



Arboricultural Constraints Appraisal

in Relation to Proposed Development at



**Land off Dearne Valley Parkway,
Birdwell, South Yorkshire, S74**

Prepared by:

Bowland 
Tree Consultancy Ltd

October 2014

**ARBORICULTURAL CONSTRAINTS APPRAISAL
LAND OFF DEARNE VALLEY PARKWAY, BIRDWELL**

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OVERVIEW OF ARBORICULTURAL CONSTRAINTS APPRAISAL	
Site:	Land off Dearne Valley Parkway, Birdwell, South Yorkshire, S74
Proposal:	Mixed Retail, Leisure and Light Industrial Development
Survey Date:	16 October 2014
Report Date:	31 October 2014
Prepared By:	Phill Harris – Chartered Arboriculturist
Report Ref:	BTC757
Client:	Hartwood Estates

Introduction and Rationale. Bowland Tree Consultancy Ltd was instructed to carry out a constraints appraisal of the trees at the above site, in relation to a mixed retail, leisure and light industrial development proposal. Further to this instruction I confirm that I visited the site on 16 October 2014 and carried out a survey of trees in accordance with BS5837:2012 - Trees in Relation to Design, Demolition and Construction – Recommendations, and our disclaimer at page 4.

In this respect I enclose a Tree Survey Schedule (TSS), detailing specific tree related information, and a Tree Constraints Plan (TCP), showing the site under consideration with pertinent tree constraints detailed. The plan was produced using a scaled electronic topographical survey plan provided by Enzygo Ltd, on behalf of the client, and, for the purpose of this report, I presume the plan details to be accurate.

The Trees. 18 individual trees (prefixed ‘T’) and 14 groups of trees (prefixed ‘G’) were surveyed, and their respective constraints are plotted on the appended TCP. I have not been informed if any of the surveyed trees are the subject of a Tree Preservation Order (TPO) or if the site stands within the boundaries of a Conservation Area (CA), and it is therefore essential to contact the planning office at Barnsley Council with regard to the presence of any such statutory protection prior to scheduling or carrying out any tree works not related directly to the implementation of a detailed planning approval.

The surveyed vegetation consists of various deciduous broadleaf species including Goat Willow, Norway Maple and Ash. The trees are in the young to post-mature age range and stand at heights of up to 17 metres, have maximum diametrical crown spreads of up to approximately 14 metres and stem diameters of up to 760 millimetres. Tree dimensions and other pertinent information such as structural defects and physiological deficiencies, along with recommendations for remedial management works, are included in the TSS attached.

The trees were appraised in accordance with BS5837:2012 Table 1 (appended) and, as detailed in Table A (below), two trees and two groups were allocated a moderate retention value of ‘B’, and 11 trees and 11 groups were allocated a low retention value of ‘C’. In addition, five trees and one group were classed as being unsuitable for retention (i.e. ‘U’ category).

Table A: BS5837-2012 Retention Categories of the Surveyed Vegetation

	Ret. Cats.	Tree & Group Numbers	Totals
Those of a high quality that should be afforded appropriate consideration in the context of development	‘A’	-	-
Those of a moderate quality that should be afforded appropriate consideration in the context of development	‘B’	T14, T17, G4, G5	2 Trees 2 Groups
Those of a low quality that should be afforded appropriate consideration in the context of development	‘C’	T1, T2, T3, T5, T7, T10, T11, T12, T13, T16, T18, G1, G2, G3, G6, G7, G8, G9, G10, G11, G13, G14	11 Trees 11 Groups
Those considered unsuitable for retention	‘U’	T4, T6, T8, T9, G12	5 Trees 1 Group
			= 18 Trees & 14 Groups in Total

With regard to Table A it should be noted that tree quality and value is categorised within the existing context without taking into account any site development related issues, but that the recommendations for works take the proposal into consideration where there are clearly definable potential impacts upon trees.

Tree Retention Recommendations. Adequate protection of retained tree RPAs during construction is essential if their long-term viability is to be assured. RPAs, which are calculated through a method provided in

BS5837:2012, are ground areas around trees that are to be kept free from major disturbance throughout development through the installation of temporary protective fencing to form a Construction Exclusion Zone. The TSS lists the RPAs of the individually surveyed trees as areas in square metres and as radial distances in metres from stem centres, whilst the RPAs are indicated in magenta on the TCP. A Temporary Protective Fencing Specification is appended which gives details of the purpose and the type and construction of the default temporary protective fencing that should normally be used.

