

Mr H Wistow
Wistow Lodge
Middlecliffe Lane
Little Houghton
S72 0HW

Arboricultural
Survey

CONTENTS

1.0	Introduction
2.0	Purpose of report
3.0	Land usage
4.0	Topography
5.0	Methodology and limitations
6.0	Method of measurement
7.0	Tree quality
8.0	Initial recommendations
9.0	Root protection
10.0	Protection fencing and signage
11.0	Precautionary Measures
12.0	Protective Measures
13.0	Tree protection plan
12.0	Site management & storage
13.0	Informative
14.0	Site Entry
15.0	Ground protection & Scaffolding
16.0	Excavation & Foundation Type (substructure)
17.0	Excavation Type
18.0	Schedule For Works (phase1)
19.0	Schedule For Works (phase 2)
20.0	Site Management & Storage
21.0	Informative, Appendix 1, 2, & 3

1.0 Introduction

1.1 Site address.

Wistow Lodge, Middlecliffe Lane, Little Houghton, S72 0HW

1.2 Property type.

Agricultural Barn

2.0 Purpose of report

- 2.1 I have been instructed by Mr H Wistow to undertake a tree survey and qualify by statement, information required by the local authorities planning department, pertaining to national planning requirements and in accordance with BS 5837 : 2012 (Trees in relation to construction).

To provide the methodology and design details, combined with recorded positions of the existing trees set directly adjacent to the existing and proposed replacement barn structures.

For the purpose of this report the existing trees have been split into three distinct groups. Group one noted as T1,T2,T3 which are positioned adjacent to the existing barn on the west boundary and set within the large paddock. Group two have been denoted as T4, T5, T6,T7 & T8. This group occupy the south boundary and run parallel to the rear of the existing barn structure. Group 3 is noted but lies outside the parameters of this report. (see drawing CAD/QA/02)

This report is produced to provide details of proposed measures incorporated into the above scheme in order to offer protection to the existing trees/shrubs while demolition of the existing barn and the construction of its replacement take place.

To provide a tree constraints plan (TCP) in accordance with BS 5837 : 2012 (Trees in relation to construction – recommendations) showing the area of the site and the potential constraints that the existing trees pose, to the existing structure and its replacement via theoretical root ingress below ground level.

The details are in respect of a proposed planning application, submitted by Mr H Wistow, who is the owner and applicant.

The proposed application relates to the demolition of an existing detached agricultural barn which currently occupies the site, and to its replacement.

3.0 Land usage

- 3.1 The existing detached barn structure, according to the LDF descriptive and UDP maps are set within an area of green belt and designated for agricultural usage.

.

4.0 Topography

- 4.1 The north and east the boundaries, are set with a mature rural type hedge row constructed of hawthorn which delineates the main field from the private access road leading to Sandhill Golf Club also in the ownership of the applicant. To the west a timber post with wire fencing defines the site from a large paddock which is adjacent to Wistow Lodge, containing group 1 noted as T1,2, and T3. The majority of the site provides a flat level and even surface up to the south boundary, where a 20 degree downward slope is evident this slope contains group 2, T4,T5,T6,T7 & T8 respectively. Drawing CAD/QA/01 Group 3 trees have been noted for their position in relation to the existing barn but proven to be outside the influence of any root system that will influence the existing or replacement barn.

5.0 Methodology and Limitations

- 5.1 The design processes consisted of an above ground topographical visual inspection only, of the two groups of trees that influence the existing and potentially the construction of the replacement barn structure. There has been no soil classification assessment for this application.

There are other trees within the site area but these are well outside the immediate construction area and do not pose any issues to the demolition or construction of the existing or proposed replacement barn, but never the less protection will be afforded to them with equal weight.

- 5.2 The existing trees within group 1 are of low to medium quality and the same designation for tree group 2, equating to a 'B or C' according to the cascade chart contained within BS 5837 : 2012. Within tree group 2 a prolific amount of self sets are evident and warrant a category 'C' designation.

6.0 Method of Measurement

- 6.1 All measurements, during the survey have been carried out using two modes of measuring instrument.

