

Arboricultural Impact Assessment & Method Statement

Land off Clywedog Road South, Wrexham Industrial Estate (Site 5B)

Prepared for:

FI Real Estate Management Ltd
C/o J10 Planning

Our Ref: 17/AIA/WXM/203A

November 2018

Tree Solutions Ltd

T: 01244 389114

E: info@tree-solutions.co.uk

W: www.tree-solutions.co.uk

Contents:

1.0	Instruction
2.0	Statutory Controls & Planning Policy
3.0	The Site
4.0	Development Proposal
5.0	General Constraints Data – Construction Exclusion Zones
6.0	Survey Methodology
7.0	Juxtaposition of Trees & Structures
8.0	Demolition/Development Impact to Trees
9.0	Proposed Revisions
10.0	Conclusions
11.0	Limiting Conditions

<i>Appendix 1</i>	Tree Survey Schedule
<i>Appendix 2</i>	Preliminary Tree Constraints Plan
<i>Appendix 3</i>	Arboricultural Impact Plan
<i>Appendix 4</i>	Tree Protection Plan
<i>Appendix 5</i>	Tree Protection Measures/Method Statement

1.0 INSTRUCTION

- 1.1 We have been instructed by FI Real Estate Management Ltd C/o J10 Planning to carry out an Arboricultural Impact Assessment (AIA) in order to assess the development proposal in relation to trees in accordance with the principles of British Standard 5837 'Trees in Relation to Design, Demolition & Construction - Recommendations' 2012.
- 1.2 We are instructed to prepare a report in order to provide information to assist all parties involved in the planning process to make balanced judgements with regard to arboricultural features in relation to the proposed industrial development on land off Clywedog Road South (Site 5B), Wrexham Industrial Estate. As such, all trees within influencing distance to the required development works have been surveyed and are listed within a Tree Survey Schedule (**Appendix 1**) and plotted on all accompanying plans.
- 1.3 The stage 1 tree survey was carried out on 23 September 2017 by Alistair Henderson, Principal Consultant to Tree Solutions Ltd. Our appraisal of the mechanical integrity of trees on the site is sufficient only to inform the current project. The assessment of trees is carried out from ground level without invasive investigation and the disclosure of hidden defects cannot therefore be expected. Whilst the survey is not specifically commissioned to report on matters of tree safety, we report obvious defects that are significant in relation to the existing and proposed land use. We do not carry out detailed safety inspections unless specifically instructed to do so in writing and have not carried out such inspections of trees on the proposal site.
- 1.4 Sixty nine individual tree (T1-T69), nineteen groups (G1-G19) & twelve woodlands (W1-W12) were surveyed and mapped on a Preliminary Tree Constraints and Impact Assessment Plan Ref: 17/AIA/WXM/203D, Drawing No. 1 & 2 at **Appendix 2/3**. All arboricultural information recorded during the survey is presented within a schedule at **Appendix 1**.
- 1.5 The Arboricultural Impact Assessment is based on the proposed site layout plan Ref: B10500-AEW-SI-XX-DR-A-0503 (Rev P4) provided by AEW Architects.

2.0 STATUTORY CONTROLS & PLANNING POLICY

- 2.1 In terms of impacts on trees, the planning application will be assessed against Policy EC4 of the Wrexham County Borough Council Unitary Development Plan (2005) and Local Planning Guidance Note 17 'Trees & Development' (2010).
- 2.1.2 We have not been able to establish if any trees on or adjoining the site are subject to a Tree Preservation Order. You are therefore advised to seek confirmation from WCBC prior to undertaking any remedial tree surgery work not granted consent under this planning proposal.

2.2 Protected Species

- 2.2.1 Mature trees often contain cavities, crevices and hollows that offer potential habitat for species such as bats and barn owls. Both are afforded protection under the Schedule 5 of the Wildlife and Countryside Act 1981 (as amended), as well as The Conservation (Natural Habitats, &c) (Amendment) Regulations 2007.

2.3 Wildlife Habitats

- 2.3.1 Trees and hedgerows of most species provide valuable nesting sites for a wide range of birds and it is likely that nesting birds will be present on the site during the period March to September.

3.0 THE SITE

- 3.1 The site is a vacant industrial plot and contains a number of small trees/scrub of no particular merit. The most significant trees are within an areas of unmanaged woodland outside the site boundary to the NE.

4.0 DEVELOPMENT PROPOSAL

- 4.1 Industrial development with associated vehicular access and parking.

5.0 GENERAL CONSTRAINTS DATA - CONSTRUCTION EXCLUSION ZONES (CEZ's)

5.1 GENERAL

5.1.1 The three phases of an AIA were outlined in Section 1. In addition, during the development process for retention trees, there may be three and even four constraints to consider: Construction Exclusion Zone (CEZ's):

- CEZ 1: Root Protection Area (see 5.2)
- CEZ 2: Tree Crown Protection (see 5.3)
- CEZ 3: Tree Dominance (see 5.4)
- CEZ 4: New Tree Planting Zone (see 5.5)

CEZ's are explained below:

5.2 CEZ 1: ROOT PROTECTION AREA (RPA)

5.2.1 The RPA, calculated in m², should be protected before and during any demolition/construction works. This ensures the effective retention of trees by safeguarding a reliable quantum of functioning tree roots. The RPA is based on a radial measure from the centre of the tree stem, which is calculated by multiplying the stem diameter by a factor of twelve or by the $\sqrt{(\text{mean stem diameter}^2) \times \text{number of stems}}$ for multi-stemmed trees. With the AIA 1, the RPA is only shown indicatively on the preliminary TCP, as its shape may be subject to amendment as the design progresses.

5.2.2 During the AIA 2, the derived radial measure is converted by the arboriculturalist into the actual area to be protected, having due regard to prevailing site conditions and how these may have affected the tree(s), particularly in relation to factors affecting their likely rooting disposition. The RPA for each tree should initially be plotted as a circle centred on the base of the stem. Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced. Modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution.

5.2.3 The means of protecting the RPA will include the installation of tree protective fencing prior to the start of any demolition or construction work on site. The prohibition of various activities within the RPA must be adhered to (e.g. mechanical excavation, soil stripping, fire lighting, material storage, lowering levels and creating excessive sealed surfacing) and may include the use of temporary ground protection and/or special engineering solutions where construction is proposed near to retention trees or within the RPA.

5.3 CEZ 2: TREE CROWN PROTECTION ZONE

5.3.1 This is the area above ground occupied by the crown (branches) of the tree, along with allowances for working space (safe working area) and if appropriate, for future growth. The extent of CEZ 2 is determined by considering the existing and future crown spread of the tree(s), bearing in mind the possibility of this being modified by an acceptable quantum of pruning.

5.4 CEZ 3: TREE DOMINANCE ZONE

5.4.1 This is the area above ground dominated by the tree in relation to issues of shading, seasonal debris and safety apprehension. This area is calculated by considering the height and spread of the tree relative to the proposed buildings, cross referenced with intended end use. As such, what is assessed is the likely psychological effect of the tree on the end user.

5.4.2 The purpose of identifying CEZ 3 is to protect trees from post development pressure (resentment) by the site's end users, who may, if resentful of the trees, seek to procure excessive pruning treatments or even to have them removed. This is a common Planning Service concern, which has led on many occasions both to refusals of consent and to dismissed Appeals against those refusals.

5.4.3 The means of protecting CEZ 3 is likely to include optimising the site layout and room type (especially in relation to new residential dwellings), such that any adverse psychological impacts of the trees are reduced to an acceptable minimum. Key principles include ensuring adequate separation distances between trees and new buildings, in the context of the buildings' end use relative to the location of the tree(s) and avoiding excessive obstruction by trees of critical solar access.

5.5 CEZ 4: NEW PLANTING ZONE

- 5.5.1 In some cases, it may be appropriate to identify and protect areas intended for new landscape planting, which can fail to establish if the soil has been heavily compacted or contaminated during the demolition/construction process. The means of protecting CEZ 4 will either be by fencing it off prior to the start of works on site, or by soil remediation once construction has finished (and prior to the start of planting). Topsoil protection in areas destined for new planting is frequently an economy measure, saving on plant replacement and soil structure remediation.

6.0 SURVEY METHODOLOGY

- 6.1 The method used in the preparation of this report is based on the principles of BS 5837: 2012.

1. Tree heights were surveyed to the nearest 1m.
2. Trunk diameters were measured by use of forestry girth tape
3. The category assessment (Table 1) on which the trees is based include current and long-term arboricultural, landscape, cultural and conservation values (BS5837: 2012). This table can be found at **Appendix 1**
4. For clarity, the grading system is summarised from **Table 2** of the BS as follows:

U grade – trees for removal, effective for less than 10 years

A grade – trees of high quality and value, effective for more than 40 years

B grade – trees of moderate quality and value, effective for more than 20 years

C grade – trees of low quality and value, effective for 10 years

Note: We have indicated colour coding on the drawing and therefore a monochrome copy should not be relied on.

6.2 SOIL ASSESSMENT

- 6.2.1 A soil assessment should be undertaken by a competent person to inform decisions relating to:

- the root protection area (RPA)
- tree protection
- new planting design; and
- foundation design to take account of retained, removed and new trees (potential soil subsidence/heave)

Tree Solutions do not undertake soil assessments and the client is advised to seek specialist advice in this respect.

