



FEBRUARY 3, 2020

Update of Land adjacent to Lay Hall Riverside Business Park Cefni-y-Bedd
Wrexham. LL12 9YG
TREE SURVEY BS5837:2012

GUY SMALLTHWAITE

TREESURE

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1 SUMMARY

1. The proposed development is for 4 semi-detached dwellings with off road parking for 8 cars.
2. To prevent compaction and to protect the root radial areas of the trees, all trees will be afforded protection (see Arboricultural Method Statement and Tree Protection Plan). Such trees shall be retained and shall not be lopped, topped, felled, pruned, have their roots severed or be uprooted without prior approval of the Local Planning Authority.
3. No healthy trees require removal to accommodate the development. In the interest of safety it is recommended that two 'U' trees should be removed. These trees are categorised as trees of such condition that cannot be realistically retained.

2 INTRODUCTION

- 2.1 Guy Smallthwaite is an Arboricultural Consultant with Treesure. He has been awarded a Foundation degree in Arboriculture with the University of Central Lancashire in conjunction with Myerscough College. He is a Professional Member of the Arboricultural Association and an Associate Member with the Institute of Chartered Foresters. He has 20 years of experience within the industry.
- 2.2 Treesure have been instructed by Mr Mennell to produce a Tree Survey Plan in accordance with BS5837:2012. The updated survey was carried out on the 3rd of February 2020. The weather conditions were overcast with a light breeze.
- 2.3 For the purposes of carrying out the tree survey, Treesure were provided with the following documents: Existing and proposed plans in PDF and CAD.
- 2.4 The trees on the site and adjacent land are not protected by a Tree Preservation Order.
- 2.5 This report details the arboricultural implication of development, recommendations and protective measures.

2.6 This report provides the results of the survey and includes:

- Tree Survey Schedule
- An Assessment of Tree Quality based on BS5837: 2012
- Arboricultural Impact Assessment
- Arboricultural Method Statement
- Tree Constraints Plan
- Tree Protection Plan

2.7 A topographical survey was used to accurately locate all the trees on the site.

3 SCOPE AND LIMITATIONS OF THE SURVEY

3.1 The scope of the survey includes a visual inspection from ground level using the 'Visual Tree Assessment Methodology'. One site was surveyed. The brief was to conduct a Tree survey in accordance with BS5837:2012 Recommendations.

3.2 Any legal descriptions or information given by Treesure are understood to be accurate.

3.3 No responsibility is assumed by Treesure for legal matters that may arise from this report, and the consultant shall not be required to give testimony or to attend court unless subsequent contractual arrangements are made.

3.4 Any alteration or deletion from this report will invalidate it as a whole.

3.5 Trees are large dynamic organisms whose health and condition can change rapidly, therefore due to the changing nature of trees and other site considerations, this report and any recommendations made are only valid for a 1-year period.

3.6 Any operational practices recommended in this report are to be undertaken by the appropriate specialist company. Operatives are to carry out the relevant risk assessment and record such information, prior to commencement of tasks and work in accordance with current Health and Safety standards, practices and legislation.

4. SURVEY METHODOLOGY

- 4.1 The tree survey was carried out using the methodology set out in BS5837:2012 '*Trees in relation to design, demolition and construction – recommendations*'.
- 4.2 Tree canopies or branch spread was measured in four directions N-S-E-W using a Leica Disto. This gives an accurate representation of the tree crown.
- 4.3 Trunk diameters are measured at breast height in mm and rounded to the nearest 10mm.
- 4.4 Crown clearance is the existing height above ground level of the first significant branch along with its direction of growth (e.g. 3.5 – S). Measurements are recorded to the nearest half metre for dimensions up to 10m and the nearest whole metre for dimensions over 10m.
- 4.5 Height was measured using a Nikon Forestry Pro Laser Rangefinder. All were recorded to the nearest half metre for dimensions up to 10m and the nearest whole metre for dimensions over 10m. Stem diameter was recorded in millimetres and rounded to the nearest 10mm.
- 4.6 Photographs were taken on site recording any structural defects or decay/disease.
- 4.7 Life Stage is recorded as either Y- young, SM – Semi – Mature, EM – Early Mature, M – Mature or OM – Over Mature
- 4.8 Observations record the condition of the tree noting any decay/disease or physical defects
- 4.9 Category rating is given to all the trees surveyed. Category A (Green) Trees of high quality with an estimated remaining life expectancy of 40 years. Category B (Blue) - Trees of moderate quality with an estimated remaining life expectancy of at least 20

years. Category C (Grey) - Trees of low quality with an estimated life expectancy of at least 10 years. Category U (Red) - Trees that are unsuitable for retention. Trees in such poor condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

4.10 A, B and C trees are also given a sub – category of 1, 2 or 3 which reflects their arboricultural, landscape or cultural values respectively.

4.11 Life expectancy is the length of time that the tree is estimated to make a useful contribution is expressed in years as: <10, 10+, 20+, and 40+.

5.0 PROPOSAL

The proposed development is for 4 semi-detached dwellings with off road parking for eight cars.

