



Butchers Arms, Rossett Arboricultural Impact Assessment

Report Ref: TEP.4922.001
December 2014

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**BUTCHERS ARMS, ROSSETT
ARBORICULTURAL IMPACT ASSESSMENT**

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1.0 INTRODUCTION

- 1.1 TEP has been commissioned by Langdale Capital to conduct an arboricultural survey of land surrounding the Butchers Arms public house in Rossett, Wrexham. This report details the arboricultural impact of developing the site, subsequent mitigation recommendations and protective measures.
- 1.2 The survey was carried out in December 2014 by means of inspection from ground level by a qualified Arboricultural Consultant. Trees were assessed in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations*.
- 1.3 Under the British Standard the assessment of trees is made objectively. The categorisation method identifies the quality and value of the existing tree stock.
- 1.4 A topographical survey was used to record the position of trees and vegetation (Ref: SSL:16260:200:1:1:TOPO). 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.
- 1.5 A total of 24 individual trees (T1-T24) were surveyed and mapped (refer to Drawing 1). All arboricultural information recorded during the survey is presented at Appendix 1.
- 1.6 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. Prior to the undertaking of foundation depth calculations the exact location of all trees in relation to structures will be required.
- 1.7 This report provides the results of the survey and includes the following:
 - A schedule of all trees located on, or within influencing distance of the proposed development site (Appendix 1);
 - An assessment based on *BS 5837:2012*, 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 U (Appendices 1 & 2);
 - An assessment, based on *BS 5837:2012*, of the requirement for protection of trees during the construction phase (Section 6);
 - Advice on removal, retention and management of trees (Sections 5 & 7);
 - A Tree Constraints Plan detailing tree quality categories, canopy spreads and Root Protection Areas (**RPA**) for all trees surveyed (Drawing 1); and
 - A Tree Removal and Protection Plan detailing the development proposals, trees to be retained and removed and tree protection fencing alignment. (Drawing 2).

2.0 THE SITE AND SURROUNDINGS

- 2.1 The site is situated off Chester Road in Rossett, Wrexham. Rossett is located 6.5 miles from Wrexham Town Centre and 7.5 miles from Chester City Centre. Access was gained via Chester Road.
- 2.2 The site comprises the Butchers Arms public house with associated car park to the side and rear. The tree stock is located along the eastern and southern boundary, adjacent to the car parking area.

Figure 1: Site Location Plan



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- 2.3 The survey area is predominantly flat
- 2.4 Weather conditions during the survey were overcast with strong gusts of wind.
- 2.5 Inspection of trees was restricted in some cases by dense ivy. These trees were surveyed insofar as was possible from accessible areas of the site and from the public footpath.

Development Proposals

- 2.6 The proposed development includes the demolition of existing outbuildings to the rear of the pub and the construction of a new part single storey, part two storey rear extension. Minor external alterations will be undertaken to the existing building and works to formalise the car parking area. It is proposed to re-surface over existing surfaces within the current car park.
- 2.7 Detail of the proposals is shown on Drawing 2 and is based on the proposed site plan (Ref: 5435(P)502 Rev D) supplied by Archer Architects.

3.0 STATUTORY PROTECTION AND GUIDANCE

National Planning Policy Framework (NPPF)

- 3.1 The NPPF assumes protection of all ancient woodland and veteran trees unless it can be clearly demonstrated that the need of, or benefits of, development outweigh the loss. In this respect ancient woodland is defined as an area which has been wooded continuously since at least 1600 AD and a veteran as a tree of exceptional value for wildlife, in the landscape, or culturally because of its great age, size or condition
- 3.2 On this site there are no ancient woodland or veteran trees.

Tree Preservation Orders & Conservation Area Designations

- 3.3 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. Works to TPO protected trees must only be undertaken with the written consent of the local authority.
- 3.4 Wrexham County Borough Council confirmed that no trees on site are subject to a Tree Preservation Order.
- 3.5 The site lies within the Rossett Conservation Area.

Protected Species – Bats

- 3.6 Mature trees often contain cavities, crevices and hollows which are a potential habitat for roosting bats. Bats are afforded protection under Schedule 5 of the *Wildlife and Countryside Act 1981* (as amended), as well as under Schedule 2 of the *Conservation of Species and Habitats Regulations 2010*, and as such causing damage to a bat roost constitutes an offence.
- 3.7 A preliminary ground level appraisal of the wildlife habitat value of each tree was undertaken as part of the arboricultural survey. No trees were noted as having features suitable to support roosting bats.

Should the presence of a bat roost be suspected whilst undertaking works on any trees on site, operations must be halted until a licensed bat handler or ecologist can provide advice.

Protected Species - Birds

- 3.8 Trees are a potential habitat for nesting birds, which (as well as their nests and eggs) are protected under the *Wildlife and Countryside Act 1981* (as amended). This makes it an offence to intentionally or recklessly, damage or destroy an active birds nest or any part thereof.
- 3.9 Due to the suitability of the trees within the survey boundary for nesting birds, all tree work should ideally be undertaken outside the bird nesting season (British bird nesting season: March to August inclusive).

