



Project: 21_5837_01_25
Site: Ty Nos, Holt Road, Wrexham,
Client: Richards Moorehead & Laing Ltd



This Report is the copyright of Woodland Solutions. Any unauthorised reproduction or usage by any person other than the addressee is strictly prohibited.



Document Title:	Arboricultural Implications Assessment
Document Author:	Matt Harmsworth
Project Manager:	Matt Harmsworth
Project Title:	Ty Nos, Holt Road, Wrexham

Revision History.

Date:	Version number:	Summary of changes:
20/1/2021	1.0	First Draft
20/1/2021	1.0	First Issue

Distribution.

Approved by:	Signature	Date:	Version:
Matt Harmsworth	MWH	20/1/2021	1.0
Donna Hall	DH	20/1/2021	1.0

Re-Survey Date.

Survey Type:	Lifecycle:	Re-survey Date:
BS5837: 2012	Planning Only	N/A

Report no: 21_5837_01_25

Date: 21st January 2021

FAO: Donna Hall, Principal Ecologist.

eMail: d.hall@rmlconsult.com



Summary:

The tree survey for Ty Nos contains the details of nine individual trees, and two tree groups that are all located on the periphery of the usable site.

Our brief has been to obtain details of the tree population on site with a view to assessing any arboricultural constraints.

We understand that the site is to be redeveloped with residential units and associated hard and soft landscape and a number of tree removals are recommended to facilitate the new layout.

The project should be used as an opportunity to plant some new robust and sustainable tree cover throughout the scheme but any such planting should be chosen carefully so as not to impact any new footprint in the future.

Report Author.

Matthew Harmsworth attended Merrist Wood College in Guildford, Surrey in the late 1990's studying horticulture and arboriculture as well as a National Diploma in Countryside Recreation before gaining employment as a Countryside Ranger with Surrey County Council (later Surrey Wildlife Trust).

After a number of years Matthew started an Arboricultural Contracting business serving residential and commercial clients across the SE of England and also gained his aerial NPTC certificates.

Following the sale of this business in 2009 Matthew moved to North Wales as a junior self-employed consultant for Fairley Arboriculture and studied at Myerscough online to study an FDSc in Arboriculture and become a technician member of the Arboricultural Association.

ROAVR Environmental was formed in 2010 and since then has carried out arboricultural consultancy Nationwide with directly employed consultants. Matthew has written well in excess of 600 BS 5837 2012 tree reports.



Table of Contents

1. [Scope](#)
 2. [Site Conditions & Site Surroundings](#)
 3. [Drawings](#)
 4. [The Tree Population](#)
[Preliminary Management Recommendations.](#)
[Future Management Recommendations.](#)
 5. [Trees & Construction - General Issues](#)
 6. [Tree Constraints - Information](#)
 7. [Structures within the RPA of trees - Information](#)
 8. [Arboricultural Impact Assessment - Site Specific](#)
[Appendix: BS 5837: 2012 – Guidance Notes](#)
[Stage 1: Survey Details and Notes](#)
[Appendix: Survey Methodology](#)
 9. [Limitations](#)
- [Appendix 1 – Site Location](#)
- [Appendix 2 – Arboricultural Data Tables](#)



Arboricultural implications assessment to BS 5837 2012 of trees at: Ty Nos, Holt Road, Wrexham.

1 Scope

- 1.1 We have recently been instructed to undertake an appraisal of mature tree cover at the Holt Road site.
- 1.2 The data was collected to the British Standard BS5837 'Trees in Relation to Design, Demolition and Construction - Recommendations' 2012.
- 1.3 The survey has been commissioned to offer guidance on the arboricultural constraints with a view to the future development of the site.
- 1.4 The trees were inspected on the 20/1/2021 following the guidance in the British Standard by Connor Harmsworth. The crowns and stems were inspected from the ground using the 'Visual Tree Assessment (VTA)' method; non invasive techniques were used at this stage. Although a sounding hammer was used to determine the presence of any decay.
- 1.5 The site was assessed and data was collected on two tree groups, no woodland blocks and nine individual trees. Trees were grouped or designated woodlands as per the allowance in the British Standard when the area in question was uniform in terms of species, age or geography.

Photographic Plates.



Photographic plate showing one of the self-set clumps within G1 located offsite.



Photographic plate showing one of the self-set clumps within G1 located offsite.



*Photographic plate showing one of the poor quality offsite clumps
Growing through the boundary fence line.*



Photographic plate showing the self-set ash and sycamore growing through the fence at the site entranceway.





2. Site Conditions & Site Surroundings

- 2.1 The site is situated in Wrexham in the Wrexham County Borough Council control area. The site is located toward the centre of the town and has an inner city feel.
- 2.2 The site is home to a collection of detached buildings with associated hard and soft landscape.
- 2.3 The wider locality is predominantly residential. The site is accessed via a drive to the south of the built footprint.
- 2.4 A desktop assessment has highlighted that site is not within a Conservation Area nor are there any TPO protected trees on or adjacent to the plot.
- 2.5 All desktop assessment data was cross checked and validated on the 20/1/2021 using the web portal provided by the local planning authority and cross checked with the DEFRA MAGIC database.