Phill Harris MSc BSc(Hons) HND CEnv MArborA MICFor
Chartered Arboriculturist



GENERAL RECOMMENDATIONS

Non-Development Related Tree Works and Recommendations. Any general management pruning works for retained trees that are stated to be non-development related, as detailed in the TSS, are recommended in accordance with prudent arboricultural management and should therefore be carried out regardless of any site plans and potential changes in land usage. All tree works should be carried out in accordance with BS3998:2010 - Tree Work – Recommendations.

Tree Work Related Consents. No tree pruning or removal works should commence on site until necessary consents have been obtained from the LPA as part of a planning approval or in respect of any statutory tree protection.

Protected Species. Hedges, climbing plants, shrubs and trees should be inspected for birds' nests prior to any clipping, pruning or removal works, and any work likely to destroy or disturb active nests should be avoided until the young have fledged. All personnel carrying out tree works should also be vigilant of the possibility that roosting bats may be present in trees and, if any bat roosts are identified, then it is essential that works are halted immediately and that a suitably qualified and experienced ecologist investigate prior to works continuing.

Arboricultural Contractors. All tree works should be carried out by suitably qualified and experienced arboricultural contractors carrying appropriate public liability insurance cover and be implemented to the minimum current CE and UK industry standards and in accordance with industry codes of practice. Only certificated personnel should, in accordance with The Control of Pesticides Regulations, apply any pesticides.

Contractors and Subsequently Identified Tree Defects. Contractors should be made aware that, should any significant tree defects become apparent during operations that would not have been immediately obvious to the surveyor, then such defects should be notified immediately to the client and subsequently confirmed to the consultant within five working days.

New Tree Planting. Where trees are removed in order to facilitate construction then new tree planting proposals should be included as part of the landscape design plan for the site. All tree planting should be carried out in accordance with BS 8545:2014 Trees: from Nursery to Independence in the Landscape – Recommendations, BS4428:1989 - Code of Practice for General Landscape Operations, BS3936-1:1992, Nursery Stock – Part 1: Specification for Trees and Shrubs and BS4043:1989, Transplanting Root-Balled Trees, where applicable.

Retained Tree Management. Any tree risk management appraisal and subsequent recommendations made in this report were based on observations and site circumstances at the time of my survey. Trees are dynamic living organisms whose structure is constantly changing and even those evidently in good condition can succumb to damage and/or stress. In this respect I would note that, under the Occupiers' Liability Act (1957 & 1984), site occupants have a duty of care to take reasonable steps to prevent or minimise the risk of personal injury and/or damage to property from any tree located within the curtilage of the land they occupy. It is accepted that these steps should normally include commissioning a qualified and experienced arboriculturist to survey their trees in order to identify any risk of harm to persons or damage to property that they may present and, where unacceptable risks are identified, taking suitable remedial action to negate those risks.

DISCLAIMER

Survey Limitations: Unless otherwise stated all trees are surveyed from ground level using non-invasive techniques, in sufficient detail to gather data for and inform the design of the current project only. The disclosure of hidden crown and stem defects, in particular where they may be above a reachable height or where trees are ivy clad or located in areas of restrictive ground vegetation, cannot therefore be expected. Detailed tree safety appraisals are only carried out under specific written instructions. Comments upon evident tree safety relate to the condition of said tree at the time of the survey only. Unless otherwise stated all trees should be re-inspected annually in order to appraise their on-going mechanical integrity and physiological condition. It should, however, be recognised that tree condition is subject to change, for example due to the effects of disease, decay, high winds, development works, etc. Changes in land use or site conditions (e.g. development that increases access frequency) and the occurrence of severe weather incidents are also significant considerations with regard to tree structural integrity, and trees should therefore be re-assessed in the context of such changes and/or incidents and inspected at intervals relative to identified and varying site conditions and associated risks.

Where trees are located wholly or partially on neighbouring private third-party land then said land is not accessed and our inspection is therefore restricted to what can reasonably be seen from within the site. Stem diameters and other measurements of trees located on such land are estimated. Any subsequent comments and judgments made in respect of such trees are based on these restrictions and are our preliminary opinion only. Recommendations for works to neighbouring third-party trees are only made where a potential risk to persons and/or property has been identified during our survey or, if applicable, where permissible works are required to implement a proposed development. Where significant structural defects of third-party trees are identified and associated management works are considered essential to negate any risk of harm and/or damage then we will inform the relevant Council of the matter. Where a more detailed assessment is considered necessary then appropriate recommendations are set out in the Tree Survey Schedule.