- 3.10 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

- 4.1 24 individual trees (T1-T24) were recorded within influencing distance of the site. A schedule of all trees and groups in terms of species, condition, age, management recommendations and *BS 5837:2012* quality categories is provided at Appendix 1.
- 4.2 The tree stock is confined to the eastern and southern boundary in a linear feature adjacent the car park and public footpath. It comprises middle aged to mature sycamore, hawthorn, cypress species and holly. As a collection they frame the public house car park with stems growing to within 1.5m of the existing hard-surfacing.
- 4.3 The sycamore trees have the greatest significance on site due to their size and condition (T4, T10, T12, T13, T14, T16, T18, T20 and T24). They have a dominant canopy as you enter the site and good visual amenity from Chester road and along the footway running adjacent to the car park. The majority of these trees have dense ivy covering their trunks and throughout their canopies. As many of these trees were twin or multi-stemmed, tight unions were present and therefore the removal of the ivy would allow a more thorough inspection of attachment integrity; this level of inspection was not undertaken during the current survey.
- 4.4 Many of the hawthorns have almost completely been covered by ivy (T3, T5, T6, T7, T11, T15, T17 and T19). Only a few branches on each tree were visible and therefore their form and condition was difficult to assess. The longevity of these trees will also be reduced and T21 is already dead.
- 4.5 Trees T8 and T22 are two middle-aged cypress trees. They both have asymmetrical crowns with main branches growing on only one side of their trunks. They are in fair condition and contribute to the overall tree collection; however their form reduces their individual arboricultural value.
- 4.6 Tree and group locations, their quality categories and canopy spreads are shown on Drawing 1.

Tree Quality Categorisation

- 4.7 Under *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations* trees and groups are objectively assigned a quality category designed to quantify their value within any future development. Table 1 (overleaf) presents a summary of the categories presented in the British Standard. The full table has been reproduced at Appendix 2.

Table 1: Summary of BS 5837 tree quality categorisation criteria

Category A	Trees of high value including those that are particularly good examples of their species and/or those that have visual importance or significant conservation or other value
Category B	Trees of moderate value including those that do not qualify as Category A due to impaired condition and/or those that collectively have higher value than they would as individuals; also trees with material conservation or other value
Category C	Trees of low value including those with very limited merit or impaired condition; trees offering transient or temporary landscape benefits
Category U	Trees with irremediable defects and anticipated early loss due to collapse; dead trees or those in immediate decline and those with infectious pathogens that threaten other trees

5.0 IMPACTS OF THE PROPOSED DEVELOPMENT

- 5.1 Table 2 lists the number and quality 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.

Table 2: Arboricultural implications of the proposed development

	Tree Quality Category			
	A	B	C	U
Trees, groups and hedges that can be retained	-	T4, T10, T12, T13, T16, T20, T23	T2, T3, T11, T14, T15, T17, T18, T19, T22, T24	-
Trees, groups and hedges that require removal to facilitate development	-	-	T1, T5, T6, T7, T8, T9	T21

See Appendix 1, Arboricultural Data Sheets for subcategories

- 5.2 7 individual trees would require removal to facilitate the development proposals. These are all low value and one is dead.
- 5.3 Site access and car parking spaces are proposed within the rooting area of trees T4 and T10 to T24. This is deemed to be achievable due to the extent of impervious surfacing and ground compaction already present in this location.
- 5.4 Fencing to protect the retained trees will be necessary. This generally follows the edge of the existing car park surface and should not constrain the useable area for works and storage of materials during development provided the hard-surface remains in-tact.

- 5.5 Where planning permission is granted, the retention schedule shown in Table 2 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.

6.0 TREE PROTECTION REQUIREMENTS

Root Protection Areas

- 6.1 As per *BS 5837:2012*, the **Root Protection Area (RPA)** is calculated using each tree's 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.
- 6.2 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.
- 6.3 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.
- 6.4 On this site the RPA's shown on Drawing 1 have not been adjusted or offset as it not possible within the limited rooting space to accurately represent the likely spread of roots for each individual tree. The RPA shown are therefore an indication of where the tree roots could realistically be found. i.e. Roots are unlikely to be absent underneath all hard-surfacing areas but where unfavourable conditions exist, growth will certainly be impeded.

Protective Fencing and Exclusion Zones

- 6.5 Temporary protective barrier fencing will be required to demarcate a **Construction Exclusion Zone (CEZ)** around retained trees. This must be put in place prior to the commencement of any development works, including bringing machinery or materials onto site, the erection of site huts.
- 6.6 The CEZ acts to protect both tree roots and branches and has been extended to incorporate canopy spread where appropriate.
- 6.7 Protective fencing alignment is shown on Drawing 2 and assumes that all trees identified for removal have been felled prior to installation.
- 6.8 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 recommended protective fencing are shown on Drawing 3.
- 6.9 A weatherproof notice stating 'Construction Exclusion Zone – Keep Out' must be fixed to each fencing panel. An example notice is shown on Drawing 3.
- 6.10 Any alteration to the fencing alignment to allow for approved activities will be made in agreement with the council's Arboricultural Officer.

- 6.11 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 Contamination

- 6.12 Storage areas for liquids such as fuels, oil or paint should not be located within 10m of any trees on or within proximity to the site due to the risk of soil contamination caused by accidental spillage.
- 6.13 Particular care must be taken when working on or close to sloping ground to avoid unintentional runoff into the rooting area of retained trees.

Underground Utility Issues

- 6.14 No utility drawings were provided and no assessment has been made of the juxtaposition of tree roots and the likely location of new services. It has been presumed for the purposes of this report that all utilities will be installed outside of the RPA shown on Drawing 2.
- 6.15 Where the installation of services within the RPA of retained trees is unavoidable, appropriate work methods will be required to ensure the safe long-term survival of those trees. This process will require additional consultation with a qualified Arboricultural Consultant and is likely to be more expensive than conventional trench installation.

Ground Level Changes

- 6.16 A rise or reduction in soil level can have major implications on the longevity and health of the trees. Minor changes (up to 100mm) can be tolerated in some cases but is heavily dependent on tree species, condition and growing environment.
- 6.17 Existing ground levels within the RPA should be respected as far as is reasonably practicable. The advice of a qualified Arboricultural Consultant should be sought if level changes are required.