<https://www.wrexham.gov.uk/sites/default/files/2020-09/wrexham-cons-area-map.pdf>

- 2.6 Works to protected trees require consent from the local planning authority. In the case of TPO's an application must be made. In the case of conservation areas a notification must be made. TPO applications take up to eight weeks, conservation area notifications take six weeks.
- 2.7 Certain exemptions apply; for example the removal of deadwood. In the case of dangerous trees 5-days written notice should be given to the local authority (in the cases of immediate danger the work should proceed, but the local authority contacted as soon as possible afterwards) with the works evidenced by photographs and video where possible.
- 2.8 It should be noted that planning consent overrides protected trees, where the works or removal are necessary for development to proceed and have been highlighted in the tree survey documents.
- 2.9 Bats. Under current legislation it is an offence to 'intentionally or recklessly disturb a bat' or 'damage, destroy or block access to the resting place of any bat'. For further details consultation must be made with the Statutory Nature Conservancy Organisation. Where relevant any current ecological surveys for the site will take precedence in this matter.
- 2.10 Birds. It is an offence to kill, injure or take any wild bird; or take, damage or destroy the nest of any wild bird while it is in use or being built. Therefore work likely to disturb nesting birds must be avoided from late March to August.



3. Drawings

- 3.1 Appended to this report are a number of drawings.
- 3.2 The tree constraints plan has been produced using a client supplied topographical survey. Tree positions and data have been applied using our survey handset as an onsite exercise with the constraints plan being produced as a PDF through Auto CAD.
- 3.3 An autoCAD .dwg file of the tree constraints is available on request for project stakeholders to utilise.
- 3.4 The *Tree Constraints Plan* shows the existing layout. For each tree the stem location is indicated and scaled according to its diameter, the canopy is indicated according to measurements taken along the four cardinal points of the compass. Root protection areas (RPAs) are indicated which are calculated according to the guidelines within BS 5837 (2012).
- 3.5 Where appropriate, the shapes of the RPAs have been amended to reflect actual site conditions or where trees have been heavily pruned. The 'original' RPAs are indicated as a dashed line whereas the amended RPAs are indicated as a solid line. Any variation to this approach will be highlighted on the appropriate plans.



4. The Tree Population

4.1 BS5837: 2012 Tree Categorisation:

BS5837: 2012 sets out the methodology for surveying trees on potential development sites in order to identify them within a prioritised system of retention categories, as summarised below and given in full within the BS5837: 2012 Cascade Chart for Tree Retention.

A Category Trees of high quality and value in such a condition as to be able to make a substantial contribution for a minimum of 40 years.

B Category Trees of moderate quality and value in such a condition as to make a significant contribution for a minimum of 20 years.

C Category Trees of low quality and value currently in adequate condition to remain until new planting could be established and expected to remain for a minimum of 10 years, or young trees with a stem diameter less than 150mm measured at 1.5 meters above ground level.

U Category Trees in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural or forestry management.

4.2 Additionally, BS5837: 2012 provides subcategories 1-3 within the category system outlined above which indicate the area(s) in which a tree or group retention value lies. An explanation of these values is given within the BS5837: 2012 Cascade Chart for Tree Retention.

1 - Retention values that are mainly arboricultural

2 - Retention values that are mainly landscape.

3 - Retention values that are mainly cultural, including conservation.

4.3 In line with BS5837: 2012, A and B category trees should be considered as a constraint on site and provide a substantial contribution to the site. As a result, A and B category trees should be retained and incorporated into the scheme where possible.

4.4 Generally C and U category trees are considered to be of low quality or are young specimens that can be readily replaced and therefore should not be a constraint in terms of future development.

4.5 However, it is generally considered desirable to retain trees wherever reasonably possible to ensure continuity of tree cover and to provide a mature landscape to the development.



- 4.6 The survey contains details of a number of trees. The comments including species, age, condition and the BS5837:2012 retention category for each individual tree and group of trees are provided in detail in the Tree Schedule (data tables). The full data collection methodology is appended behind the data tables.
- 4.7 The location of each individual tree and their associated constraints are illustrated on the appended Tree Constraints Plan.

Preliminary Management Recommendations - Regardless of the proposals.

- 4.8 The majority of the surveyed trees are low quality self-set natural regeneration. They offer some useful screening but many are impacting the boundary fence lines with partially occluded stems. It is likely many will require removal due to condition within the next ten-years.

Future Management Recommendations - Regardless of the proposals.

- 4.9 The trees should be inspected sooner if there is a noticeable decline in their condition, or following extreme weather events.



5. Trees & Construction - General Issues

- 5.1 This report has been prepared to inform the design layout of potential development and should be submitted with a planning application.
- 5.2 Due to the changing nature of trees and other site circumstances this report and recommendations are limited to a one year period. Similarly, this report could be invalidated if any alterations are made to the site that could change the conditions as seen at the time of inspection.
- 5.3 Under certain circumstances, roots can affect foundations, drains and other underground services. These issues have not been addressed by this report. Trees are dynamic structures that can never be guaranteed 100% safe; even those in good condition can suffer occasional damage under only average weather conditions. A lack of recommended work does not imply that a tree will never suffer damage.
- 5.4 Typically, about 80% of roots will be found in the upper 500mm of soil and often extending well beyond the canopy spread. The threat to the trees by development comes from:

- (a) root severance or fracture
- (b) compaction of the soil, preventing gaseous exchange and moisture percolation
- (c) possible change to moisture gradients due to surface water run-off or interception
- (d) physical damage to low branches and trunk.
- (e) damage from chemical run-off from construction activities

The consequences for the tree of such damage are:

- (i) instability, if severe enough
- (ii) entry points for pathogenic fungi at wounds / fractures
- (iii) loss of vitality due to reduced oxygen, mineral and moisture take-up; all leading to
- (iv) root death, and
- (iv) a general decline or possible death of the tree.