6. TREE DETAILS

6.1 Land

Details of all the trees can be found in the Tree Survey Schedule in Appendix 1 and their location can be found on the Tree Constraints Plan in Appendix 2. All trees except those proposed for removal are to be protected in accordance with BS: 5837 (2012) guidelines.

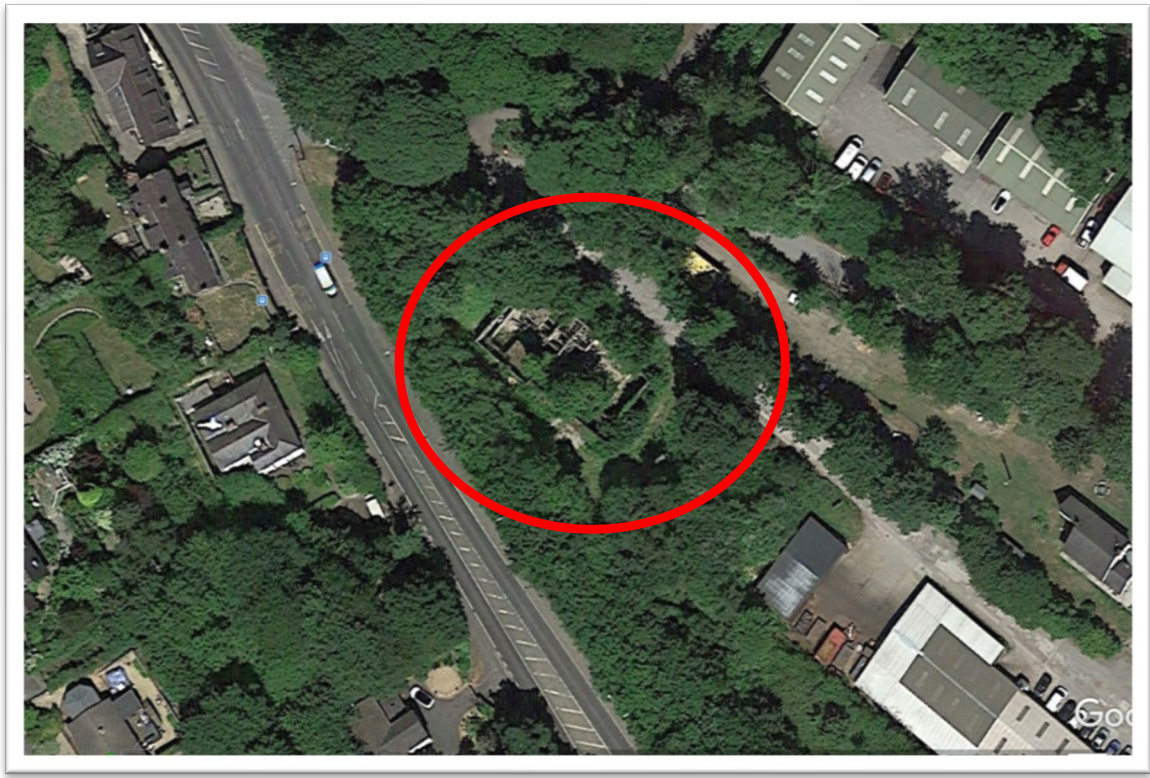


Fig 1. Land Adjacent to Lay Hall Riverside Business Park

6.2 Statutory Protection

The County Council Tree Officer was contacted on 15/10/18 and it was confirmed that there are no protected trees within or close to the area

7. Legal Protection for Wildlife

7.1 Any tree work should be undertaken outside of the nesting season (1st March – 31st July inclusive), although the nesting period may start before this and extend beyond it, in many cases (e.g. barn owls can breed at any month of the year in the UK). This is to avoid impact to nesting birds and infringement of the Wildlife and Countryside Act 1981.

7.2 The quality and value of the tree stock has been broken down by BS5837 quality grade in Table 5.4 below. The grading system can be summarised as follows: For a tree to qualify under any given category, it should fall within the scope of that category's definition (U, A, B, C) and for trees in categories A to C, it should qualify under one or

more of the three subcategories (1, 2, and 3). Subcategories 1, 2 and 3 are intended to reflect arboricultural and landscape qualities, and cultural values, respectively