Drainage & Storm Water Run-off Issues

- 6.18 Drainage and storm water run-off requires due consideration and construction requirements (e.g. permeable surfacing) to prevent excessive and/or polluted run-off into the rooting area of trees to be retained.

7.0 ARBORICULTURAL RECOMMENDATIONS

Tree Work

- 7.1 In addition to the tree removals required to facilitate the development proposals, the tree surgery operations presented in Table 3 are also recommended.

Table 3: Recommended Tree Surgery Works

Feature Reference	Tree Work Description
T4	Remove ivy
T9	Remove ivy
T10	Remove ivy, crown lift to 4m
T12	Remove ivy
T13	Remove ivy
T14	Remove ivy
T16	Remove ivy, crown lift to 4m
T17	Remove ivy
T18	Remove ivy, crown lift to 4m
T20	Remove ivy, crown lift to 4m
T21	Fell
T22	Crown lift to 4m
T23	Crown lift to 4m
T24	Remove ivy

- 7.2 All tree surgery work should be carried out by a qualified contractor in accordance with *BS 3998:2010 Tree work – Recommendations*.

Mitigation for the removal of trees

- 7.3 7 trees require removal to facilitate the development proposals. Mitigation for their loss and associated habitat may be required in the form of replacement tree planting.
- 7.4 Due to the limited space available and the already dense area of trees it is not considered possible to re-plant trees on this site, however small trees or shrubs planted in containers around the car parking area could be incorporated as mitigation for the tree removals required. Investment in the management of the ivy on retained trees may also be an acceptable form of mitigation.
- 7.5 Aftercare is vital to the survival of newly planted trees. Provision should be made for a minimum of two years maintenance of newly planted trees and include watering, formative pruning and the checking of tree ties and stakes.
- 7.6 The National Planning Policy Framework (NPPF) is a material consideration in the planning process and promotes a presumption in favour of sustainable development. In terms of the natural environment, development should minimise impacts on biodiversity and provide a net gain in biodiversity where possible.
- 7.7 In respect of trees, a sustainable development will be one whereby the total number, value or function provided by trees is maintained or increased or where the long-term prospects of the existing tree stock can be substantially improved. Net gains in biodiversity may be demonstrated where the number of tree species, variety of tree ages or range of niche habitats can be increased. Native, old, large or dead trees are likely to have a relatively significant impact on a scheme's environmental credentials, as will the connectivity of trees, hedges and woodland.
- 7.8 It is the recommendation of this report that mitigation in the form of tree planting has the potential to result in a small net loss of long-term tree cover (estimated at 40 years post-construction).
- 7.9 The extent of mitigation planting will ultimately be determined in agreement with Wrexham County Borough Council.

Post Construction Tree Care

- 7.10 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 Arboricultural Consultant.

8.0 SUMMARY

- 8.1 Based on an objective assessment made in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations*, there are 7 Category B, 16 Category C and 1 Category U trees and groups on or within influencing distance of the site.
- 8.2 The tree stock is confined to the eastern and southern boundary in a linear feature adjacent the car park and public footpath. It comprises middle aged to mature sycamore, hawthorn, cypress and holly.
- 8.3 7 individual trees would require removal to facilitate the development proposals. These are all low value and one is dead, refer to Table 2.
- 8.4 Wrexham County Borough Council confirmed that no trees on site are subject to a Tree Preservation Order. The site lies within the Rossett Conservation Area.
- 8.5 No trees were found to have features of a size and condition desirable to bats.
- 8.6 Protective barrier fencing will be required to demarcate a Construction Exclusion Zone (**CEZ**) around retained trees prior to the commencement of development. Fencing alignment is shown on Drawing 2 and details of the recommended Heras fencing are shown on Drawing 3. This will restrict movements on the site which should be considered early in the construction process.
- 8.7 Site access and car parking spaces are proposed within the rooting area of trees T4 and T10 to T24. This is deemed to be achievable due to the extent of impervious surfacing and ground compaction already present in this location
- 8.8 Mitigation for their loss and associated habitat may be required in the form of replacement tree planting. Due to the limited space available it is not considered possible to re-plant trees on this site. However small trees or shrubs planted in containers around the car parking area could be incorporated as mitigation for the tree removals required.
- 8.9 It is the recommendation of this report that mitigation in the form of tree planting has the potential to result in a small net loss of long-term tree cover (estimated at 40 years post-construction). This will ultimately be determined in agreement with Wrexham County Borough Council.

APPENDIX 1

ARBORICULTURAL SURVEY DATA SHEETS

APPENDIX 1: Arboricultural Survey Data Sheets



Surveyor **KJO**
 Date **11.12.2014**
 Town **Rossett**
 Site **Butchers Arms**
 Dwg Ref **D4922.001**

