Oughtibridge Mill

Wharncliffe Side, Sheffield

Access, Spine Road and Vehicular Bridge

Arboricultural Impact Assessment and Arboricultural Method Statement

ASE II Developments Ltd

Report prepared by:
Ecus Ltd.
Brook Holt
3 Blackburn Road
Sheffield
S61 2DW
0114 266 9292

December 2017

Ecus Ltd

Report to:	**ASE II Developments Limited** **C/O CEG Ltd** **1 Leeds** **26 Whitehall Road** **Leeds** **LS12 1BE**
Report Title:	**Oughtibridge Mill, Warncliffe Side, Sheffield** **Access, spine road and vehicular bridge** **Arboricultural Impact Assessment and** **Arboricultural Method Statement**
Revision:	**V05**
Issue Date:	**December 2017**
Report Ref:	**10674**

Originated By:

Peter Simpson
Senior Consultant Arboriculturalist, MArborA Date: November 2017

Reviewed By:

Peter Simpson
Senior Consultant Arboriculturalist, MArborA Date: December 2017

Approved By:

Claire Browne
Principal Date: December 2017

Prepared by:
Ecus Ltd.
Brook Holt
3 Blackburn Road
Sheffield
S61 2DW
0114 2669292

Executive Summary

On behalf of ASE II Developments Ltd, Ecus Ltd. have carried out an Arboricultural Impact Assessment and Method Statement to BS 5837 (2012) "*Trees In Relation To Design, Demolition And Construction- Recommendations",* in relation to the proposed Access, Spine Road and Bridge application. The report is based on a Tree Survey Report carried out by JCA limited in November 2015 (JCA reference: 12563-AJB) for the site at Oughtibridge Paper Mill. This survey has formed the basis of an assessment of the impact of these spine road and vehicle bridge development proposals may have on existing trees and any methodologies to be adopted to protect any retained trees.

The survey records all trees within the site and all those which may be affected by any development proposals within the site boundary, recording a number of parameters including species, crown spread and Root Protection Area (RPA).

Throughout this report 'RPA' is used to refer to 'Root Protection Area'. The RPA of any given tree is the area of ground around that tree which should not be disturbed by excavation, compaction, changes in level or other construction/demolition operations. The extent of the RPA is calculated in accordance with BS5837 (2012), and is an important part of the methodologies described in this report.

The Client proposes the construction of a new site access spine road and construction of a vehicle bridge over the River Don. This will require the removal of two individually recorded trees, two groups, partial removal of two groups and one hedge (and one tree classed as unsuitable for retention) but may also have an impact on above and below ground parts of retained trees unless adequate protection of these trees is provided. Some of the removals have previously been consented under TPO application 16/04846/TPO (December 23/12/17). And some have already taken place.

This report details the arboricultural impact and offers a range of protection measures that should be put in place prior to works starting on site as well as construction methodologies which should be adopted. These measures as described in detail in Chapter 5 will prevent accidental damage and other adverse affects on the health of retained trees and cover:

- Access facilitation pruning.
- Protective fencing.
- Demolition within RPA
- Level changes within RPA.
- Arboricultural Clerk of Works.

For ready reference, the Figure 1 (Appendix 2) is a simplified version of the 'Design and Construction Process and Tree Care' table outlined in BS5837:2012. The table clearly identifies processes and obligations expected at the various stages of the construction project. BS:5837 is considered an iterative process, and as such the project Arboriculturalist's advice should be ongoing.

Contents

1. Introduction

1.1.1 Ecus Limited were commissioned by ASE II Developments Ltd to assess the arboricultural impact and produce an arboricultural method statement, to accompany development proposals at the site at the Oughtibridge Paper Mill, Main Road, Sheffield, S35 0DN, grid reference SK 30139 94123. The site location is shown on Figure 2.1 (Appendix 2).

1.1.2 This report is based upon data obtained by JCA Ltd in November 2015, collected as part of a Tree Survey in accordance with BS 5837 (2012) "Trees In Relation To Design, Demolition And Construction - Recommendations". This report analyses the potential impact of the proposed infrastructure development on trees and provides recommendations for tree protection during the construction process. It is recommended that JCA report ref 12563-AJB Arboricultural Report is to be read in conjunction with this document.

1.2 Tree Designations

1.2.1 Previous surveys have identified the existence of designations affecting trees on site in the form of Tree Preservation Orders.

1.2.1 Jack Foxall, Landscape Officer at Sheffield Council confirmed that a number of trees on and adjacent to the site are protected by Tree Preservation orders 808/021 (SY/76/1 Feb '76) and 808/036 (Undated) see Figure 2.2 and 2.3 (Appendix 2).

Trees covered by Tree Preservation Order (TPO)

1.2.2 Tree Preservation Orders currently exist to cover individual trees, tree groups (Group TPO), woodland (Woodland TPO) and areas of trees (Area TPO). Individual and Group TPOs specify the exact position, number and species of the protected trees, whereas Woodland TPOs and Area TPOs protect all trees within an area of land shown on the TPO map as follows: Woodland - All trees young and old, including the woodland floor regeneration; Area - only those trees that were present at the time the TPO was confirmed (trees younger than the date of the TPO are not covered). If in doubt over the protection of specific trees, the local Tree Officer/ Arboricultural Officer should be contacted for clarification prior to site layout proposals being finalised.

1.2.3 The Tree Preservation Order prohibits the topping, lopping, damaging, wilful destruction and uprooting of the tress covered by the TPO without prior consent of the Local Authority. This includes any works included in the preliminary management recommendations in the Tree Survey Schedule JCA report ref. 12563/AJB and any work proposed in close proximity that may have an impact on both above and/or below parts of these trees. Some of the trees identified for removal already have consent under TPO application ref. 16/04846/TPO (30.01.17) and identified on JCA Ltd Tree Retentions and Removals Plan ref. 12563-B/AJB, these are identified in Table 2.1.

