.13 Service runs requiring to pass through any Root Protection Areas of trees being retained, either hand dig under arboricultural supervision or no dig technology should be utilised in strict accordance with NJUG Guidelines.

5.0 Arboricultural Method Statement (AMS)

- 5.1 The following restrictions to site operations within or close to the tree root protection areas (RPA's) should be noted.

- * Any excavation within the RPA should be carried out by hand under arboricultural supervision.
 - * No lowering or raising of site levels within the RPA for any purpose, except removal of grass sward by hand tools.
 - * No storage of plant or materials within or adjacent to the RPA.
 - * No storage or handling of any chemical construction materials including cement within or adjacent to the RPA.
 - * No vehicle or construction staff access to the RPA.
 - * No substances injurious to tree health including fuels, oil, bitumen, cement, builders sand, chemicals or concrete mixing shall be carried out or stored, within or adjacent to the RPA.
 - * No fires should be lit on site at any time.
 - * All tree works and the installation of tree protection fencing shall be carried out prior to construction works commencing on site.
 - * All tree works to be carried out in accordance with BS:3998 (2010) British Standard For Tree Work (BSI London 2010).
- 5.2 All tree felling and pruning works to be carried out prior to construction site set up. Tree works should be undertaken by a suitably qualified contractor in accordance with BS:3998 (2010). All stumps of trees being removed shall be ground out.

Table 1 Summary of required tree works

Required Tree Works	Cat A	Cat B	Cat C	Cat U
Access facilitation pruning	1			

Tree Removal to facilitate development			2	
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5.3 Installation of tree protection fencing as indicated within the Tree Protection Plan (TPP) appendix 7.5 and Specification for protective fencing –appendix 7.6. The tree protection fencing shall not be moved or altered without prior consultation with the project arboriculturist.

5.4 The following ground protection measures should be noted for any works required within Tree Root Protection Areas:

5.4.1 For pedestrian movement only, a single thickness of scaffold boards placed on top of a compression resistant layer –100mm depth of woodchip laid onto a geotextile membrane.

5.4.2 For pedestrian operated plant up to a gross weight of 2 tonne, proprietary, inter- linked ground protection boards placed on top of a compression resistant layer –150mm depth of woodchip laid onto a geotextile membrane.

5.4.3 Should any wheeled or tracked construction traffic exceeding 2 tonne gross weight be required to enter the RPA of any tree being retained an alternative system (pre cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected will be required.

5.5 Avoiding physical damage to tree roots during works within the RPA's.

To avoid damage to tree roots within the RPA existing ground levels should be retained. If any tree roots are encountered during any works the following shall apply:

Roots smaller than 25 mm in diameter may be pruned back, making a clean cut with a suitable sharp tool (bypass secateurs or handsaw) except where they occur in clumps or of over 25 mm in diameter. These should only be severed following consultation with the project arboriculturist.

Prior to backfilling, retained roots should be surrounded with either topsoil, sharp sand or other loose inert granular fill. These materials should be free of contaminants and other foreign objects which may potentially be injurious to tree roots.

5.6 Sequence of operations

Stages	Action	Arboricultural Input
1. Approval	Tree Survey, AIA, AMS, TPP submitted to and approved by the LPA.	Liaise with LPA if required.
2. Tree Works & Protection	Tree Works in accordance with BS:3998 (2010) Install Tree Protection Fencing.	
3. Site Meeting	To inspect Tree Protection Fencing and ground protection is as specified.	Inspect Tree Protection Fencing.
4. Construction	Undertake construction of proposed development.	Arboricultural supervision of hard landscaping works within root protection areas.
5. Site Finishing	Removal of Tree Protection Fencing to be undertaken only when all site traffic, plant & machinery has left site.	

5.9 Site Monitoring

5.9.1 Wherever trees on or adjacent to a site have been identified within the Tree Protection Plan for protective measures, there should be an auditable system of arboricultural site monitoring. This should extend to arboricultural supervision whenever construction and development activity is to take place within or adjacent to any Root Protection Area (RPA).

5.9.2 Arboricultural supervision will be required during the following phases of construction: **Any works required within any RPA.**

5.10 Site Contacts

Title	Name	Telephone	email
Client	Ian Shipley		ian.shipley@oliverwyman.com
Arboriculturist	Andrew Burden	07719 734990	andrewrburden@hotmail.co.uk
Architects	Fitz	0191 5637025	paul@fitzarchitects.co.uk
Site Manager	TBC		

5.11 Methodology for installation of hard surfacing within root protection area (RPA) of T 586

5.11.1 Under arboricultural supervision, reposition tree protection fencing to allow access to RPA.

5.11.2 Remove existing vegetation using hand tools only.

5.11.3 Level area with rake, remove any large stones.

5.11.4 Install semi permeable geotextile membrane.

5.11.5 Install CellWeb as per manufacturers instruction.

5.11.6 Install edging required to retain CellWeb and gravel. No excavation, edging to be situated on top of existing ground level and held in position by pegs or pins.

5.11.7 Insert non limestone based granular fill by hand.

5.11.8 Add finished gravel surfacing to required depth.

5.11.9 Reposition tree protection fencing to protect canopy of tree until all works are completed.

Figure 1: Example of installation of cellular confinement system within RPA.



6.0 Conclusions

- 6.1 By implementing the tree and hedge protection methods set out within this report the proposed development will have no impact upon trees and hedges being retained.
- 6.2 Tree No: T 586 is of an age and species that can tolerate the required incursion into the root protection area (RPA).
- 6.3 The installation of CellWeb is not required within the root protection areas of the existing hedges where paving is to be lifted and replaced or where new paving is required. The hedges are able to tolerate this minor disturbance as long as no excavation is required.

7.0 Appendices (attached)

7.1 BS:5837 (2012) Tree Survey Data Sheets

7.2 Site plan position of trees

7.3 Site plan crown spread of trees

7.4 Tree Root Protection Areas (RPA) plan

7.5 Tree Protection Plan

7.6 Specification For Protective Fencing

7.7 AIA Proposed Site Layout

Surveyor: Mr. Andrew Burden, HNDip.arb

Signed:

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Date: 14 April 2023