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56 Hill End Road, Mapplewell, Barnsley.

Arboricultural Implication Study

November 2022

Arboricultural Association Fellow Member

AA Registered Consultant trees.org.uk

UK Register of Expert Witnesses Registered

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Chapter 1 Introduction

1.01
ACS Consulting is instructed by Prism AG Limited to report on trees and the implications for the proposed development at Hill End Farm, Mapplewell, Barnsley. The assessment and report was undertaken by Ian Murat, Registered Consultant of the Arboricultural Association.

1.02
In accordance with guidance on information requirements and validation for planning applications, this report fulfils the recommended national list criteria for tree survey/arboricultural information. More specifically, it contains the following:

- A full tree survey to the requirements of BS5837 (2012) Trees In Relation To Design, Demolition and Construction – Recommendations.
- A plan showing tree survey information, retention categorisation and root protection areas,
- An assessment of the arboricultural implications of development detailing trees to be retained/removed and appropriate protection measures,
- An Arboricultural Method Statement detailing a set of agreed principles for tree protection, implementation and phasing of works (where applicable).

1.03
The site was visited during June 2022. A survey of the trees was completed recording; species type, age, height, crown spread, diameter-at-breast-height and, condition.

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2.01 The Site
The site is located in the village of Mapplewell within the Metropolitan Borough of Barnsley, in South Yorkshire. The site comprises a farmstead on the southern edge of the village.(Figure 1).

2.02 Statutory Protection/Planning Policies/Planning Consent
The application is subject of the planning policies of Barnsley Metropolitan Council. The site is not located in a Conservation Area. The trees are not the subject of a Tree Preservation Order.

2.03 Soils
BS 5837 – 2012 requires a basic assessment of the soils on site. An examination of the British Geological Survey site does not record the superficial deposits.

The Cranfield Soil and Agrifood Institute Soilscapes viewer shows soils at the site to be slowly permeable seasonally wet acid loamy and clayey soils.

2.04 Topographical Survey
The arboricultural survey is based on the supplied plan.

Figure 1

3.01
I have identified trees as individuals or groups. The group classification is intended to identify trees that form cohesive arboricultural features either aerodynamically, visually or culturally. Off-site trees and groups that could influence the development potential of the site, have been noted. Their attributes have been approximated.

3.02
The tree data can be found at Appendix A. There is no requirement in BS 5837 to repeat the details of the constraints information save for confirming that the woodland was surveyed for species type, age, height, crown spread, diameter-at-breast-height, condition, and their suitability for retention from ground level.

The heights were measured with a digital Hypsometer and the diameters were taken with a diameter tape to give an average stem measurement. Canopy spreads have been measured at the cardinal points or where they significantly extend in other directions.

Chapter 4 Development Implications

4.01 Application
The application is described in detail in the design and access statement. In simple terms, it is "*Demolition of existing dwelling and construction of replacement detached dwelling at 56 Hill End Road, Mapplewell, Barnsley"[sic]*.

4.02 Development Implications
The development will seek to remove a number of the site's trees as indicated. The proposal will require the removal of category C trees as noted on the layout plan (ARB/4644/Y/200). Overall, the removal of these trees has no implications for the tree cover at the site. In line with the advice set out in BS 5837, the trees are not of such importance and sensitivity as to be a major constraint on development or, justify substantial modification of the proposals.

4.03 Loss for Development
The Category C trees are unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories. They offer low or only temporary/transient landscape benefits. The development design is driven by prescriptive site width and depths which means that the proposed development can only be accommodated on this site in the proposed layout.

The loss of the trees has no visual impact. The treed character of the site is maintained with the retention of the site's broadleaved trees as shown.

4.04 Retained trees that may be affected by disturbance
None.

4.05 Pruning
There is no requirement for Access Facilitation Pruning.

4.06 Secondary Development Pressure
None. As shown on the layout plan, the trees are located along the site's boundaries. There are no issues with the interference with the reasonable enjoyment of private amenity space or high light demanding rooms due to excessive shading by trees during the core hours.

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4.07 Planning Policy

The over-arching policy guidance in respect of the site is that contained within the Barnsley Metropolitan Council local plan and their supplementary planning guidance and those of Central Government (131, 2021).

The development accords with the policies and guidance of the council and central Government.
The proposed site layout incorporates much of the site's existing features as it is necessary or desirable to retain. It conserves and enhances the distinctive elements of landscape character and function retaining their valuable source of ecosystem services.

The development retains trees and hedgerows, wherever possible, and trees are replaced. Replacement provision is considered appropriate taking into account the trees that are being replaced and the location.