1. Steel measuring tape.
2. Leica electronic distance metre.
3. All dimensions were taken at independent ground levels.

7.0 Tree Quality and survey details (existing trees group 1 & 2)

Group 1 data

Tree No	Species	Height (m)	Stem Dia mm	Stem single/ multi	Crown Ht (m)	Age Class	Remaining Contribution	Structural & Physiological Condition	Preliminary management Recommendations	Retention Category
T1	Sycamore	15	400	s	3	y	40+	Normal	Remain	B
T2	Sycamore	15	240 240 240 280	m	3.8	y	30+	Self set	Remain	C
T3	Sycamore	15	280 300	m	2.7	y	30+	self set	Remain	C

Group 2 data

Tree No	Species	Height (m)	Stem Dia mm	Stem single/ multi	Crown Ht (m)	Age Class	Remaining Contribution	Structural & Physiological Condition	Preliminary management Recommendations	Retention Category
T4	Sycamore	16	400	s	3	y	30+	self set	Remain	B
T5	Sycamore	16	380	s	3.8	y	30+	self set	Remain	B
T6	Sycamore	15	280 300	s	2.7	y	30+	self set	Remain	B
T7	Sycamore	16	350 350 350	m	2.4	y	30+	self set	Remain	B
T8	Sycamore	16	350	s	3.0	y	30+	self set	Remain	C

8.0 Initial Recommendations (phase 1 preparatory work)

- 8.1 The positioning of the replacement barn takes into account the impact on the existing trees and street scene. The existing trees which are directly adjacent to the south boundary of the site provide an inherent valuable contribution to the overall area.

Which in accordance with BS 5837 : 2012 (cascade chart for tree quality assessment) provide a valuable contribution to the overall site and a softening effect to the built environment.

The photograph below shows T4 to T7 which camouflages the existing barn and will afford the equivalent for the new structure.



- 8.2 Before any work commences relating to the demolition of the existing barn, and the setting out of its replacement or its construction, general preparatory work as required is to be carried out within the immediate vicinity combined with protection measures relating to the retained trees/shrubs to BS 5837 : 2012. Within a reasonable distance of the construction area.

The protection of the existing trees/shrubs adjacent to both the south and west boundaries are of paramount importance and must be maintained at all times.

- 8.3 Before any work commences relating to the demolition or construction of the barn an area for the storage of the construction materials must be identified and put in place. Drawing CAD/QA/03 identifies the material storage area.
- 8.4 Due to the sites open boundaries, directly adjacent to the existing barn it is assumed that normal root development within this existing area has taken place and be expected to have developed symmetrically in accordance with BS 5837. 2012. Therefore to achieve the root protection area required the protection fence will be erected as shown in drawing CAD/QA/02 & 3.

- 8.5 Conversely root development of trees T6 & 7 to the south boundary by calculation demonstrates that some degree of asymmetry has taken place due to an existing boundary wall which provides a physical barrier to normal growth and development. However this will not impede or cause any issues with the demolition or construction of the proposal development as the predicted root distribution is away from the construction area and set to the outer limits of the south boundary.

9.0 Root protection Area Schedule (for retained 1ST & 2nd tree groups)

- 9.1 This is an assessment of the Root Protection Area, for groups 1 & 2 based on individual tree data collected during the recorded survey and BS5837 : 2012 . Root spread.

Group 1 data

Tree Ref	Species	Single/multi stem s/ms	Stem dia (mm)	Initial linear root protection dist (m)	RPA m ²
T1	Sycamore	s	400	4.800	72.38
T2	Sycamore	ms	240,240, 240,280	11.300	401.00
T3	Sycamore	ms	280,300	8.200	101.00

Group 2 data

Tree Ref	Species	Single/multi stem s/ms	Stem dia (mm)	Initial linear root protection dist (m)	RPA m ²
T4	Sycamore	s	380	4.560	65.32
T5	Sycamore	s	380	4.560	65.32
T6	Sycamore	s	380	4.560	65.32
T7	Sycamore	ms	380	4.560	65.32
T8	Sycamore	s	350	4.200	55.41

