



**OUTLINE APPLICATION FOR B8 DEVELOPMENT
ON LAND AT BRYN LANE, WREXHAM INDUSTRIAL ESTATE**

**ON BEHALF OF KINGMOOR PARK PROPERTIES LIMITED
AND NORBERT DENTRESSANGLE LOGISTICS LIMITED**

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Genesis Centre
Birchwood Science Park
Warrington
WA3 7BH

T: 01925 844004
F: 01925 844002
E: tep@tep.uk.com
W: www.tep.uk.com



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Version 3

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CONTENTS PAGE

1.0	INTRODUCTION	1
2.0	THE SITE AND SURROUNDINGS	2
3.0	STATUTORY PROTECTION	3
4.0	TREE POPULATION & DEVELOPMENT IMPLICATIONS	6
5.0	TREE PROTECTION REQUIREMENTS	9
6.0	ARBORICULTURAL RECOMMENDATIONS	11
7.0	SUMMARY	13

APPENDICES

Appendix 1:	Arboricultural Survey Data Sheets
Appendix 2:	Survey Methodology
Appendix 3:	Tree Preservation Order (No.60, 1991) Plan

DRAWINGS

Drawing 1:	Tree Constraints Plan:	D3080.001A
Drawing 2:	Tree Implications and Protection Plan:	D3080.002A
Drawing 3:	Recommended Tree Protection Fencing:	TEP.HERAS.003A

Written:	Checked:	Approved:
JGS	TDP	PAM



1.0 INTRODUCTION

- 1.1 TEP has been commissioned by Kingmoor Park Properties Ltd to conduct an arboricultural survey of land off Bryn Lane, Wrexham Industrial Estate. This report details the arboricultural implications of developing the site, subsequent mitigation recommendations and protective measures.
- 1.2 The report has been updated in response to comments made by Wrexham County Borough Council (WCBC). In summary these changes include;
- The **Root Protection Area (RPA)** of veteran and ancient trees has been adjusted in accordance with *Local Planning Guidance Note 17 – Trees and Development* (section 3.3.B). The Guidance Note stipulates a minimum protected rooting area equal to 15 times the stem diameter, measured at 1.5 metres from ground level. This has been applied to trees T1 and T45;
 - The **RPA** of trees next to root growth impediments have been further altered to take account of the most likely location of roots;
 - The **RPA** is now shown on Drawing 2, Tree Implications and Protection Plan;
 - Existing ground spot levels are now shown on the Drawing 1, Tree Constraints Plan. Proposed level information is to be provided at a later stage.
- 1.3 Information on proposed drainage routes, underground and overground electric and phone services was requested. It has been agreed with WCBC that this detail will be provided as a condition of a successful planning application.
- 1.4 The survey was carried out in October 2011 by means of inspection from ground level by a qualified Arboricultural Consultant. Trees were assessed in accordance with *BS 5837:2005 Trees in Relation to Construction – Recommendations*.
- 1.5 Under the British Standard the assessment of trees is made objectively. The categorisation method identifies the quality and value of the existing tree stock.
- 1.6 A topographical survey was used to record the position of trees and vegetation. Where the age distribution and species mix of tree cover was relatively uniform, trees were plotted as groups. For the purposes of this report it is assumed that the detail on the drawing is accurate.
- 1.7 A total of 58 individual trees (T1-T58) and 10 groups of trees (G1-G10) were surveyed and mapped (refer to Drawing 1). All arboricultural information recorded during the survey is presented at Appendix 1.
- 1.8 The nature of the soils on site was not assessed during the survey. The possibility of minor soil movement due to tree root activity cannot be discounted.

1.9 This report provides the results of the survey and includes the following:

- A schedule of all trees located within, or in within influencing distance of the proposed development site (Appendix 1);
- An assessment based on *BS 5837:2005*, of trees in terms of their potential value within any future development. On the basis of this assessment trees have been categorised into one of four categories: A, B, C or R (Appendices 1 & 2);
- An assessment, based on *BS 5837:2005*, of the requirement for protection of trees during the construction phase (Section 5);
- Advice on removal, retention and management of trees (Sections 4 and 6);
- A Tree Constraints Plan detailing tree quality categories, canopy spreads and Root Protection Areas (**RPA**) for all trees surveyed (Drawing 1); and
- A Tree Implications and Protection Plan detailing the development proposals, trees to be retained and removed, tree protection fencing alignment and areas of specialised ground treatment (Drawing 2).

2.0 THE SITE AND SURROUNDINGS

- 2.1 Wrexham Industrial Estate is located 4 kilometres directly east of Wrexham town centre. Plot 3A is located in the north of Kingmoor Park, which itself lies within the north-east quadrant of Wrexham Industrial Estate. The site comprises three large areas of improved grassland dissected by hawthorn hedgerows.
- 2.2 The roughly rectangular site is bordered to the west by Bryn Lane and to the north by Ridley Wood Road. The B5130 is located to the eastern side of the site beyond a narrow patchwork of third party owned fields. The southern border of the site is met by a narrow woodland belt beyond which lies further pastoral fields
- 2.3 Site topography is generally flat with minor, localised undulations at the interface of ditches and change in surfacing or land use.
- 2.1 Inspection of trees was restricted in some cases by dense vegetation or their position on third party land. These trees were surveyed insofar as was possible from accessible areas of the site and from the public highway. Weather conditions during the survey were bright and breezy.

Development Proposals

- 2.2 The proposed development includes the erection of a single warehouse unit surrounded by hard-surfacing suitable for heavy goods vehicle parking and manoeuvrability.
- 2.3 In order to facilitate level access off Bryn Lane the floor level of the building will be constructed up to 6 metres higher than the existing ground level.

- 2.4 A large wildlife mitigation area is proposed to the north and east of the warehouse, inclusive of new native hedgerow, ponds, trees, shrubs, managed grassland and log-piles.
- 2.5 Detail of the proposals is shown on Drawing 2 and is based on the Proposed Site Plan (Li:56:91, 500 C, March 2012) supplied by Antonia Garcia Architecture.

3.0 STATUTORY PROTECTION

Tree Preservation Orders & Conservation Area Designations

- 3.1 Where it is considered expedient to do so, local authorities reserve the right to create Tree Preservation Orders (TPO) to protect the amenity value conferred to a location by a tree or group of trees. Where a TPO is in force, lopping, topping, felling, uprooting or wilful damage caused to a tree is prohibited and such actions may be prosecuted and incur an unlimited fine.
- 3.2 Works to TPO protected trees must only be undertaken with the written consent of the local authority, either through an approved planning permission or specific application.
- 3.3 Wrexham County Borough Council confirmed that there is a Tree Preservation Order (TPO) in effect covering within the development site (Ref: (No.60, 1991)). Table 1 (overleaf) provides a comparison between the TPO plan and this survey. A copy of the TPO document is provided at Appendix 3.
- 3.4 The proposed development site does not lie within a Conservation Area.

Table 1: Comparison of TPO and TEP survey referencing

TPO Reference	TPO Designation	Comparable TEP References
T1	Individual Tree	T1
T2	Individual Tree	T2
T3	Individual Tree	T3
T4	Individual Tree	T4
T5	Individual Tree	T5
T6	Individual Tree	T7
T7	Individual Tree	T8
T8	Individual Tree	T11
T9	Individual Tree	T12
T10	Individual Tree	Not found, presumed removed
T11	Individual Tree	T13
T12	Individual Tree	T14
T13	Individual Tree	T15
T14	Individual Tree	T16
T15	Individual Tree	T17
T16	Individual Tree	T19
T17	Individual Tree	T21
T18	Individual Tree	T22
T19	Individual Tree	T23
T20	Individual Tree	T24
T21	Individual Tree	T25
T22	Individual Tree	T26
T23	Individual Tree	T28
T24-T37	Individual Trees	G3
W1	Woodland	T31, T32, T33, T34, T35, T36, T37, T38, T39, T40, T41, T42, T45, T51, T52, G4, G6, G7, G8

Bats and Birds

- 3.5 Mature trees often contain cavities, crevices and hollows that offer potential habitat for species such as bats and birds. Both are afforded protection under the Schedule 1 and 5 of the *Wildlife and Countryside Act 1981* (as amended), as well as under Schedule 2 of the *Conservation (Natural Habitats) Regulations 1994* (as amended).

