

# **Tree Survey**

## **BS 5837:2012**

Barnsley Business and Innovation  
Centre, Wilthorpe Road, Barnsley

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ACCESS  
Ecology

## QUALITY ASSURANCE

REPORT TYPE	SITE NAME	REVISION
Tree Survey to BS5837:2012	Barnsley Business Innovation Centre BBIC Wilthorpe Road, Barnsley S75 1JL	A

CLIENT	COMMISSION DATE
Barnsley Business Innovation Centre BBIC	20 <sup>th</sup> March 2017

	NAME	QUALIFICATIONS	POSITION	DATE
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## A INTRODUCTION

### A.1 Background to Survey

- 1 Access Ecology Ltd was commissioned on 20th March 2017 by Barnsley Business Innovation Centre BBIC to undertake a tree survey at the location listed within Table 1.

**Table 1. Site details**

SITE ADDRESS	GRID REFERENCE (SITE CENTROID)
Barnsley Business Innovation Centre BBIC Wilthorpe Road, Barnsley S75 1JL	SE 32960 07709

- 2 This survey was commissioned to repeat a Tree Survey, which was carried out alongside an Ecological Appraisal by Sheaf Ecology in 2013. This report is to support the resubmission of an expired planning application approved in 2013 ref 2013/0337 on the Barnsley Planning Portal for the “erection of new Business Innovation Centre incorporating a mix of offices and workshop units and associated works.”
- 3 Access Ecology Ltd has been provided with the plans and background information as shown within Table 2.

**Table 2. Pre-existing information**

TYPE	ITEM TITLE / REFERENCE	AUTHOR	DATE ISSUED / PUBLISHED
Report	0337 BBIC Tree Report	Sheaf Ecology Ltd	Amended March 2013
Plan	Proposed Site Plan	William Saunders	March 2013

### A.2 Site Location and General Description

- 4 The site is located within the residential area of Wilthorpe, to the north-west of Barnsley. It is bounded by Wilthorpe Road to the north and Innovation Way to the east.
- 5 The site comprises business units with associated car parking and access road, along with areas of amenity grassland, ornamental shrub beds and small stands of trees.
- 6 The survey includes the trees within five sections of the business park. Area A is the largest section and is located at the north-western corner of the site. Areas B, C, D and E are much smaller and are located around the edges of the car park at various locations throughout the site.

## **B SURVEY DETAILS AND LIMITATIONS**

- 7 The survey was carried out on 24<sup>th</sup> March 2017 by Elizabeth McBride. Elizabeth has a degree in Environmental Science and a Level 4 Diploma in Arboriculture. She has worked as an ecologist since 2006. Elizabeth was assisted by Belinda Wiggs who has worked as an ecologist for more than 20 years.
- 8 The survey was carried out in accordance with BS 5837:2012 Trees in relation to Design, Demolition and Construction – Recommendations.
- 9 The trees were surveyed visually from the ground.
- 10 Please note this report represents a BS5837 tree survey and should not be accepted as a tree safety inspection report.
- 11 Details of the trees present can be found in Table 1. The tree locations, canopy size, retention category and root protection areas are shown on the Tree Constraints Plan in Appendix 1. Photographs are shown in Appendix 2.
- 12 Trees within close proximity to each other and of similar age and species have been surveyed in groups, as defined in BS 5837.
- 13 Shrubs and scrub were not included in the survey, but are mentioned in the discussion section. Saplings and very young trees were deemed insignificant and omitted from the survey.
- 14 Root protection areas were calculated from stem diameter. Where the roots may be constrained slightly by hard standing, the shape of the root protection area has been modified, but the area covered has not changed.
- 15 Some of the trees had developed multiple stems either from ground level or close to the ground. Where possible the average stem diameter was calculated and the number of stems recorded. A calculation could then be carried out to estimate the root protection area.