- 9.2 The extent of the tree root protection area as shown on drawing CAD/QA/03 in the tree protection plan is in accordance with BS 5837 : 2012 'calculating the RPA'. The calculations have been based upon the area equivalent to a circle radius 12 times the stem diameter for single stem trees taken at 1.5m above the immediate ground level). Or if a tree has more than 1 diameter value then it will add up the square of all the diameter values and use the square root of the result as a mean diameter as T2 & T3 displays. The stem diameter of the tree will be adjusted to match the total diameter count. Or if a tree has a single diameter and more than 1 stem then the square of the diameters will be multiplied by the stem count and the square root of the result used as a mean diameter value.
- 9.3 Prior to commencement of any work what-so-ever on or adjacent to the site. The root protection area associated with the existing retained trees shall be protected from damage by the erection of a primary tree protection fencing, on a scaffold framework.

All fences/barriers are to be in accordance with BS5837: 2012. These barriers shall be maintained in position at all times and kept in good condition during the course of the development of the site area.

- 9.4 No removal of the barriers must take place other than to be relocated or replaced.

10.0 Protection Fencing & Signage

- 10.1 Protective fencing/barriers shall be in strict accordance with BS5837 Tree protection fencing.
- 10.2 Tree protection fencing to comprise of standard scaffold poles complete with clamps, Swivel couplers, double couplers and sleeve couplers. Providing a skeletal frame, Frame to be well braced to resist impact. Vertical tubes to be spaced at a maximum of 3m intervals and set at a depth of 600mm into ground. Infill panels to be 2.3m high Heras steel galvanised panels or similar which are to be securely fixed to the frame using scaffold clamps or wired in position. (see Appendix 2)
- 10.3 All protective fencing shall be retained and maintained in good condition for the full duration of the construction period and considered sacrosanct unless otherwise agreed in writing with the LPA.
- 10.4 Site notices affixed to the fencing, are to be pre printed laminated waterproof signs a minimum of A3 in size and should be fixed securely to the fencing panels dividing the enclosure. Site notices to be placed as drawing CAD/QA/03
- 10.5 Signs should be fitted in positions shown on site plan 20/001
- 10.6 Signs to read,
- Tree Protection Area
Keep out
(Town & Country Planning Act 1990)
Trees enclosed by this fence are protected by
Planning Conditions and/or are the subject of a
Tree Preservation Order.
Contravention of a tree preservation order May
Lead to Criminal Prosecution.
- 10.7 Any incursion into the tree protection area must be with written permission of the local planning authority.

11.0 Precautionary Measures taken within construction exclusion zone.

- 11.1 Fencing to be erected prior to any development or demolition commencing on site or any materials or machinery associated with the development are brought to or onto the site.
- 11.2 All exclusion zone fencing shall be properly maintained for the duration of the development unless otherwise agreed with the local planning department.
- 11.3 No materials, machinery, or chemicals of any sort shall be stored within the root protection zone for the duration of the development.
- 11.4 All ground levels within the root protection area shall not be lowered or raised without the consent of the local planning authority.
- 11.5 The use of machinery is forbidden within the exclusion zone for the digging of trenches i.e. drainage runs or specific plantings.

12.0 Protective Measures outside the Root Protection Area.

- 12.1 All deliveries to the site must at all times enter/exit the site via the identified access/egress point situated along the access road of Sandhill Golf Club.
- 12.2 At all times deliveries made to the site must be monitored to prevent damage or harm being caused to the tree or tree canopy by vehicular movement,
- 12.3 A banks man must be appointed to provide supervision for all vehicular movements, entering, within and leaving the site
- 12.4 Any materials likely to be injurious to the trees, such as the mixing of cement or the discharge of cement, oil, bitumen or other should not be permitted directly outside the protective fencing where contaminated fluids could drain towards the trees.
- 12.5 No fires should be lit in a position where their flames can extend to within 5m of any foliage, branches or stems.
- 12.6 Any notice boards, telephone cables or any other services temporary or permanent should not be attached to any part of the trees.
- 12.7 Exploratory excavations for root presence in tree group 1 & 2 will be carried out on the western and south side of the proposed barns position in particular, prior to the construction phase. This will identify if any substantial root systems which exist within the areas where the new concrete pad foundations are to be laid.
- 12.8 The existing trees are not to be used as anchorages or for any other purpose.
- 12.9 No dumping of any spoil or rubbish or the placement of any temporary structure or storage of materials within the root protection areas is strictly prohibited.