- 3.6 A preliminary ground level appraisal of the wildlife habitat value of each tree was undertaken as part of the arboricultural survey. 12 tree features were found to have characteristics of a size and condition desirable to bats and/or owls.

Table 2: Tree features desirable to bats and/or owls

	TEP reference number
Tree features desirable to bats and/or owls	T1, T4, T9, T14, T15*, T21, T22, T39*, T52, G3, G7, G8

* indicates potential to support nesting owls

- 3.7 If the presence of a bat roost is suspected whilst undertaking any works on trees and groups on site, operations must be halted until a licensed bat handler or ecologist can provide advice.
- 3.8 Nesting birds, their nests and eggs are protected under the *Wildlife and Countryside Act 1981* (as amended). It is an offence to intentionally or recklessly, damage or destroy nests and all tree work should ideally be undertaken outside the bird nesting season (March to August inclusive).
- 3.9 If this is not possible then a detailed inspection of each tree should be undertaken by a qualified ecologist immediately prior to the arboricultural works. Should an active nest be found (being built, containing eggs or chicks) then any work likely to affect the nest must be halted until the nest becomes inactive.

4.0 TREE POPULATION & DEVELOPMENT IMPLICATIONS

Population

- 4.1 A total of 58 individual trees (T1-T58) and 10 groups of trees (G1-G10) were surveyed and mapped.
- 4.2 A schedule of all trees and tree groups in terms of species, condition, age management recommendations and *BS 5837:2005* quality categories is provided at Appendix 1.
- 4.3 A large proportion of the site is devoid of trees with peripheral oaks contributing approximately 80% of total numbers.
- 4.4 The tree stock is characteristic of the sites farming legacy and of the wider rural landscape. Mature hedgerow oaks are visibly prominent amongst well maintained hawthorn hedgerows, which contain very few young or middle aged trees. The condition of the trees that are present also reflects a history of establishment amongst farm machinery and livestock. The observation of decay cavities, bark damage, deadwood, broken branches, flail damage and natural retrenchment was frequent.
- 4.5 Where natural tree succession has been allowed to take place due to a lack of intensive land management, a wider range of tree age and species were recorded (G4, G6 and G8). This has occurred principally within the narrow tree belt that skirts the southern edge of the site due to the abandonment of former use and management. Shrubs and young trees including blackthorn, ash, elder, elm and hawthorn are now present.
- 4.6 Groups G2 and G3 line an old tarmac driveway that is broken in places and slowly being reclaimed by nature. Both groups contain trees of varied condition with willow in particular displaying the development of structural defects and subsequent branch and stem failure. As a collection of trees, these groups contribute to canopy connectivity across the landscape and provide a green backdrop to the large expanse of open farmland to the north and east.
- 4.7 Tree and group locations, their quality categories and canopy spreads are shown on Drawing 1.

Tree Quality Categorisation

- 4.8 In order for informed judgements to be made on development opportunity and constraint, a recognised and consistent approach to tree valuation is required. This has been developed within the arboricultural industry and published in *BS 5837:2005 Trees in Relation to Construction – Recommendations*.
- 4.9 Table 3 (overleaf) provides a summary of the categorisation criteria as stipulated in the *BS 5837:2005*. The full cascade chart is provided at Appendix 2.

Table 3: Tree and Group Quality Category summary

Category A	Trees of high value, including those that are particularly good examples of their species and/or those that are visually dominant within the landscape. Trees of significant conservation, historical or commemorative value.
Category B	Trees of moderate value, including those that do not qualify as Category A due to minor remediable defects and/or those that collectively form distinct landscape features, thereby attracting a higher rating than they might as individuals
Category C	Trees of low value, the retention of which should not unreasonably constrain development. Trees present in groups or woodlands but without this conferring on them significantly greater landscape value.
Category R	Trees unsuitable for long-term retention that should ideally be removed prior to the commencement of construction unless otherwise advised

Implications of the Proposed Development

- 4.10 Table 4 (overleaf) lists the BS 5837:2005 quality categories of trees that will require removal in order to facilitate the development proposals and those that can be retained. This is the result of an assessment based on the proposed site plan and discussions with the client regarding their application strategy.
- 4.11 The retention of some trees listed in Table 4 may be dependent on specific protection requirements (Sections 5 and 6).
- 4.12 8 individual trees, 1 tree group and part of a further 3 groups (totalling approximately 15 stems) require removal to facilitate the development proposals. These are primarily medium and high value trees with a smaller number of low value trees, representative of the overall high value of the treestock on the site.
- 4.13 The majority of trees to be removed are located directly beneath the footprint of the new warehouse building and hardstanding areas.
- 4.14 The construction of a new access road extending from the sites south-east corner will require the removal of two middle-aged oak trees (T34 and T35), and a small section of one group (G4). All these trees are covered by a Tree Preservation Order (refer to Section 3).
- 4.15 The access road also significantly impinges the rooting area of mature oak tree T36. Consideration of construction design and excavation technique will be required at the detailed design stage to access the feasibility of retaining this tree.

Table 4: Arboricultural implications of the proposed development

	Tree Quality Category			
	A	B	C	R
Trees and groups that can be retained	T1, T4, T6, T12, T13, T14, T16, T17, T19, T28, T29, T33, T36, T37, T45, T51, T55, T57, T58, majority of G3, G6, G7	T3, T5, T7, T8, T9, T10, T11, T15, T20, T21, T22, T24, T25, T26, T27, T31, T32, T38, T39, T40, T41, T42, T43, T52, T53, T54, T56, G1, G2, part of G5, G8, G9	T2, T18, T23, T30, majority of G4	-
Trees and groups that require removal to facilitate development	T44, T47, T50, one tree in G3	T34, T46, T48, T49, part of G5	T35, part of G4, G10	-

See Appendix 1, Arboricultural Data Sheets for subcategories

- 4.16 Fencing to protect the retained trees will be necessary. This will reduce the useable area for works and storage of materials during development.
- 4.17 Ground protection adjacent to the edge of groups G7 and G8 is recommended due to the scale of earthworks proposed. This will provide additional protection to the roots of existing trees and help safeguard the soil structure of the proposed mitigation landscape areas prior to planting up.
- 4.18 Where planning permission is granted, the retention schedule shown in Table 4 and Drawing 2 would normally form a part of that permission. Any change to this schedule would therefore be likely to require an application to vary the consent.