## **C RESULTS**

### **C.1 Tree Data**

16 See Table 3 and accompanying Tree Constraints plan in Appendix F.1 and photographs in Appendix F.2.

Table 3: Tree data

Tree reference	Species	Life stage	Estimated height (metres)	Estimated crown height (metres)	Estimated crown spread (metres) N W S E	Stem diameter (mm)	Physiological condition	Structural condition	Observations & preliminary management recommendations	Estimated remaining contribution	Retention category
T1	Corsican pine <i>Pinus nigra</i>	SM	13	1.5	N = 4 E = 5 S = 4.5 W = 3.5	467	Good	Fair	Past damage on southern side of tree has resulted in crown asymmetry. Appears in good health otherwise. Some pruning of lower branches has occurred.	40+	B1
T2	Italian alder <i>Alnus cordata</i>	SM	15	3	N = 4.5 E = 6 S = 5 W = 4.5	470	Good	Good	Twin stemmed at 1.5m – one stem with a noticeable lean to the north. Encroachment by surrounding trees is restricting branch spread.	40+	B1
G3	Corsican pine <i>Pinus nigra</i> , Alder <i>Alnus glutinosa</i> , Hawthorn <i>Crataegus monogyna</i> Oak <i>Quercus sp.</i> Cherry <i>Prunus sp.</i> Beech <i>Fagus sylvatica</i> Rowan <i>Sorbus aucuparia</i>	Y / SM	20	2 - 4	Average N = 5 E = 3.5 S = 4.5 W = 5.5	91 – 462 (av. < 250)	Good	Fair	A crowded group of semi-mature and young trees. Alder and Corsican pine are co-dominant, with other species present in small numbers. Includes a multi-stemmed rowan on the edge of the group, single cherry and hawthorn, plus couple of young oaks.  Recommend removal of two or three smaller pines and younger broadleaved species to reduce density.	30+	B2
T4	Ash <i>Fraxinus excelsior</i>	Y	9	1.5	N = 2.5 E = 3 S = 3 W = 2.5	(5 stems) 99 86 91 82 130	Fair	Poor	Multi-stemmed from close to the base, possibly caused by damage at a young age. Area of damaged bark on one stem. Poor form of the tree is likely to cause structural problems and weaknesses as it develops.	10+	C
G5	Rowan / whitebeam <i>Sorbus sp.</i> Cherry <i>Prunus sp.</i>	Y / SM	3 - 7	0.75 – 1.5	Average N = 2 E = 2 S = 2 W = 2	125 - 170	Fair	Poor	A small group of trees within a grass verge. Includes two <i>Sorbus sp.</i> and two stunted cherry trees. Both <i>Sorbus</i> are young, one has good form, the other has decay in main stem and one dead branch. The two cherries are very small and stunted with several damaged and removed branches.	20+	C2

Tree reference	Species	Life stage	Estimated height (metres)	Estimated crown height (metres)	Estimated crown spread (metres) N W S E	Stem diameter (mm)	Physiological condition	Structural condition	Observations & preliminary management recommendations	Estimated remaining contribution	Retention category
G6	Beech <i>Fagus sylvatica</i> Alder <i>Alnus glutinosa</i> Birch <i>Betula pendula</i> Elder <i>Sambucus nigra</i>	Y / SM	19	0.5 – 2.5	Average N = 3 E = 5 S = 3 W = 3	120 - 222	Fair	Fair/poor	Group includes 7 young beech, 2 alder, 1 birch, 1 elder. One beech tree has significant decay at the stem base and is in poor health. Another beech has decay at approx. 2m. Other trees have poor form due to twin stems or restricted growth due to proximity of other trees. The birch has the best form although it has a lean to the east. Recommend removal of younger trees and trees with poor form.	20+	C2
G7	Beech <i>Fagus sylvatica</i> Alder <i>Alnus glutinosa</i> Birch <i>Betula pendula</i> Hawthorn <i>Crataegus monogyna</i>	Y/SM	12	2 - 4	Average N = 3 E = 3.5 S = 3 W = 2	90 - 200	Fair	Fair/poor	A group of young and semi-mature trees co-dominated by alder and beech, with single birch and hawthorn. Also young saplings growing below. Some trees have poor form due to twin stems or restricted growth due to proximity of other trees. Recommend removal of younger trees and trees with poor form.	20+	C2
T8	London plane <i>Platanus x acerifolia</i>	SM	12	3	N = 5 E = 4 S = 3.5 W = 5	310	Fair	Poor	Twin stemmed at 2m showing poor join with significant included bark extending down stem – resulting in weakness in stem and possible failure point. Removal recommended.	10+	U
G9	Cherry <i>Prunus sp.</i> Alder <i>Alnus glutinosa</i>	SM	16	3	Average N = 2.5 E = 3 S = 2.5 W = 2.5	Multiple stemmed 273 - 432	Good	Fair	The group includes three alders, one cherry and some alder saplings. One alder is multi-stemmed from the base and the other two are twin-stemmed from close to the base. These trees appear healthy but have poor form and restricted crowns due to the proximity of adjacent trees. The single cherry also has an asymmetric crown due to nearby trees and deadwood and damaged branches in the lower canopy. Recommend removing saplings and one or two larger trees to allow more growing space.	30+	B2
G10	Beech <i>Fagus sylvatica</i> Alder <i>Alnus glutinosa</i> Birch <i>Betula pendula</i> Larch <i>Larix decidua</i> Cherry <i>Prunus sp.</i>	Y/SM	16	2 - 4	Average N = 5 E = 5 S = 3 W = 3.5	100 - 293	Good	Fair	Largest group of trees on site. Closely planted mix of broadleaved and coniferous species. Many trees have reduced canopy spread due to close proximity of adjacent trees. Some trees show poor form, but others good.	30+	B2