The impact of new developments on the natural environment has been kept to a minimum. The development design is driven by prescriptive site width and depths and the location of existing assets which means that the proposed development can only be accommodated on this site in the proposed layout.

The arboricultural impact assessment is provided to BS5837:2012 standard (or subsequent revisions). Areas of potential conflict in terms of site development are addressed by the method statement at Appendix B.

Chapter 5 Conclusions

5.01
The application site is described in detail in the planning, design and access statement.

5.02
The development design is driven by prescriptive site width, depths and fixed assets which means that the proposed development can only be accommodated on this site in the proposed layout. The loss of Category C trees has no implications for the tree cover at the site. In line with the advice set out in BS 5837, the trees are not of such importance and sensitivity as to be a major constraint on development or, justify substantial modification of the proposals.

All significant existing healthy mature trees and hedgerows have been integrated into the development scheme.
Areas of potential conflict in terms of site development are addressed by the method statement at Appendix B.
The site has no ancient woodland, veteran trees or ancient/species-rich hedgerows.

Replacement provision is considered appropriate taking into account the trees that are being replaced and the location.

5.03
A Method Statement is appended to demonstrate the scheme is feasible. Certain matters listed therein may alternatively be addressed satisfactorily by means of a condition(s). This requires detailed discussions with the LPA on the principle that conditions should always be used in the first instance as per government guidance and that contained in BS 5837 – 2012 Table B.1 Delivery of tree-related information into the planning system; the method statement fulfils the recommended criteria for arboricultural information.

Appendix A

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KEY

Age	Y – Young: Out-planted trees that have not yet established SM – Semi-mature: Established trees up to 1/3 of expected height and crown EM – Early mature: Between 1/3 and 2/3 of expected height and crown M – Mature: Between 2/3 and full expected height and crown FM – Fully mature: Full expected height and crown OM – Over mature: Crown beginning to break-up and decrease in size S – Senescent: Crown in advanced stage of break-up
Physiological Condition	Good – Very few defects a reasonable long life expectancy depending on age class Fair – Some defects giving the tree a shortened life expectancy Poor – Limited life with major problems
Structural Condition	Good – Very few defects Fair – Some defects rectifiable with minor tree surgery Poor – Significant defects rectifiable with major tree surgery or felling
#	Estimated dimensions.
(a)	Average stem diameter across a group of trees.
*	Tree subject to TPO.

Table 1 – Cascade chart for tree quality assessment

Category and definition	Criteria			Identification on Plan
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 U 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, or very low quality trees suppressing adjacent trees of better quality. *NOTE Category U trees can have existing or potential conservation value which might be desirable to preserve; see 4.5.7*			RED
	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 essential components of groups, or of formal or semi-formal arboricultural features (e.g. the dormant 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)	GREEN
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.	BLUE
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 benefits	GREY

Tree Ref No.	Species	Height	Stem Diameter	Branch Spread M				Height of Crown Clearance	Clear Branch Height	Age Class	Physiological Condition	Structural Condition	Comments/Preliminary Management Recommendations	Estimated Remaining Contribution Years	Category Grading
		M	MM	N	E	S	W	M	M						
1	Sycamore	10	310	5	2	4	5	1	1	SM	Good	Poor	Topped with multiple attachment of regrowth and decay. Growing through the fence. A tree of low quality and value in the landscape.	10+	C1/2
G1	Sycamore	8-10	250	2	3	3	3	0	0	SM	Good	Fair	Self-set trees located off site. A group of low quality and value in the landscape.	10+	C1/2
2	Cypress	8	150	2	2	2	2	0	0	SM	Good	Good	A tree of low quality and value in the landscape.	10+	C1/2
G2	Broad Leaved Group	<10	<150	2	2	2	2	0	0	SM	Good	Good	Group of hazel, sycamore and field maple. Generally located off site. A group of low quality and value in the landscape.	10+	C1/2
3	Cypress	13	320	2	2	2	2	0	0	EM	Good	Good	Two trees as one visual unit. Incongruous features in the landscape. A group of low quality and value in the landscape.	10+	C1/2
H1	Hedge	1	<50	0.5	0.5	0.5	0.5	0	0	M	Good	Good	Hawthorn hedge with occasional self-set sycamore, rosa and blackthorn. A hedge of moderate quality and value in the landscape.	20+	B1/2