5.0 TREE PROTECTION REQUIREMENTS

Root Protection Areas and Construction Exclusion Zones

- 5.1 Tree roots typically spread two times the width of the crown, although this figure may be significantly increased for certain species and where specific ground conditions are present. The majority of tree roots are found in the top 600 mm of soil and most of the fine roots that absorb water and nutrients are found in the top 100 mm.
- 5.2 As per *BS 5837:2005*, the **Root Protection Area (RPA)** is calculated using the trees diameter at 1.5 metres (refer to Appendix 1) and represents the minimum area around each tree that must be left undisturbed to ensure their survival.
- 5.3 The morphology of roots is influenced by past and present site conditions (the presence of roads, structures and underground services), soil type, topography and drainage. This means that a tree's roots may not be uniform in their extent and the **RPA** may not be a circular area centred on the tree stem.
- 5.4 On this site a large proportion of trees are growing in relatively homogeneous material. The only barriers to growth are likely to be Ridley Wood Road along the northern boundary and drainage ditches that separate the fields along the alignment of the hedgerows and south-eastern woodland boundary. Roots are unlikely to be absent in all these areas but where unfavourable conditions exist, growth will certainly be impeded.
- 5.5 The **RPA** of veteran and ancient trees has been adjusted in accordance with *Local Planning Guidance Note 17 – Trees and Development* (section 3.3.B). The Guidance Note stipulates a minimum protected rooting area equal to 15 times the stem diameter, measured at 1.5 metres from ground level. This has been applied to trees T1 and T45.
- 5.6 The **RPA** can be adjusted to include the canopy to prevent it being damaged by construction machinery and to allow pragmatic incursion where deemed acceptable. This area forms a **Construction Exclusion Zones (CEZ)** (refer to Drawing 2).

Protective Fencing

- 5.7 Protective barrier fencing will be required to demarcate a **CEZ** around retained trees, prior to the commencement of any development works, including bringing machinery or materials onto site and the erection of site huts. Protective fencing alignment is shown on Drawing 2 and assumes that all trees identified for removal have been felled prior to installation.

- 5.8 In accordance with BS 5837 the soil into which new trees are planted must also be considered for protection from unnecessary compaction during construction. Due to the large scale of the site it is considered reasonable that at least some of the land to the north of the proposed building can be safeguarded from contractor activity without undue constraint on building methods and material storage.
- 5.9 The fencing must be fixed into the ground to withstand accidental impact from machinery and to ensure that a sufficient protective area is maintained. Details of the recommended Heras protective fencing are shown in Drawing 3.
- 5.10 Any alteration to the fencing alignment to allow for approved activities will be made in agreement with the council's Arboricultural Officer.
- 5.11 The protective fencing must not be removed until the physical construction phase has been completed and all vehicles have been removed from site, to the satisfaction of the council's Arboricultural Officer.

Ground Protection

- 5.12 Due to the large scale earth works proposed during construction, additional protection to the ground directly adjacent to groups G7 and G8 is recommended. This is anticipated to involve the application of heavy duty plastic or wooden sheets onto the ground surface to avoid rutting and churning of the underlying soil.
- 5.13 The specification of the protection will be dictated by the size of machinery to be used and must be agreed with the council's Arboricultural Officer prior to commencement.
- 5.14 Ground protection should be installed at the same time as the tree protection fencing, prior to commencement of construction activities.

Ground Contamination

- 5.15 Storage areas for liquids such as fuels, oil or paint should not be located within 10m of any trees on or within proximity the site due to the risk of soil contamination caused by accidental spillage.
- 5.16 If contamination does occur, then remediation advice should be sought from a qualified arboriculturist.

Underground Utility Issues

- 5.17 Guidelines set out in the National Joint Utilities Group publication *NJUG Volume 4, Guidelines for the Planning, Installation and Maintenance of Utility apparatus in Proximity to Trees* will be adhered to during excavation works close to or partially within RPAs.

- 5.18 NJUG Volume 4 can be downloaded from – <http://www.njug.org.uk>.
- 5.19 This report is in relation to an outline planning application and as such information on utilities and drainage will be provided as a condition of a successful application.
- 5.20 Preliminary discussions with the drainage engineers have indicated that all utilities will be installed outside of the Construction Exclusion Zone shown on Drawing 2.
- 5.21 If utilities must enter the **CEZs** of retained trees, further advice will be required from a qualified Arboricultural Consultant.

6.0 ARBORICULTURAL RECOMMENDATIONS

Tree Work

- 6.1 In addition to tree removals required to facilitate the development proposals, a small amount of remedial work is advised to remove or monitor identified defects. These are provided at Appendix 1.
- 6.2 All tree surgery work should be carried out by a qualified contractor in accordance with *BS 3998:2010 Tree work – Recommendations*.

Pre-start Site Meeting

- 6.3 To reinforce the required tree protection measures and avoid the requirement for ongoing arboricultural supervision a pre-start meeting should be arranged between the site contractor, a qualified Arboricultural Consultant and the council's Arboricultural Officer.
- 6.4 During the meeting the alignment of protective fencing and ground protection will be marked out and any technical or logistical issues discussed.

Mitigation Planting

- 6.5 8 individual trees, 1 tree group and part of a further 3 groups (totalling approximately 15 stems) require removal to facilitate the development proposals. Mitigation for their loss and associated habitat may be required in the form of replacement tree planting.
- 6.6 A large wildlife mitigation area is proposed to the north and east of the warehouse, inclusive of new native hedgerow, ponds, trees, shrubs, managed grassland and log-piles. Also proposed is a comprehensive landscaping scheme inclusive of tree and shrub planting. In arboricultural terms this is likely to result in a significant increase in long-term value, provided trees of an appropriate species become properly established through appropriate design and planting practice.

- 6.7 It is the recommendation of this report that the landscaping scheme includes a high percentage of pedunculate oak, common ash and hawthorn to reflect existing species and ensure landscape character continuity. This should be further complemented by the inclusion of medium sized trees such as common and grey alder, silver birch and grey willow specimens in association with proposed water bodies to increase species diversity.
- 6.8 The proposal to include native hedgerow planting is encouraged to replace the existing habitat and provide increased shelter and foraging potential for wildlife.
- 6.9 Aftercare is vital to the survival of newly planted trees. Provision should be made for the maintenance of newly planted trees and include watering, formative pruning and the checking of tree ties and stakes. On this site the application and maintenance of a 0.5 metre radial mulch layer around new trees will be vital to suppressing vegetation growth and increasing the survival rate.
- 6.10 The extent of mitigation planting will ultimately be determined in agreement with Wrexham County Borough Council. This may be secured through an appropriate planning condition.

Tree Risk Management

- 6.11 Hazard recommendations are based on observations at the time of survey. Trees are dynamic living organisms whose structure is constantly changing. Even those in good condition can suffer from damage or stress. Following site development, regular (annual or biennial) inspections of all retained trees should be undertaken by a qualified arboriculturist.

7.0 SUMMARY

- 7.1 Based on an objective assessment made in accordance with *BS 5837:2005 Trees in Relation to Construction – Recommendations*, there are 25 Category A, 36 Category B and 7 Category C trees/groups in or within influencing distance of the site.
- 7.2 8 individual trees, 1 tree group and part of a further 3 groups (totalling approximately 20 stems) require removal to facilitate the development proposals. These are primarily medium and high value trees with a smaller number of low value trees, representative of the overall high value of the treestock on the site.
- 7.3 The access road significantly impinges the rooting area of mature oak tree T36. Consideration of construction design and excavation technique will be required at the detailed design stage to access the feasibility of retaining this tree.
- 7.4 Wrexham County Borough Council confirmed that there is a Tree Preservation Order (TPO) in effect covering within the development site (Ref: (No.60, 1991)). Table 1 provides a comparison between the TPO plan and this survey. 2 trees (T34 and T35) and part of 2 groups (G3 and G4) that require removal are covered by the TPO.
- 7.5 9 trees (T1, T4, T9, T14, T15, T21, T22, T39 and T52) and three groups of trees (G3, G7 and G8) were found to contain features of a size and condition desirable to bats. Two of these (T15 and T39) were considered suitable for nesting owls.
- 7.6 Protective barrier fencing will be required to demarcate a Construction Exclusion Zone (**CEZ**) around retained trees prior to the commencement of development. This may restrict movements on the site, which should be considered early in the construction process. Fencing alignment is shown on Drawing 2 and details of the recommended Heras fencing are shown on Drawing 3.
- 7.7 Ground protection is recommended adjacent to the Root Protection Area of groups G7 and G8 due to the large scale earth works proposed. The specification of the protection will be dictated by the size of machinery to be used and must be agreed with the council's Arboricultural Officer prior to commencement. This may be secured through an appropriate planning condition.
- 7.8 A pre-start meeting between the site contractor, a qualified Arboricultural Consultant and the council's Arboricultural Officer will allow any technical or logistical issues to be discussed.
- 7.9 A large wildlife mitigation area is proposed to the north and east of the site. It is the recommendation that the loss of trees associated with the development can be adequately mitigated for within this area. Species selection should include a high percentage of pedunculate oak, hawthorn and ash.