Tree reference	Species	Life stage	Estimated height (metres)	Estimated crown height (metres)	Estimated crown spread (metres) N W S E	Stem diameter (mm)	Physiological condition	Structural condition	Observations & preliminary management recommendations	Estimated remaining contribution	Retention category
T11	Acer sp.	SM	11	1	N = 3 E = 2 S = 2 W = 1	200	Good	Good	Part of a line of trees in shrub beds along the edge of the road.	30+	B2
T12	Alder <i>Alnus glutinosa</i>	SM	10	1	N = 3 E = 2 S = 2 W = 3	241	Good	Good	Part of a line of trees in shrub beds along the edge of the road. Twin-stemmed at approximately 2m. Shows good form and good health, though slightly constrained by the alder to the east.	30+	B2
T13	Alder <i>Alnus glutinosa</i>	SM	10	1	N = 4 E = 2 S = 3.5 W = 2.5	233	Good	Good	Part of a line of trees in shrub beds along the edge of the road.	30+	B2
T14	Norway maple <i>Acer platanoides</i>	SM	11	1	N = 4 E = 3 S = 3 W = 3	271	Good	Good	Part of a line of trees in shrub beds along the edge of the road.	30+	B2
T15	Norway maple <i>Acer platanoides</i>	SM	10	1	N = 2 E = 2 S = 1 W = 2	168	Good	Good	Part of a line of trees in shrub beds along the edge of the road. It is slightly smaller than the other Acers in the shrub bed.	30+	B2
T16	Norway maple <i>Acer platanoides</i>	SM	10	1	N = 2.5 E = 5 S = 5 W = 2	275	Good	Good	Part of a line of trees in shrub beds along the edge of the road.	30+	B2
T17	Norway maple <i>Acer platanoides</i>	SM	11	1	N = 2.5 E = 4 S = 3 W = 2	200	Good	Good	Part of a line of trees in shrub beds along the edge of the road.	30+	B2
T18	Norway maple <i>Acer platanoides</i>	SM	11	1	N = 3 E = 3 S = 2.5 W = 2.5	231	Good	Good	Part of a line of trees in shrub beds along the edge of the road.	30+	B2
T19	Lime sp. <i>Tilia sp.</i>	SM	10	2	N = 3 E = 1 S = 4 W = 2.5	212	Good	Good	Part of a line of trees in shrub beds along the edge of the road. The canopy is slightly constrained by the maple to the south.	30+	B2
T20	Field maple <i>Acer campestre</i>	SM	10	2	N = 1.5 E = 3.5 S = 1.5 W = 3.5	4 stems 141 134 113 87	Good	Fair	Part of a line of trees in shrub beds along the edge of the road. Multi-stemmed from close to the ground. The canopy is constrained by the trees on either side.	20+	C2

Tree reference	Species	Life stage	Estimated height (metres)	Estimated crown height (metres)	Estimated crown spread (metres) N W S E	Stem diameter (mm)	Physiological condition	Structural condition	Observations & preliminary management recommendations	Estimated remaining contribution	Retention category
T21	Field maple <i>Acer campestre</i>	SM	10	2	N = 4 E = 3 S = 4.5 W = 4.5	313	Good	Good	Part of a line of trees in shrub beds along the edge of the road. Slight ivy growth up the stem.	30+	B2
T22	<i>Sorbus sp.</i>	SM	11	2	N = 3 E = 2 S = 3.5 W = 2	332	Good	Good	A reasonably well formed tree within a shrub bed. Has a crowded canopy due to the upward growth form.	30+	B1
T23	<i>Sorbus sp.</i>	SM	11	2	N = 3 E = 2 S = 3 W = 2	290	Good	Good	Similarly sized and shaped tree to T22. Located within a low shrub bed.	30+	B1
T24	Birch sp. <i>Betula sp.</i>	SM	9	1.5	N = 3 E = 3 S = 3.5 W = 2.5	155	Good	Fair	A standard tree within an area of amenity grassland. The stem is curved and the canopy slightly unbalanced.	30+	C1
T25	Weeping willow <i>Salix sp.</i>	SM	11	1.5	N = 3.5 E = 4 S = 4 W = 5	260	Good	Good	A standard tree within an area of amenity grassland. Appears to have good form and canopy.	40+	B1

### **Key to Table 3**

<b>Life Stage</b>	
<b>Y</b>	Young – in first quarter of life
<b>SM</b>	Semi-mature – in second quarter of life
<b>EM</b>	Early mature – in third quarter of life
<b>M</b>	Mature – in final quarter of life
<b>OM</b>	Over mature – in natural decline

#### **Life stage**

- Y Young – in first quarter of life
- SM Semi-mature – in second quarter of life
- EM Early mature – in third quarter of life
- M Mature – in final quarter of life
- OM Over mature – in natural decline

#### **Height**

The height of the tree in metres from the stem base - estimated using a clinometer.