7.3 Quality and Value of Existing Individual Trees

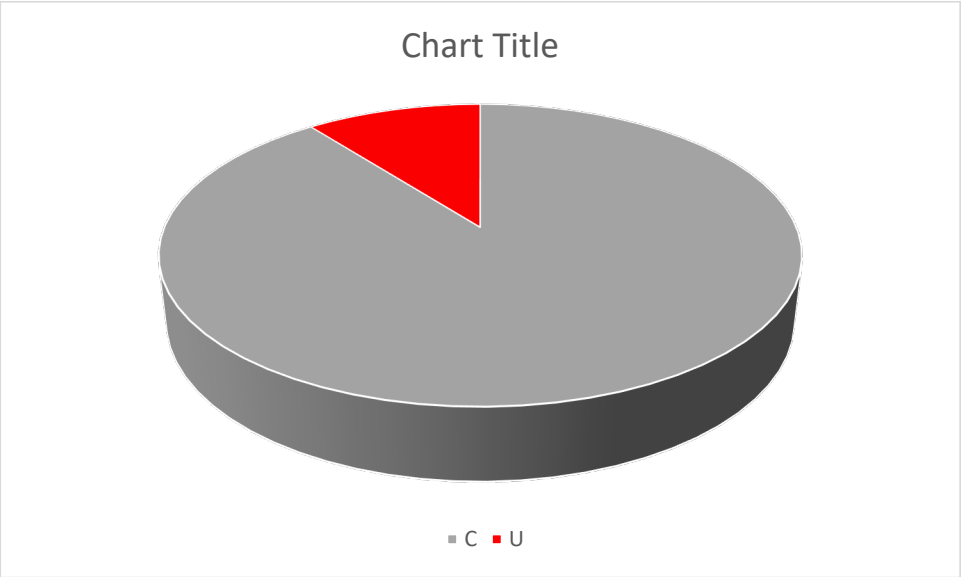


Table 7.4 Quality of Existing Individual Trees (Removal and Retention)

Total No of Individual Trees	A Grade	B Grade	C Grade	U Grade
No of Individual Trees	0	0	17	2
Remove	NA	NA	0	2 (recommended)
Retain	NA	NA	17	0

8.0 SOIL DETAILS

The visual soil assessment revealed freely draining slightly acid sandy soils.

9.0 PLATES



Plate 1. T4 has been removed. Electricity pole on left.



Plate 2. G1 – The saplings which were growing against building have now been removed.



Plate 3. Trees on north east boundary. T7 has had lower branches removed and T8, T9 and G2 have been reduced to approx. 4 metres to clear power lines.



Plate 4. T22, T23 and T24 growing within the building.



Plate 5. T15 – large Sycamore tree clad in ivy.

10. ARBORICULTURAL IMPACT ASSESSMENT

The purpose of the assessment is to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of the site layout proposals.

10.1 Tree protection during excavation

Before any building works commence it is essential that all tree protection fencing is in place to protect the root protection areas.

Temporary Ground Protection. There is a slight incursion into the proposed build (T25 and T15). The fencing would need to be 1.5m from the edge to allow for barriers and working space. This is approximately 1.5m from the edge of the RPA line. Any access within 1.5m of exposed RPA would be limited to pedestrian access only. For

pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100mm depth of woodchip), laid onto a geotextile membrane.

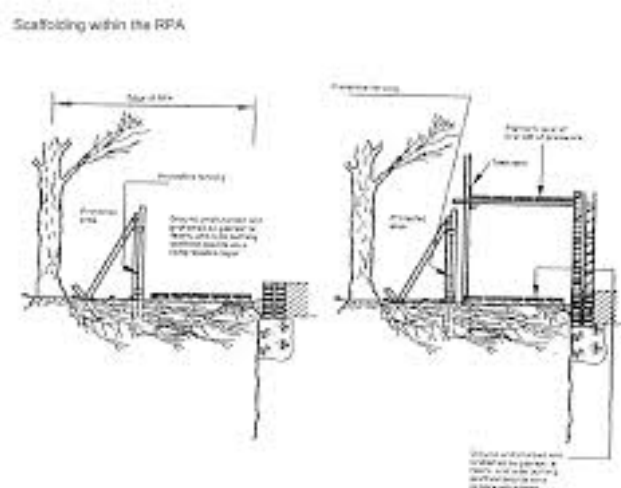


Fig 4. Protective boards and scaffolding to be installed

10.2 Protection of Retained Trees

The successful retention of trees depends on the quality of protection and the procedures that are set in place to ensure that trees are protected. An Arboricultural Method Statement is an effective means of ensuring this protection. Details are set out in the Method Statement in section 11.

10.3 Development will be carried out in the following order:

- Tree work
- Tree protection Fencing and Temporary Ground Protection
- Development of site
- The removal of Tree Protection Fencing.

10.4 Tree Dominance Zone

If new trees are to be planted for screening or boundary it is important that the land is assessed to determine where new trees will not be subject to post development

pressure for planning or removal. Consideration needs to be given to their ultimate height and spread, form, habit and colour, density of foliage and maintenance implications. It is advisable that new tree planting is kept at distances from structures of at least those in Table A.1 (see BS5837:2012). BS 4428:1989 contains recommendations and guidance on general landscape operations, with sections on preliminary investigations, drainage, grading and cultivation, tree planting, and woodland planting. Establishment of new planting can be maximised by good planting practice.

11 ARBORICULTURAL METHOD STATEMENT

- 11.1 The information contained within the Arboricultural Method Statement conforms to BS5837:2012. The controlling authority is Wrexham County Council.
- 11.2 For details of the trees to be retained, their location and Tree Protection Fencing, reference should be made to the Tree Protection Plan.
- 11.3 Any development activity which affects the adaptation of trees to a site could be detrimental to their health, future growth and safety. Tree species differ in their ability to tolerate change, but all tend to become less tolerant after they have reached maturity or suffered previous damage. Planning and subsequent site management aims need to minimise the effect of change.
- 11.4 The implementation, supervision and monitoring of a Tree Protection Plan is necessary to ensure the continued well-being of trees and to comply with BS5837:2012.