APPENDIX 1

ARBORICULTURAL SURVEY DATA SHEETS

APPENDIX 1: Arboricultural Survey Data Sheets



Surveyor JS
Date 13.09.2011
Town Wrexham
Site Kingmoor Industrial Estate
Dwg Ref D3080.001

Ref	Species	Height	Stem Dia.	No. of stems/individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA	Management Recommendations	Estimated Remaining Contribution
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature, Veteran	Good, Fair, Poor		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short
Trees																	
T1	Pedunculate Oak	9.0	1400.0	1.0	5.0	5.0	5.0	5.0	3.0	Mature	Fair	Good form. Balanced crown displaying several veteran features. Multi-stem union at 2m with severe cavity extending up scaffold branches. Minor deadwood. Potential bat habitat.	A,1,2,3	16.8	886.7	RPA adjusted to 21.0 metres (1384.8 m²) to comply with WCBC Local Planning Guidance Note 17 Section 3.3.	Long
T2	Pedunculate Oak	8.0	560.0	1.0	5.0	5.0	4.0	5.0	2.0	Middle Age	Fair	Reasonable crown form, previously lifted. Reduced crown density due to small leaves. Slightly chlorotic foliage. Ivy clad stem. Central leader has failed in the past and has shared dominance has been assumed by surrounding branches.	C,1,2	6.7	141.9		Long
T3	Pedunculate Oak	6.0	480.0	1.0	5.0	7.0	4.0	5.0	2.0	Middle Age	Fair	Reasonable form. Several broken/hanging branches. Ivy clad stem. Slightly reduced crown density.	B,1,2	5.8	104.2		Long
T4	Pedunculate Oak	6.0	1140.0	1.0	5.0	5.0	5.0	6.0	2.0	Mature	Fair	Squat form due to previous crown reduction. Several large, open wounds visible. Potential bat habitat.	A,1	13.7	587.9		Long
T5	Pedunculate Oak	6.0	1700.0	1.0	5.0	3.0	5.0	3.0	3.0	Mature	Fair	Asymmetric crown due to large failure. Large concrete filled stem cavity at 2m. Major bark loss associated with cavity. Minor dieback of eastern crown.	B,1,2,3	20.4	1307.4		Long
T6	Pedunculate Oak	8.0	610.0	1.0	6.0	7.0	6.0	6.0	2.0	Middle Age	Good	Excellent form. Previous mechanical damage on underside of lower limbs. Ivy clad lower bole. Slightly chlorotic foliage.	A,1,2	7.3	168.3		Long
T7	Pedunculate Oak	9.0	750.0	1.0	5.0	6.0	4.0	4.0	2.0	Middle Age	Good	Bifurcate stem union at 2m but with good overall form. Ivy clad stem. Visible cavity opening at 2m just below large union but known to extend both up and down the stem.	B,1,2	9.0	254.5		Long
T8	Pedunculate Oak	8.0	720.0	1.0	5.0	5.0	7.0	5.0	3.0	Mature	Fair	Major stem wound with associated fire damage on south side of stem. Concrete filled cavity at 2.5m at multi-stemmed union. Potential bat habitat.	B,1,2,3	8.6	234.5		Long
T9	Pedunculate Oak	7.0	660.0	1.0	4.0	5.0	3.0	3.0	2.0	Middle Age	Fair	Reasonable form. Minor deadwood. Slightly reduced upper canopy. Enlarged buttress formation on western side ; a likely response to disturbance by livestock.	B,1,2	7.9	197.1		Long
T10	Pedunculate Oak	8.0	660.0	1.0	4.0	5.0	4.0	4.0	2.0	Middle Age	Good	Excellent form, balanced crown. Slightly chlorotic foliage. Minor stem wound at 0.25m. Compaction from cattle and water bowser located under canopy.	B,1	7.9	197.1		Long

APPENDIX 1: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA	Management Recommendations	Estimated Remaining Contribution
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature, Veteran	Good, Fair, Poor		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short
T11	Pedunculate Oak	7.0	980.0	1.0	3.0	4.0	4.0	3.0	2.0	Mature	Fair	TREE ON THIRD PARTY LAND. Slightly chlorotic foliage. Rooted on edge of pond. Cavity at 2m, extent unknown. Inspection restricted by boundary hedge.	B,1,2	11.8	434.5		Long
T12	Pedunculate Oak	9.0	880.0	1.0	6.0	6.0	6.0	5.0	2.0	Mature	Good	Good form, balanced crown. Vigorous tree. Previous large branch failure. Minor stem and buttress wounding. Light compaction from cattle grazing under canopy.	A,1,2	10.6	350.3		Long
T13	Pedunculate Oak	9.0	780.0	1.0	6.0	7.0	6.0	6.0	2.0	Mature	Good	Excellent form, balanced crown. Minor deadwood. Light compaction by livestock adjacent to stem.	A,1,2	9.4	275.2		Long
T14	Pedunculate Oak	8.0	720.0	1.0	4.0	3.0	5.0	5.0	2.0	Mature	Good	Slight asymmetric crown due to neighboring tree. Previously crown reduced on western side. Minor cavities in scaffold branches. Potential bat habitat.	A,1,2	8.6	234.5		Long
T15	Pedunculate Oak	8.0	1020.0	1.0	3.0	7.0	6.0	6.0	2.0	Mature	Fair	Good form. Large column of decay within main stem, the opening of which has been partially covered with rubber matting. Light soil compaction by livestock adjacent to stem. Cavity at 3m on southern side. Potential bat habitat. Potential owl habitat. Insect defoliation.	B,1,3	12.2	470.7		Long
T16	Pedunculate Oak	8.0	670.0	1.0	5.0	6.0	5.0	5.0	2.0	Middle Age	Good	Excellent form, balanced crown. Minor deadwood. Ivy clad stem. No visible defects.	A,1,2	8.0	203.1		Long
T17	Pedunculate Oak	7.0	590.0	1.0	5.0	7.0	6.0	6.0	3.0	Middle Age	Good	Squat, balanced crown. Ivy clad stem. Minor deadwood. Base obscured by vegetation. Insect defoliation.	A,1,2	7.1	157.5		Long
T18	Ash	6.0	130.0	1.0	1.0	1.0	1.0	1.0	2.0	Young	Fair	Balanced crown but with slight reduction in density. Compaction in rooting area by livestock.	C,1	1.6	7.6		Long
T19	Pedunculate Oak	9.0	620.0	1.0	4.0	4.0	4.0	4.0	2.0	Middle Age	Good	Good form, balanced crown. Compaction of rooting area by livestock to east of stem.	A,1,2	7.4	173.9		Long
T20	Pedunculate Oak	7.0	860.0	1.0	4.0	5.0	4.0	5.0	2.0	Mature	Fair	Previously crown reduced and allowed to regrow. Decay at regrowth points. Small cavity opening at 2.5m on north side.	B,1,2	10.3	334.6		Medium
T21	Pedunculate Oak	12.0	960.0	1.0	6.0	6.0	5.0	6.0	2.0	Mature	Fair	Bifurcate stem union at 2m. Decay at union extending up southern scaffold branch. Thinning of upper crown. Minor deadwood. Potential bat habitat.	B,1,2,3	11.5	416.9		Long
T22	Pedunculate Oak	9.0	1080.0	1.0	4.0	7.0	4.0	7.0	2.0	Mature	Fair	Slight asymmetric crown. Minor deadwood throughout. Ivy clad stem. Potential bat habitat.	B,1,2	13.0	527.7		Long
T23	Pedunculate Oak	10.0	550.0	1.0	3.0	3.0	4.0	5.0	2.0	Middle Age	Fair	Poor form. Natural lion's tailing of upper branches, indicative of the beginning of natural entrenchment. Vigorous lower crown.	C,1	6.6	136.8		Long
T24	Pedunculate Oak	13.0	690.0	1.0	5.0	6.0	4.0	7.0	5.0	Mature	Good	Good form. Previously crown raised to 5m. Minor shade deadwood. Light compaction and buttress damage by livestock to east of stem.	B,1,2	8.3	215.4		Long