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	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short	(*)
Trees																			
T1	Yew	3.0	120.0	1.0	1.5	1.5	1.5	1.5	0.0		Middle Age	Fair	Dense crown, canopy to ground, shrubby form.	C,1	1.4	6.5		Long	
T2	Holly	4.5	92.9	5.0	2.5	3.0	2.0	2.0	0.0		Middle Age	Fair	Multi-stemmed; crossing stems and branches; canopy to ground.	C,1	1.1	3.9		Long	
T3	Hawthorn	7.0	320.0	1.0	2.0	2.0	2.0	2.0	0.0		Middle Age	Poor	Densely ivy covered; unable to survey trunk; crossing branches; only a few branches visible due to ivy.	C,1	3.8	46.3		Medium	
T4	Sycamore	12.0	600.0	1.0	4.0	4.0	4.5	4.5	4.0	W	Mature	Good	Densely ivy covered; unable to survey trunk; extensive suckering at base; crossing branches; wounds from previously failed branches.	B,1	7.2	162.9	Remove ivy	Long	
T5	Hawthorn	7.0	354.6	3.0	1.0	1.0	1.0	1.0	0.0		Middle Age	Poor	Multi-stemmed; densely ivy covered; unable to survey trunk; only a few branches visible due to ivy.	C,1	4.3	56.9		Medium	
T6	Hawthorn	5.0	140.0	1.0	2.0	3.0	1.5	1.5	0.0		Middle Age	Poor	Densely ivy covered; unable to survey trunk; only a few branches visible due to ivy.	C,1	1.7	8.9		Medium	
T7	Hawthorn	5.0	240.8	2.0	2.0	3.0	1.5	1.5	0.0		Middle Age	Poor	Densely ivy covered; unable to survey trunk; only a few branches visible due to ivy.	C,1	2.9	26.2		Medium	
T8	Cypress	9.0	280.0	1.0	4.5	0.5	4.0	3.0	1.0	N	Middle Age	Fair	Biased canopy to north; low growing canopy; all branches growing on north side of trunk.	C,1	3.4	35.5		Long	
T9	Holly	8.0	249.4	5.0	2.5	3.0	2.0	2.0	0.0		Middle Age	Poor	Multi-stemmed; decay in branch to south overhanging pathway (possibly ivy); broken branches; rubbing branches; crossing branches; ivy entwined.	C,1	3.0	28.1	Remove decayed branch over pathway.	Long	
T10	Sycamore	14.0	912.4	3.0	4.5	5.0	5.0	5.0	1.5		Mature	Good	Densely ivy covered; trifurcate at 1.5m; one branch then splits into 2 at 3m; tight unions.	B,1	10.9	376.6	Remove ivy	Long	
T11	Hawthorn	3.0	184.4	2.0	1.0	1.0	1.0	1.0	0.0		Middle Age	Poor	Bifurcate at 1m; densely ivy covered; only a few branches visible due to ivy.	C,1	2.2	15.4		Medium	
T12	Sycamore	14.0	480.0	1.0	2.5	2.5	2.0	2.0	5.0		Middle Age	Good	Densely ivy covered; tight unions; some small hanging branches; multi-stemmed at 5m	B,1	5.8	104.2	Remove ivy	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	Direction of Lowest Branch	Maturity	Condition	Comments on form, condition, health and significant defects	BS5837 Tree Quality Assess.	Radius of RPA guide circle	BS5837 RPA Area	Management Recommendations	Estimated Remaining Contribution	TPO
		(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(m)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran		A,B,C,R (1,2,3)	(m)	(m2)		Long, Medium, Short	(*)
T13	Sycamore	14.0	460.0	1.0	2.0	0.5	3.0	3.0	3.0	SW	Middle Age	Good	Densely ivy covered; unable to survey trunk properly; high canopy.	B,1,2	5.5	95.7	Remove ivy	Long	
T14	Sycamore	14.0	440.0	1.0	2.0	0.5	3.0	3.0	3.0		Middle Age	Fair	Densely ivy covered; bifurcate at 3m; suppressed by T13; branches from T13 rubbing causing wounds on branches.	C,1,2	5.3	87.6	Remove ivy	Long	
T15	Hawthorn	5.0	220.5	4.0	1.5	1.5	1.5	1.5	0.0		Middle Age	Poor	Densely ivy covered; multi-stemmed; only a few branches visible due to ivy.	C,1	2.6	22.0		Medium	
T16	Sycamore	14.0	473.8	2.0	2.0	2.0	4.0	3.0	1.5		Middle Age	Fair	Densely ivy covered; bifurcate at 1.5m; decay on south-east side from previous branch failure; unable to survey trunk properly due to ivy. Crossing branches.	B,1	5.7	101.6	Remove ivy	Long	
T17	Hawthorn	4.0	165.7	5.0	1.0	1.0	1.0	1.0	0.0		Middle Age	Fair	Multi-stemmed; ivy covered; only a few branches visible due to ivy; crossing stems and branches.	C,1	2.0	12.4	Remove ivy	Medium	
T18	Sycamore	12.0	370.0	1.0	2.0	2.0	1.0	4.0	2.5	NW	Middle Age	Fair	Densely ivy covered; unable to survey trunk properly; wounds from previous branch losses; crossing branches.	C,1	4.4	61.9	Remove ivy	Long	
T19	Hawthorn	6.0	280.0	1.0	0.5	0.5	0.5	2.5	0.0		Middle Age	Poor	Densely ivy covered; unable to survey properly; only a few branches visible due to ivy.	C,1	3.4	35.5		Medium	
T20	Sycamore	13.0	420.0		1.0	3.0	1.0	2.0	2.0		Middle Age	Fair	Densely ivy covered; bifurcate at 5m. Biased crown north	B,1	5.0	79.8	Remove ivy	Long	
T21	Hawthorn	4.0	360.0	1.0	1.0	1.0	1.0	1.0	0.0		Middle Age	Dead	Dead trunk covered in ivy	U	0.0	0.0	Fell	Short	
T22	Cypress	8.0	250.0	1.0	0.5	2.5	2.5	2.0	1.0	W	Middle Age	Fair	Main braches growing to west; based crown; crossing branches; small cypress to south under 75mm.	C,1	3.0	28.3		Long	
T23	Holly	7.0	211.0	5.0	4.0	0.5	0.5	3.0	0.0		Middle Age	Fair	Multi-stemmed; canopy to ground; biased crown north-west; tall slender form.	C,1	2.5	20.1		Long	
T24	Sycamore	14.0	420.0	1.0	4.0	4.0	4.0	4.0	0.0		Middle Age	Fair	Densely ivy covered; high canopy; restricted access; amenity value.	B,1	5.0	79.8	Remove ivy	Long	

APPENDIX 2

SURVEY METHOD

APPENDIX 2: SURVEY METHOD

The survey of trees is conducted from ground level only. The nature of the soils on site is not assessed.