7.0 JUXTAPOSITION OF TREES AND STRUCTURES

7.1 Below ground constraints

- 7.1.1 The below ground constraints are generally summarised as the root protection area (RPA). The shape of the RPA and its exact location will depend upon arboricultural considerations including likely tolerance of the tree to root disturbance; morphology and disposition of the roots when known influenced by past or existing site conditions; soil type and structure; and topography and drainage.
- 7.1.2 The purpose of the RPA is to prevent physical damage to tree roots and to prevent damage to the soil structure. Tree roots are damaged by soil compaction, changes in soil levels or soil contamination which could reduce tree health and/or stability.
- 7.1.3 Root patterns are affected by topography and characteristics of the soil or substrate. Where trees are located within close proximity to existing hard standing or underground physical barriers they are unlikely to have an even distribution of lateral roots due to restrictions in root growth created by compacted sub-grades beneath. The RPA of all trees have been plotted unmodified as there were no underground barriers present that would prevent good radial root spread.

7.2 Underground Services

- 7.2.1 We have considered the broad implications of the provision of underground services but the locations of existing and proposed were not identified and in this regard, our advice is of a general nature. Details will be included as part of the final submission.
- 7.2.2 Drainage and service runs may need to be constructed within the rooting areas of retained trees. If this is a requirement of the development it will be necessary to retain significant roots and methods of excavation, such as thrust boring or hand digging, may need to be adopted to ensure that these impacts are acceptable.
- 7.2.3 As with foundation design, low impact construction methods for services installation are now well established. For more information regarding underground services, reference should be made to the National Joint Utilities Group (NJUG) Publication No. 10. Volume 4 '*Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees*' 2007

8.0 DEVELOPMENT IMPACT TO TREES

- 8.1 In order to accommodate the proposed development it will be necessary to remove 3 individual trees No's 1-3 and group 20 as indicated on the plans and schedule. These trees are all small diameter semi-mature/early mature Ash poles of no particular merit/value that can be easily replaced by new planting along the site frontage. Their retention value is disproportionate to the economic value this development brings to the area. Furthermore, all trees lost to development can be easily replaced by a programme of new planting that will radically enhance the area by providing well managed good quality landscaping along Clywedog Road.

9.0 PROPOSED REVISIONS TO THE SCHEME

- 9.1 We advise that all proposed revisions having implications for trees should be referred to us for review.

10.0 CONCLUSIONS

- 10.1 BS 5837: 2012 contains clear and current recommendations for a best practice approach to the assessment, retention and protection of trees on development sites. The proposed development has followed this guidance by:
- Seeking arboricultural advice and undertaking a phase 1 preliminary tree survey in order to inform the layout and design of the proposed development
 - Respecting the constraints posed to development of the site by high or moderate quality trees
 - Acting upon arboricultural advice throughout the design process in order to obtain the best development proposal whilst considering the current and future tree requirements
 - No trees of any value/significance lost to developed
 - Development allows area to be brought into good management

Appendix One
Tree Survey Schedule

TREE SURVEY SCHEDULE (BS5837: 2012)

Tree Solutions

Arboricultural Consultants

SITE:	CLYWEDOG RD SOUTH, WREXHAM INDUSTRIAL ESTATE (SITE 5B)
CLIENT:	FI REAL ESTATE MANAGEMENT LTD
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	T. WILLIAMS
ASSESSMENT DATE:	23/09/2017
VIEWING CONDITIONS:	GOOD
JOB REFERENCE:	17/AIA/WXM/203A

PAGE 1 OF 14

TREE NO. T - Tree G - Group W - Wood	SPECIES (COMMON NAME)	AGE	HEIGHT (m) +	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA.(mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
T1	Ash	EM	10	3	2	2	3	150 170 (227)	G	- Bifurcates at base to co-dominant stems with basal included union - E.R.C. 20	Remove for site access	B2	2.7 23m²
T2	Ash	EM	10	3	3	3	2	200 140 (224)	G	- Basal included union - Acute compression forks in crown - E.R.C. 20	Remove for site access	B2	2.7 23m²
T3	Ash	EM	12	4	5	4	4	300	G	- No significant defects - E.R.C. 20	Remove for site access	B1	3.6 41m²
T4	Oak	M	15	7	5	6	2	1000	G	- Crown bias north - Ivy clad - Located on embankment to ditch - E.R.C. 20	N/A	B1	12 452m²
T5	Oak	M	15	7	5	2	4	470	G	- Minor dead wood in crown - E.R.C. 20	N/A	B1	5.6 100m²
T6	Oak	EM	13	1	1	1	1	120	M	- Located in dense scrub - E.R.C. 20	Remove to benefit T7	C1	1.4 7m²

HEADINGS & ABBREVIATIONS

TREE NO.
SPECIES:
AGE RANGE/LIFE STAGE:
HEIGHT:
CROWN SPREAD:
CROWN CLEARANCE & DIRECTION OF GROWTH:
STEM DIA/MULTI-STEM DIA:
VITALITY:
E.R.C. = ESTIMATED REMAINING CONTRIBUTION:
BS 5837 CATEGORY & SUB-CATEGORY GRADING:
BS 5837 RADIUS & BS 5837 RPA:

REFERENCE NUMBER. REFER TO PLAN OR NUMBERED TAGS WHERE APPLICABLE (T = TREE, G = GROUP, H = HEDGE)
COMMON NAME (LATIN NAMES AVAILABLE ON REQUEST)
Y = YOUNG, SM = SEMI MATURE, EM = EARLY MATURE, M = MATURE, PM = POST MATURE
ESTIMATED AND RECORDED IN METRES. APPROXIMATELY 1 IN 10 TREES ARE MEASURED USING A CLINOMETER AND THE REMAINDER ESTIMATED AGAINST THE MEASURED TREES
MAXIMUM CROWN RADIUS MEASURED TO THE FOUR CARDINAL COMPASS POINTS FOR SINGLE SPECIMENS ONLY (MEASUREMENT FOR TREE GROUPS - MAXIMUM RADIUS OF THE GROUP)
HEIGHT IN METERS OF CROWN CLEARANCE ABOVE ADJACENT GROUND LEVEL (TO INFORM ON GROUND CLEARANCE, CROWN/STEM RATIO AND SHADING)
STEM DIAMETER - MEASURED AT APPROXIMATELY 1.5 METRES ABOVE GROUND LEVEL OR A COMBINATION OF STEMS FOR MULTI-STEMMED TREES
A MEASURE OF PHYSIOLOGICAL CONDITION. D = DEAD, MD = MORIBUND, P = POOR, M = MODERATE, G = GOOD
RELATIVE USEFUL LIFE EXPECTANCY (YEARS)
A = HIGH QUALITY AND VALUE, B = MODERATE QUALITY AND VALUE, C = LOW QUALITY AND VALUE, U = UNSUITABLE FOR RETENTION (SUB-CATEGORY REFERS TO ARBORICULTURAL, LANDSCAPE AND CULTURAL/CONSERVATION VALUES)
PROTECTIVE DISTANCE - RADIUS FROM THE CENTRE OF THE STEM TO THE LINE OF TREE PROTECTION (CONSTRUCTION EXCLUSION ZONE - CEZ) AND PROTECTIVE BARRIER ROOT PROTECTION AREA - BS 5837 (2012) ANNEX D (THE RECOMMENDATIONS STATE THAT THE RPA SHOULD BE CAPPED AT 707 M²) NOTE - ALL CALCULATIONS ROUNDED TO NEAREST DECIMAL

TREE SURVEY SCHEDULE (BS5837: 2012)

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PAGE 2 OF 14

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				N	S	E	W						
T7	Oak	EM	13	2	3	2	2	150	G	- No significant defects - E.R.C. 20	• N/A	C2	1.8 10m²
T8	Goat Willow	EM	13	3	3	4	1	120	M	- Insignificant tree of no value - E.R.C. 0	• Remove	C2	1.4 7m²
T9	Goat Willow	EM	13	3	3	1	2	130	M	- Overhangs fence line - Past poor pruning - Insignificant & of no value - E.R.C. 0	• Remove	C2	1.5 8m²
T10	Oak	M	15	2	5	2	3	800	M	- Twin stem - bifurcates at ground level - Partial failure evident to southern stem - Northern stem with poor structural form - E.R.C. 20	• Pollard if retained	C2	9.6 290m²
T11	Oak	EM	12	1	4	1	2	260	G	- Asymmetric crown form due to heavy suppression - E.R.C. 20	• Retain if possible	B2	3.1 31m²
T12	Oak	M	12	5	6	1	6	580	G	- Dead wood in crown - Located on edge of ditch - E.R.C. 40	• Retain	A2	7 152m²
T13	Oak	M	12	6	8	4	5	1250	G	- Minor dead wood - Overhangs boundary fence - E.R.C. 40	• Retain	A2	15 707m²

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PAGE 3 OF 14

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				N	S	E	W						
T14	Oak	M	12	5	6	5	2	690	G	- Basal cavity with hollowing - Beef steak fungus fruiting body on east buttress - Biodiversity value - E.R.C. 40	Retain for habitat & crown reduce via entrenchment	B2	8.3 215m²
T15	Oak	M	10	2	3	1	2	490	M/P	- Poor structural form - crowded out by T12 - Dead section adjacent to fence - E.R.C. 10	If retained - prune to leave as monolith pole	C2	5.9 109m²
T16	Oak	M	8	2	3	2	4	650	M/P	- Ivy impeding inspection - Crown appears to have failed - E.R.C. 10	As T15	C2	7.8 191m²
T17	Hybrid Poplar	EM	18	3	3	3	3	420	G	- Minor dead wood in crown - E.R.C. 20	Remove if required	B2	5 80m²
T18	Hybrid Poplar	EM							D	- Dead tree - E.R.C. 0	Remove for safety	U	N/A
T19	Hybrid Poplar	EM	16	2	4	3	3	400	G	- Tree of no current or long-term value - E.R.C. 10	Remove	C2	4.8 72m²
T20	Turkey Oak	EM	14	3	3	3	3	370	G	- Well formed specimen tree - E.R.C. 20	Retain	B2	4.4 62m²
T21	Turkey Oak	EM	14	4	3	3	3	350	G	- Minor dead wood - E.R.C. 20	Retain	B2	4.2 55m²