12.0 SCHEDULE OF SPECIFIC SITE EVENTS

- 12.1 Whenever 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. Effective tree protection relies on following a logical sequence of events and arboricultural inspection and supervision

12.2 *Pre- Commencement meeting*

Before any start to development a meeting should be scheduled with the site manager, tree officer and the arboricultural consultant. The extent of the tree constraints will be discussed. Working space requirements will be reviewed to consider barrier and ground protection with regard to site functionality. Any potential conflicts should be addressed and a resolution worked towards.

12.3 Tree Works

All tree works are to be carried out before there is any commencement of work for reasons of public safety and adhere to recommendations set out in BS: 3998 (2010)

12.4 *Schedule of Specific Site Events (Table 12.4)*

Stage	Action	Involved parties	Reference
1	Issue Arboricultural survey to site manager	Client/Contractor	N/A
2	Notify Arboricultural Consultant (AC) of date of pre-development meeting	Client/Contractor	N/A
3	Pre-development meeting	Site Manager	N/A
4	Installation of Tree Protection Fencing	Contractor	14.0
5	Development	Contractor	10.0
6	Remove tree protection once development is completed	Contractor	N/A

13.0 TREE PROTECTION PLAN

13.1 In accordance with BS5837:2012 the Tree Protection Plan is superimposed on to the proposed site layout plan and based on the topographical survey. In addition the Tree Protection Plan shows the following information accompanied by descriptive text as required.

13.2 The Tree Protection measures shown in the Tree Protection Plan demonstrate the feasibility of the proposed development in relation to the retained trees. The tree Protection Plan must always be read in conjunction with the Arboricultural Method Statement (see attached Tree Protection Plan).

13.3 Construction Exclusion Zones

Construction exclusion zones are fenced areas of the site that protect soil, surfaces and roots in the proximity of retained trees. The area of these zones (the root protection area) is calculated as an area equivalent to a circle with a radius 12x the stem diameter in accordance with Annexe C and determined from Annexe D in the BS standards.

14.0 TREE PROTECTION FENCING

14.1 All trees that are being retained on site should be protected by barriers and /or ground protection before any materials or machinery is brought on to the site and before any demolition or development. The barrier fencing to be used would be the default type which has uprights that are driven into the ground (see Tree Constraints Plan or Fig 2 in BS5837:2012 guidelines) All weather notices should be attached to the barrier with words such as: "CONSTRUCTION EXCLUSION ZONE- NO ACCESS"

14.2 Stages for installation of Tree Protection Fencing

- Hand clearance of any vegetation to allow clear working access
- Setting out of fencing
- Site meeting with arboriculturist to sign off Tree Protective Fencing
- Site now accessible for vehicular access

14.3 Once installed Tree Protection Fencing will be regarded as sacrosanct and not removed without approval of the Local Planning Authority.

14.4 Protective fencing is a condition of planning approval, if it is removed or repositioned the construction firm is in breach of a condition and may be subject to legal action.

15.0 PRECAUTIONS INSIDE THE CONSTRUCTION EXCLUSION ZONE

- No mechanical excavation
- No excavation without arboricultural site supervision
- No hand digging without a written method statement approved by the arboriculturist
- No lowering or raising of levels
- No storage of plant or materials
- No storage or handling of any chemicals including waste from cement mixing
- No vehicular access

15.1 Underground services

15.2 Mechanical trenching for the installation of underground apparatus and drainage severs any roots present and can change the local soil hydrology in a way that adversely affects the health of the tree. Wherever possible apparatus should be routed outside Root Protection Areas. Where this is not possible it is preferable to keep apparatus together in common ducts. Inspection Chambers should be sited outside the Root Protection Areas. NJUG guidelines for the planning, installation and maintenance of utility services in proximity to trees can be followed.

16.0 PRECAUTIONS OUTSIDE THE CONSTRUCTION EXCLUSION ZONE

16.1 Planning of site operations should take sufficient account of wide loads, tall loads and plant with booms, jibs and counterweight. Such contact can result in serious damage to the trees and might make their safe retention impossible.

16.2 Fires on site should be avoided.

16.3 Material whose spillage could cause damage to a tree should be stored and handled away from the outer edge of the RPA, downhill and at least 10m away.

17.0 CONCLUSION

- 17.1 Providing that the methodology prescribed on this Arboricultural Method Statement and Tree Protection Plan is strictly adhered to I would expect there to be no harmful effects on the retained trees, their health and condition should be as if there had been no development.

17.2 Contact Details for all Relevant Parties

Name	Contact Details
TREVOR MENNELL (ARCHITECT & PLANNING CONSULTANT)	01743 874662 or 07968874662
WREXHAM COUNTY COUNCIL	01978 292000
GUY SMALLTHWAITE (ARBORICULTURAL CONSULTANT)	0151 336 5060 / 07765195443

18. REFERENCES

BS5837:2012 Trees in Relation to Design Demolition and Construction

BS4428:1989 Code of Practice for General Landscape Operations

Patch D, Holding B. 2007. Through the Trees to Development APN 12. Arboricultural Advisory and Information Service.