Trees are dynamic living organisms with a constantly changing structure; even trees in good condition can suffer from damage or stress. The information recorded is presented as being correct at the time of survey.

The following features of each tree, group of trees or wood may have been recorded in the Arboricultural Survey Data Sheets at Appendix 1.

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 an average all stems measured at 1.5m above ground level is used. For tree groups a range from minimum to maximum diameters is provided based on measurements taken using one of the aforementioned methods.	
No. of Stems	A count of stems arising below a height of 1.5 metres.	
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.	
Direction of Lowest Branch	The direction of growth of the first significant branch from the point of attachment.	
Maturity	Young	Trees that 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;
Condition	Good, Fair, Poor. 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. Veteran. Trees that are in such a condition as to significantly increase their biological, cultural or aesthetic value. This is characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.	
Comments	A brief evaluation and description of the tree with comments on form, vitality, health and any significant defects or symptoms of ill-health.	

BS 5837 Tree Quality Assessment

The tree quality assessment is based on Table 1 of BS 5837:2012 (See below). Four categories (A, B, C and U) are used to denote tree quality (A= High, B = Moderate, C = Low, U= Unsuitable for retention). Subcategories (1-3) denote the specific function value of the trees and the reasoning behind the allocation of a specific category (the subcategories may be used in combination but do not accumulate collective weight).

Root Protection Area (RPA)

The RPA is allocated to ensure that a sufficient area is left undisturbed during development. It is provided as an area (m²) and as the radius of a circle (m) typically plotted from the centre of the stem.

The RPA is calculated using a mathematical equation included in BS 5837:2012 (Section 4.6 and Table D.1) and is based on a tree's stem diameter. In some cases the RPA may need to be adapted to best reflect the likely area and position of roots required to ensure survival; this may be based on criteria such as the tree's condition, species, crown spread and any barriers to growth. Any alteration must be justifiable but is made at the Arboricultural Consultants discretion.

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 life expectancy as healthy functioning tree. This will be influenced by species and the condition of the tree at the time of survey.

Long	> 40 years
Medium	20 – 40 years
Short	less than 20 years

APPENDIX 2: SURVEY METHOD

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

British Standards Institute (2012) BS5837:2012 Trees in relation to design, demolition and construction – Recommendations.
p.9

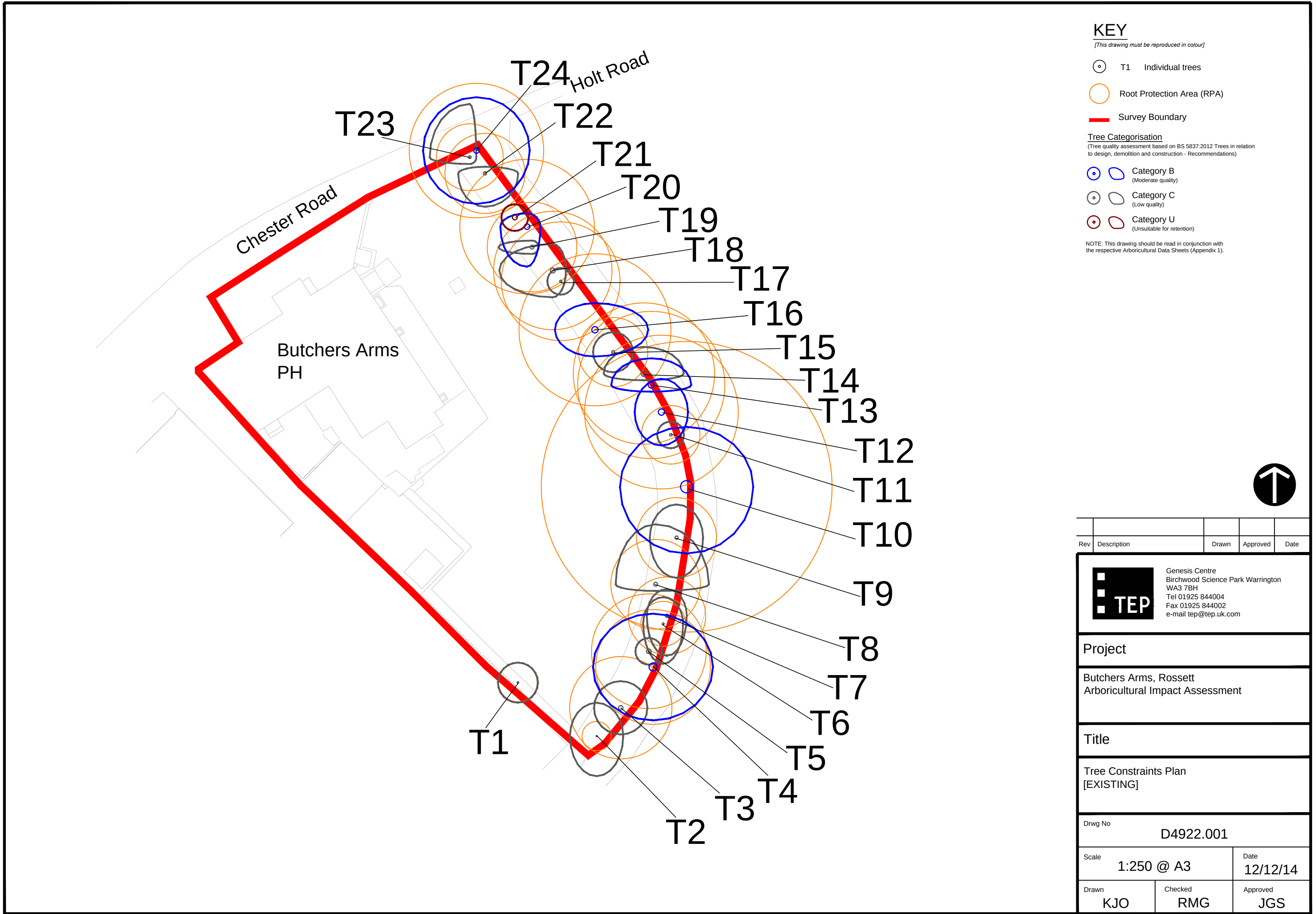
NOTES:

All young trees are assessed as quality category 'C' but this does not preclude their retention within a development.