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PAGE 4 OF 14

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				N	S	E	W						
T22	Hybrid Poplar	EM	16	3	4	3	3	440	G	- No significant defects - E.R.C. 10+	Remove if required	C2	5.3 88m²
T23	Hybrid Poplar	EM	16	3	4	3	3	430	G	As T22	Remove if required	C2	5.2 84m²
T24	Oak	M	15	3	3	4	4	480	M	- Ivy impeding inspection - Dead wood in crown - E.R.C. 20	N/A	B2	5.8 104m²
T25	Oak	M	15	5	6	6	6	1060	G	- Decayed fruiting body on northern buttress - suspect Beef Steak - E.R.C. 40	N/A	A2	12.7 508m²
T26	Oak	M	15	6	6	5	5	950	G	- Located on embankment to ditch - Minor dead wood - E.R.C. 40	N/A	A2	11.4 408m²
T27	Oak	M	15	5	6	4	4	840	G	- Overhangs industrial unit - E.R.C. 40	N/A	A2	10 319m²
T28	Oak	M	15	7	6	6	6	600	G	- Minor dead wood - E.R.C. 40	N/A	A2	7.2 163m²
T29	Oak	M	16	5	6	5	5	800	G	- Minor dead wood - Poor past pruning - E.R.C. 40	N/A	A2	9.6 290m²

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PAGE 5 OF 14

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				N	S	E	W						
T30	Oak	M	16	8	6	6	5	730	G	- Good quality specimen tree within woodland - E.R.C. 40	• N/A	A2	8.7 241m²
T31	Oak	M	15	6	4	3	4	750	G	- Ivy impeding inspection - E.R.C. 40	• N/A	A2	9 255m²
T32	Oak	M	15	6	8	5	5	830	G	- Prominent tree due to location adjacent to road - Minor dead wood - E.R.C. 40	• N/A	A2	10 312m²
T33	Oak	EM	10	4	4	4	4	450	G	- Good quality tree with no visual defects - E.R.C. 40	• N/A	A2	5.4 92m²
T34	Ash	EM	10	5	5	3	5	≤270	G	- Past coppice - E.R.C. 20	• Remove or re-coppice if required	C2	3.2 33m²
T35	Hawthorn	EM	8	2	2	2	2	280	G	- Small tree beneath canopy of T34 - E.R.C. 40	• Remove if required	C1	3.4 35m²
T36	Oak	EM	10	3	4	3	4	320	M	- Located within scrub woodland - Minor dead wood - E.R.C. 40	• Remove if required	B2	3.8 36m²
T37	Oak	M	12	1	5	5	4	950	M	- Ivy impeding inspection - Minor dead wood - E.R.C. 20	• N/A	B2	11.4 408m²

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PAGE 6 OF 14

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				N	S	E	W						
T38	Ash	M	10	4	4	5	4	≤280	M	- Multi-stemmed from base - past coppice - E.R.C. 20	• Re-coppice	C2	3.4 35m²
T39	Goat Willow	M							P	Main stem has failed	• Remove for safety	U	N/A
T40	Oak	M	12	4	5	5	5	650	G	- Past poor pruning - T39 hung up in crown - E.R.C. 20+	• N/A	B2	7.8 191m²
T41	Apple	EM	8	4	4	4	4	250	G	- No significant defects - E.R.C. 20	• N/A	C3	3 28m²
T42	Ash	EM	10	4	3	3	3	200	M	- No significant defects - E.R.C. 20	• Remove if required	C2	2.4 18m²
T43	Oak	EM	8	4	4	4	4	320	G	- No significant defects - Good quality tree with future potential - E.R.C. 20	• N/A	B2	3.8 46m²
T44	Oak	EM	10	6	6	6	6	≤320	G	- No significant defects - Good quality tree with future potential - E.R.C. 20	• N/A	B2	3.8 46m²
T45	Oak	EM	10	5	5	5	5	≤300	M	- Not a particularly good example - E.R.C. 10	• Remove if required	C2	3.6 41m²

TREE SURVEY SCHEDULE (BS5837: 2012)

Tree Solutions

Arboricultural Consultants

SITE:	CLYWEDOG RD SOUTH, WREXHAM INDUSTRIAL ESTATE (SITE 5B)
CLIENT:	FI REAL ESTATE MANAGEMENT LTD
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	T. WILLIAMS
ASSESSMENT DATE:	23/09/2017
VIEWING CONDITIONS:	GOOD
JOB REFERENCE:	17/AIA/WXM/203A

PAGE 7 OF 14

TREE NO. T - Tree G - Group W - Wood	SPECIES (COMMON NAME)	AGE	HEIGHT (m) +	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA.(mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
T46	Oak	EM	8	5	5	5	5	300	M	- Not a particularly good example - E.R.C. 10	• N/A	C2	3.6 41m²
T47	Oak	EM	10	5	5	5	5	350	M	- Not a particularly good example - E.R.C. 10	• Remove if required	C2	4.2 55m²
T48	Oak	M	15	7	6	6	6	1150	G	- Rope swing attached - Ivy & minor dead wood - E.R.C. 40	• N/A	A2	13.8 598m²
T49	Oak	M	15	5	5	3	3	670	G	- Woodland scrub tree - E.R.C. 40	• N/A	A2	8 203m²
T50	Oak	M	15	5	5	5	5	700	G	- No access to survey - measurements approx. - E.R.C. 10	• N/A	A2	8.4 222m²
T51	Oak	M	8	5	5	5	5	≤300	M	- Multi-stemmed - Poor Form - E.R.C. 10	• Remove if required	C2	3.6 41m²
T52	Sugar Maple	EM	7	4	3	3	3	250	G	- No significant defects - E.R.C. 20	• N/A	C2	3 28m²
T53	Sugar Maple	EM	7	3	3	3	3	250	G	- No significant defects - E.R.C. 20	• N/A	C2	3 28m²

TREE SURVEY SCHEDULE (BS5837: 2012)

Tree Solutions

Arboricultural Consultants

SITE:	CLYWEDOG RD SOUTH, WREXHAM INDUSTRIAL ESTATE (SITE 5B)
CLIENT:	FI REAL ESTATE MANAGEMENT LTD
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	T. WILLIAMS
ASSESSMENT DATE:	23/09/2017
VIEWING CONDITIONS:	GOOD
JOB REFERENCE:	17/AIA/WXM/203A

PAGE 8 OF 14

TREE NO. T - Tree G - Group W - Wood	SPECIES (COMMON NAME)	AGE	HEIGHT (m) +	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA.(mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
T54	Oak	M	10	6	6	6	6	600	G	- Low spreading form - E.R.C. 40	• N/A	B2	7.2 163m²
T55	Oak	M	10	4	3	5	5	450 (av)	G	- Twin stem - both recorded - Minor dead wood - E.R.C. 20+	• N/A	B2	5.4 92m²
T56	Ash	EM	8	1	4	3	2	250	M	- No significant defects - E.R.C. 20	• Remove	C3	3 28m²
T57	Goat Willow	EM	6	4	4	4	4	120 (av)	G	- Multi-stem scrub - E.R.C. 0	• Remove	C1	1.4 7m²
T58	Ash	EM	8	3	4	4	4	380	G	- No significant defects - E.R.C. 40	• N/A	B2	4.6 65m²
T59	Ash	EM	8	3	3	3	3	380	G	- Bifurcates at 2m - Ivy on stem impeding inspection - E.R.C. 10	• N/A	B2	4.6 65m²
T60	Oak	EM	10	5	3	5	5	280 (Av)	G	- Minor dead wood - Fused limbs - Multi-stemmed - E.R.C. 10	• N/A	C2	3.4 35m²
T61	Oak	EM	12	6	6	6	6	400	G	- No significant defects - E.R.C. 20	• N/A	B2	4.8 72m²

TREE SURVEY SCHEDULE (BS5837: 2012)

Tree Solutions

Arboricultural Consultants

SITE:	CLYWEDOG RD SOUTH, WREXHAM INDUSTRIAL ESTATE (SITE 5B)
CLIENT:	FI REAL ESTATE MANAGEMENT LTD
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	T. WILLIAMS
ASSESSMENT DATE:	23/09/2017
VIEWING CONDITIONS:	GOOD
JOB REFERENCE:	17/AIA/WXM/203A

PAGE 9 OF 14

TREE NO. T - Tree G - Group W - Wood	SPECIES (COMMON NAME)	AGE	HEIGHT (m) +	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA.(mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
T62	Apple (crab)	EM	5	3	3	3	3	200	G	- Small tree, easily replaced - E.R.C. 10	Remove if required	C3	2.4 18m²
T63	Oak	M	15	6	6	6	6	850	G	- Large good quality tree - E.R.C. 40	N/A	A2	10.2 327m²
T64	Scots Pine	M	13	3	3	3	3	400	G	- Good quality tree with no significant defects - E.R.C. 20+	N/A	B2	4.8 72m²
T65	Ash	EM	13	4	3	4	2	380	G	- Tree of no particular merit - E.R.C. 10	Remove if required	C2	4.5 65m²
T66	Oak	EM	8	4	1	2	2	310	G	- Small woodland edge tree - E.R.C. 20+	N/A	B2	3.7 43m²
T67	Ash	EM	10	4	3	4	4	280	G	- Tree of no particular merit - E.R.C. 20	N/A	C2	3.4 35m²
T68	Oak	SM	5	2	2	2	2	180	G	- Good quality well established Oak - E.R.C. 20+	N/A	C2	2 15m²
T69	Oak	SM	4	1	1	1	1	100	G	As T68	N/A	C2	1.2 5m²

TREE SURVEY SCHEDULE (BS5837: 2012)