1.2.4 Consent needs to be sought from the Local Planning Authority if tree removal work or tree management work affects protected trees within the site or those which overhang the site boundary. Tree works must not be carried out without permission.

1.2.5 Work will also be permitted if it is included in an Arboricultural Impact Assessment, Arboricultural Method Statement and/or Tree Protection Plan approved by the Local Planning Authority where development proposals for a site have been granted Planning Permission.

2. Arboricultural Impact Assessment (AIA)

2.1 Development Proposals

2.1.1 An Arboricultural Impact Assessment of the proposed site plan has been undertaken to assess the likely impact of the development on existing trees and tree groups. This assessment is based on the development plan provided by ASE II Development Ltd (ref: 065157-CUR-00-ZZ-DR-C-90002-P01-Site Layout Plan by Curtins dated 15/11/2017, Appendix 3).

2.1.2 The client proposes construction of a new site access and spine road, including a vehicle bridge over the River Don. The new site access is consented under planning permission 17/02624 OUT and planning submission has been submitted for the new spine road and vehicle bridge.

2.1.3 The new access road and bridge will involve the removal and remediation of former industrial structures within the development boundary. The access road will require the regrading and new batter of the steep slope between the two site levels on the west bank of the development site.

2.1.4 A previous application 16/04846/TPO (December 23/12/17) was made by the client to remove trees covered by TPOs 808/036 and 808/021. This was supported by Tree Removal Plan ref. 12563-B/AJB (Appendix 3) and a tree constraint plan produced by JCA Ltd. A limited number of these removals were subsequently carried out following consent by Sheffield City Council in January 2017 (T25, G26, T27, G28, G29, G30, G31) Application 16/04846/TPO consented the removal of T51, T52, G22, G23 and H50 as indicated on JCA plan ref. 12563-B/AJB (Appendix 3).

2.1.5 Oughtibridge Mill is a large and complex site. The previous tree survey by JCA placed most trees into groups for the purpose of BS:5837 categorisation. While this is an acceptable method for summarising a tree stock on site, it has led to lesser category trees being included in higher category groups and *vice versa.* A generalisation of groups on site is that the better grade trees are within the core of the group and pioneer and invasive, lower grade trees are located towards the edges. This reflects the fact that management of the site ceased some years ago and woodland pioneer species such as goat willow *(Salix caprea)*, birch *(Betula sp.)* and alder *(Alnus sp.)* are beginning to invade former industrial structures.

2.2 Arboricultural Impact Assessment

Direct Impact from Demolition and Removal of Other Structures and Construction of New Structures

2.2.1 The removal of former industrial structures on both banks of the River Don in preparation for the construction of the new bridge and associated roadways requires the removal of G1, G2 and part G3 as it is considered to be located too close to the demolition site to enable the works and the safe retention of these trees. All trees appear to fall within areas A6 and A7 of TPO ref SY/76/1(808/21).

2.2.2 G33 Requires removal to construct the new vehicle bridge and remove formal industrial structures on the bank. G33 was classified by JCA Ltd as a C category group. Trees within the area highlighted for removal are low quality and of limited interest, clad in heavy ivy, with a number of fallen stems. Removal and necessary regrading of the river bank will cause unacceptable damage to the roots of these trees and their long term retention is not viable as a result.

2.2.3 Groups G2 and G3 have been categorised as B grade trees within the JCA Ltd report. While the group does contain a number of individuals which are of good quality, the majority of the trees are C grade. The black pines of G2 are recorded as having low amenity value in the JCA report, and trees of G3 being of moderate amenity value. Many of the trees within this group are growing very close to the former settling tank walls and will not survive the necessary remediation of these structures. Because the new bridge and spine road spur will be a raised structures in relation to these trees, any trees that could be retained further down the bank following remediation measures would require such significant crown pruning works to clear the new structure that the trees overall balance and structure would become unacceptable.

2.2.4 G1 is listed as a C category group of poor form. On a site visit in October 2017 the group was noted to be of very poor quality with the goat willow being in a state of collapse, and the ash tree of no merit.

Direct Impact from Construction Operations

2.2.5 In order to facilitate the construction of the access and spine road, T51 and T52 need to be removed along with partial removal of H50, G23, and G22 (Figure 4). Construction operations within the vicinity of retained trees are further expected to affect above and below ground parts of the trees unless adequate protection is provided as specified in clause 3.5 and Chapter 4.

2.2.6 None of these trees along Langsett Road North (T51, T52 and section of hedge H50) are of any merit, and regular utility pruning to facilitate the overhead power lines has led to misshapen and poor crown forms. All the trees in this area have consent to be removed under TPO application ref. 16/04846/TPO.

2.2.7 The section of G23 requiring removal on the bank between the upper tier and lower tier of the east bank affects trees which have already been consented for removal under TPO application 16/04846/TPO as shown on JCA drawing 12563-B/AJB (Appendix 3). None of these trees are of particular merit, and the client is keen to retain as many of the previously consented removals from the wider site.

2.2.8 Removal of trees from G22 is necessary as the required bank profile of the new access road would lead to soil being mounded against the trunk of the tree, or to considerable depth with in the RPA. The necessary trees are common alders of low amenity value (as per JCA Ltd report). The removal of the full group was consented under application 16/04846/TPO.

Removal of Trees for Amenity and Safety Reasons

2.2.9 One tree on site has been assessed as being “unsuitable for retention”. Unless otherwise agreed with the developer/owner, tree T24 should be removed to ensure the safety of the site during construction and operation of the development within the site.

Summary

2.2.10 Table 2.1 below summarises tree removals required during construction of the new access, spine road and vehicle bridge:

Table 2.1: Summary of Arboricultural Impact, Removals

Tree/Group Number	Reason for Removal
G1 (2 trees)	Within footprint of new bridge Removal previously consented under TPO application 16/04846/TPO.