For hedges the height, canopy spread and number of stems is recorded but they are not assigned a quality category.

DRAWING 1

TREE CONSTRAINTS PLAN



KEY

[This drawing must be reproduced in colour]

- T1 Individual trees
 - Root Protection Area (RPA)
 - Survey Boundary
- Tree Categorisation
(Tree quality assessment based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)
- Category B (Moderate quality)
 - Category C (Low quality)
 - Category U (Unsuitable for retention)

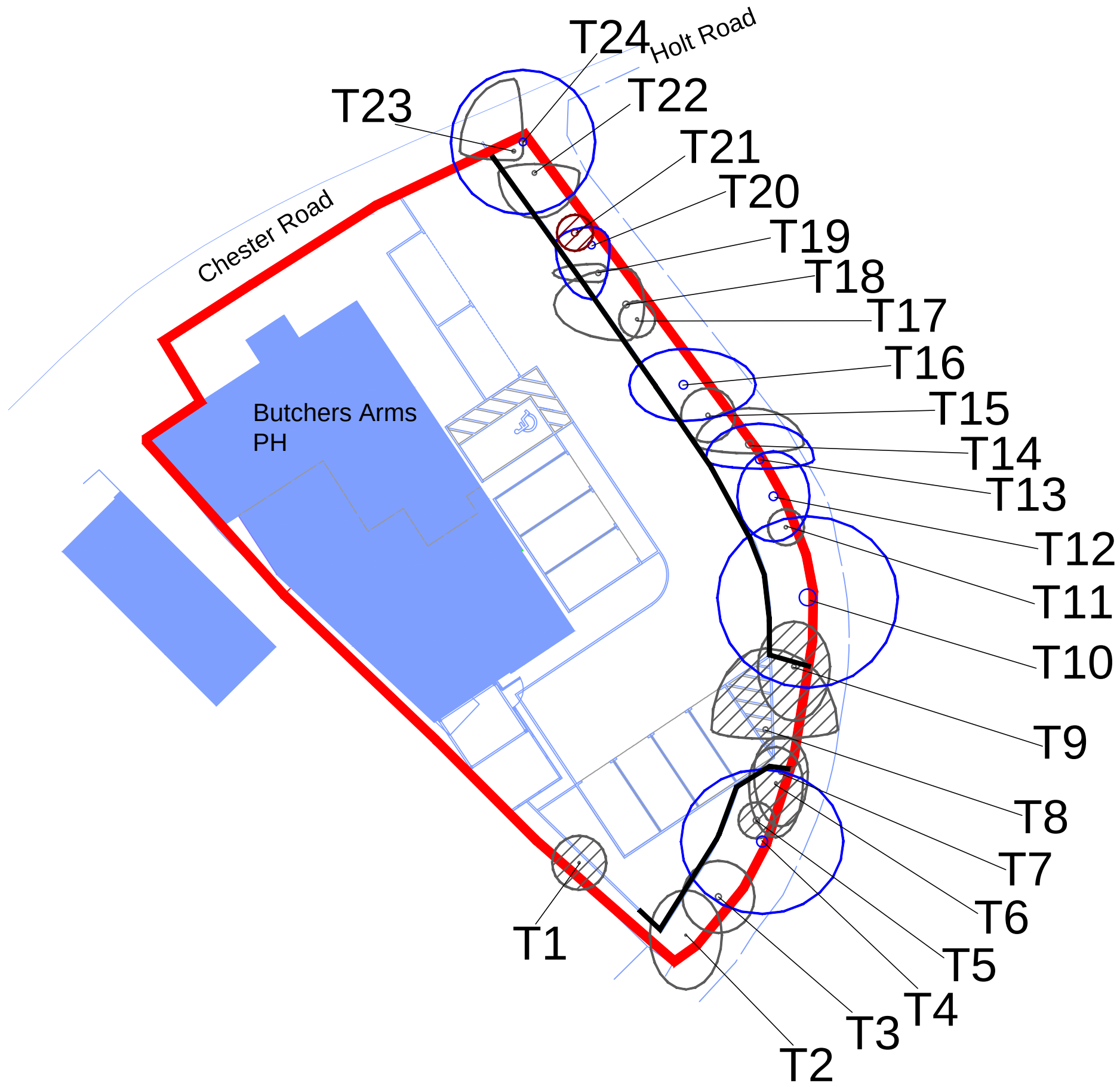
NOTE: This drawing should be read in conjunction with the respective Arboricultural Data Sheets (Appendix 1).



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		
Project				
Butchers Arms, Rossett Arboricultural Impact Assessment				
Title				
Tree Constraints Plan [EXISTING]				
Drwg No D4922.001				
Scale 1:250 @ A3			Date 12/12/14	
Drawn KJO		Checked RMG	Approved JGS	

DRAWING 2

TREE REMOVAL AND PROTECTION PLAN



KEY
[This drawing must be reproduced in colour]

T1 Individual trees

Survey Boundary

Tree Protection Fencing (c. 48m)
(Must be installed prior to works commencement)

Trees to be retained
(Tree quality assessment based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

Category B
(Moderate quality)

Category C
(Low quality)

Category U
(Trees with existing or potential conservation value)

Trees to be removed
(Tree quality assessment based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

Category B
(Moderate quality)

Category C
(Low quality)

Category U
(Unsuitable for retention)

NOTE: This drawing should be read in conjunction with the respective Arboricultural Data Sheets (Appendix 1).