#### **Height & direction of first significant branch**

The height in metres of the first significant branch and the direction of growth

#### **Crown height**

The average height in metres of the crown – estimated using a clinometer.

#### **Crown spread**

Measured from the centre of the stem base to the tips of the branches in all 4 cardinal points

#### **Stem diameter**

The diameter of the stem measured at 1.5m from the base

#### **Physiological condition**

- Good – Healthy and in good vigour
- Fair – Vigour of tree is impaired
- Poor – Vigour of tree is extremely low

### **Structural condition**

Good – No obvious defects

Fair – Slightly compromised with minor structural defects

Poor – Significantly compromised with major structural defects

### **Estimated remaining contribution**

An indication of the number of years before removal of the tree may be required

Categories: < 10 less than 10 years

10+

20+

40+

### **Retention Category**

**A** – Trees of high quality – marked green on the plan

Estimated remaining life expectancy of at least 40 years.

Further subdivided as follows:

A1 – Trees that are particularly good examples of their species or essential components of groups

A2 – Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features

A3 – Trees, groups or woodlands of significant conservation, historical or commemorative value

**B** – Trees of moderate quality – marked blue on the plan

Estimated remaining life expectancy of at least 20 years.

Further subdivided as follows:

B1 – Trees that have been downgraded from A because of impaired condition or trees lacking in the special quality necessary to merit the category A designation

B2 – Trees present in numbers that attract a higher collective rating than as individuals

B3 – Trees with material conservation or other cultural value

**C** – Trees of low quality – marked grey on the plan

Estimated remaining life expectancy of at least 10 years.

Includes all young trees with a stem diameter below 150mm.

Further subdivided as follows:

C1 – Unremarkable trees of limited merit or impaired condition

C2 – Trees in groups or woodlands with limited collective landscape value

C3 – Trees with low material conservation or cultural value

U – Trees unsuitable for retention - marked red on the plan

These trees are in such a condition that they cannot be realistically retained for longer than 10 years e.g. due to serious structural defects, disease, or death

## C.2 Root Protection Areas

17 The root protection radius for each tree is shown below in Table 4.

Table 4: Root protection area and root protection radius

Tree Number	RPA (m <sup>2</sup> )	RPA Radius (m)
T1	102	5.7
T2	102	5.7
G3	102	5.7
T4	23	2.7
G5	14	2.1
G6	23	2.7
G7	18	2.4
T8	48	3.9
G9	92	5.4
G10	41	3.6
T11	18	2.4
T12	28	3.0

Tree Number	RPA (m <sup>2</sup> )	RPA Radius (m)
T13	28	3.0
T14	34	3.3
T15	14	2.1
T16	34	3.3
T17	18	2.4
T18	28	3.0
T19	23	2.7
T20	28	3.0
T21	41	3.6
T22	55	4.2
T23	41	3.6
T24	14	2.1
T25	34	3.3

## C.3 Legal Status

18 According to Barnsley Council's website, none of the trees at the site are covered by Tree Preservation Orders. The site is not located within a conservation area or green belt land.

## C.4 Summary of Results and Discussion

19 The tree survey revealed 25 items of vegetation – 19 individual trees and six groups. Of those, no trees were identified as retention category A, 18 trees/groups were identified as retention category B, six trees/groups were identified as retention category C and one tree was

identified as category U and unsuitable for retention. This information is summarised in Table 5 below.