- 5.5 Within a short distance of the stem, the roots of trees are highly branched, so as to form a network of small-diameter woody roots, which can extend radially for a distance much greater than the height of the tree, except where impeded by unfavourable conditions.



- 5.6 All parts of this system bear a mass of fine, non-woody absorptive roots, typically concentrated within the uppermost 600mm of the soil. The root system tends to develop sufficient volume and area to provide physical stability.
- 5.7 The uptake of water and mineral nutrients by the root system takes place via the fine non-woody roots and associated beneficial fungi. Their survival and functioning, which are essential for the health of the tree as a whole, depend on the maintenance of favourable soil conditions. All parts of the root system, but especially the fine roots, are vulnerable to damage.
- 5.8 BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations' gives information on determining a root protection area (RPA). This is the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
- 5.9 The default position should be that structures (section 3.10 of BS5837) are located outside the RPAs of trees to be retained. However, If structures (including hard surfacing) are proposed within the root protection area of a retained tree it will require an overriding justification (5.3.1 of BS5837). The project arboriculturist needs to demonstrate that the trees can remain viable, the area lost to encroachment can be compensated for elsewhere contiguous with the RPA and mitigation measures to improve the soil environment of the tree can be implemented.



6. Tree Constraints - Information

- 6.1 Constraints imposed by trees during development, both above and below ground need to be considered within the site layout design. Protection is afforded to the tree by defining a Root Protection Area (RPA) within which no development activity should take place. The size of the RPA is defined in the British Standard and relates to trunk diameter. The RPA is normally the minimum position for placement of tree protective fencing. The data tables hold a column figure as an offset in meters from the stem that the root protection area extends to.
- 6.2 Nominally the RPA is represented by a circle around the tree. The area of the RPA may however, subject to the consideration of the arboricultural consultant, and be altered to a polygon in order to reflect the site conditions and requirements. For example, existing hard surfaces and foundations are likely to restrict or limit root growth while good quality soil may promote and extend root growth.
- 6.3 Root Protection Areas primarily relate to below ground constraints (root protection). Other constraints that must be considered include:
- The current as well as ultimate height and spread of a tree
 - Large trees close to a building, particularly a dwelling, can cause apprehension to owners/occupiers that result in pressure for tree removal or inappropriate pruning. Buildings should be sited allowing for the species height, spread and overall habit
 - Species characteristics; i.e. density of foliage, fruit-fall, susceptibility to honeydew drip, or branch drop. Trees are shedding organisms. The leaves of some species may cause problems with blocking of gullies and gutters. Fruit may cause slippery patches and honeydew drop can affect surfaces (particularly cars).
If conflicts may arise, detailed design may address such issues, such as non-slip paths, use of car-ports, provision of leaf guards or grilles etc.
 - The potential impact on direct and diffuse light of a particular location of land; shading of buildings by trees can be a problem, especially where rooms require natural light, in addition open spaces such as gardens and sitting areas should be designed to meet requirements for direct sunlight (for at least part of the day)
 - Infrastructure requirements in relation to trees e.g. easements for underground or above ground apparatus and visibility splays
 - Space for the provision of new planting or landscaping
 - The proposed end use of space within Root Protection Areas
 - The requirement to protect overhanging canopies of trees that overhang or extend beyond Root Protection Areas



7. Structures within the RPA of trees - Information

- 7.1 In the development layout design structures should be positioned outside of RPAs as far as practicable(5.9). In some exceptional instances there may be an overriding justification for construction within the RPA. In such cases technical solutions may be available to minimise to an acceptable level of disturbance to the tree or trees. Where such technical solutions may be relied upon full details will need to be included within a method statement. Advice must be sought from a suitably qualified arboriculturalist to develop a solution.
- 7.2 In some cases it may be unavoidable to place permanent hard surfacing within an RPA (for example the placement of an access driveway or parking area). In such cases the following should apply:
- No excavation of the soil should take place, other than scraping of the turf/vegetation layer
 - Any design must avoid compaction, allowing an even distribution of weight
 - New hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA If the proposed surface is likely to require de-icing salt then run-off should be directed away from the RPA
 - Permeable hard surfacing can result in soil moisture saturation for long periods (resulting in root death). Where there is a risk of water-logging a design should incorporate land drainage
- 7.3 Appropriate sub-base options for new hard surfacing include three-dimensional cellular confinement systems (cell-web). Piles, pads or elevated beams can support bridges over RPAs. In all cases full specifications and methodology must be included within a supporting method statement.



8. Arboricultural Impact Assessment - Site Specific

8.1 Overview

8.1.1. Provided to us for comment are plans titled - C1039.100B_Proposed Site Plan.PDF.

8.1.2. The plans show the demolition of the existing footprint and the erection of a number of self-contained apartments with associated hard and soft landscape.