Tree Solutions

Arboricultural Consultants

SITE:	CLYWEDOG RD SOUTH, WREXHAM INDUSTRIAL ESTATE (SITE 5B)
CLIENT:	FI REAL ESTATE MANAGEMENT LTD
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	T. WILLIAMS
ASSESSMENT DATE:	23/09/2017
VIEWING CONDITIONS:	GOOD
JOB REFERENCE:	17/AIA/WXM/203A

PAGE 10 OF 14

TREE NO. T - Tree G - Group W - Wood	SPECIES (COMMON NAME)	AGE	HEIGHT (m) +	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA.(mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
T70	Ash	EM	8	3	3	3	3	360	G	- Roadside tree - Minor dead wood - E.R.C. 20	• N/A	B2	4.3 59m²
T71	Hawthorn	SM	2	1	1	1	1	100	G	- Tree of no particular merit - E.R.C. 10	• Remove if required	C1	1.2 5m²
T72	Oak	M	10	6	6	6	6	770	G	- No significant defects - Dead wood in crown - E.R.C. 40	• N/A	A2	9.2 268m²
T73	Ash	EM	10	4	4	4	4	310	G	- Roadside tree with good crown form - E.R.C. 20+	• N/A	B2	3.7 43m²
T74	Goat Willow	EM	10	6	6	6	6	480	M	- Tree of no particular merit - E.R.C. 10	• Remove	C2	5.8 104m²
T75	Field Maple	M	10	3	4	5	6	380	M	- Twin stem - Ivy impeding inspection - E.R.C. 10	• Remove if required	C2	4.5 65m²
T76	Oak	M	12	5	4	6	5	910	G	- Minor cavities - E.R.C. 20+	• N/A	A2	10.9 375m²
T77	Oak	M	15	6	5	6	7	1000	M	- Ivy impeding inspection - E.R.C. 20	• N/A	B2	12 452m²

TREE SURVEY SCHEDULE (BS5837: 2012)

Tree Solutions

Arboricultural Consultants

SITE:	CLYWEDOG RD SOUTH, WREXHAM INDUSTRIAL ESTATE (SITE 5B)
CLIENT:	FI REAL ESTATE MANAGEMENT LTD
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	T. WILLIAMS
ASSESSMENT DATE:	23/09/2017
VIEWING CONDITIONS:	GOOD
JOB REFERENCE:	17/AIA/WXM/203A

PAGE 11 OF 14

TREE NO. T - Tree G - Group W - Wood	SPECIES (COMMON NAME)	AGE	HEIGHT (m) +	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA.(mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
G1	Hawthorn Apple Mixed	EM	≤5	1	1	1	1	≤100	M	- Small trees of no particular value/merit - E.R.C. 10	• Remove	C2	1.2 5m²
G2	Apple	SM	≤3	1	1	1	1	≤100	M	- Small trees of no particular value/merit - E.R.C. 10	• Remove	C2	1.2 5m²
G3	Ash x5	EM	≤15	3	3	2	2	≤250	G	- Included unions - Minor Dead wood - E.R.C. 20	• N/A	B2	3 28m²
G4	Hawthorn	M	≤5	3	3	3	3	≤250	M	- Small trees of no particular value/merit - E.R.C. 10	• Remove if required	C2	3 28m²
G5	Ash x 5	EM	≤15	3	3	3	3	≤300	G	- Included unions - Minor Dead wood - E.R.C. 20	• N/A	B2	3.6 41m²
G6	Hawthorn	EM	≤6	3	3	3	3	≤280	G	- Small trees of no particular value/merit - E.R.C. 10	• Remove if required	C2	3.4 35m²
G7	Oak Hawthorn Willow Ash	EM	≤8	3	3	3	3	≤250	M	- Small trees of no particular merit - E.R.C. 10	• Remove if required	C2	3 28m²
G8	Ash Oak	SM	≤10	3	2	4	4	≤220	G	- Form closed canopy - E.R.C. 10	• Remove if required	C2	2.6 22m²

TREE SURVEY SCHEDULE (BS5837: 2012)

Tree Solutions

Arboricultural Consultants

SITE:	CLYWEDOG RD SOUTH, WREXHAM INDUSTRIAL ESTATE (SITE 5B)
CLIENT:	FI REAL ESTATE MANAGEMENT LTD
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	T. WILLIAMS
ASSESSMENT DATE:	23/09/2017
VIEWING CONDITIONS:	GOOD
JOB REFERENCE:	17/AIA/WXM/203A

PAGE 12 OF 14

TREE NO. T - Tree G - Group W - Wood	SPECIES (COMMON NAME)	AGE	HEIGHT (m) +	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA.(mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
G9	Mixed new planting Ash & Maple	Y	≤3	1	1	1	1	≤20	G	- Small trees of no particular value/merit - E.R.C. 10	Remove if required	C2	0.2
G10	Mixed Oak/Ash/Hawthorn	EM	≤10	3	3	3	3	≤200	M	- Small trees of no particular value/merit - E.R.C. 10	Remove if required	C2	2.4 18m²
G11	Birch Pine Oak	EM	≤10	3	3	3	3	≤200	G	- Small diameter mixed scrub of no particular value - E.R.C. 10	Remove if required	C2	2.4 18m²
G12	Birch Pine Oak Ash	EM	≤10	3	3	3	3	≤200	G	As G11	Remove if required	C2	2.4 18m²
G13	Oak Apple Field Maple Hawthorn	EM	≤6	3	3	3	3	≤200	M	- Mixed scrub on boundary - E.R.C. 20 - if managed	Needs thinning out to retain best individual trees	B2	2.4 18m²
G14	Oak Apple Hawthorn Field Maple	EM	≤8	4	4	4	4	≤250	M/G	As G13	As G13	B2	3 28m²
G15	Hawthorn	SM	3	1	1	1	1	100	G	- Small trees of no particular value/merit - E.R.C. 10	Remove if required	C2	1.2 5m²
G16	Hawthorn Apple	EM	≤6	2	2	2	2	≤200	G	- Small trees of no particular value/merit - E.R.C. 10	Remove if required	C2	2.4 18m²

TREE SURVEY SCHEDULE (BS5837: 2012)

Tree Solutions

Arboricultural Consultants

SITE:	CLYWEDOG RD SOUTH, WREXHAM INDUSTRIAL ESTATE (SITE 5B)
CLIENT:	FI REAL ESTATE MANAGEMENT LTD
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	T. WILLIAMS
ASSESSMENT DATE:	23/09/2017
VIEWING CONDITIONS:	GOOD
JOB REFERENCE:	17/AIA/WXM/203A

PAGE 13 OF 14

TREE NO. T - Tree G - Group W - Wood	SPECIES (COMMON NAME)	AGE	HEIGHT (m) +	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA.(mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
G17	Ash Blackthorn	EM	≤8	2	2	2	2	≤250	M	- Small trees of no particular value/merit - E.R.C. 10	Remove if required	C2	3 28m²
G18	As Oak	EM	≤10	4	4	4	4	≤300	G	- Group forming closed canopies adjacent to road - E.R.C. 10	Thin out if retained	B2	3.6 41m²
G19	Oak Hawthorn	EM	≤10	4	4	4	4	≤280	G	- No access to survey due to dense bramble - Trees of no particular value/merit - E.R.C. 10	Clear scrub & leave Oaks	B2	3.7 35m²
G20	Ash	EM	8	3	3	3	3	≤250	M	- Small trees of no particular value/merit - E.R.C. 10	Remove	C2	3 28m²
W1	Oak, Goat Willow, Blackthorn	EM	≤12					≤220	M	- Dense blackthorn understory 20+ boundary Willows - no access to survey due to dense vegetation - E.R.C. 20	Retain Oak & clear all scrub	B2	2.6 22m²
W2	Oak Blackthorn scrub	EM	≤8					≤200	M	- Mixed scrub woodland - biodiversity value - E.R.C. 10	Remove if required	C2	2.4 18m²
W3	Mixed Apple Goat Willow Ash Blackthorn scrub	EM	≤6					≤100	M	As W2	Remove if required	C2	1.2 5m²

TREE SURVEY SCHEDULE (BS5837: 2012)

Tree Solutions

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SITE:	CLYWEDOG RD SOUTH, WREXHAM INDUSTRIAL ESTATE (SITE 5B)
CLIENT:	FI REAL ESTATE MANAGEMENT LTD
BRIEF:	ARBORICULTURAL IMPACT ASSESSMENT