Where tree stem locations are not included on the plan(s) provided then they are plotted by the arboriculturist at the time of the survey using, where appropriate and/or practicable, a combination of measurement triangulation and GPS co-ordination. Where this is not possible then locations are estimated. Restrictions in these respects are detailed in the report.

This document is intended as a guide to identify key tree related constraints to site development only, and the potential influence of trees upon existing or proposed buildings or other structures resulting from the effects of their roots abstracting water from shrinkable load-bearing soils is not considered herein. The tree survey information in its current form should not therefore be considered sufficient to determine appropriate foundation depths for new buildings. Accordingly, an updated survey, with reference to the current NHBC Standards Chapter 4.2 - Building Near Trees, must therefore be prepared for the specific purpose of informing suitable foundation depths subsequent to planning approval being granted. The advice of a structural engineer must also be sought with regard to appropriate foundation depths for new buildings.

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TREE SURVEY SCHEDULE & BS5837:2012 'TABLE 1'



TREE SURVEY SCHEDULE FOR ARBORICULTURAL CONSTRAINTS APPRAISAL	
Site:	Land off Dearne Valley Parkway, Birdwell, South Yorkshire, S74
Client:	Hartwood Estates

Surveyor:	Phill Harris – Chartered Arboriculturist
Survey Date:	16 October 2014
Job Reference:	BTC757

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Proposals	ERC	Cat. Grade	RPA (m ²)	RPA Radius (m)	
T1	Goat Willow	5.5	6x90 (ms)	N E S W	5 5 5 5	N/A 0	SM	G	<ul style="list-style-type: none"> Located in stream. Multi-stemmed from ground level. 	40+	C1	33	3.24	
T2	Silver Birch	8	100	N E S W	1.5 1.5 1.5 1.5	0.1 0	Y	G	<ul style="list-style-type: none"> No visible structural defects. 	40+	C1	5	1.2	
T3	Goat Willow	7	6x70 (ms)	N E S W	2.5 2.5 2.5 2.5	N/A 0	SM	G	<ul style="list-style-type: none"> Multi-stemmed from ground level. Growing below high voltage power line. Would need to be regularly heavily pruned if it was to be retained in current context. 	10+	C1	13	2.06	
T4	Poplar	8	2x100 (ts)	N E S W	1.5 1.5 1.5 1.5	N/A 1	Y	G	<ul style="list-style-type: none"> Two stems arise at ground level with an included bark union. Growing below high voltage power line. 	Remove due to location below high voltage power line. Grind out stump.	<10	U	9	1.7
T5	Common Oak	7	290	N E S W	4 4 4 4	0.5 0	SM	G	<ul style="list-style-type: none"> Crown partially below high voltage power line. 	10+	C1	38	3.48	
T6	Elder	6.5	6x110 (ms)	N E S W	2.5 2.5 2.5 2.5	N/A 0	PM	MD	<ul style="list-style-type: none"> Multi stemmed from ground level. Crown showing signs of a significant reduction in vitality. Short projected remaining lifespan. 	<10	U	33	3.23	
T7	Goat Willow	7.5	4x100 (ms)	N E S W	3 3.5 3.5 3	N/A 0	EM	G	<ul style="list-style-type: none"> Stem divides into multiple sub-stems at a height of approximately 0.3m. 	10+	C1	18	2.4	

Headings and Abbreviations:

No.	Allocated sequential reference number - Tree ('T'), Group ('G'), Woodland ('W') or Hedge ('H') reference number - refer to plan and to numbered tags where applicable
Species:	Common name
Height:	In metres, to nearest half metre – where possible approximately 80% are measured using an electronic clinometer and the remainder estimated against the measured trees. In the case of Groups and Woodlands the measurement listed is that of the highest tree
Stem Diam.:	Stem diameter in millimetres, to nearest 10mm - measured and calculated as per Annex C of BS5837:2012. MS = multi-stemmed, TS = twin-stemmed
Branch Spread:	Crown radius measured (or estimated where considered appropriate) from the four cardinal points (north, east, south and west) to give an accurate visual representation of the crown
Branch & Canopy Clearances:	Existing height above ground level, in metres, of first significant branch and direction of growth (e.g. 2.5-N) and of canopy at lowest point – to inform on crown to height ratio, potential for shading, etc.
Life Stage:	Estimated age class - Y = young, SM = semi-mature, EM = early-mature, M = mature, PM = post-mature
PC:	Physiological Condition - a measure of the tree('s)' overall vitality, i.e. D = Dead, MD = Moribund, P = Poor, M = Moderate, G = Good
General Observations and Comments:	Comments relating to the tree('s)' overall condition and any other pertinent factors including structural defects, current and potential direct structural damage, physiological decline, poor form, etc.
Management Recommendations:	Either Preliminary or In Consideration of the Proposal - In the case of Arboricultural Constraints Surveys the recommended management works only take existing site and tree circumstances and conditions into account and not proposed developments. Arboricultural Impact Assessment and Method Statement related Surveys take the proposed development into consideration with recommendations made accordingly. More than one option may be given if considered appropriate
ERC:	Estimated Remaining Contribution - in years as per BS5837:2012 (i.e. <10, 10+, 20+, 40+)
Cat. Grade:	Category Grading - tree retention value listed as U, A, B or C - in accordance with BS5837:2012 Table 1
RPA m²:	Root Protection Area in m ² - calculated area around the tree that must be appropriately protected throughout the development process in order avoid root damage
RPA Radius (m):	Root Protection Area Radius - in metres measured from the centre of the stem to the line of tree protection
# (Estimated Dimensions):	Where trees are located off-site, or are inaccessible for any other reason, and accurate measurements or other information cannot be taken then the information provided is estimated and is duly suffixed with a "#"

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Proposals	ERC	Cat. Grade	RPA (m ²)	RPA Radius (m)	
T8	Silver Birch	10.5	180	N E S W 0	2 3 1.5	N/A 3	Y	G	<ul style="list-style-type: none"> Stem in contact with boundary fence. Severe stem lean to east, evidently resultant of past partial root plate failure. 	<ul style="list-style-type: none"> Remove due to stem contact with boundary fence. Grind out stump. 	<10	U	15	2.16
T9	Elder	6.5	4x130 (ms)	N E S W	2.5 2.5 2.5 2.5	N/A 1	PM	MD	<ul style="list-style-type: none"> Multi stemmed from ground level. Crown showing signs of a significant reduction in vitality. Short projected remaining lifespan. 		<10	U	31	3.12
T10	Goat Willow	9.5	6x150 (ms)	N E S W	4.5 4.5 4.5 4.5	0.3 0.5	M	G	<ul style="list-style-type: none"> Stem divides into multiple sub-stems at a height of approximately 0.5m with included bark unions. 		10+	C1	61	4.41
T11	Field Maple	7	190#	N E S W	3 2.5 1.5 1	4 4	SM	G	<ul style="list-style-type: none"> Located on neighbouring land and therefore not inspected in detail. Stem approximately 0.2m from fence 		10+	C1	16	2.28
T12	Goat Willow	9	1x210 3x150 (ms)	N E S W	4 5 4 3	N/A 0	EM	G	<ul style="list-style-type: none"> Moderate stem lean to east. Stem divides into multiple stems at a height of approximately 0.3m with included bark unions. 		10+	C1	51	4.01
T13	Silver Birch	11.5	150	N E S W	1.5 1.5 1.5 1.5	N/A 0	Y	G	<ul style="list-style-type: none"> No visible structural defects. 		40+	C1	10	1.8
T14	Silver Birch	10.5	190	N E S W	2.5 2.5 2.5 2.5	1 0.5	SM	G	<ul style="list-style-type: none"> No visible structural defects. 		40+	B1	16	2.28
T15	Ash	8	1x140 1x130 1x110 (ms)	N E S W	3.5 3.5 3.5 3.5	N/A 1.5	Y	G	<ul style="list-style-type: none"> Three stems arise at ground level with included bark unions. Stem base in contact with boundary wall. 	<ul style="list-style-type: none"> Remove due to stem contact with boundary wall. Grind out stump. 	<10	U	22	2.65
T16	Ash	17	760	N E S W	7 7 7 7	3 6	M	M/P	<ul style="list-style-type: none"> On earth mound to opposite side of retaining wall, with stem in contact with structure. Wall has sustained moderate evidently progressive displacement. Crown showing signs of a substantial reduction in vitality with widespread dieback. 		10+	C1	261	9.12