Tree/Group Number	Reason for Removal
G2 (10 trees)	Within footprint of new bridge and close to structure to be removed
Part of G3 (10 Trees)	Within footprint of new bridge and affected by necessary bank regrading and structure removal
Part of G22 (2 Trees)	Re-grading of slope to create road way will create unacceptable level changes in RPA. Removal previously consented under TPO application 16/04846/TPO.
Part of G23 (9 Trees)	Re-grading of slope to create road way will create unacceptable level changes in RPA. Removal previously consented under TPO application 16/04846/TPO.
Part of H50	Within footprint of new site entrance and restricts visibility splays. Removal previously consented under TPO application 16/04846/TPO.
T51	In conflict with new site entrance including footprint and visibility splays. Removal previously consented under TPO application 16/04846/TPO.
T52 (2 Trees)	Within footprint of site entrance. Removal previously consented under TPO application 16/04846/TPO.
G33 (31 Trees)	Within footprint of new bridge and affected by necessary bank regrading and structure removal.
T24	U category trees unsuitable for retention.
Total Removals: 67 Trees (within groups) and Part of 1 Group (hedgerow)	

2.2.11 Table 2.2 below summarises the impact the development may have on existing trees:

Table 2.2: Summary of Arboricultural Impact on Retained Trees

Tree number	Description of impact
Part of G3	Partial removal of group, facilitation pruning required
G23	Partial removal of group, facilitation pruning required
G22	Partial removal of group, facilitation pruning required

2.3 Recommendations

2.3.1 As the development proposals assume the removal of 66 trees (within groups) and part of 1 group (hedgerow) growing within the site, no protection measures will be required for those trees.

2.3.2 Chapter 3 Arboricultural Method Statement describes measures to protect the retained trees during the development, and operations within the RPA of retained trees including:

- Access Facilitation Pruning Works.
- Protective fencing.
- Construction/demolition/change of level within the RPA.
- Arboricultural Clerk of Works.

3. Arboricultural Method Statement (AMS)

3.1 Important Founding Principle of BS5837:2012

3.1.1 The most important and effective process, in terms of preventing damage to trees on a construction site, is the timely erection of tree protection fencing. **This must be erected as the first operation on site**, for example, before access track construction, before Contractors site cabins, and before trenching for service runs.

3.1.2 The founding principle of BS5837:2012 Trees In Relation To Construction is that the protective fencing is erected before any other operation. However, it is noted that the fencing provides an unnecessary and potentially dangerous restriction to essential tree works and therefore tree works can be carried out before fencing is erected.

3.1.3 The following paragraphs are laid out in sequence of chronological order of operations on site.

3.2 General

3.2.1 The Arboricultural Method Statement should be read in conjunction with Figure 4 Tree Protection Plan in Appendix 2. The Arboricultural Method Statement paragraphs below are written in the chronological sequence they are to be carried out:

3.3 Pre-Commencement

3.3.1 It is advised that a Pre-Commencement Site Meeting is held with contractors who are responsible for operating machinery on site. The meeting will firstly highlight the potential for damage occurring to tree crowns, but thereafter ensure that extra care is applied when manoeuvring any machinery within close proximity of retained trees to prevent any contact with the tree and consequent damage to crown, stem or roots.

3.3.2 For clarity, prior to any construction or development work proceeding, the alignment of the protective fencing (Section 3.5) and the RPA's of any individual trees to be retained which are not able to be protected by fencing should be marked out using the distances provided in the table within the tree survey report. Marking out should be completed or approved by a person with arboricultural expertise as individual trees will have root zones that may be affected by local conditions and allowances will need to be made to accommodate this. This may be done prior to, or during, the Pre-Commencement Site Meeting.

3.4 Access Facilitation Pruning (G3, G22, G23)

3.4.1 As it is expected necessary to operate a wide or tall load, plant bearing booms, jibs and counterweights or other such equipment, as part of construction works and/or traffic on the construction access road, and such equipment would have potential to cause injurious contact with crown material i.e. low branches and limbs, of retained trees within, or without, the RPA fencing, it is best advised that appropriate, but limited tree surgery, be carried out beforehand to remove any obvious problem branches. This is classed as 'Facilitation Pruning' within BS 5837 (2012).

3.4.2 The Facilitation Pruning Works specification shall be prepared by the Project Arboriculturalist and submitted to the local planning authority for approval before construction, demolition or fencing operations commence on site. It is expected that the works will include specific pruning works to specific branches within the canopies of trees and groups within the operating arc of machinery on site, specifically within groups G3, G22 and G23.

3.4.3 The following trees require pruning to facilitate the development:

Table 3.1: Access facilitation pruning

Tree number	Tree work required	Reason
G3	Crown lifting or heading back selected branches	To avoid crown damage by construction machinery
G22	Crown lifting or heading back selected branches	To avoid crown damage by construction machinery
G23	Crown lifting or heading back selected branches	To avoid crown damage by construction machinery

3.4.4 All tree works should be carried out in accordance with BS 3998 (2010) "*Tree Works-Recommendations*".

3.4.5 Owing to part of the area being protected by a Tree Preservation Order, the Local Planning Authority has to be notified before any pruning and management work can be carried out on trees within the site.

3.4.6 Tree management work can be carried out if

- Written consent to the work was given by the Local Planning Authority
- The tree management proposals are listed by the Local Planning Authority as an approved document on granting Planning Permission

3.4.7 The Facilitation Pruning should be carried out on site by a suitably qualified and experienced tree surgeon and directed by the Project Arboriculturalist in consultation with the Site Manager before construction or demolition operations commence on site. The Facilitation Pruning can run concurrent with operations to erect tree protection fencing as long as this can be co-ordinated such that neither presents a hazard to the other.

3.4.8 Trees on site which are not to be retained can be removed as part of the Facilitation Pruning (or earlier if the appropriate planning consent is confirmed). To avoid mistakes, the individual trees to be removed should be identified and marked by the Project Arboriculturalist.