SURVEYOR:	T. WILLIAMS
ASSESSMENT DATE:	23/09/2017
VIEWING CONDITIONS:	GOOD
JOB REFERENCE:	17/AIA/WXM/203A

PAGE 14 OF 14

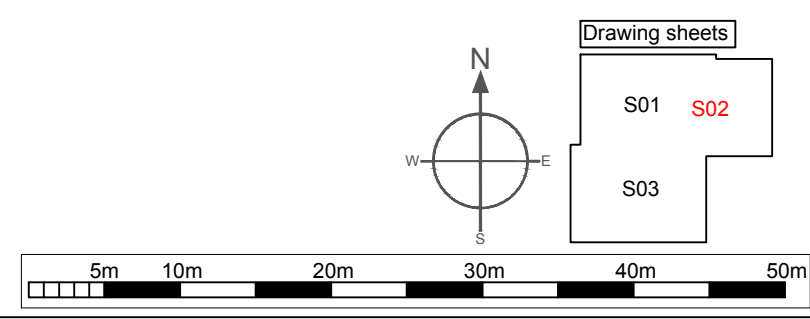
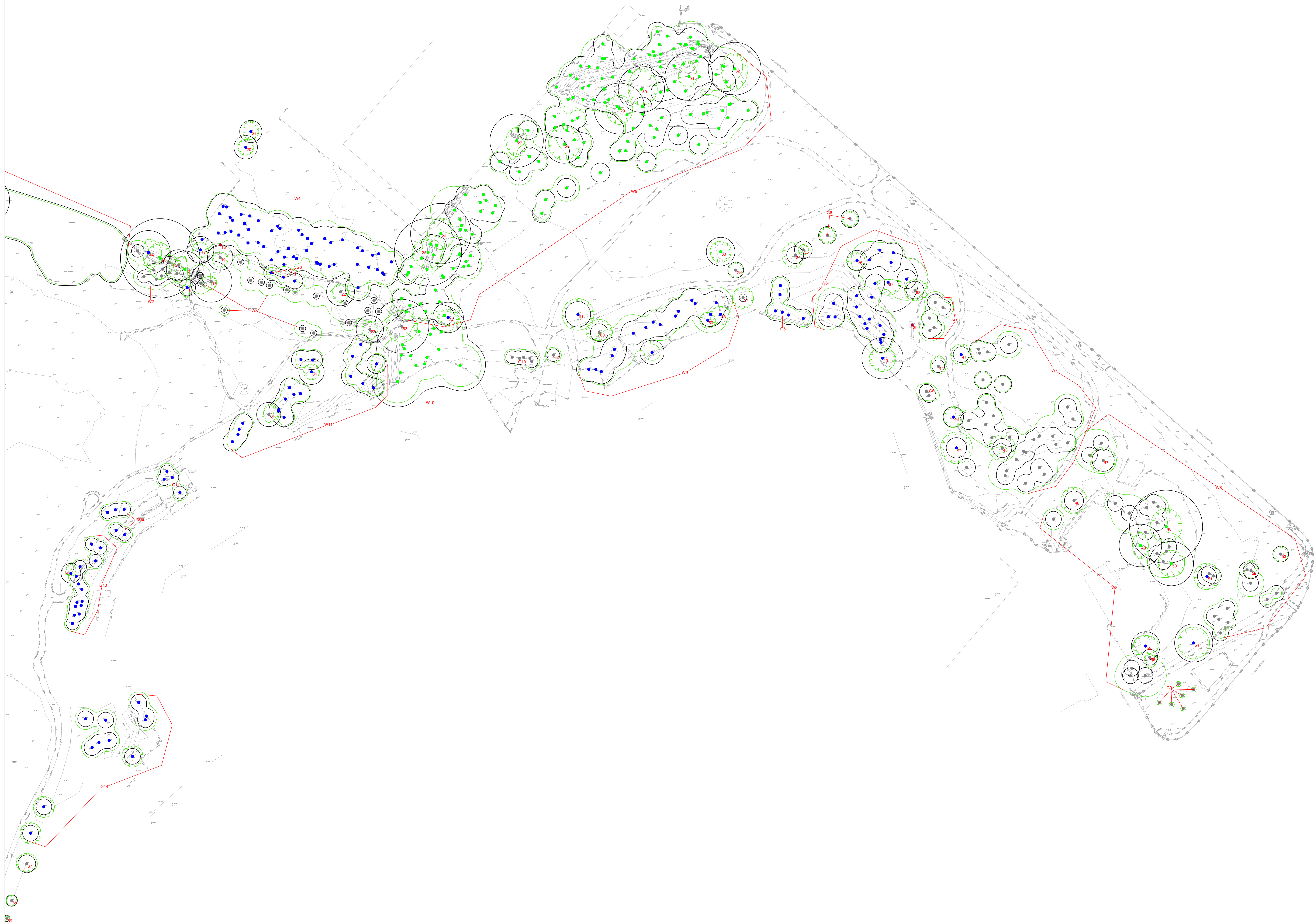
TREE NO. T - Tree G - Group W - Wood	SPECIES (COMMON NAME)	AGE	HEIGHT (m) +	RADIAL CROWN SPREAD (m)				STEM/ MULTI-STEM* DIA.(mm)	VITALITY	COMMENTS	MANAGEMENT	CATEGORY & SUB-CATEGORY GRADING BS 5837	BS 5837 RADIUS (m) RPA (m²)
				N	S	E	W						
W4	Poplar Ash Goat Willow	EM	≤16					≤400	G	- Unmanaged woodland - E.R.C. 20	Silvicultural thinning required	B2	4.8 72m²
W5	Oak Hawthorn Apple Sycamore Goat Willow	M	≤10					≤300	G	- Mixed woodland with good quality Oaks as indicated individually - E.R.C. 40	Silvicultural thinning required	A2	3.6 41m²
W6	Goat Willow & Hawthorn scrub	EM	≤8					≤300	M	- Mixed scrub woodland - biodiversity value - E.R.C. 20	Requires future management plan	B2	3.6 41m²
W7	Mixed scrub woodland	EM	≤8					≤280	M	- Mixed scrub woodland of no particular merit - - E.R.C. 10	Remove if required	C2	3.4 35m²
W8	Mixed scrub woodland	EM	≤10					≤250	M	- Low value scrub - E.R.C. 10	Remove if required	C2	3 28m²
W9	Oak Ash Blackthorn/ Hawthorn Scrub	EM	≤10					≤380	G	- Mixed scrub woodland located to rear of residential dwellings - E.R.C. 20	Retain as screen	B2	4.5 65m²
W10	Oak Hawthorn/ Blackthorn scrub	M	≤13					≤800	G	- Mature woodland - E.R.C. 40	Needs management plan	A2	9.6 290m²
W11	Pine, Cypress Blackthorn scrub	EM	≤13					≤300	G	- Mixed dense woodland - E.R.C. 20+	Needs management plan	A2	3.6 41m²
W12	Oak Blackthorn scrub	EM	≤8					≤200	M	- Mixed scrub woodland - biodiversity value - E.R.C. 10	Remove if required	C2	2.4 18m²

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 <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			See Table 2
	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)	See Table 2
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	See Table 2
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	See Table 2

Appendix Two

Preliminary Tree Constraints Plan



Legend
Roof Protection Area
Modified to Account for
Site Features

Category A (High Quality)
Category B (Moderate Quality)
Category C (Low Quality)
Category D (Poor/Declining)
Category E (Dead/Dying/In Decline)
NOTE: Tree group numbers marked with an * have approximate locations

Client: Integra Consulting Engineers
Project: Clymedog Road East & South, Wrexham Industrial Estate, Wrexham
Title: Preliminary Tree Constraints Plan

Scale: 1:500 @ A0	Date: October 2017
Drawn By: LJ	Revision: -
Job Ref: 17/AIA/WM/203A	Drawing No: 01

Do not scale from this drawing all dimensions to be checked on site.

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Legend
Root Protection Area
Modified to Account for
Site Features

Category Root Protection Area Crown Spread Tree Number
NOTE: Treegroup numbers marked with an * have approximate locations

● Category A (High Quality)

● Category B (Moderate Quality)

● Category C (Low Quality)

● Category U (Poor/Declining)

● Category C (Low Quality)

● Category U (Poor/Declining)