Appendix 1

Survey Schedule

Classification Key

SURVEY SCHEDULE COMPLIANT TO BRITISH STANDARD 5837: 2012 DATE 3/02/2020													
Ref No	Species	Height (m)	Stem diameter (mm)	N	S	E	W	First sig branch and direction (m)	Canopy height (m)	Life stage	Estimated remaining contribution (years)	Category grading	Observations and Management recommendations
T1	Chestnut <i>Aesculus hippocastanum</i>	16m	544mm	5	4	3	3	4 (N)	2m	M	20+	C2	1.Tall, slender example, clad in ivy with 3 stems. 2.Healthy with no apparent defects.
T2	Ash <i>Fraxinus excelsior</i>	19m	398mm	5	4	2	2	13 (N)	13m	E/M	20+	C2	1.Tall, slender, single stemmed tree clad in ivy. 2. Healthy with no apparent defects.
T3	Ash <i>Fraxinus excelsior</i>	19m	350mm	5	4	2	2	2 (N)	4m	E/M	20+	C2	1.Tall, slender, single stemmed tree clad in ivy. 2. Healthy with no apparent defects.
T4	Sycamore <i>Acer Pseudoplatanus</i> Now removed.	19m	923mm	8	8	8	8	5 (N)	5m	M	40+	B2	1. A large, healthy example with no apparent defects. 2. It is clad in ivy and bifurcates at 3m. Now removed.
T5	Ash <i>Fraxinus excelsior</i> Now removed.	10m	136mm	1	3	2	1	8 (S)	8	Y	20+	C2	1. A single stemmed sapling, slightly leaning south. Now removed.

SURVEY SCHEDULE COMPLIANT TO BRITISH STANDARD SURVEY SCHEDULE COMPLIANT TO BRITISH STANDARD 5837: 2012 DATE 03/02/2020													
Ref No	Species	Height (m)	Stem diameter (mm)	N	S	E	W	First sig branch and direction (m)	Canopy height (m)	Life stage	Estimated remaining contribution (years)	Category grading	Observations and Management recommendations
T6	Ash <i>Fraxinus excelsior</i> Now removed.	11m	190mm	1	2	2	2	7 (S)	7m	Y	10+	C2	1. A multi-stemmed sapling growing against building. 2. Appears healthy with no apparent defects. Now removed.
T7	Sycamore <i>Acer pseudoplatanus</i> Canopy raised by 2m.	11.5m	381mm	1	5	3	3	4(S)	4m	S/M	20+	C2	1. Appears healthy with no apparent defects. 2. The tree bifurcates at 1.5m. Canopy raised by 2m.
T8	Ash <i>Fraxinus excelsior</i> Reduced height to 4 metres.	6m	302mm	3	2	2	3	9(N)	9m	S/M	20+	C2	A single stemmed, young tree with a sparse crown. Reduced height to 4 metres.
T9	Cherry <i>Prunus avium</i> Reduced height to 4 metres.	10m	146mm	0	4	2	2	3 (S)	3m	M	20+	C2	1. Single-stemmed and leaning south. 2. Healthy foliage with no apparent defects. Reduced height to 4 metres.
T10	Beech <i>Fagus sylvatica</i> Advanced decay on north east side of trunk.	14m	277mm	4	4	3	2	9 (S)	7m	S/M	-10	U	Although the tree has healthy foliage there is fire damage on the north side of the trunk. <i>Pleurotus ostreatus</i> fruiting bodies evident.

SURVEY SCHEDULE COMPLIANT TO BRITISH STANDARD SURVEY SCHEDULE COMPLIANT TO BRITISH STANDARD 5837: 2012 DATE 03/02/2020													
Ref No	Species	Height (m)	Stem diameter (mm)	N	S	E	W	First sig branch and direction (m)	Canopy height (m)	Life stage	Estimated remaining contribution (years)	Category grading	Observations and Management recommendations
T11	Beech <i>Fagus sylvatica</i> Advanced decay on north east side of trunk.	14m	382mm	4	4	2	3	8 (N)	7m	S/M	-10	U	Although the tree has healthy foliage there is fire damage on the north side of the trunk. <i>Pleurotus ostreatus</i> fruiting bodies evident.
T12	Sycamore <i>Acer pseudoplatanus</i>	16m	471mm	5	5	5	4	6 (S)	5m	M	20+	C2	1. Single-stemmed, vertical tree a raised canopy. 2. Healthy foliage with no apparent defects.
T13	Sycamore <i>Acer pseudoplatanus</i>	14m	222mm	3	1	2	2	4 (S)	3m	Y	20+	C2	1. In good health with no apparent defects. 2. All foliage is on north side.
T14	Sycamore <i>Acer pseudoplatanus</i>	10m	277mm	3	3	3	3	4 (S)	4m	Y	20+	C2	1. In good health with no apparent defects. 2. A single stem which trifurcates at 3m.
T15	Sycamore <i>Acer pseudoplatanus</i>	17	640mm	6	7	6	7	3 (S)	3	M	20+	C2	1. In good health with no apparent defects. 2. Clad in ivy. 3. The RPA incurs slightly into drive area and care should be taken.