8.1.3. The extent of the proposals will require the removal of the majority of the existing tree cover. Indeed most would not be suitable for retention close to residential development. Off site tree cover can remain in place. The RPA's of a number of trees have been trimmed to the existing boundary wall line.

8.1.4. Existing vehicular access from the south shall be kept.

8.1.5. The table below summarises the potential impact on trees due to various activities.

Trees Potentially Affected:

Retention Category A: None

Retention Category B: Six

Retention Category C: One

Retention Category U: Four

Tree Pruning:

No pruning is required to facilitate the proposals.

RPA:

RPA: Ground level changes are proposed within the RPA of a number of trees.

RPA: Soil Compaction Trees adjacent the construction area (preventable by installing tree protection measures).

8.1.6. Other potentially damaging activities often associated with construction sites include, demolition or the careless use of plant machinery, hazardous materials, or fires.



8.1.7. All of the above potential impacts are considered in detail throughout this section. Section 9 specifies the measures proposed to minimise all possible potential risks of damage to the retained trees.

8.2. Tree Removal.

8.2.1. All trees to be removed are indicated on the Tree Removal Plan and are listed below:

Retention Category A: Our survey did not identify any Retention Category A trees.

Retention Category B: It is proposed to remove T6, T7 and T8.

Retention Category C: It is proposed to remove T9.

Retention Category U: It is proposed to remove T10 and G11.

8.2.2. Details specific to each tree can also be found in the Tree Data Schedule.

8.3. Mitigation Planting.

8.3.1. The trees to be removed are of such low amenity value that no mitigation planting is considered necessary. However, there is ample scope to plant one or two more trees within the site to mitigate against tree loss.

8.4. Impact on Tree Canopies.

8.4.1. The western stems of G1 sit close to the proposed footprint and may require some pruning works.

8.5. Impact on Tree Roots.

8.5.1. All affected trees are to be removed.

8.6. New Surfaces.

8.6.1. No new hard surfaces are proposed within the Root Protection Areas of any retained trees.

8.7. Underground Services.

8.7.1. No underground services are to be installed through any Root Protection Areas.



8.8 Changes in Ground Levels.

8.8.1 All affected trees are to be removed.

8.9 Soil Compaction.

8.9.1 The majority of tree roots lie within the upper soil horizons. This is because the availability of oxygen decreases with depth and roots need to breathe to stay alive. In addition, nutrients are more readily available in the form of organic matter close to the soil surface.

8.9.2. Healthy soils contain about 25% air space between solid particles. Increased loading of the soils caused by construction activity causes air to be squeezed out as the soil becomes compacted preventing roots from breathing. Even an increase in pedestrian activity may cause some soil compaction.

8.9.3 It is important therefore that ground compaction and soil disturbance over Root Protection Areas should be avoided during the construction phase. This may be done by installing protective fencing and ground protection measures as recommended within the tree protection plan.

8.10 Demolition Activities.

8.10.1 The tree protection measures specified within the TPP should be installed prior to the commencement of all demolition activities (including soil stripping) to prevent any detrimental impact on tree health. Where this is not practicable, demolition of structures within Construction Exclusion Zones shall be undertaken very early on in the demolition phase and the protective barriers installed immediately thereafter.

8.11. Hazardous Materials.

8.11.1 All hazardous materials (including cement and petrochemical products) will need to be controlled according to COSHH regulations in order to ensure there is no detrimental impact on tree health. Provision shall need to be made to ensure that cement and cement run-off are contained outside of all Root Protection Areas.



8.12. Cabins and Site Facilities.

8.12.1. Consideration should be given to the location of any site welfare facilities in terms of potential impact on trees. Where it is proposed to install cabins or site facilities in Root Protection Areas, the appointed arborist should be consulted and approval obtained from the local authority.

8.13. Boundary Treatments.

8.13.1. No details have been provided to us at present on the boundary treatment. It may be that the northern stem of G1 requires removal as it is growing through the existing site boundary fence line.

8.14. Impact of Retained Trees on the Development.

8.14.1. Adequate space has been allowed between all retained trees and the proposed development works. Consequently the proposal shall not result in increased pressure to remove or prune any of the retained trees.

8.15. Summary.

8.15.1. In order to facilitate the development, it is proposed to remove a number of low quality self-set trees. The project provides an opportunity to enhance the locality with some new planting and this should be welcomed.



Appendix: BS 5837: 2012 – Guidance Notes

This Standard prescribes the principles to be applied to achieve a satisfactory juxtaposition of trees and structures. It sets out to assist those concerned with trees in relation to design, demolition and construction to form balanced judgements.

It acknowledges the positive contribution trees may offer to a site, as well as the negative aspects of retaining inappropriate trees. It addresses the negative impacts that construction activity may have upon trees and offers mitigation strategies to minimise these impacts.

The Standard suggests a three stage approach to ensure best practice is followed when developing close to trees:

Stage 1: Survey Details and Notes

A ground level visual survey was undertaken. No climbed inspections or specialist decay detection were undertaken. Only trees with a stem diameter over 75mm, which lie within the site boundary or relatively close to it, were included.

Where applicable, trees with significant defects have been highlighted and appropriate remedial works have been recommended. However, this report should not be seen as a substitute for a full Safety Survey or Management Plan which are specifically designed to minimise risk and liability associated with responsibility for trees.