Tree Ref No.	Species	Height M	Stem Diameter MM	Branch Spread M				Height of Crown Clearance M	Clear Branch Height M	Age Class	Physiological Condition	Structural Condition	Comments/Preliminary Management Recommendations	Estimated Remaining Contribution Years	Category Grading
				N	E	S	W								
4	Prunus	6	200	3	3	3	3	0	1	SM/ EM	Fair	Good	A tree of low quality and value in the landscape.	10+	C1/2
5	Malus	3	75	2	1	1	1	1	1	SM	Good	Good	A tree of low quality and value in the landscape.	10+	C1/2
G3	Cypress	13	250	2	2	2	1	1	1	SM/ EM	Good	Good	4 trees as one visual unit. Incongruous features in the landscape. A group of low quality and value in the landscape.	10+	C1/2
G4	Birch	10	230	3	3	2	3	2	2	SM/ EM	Good	Fair	Fire damage to the western canopy. 3 trees. The central tree has a cavity. A group of low quality and value in the landscape.	10+	C1/2
6	Sycamore	4	75	2	2	2	2	0	0	Y	Good	Good	Self-set tree of low quality and value in the landscape.	10+	C1/2
G5	Cypress	15	300	3	3	3	3	0	0	EM	Good	Good	Linear group of cypress with self-set sycamore. Incongruous feature in the landscape. A group of low quality and value in the landscape.	10+	C1/2

Tree Ref No.	Species	Height M	Stem Diameter MM	Branch Spread M				Height of Crown Clearance M	Clear Branch Height M	Age Class	Physiological Condition	Structural Condition	Comments/Preliminary Management Recommendations	Estimated Remaining Contribution Years	Category Grading
				N	E	S	W								
7	Cypress	8	250	1	0.5	1	2	1	1	SM/ EM	Good	Good	Topped. New branches have taken over apical dominance. A tree of low quality and value in the landscape.	10+	C1/2
8	Horse-chestnut	5	100	1	1	1	1	0	0	Y	Good	Good	A tree of low quality and value in the landscape.	10+	C1/2
H2	Hawthorn Hedge	1	<50	0.5	0.5	0.5	0.5	0	0	M	Good	Good	A hedge of moderate quality and value in the landscape.	20+	B1/2

Appendix B

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Arboricultural Supervision

The general purpose is to ensure compliance with planning conditions. It is anticipated that arboricultural input is likely to be needed for the following operations:

- Pre-commencement meeting;
- Tree felling;
- Root/Stump removal:
- Installation of protective fencing/surfaces;
- Removal of protective measures.

All supervisory visits will be logged and a copy of the minutes circulated to all team members including the LPA. A number of the operations named above can be undertaken in a single visit.

The pre-commencement site meeting is to be held before any work is undertaken. All tree protection measures, haul routes, site storage, contractor parking, deliveries, working methods are to be freely discussed and agreed in writing. Initial site visits may be intense to ensure measures are implemented.

General site visits will be undertaken once the site is 'live' at intervals agreed with the team. Our role will be to initially to act in a compliance capacity to ensure the protective measures are fit for purpose and meet or exceed the council's requirements and the tree works are undertaken to the required standard. Once this has been completed, our role will be one of monitoring and 'troubleshooting'.

Actions

- Pre-commencement site meeting to agree roles, responsibilities and duties in relation to tree protection. Details to be minuted and distributed.
- Appointment of an Arboricultural Clerk of Works (ACoW) to oversee works.

Tree Felling/Stump Removal/Tree Pruning

The following precautions are to be taken.

Actions

- Trees to be removed shall be felled so as to fall away from tree protection zones and to avoid pulling and breaking of roots of trees to remain. Brush can be chipped into the tree protection zone to a depth of 150 mm.
- The roots shall be removed by severing the major woody root mass before extraction. This may be accomplished by Hydro Vacuum & Suction Excavation or Compressed Air Displacement and then, cutting through the roots by hand, with a vibrating knife, rock saw, narrow trencher with sharp blades, or other approved root pruning equipment.
- Trees to be removed within the tree protection zone shall be removed by qualified tree contractors.
- All felled brush and trees shall be removed from the tree protection zone either by hand or with equipment sitting outside the tree protection zone. Extraction shall occur by lifting the material out or by 'skidding' it across the ground.
- Exposed roots to be kept moist with hessian sacking.
- Site inspections to be reported to the development team and the LPA.
- Tree pruning to BS3998 – 2010. No deviation from the specification.