Client:
Integra Consulting Engineers

Project:
Clymedog Road East & South,
Wrexham Industrial Estate, Wrexham

Title:
Preliminary Tree Constraints Plan

Scale:
1:500 @ A0

Date:
October 2017

Drawn By:
LI

Revision:
-

Job Ref:
17/AIA/WM/203A

Drawing No:
01

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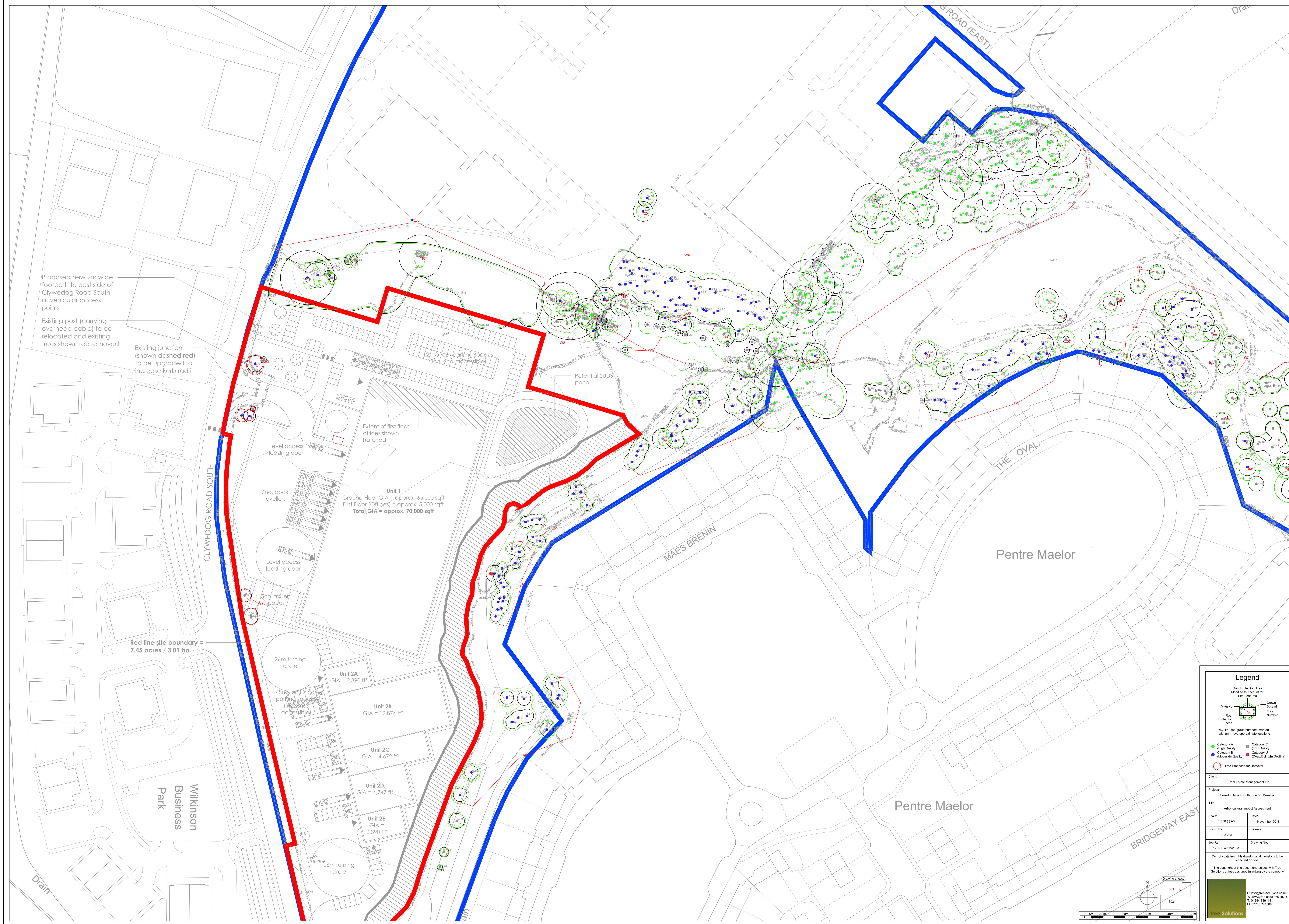
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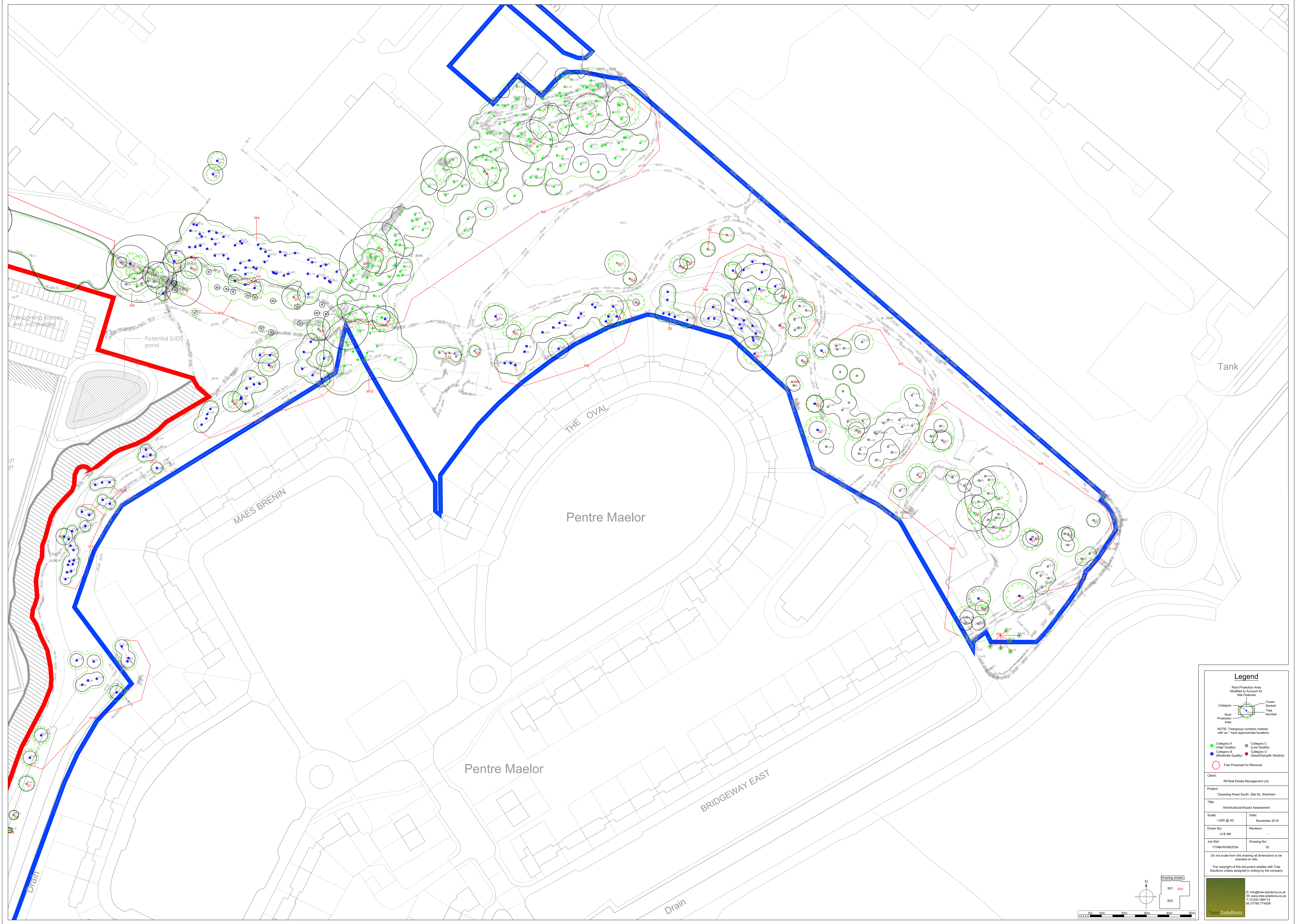
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M: 07766 774508

Appendix Three

Impact Assessment Plan



Legend	
Root Protection Area Modified to Account for Site Features	
Category	Crown Spread Tree Number
Root Protection Area	
NOTE: Tree(s) numbers marked with an * have approximate locations	
Category A (High Quality) Category B (Moderate Quality) Category C (Low Quality) Category D (Poor Quality/In Decline) * Tree Proposed for Removal	
Client: FJ Real Estate Management Ltd.	
Project: Clywedog Road South, Site 15, Wrexham	
Title: Archeological Impact Assessment	
Scale: 1:2500 @ A0	Date: November 2018
Drawn By: LIA AM	Revision: -
Job Ref: 17/AMW/M203A	Drawing No: 02
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Legend

Root Protection Area
Modified to Account for
Site Features

Category A (High Quality)
Category B (Moderate Quality)
Category C (Low Quality)
Category D (Dead/Dying/In Decline)
Tree Proposed for Removal

NOTE: Treegroup numbers marked with an "x" have approximate locations

Client:
RI Real Estate Management Ltd.

Project:
Chywedog Road South, Site 50, Wrexham

Title:
Arboricultural Impact Assessment

Scale:
1:500 @ A0

Date:
November 2018

Drawn By:
LI & AM

Revision:
-

Job Ref:
17/ABAW000203A

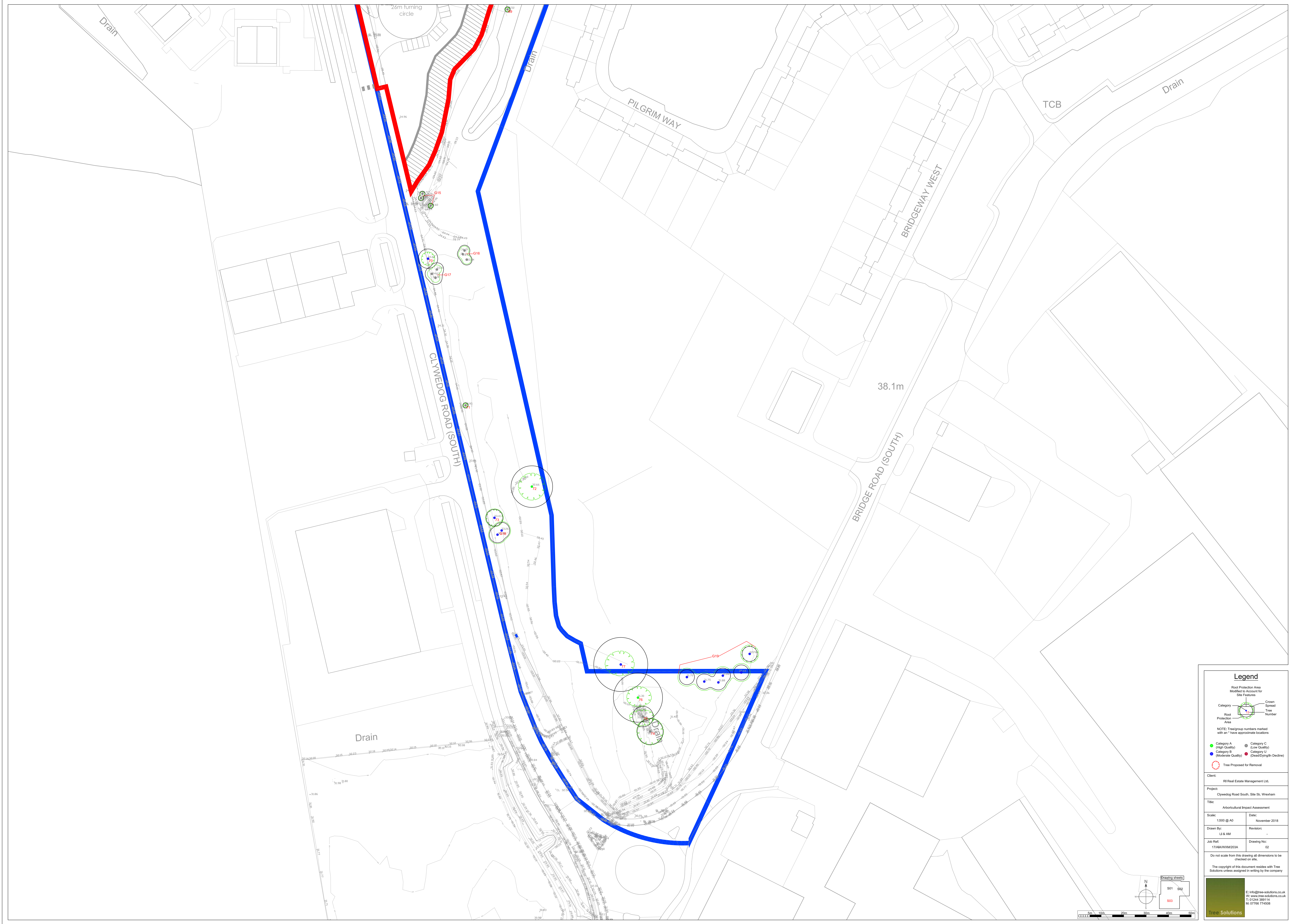
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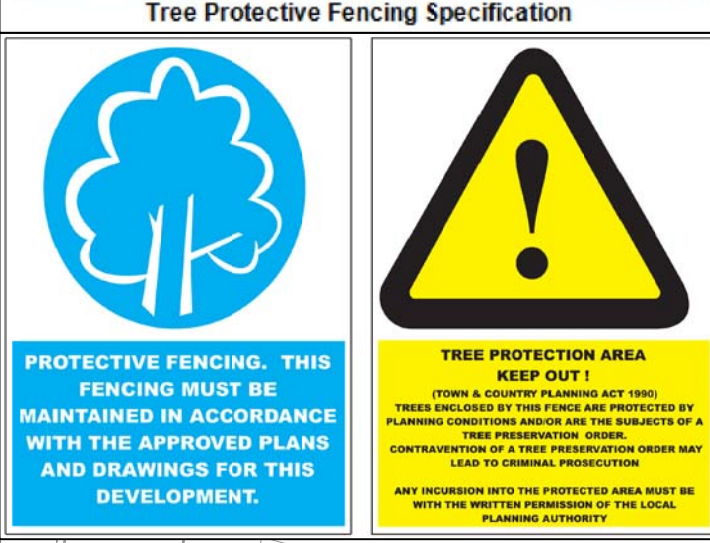
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W: www.tree-solutions.co.uk
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Appendix Four