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Proposals	ERC	Cat. Grade	RPA (m ²)	RPA Radius (m)
T17	Silver Birch	9	180	N 2.5 E 2.5 S 2.5 W 2.5	0.4 0.3	Y	G	▪ No visible structural defects.		40+	B1	15	2.16
T18	Silver Birch	11	3x160 (ms)	N 3 E 3 S 3 W 3	N/A 0.5	SM	G	▪ Three stems arise at ground level with included bark unions.		10+	C1	35	3.33
G1	3no. Goat Willow	≤ 8	≤ 2x190 1x140 1x130 1x80 (ms)	N ≤ 4 E ≤ 5 S ≤ 5 W ≤ 4	N/A ≥ 0	Y-SM	G	▪ Very closely spaced self-set group. ▪ All are multi-stemmed. ▪ The two semi-mature trees have included bark unions.		10+	C1	≤ 36	≤ 3.37
G2	approx. 6no. Hawthorn	≤ 6	≤ 6x50 (ms)	N ≤ 2.5 E ≤ 2.5 S ≤ 2.5 W ≤ 2.5	N/A ≥ 0	SM	G	▪ Moderately spaced self-set group.		40+	C1	≤ 7	≤ 1.47
G3	1no. Ash, 1no. Norway Maple	≤ 10	≤ 130	N ≤ 2 E ≤ 3 S ≤ 3 W ≤ 3	N/A ≥ 1.5	Y	G	▪ Very closely spaced self-set group. ▪ One crown is in contact with and the second is very close to the neighbouring factory wall.		10+	C1	≤ 8	≤ 1.56
G4	approx. 15no. Italian Alder, 1no. Goat Willow	≤ 13	≤ 230	N ≤ 4 E ≤ 4.5 S ≤ 4.5 W ≤ 2	0.5 ≥ 0	Y-SM	G	▪ Closely to very closely spaced self-set group made up mainly of young trees, with small number of semi-mature trees.		40+	B1/2	≤ 24	≤ 2.76
G5	2no. Italian Alder, 2no. Ash, 1no. Norway Maple, 1no. Whitebeam	≤ 15	≤ 1x400 1x380 (ts)#	N ≤ 4.5 E ≤ 4.5 S ≤ 4.5 W ≤ 4.5	4-E ≥ 3	Y-EM	G	▪ Linear group located on neighbouring land and therefore not inspected in detail. ▪ Stems very close to boundary fence.		20+	B1/2	≤ 138	≤ 6.62
G6	3no. Goat Willow	≤ 4.5	≤ 4x40 (ms)	N ≤ 1.5 E ≤ 1.5 S ≤ 1.5 W ≤ 1.5	N/A ≥ 0	Y	G	▪ Loose group of multi-stemmed self-set trees.		40+	C1	≤ 3	≤ 0.96
G7	3no. Norway Maple	≤ 11	≤ 340#	N ≤ 4 E ≤ 4 S ≤ 4 W ≤ 4	3-E ≥ 5	SM	G	▪ Linear group located on neighbouring land and therefore not inspected in detail. ▪ Standing between fence and retaining wall, with stems almost in contact with wall.		10+	C1	≤ 52	≤ 4.08