Wherever practicable dimensions were obtained using diameter tapes, logger's tapes, distometers and clinometers. Where obstacles prevent accurate measurement, dimensions are estimated. Trees on privately owned third parties are surveyed from the best available vantage point and observations relating to the condition of these trees should be treated accordingly. All height measurements should be regarded as approximate.



Appendix: Survey Methodology

Ground level visual surveys are carried out using the Visual Tree Assessment technique described by Mattheck and Broeler (1994) and endorsed by the Arboricultural Association (LANTRA Professional Tree Inspection course, 2007).

Structural condition is assessed by inspecting the stem and scaffold branches from all angles looking for weak branch junctions or symptoms of decay. Particular attention is paid to the stem- base. Cavities are explored using a metal probe in order to assess the extent of any decay. If this is not possible further inspection is recommended in the form of a climbed inspection or using specialist decay detection equipment.

The physiological condition is assessed by inspecting the stem, branches and foliage for symptoms of disease. The overall vigour of the tree is also taken into account.

Where significant defects are observed, recommendations are made according to a scale of priority in order to reduce the likelihood of structural failure. The position of the tree and its potential targets are taken into account.

Measurements are obtained using a diameter tape, clinometer, distometer and loggers tape.

Where this is not practical measurements are estimated.

Some trees are surveyed as groups, though this is usually avoided close to areas likely to be developed.



9. Limitations

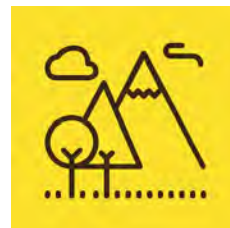
- 9.1 ROAVR Environmental has prepared this Report for the sole use of the above named Client/Agent in accordance with our terms of business, under which our services were performed. No other warranty, expressed or implied, is made as to the professional advice included in this Report or any other services provided by us.
- 9.2 This Report may not be relied upon by any other party without the prior and express written agreement of ROAVR Environmental. The assessments made assume that the land use will continue for their current purpose without significant change. ROAVR Environmental has not independently verified information obtained from third parties.
- 9.3 This report, video walkthrough, data tables and raw data remain the copyright of ROAVR until such time as any monies owed are settled in full and the report may be withdrawn at any time.

Should you require any further information, please do not hesitate to contact us at any time.

Mr. M Harmsworth tech.arbor.a, DipRS
Consultant Arborist

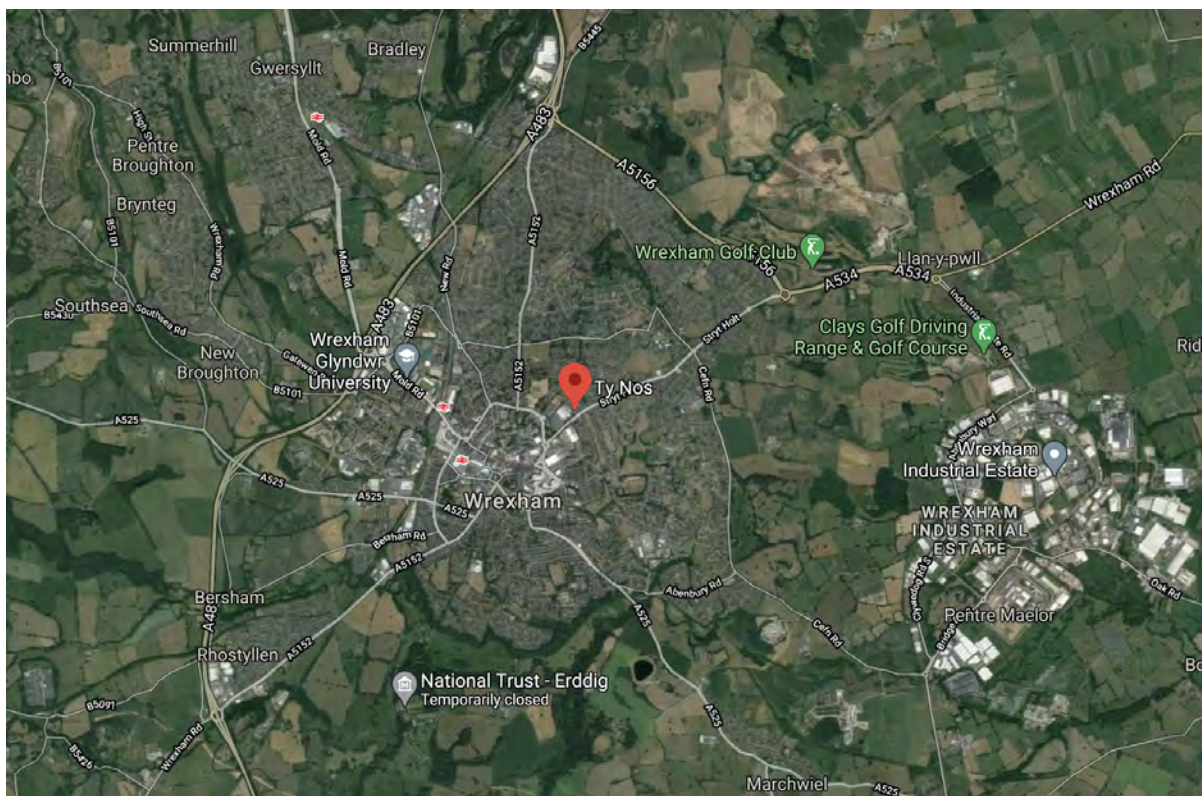
Matt Harmsworth

Prepared by: Matthew Harmsworth.
Checked by: Ffion Maguire.