SURVEY SCHEDULE COMPLIANT TO BRITISH STANDARD SURVEY SCHEDULE COMPLIANT TO BRITISH STANDARD 5837: 2012 DATE 13/10/2018													
Ref No	Species	Height (m)	Stem diameter (mm)	N	S	E	W	First sig branch and direction (m)	Canopy height (m)	Life stage	Estimated remaining contribution (years)	Category grading	Observations and Management recommendations
T16	Goat Willow <i>Salix caprea</i>	13m	296mm	3	3	3	3	1 (W)	1m	S/M	20+	C2	1. A typical example with dense crown. 2. Appears healthy with no apparent defects.
T17	Silver Birch <i>Betula pendula</i>	13m	254mm	3	2	3	2	2(W)	3m	E/M	20+	C2	1. Appears healthy with no apparent defects.
T18	Silver Birch <i>Betula pendula</i>	13m	191mm	2	2	2	2	3(W)	3m	Y	20+	C2	1. Single-stemmed, vertical tree. 2. Healthy foliage with no apparent defects.
T19	Goat Willow <i>Salix caprea</i>	9m	396 mm	3	3	2	4	1 (W)	1m	S/M	20+	C2	1. Single-stemmed and leaning south. 2. Healthy foliage with no apparent defects.
T20	Sycamore <i>Acer Pseudoplatanus</i>	12m	170mm	3	0	2	2	3 (N)	3m	Y	20+	C2	1. Tree leaning north on south boundary fence line. 2. Appears healthy with no other apparent defects.

SURVEY SCHEDULE COMPLIANT TO BRITISH STANDARD SURVEY SCHEDULE COMPLIANT TO BRITISH STANDARD 5837: 2012 DATE 03/02/2020													
Ref No	Species	Height (m)	Stem diameter (mm)	N	S	E	W	First sig branch and direction (m)	Canopy height (m)	Life stage	Estimated remaining contribution (years)	Category grading	Observations and Management recommendations
T21	Ash <i>Fraxinus excelsior</i>	6m	170mm	2	2	2	2	1 (E)	Ground	Y	20+	C2	1. Has been pollarded to 1.5m with dense re-growth. 2. Appears healthy with no decay apparent.
T22	Goat Willow <i>Salix caprea</i>	8m	230mm	4	2	3	3	2 (N)	3m	Y	20+	C2	1. Multi-stemmed example, appears healthy with no apparent defects. 2. Growing out of building.
T23	Goat Willow <i>Salix caprea</i>	8m	380mm	4	2	3	3	2 (W)	3m	Y	20+	C2	1. Single-stemmed example, appears healthy with no apparent defects. 2. Growing out of building.
T24	Ash <i>Fraxinus excelsior</i>	12m	170mm	3	2	2	2	2 (N)	2m	Y	20+	C2	1. Single-stemmed and leaning south. 2. Healthy foliage with no apparent defects.
T25	Sycamore <i>Acer Pseudoplatanus</i>	13m	370mm	3	3	3	3	6 (E)	6m	S/M	20+	C2	1. In good health with no apparent defects. 2. A single stem which trifurcates at 3m and clad in ivy.

SURVEY SCHEDULE COMPLIANT TO BRITISH STANDARD SURVEY SCHEDULE COMPLIANT TO BRITISH STANDARD 5837: 2012 DATE 03/02/2020													
Ref No	Species	Height (m)	Stem diameter (mm)	N	S	E	W	First sig branch and direction (m)	Canopy height (m)	Life stage	Estimated remaining contribution (years)	Category grading	Observations and Management recommendations
G1	Elm <i>Ulmus glabra</i> Goat Willow <i>Salix caprea</i> Ash <i>Fraxinus excelsior</i> Beech <i>Fagus sylvatica</i> Now removed.	Av 10m	Av 95mm	2	2			2 (N)	3m	Y	20+	C2	1. Saplings growing against building. 2. All in good health. Now removed.
G2	Hawthorn <i>Crataegus monogyna</i> Ash <i>Fraxinus excelsior</i> Sycamore <i>Acer pseudoplatanus</i> Reduced height to 4 metres.	Av 9m	95mm	2	2			2 (S)	3m	Y	20+	C2	1. Saplings growing along fence line. 2. All in good health. Reduced height to 4 metres.
G3	Hawthorn <i>Crataegus monogyna</i> Ash <i>Fraxinus excelsior</i> Sycamore <i>Acer pseudoplatanus</i>	Av 12m	Av 95mm	2	2			4 (S)	4m	Y	20+	C2	1. Saplings growing along fence line. 2. All in good health but, Appear sparse.
H1	Hawthorn <i>Crataegus monogyna</i>	12m	Av 95mm	2	2			2 (N)	2m	Y	20+	C2	1. Trees growing along fence line. 2. All in good health, though suppressed. The southernmost section has now been removed. This may have involved the council highways dept.