3.4.9 It is recommended that any trees that require removal or significant canopy works, should be checked in advance of works by an ecologist to ensure there is no possibility of any disturbance to nesting birds or roosting bats.

3.5 Protective Barrier/Tree Protection Fencing

3.5.1 The development design prepared for the site indicates that a large number of trees within the site are being retained. In addition there are several trees off site but within 12m of the site boundary. All these trees need to be protected from all demolition/construction operations by a protective barrier (fencing to BS5837 (2012) which creates a sacrosanct Construction Exclusion Zone (CEZ).

3.5.2 The alignment of the protective barrier is based on the calculated extent of the RPA in accordance with BS5837 (2012). The detailed alignment is shown in Figures 4 Tree Protection Plans in Appendix 2.

3.5.3 In principle, protective fencing should be erected before any construction/demolition operations start on site and should be removed only on completion of all

construction/demolition works on site.

3.5.4 The default specification for protective barrier is shown in Figure 3 (Appendix 3). Site hoarding is an acceptable alternative. It may be appropriate on some sites to use temporary site offices as components of the protection barriers, on the understanding that they will remain in situ for the duration of the construction/demolition works and their removal will be planned to ensure the Contractor's co-ordinated withdrawal from site away from the trees rather than towards them.

3.5.5 BS 5837 (2012) clause 6.2.2.3 specifies an alternative protective barrier where site circumstances and associated risk of damage incursion into the RPA do not necessitate the default level of protection. This can include 2m tall welded mesh panels (e.g. Heras fencing) on rubber or concrete feet to protect from cars, vans, pedestrians and manually operated plant. The alternative specification for the protective barrier should only be used if and where agreed with the Local Planning Authority.

3.5.6 All weather notices should be placed on fencing to indicate that operations are not permitted within the fenced area, for example "CONSTRUCTION EXCLUSION ZONE – NO ACCESS" or similar.

3.5.7 Once set-up fences should not be removed or altered without prior consultation with the arboricultural advisor.

3.5.8 The presence of long grass and other vegetation in the 'Construction Exclusion Zone' is a welcome indicator that the protected area has been left undisturbed. However, on occasion, and certainly towards the end of the project, it is acceptable to cut the vegetation by hand held strimmer or scythe taking care not to work within 300 mm of the tree trunk (to avoid damaging the bark). Vegetation within 300 mm of the trunk can be cut with non-mechanised shears.

3.6 Changes Of Level Within RPAS

3.6.1 Generally, the levels within the RPA or protected area should not be changed. Tree roots are considered to be, in the main, within the top 600 mm of the soil. Obviously, any excavation into this will remove part of the root system and potentially affect the vigour or stability of the tree. Conversely, any additional material built up above ground level will compact the soil beneath it, potentially compacting all the air pores in the 600 mm depth of soil that most roots are in, effectively suffocating the roots and thus affecting the vigour or stability of the tree.

3.6.2 On occasion, additional soil may be gently spread by hand within the RPA/protected area, for example, to marry levels in small areas between raised levels of no-dig construction and the existing levels. The maximum depth of this would be to 150 mm, reducing to nil. However, it is not generally acceptable, in large areas of the RPA/protected area to raise the level as a blanket. Any areas which will need to be raised are to be agreed by the Local Planning Authority prior to construction. Specifically there will be no mechanical equipment within the RPA/protected area to spread, compact, or level-out soil levels as this would compact the soil.

Soil Improvements and Mulching

3.6.3 To compensate for root damage and stress caused by construction activities important retained trees on site should be mulched. The materials that may be used for mulching include coarsely divided plant matter, such as wood chip, pulverized bark, or leaf mould, any of which may be combined with well-rotted animal manure.

The mulched area should extend over as much of the root system as can be allowed by other site-usage requirements. The depth of an organic mulch should not mound against any trunks, nor be so much as to inhibit aeration of the root system or to cause overheating of uncomposted material (normally no more than 80 mm to 100 mm depth, and maintaining a mulch-free area 50mm wide around each trunk). The mulch should be periodically replenished as it decomposes, so that it does not become depleted.

4. Arboricultural Site Supervision

4.1.1 The Project Arboriculturalist will make random site inspection visit every 4-6 weeks throughout the construction period to observe that the operations on site comply with the Arboricultural Method Statement and Tree Protection Plan.

4.1.2 In addition, the Project Arboriculturalist will make prior arrangements with the Main Contractor to visit the construction site at the following stages:
- after erection of protective barrier (before demolition/construction operations on site); and
- supervision of facilitation pruning and removals affecting G3, G22 and G23.

4.1.3 The Project Arboriculturalist will bring any indication of non-compliance to the attention of the Main Contractor, any relevant sub-contractors and the client, with the intention that non-compliant matters will be rectified within 7 days when the Project Arboriculturalist will make a re-inspection.

4.1.4 Records of arboricultural site inspections will be kept in the Site Diary and at the Project Arboriculturalist's office. The Local Authority can request a copy of the arboricultural site inspection records at any time during the construction period.

4.1.5 The Project Arboriculturalist will request the ceasing of work which actively damages the trees or compacts the soil of the Root Protection Areas until such time as the non-compliant actions are rectified. The Project Arboriculturalist will contact the Local Authority to help with this if necessary.

5. Tree Management

5.1.1 The following section provides guidance as to how retained trees will best be protected during construction. More detailed guidelines for tree protection during construction are given in BS5837: Trees In Relation To The Design, Demolition And Construction Recommendations (2012).

5.1.2 Any tree roots severed during site clearance works will be wrapped or covered with hessian sheets (wet in summer, dry in winter) as an immediate protection measure against desiccation and rapid temperature changes. This will be removed prior to backfilling which will be carried out as soon as possible. In addition the advice of an arboriculturalist, or the Tree Officer of the local planning authority, will be sought as soon as possible on the potential effect of the root damage on the tree's stability, vitality and legal implications.

5.1.3 All tree works will follow best practice procedures as set out in BS 3998 (2010). All trees will be maintained in good condition on site and be inspected annually (where overall condition requires) or every 2 years and after any major storm events, with safety a priority.