Appendix 1 – Site Location







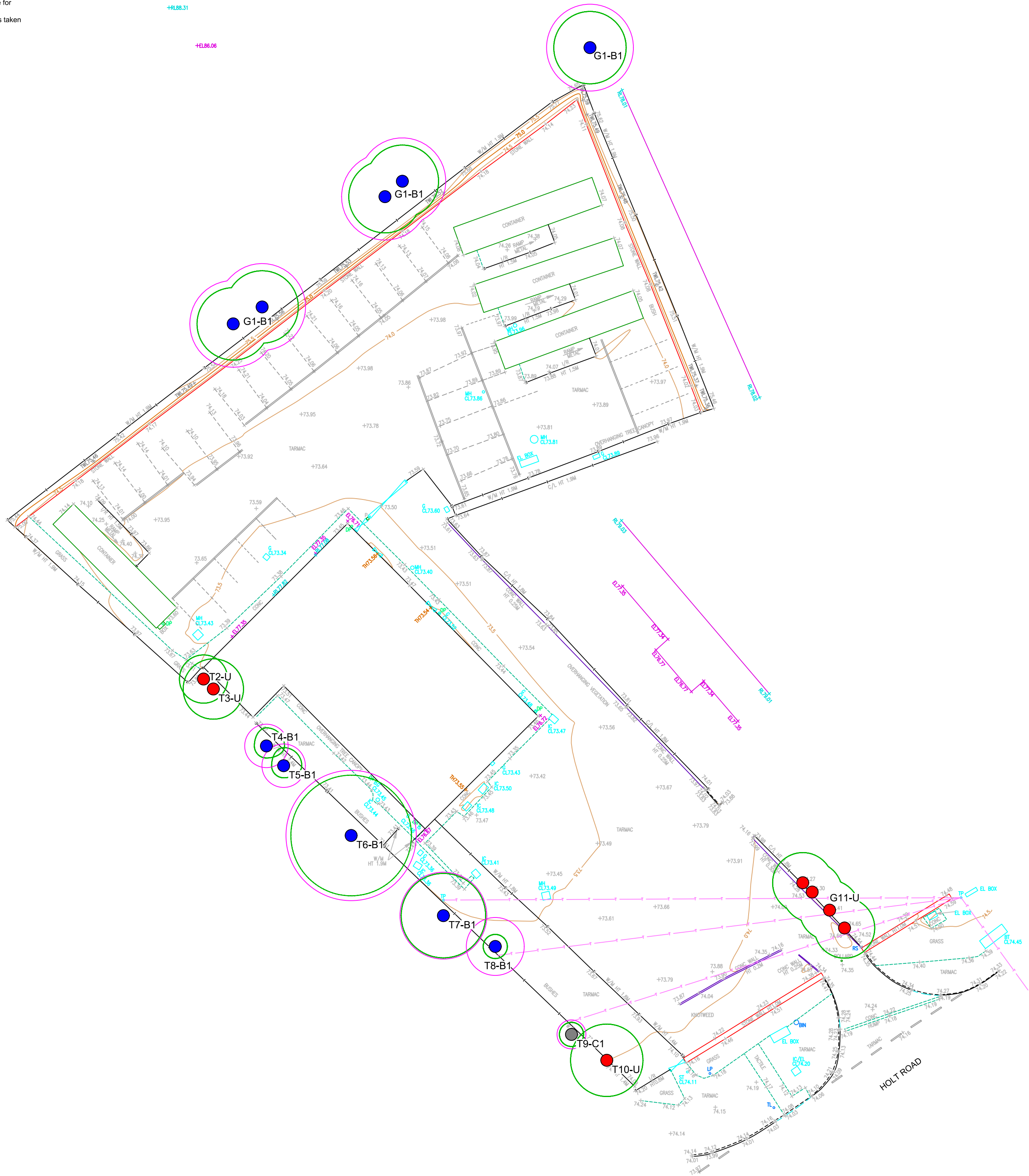
Appendix 2 – Arboricultural Data Tables

Tree Number	Species	Age Class	DBH	Height (crown height)	N	E	S	W	Condition	Life Expectancy	Physical Description	Comments	Managment Recommendations	RPA offset from stem.	Category Rating
G1	<i>Acer pseudoplatanus</i> (Sycamore), <i>Fraxinus excelsior</i> (Ash)	EM-SM	300 max	8 max	As drawn				Fair-Good	20+	Tree located within raised bed. Part of linear group. Stem divides at ground level. Stem divides below 1.5m.	Offsite group of several multi-stemmed individuals on banking above site; constrained RPA; dbh estimated	No works required	3.6	B3
T2	<i>Acer pseudoplatanus</i> (Sycamore)	EM	200	8(1)	2	2	2	2	Fair	20+	Tree located within hard surface area. Epicormics on stem. Stem divides at ground level. Branches encroaching upon building.	Poor quality multi-stemmed self-set on boundary fence line; limited long term prospects due to location and form.	Consider Removal	2.4	U
T3	<i>Acer pseudoplatanus</i> (Sycamore)	EM	250	7(1)	2.5	2.5	2.5	2.5	Fair	20+	Tree located within hard surface area. Epicormics on stem. Stem divides at ground level. Branches encroaching upon building.	Poor quality multi-stemmed self-set on boundary fence line; limited long term prospects due to location and form.	Consider Removal	3	U
T4	<i>Fraxinus excelsior</i> (Ash)	EM	150	7(3)	1.5	1.5	1	1	Fair	20+	Tree located within hard surface area. Leaning North-East. Branches encroaching upon building.	Located offsite; self-set.	No works required	1.8	B1
T5	<i>Fraxinus excelsior</i> (Ash)	EM	150	7(2)	1.5	1.5	1	1	Fair	20+	Tree located within hard surface area. Tree located within raised bed. Leaning North-East. Mechanical Damage. Branches encroaching upon building.	Located offsite; self-set.	No works required	1.8	B1
T6	<i>Acer pseudoplatanus</i> (Sycamore)	M	450	11(3)	5	5	5	5	Fair	20+	Tree located within hard surface area. Unable to inspect stem due to undergrowth. Mechanical Damage. Low branches over road/footpath. Branches encroaching upon building.	Located offsite; self-set.	No works required	5.4	B1
T7	<i>Fraxinus excelsior</i> (Ash)	M	300	11(3)	3.5	3.5	3.5	3.5	Fair	20+	Tree located within hard surface area. Tree located within raised bed. Unable to inspect stem due to undergrowth. Low branches over road/footpath.	Located offsite; self-set.	No works required	3.6	B1
T8	<i>Fraxinus excelsior</i> (Ash)	M	200	10(3)	1	1	1	1	Fair	20+	Tree located within hard surface area. Tree located within raised bed.	Located offsite; self-set.	No works required	2.4	B1
T9	<i>Crataegus monogyna</i> (Hawthorn)	EM	100	7(1)	1	1	1	1	Fair	10+	Poor shape & form. Declining. Tree located within hard surface area. Tree located within raised bed. Unable to inspect stem due to undergrowth. Mechanical Damage.	Located offsite; self-set.	No works required	1.2	C1
T10	<i>Acer pseudoplatanus</i> (Sycamore)	M	300	8(1)	3	3	3	3	Poor	<10	Tree located within hard surface area. Epicormics on stem. Stem divides at ground level. Mechanical Damage. Low branches over road/footpath.	Partially occluded through fence at entrance to the site.	Requires removal	3.6	U