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No.	Species	Height	Stem Diam.	Branch Spread	Branch & Canopy Clearances	Life Stage	PC	General Observations and Comments	Management Proposals	ERC	Cat. Grade	RPA (m ²)	RPA Radius (m)
G8	2no. Ash, 1no. Norway Maple	≤ 13	≤ 330#	N ≤ 6 E ≤ 6 S ≤ 6 W ≤ 6	4-E ≥ 3.5	SM	G	<ul style="list-style-type: none"> Linear group located on neighbouring land and therefore not inspected in detail. Standing between fence and retaining wall, with stems almost in contact with wall. 		10+	C1	≤ 49	≤ 3.96
G9	approx. 20no. Hawthorn	≤ 6	≤ 200	N ≤ 3 E ≤ 3 S ≤ 3 W ≤ 3	N/A ≥ 0	Y-SM	P-G	<ul style="list-style-type: none"> Loose group along base of retaining wall. In clumps of several trees and as individuals. 		10+	C1	≤ 18	≤ 2.4
G10	5no. Goat Willow	≤ 8	≤ 6x90 (ms)	N ≤ 3 E ≤ 4.5 S ≤ 4 W ≤ 3	N/A ≥ 0	Y-SM	G	<ul style="list-style-type: none"> Closely spaced self-set group. All are multi-stemmed from a height of approximately 0.5m with tight forks. 		10+	C1	≤ 22	≤ 2.65
G11	Goat Willow	≤ 7.5	≤ 6x90 (ms)	N ≤ 3 E ≤ 3.5 S ≤ 3.5 W ≤ 2	N/A ≥ 0	Y-SM	G	<ul style="list-style-type: none"> Closely spaced self-set group. Most are young. All are multi-stemmed with tight forks. 		20+	C1	≤ 22	≤ 2.65
G12	approx. 5no. Hawthorn, 4no. Ash	≤ 8	≤ 2x200 (ts)	N ≤ 3 E ≤ 3 S ≤ 3 W ≤ 3	N/A ≥ 0.5	SM-M	G	<ul style="list-style-type: none"> Loose to closely spaced group between fence and retaining wall, with stems in contact with wall and subsequently causing structural displacement. Hawthorns are semi to early-mature and Ashes are young 	<ul style="list-style-type: none"> Remove due to stem contact with boundary wall. Treat stump with suitable herbicide to prevent regrowth. 	<10	U	≤ 36	≤ 3.39
G13	approx. 15no. Ash	≤ 13.5	≤ 280	N ≤ 4 E ≤ 6 S ≤ 4 W ≤ 4	N/A ≥ 1	Y-SM	G	<ul style="list-style-type: none"> Very closely spaced self-set group located on neighbouring land. Stems very close to or in contact with boundary wall. 		10+	C1	≤ 35	≤ 3.36
G14	Goat Willow, Plum, Hawthorn, Ash, Hazel, Sycamore, etc.	≤ 9	≤ 4x80 (ms)	N ≤ 3 E ≤ 3 S ≤ 3 W ≤ 3	N/A ≥ 0	SM	G	<ul style="list-style-type: none"> Very closely spaced linear planted group to base of banking, with self-set young trees around it. 		40+	C1	≤ 12	≤ 1.92

BS5837:2012 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)														
<p><u>Category U</u></p> <p>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</p>	<ul style="list-style-type: none"> ▪ 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 <p><i>Note: Category U trees can have existing or potential conservation value which it might be desirable to preserve; see BS5837:2012 paragraph 4.5.7.</i></p>			Red										
<table border="0" style="width: 100%; text-align: center;"> <tr> <td style="width: 33%;">1</td> <td style="width: 33%;">2</td> <td style="width: 33%;">3</td> <td colspan="2"></td> </tr> <tr> <td>Mainly arboricultural qualities</td> <td>Mainly landscape qualities</td> <td>Mainly cultural values, including conservation</td> <td colspan="2"></td> </tr> </table>					1	2	3			Mainly arboricultural qualities	Mainly landscape qualities	Mainly cultural values, including conservation		
1	2	3												
Mainly arboricultural qualities	Mainly landscape qualities	Mainly cultural values, including conservation												
Trees to be considered for retention														
<p><u>Category A</u></p> <p>Trees of high quality with an estimated remaining life expectancy of at least 40 years</p>	<p>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)</p>	<p>Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features</p>	<p>Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)</p>	Green										
<p><u>Category B</u></p> <p>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years</p>	<p>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</p>	<p>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</p>	<p>Trees with material conservation or other cultural value</p>	Blue										
<p><u>Category C</u></p> <p>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</p>	<p>Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories</p>	<p>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</p>	<p>Trees with no material conservation or other cultural value</p>	Grey										

- TEMPORARY PROTECTIVE FENCING SPECIFICATION -

Construction Exclusion Zones (CEZs), enclosed by **Temporary Protective Fencing**, as detailed below and to be agreed with the Local Planning Authority (LPA), shall:

1. be retained in place throughout the development process, as specified in the 'Temporary Protective Fencing Construction' section below and detailed in BS5837:2012 Figure 2 (overleaf);
 2. be sited in the area(s) defined by the Root Protection Areas or, if applicable, the Construction Exclusion Zones, as detailed on the associated Tree Plan;
 3. be erected prior to any construction, demolition or excavation works and remain in place for the duration of the project;
 4. preclude any delivery of site accommodation and/or materials and/or plant machinery;
 5. preclude all construction related activity, with the sole exception of specified arboricultural works and any other works to be carried out under supervision that have been agreed by all parties; and
 6. preclude the storage of all development related materials and substances including fuels, oils, additives, cement and/or any other deleterious substance.
- Any incursion into CEZs must be by prior arrangement, following consultation with the LPA.