Key: Survey Classification key

Tree no.	Numerical reference for tree on survey plan and tag number
Species.	Scientific name and common name
Height	In metres
RPA	Root Protection Area
TPP	Tree Protection Plan
TCP	Tree Constraints Plan
Stem diameter	In millimetres
Branch spread	Branch spread in metres taken at four cardinal points to give an accurate representation of the crown
First significant branch and direction	First large limb and its cardinal direction
Canopy	Clearance in metres until the start of the canopy
Life stage	Y = Young MA = Middle Aged M = Mature OM = Over Mature V = Veteran
Estimated remaining contribution	This is measured in years (<10, 10+, 20+, 40+)
Category rating	Category A (Green) Trees of high quality with an estimated life expectancy of at least 40 years Category B (Blue) Trees of moderate quality with an estimated remaining life expectancy of at least 20 years Category C (Grey) Trees of low quality with an estimated remaining life expectancy of at least 10 years Category U (Dark Red) Tree of such condition that cannot be realistically retained

Subcategories	1 Mainly arboricultural qualities 2 Mainly landscape qualities 3 Mainly cultural values, including conservation
Observations	Structural and physiological condition
Management recommendations	Remedial work needed to either improve the condition of the tree or to protect the canopy from access during development

APPENDIX 2

TREE CONSTRAINTS PLAN

TREE PROTECTION PLAN

Tree Constraints Plan showing tree categories and root protection zones.

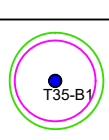
BS5837:2012 Tree Categories

- 

Category A
Trees of high quality with an estimated remaining life expectancy of at least 40 years
- 

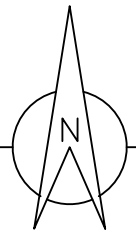
Category B
Trees of moderate quality with an estimated remaining life expectancy of at least 20 years
- 

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
- 

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
- 

Tree
Showing Canopy extents, category colour, RPA circle (BS5837) and tag number (with category).

Tree/Hedge numbering: T1-T25, H1, G1-G3.



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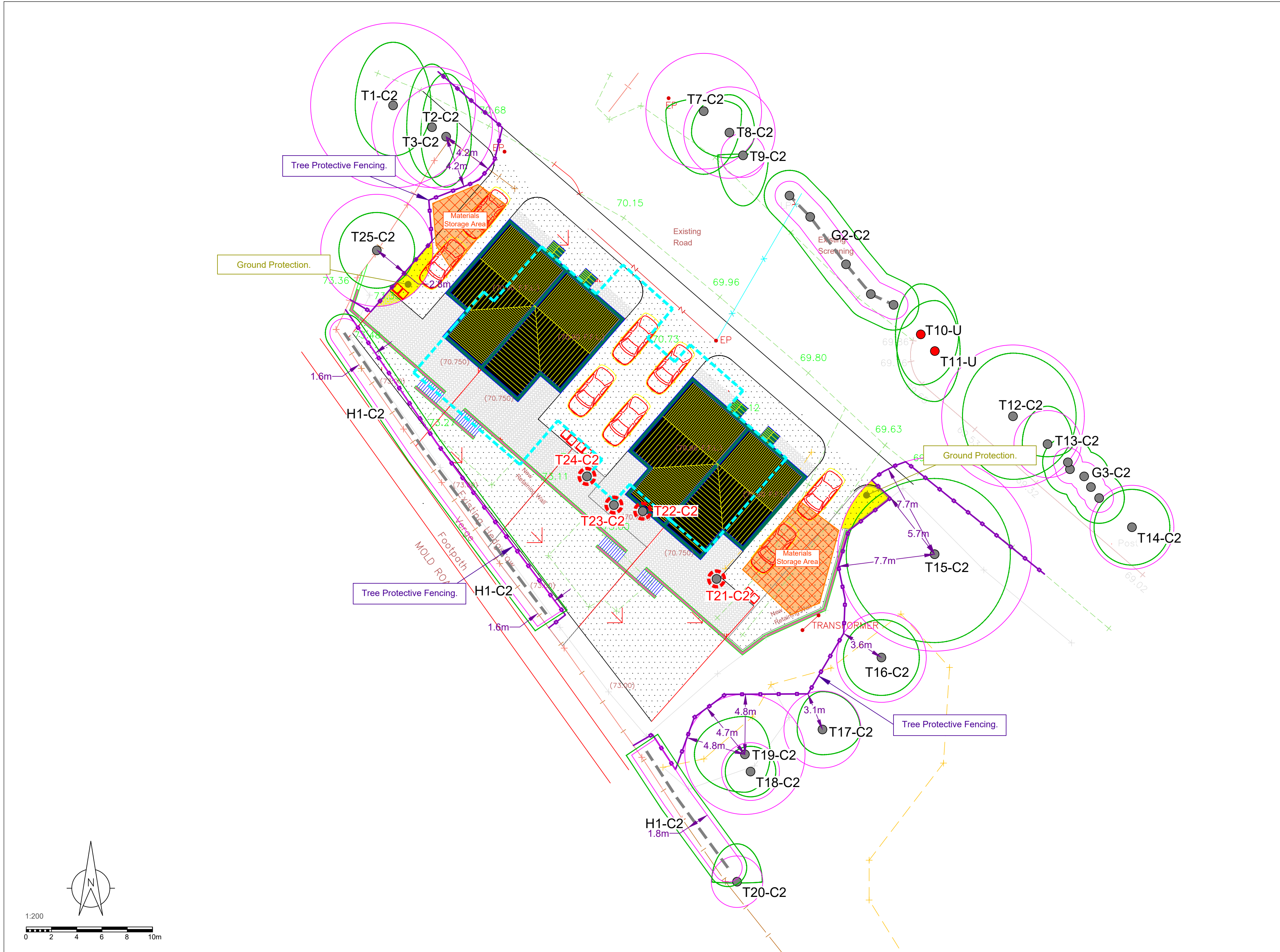
Client
TREVOR MENNELL