G11	<i>Acer pseudoplatanus</i> (Sycamore)	SM-M	310 max	7 max	As drawn				Poor	<10	Poor shape & form. Declining. Tree located within hard surface area. Part of linear group. Major bark wounding on stem. Stem divides at ground level. Mechanical Damage. Low branches over road/footpath.	Partially occluded through fence at entrance to the site.	Requires removal	3.72	U

Arboricultural Data Tables Terms

Tree Number	Reference number (T1, T2 etc for trees / G1, G2 etc for tree groups / H1, H2 etc for hedgerows)
Species	Common name
Height	Height of tree to the nearest metre
DBH	Diameter of stem (mm) at breast height (1.5 metres above ground)
RPA radius (m)	The radial measurement of the Root Protection Area in metres indicating the minimum distance from the centre of the trees stem to the recommended position of the protective (Heras) fencing.
RPA (m2)	The Root Protection Area, measured in square metres. This measurement is directly proportional to and calculated from the trees DBH measurement as specified in section 4.6 of BS 5837 (2012) Trees in relation to design, demolition and construction – Recommendations.
Crown Spread	The maximum spread of the trees canopy measured from the stem in four directions (North, East, South, West)
Age class	The estimated age class of the tree (relative to species) ○ Y - Young ○ SM - Semi-mature ○ EM - Early-mature ○ M - Mature ○ LM - Late-mature
Comments	A brief description of the tree which refers to tree form, condition, health and significant defects. Comments regarding environmental conditions affecting the tree (e.g. ground conditions) will also be included where relevant.
Preliminary management recommendations	Recommendations (made with respect to the development proposals if available) for removal, retention and/or remedial arboricultural works.
Estimated remaining years	Estimated safe, usable life expectancy
Category grade	Tree categorisation based on section 4.5 of BS 5837 (2012) Trees in relation to design, demolition and construction – Recommendations. Four categories are used (A, B, C, U) with categories A, B & C being assigned one of three separate sub categories (1, 2 or 3): A – Trees of high quality with an estimated remaining life expectancy of at least 40 years. B – Trees of moderate quality with an estimated remaining life expectancy of at least 20 years. C – Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm Subcategories: 1: Mainly arboricultural & aesthetic qualities 2: Mainly landscape qualities 3: Mainly cultural values, including conservation U – Trees 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

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour – a monochrome copy should not be relied upon.
All rights reserved.



Tree Constraints Plan
showing existing layout with
tree categories and root
protection zones.

Key

-  **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**
Trees 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
-  **BS 5837:2012 Root Protection Area**
Note: The RPA limits for some groups may be represented by a dashed/hatched category coloured line.
-  **Tree**
Showing Canopy extents, category colour, tag number (with category) and optional indication arrow showing bearing of first significant branch.

Tree/Group/Hedge numbering: 1-11.



ROAVR Environmental
The Green House, Beechwood Business Park
North, Inverness, IV2 3BL.