Tree Protection Plan



Proposed new 2m wide
footpath to east side of
Clywedog Road South
at vehicular access
points

Existing post (carrying
overhead cable) to be
relocated and existing
trees shown red removed

Existing junction
(shown dashed red)
to be upgraded to
increase kerb radii

Red line site boundary =
7.45 acres / 3.01 ha

CLYWEDOG ROAD SOUTH

Wilkinson
Business
Park

Level access
loading door

6no. dock
levellers

Level access
loading door

6no. trailer
spades

26m turning
circle

48no. unit 2 dock
parking spaces
(if accessible)

Unit 2A
GIA = 2,390 ft²

Unit 2B
GIA = 12,874 ft²

Unit 2C
GIA = 4,672 ft²

Unit 2D
GIA = 4,747 ft²

Unit 2E
GIA = 2,390 ft²

26m turning
circle

12 no. car parking spaces
(incl. 6no. accessible)

Extent of first floor
offices shown hatched

Unit 1
Ground Floor GIA = approx. 65,000 sqft
First Floor (Offices) = approx. 5,000 sqft
Total GIA = approx. 70,000 sqft

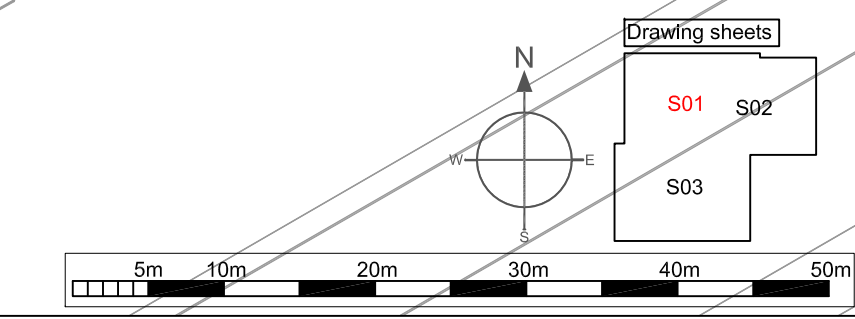
Potential SUDS
pond

MAES BRENN

Pentre Maelor

Pentre Maelor

BRIDGEWAY EAST



Legend

Root Protection Area
Modified to Account for
Site Features

Category 1 (High Quality) Crown Spread
Tree Number

NOTE: Treegroup numbers marked
with an 'A' have approximate locations

Category A (High Quality) Category C (Low Quality)
Category B (Moderate Quality) Category D (Overgrown/Decline)

2.0M high heavy duty rhino panels (with extra
central support bar) mounted on scaffold poles
(driven in to the ground) and secured with anti
tamper bolts – as illustrated.

Client:
FI Real Estate Management Ltd.

Project:
Clywedog Road South, Site St, Wrexham

Title:
Tree Protection Plan

Scale:
1:500 @ A0

Date:
November 2018

Drawn By:
LJA AM

Revision:
-

Job Ref:
17/AB/WOM/203A

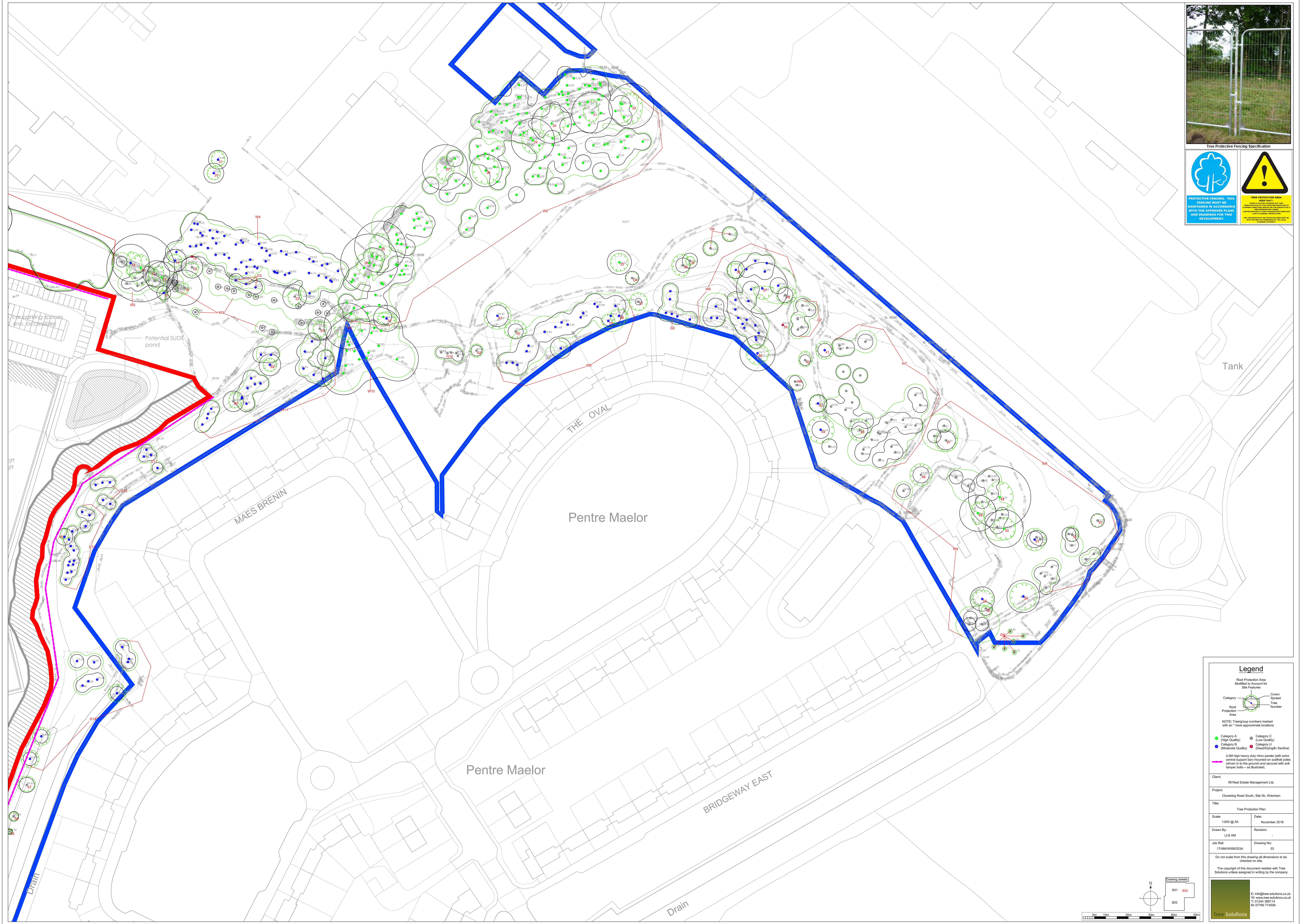
Drawing No:
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W: www.tree-solutions.co.uk
T: 01244 399114
M: 07766 774508

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Tree Protective Fencing Specification



PROTECTIVE FENCING, THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.



TREE PROTECTION AREA KEEP OUT

Tree Protection Area

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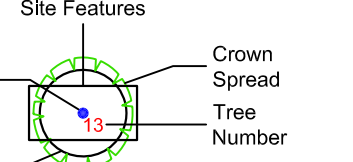
Tree Protection Area

Tree Protection Area

Tree Protection Area

Legend

Root Protection Area
Modified to Account for
Site Features



NOTE: Tree group numbers marked
with an 'n' have approximate locations

Category A (High Quality)
Category B (Moderate Quality)
Category C (Low Quality)

Category C (Low Quality)
Category U (Overgrown/In Decline)
Category U (Overgrown/In Decline)

2.0m high heavy duty rhino panels (with
central support bar) mounted on scaffold poles
(driven in to the ground) and secured with anti
tamper bolts - as illustrated.