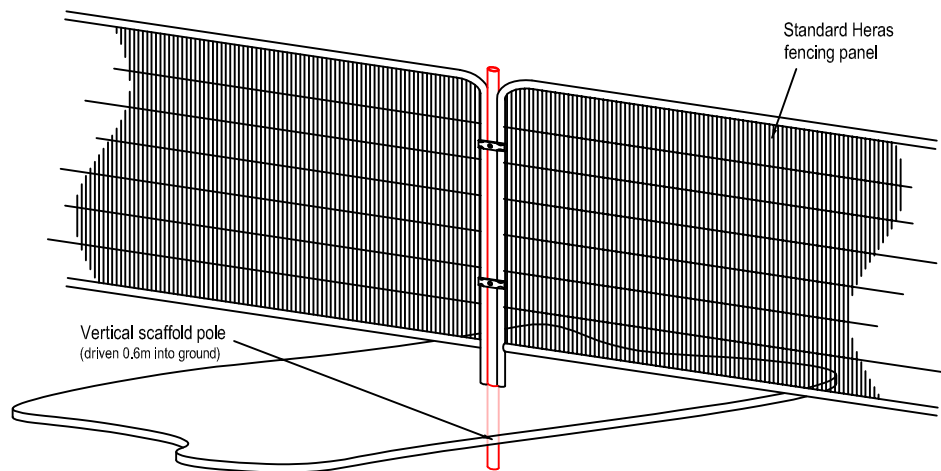
NOTE: All trees are protected by a Conservation Area Status.



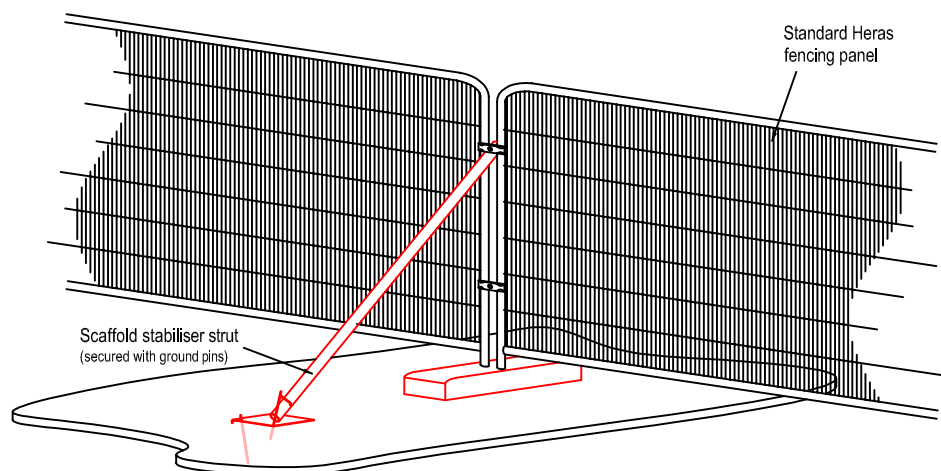
Rev	Description	Drawn	Approved	Date
TEP Genesis Centre Birchwood Science Park Warrington WA3 7BH Tel 01925 844004 Fax 01925 844002 e-mail tep@tep.uk.com				
Project				
Butchers Arms, Rossett Arboricultural Impact Assessment				
Title				
Tree Removal and Protection Plan [PROPOSED]				
Drwg No		D4922.002		
Scale		1:250 @ A3		Date 23/12/14
Drawn	Checked	Approved		
KJO	RMG	JGS		