APPENDIX 1: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA	Management Recommendations	Estimated Remaining Contribution
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature, Veteran	Good, Fair, Poor		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short
T25	Pedunculate Oak	12.0	770.0	1.0	3.0	5.0	5.0	7.0	3.0	Mature	Good	Slight asymmetric crown and stem lean to south. Crown raised to 4m, several wounds fully occluded. Light compaction in rooting area to east of stem.	B,1,2	9.2	268.2		Long
T26	Pedunculate Oak	10.0	500.0	1.0	5.0	5.0	5.0	4.0	2.0	Middle Age	Good	Reasonable form. Previously crown reduced and allowed to regrow. Base obscured by vegetation.	B,1,2	6.0	113.1		Long
T27	Common Ash	9.0	210.0	1.0	3.0	2.0	3.0	3.0	2.0	Young	Good	Good form, balanced crown. No visible defects.	B,1,2	2.5	20.0		Long
T28	Pedunculate Oak	12.0	700.0	1.0	5.0	6.0	5.0	6.0	2.0	Mature	Good	Reasonable form, slight crown bias to south-east. Crown raised over western field - stubs left.	A,1,2	8.4	221.7		Long
T29	Pedunculate Oak	10.0	540.0	1.0	4.0	5.0	6.0	6.0	2.0	Middle Age	Good	Basal stem bow to north. Compaction in rooting area to east of stem. Suppressed to north by T 28. Minor shade deadwood.	A,1,2	6.5	131.9		Long
T30	Hawthorn	6.0	380.0	2.0	4.0	2.0	2.0	4.0	2.0	Mature	Fair	Bifurcate stem union at 0.25m. Rooted on 0.5m level change dropping to south of stem. Crown raised by flailing to leave a top-heavy appearance.	C,1	3.8	45.4		Long
T31	Pedunculate Oak	10.0	470.0	1.0	4.0	5.0	4.0	4.0	4.0	Middle Age	Good	Good form, balanced crown. Rooted on edge of level change (1m drop directly south of stem). Small broken branches on northern side.	B,1	5.6	99.9		Long
T32	Pedunculate Oak	9.0	610.0	1.0	6.0	3.0	5.0	6.0	3.0	Middle Age	Fair	Reasonable form, slight asymmetry due to adjacent trees. Longitudinal cavity extending from base up main stem, moderate decay within. Minor deadwood. Rooted on edge of level change (1m drop directly south of stem).	B,1,2	7.3	168.3		Long
T33	Pedunculate Oak	12.0	810.0	1.0	4.0	6.0	5.0	4.0	2.0	Mature	Good	Good form, balanced crown. Slightly chlorotic foliage indicative of possible leaf mining insect. Rooted on edge of level change (1m drop directly south of stem). Minor deadwood and mechanical damage on underside of northern branches.	A,1,2	9.7	296.8		Long
T34	Pedunculate Oak	11.0	770.0	2.0	4.0	5.0	5.0	5.0	3.0	Middle Age	Good	Good overall form, basally bifurcate with strong union. Rooted on edge of level change. Slightly chlorotic foliage. Insect defoliation.	B,1	7.7	186.3		Long
T35	Pedunculate Oak	7.0	330.0	1.0	3.0	3.0	3.0	2.0	4.0	Middle Age	Good	Vigorous tree in good overall health. Slender form due to growth amongst other vegetation.	C,1	4.0	49.3		Long
T36	Pedunculate Oak	14.0	1070.0	1.0	6.0	6.0	7.0	7.0	4.0	Mature	Good	Good form, balanced crown. Rooted on edge of land change. Moderate deadwood to 100mm. Slightly chlorotic foliage. Epicormic growth on south side of stem.	A,1	12.8	517.9		Long
T37	Pedunculate Oak	11.0	730.0	1.0	7.0	7.0	7.0	7.0	3.0	Mature	Good	Good form, balanced crown. Previous small branch failure	A,1	8.8	241.1		Long
T38	Pedunculate Oak	10.0	490.0	1.0	2.0	5.0	4.0	4.0	4.0	Middle Age	Fair	Bifurcate stem union at 0.5m Asymmetric crown. Slightly reduced crown density.	B,1	5.9	108.6		Medium

APPENDIX 1: Arboricultural Survey Data Sheets

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature, Veteran	Good, Fair, Poor		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short
T39	Pedunculate Oak	11.0	740.0	1.0	5.0	5.0	5.0	5.0	3.0	Mature	Fair	Good form, balanced crown. Large branch cavity at 3m. Minor deadwood throughout. Owl habitat	B,1,2	8.9	247.7	Consider reduction of northern crown.	Medium
T40	Pedunculate Oak	9.0	770.0	1.0	6.0	6.0	3.0	8.0	3.0	Young	Fair	Asymmetric crown due to competition from T37. Stem lean South west 30 deg. Cracks/splits in scaffold. Minor exposure of roots on North side. Laetiporus sulphureus protruding from buttresses.	B,1,2	9.2	268.2		Long
T41	Pedunculate Oak	9.0	700.0	1.0	3.0	5.0	4.0	4.0	3.0	Mature	Good	Reasonable form. Ivy clad upper stem. Stem lean 25 deg South. Rooted on edge of level change.	B,1	8.4	221.7		Long
T42	Pedunculate Oak	9.0	430.0	1.0	4.0	5.0	4.0	4.0	3.0	Middle Age	Good	Good overall form. Ivy clad main stem growing amongst epicormic shoot growth.	B,1	5.2	83.6		Long
T43	Pedunculate Oak	13.0	1090.0	1.0	5.0	7.0	5.0	9.0	4.0	Mature	Good	Leaning to East. Moderate squirrel damage. Deadwood. Inonotus dryadeus around entire basal circumference. Large end-weighted limb extending west.. Moderate basal cavities. Sparse central leader.	B,1	13.1	537.5	25% reduction in overall crown volume. Limb extending west may require additional reduction to retain a balanced form.	Long
T44	Pedunculate Oak	10.0	800.0	1.0	8.0	8.0	5.0	7.0	1.0	Middle Age to Mature	Good	Excellent form with attractive, balanced crown. Bifurcate at 2.5m.	A,1	9.6	289.5		Long
T45	Pedunculate Oak	8.0	1140.0	1.0	4.0	5.0	4.0	5.0	1.0	Mature	Good	Balanced but squat crown. Major stem wound from base to 2.5m. Bifurcate form. Previous crown reduction. A particularly nice tree.	A,3	13.7	587.9	RPA adjusted to 17.1 metres (918.2 m²) to comply with WCBC Local Planning Guidance Note 17 Section 3.3.	Long
T46	Pedunculate Oak	8.0	580.0	1.0	5.0	6.0	6.0	5.0	2.0	Mature	Fair	Reasonable form but displaying minor apical dieback. Unusual fused branch structure in central crown; not thought to infer structural weakness. Drainage ditch located directly east of stem.	B,1	7.0	152.2		Long
T47	Pedunculate Oak	8.0	560.0	1.0	7.0	5.0	5.0	5.0	2.0	Mature	Good	Good form balanced crown. Ivy clad stem and scaffolds. Minor shade deadwood in lower crown. Drainage ditch located directly east of stem.	A,1	6.7	141.9		Long
T48	Pedunculate Oak	7.0	510.0	1.0	4.0	4.0	3.0	4.0	2.0	Mature	Fair	Twiggy crown growth indicating suboptimal growing conditions. Powdery mildew growth on western foliage. Ivy clad stem. Drainage ditch located directly east of stem.	B,1	6.1	117.7		Long
T49	Pedunculate Oak	9.0	460.0	1.0	4.0	1.0	4.0	4.0	2.0	Mature	Good	Asymmetric form due to suppression by T50. Drainage ditch located directly east of stem.	B,1	5.5	95.7		Long
T50	Pedunculate Oak	11.0	600.0	1.0	3.0	7.0	6.0	4.0	2.0	Mature	Good	Good crown shape and structural form. Ivy clad stem. Drainage ditch located directly east of stem.	A,1	7.2	162.9		Long
T51	Pedunculate Oak	15.0	560.0	1.0	4.0	5.0	7.0	7.0	4.0	Mature	Good	Bifurcate mid-stem. Balanced crown. Minor deadwood.	A,1	6.7	141.9		Long