5.1.4 The best practice principles have been broadly summarised below:

- Once areas around trees have been protected by fencing, any works on the remaining site area may be commenced providing activities do not impinge on protected areas.

- Wide or tall loads etc. will not come into contact with retained trees. Banksman will supervise transit of vehicles, jibs, booms etc. where this is in close proximity to retained trees.

- Oil, bitumen, cement or other material that is potentially injurious to trees will not be stacked or discharged within 10 m of a tree bole. No concrete mixing will be done within 10 m of a tree. Allowance should be made for the slope of ground to prevent materials running towards the tree.

- No fires will be lit where flames are anticipated to extend to within 5 m of tree foliage, branches or trunk, taking into consideration wind direction and size of fire.

- Notice boards, telephone cables or other services will not be attached to any part of a retained tree.

- In the event of having caused any branch or limb damage to retained trees, the advice of an arboriculturalist will be sought on what tree surgery should be carried out, in accordance with BS 3998 (2010) Recommendations for Tree Work, to correct the damage, and the best timescale for that tree surgery which will be determined by season, species, gravity of damage and legal status of the tree (Tree Preservation Order/ Conservation Area/nesting birds/roosting bats).

5.1.5 All of the above precautionary measures will be applied to minimise the effect of any damage to long-term tree health and safety.

5.1.6 It is recommended that any trees that require removal or significant canopy works, should be checked in advance of works by an ecologist to ensure there is no possibility of any disturbance to nesting birds or roosting bats.

6. References

Books and Papers

BS 3998:2010 *Tree Work – Recommendations*. ISBN 978 0 580 53777 6

BS 5837:2012 *Trees In Relation To Design, Demolition And Construction – Recommendations*. ISBN 978 0 580 69917 7

Volume 4 NJUG *Guidelines For The Planning, Installation and Maintenance of Utility Apparatus in Proximity To Trees*, Volume 4: Issue 2: 16/11/2007, www.njug.org.uk

Appendix 1 – Site Photographs

Plate 1: Looking west, black pines of G2 right.

Plate 2: Looking north to location of proposed bridge pier. Trees of G33 on bank illustrating poor quality.

Plate 3: Looking north east towards G4, G3 and G2 (far right).

Plate 4: G22 on flat ground G23 on bank. Trees middle fore require removal for bank profiling.

Plate 5: View west along River Don. Black pines of G2 visible middle.

Plate 6: Looking east along Langsett Road North. Oak T51 middle, H50 along car park edge.

Appendix 2 – Figures

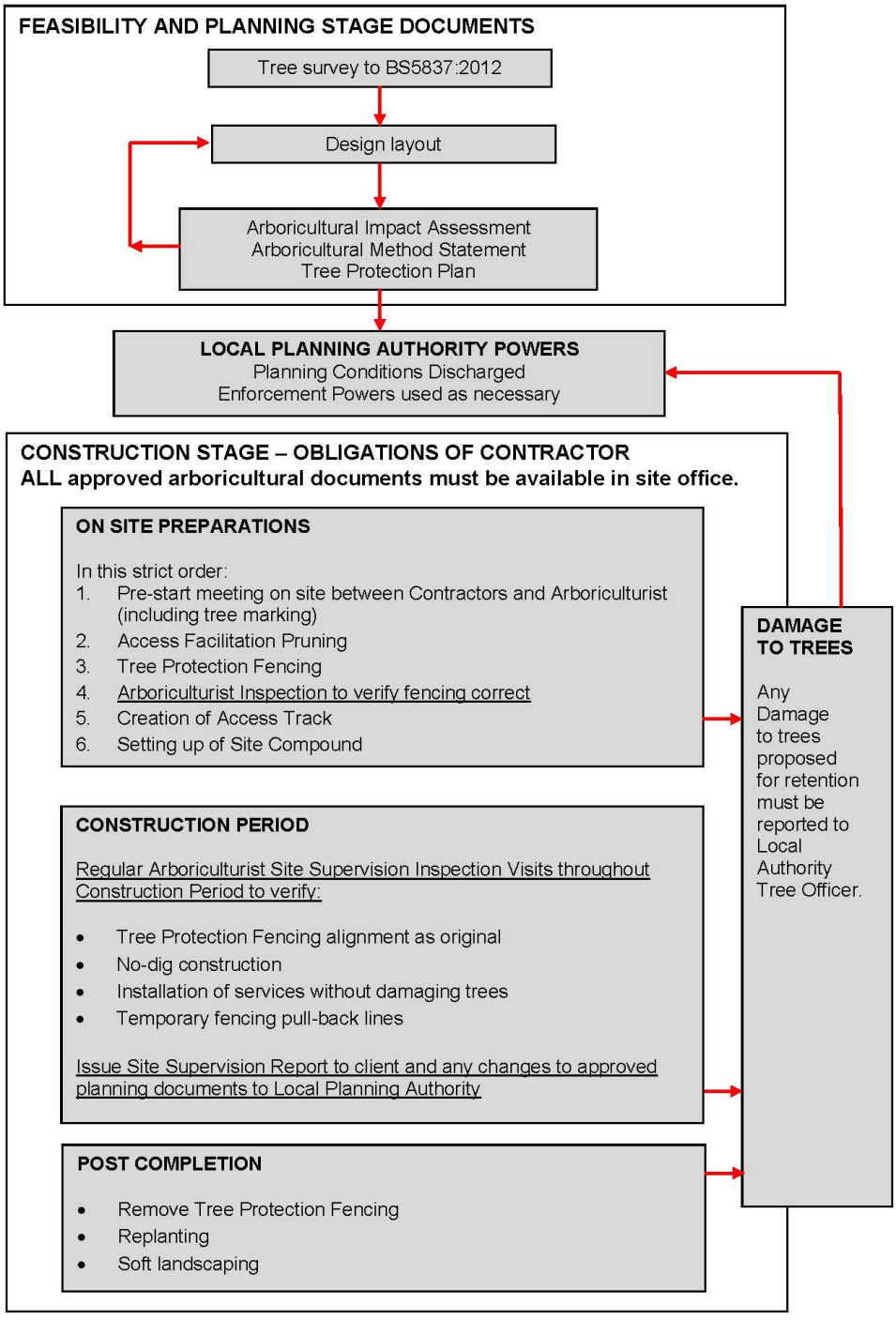


Figure 1 - The Design and Construction Process and Tree Care

Figure 2.1 – Location Plan
(© Crown copyright, All rights reserved. 2015 License number 0100022432).