- 12.10 No equipment, machinery or materials are to be brought on site for the purpose of demolition or development until written consent is obtained from the LA (Barnsley Metropolitan Borough Council.)

13.0 Tree Protection plan

- 13.1 In context a tree protection plan is provided as part of this report, because it is considered that all remaining trees directly adjacent to the operation area require protection during the demolition and construction phase.
- 13.2 The proposed replacement barn is set outside the theoretical RPA as calculated from BS 5837 : 2012.
- 13.3 A tree protection exclusion zones has been determined to provide protection for the trees in accordance with table 1 and fig2 of BS 5837 2012 and this zone will remain completely undisturbed for the duration of the works on site
- 13.4 All trees outside of the construction zone shall be afforded protection throughout the demolition and construction phase.
- 13.5 All fencing shall be retained and maintained in good condition for the full duration of the demolition and construction period and considered sacrosanct unless otherwise agreed in writing with the LPA.
- 13.6 Site notices affixed to the fencing, are to be pre printed laminated waterproof signs A3 in size and should be fixed securely to the fencing panels surrounding the enclosure. Signs should be fitted at a minimum of 5.000 metre centres. Notices should read either “**PROTECTED TREE ZONE OR CONSTRUCTION EXCLUSION ZONE KEEP OUT**”.
- 13.7 Root protection areas for individual trees have been calculated from the statutory document BS 5837 : 2012.
- 13.8 No roots over 50mm in diameter shall be cut.

14.0 Site Entry

- 14.1 The existing access road leading to Sandhill Golf Club is to be utilized providing unlimited access to the site. This will allow vehicular site traffic to maintain a safe and measured distance outside the tree protection zones and remain within the construction exclusion zone of the site. This method is to be adopted at all times during the demolition and construction periods.

15.0 Ground protection & Scaffolding Within any RPA

- 15.1 The proposed positioning of the replacement barn lies outside the tree groups 1 & 2. Therefore no additional protective measures are required. However if the site conditions depict the barn or its concrete pad foundations to be closer to the tree group than designed, then site specific proposals must be submitted to the local authorities forestry officer for approval. To afford maximum protection and minimise the risk of damage to the existing root systems of groups 1 & 2 during the construction phase of the barn.

16.0 Excavation & Foundation Type (Phase 2 substructure)

- 16.1 Individual concrete pad foundation located at the base of each column of the steel portal frame, have been designed to be adequate if bearing on a sub-soil type 4. If a sub-soil of this type is not found at normal levels, an alternative foundation design based on a geotechnical soil investigation report to BS5930, BS8002, BS8004 and Euro code 7 is to be submitted.
- 16.2 The concrete pad foundations lay outside the theoretical root spread of the nearest tree group 1 & 2. Therefore no root barrier is required. If however root systems are found to exist when carrying out proprietary excavations, then a site specific root barrier must be installed, to prevent future disturbance to the sub and superstructures of the proposed barn.

17.0 Excavation and Foundation type (excavation)

- 17.1 The initial method of excavation along the western and southern boundaries where the concrete pad foundations lay to the new barn is to be with hand tools only “**no**” mechanical machinery is to be used until primary test excavations are carried out along the length of the proposed foundation. Only then if no roots are visible a mechanical method of excavation will be considered and advice sought from the local authority’s tree officer.
- 17.4 During the pad foundation excavations any damage to the bark surface of exposed larger roots should be minimised. Exposed larger roots over 25mm in diameter should be wrapped in clean dry Hessian sacking to prevent desiccation and buffer temperature variation. Smaller roots less than 25mm in diameter may be pruned back using clean bypass secateurs. Severing any root that exceeds 25mm in diameter may have an adverse effect upon the health of the tree.
- 17.5 The severing of any root above 25mm in diameter is prohibited. The accidental severing of root exceeding 25mm within a RPA or within 1metre margin is to be noted and advice sought with appropriate action taken.