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		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature, Veteran	Good, Fair, Poor		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short
T52	Pedunculate Oak	10.0	590.0	1.0	6.0	5.0	4.0	5.0	4.0	Mature	Good	Good form. Stem bulge at 1.5m, possible cause 'fiber buckling'. Cavity opening visible at 1.3m on eastern side of stem extending downward. Animal activity evident from scratch marks.	B,1	7.1	157.5		Long
T53	Lombardy poplar	19.0	1100.0	1.0	3.0	2.0	3.0	2.0	1.0	Mature	Good	Bifurcate stem union at 0.25m. Ivy clad stem restricting inspection.	B,1	13.2	547.4		Long
T54	Ash	10.0	360.0	1.0	5.0	4.0	4.0	5.0	1.0	Middle Age	Good	Vigorous tree of good form. Rooted on edge of wet ditch to south.	B,1	4.3	58.6		Long
T55	Ash	11.0	840.0	1.0	5.0	6.0	5.0	8.0	2.0	Mature	Good	Vigorous tree of good form. Rooted on edge of wet ditch to east. Heavily ivy clad stem and central scaffold branches.	A,1	10.1	319.2		Long
T56	Pedunculate Oak	9.0	400.0	2.0	5.0	6.0	4.0	5.0	1.0	Middle Age	Good	Two independently rooted stems forming a single, sinuous canopy outline. Both stems heavily ivy clad.	B,1	4.0	50.3		Long
T57	Pedunculate Oak	9.0	510.0	1.0	6.0	6.0	6.0	6.0	1.0	Middle Age	Good	Good form, single stem with balanced crown.	A,1	6.1	117.7		Long
T58	Pedunculate Oak	14.0	900.0	1.0	6.0	7.0	7.0	7.0	2.0	Mature	Good	More mature than rest of G12, a visible boundary feature. Ivy covered.	A,1	10.8	366.4		Long
Groups																	
G1	Pedunculate Oak	to 12	600-800	2.0						Mature	Fair	Squat crowns, exhibiting shoot dieback. Moderate deadwood. Necrotic leaves. Dense understorey of bramble.	B,2	1m outside canopy edge			Long
G2	Oak, Ash, Hawthorn, Goat Willow, Sycamore	to 12	50-600	>15						Middle Age	Good	Lines roughly surfaced track way. Stem failures to Goat Willow. North end of group contains middle age Oak trees.	B,2,3	1m outside canopy edge		General remedial works will be required if the area is to be brought back into public use.	Long
G3	Oak, Ash, Hawthorn, Goat Willow, Crack Willow	to 14	120-1030	>20						Mature	Good	Remnant hedgerow with mature Oaks staggered through group. Lines old roughly surfaced track way. Possible bat habitat provided by large open cavities. Visual screen from road. Dense ivy cover. Crack Willow have stem failures and fungal brackets at 6-8m.	A,1,2,3	2m outside canopy edge		General remedial works will be required if the area is to be brought back into public use. A minimum 10m structural stand-off is recommended on the open field side.	Long
G4	Hawthorn, blackthorn, wych elm, elder, ash	to 6	50 to 140	>10						Middle Age	Good	Dense thicket. Bramble and ivy understorey. Ditch along southern edge.	C,3	To canopy edge			Long
G5	Pedunculate Oak	13.0	450-550	3.0						Middle Age	Good	Reasonable individual tree form if slight asymmetric due to growth as a closely spaced group. Several stems ivy covered.	B,2	2m outside canopy edge			Long
G6	Crack Willow, Hawthorn, Ash, Oak	13.0	200-890	>40						Middle Age to Mature	Good	Stem/branch failure to Crack Willow. Strong visual feature combined with G18 & G19. Stream runs through group to East.	A,2,3	2m outside canopy edge		A minimum 10m structural stand-off is recommended on the open field side.	Long
G7	Pedunculate Oak	15.0	480-900	>35						Middle Age to Mature	Good	Mature Oaks. Twisted stem forms. Some deadwood throughout. Some ivy cover. Possible bat habitat. Laetiporous on one Oak	A,2,3	4m outside canopy edge		A minimum 10m structural stand-off is recommended on the open field side.	Long

APPENDIX 1: Arboricultural Survey Data Sheets

Ref	Species	Height	Stem Dia.	No. of stems/individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Height of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA	Management Recommendations	Estimated Remaining Contribution
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature, Veteran	Good, Fair, Poor		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short
G8	Oak, Field Maple, Hawthorn	14.0	130-790	>30						Middle Age to Mature	Good	Dense remnant hedgerow, possible bat habitat. Young Field Maple throughout group. Some failed stems/branches. Mature Ash towards South end.	B,2,3	4m outside canopy edge		A minimum 10m structural stand-off is recommended on the open field side.	Long
G9	Oak, Ash, Hawthorn, Grey Willow, Silver Birch	to 16	100-240	>10						Middle Age to Mature	Good	Dense group lining a stream. Ivy growth present throughout. Young Oaks have potential to grow into good quality specimens.	B,2	To canopy edge			Long
G10	Silver birch	7.0	90-320	3.0						Young	Fair	Vigorous group of self-sown trees. 1 tree with co-dominant form.	C,1	To canopy edge			Long

APPENDIX 2

SURVEY METHODOLOGY

APPENDIX 2: ARBORICULTURE SURVEY METHOD

Arboricultural surveys are conducted from ground level only. The nature of the soils on site is not assessed during the survey. The possibility of minor soil movement due to the root activity of the trees cannot be discounted; therefore, the advice of a structural engineer should be sought with regard to appropriate foundation depths.

Trees are dynamic living organisms with a constantly changing structure; even trees in good condition can suffer from damage or stress. Regular annual or bi-annual inspections by a qualified arboriculturalist can help to identify potential problems before they become acute.

The following features of each tree, group of trees or wood may have been recorded in the Arboricultural Data Sheets (Appendix One).