Temporary Protective Fencing Construction

1. Temporary protective fencing panels shall be weldmesh "Heras" panels of at least 2.0 metres in height.
2. The panels shall butt together and be securely fixed to a scaffold framework, as per 3 to 5 below.
3. The scaffold framework shall comprise of upright poles of at least 3.0 metres in length driven no less than 0.6 metres into the ground at maximum 3.0 metre centres with horizontal and diagonal poles fixed to the uprights, as per 4 to 5 below.
4. The two horizontal rail poles shall be attached to the uprights at heights of 0.6 and 1.8 metres with 3 no. clamps to each joint.
5. The diagonal scaffold pole struts be clamped to the top rail of the scaffold framework at a 45° angle and extend back into the CEZ and clamped to a 0.7 metre length of scaffold tube that shall be driven no less than 0.5m into the ground.
6. No fixing shall be made to any tree and all possible precautions shall be taken to prevent damage to tree roots when locating posts.
7. A 600mm x 300mm warning sign reading "TREE PROTECTION AREA KEEP OUT" (see Figure 1, below) shall be fixed to every 10.0 metre length of protective fencing.
8. On completion and prior to any demolition or construction works, site preparation, excavation or delivery of plant and materials, the LPA shall inspect and approve the Temporary Protective Fencing.

Figure 1: CEZ Warning Sign

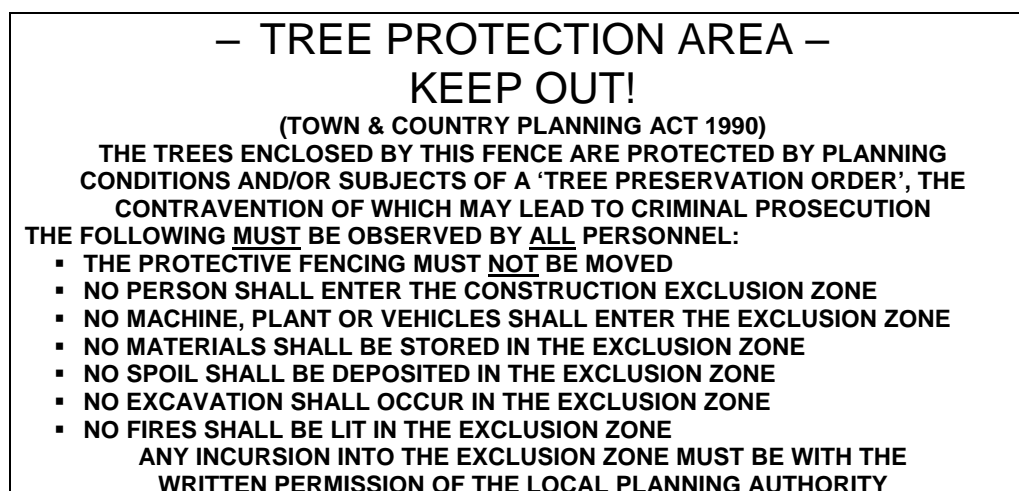
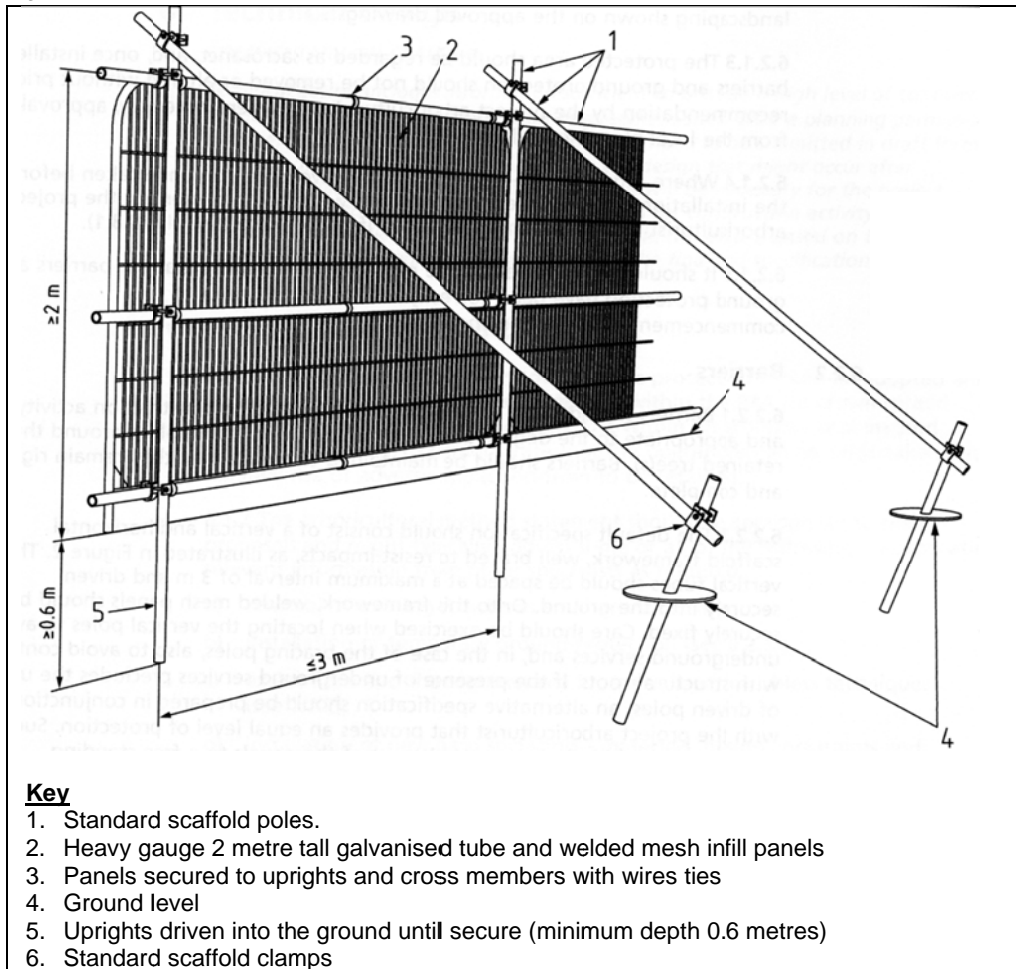
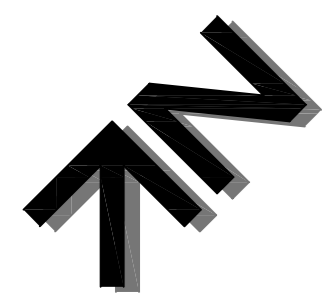