18.0 Schedule for Works (Phase 1 demolition)

18.1 Table 1

Task	Prep	Construction	Comments
1	x		It is the responsibility of the owners and developers of the site, to identify all licences required for the demolition/use of skips etc, and emergence of construction traffic both in and out of the site.
2	x		Identify site access off Middlecliffe Lane. No tree surgery is required to facilitate access into the site.
3	x		Utilize existing hard surfacing within the site for access.
4	x		Identify and establish an area inside the demolition zone to store and stock all spoil from the existing building
5	x		Begin to import and erect protective fencing to all Tree groups
6	x		Begin process of demolition of the existing structure in a safe & controlled manner.
7	x		Remove all demolition spoil from the site as required to continue with second phase

19.0 Schedule for Works (Phase 2 superstructure barn)

19.1 Table 1

Task	Prep	Construction	Comments
1	x	x	Reposition protective fencing replace any damage panels as required after demolition works. To individual zones.
2	x		Treat all identified surfaces with glyphosate herbicide within the construction zone and prepare ground.
3		x	Identify site access off Middlecliffe Lane.
4	x		Identify and peg out area for pad foundations and barn.
5		x	Excavate for concrete pad foundation under portal framework for new barn note “excavations and foundation type”.
6		x	Erect first lift scaffold as required.
7		x	Identify positions of all drainage and service runs and set out accordingly and excavate, Outside root Protection areas with mechanical machine. No drainage to be inside the root Protection areas. Root barriers to be installed if required. Note all external rainwater gutters to be fitted with protective grilles to prevent blockages within the gutter system including down pipes.
8		x	Complete building process to barn.

12.0 Avoidance Of Tree Root Damage If Trenching. (Informative Tree group 1 & 2)

- 18.1 Particular attention should be paid to tree group 1, west of the proposed barn Due to the location of the concrete pad foundation, trenching operations, will be, outside the periphery of the theoretical root spread as calculated in accordance with BS 5837 : 2012 and canopy of each tree group. However if incursion into the RPA is unavoidable, trenching will have to be carried out. By design it is not expected that trenching will be within the trees RPA. But care must be taken at all times when excavating any trench within this area and the following procedures adopted.
- 18.2 Any large roots discovered during trenching operations or exposed roots above 25mm in diameter are to be protected to avoid damage to the bark covering, and wrapped in dry clean hessian sacking to prevent desiccation and to protect from rapid temperature changes.
- 18.3 Any roots found within the excavation and less than 25mm in diameter may be pruned back, preferably to a side branch using an appropriate cutting tool such as bypass secateurs or hand saws and a root barrier installed.
- 18.4 If any root system is present and measures above 25mm in diameter the advice from a qualified arboriculturist must be sought as they may be essential to the trees health and stability.
- 18.5 Prior to any back filling any hessian sacking is to be removed and the retained root should be surrounded in sharp sand. (Standard building sand) is not to be used because of its high salt content which is toxic to tree roots.
- 18.6 All soils put back in the trench are to be free of contaminants or other foreign objects that could be injurious to the health of the tree root system.

19.0 Schedule for Works (Phase 3 trenching within a RPA to group 1)

19.1 Table 2

Task	Prep	Construction	Comments
1	x		Identify area within the calculated RPA from drawing CAD/QA/03
2	x		Remove and adjust protective fence as required to protect Trees in groups 1 & 2
3	x		Peg outline of pad foundation
4		x	Excavate pad for new foundation. The excavation is to be carefully done by hand within the RPA of group 1. On no account must mechanical machinery be used within the predicted root protection area where theoretical root spread has been predicted.
5		x	Remove excavated debris to outside of RPA and store for re-use. Excavated material to be checked for contaminants and foreign objects.
9		x	Re install clean excavated material.
10		x	Remove all excess constructional materials from the site and re-establish protective fencing to original position to protect group 1

20.0 Site Management & Storage.

- 20.1 Any materials likely to be injurious to the trees, such as the mixing of cement or the discharge of cement, oil, bitumen or other should not be permitted directly outside the fence where contaminated fluids could drain towards the tree.
- 20.2 No fires shall be lit within the spread of any branches pertaining to any of the remaining trees.
- 20.3 The position of the proposed barn is such that it will not impact or influence the existing trees in group 1 or 2 or any tree on the site or be detrimental to their natural development.
- 20.4 No issues will be raised regarding any natural light, overbearing or any over shadowing issues of any residential property as the positioning of the proposed barn is approximately 50metres away from the nearest residential dwelling which is the applicants Wistow Lodge .
- 20.5 Exploratory excavations for roots should be carried out within the area of the proposed new barn, prior to the construction or setting out phase. This will identify whether any substantial root systems exist in the area of the foundation plan.
- 20.6 No equipment, machinery or materials are to be brought on site for the purpose of demolition or development until written planning consent is obtained from Barnsley Metropolitan Borough Council.