Species	The common name is given. The Latin name may also be given if further clarification is required.	
Height	Top height of tree recorded in metres.	
Stem Diameter	For single-stemmed trees the measurement is taken at 1.5 metres above ground level and recorded in millimetres. For multi-stemmed trees the measurement is taken directly above the root flare in millimetres. For tree groups the measurement is taken in the same way as with single-stemmed trees and is recorded in millimetres as a range from minimum to maximum diameters.	
No. of Stems	A count of stems arising below a height of 1.5m.	
Crown Spread	The N, S, E and W branch spreads are recorded in metres to provide a representative crown shape.	
Height of Lowest Branch	Crown clearance above ground level recorded in metres.	
Tree Age	Young	Trees than can reasonably be relocated or replaced like for like, without undue cost;
	Middle Age	Trees in the established growth stage of their life with the potential to continue increasing in size;
	Mature	Trees that have reached their ultimate size, given their location and surroundings;
	Veteran	A tree recognised by features of a biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

Condition

An overall assessment of a tree's physiological and structural state in which factors that may increase its susceptibility to the effects of development are taken into account.

Comments

A brief evaluation and description of the tree with comments on the form, vitality, health and any significant defects that may be present.

Trees are surveyed without reference to any proposed development. The implications of any development are discussed in the Arboricultural Implication Assessment.

Tree Quality Assessment

The tree quality assessment is based on Table 1 of BS 5837:2005 (See below). Four categories (A, B, C and R) are used to denote tree quality (A = High, B = Moderate, C = Low, R = Unsuitable for retention). Subcategories (1-3) denote the specific function value of the trees and the reasoning behind the assessment (the subcategories may be used in combination but do not accumulate collective weight).

BS 5837 Root Protection Area (RPA)

The Root Protection Area (RPA) is allocated to ensure that a sufficient area is left undisturbed during development to prevent direct and indirect damage to tree roots and the soil structure.

The RPA is calculated using a mathematical equation included in BS 5837:2005 (Table 2) and is based on a trees stem diameter. In some cases the RPA may need to be adapted to ensure survival based on criteria such as the tree's condition, species and crown spread. Any alteration should be justifiable but is made at the arboriculturists discretion.

The surrounding RPA should remain undisturbed and be treated as a sacrosanct Construction Exclusion Zone (CEZ) until development completion and removal is approved by an arboriculturist.

APPENDIX 2: ARBORICULTURE SURVEY METHOD

Recommendations

Recommendations for arboricultural works, etc. are based on the **current** land use, and take into account the tree or group attributes without bias to the proposed development.

Estimated Remaining Contribution

An estimation of the trees useful life expectancy.

Long	> 40 years
Medium	20 – 40 years
Short	10 – 20 years
Very Short	< 10 years

Table 1 — Cascade chart for tree quality assessment

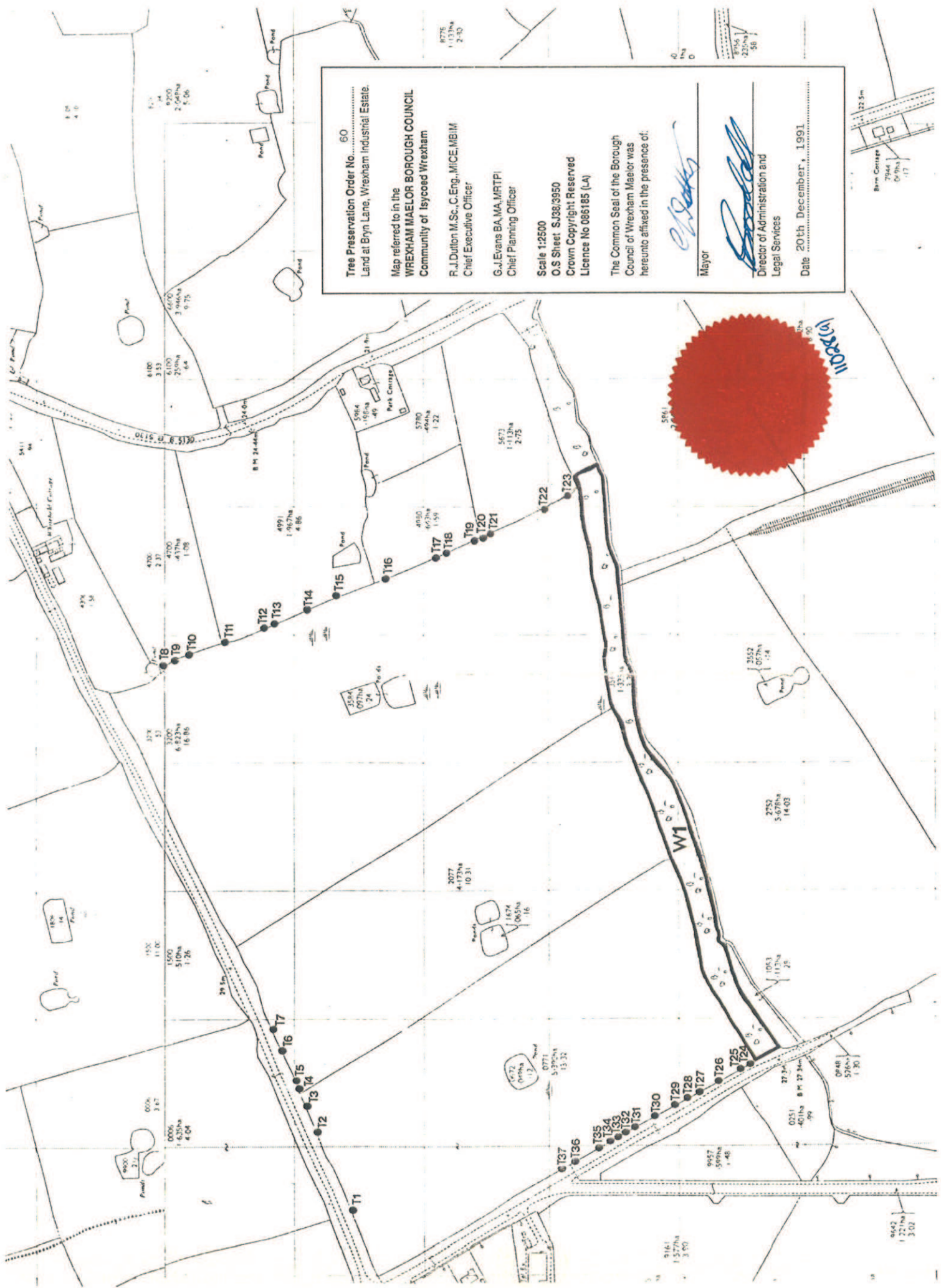
TREES FOR REMOVAL				
Category and definition	Criteria			Identification on plan
Category R Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other R category trees (i.e. 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 (e.g. Dutch elm disease), or very low quality trees suppressing adjacent trees of better quality NOTE: Habitat reinstatement may be appropriate (e.g. R category tree used as a bat roost: installation of bat box in nearby tree).			DARK RED
TREES TO BE CONSIDERED FOR RETENTION				
Category and definition	Criteria — Subcategories			Identification on plan
	1 Mainly arboricultural values	2 Mainly landscape values	3 Mainly cultural values, including conservation	
Category A Those of high quality and value: in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested)	Trees that are particularly good examples of their species, especially if rare or unusual, or essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands which provide a definite screening or softening effect to the locality in relation to views into or out of the site, or those of particular visual importance (e.g. avenues or other arboricultural features assessed as groups)	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	LIGHT GREEN
Category B Those of moderate quality and value: those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)	Trees that might be included in the high category, but are downgraded because of impaired condition (e.g. presence of remediable defects including unsympathetic past management and minor storm damage)	Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal arboricultural features (e.g. trees of moderate quality within an avenue that includes better, A category specimens), or trees situated mainly internally to the site, therefore individually having little visual impact on the wider locality	Trees with clearly identifiable conservation or other cultural benefits	MID BLUE
Category C Those of low quality and value: currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm	Trees not qualifying in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low or only temporary screening benefit	Trees with very limited conservation or other cultural benefits	GREY
NOTE: Whilst C category trees will usually not be retained where they would impose a significant constraint on development, young trees with a stem diameter of less than 150 mm should be considered for relocation.				