- 20 The majority of the trees are located in Area A, to the north-west of the site. A wide grass verge separates the car park from Wilthorpe Road. Two groups of planted trees are located within this verge and act as screening between the road and the business park. Both groups support a mix of native broadleaved species and non-native conifers. The smaller group is to the west (G3) and is dominated by Corsican pine *Pinus nigra* and alder *Alnus glutinosa*, whilst the larger group (G9 and G10) supports a mix of alder, birch *Betula pendula* and larch *Larix decidua*. The groups both support a range of category B and category C trees, although as a group they attract a higher collective rating than they might as individual trees and have therefore been given the overall classification of category B. Some trees within the groups are in good physiological and structural condition, although others are showing signs of minor decay or poor structure due to twin or multiple stems. The groups of trees do not show any signs of past management and many of the trees are closely planted causing canopy constraints.
- 21 The remaining three groups within Area A are growing less well and have been assessed as retention category C. Group G5 comprises four trees within a small triangle of amenity grassland in the middle of the car park. The group includes two stunted cherries *Prunus sp.* with deadwood in the canopy and two *Sorbus sp.*, one of which has decay within the main stem. There are two small groups (G6 and G7) of trees in the grass verge along the western edge supporting beech *Fagus sylvatica*, alder and birch. Although most of the alders appear to have good form, most of the beech trees have poor structure and some show decay.
- 22 Occasional single trees are also located within Area A. A Corsican pine (T1) and an Italian alder *Alnus cordata* (T2) close to the north-west corner both have good physiological and structural form and have been assessed as category B. A category C ash *Fraxinus excelsior* (T4) has poor structure with multiple stems, which may result in weaknesses as the tree develops. Adjacent to the ash is a twin-stemmed London plane *Platanus x acerifolia* (T8), which has a limited lifespan due to structural weakness where the two stems join. This greatly increases the chance of the tree failing at the join and it is therefore considered unsuitable for retention.
- 23 Areas B, C, D and E are smaller and support fewer trees. Area B is located close to one of the buildings and includes ornamental shrub beds and two *Sorbus* trees (T22 and T23). Both trees have been assessed as category B as they show good structural and physiological condition, but lack quality necessary to merit category A designation.
- 24 Area C includes a line of *Acer* and alder trees spread out along the boundary of the site (T11-T18), following the drive and continuing along Innovation Way. The trees are growing amongst low ornamental shrub beds. The majority previously had ivy growing up the stem and into the canopy, but the stems have been cut near the bases of the trees, so only dead ivy is now present in the canopies. All trees appear to be relatively young, but are in good physiological

and structural condition and act as screening along the road edge. The trees have all been identified as retention category B2.

- 25 The line of trees continues along Innovation Way to Area D, which is located at the southern end of the line. In this area there are two field maples *Acer campestre* and a lime *Tilia sp.* tree (T19-T21). The lime (T19) and field maple T21 are in good condition and identified as retention category B2. The remaining field maple T20 is categorised as C2 as it has a constrained canopy due to the proximity of trees either side.
- 26 The final two trees (T24 and T25) are along within an area of amenity grassland close to a building. The birch (T24) has a curved stem and unbalanced crown – category C1, whilst the ornamental willow (T25) is a good specimen and category B1.

**Table 5: Summary of Tree/Group categories**

	<b>Tree / Group</b>	<b>Total</b>
<b>Category A</b> Trees of high quality		0
<b>Category B</b> Trees of moderate quality	T1, T2, T11, T12, T13, T14, T15, T16, T17, T18, T19, T21, T22, T23, T25 G3, G9, G10	18
<b>Category C</b> Trees of low quality	T4, T20, T24 G5, G6, G7	6
<b>Category U</b> Trees unsuitable for retention	T8	1

## D ARBORICULTURAL IMPACT ASSESSMENT

### D.1.1 Proposed Development

27 The proposed development involves the construction of a new office block (approximately 18m x 36m) and creation of additional car parking facilities in Area A. Additionally it is proposed that small areas of car parking will be created in Areas B to E. A plan of the proposals is included in Appendix F.4.

### D.2 Impact Assessment

28 The proposed office block is to be located where the tree group G5 is currently situated. G5 has been categorised as C2 and is considered to be of low significance due to stunted growth and poor structure.

29 The new car parking will result in the loss of the majority of group G3, which supports a mix of category B and C trees, and has an overall category of B2. The Corsican pines at the western edge are B2 trees and the development will likely result in the loss of at least two of these trees, whilst the others should be retained and protected.

30 The new car parking will also result in the loss of group G9 and a section of group G10. Both groups support a mix of category B and C trees, but have been given an overall category B2 rating partly due to their screening capacity. It is recommended that the more mature and healthy trees are retained where possible.

31 The small areas of additional car parking will result in the loss of some trees in Areas B to E.

32 The trees within Areas C and D have a screening effect along Innovation Way. The majority of these can be retained during the proposed development, as long as correct Root Protection Zones are established. The development may result in the loss of two or three of these screening trees, which have been identified as category B2.

33 In Area B the *Sorbus* trees T22 and likely T23 will be lost during the proposed development, both are category B trees.

34 In Area E birch tree T24, a category C tree, will be lost. The nearby ornamental willow T25 will be retained and protected during the proposed development.

### D.3 Mitigation Proposals

35 Due to the loss of the majority of tree groups G3 and G9, and some of G10, it is recommended that a new screening group is established in the grass verge between the new car park and Wilthorpe Road. The planted species should be native and suitable for the location eg. wild cherry *Prunus avium*, bird cherry *Prunus padus* field maple, rowan *Sorbus aucuparia* and alder, with occasional oak *Quercus petraea* and yew *Taxus baccata* as feature trees.