The storage of any construction/building materials within the RPA is strictly prohibited at all times.

- 20.7 The construction/building materials shall be stored, within the site as shown on drawing CAD/QA/03 identified as the storage area for incoming and stored materials
- 20.8 The storage area has to be in place before any deliveries or movement of constructional/building materials within the site takes place. All deliveries to the site are the responsibility of the owner of the site.
- 20.9 All materials shall be stacked in a secure and safe manner within the pre-defined storage area, adopting the current best building practices and codes of practice for building sites.
- 20.10 At no time must the access to the site or the public highway be infringed/ blocked by constructional/building materials/equipment etc allied to the site.
- 20.11 No stacked constructional/building or other materials are to be positioned in such a way to infringe/impece or block the public walkway along Middlecliffe Lane.

21.0 (Informative)

- 21.1 General : Trees in any location may be protected by legislation, where any development is proposed; additional legal protection may be appropriate and can be enforced by the local authority. Attention is drawn to legal controls under common law for consideration at the earliest stages of potential site development.
- 21.2 Legal protection of trees: The Town & Country Planning Act 1990 (as amended) require that, except in certain circumstances “no work will be carried out which will affect trees over a certain size which are situated in conservation areas. A min of six weeks’ notice has to be given to the local authority before the work is carried out. This provided an opportunity for the governing local authority to make a tree preservation order under this act, to protect the trees.
- 21.3 Tree preservation orders allow for trees to be protected either as individuals, groups, areas or woodlands. The orders have the effect of preventing the cutting down, topping, uprooting wilful damage of wilful destruction of trees, except in certain circumstances, other than with consent from the local authority.
- 21.4 Even when no specific legal protection exists, it may be necessary to obtain a felling licence. These apply if the volume of timber exceeds specific amounts; site clearance, even of small areas, before detailed planning permission has been granted could exceed the felling licence quota. The forestry commission under the forestry Act 1967 (as amended) administers a felling licence.
- 21.5 Section 197 of the Town and Country planning Act states “It shall be the duty of the local planning authority to ensure whenever it is appropriate, that in granting planning permission for any development adequate provision is made, by the imposing of conditions, for the preservation of the planting of trees”. It also states that “it shall be the duty of the local planning authority to make such orders under section 198 of the

act as appear to the authority to be necessary in connection with the grant of such permission.