DRAWING 3

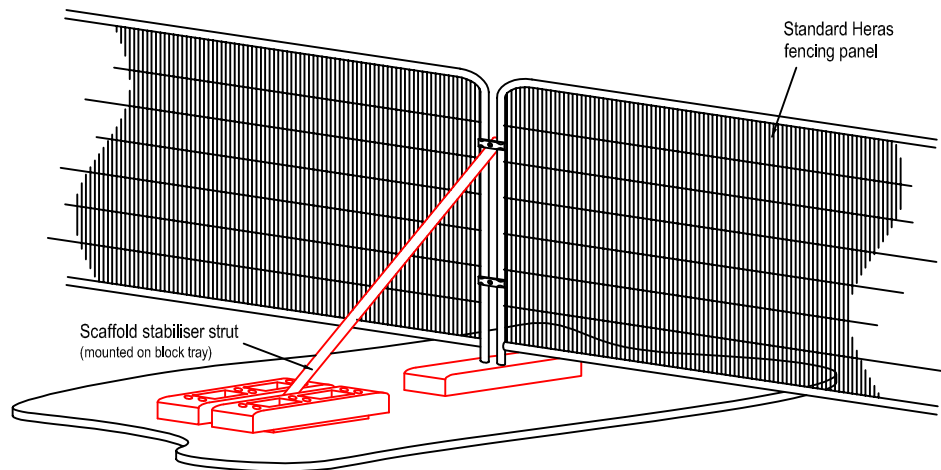
TEMPORARY TREE PROTECTION FENCING



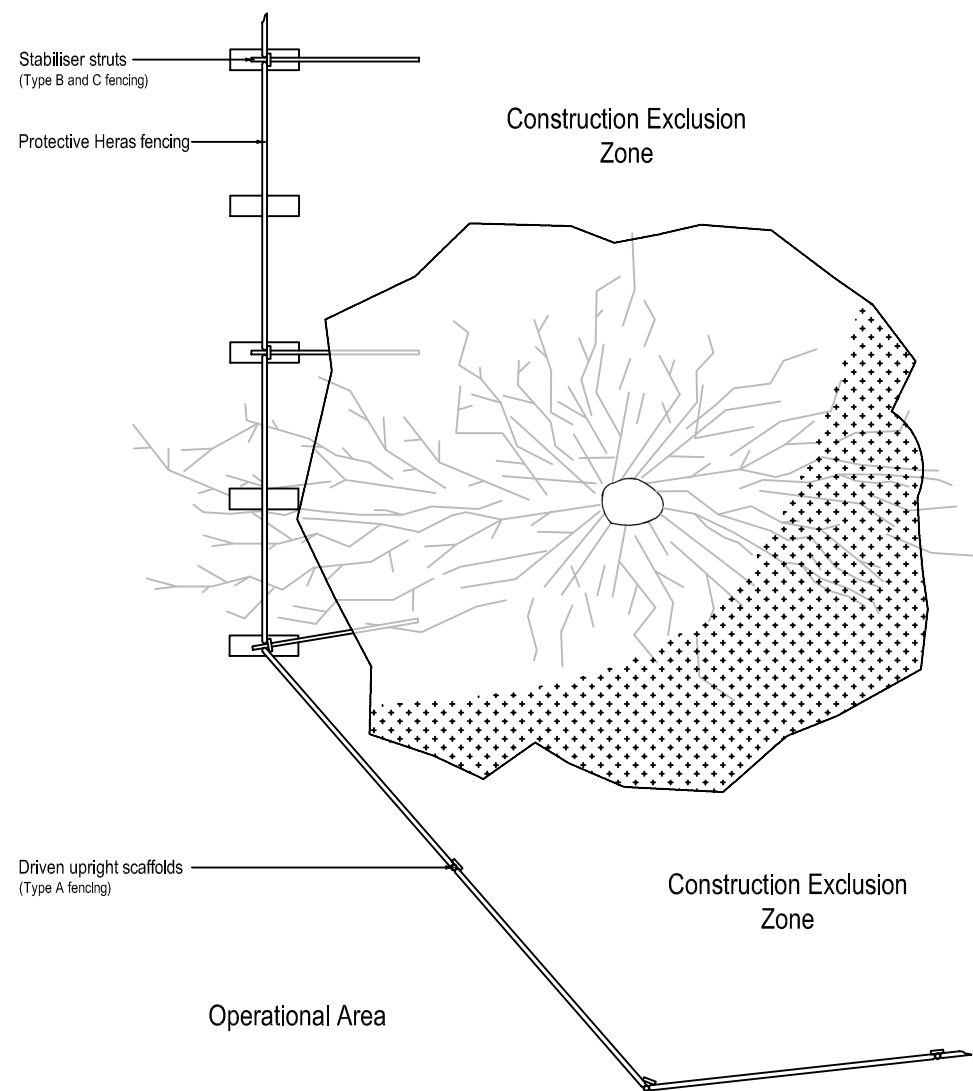
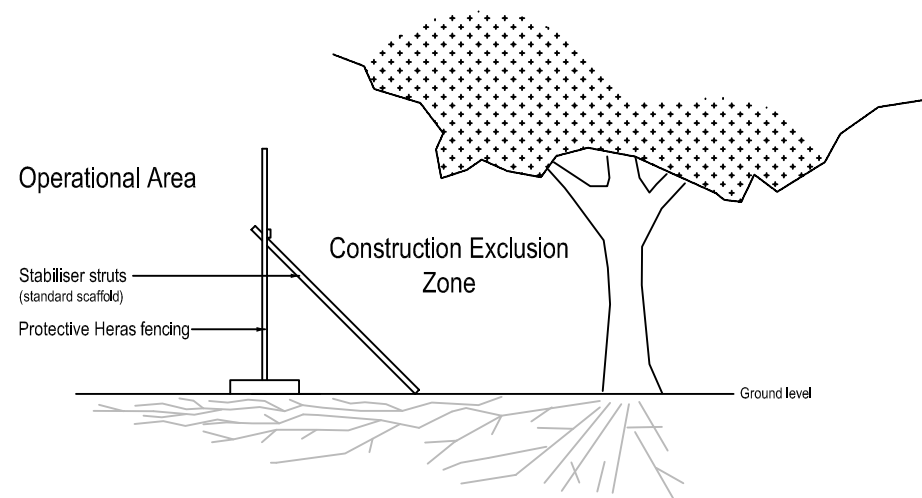
Type A Tree Protection Fencing: for use as standard
(see Tree Protection Plan for layout)



Type B Tree Protection Fencing: for use as directed
(e.g. where Type A would cause unacceptable damage to roots or underground services)



Type C Tree Protection Fencing: for use as directed
(e.g. on hard surfaces)



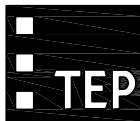
PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT.



**TREE PROTECTION AREA
KEEP OUT !**
(TOWN & COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS FENCE ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE THE SUBJECTS OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION
ANY INCURSION INTO THE PROTECTED AREA MUST BE WITH THE WRITTEN PERMISSION OF THE LOCAL PLANNING AUTHORITY

Tree Protection Notice to be attached to fencing 1.5m from the ground, facing out of the Construction Exclusion Zone and located at regular intervals along the fence line.

The notice must be at least A4 in size

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				
Project				
TEP Standard Detail				
Title				
Temporary Tree Protection Fencing (Detail for tree protection around Construction Exclusion Zones)				
Drwg No D.TREE_FENCING.001				
Scale NTS @ A3			Date 30/04/12	
Drawn TDP		Checked ROS		Approved JGS