Figure 2.2 – TPO Schedule 808/033

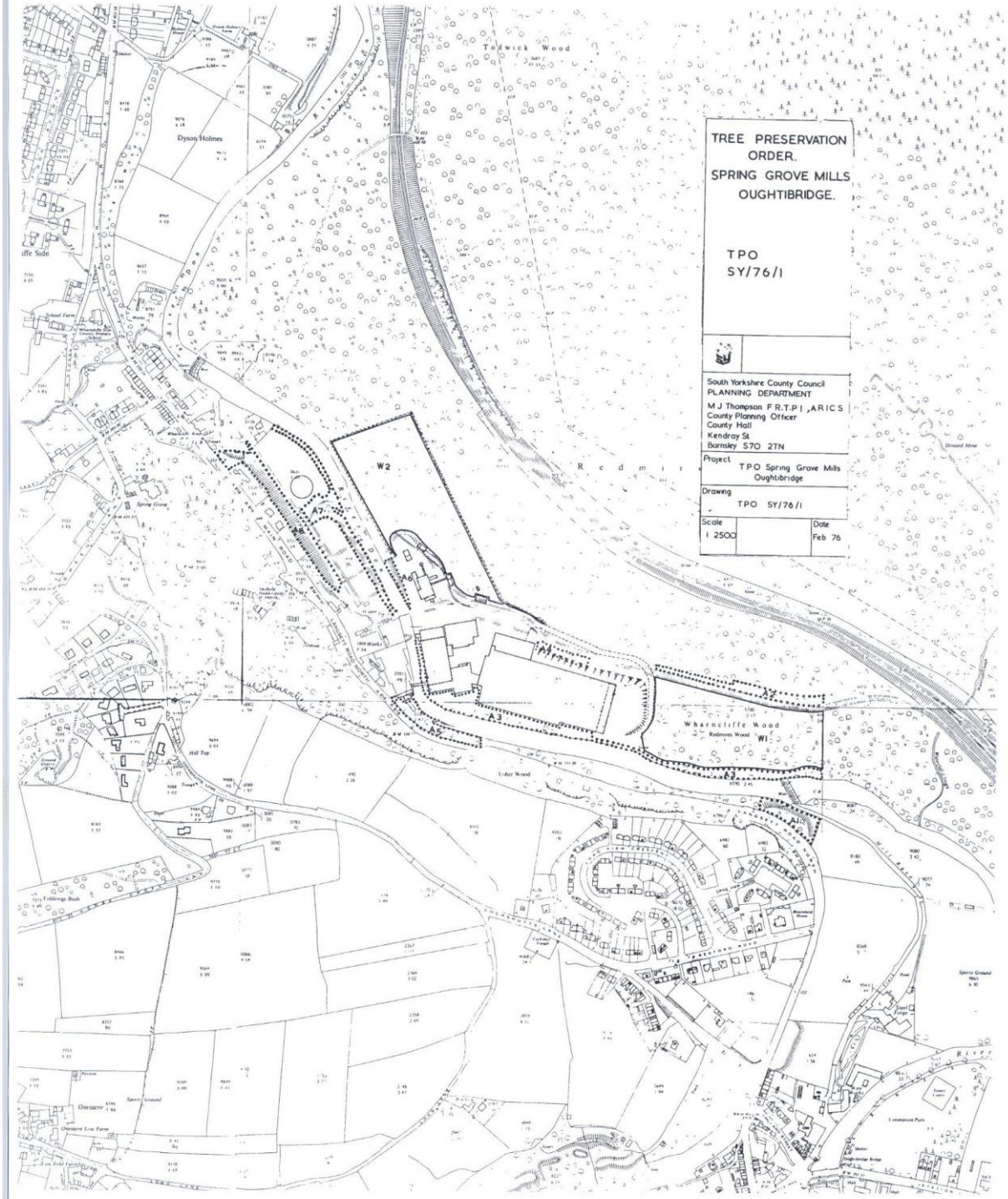
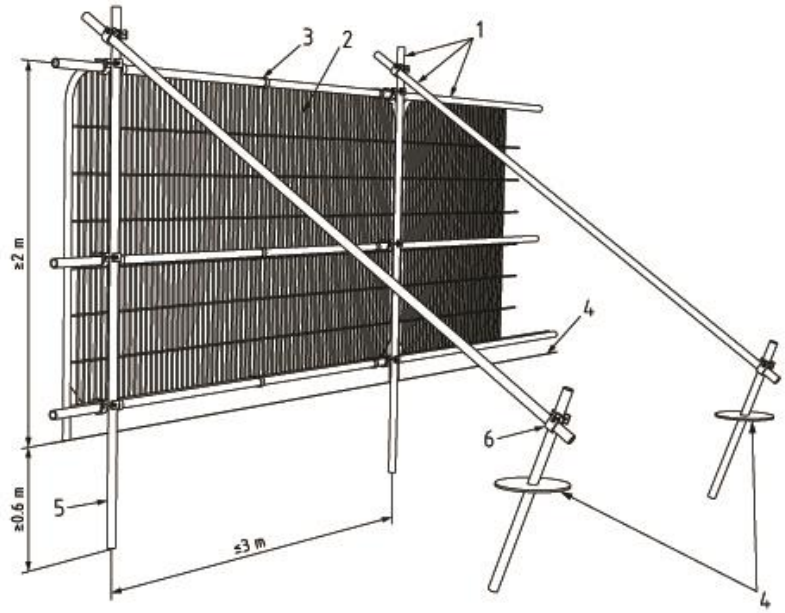