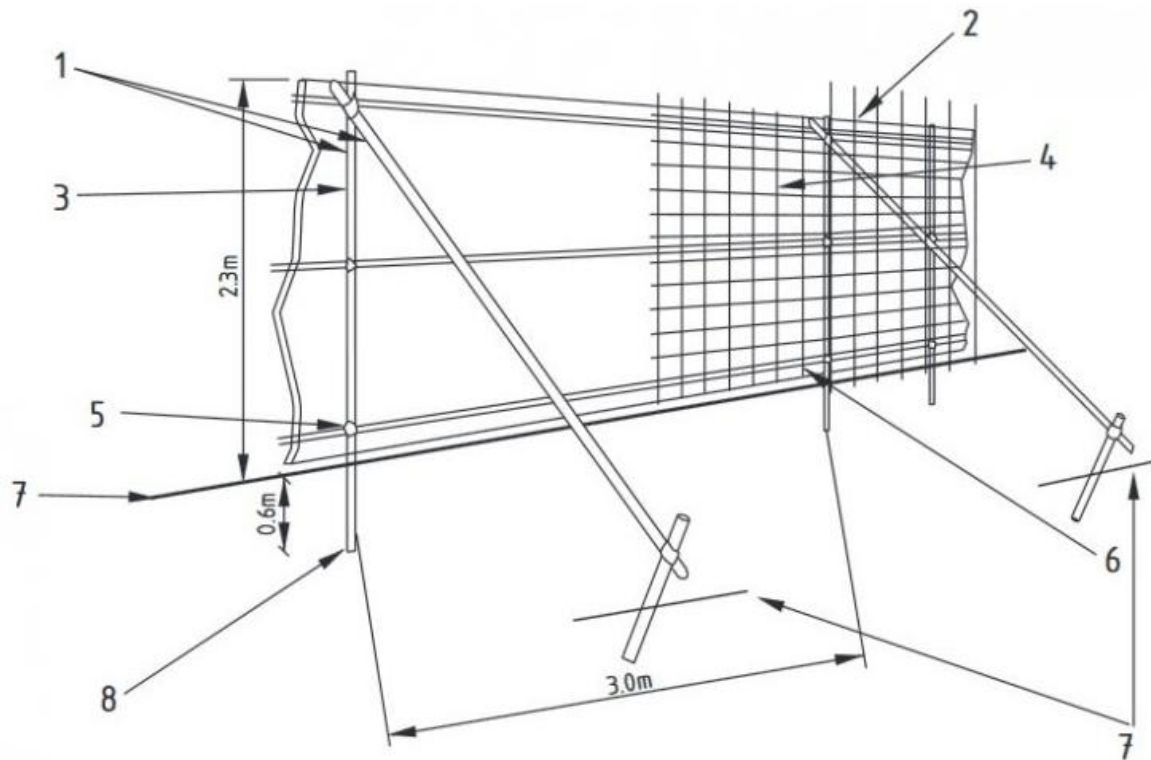
22.0 Wildlife

- 22.1 The presence of a protected species is a material consideration when a local planning authority is considering a development proposal which, if carried out, would be likely to result in harm to the species or its habitat.
(The Wildlife and Countryside Act 1981(as amended), the conservation (Natural Habitats etc) Regulations 1994 and the Countryside and Rights of way Act 2000 protect species of flora and fauna.
- 19.2 The protection of bats makes it illegal to intentionally injure or kill a bat, or cause damage, disturb or obstruct access to a roost. Under the Countryside and Rights of way Act 2000, it is an offence to recklessly disturb bats or recklessly damage or obstruct access to any structure or place that bats use for shelter or protection. Where any bats are found or evidence to suggest bat activity consultation with Natural England licence holder must be undertaken.
- 19.3 On inspection both, externally and internally of the existing barn to be demolished there appears to be no physical or visual evidence to suggest that any endangered species are present within the structure. But a statutory bat survey is to be carried out in accordance with the LA requirements, by Whitcher wildlife Ltd. Ecological Consultants.

APPENDIX 1 : Glossary of general Terms

Arboriculture	The cultivation of trees in order to produce individual specimens of the greatest ornament, for shelter or any primary purposes other than the production of timber.
Co-dominant Stem	A stem which has grown in direct competition to the main stem and which has formed a substantial size influencing the appearance of the tree.
Stem	The main axis of a tree (trunk)
Height	The overall height of the tree from ground level.
Age Class	Young tree in the first third of its life expectancy. M iddle age tree. M ature tree. O ver M ature V eteran
Retention Category	A/B/C/R – In accordance with BS 5837:2012 (Trees in relation to construction). Category A = High quality Category B = Moderate Category C = Low quality Category R = Trees for removal

APPENDIX 2 : Protective fencing



- | | |
|--|--|
| 1 Standard scaffold poles | 5 Standard clamps |
| 2 Uprights to be driven into the ground | 6 Wire twisted and secured on inside face of fencing to avoid easy dismantling |
| 3 Panels secured to uprights with wire ties and where necessary standard scaffold clamps | 7 Ground level |
| 4 Weldmesh wired to the uprights and horizontals | 8 Approx. 0.6 m driven into the ground |

APPENDIX 3: Drawings

CAD/QA/01 Drawing showing existing site area and position of existing barn.

CAD/QA/02 Drawing showing tree groups 1,2 & 3.

CAD/QA/03 Drawing showing RPA and tree protection measures.