- 36 It is recommended that the retained section of G10 undergoes suitable management to promote the healthy specimens and reduce the current constraints on the canopies. This involves thinning work to remove the younger trees and saplings, and those with structural faults, allowing the remaining trees greater space to grow and develop.
- 37 The proposed development will likely result in the loss of four or five category B trees in Areas B – E. It is recommended that each of these trees is replaced elsewhere on site with standards/heavy standards.
- 38 The retained trees will be appropriately protected during the construction works by suitable fencing as specified in BS5837:2012 and included in Appendix F.3.

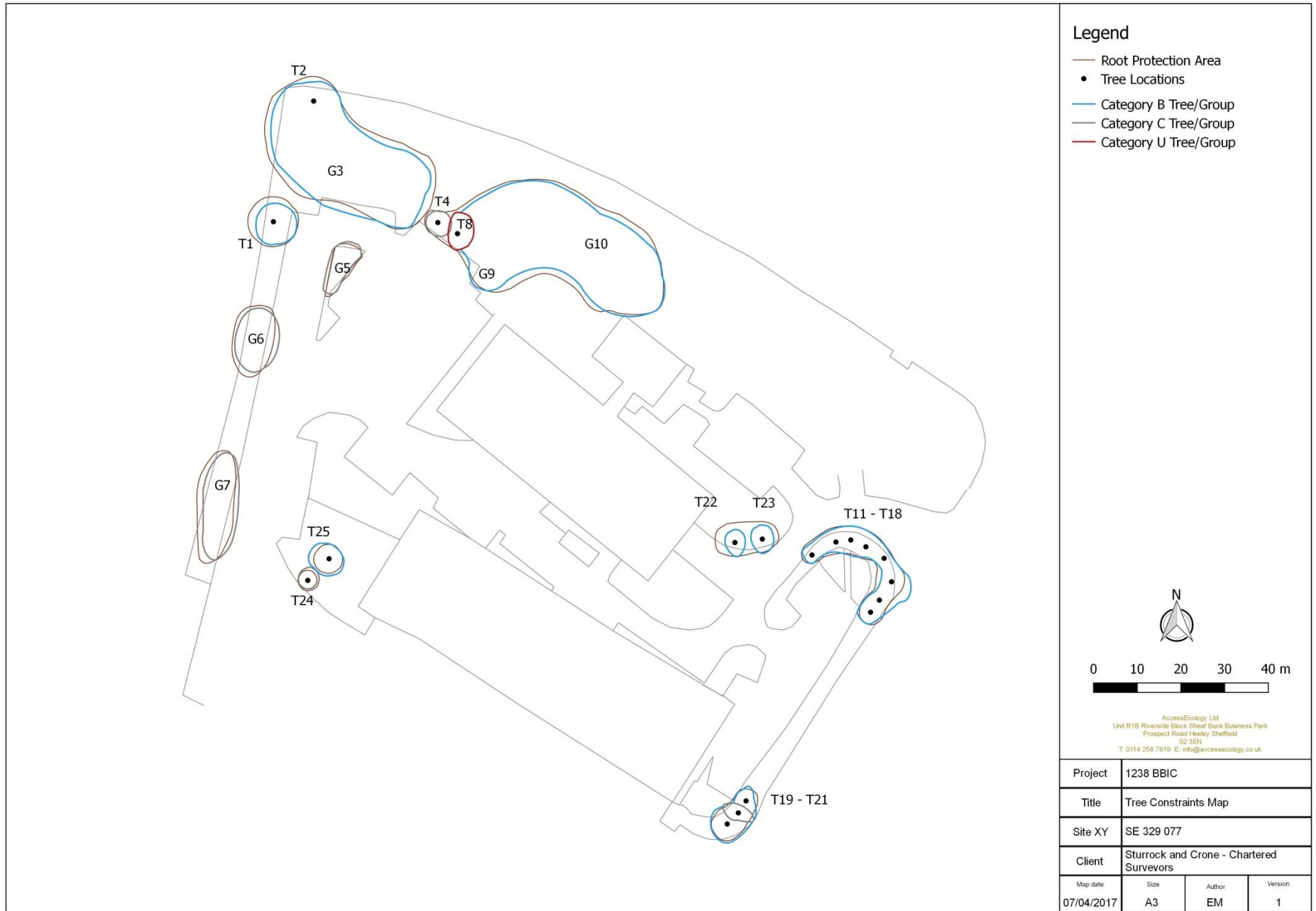
## **E CONCLUSIONS**

- 39 The proposed development of the land at Barnsley Business and Innovation Centre will require the removal of a number of young / semi-mature category B and C trees. Some of the trees in Area A have poor form or suppressed growth due to close planting, however they have value as a screening group. The poor growth of some trees within the groups appears to be due to lack of appropriate management. They could be replaced by a new screening group supporting a range of appropriate native trees, which would enhance the nature conservation value of the site. Management of the retained sections is recommended in order to improve growing conditions.
- 40 The loss of four or five individual category B trees from around the car park edges can be mitigated by planting replacement native standards/heavy standards in suitable locations. A range of feature trees of native species could provide wildlife enhancement and landscape benefits.