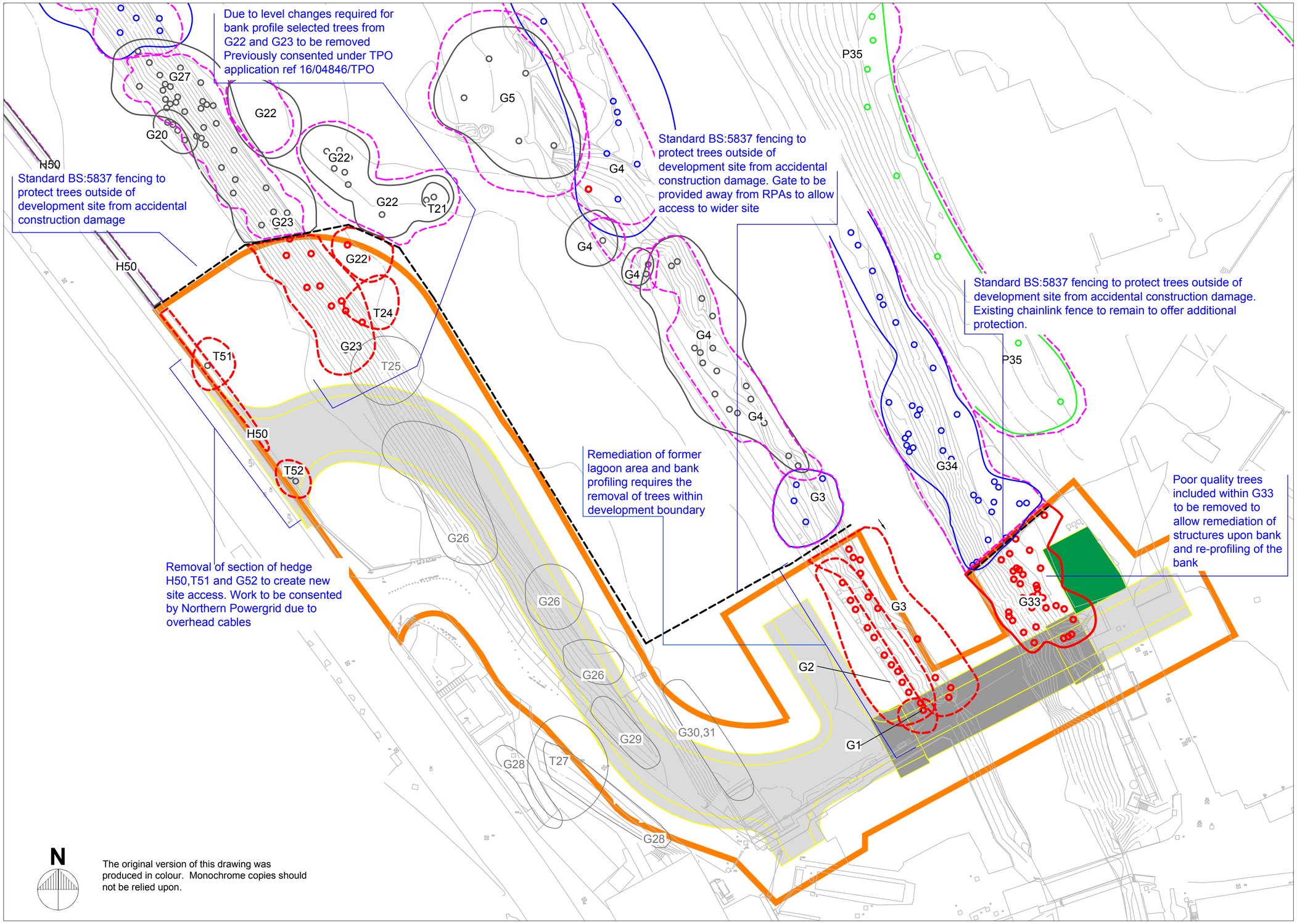
Figure 2.3 – TPO Schedule 808/021



Key

1 Standard scaffold poles
2 Heavy gauge 2 m 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 into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

Figure 3: Default Specification for Protective Barrier to BS 5837 (2012)



N

The original version of this drawing was produced in colour. Monochrome copies should not be relied upon.

0m 10m 20m 50m

SCALE BAR 1:500

GENERAL NOTES - TREE PROTECTION PLAN

- Drawing for Planning purposes only
- Refer to arboricultural report produced by ECUS Ltd titled 10674 Oughtibridge Mill.
- Based on topographic survey provided by Met Geo Environmental dated 07/07/2016.
- Bridge and road layout based on drawing 065157-CUR-00-ZZ-DR-C-90002-P01-Site Layout Plan by Curtins dated 15/11/2017
- Refer to Engineer's details for level and drainage information.
- Check all dimensions on site.
- Do not scale from this drawing.
- Report any discrepancies and omissions to Ecus Ltd.
- This drawing is Copyright.

3RD-PARTY INFORMATION

NB This drawing includes information provided by independent surveyors and / or consultants, to whom all queries shall be made. Ecus Ltd can accept no liability for its context or accuracy. Tree locations and catagories have been copied directly from JCA Ltd drawing 12563-D/AJB and assumed to be correct.

KEY

Trunk location from topographic and JCA LTD survey. Colour denotes tree category.

Tree categories (BS 5837:2012)

Category A Trees | Category B Trees | Category C Trees | Existing tree to be removed

Root Protection Area (RPA) of trees to be retained

Protective Barrier - BS5837 (2012), clause 6.2.2

Numerous trees on site are covered by Tree Preservation Order ref. 808/021 and 808/036. Check individual schedules and on site with Sheffield City Council to determine exact coverage.