Project
SITE ADJACENT TO LLAY HILL INDUSTRIAL ESTATE.

Drawing Title
Tree Constraints Plan

Scale 1:250	Date Feb 2020	DB CS	CB CS
Drawing Number TS/TCP/15/10/18	Rev 1	Sheet A2	

- ABBREVIATIONS**
- AC - AIR CON UNIT
 - AV - AIR VALVE
 - BEL - BELUSHA BEACON
 - BL - BOLLARD
 - BM - BENCH MARK
 - BH - BOREHOLE
 - BT - TELECOM COVER
 - BS - BUS STOP
 - CAM - CAMERA
 - CB - CONTROL BOX/CABINET
 - C-LIGHT - CELLAR LIGHT
 - COL - STEEL COLUMN
 - CTV - CABLE TV COVER
 - DP - DOWN PIPE
 - EB - ELECTRIC BOLLARD
 - EH - ELECTRIC HOOKUP
 - EG - ELECTRIC INSPECTION
 - EMKR - ELECTRIC MARKER
 - EP - ELECTRICITY POLE
 - ER - EARTH ROD
 - FDL - FLOODLIGHT
 - FI - FIRE HYDRANT
 - FL - FLOOR LEVEL
 - GAS - GAS PIPE/GAS BOX
 - GP - GATE POST
 - GV - GAS VALVE
 - GY - GULLY
 - IC - INSPECTION COVER
 - IL - INVERT LEVEL
 - JB - JUNCTION BOX
 - KO - KERB OUTLET
 - LB - LITTER BIN
 - L/BOL - LIGHTING BOLLARD
 - LP - LAMP POST
 - MH - MANHOLE
 - MKR - MARKER POST
 - MP/1 - MONITORING POINT
 - MS - MILESTONE
 - NP - NAMEPLATE
 - PI - PIPE INVERT
 - PO - POST
 - PUMP - FUEL PUMP
 - RE - RODDING EYE
 - RS - ROAD SIGN
 - RSJ - STEEL JOIST
 - RW - RETAINING WALL
 - SAP - SAPLING
 - SC - STOP COCK
 - SD - SLOT DRAIN
 - SP - SIGN POST
 - ST - STOP TAP
 - SV - STOP VALVE
 - SY - STAY
 - TAG - TACTILE PAVING
 - TCB - TELEPHONE CALL BOX
 - TH - TRIALHOLE
 - TL - TRAFFIC LIGHTS
 - TLB - TRAFFIC LIGHT BOX
 - TP - TELEGRAPH POLE
 - TS - TRAFFIC SENSOR
 - VP - VENT PIPE
 - WM - WATER METER
 - WO - WASH OUT POINT
 - YG - YARD GULLEY
- TREE (TO SCALE)**
- TREE CANOPY**
- BUSH - (TO SCALE)**
- FOLIAGE LINE**
- SURVEY STATION**
- GATE**
- CLOSE BOARD FENCE**
- POST AND WIRE FENCE**
- POST AND RAIL FENCE**
- IRON RAILINGS**
- OVERHEAD TELEPHONE CABLES**
- OVERHEAD ELECTRICITY CABLES**
- FOUL WATER DRAIN**
- FOUL WATER DRAIN ASSUMED**
- STORM WATER DRAIN**
- STORM WATER DRAIN ASSUMED**



Tree Protection Plan

Showing existing plan, proposed scheme, and tree protective fencing.

Tree Protection Plan Key

Trees with Canopy, RPA & Tag number
Colour centre denotes category rating:
Green = Trees of high Quality
Blue = Trees of Moderate Quality
Grey = Trees of Low Quality
Red = Trees of Poor Quality

Protective Fencing
Location of tree protective fencing with dimensions from tree centres (if required).

Trees for Removal
To be physically marked by the arboriculturist prior to removal.

Materials Storage Area.

Ground Protection

Tree/Hedge numbering: T1-T25, H1, G1-G3.

The location of tree protective fencing and special control areas are indicative only and must not be directly measured from this plan. Their true locations must be surveyed accurately on site and where applicable be measured from the tree centre by the stated dimension value.

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Client

TREVOR MENNELL

Project

SITE ADJACENT TO LLAY HILL INDUSTRIAL ESTATE.

Drawing Title

Tree Protection Plan

Scale 1:200	Date Feb 2020	DB CS	CB CS
Drawing Number TS/TPP/18/10/18	Rev 1	Sheet A2	