**F APPENDICES**

**F.1 Tree Constraints Plan**

See below



## F.2 Photographs

Photographs taken during the survey on 24<sup>th</sup> March 2017.



Photograph 1: Tree T1 and Group G3 in Area A



Photograph 2: Group G10 in Area A



Photograph 3: Cherries from G5 to the right in Area A



Photograph 4: Acers in Area C

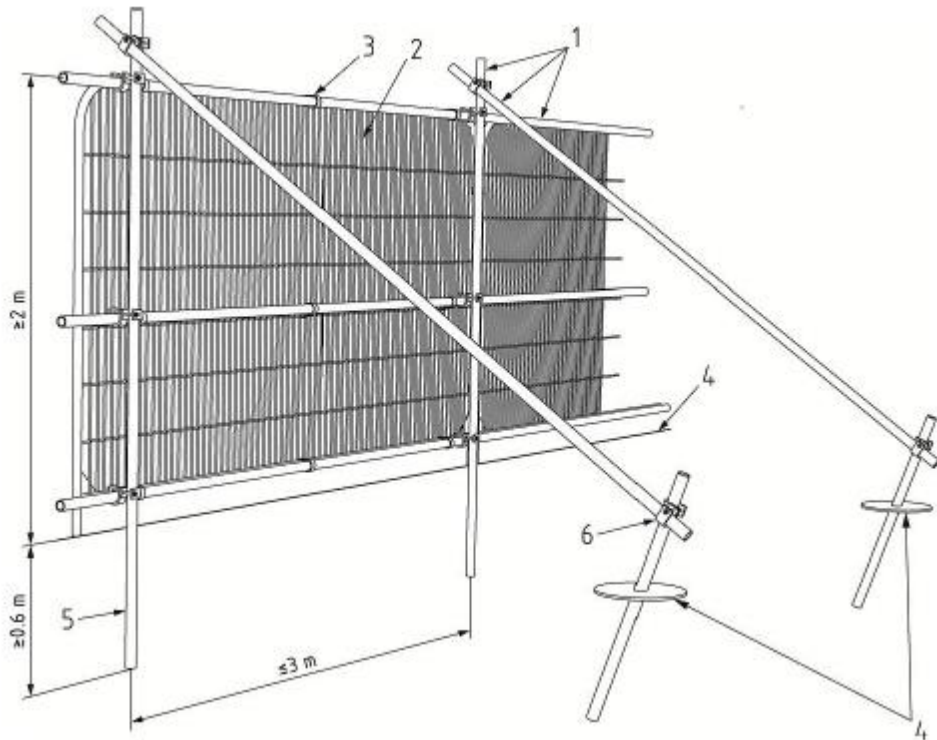


Photograph 5: Tree T22 in Area B



Photograph 6: Trees T24 and T25 in Area E

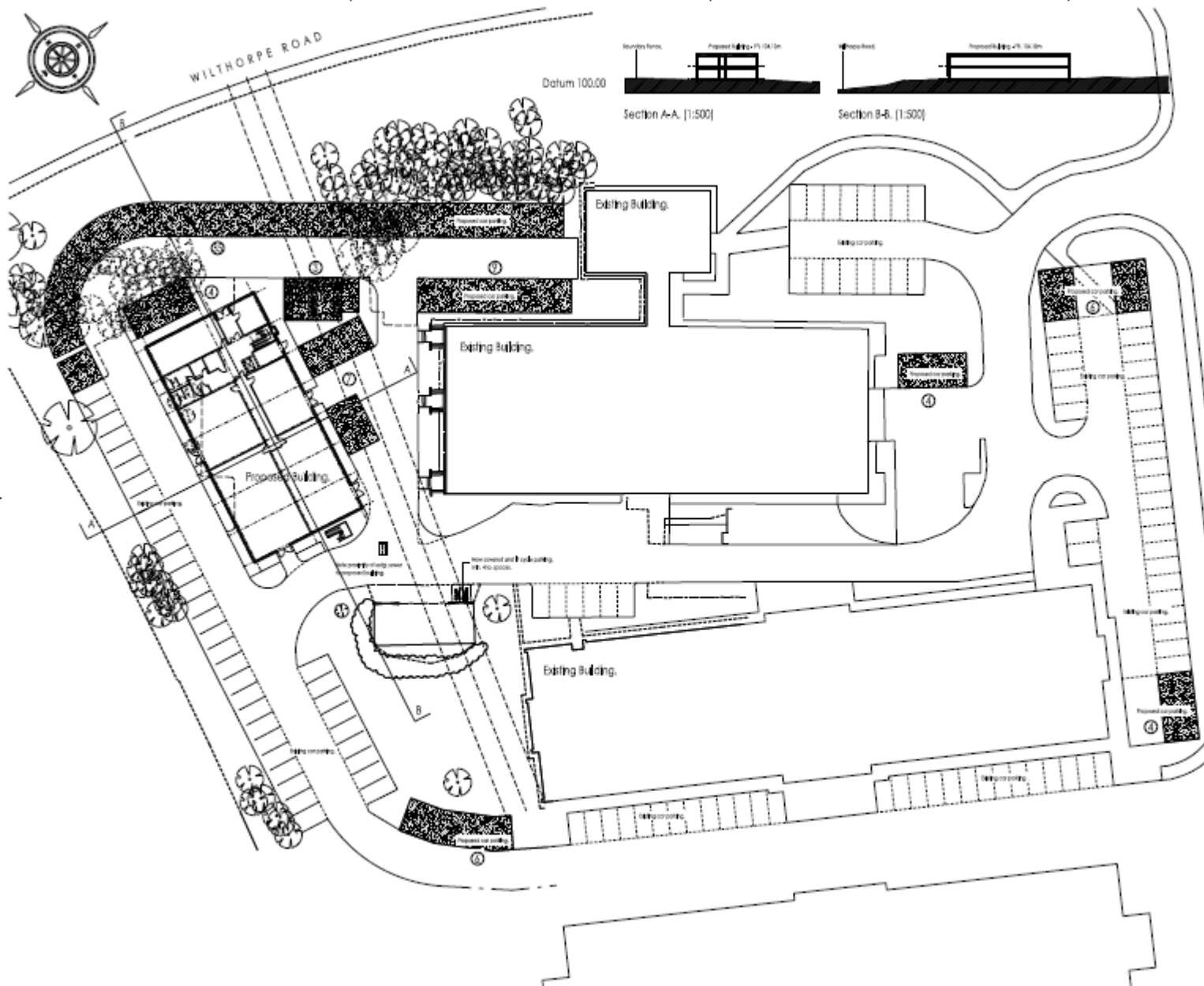
**F.3 Protective fence specifications**



- Key:
- 1 Standard scaffold poles
  - 2 Heavy gage 2m tall galvanized tube and welded mesh infill panels
  - 3 Panels secured to uprights and cross-members with wire ties
  - 4 Ground level
  - 5 Uprights driven in the ground until secure (minimum depth 0.6m)
  - 6 Standard scaffold clamps

Taken from BS5837:2012 Figure 2 Default specification for protective barrier

F.4 Proposed Site Plan



1. All trees to be retained are shown with a green circle and a number. Trees to be removed are shown with a red circle and a number. Trees to be retained are shown with a green circle and a number. Trees to be removed are shown with a red circle and a number.

- Data trees to be retained.
- Data trees to be removed.

**CAR PARKING:**  
 Spaces lost due to development - 58no.  
 Spaces added as part of development - 78no.  
**Total - 78no. new spaces (net gain of 20no.)**  
 Note: 77% of new building is approx. only and is subject to final design details.

Project Management for the Built Environment  
**BENELL**  
 INVESTMENTS

Approved for Planning		DN	NAC20/10
Site	Development	DN	VNA Code
1. The proposed development is in accordance with the provisions of the relevant Local Planning Order and the relevant provisions of the relevant Local Planning Order and the relevant provisions of the relevant Local Planning Order.			
2. The proposed development is in accordance with the provisions of the relevant Local Planning Order and the relevant provisions of the relevant Local Planning Order.			
3. The proposed development is in accordance with the provisions of the relevant Local Planning Order and the relevant provisions of the relevant Local Planning Order.			
4. The proposed development is in accordance with the provisions of the relevant Local Planning Order and the relevant provisions of the relevant Local Planning Order.			
Design Authority: DN		Date: 03/13	

Drawing Status: **PLANNING**

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Project:  
 Proposed Development,  
 Barmley BIC.

Client:  
 Benell Investments Ltd.

Title:  
 Proposed Site Plan.

Drawn	Rev	Date	By
WAS	1	Mon 2013	WAS
Arch	10717	1306	1308