Figure 2: BS5837:2012 Default specification for protective barrier





KEY

T = Individual Tree
 G = Group of Trees

Those who is associated Tree Survey Schedule for specific details in respect of items below:

Tree Categories:

Those to be Considered for Retention:

- Category A Tree Group** - Those of High Quality with an Estimated Remaining Life Expectancy of at Least 40 Years
- Category B Tree Group** - Those of Moderate Quality with an Estimated Remaining Life Expectancy of at Least 20 Years
- Category C Tree Group** - Those of Low Quality with an Estimated Remaining Life Expectancy of at Least 10 Years, or Young Trees

Those Considered Unusable for Retention:

- Category D Tree Group** - Those in such a condition that they cannot realistically be retained as Longy Trees in the Context of the Current Land Use for Longer Than 10 Years

Note: The locations of trees T1, T3, T4, T6 to T11, T13 to T15, 2017, along with the locations and extents of the groups, were not included on the scaled topographical survey plan supplied, and their stems were subsequently added by the arboricultural surveyor at the time of the site visit using a combination of GPS siting and measurement from existing level features, and current features to be considered to be precise. This should therefore be taken into consideration when identifying the trees within the context of the proposals.

Root Protection Areas (RPAs):

- RPA** - Areas of Ground Around Trees that Should be Protected Through Development Works with Protection Fencing to form a Construction Exclusion Zone

Project:
 LAND OFF DEARNE VALLEY
 PARKWAY
 BIRDWELL
 SOUTH YORKSHIRE
 S74

Client:
 HARTWOOD ESTATES

Title:
TREE CONSTRAINTS PLAN
 in Relation to Proposed Development

Scale: 1:500@A0
Date: October 2014
Drawn by: PH

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Ref: BTC757-TCP **Rev:**

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