British Standards Institute 2005, p.6

NOTE: All young trees are assessed as category 'C' quality but this does not preclude their retention within a development; all retention and removal recommendations will be detailed within the Arboricultural Implications Assessment report.

APPENDIX 3

TREE PRESERVATION ORDER (No.60, 1991) PLAN



Tree Preservation Order No. 60

Land at Bryn Lane, Wrexham Industrial Estate.

Map referred to in the
WREXHAM MAELOR BOROUGH COUNCIL
Community of Isycoed Wrexham

R.J. Dutton M.Sc., C.Eng., MICE, MBIM
Chief Executive Officer

G.J. Evans B.A., MA, MRTPI
Chief Planning Officer

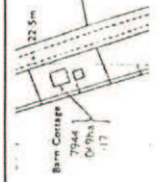
Scale 1:2500
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The Common Seal of the Borough
Council of Wrexham Maelor was
hereunto affixed in the presence of:


Mayor

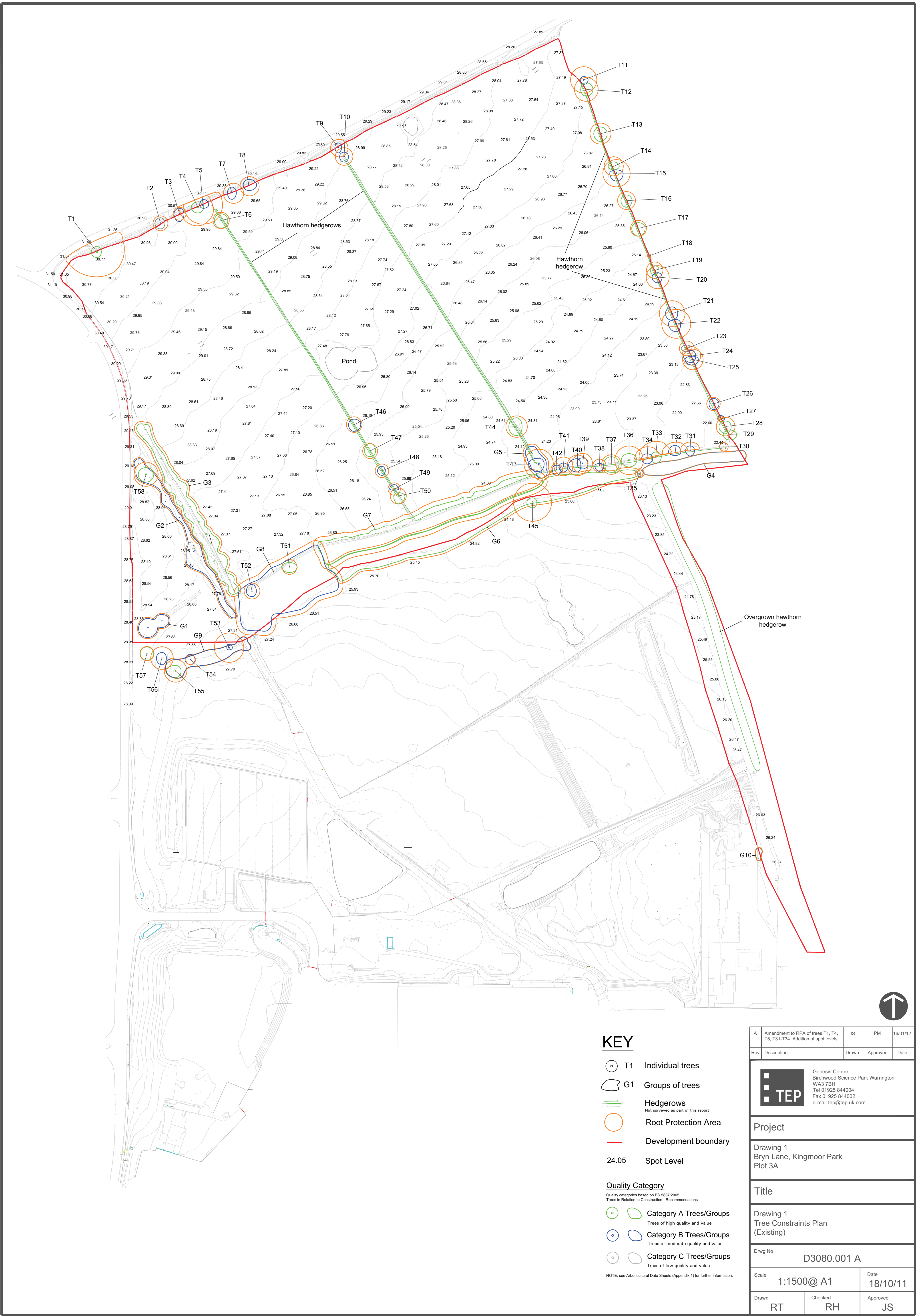

Director of Administration and
Legal Services

Date 20th December, 1991



DRAWING 1

TREE CONSTRAINTS PLAN



KEY

- T1 Individual trees
- G1 Groups of trees
- Hedgerows
Not surveyed as part of this report
- Root Protection Area
- Development boundary
- 24.05 Spot Level

- Quality Category
- Quality categories based on BS 5837:2005
Trees in Relation to Construction - Recommendations
- Category A Trees/Groups
Trees of high quality and value
 - Category B Trees/Groups
Trees of moderate quality and value
 - Category C Trees/Groups
Trees of low quality and value

NOTE: see Arboricultural Data Sheets (Appendix 1) for further information.

A	Amendment to RPA of trees T1, T4, T5, T31-T34. Addition of spot levels.	JS	PM	16/01/12
Rev	Description	Drawn	Approved	Date
Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 e-mail tep@tep.uk.com TEP				
Project				
Drawing 1 Bryn Lane, Kingmoor Park Plot 3A				
Title				
Drawing 1 Tree Constraints Plan (Existing)				
Drwg No		D3080.001 A		
Scale		1:1500@ A1		Date
				18/10/11
Drawn		Checked	Approved	
RT		RH	JS	

DRAWING 2

TREE IMPLICATIONS AND PROTECTION PLAN



KEY

- T1 Individual trees
- G1 Groups of trees
- Hedgerows
Not surveyed as part of this report
- Proposed development footprint
- Root Protection Area (RPA)
- Construction Exclusion Zone (CEZ)
- Development boundary
- Protective fencing
- Ground protection

- Trees that can be retained**
Categories based on BS 5837:2005 Trees in relation to construction - Recommendations
- Category A Trees/Groups
Trees of high quality and value
 - Category B Trees/Groups
Trees of moderate quality and value
 - Category C Trees/Groups
Trees of low quality and value
- Trees that require removal**
- Category A Trees/Groups
Trees of high quality and value
 - Category B Trees/Groups
Trees of moderate quality and value
 - Category C Trees/Groups
Trees of low quality and value
- NOTE: see Arboricultural Data Sheets (Appendix 1) for further information.

A Updated layout and RPA amendment JS PM 23/02/12			
Rev	Description	Drawn	Approved Date
TEP Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 e-mail tep@tep.uk.com			
Project			
Bryn Lane, Kingmoor Park Plot 3A			
Title			
Drawing 2 Tree Implications and Protection Plan (Proposed)			
Drwg No		D3080.002 A	
Scale		1:1500 @ A1	Date 18/10/11
Drawn	Checked	Approved	
RT	RH	JS	

DRAWING 3

RECOMMENDED TREE PROTECTIVE FENCING