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Construction Exclusion Zone Root Protection – Site Wide
Due to the nature of the works, standard BS 5837 fencing will be used. The Construction Exclusion Zone fence will be heras fence panels fixed to a scaffold framework. Alternatively, heras panels fixed to timber posts. The location will be marked on site by the Arboricultural Consultant and are also shown on the Drawing No. – TPP/4644/Y/300. The requirement will be assessed on a weekly basis by the ACoW.

Actions

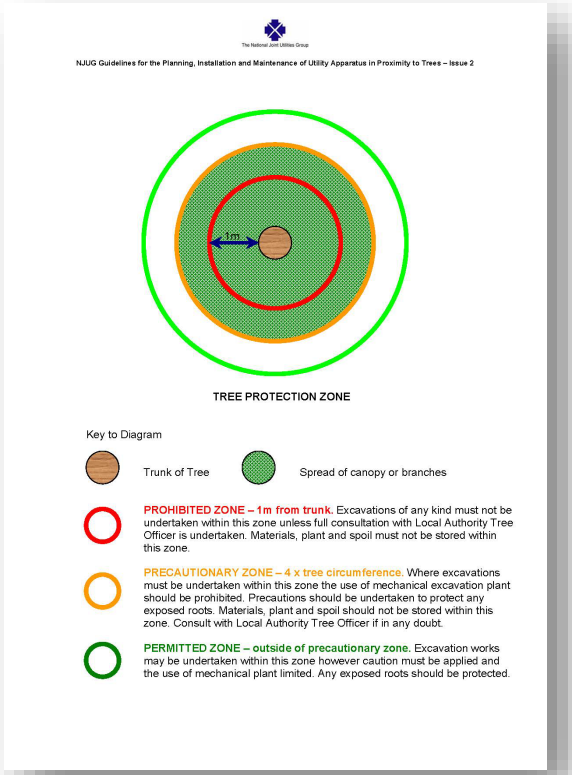
- Heras fencing fixed to a scaffold framework or timber posts as illustrated.
- Fencing installed at locations shown on the plan (TPP/4644/Y/300) and marked on site.
- Location and adequacy signed off by Arboricultural Consultant and LPA advised.
- Tool Box Talk – make construction staff aware of the importance of areas by site manager.
- Signs to be erected advising of the area's importance.
- Fence to be adjusted as noted in the Construction Timetable.

Services - NJUG 4.2

Work area to be marked out in accordance with NJUG 4.2.

Actions

- The precautionary area is to be identified.
- Suitable method of service installation to be identified this may include Hydro Vacuum & Suction Excavation or Compressed Air Displacement.
- Location and adequacy signed off by the ACoW and the LPA advised.
- Works to be monitored by ACoW.



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General Precautions

The retention of trees requires a number of general precautions to be taken. Compliance is to be maintained on site by the Arboricultural Consultant. The site visits are detailed at criterion 1 – Timing of Works.

Actions

- Spoil from the foundation pits or other excavations shall not be placed within the Construction Exclusion Zone.
- No materials, equipment, spoil or washout water may be deposited, stored or parked within the Root Protection Area/ Construction Exclusion Zone.
- On-site inspections to be undertaken by the Arboricultural Clerk of Works with the Arboricultural Consultant visiting during critical operations. The aim of the visits is to maintain on-going liaison with all personnel involved in the site development, Local Planning Authority and its Tree Officer.
- Any defects requiring rectification shall be notified to the Contractor/Site Manager/Arboricultural Consultant and the client.
- A site logbook for tree protection measures is kept to record all stages of the development from the erection of the protective fencing, right through to the completion of the project. This will be made available to the Arboricultural Consultant and the Local Planning Authority, if required, to show evidence of continuous site monitoring.

Protection and Emergency Procedure/Contacts

Adherence to the method statement, appointment of the Arboricultural Consultant and their involvement, at the critical demolition and construction phases, should negate any incident. The contact page details those personnel who should be contacted if an incident involving a retained tree should take place.

Actions

- Spill kit available.
- On site fuels to be located away from RPA/CEZ and contained in a bunded tank at 110% capacity.
- All incidents involving trees to be reported by telephone and email.
- Bunded storage of oil/fuels.
- Refuelling points for machinery at distance to the watercourse.
- Use of drop trays under plant/machinery overnight.
- Availability of spill kits on site – and training of site staff in their use.
- No excavation during periods of heavy rain.
- Regular maintenance and inspection of plant – engines and hydraulic systems.

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Contact List

Title	Name	Address	Telephone	Email
Arboricultural Consultant	TBA			
Arboricultural Clerk of Works (ACoW)	TBA			
Design	TBA			
Project Manager	TBA			
Arboricultural Consultant (Council)	TBA			

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