Client:
RI Real Estate Management Ltd.

Project:
Chyweod Road South, Site St, Wrexham

Title:
Tree Protection Plan

Scale:
1:500 @ A0

Date:
November 2018

Drawn By:
LI & AM

Revision:
-

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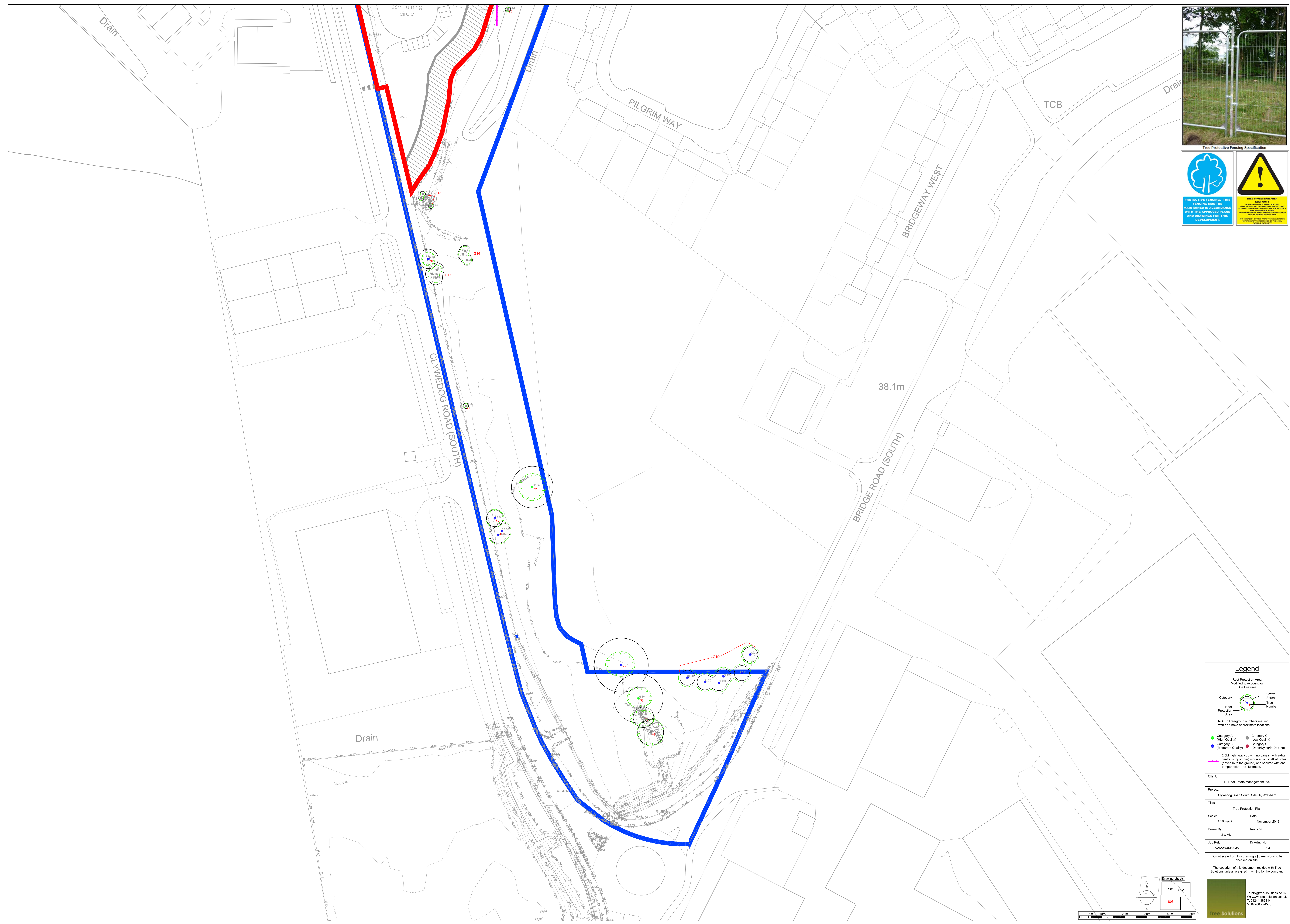
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Appendix Five

Arboricultural Method Statement

SEQUENCE OF OPERATIONS

From commencement of the above development, the following methodology shall be implemented in the manner and sequence described:

1. Tree surgery work
2. Erect temporary tree protective fencing
3. Main construction phase
4. Removal of temporary fencing
5. Landscaping within RPA of trees

1. Tree Surgery Works

1. Before the erection of the temporary protective fencing, all tree removal shall be implemented in accordance with the Tree Survey Schedule at **Appendix 1**
2. All possible efforts must be made to prevent damage to retained trees including potential root incursion or compaction caused by vehicle access.
3. All arboricultural works shall conform to the recommendations of BS 3998 (2010) 'Recommendations for Tree Work'
4. All operatives shall be equipped with and use personal protective equipment (PPE) in accordance with current Health & Safety Executive current directives and industry codes of practice.
5. Performance of all arboricultural operations and use of equipment shall be in accordance with current Health & Safety Executive current directives and industry codes of practice.

2. Erect Temporary Tree Protective Fencing

1. Prior to commencement of any construction, preparation, excavation or material deliveries the main contractor shall erect the temporary protective fencing as detailed in the 'Tree Protection Specification' and in the location indicated on the Tree Protection Plan.
2. Tree Solutions are to be given 5 days written notice as soon as all protective fencing has been erected in order to inspect the specification and location. An inspection report will be completed and returned to the LPA Tree Officer for approval. Any damage occurring to protective fencing during the demolition or construction phase shall be made good by the main contractor

3. Main Construction Phase

1. Tree protective fencing to be erected prior to any demolition/construction plant or materials entering the site
2. Tree protective barriers in accordance with BS 5837: 2012 will be erected to prevent damage to the tree stems and any movement of plant with the RPA
3. There shall be no storage of construction material, site parking, site accommodation or equipment in any area designated as the Root Protection Area (RPA) and Construction Exclusion Zone (CEZ) and enclosed by Temporary Protective Fencing
4. No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 metres of the trunk of a tree that is to be retained. No fires will be lit
5. The site agent shall supervise deliveries by self-loading crane, with vehicles positioned in such a manner that retained trees are not at risk of damage

Cement Mixing

- The cement mixer will be laid on top of plywood boards in a position outside the RPA of any trees. The mixer will be kept in this position throughout all development work.

Avoiding Damage to Stems and Branches

- Care shall be taken when planning site operations in proximity to trees to ensure that wide or tall loads or plant with booms, jibs and counterweights can operate without coming into contact with retained trees. Such contact can result in serious injury resulting in safe retention impossible

On Site Storage of Spoil and Building Materials

- Prior to and during all site construction works no spoil will be stored and no cement mixing will take place within the Root Protection Area of any tree on or adjacent to the site even if proposed site work is to be within the crown spread. Any encroachment within this protected area will only be with the prior agreement of the LPA Arboricultural Officer

4. Remove all Temporary Tree Protective Fencing

1. Tree Protective fencing will only be removed upon completion of all construction work and once all machinery associated with the works has left site.
2. The tree protection fencing shall not be removed until written confirmation has been received from the Local Planning Authority that it is acceptable to do so.

5. Landscaping within RPA of Trees

1. There shall be **no rotovation** of ground within any area designated as a Root Protection Area (RPA) and Construction Exclusion Zone (CEZ) and enclosed by Temporary Protective Fencing.
2. No hard landscaping works or excavation for cables or any other service should be installed within the Root Protection Area (RPA) and Construction Exclusion Zone (CEZ) without the written consent of the LPA.

Arboricultural Consultant

Name: Alistair Henderson
Tel: 01244 389114
Mobile: 07766 774508
Email: alistair@tree-solutions.co.uk

LPA Arboricultural Officer

Name: Jon Brewin
Tel: 01978 298763
Email: jon.brewin@wrexham.gov.uk

TREE PROTECTIVE FENCING

- 1 Before the commencement of any site excavations and subsequent construction works (other than those set out in the schedule of tree works contained in this document), protective fencing will be erected as detailed on the Tree Protection Plan and as specified below. The LPA Tree Officer will be given 5 days notice upon completion of the fencing in order to inspect and approve prior to the commencement of any site works.
- 2 The fencing will consist of a scaffold framework in accordance with Figure 2 of BS 5837 – 2012 (illustration below) comprising a metal framework, both vertical and horizontal, well braced to resist impacts. Vertical tubes will be spaced at a maximum interval of 3m. Onto this, weldmesh panels shall be securely fixed with wire or scaffold clamps. Weldmesh panels on rubber or concrete feet are not considered resistant to impact and for this reason will not be used. The site manager or other suitably qualified appointed person will be responsible for inspecting the protective fencing on a daily basis; any damage to the fencing or breaches of the fenced area will be rectified immediately.
- 3 Clearly legible weatherproof signage, stating “Protected Trees – Exclusion Zone” shall be attached to the fencing 1.5m from the ground, facing out of the Tree Protection Zone located at regular intervals along the fence line. A copy of the tree protection sign is at **Appendix 2**
- 4 The fencing will remain in place until completion of all site works and then only removed when all site traffic is removed from site
- 5 Other than works detailed within this method statement or approved in writing by the Local Planning Authority (LPA), no works including storage or dumping of materials shall take place within the exclusion zones defined by the protective fencing.

Protective Fencing Detail

The fence types are shown on the Tree Protection Plan with the following colour key:-

1. **Magenta** (Trees)

2.0M high heavy duty rhino panels (with extra central support bar) mounted on scaffold poles (driven in to the ground) and secured with anti tamper bolts – as illustrated below.



Tree Protective Fencing Specification