Office: 01463 667302
environmental@roavr.co.uk
www.roavr-environmental.co.uk

Client
RML Consulting

Project
Holt Road, Wrexham.

Drawing Title
Tree Constraints Plan

Scale
1:250@A2

Date
Jan 2021

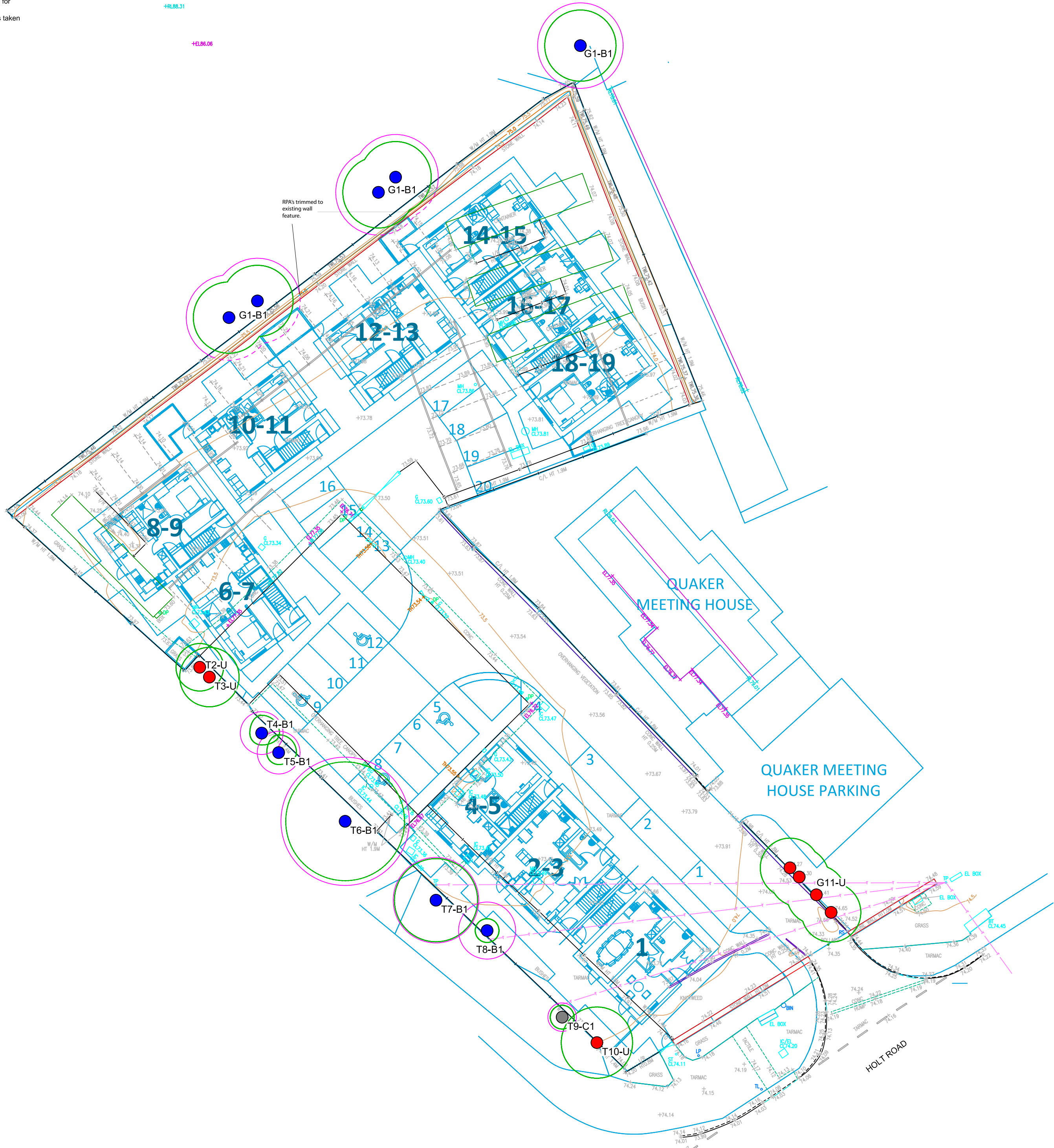
DB
CS

CB
MH

Drawing Number
21_5837_01_25

Rev
1

General Notes
Do not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions or inaccuracies in respect of this plan.
The original of this drawing was produced in colour – a monochrome copy should not be relied upon.
All rights reserved.



Tree Assessment Plan
showing proposed layout
with tree categories and
root protection zones.

Key

-  **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**
Trees 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
-  **BS 5837:2012 Root Protection Area**
Note: The RPA limits for some groups may be represented by a dashed/hatched category coloured line.
-  **Tree**
Showing Canopy extents, category colour, tag number (with category) and optional indication arrow showing bearing of first significant branch.

Tree/Group/Hedge numbering: 1-11.



ROAVR Environmental
The Green House, Beechwood Business Park
North, Inverness, IV2 3BL.

Office: 01463 667302
environmental@roavr.co.uk
www.roavr-environmental.co.uk

Client
RML Consulting

Project
Holt Road, Wrexham.

Drawing Title
Tree Assessment Plan

Scale
1:250@A2

Date
Jan 2021

DB
CS

CB
MH

Drawing Number
21_5837_01_25

Rev
1