Location of trees removed under TPO consent 16/04846/TPO

Development 'red line' boundary

REV	DATE	DRAWN BY	CHECKED BY	REVISION COMMENT
D	15.12.17	PS	ECUS	Added removed trees
C	04.12.17	PS	ECUS	Changes to tree numbering
B	23.11.17	PS	ECUS	Changes to redline boundary
A	07.11.17	PS	ECUS	Preliminary

DRAWING STATUS: For Planning

ecus ENVIRONMENTAL CONSULTANTS
Brook Holt
Blackburn Road
Sheffield S61 2DW
Tel. (0114) 2669292
www.ecusltd.co.uk

Job

Oughtibridge Mill
New Access, Spine Road and Vehicular Bridge

Title

Figure 4
Tree Protection Plan

By	Date	Scale @ A2	Drg. no.
PS	Nov 2017	1:500	10674-ARB-05

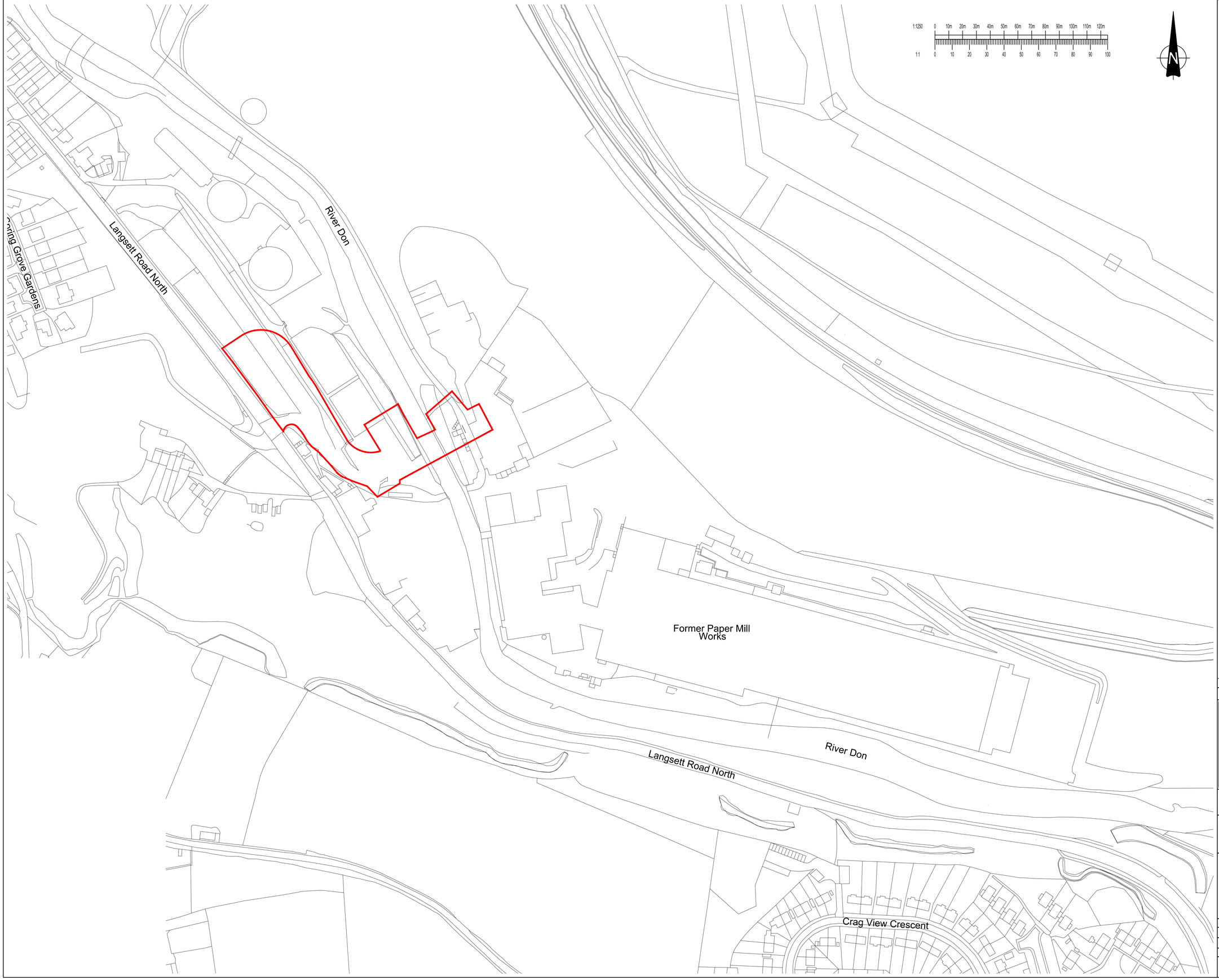
Appendix 3 - Supporting Documents

Documents referred to in the body of the report

Curtins Site Location for Planning 065157 Rev 1

JCA Tree Retention Plan 12563/AJB

JCA Tree Retention and Removal Plan 12563-B/AJB



GENERAL NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. THIS DRAWING WAS PRODUCED FROM OP-EN ARCHITECTS DRAWING REF: OGHB_21 REVISION 01.

APPLICATION BOUNDARY (0.86ha APPROX.)

Rev:	Description:	Date:	By:	Chkd:
P01	ISSUED FOR PLANNING	20/11/17	VW	MK

curtins
Rose Wharf Ground Floor, 78-80 East Street, Leeds LS9 8EE
0113 274 8509
leeds@curtins.com
www.curtins.com
Civils & Structures • Transport Planning • Environmental • Infrastructure • Geotechnical • Conservation & Heritage • Principal Designer
Birmingham • Bristol • Cambridge • Cardiff • Douglas • Dublin • Edinburgh • Glasgow • Kendal • Leeds • Liverpool • London • Manchester • Nottingham

Status:
PLANNING

Project:
COMMERCIAL ESTATES GROUP
OUGHTIBRIDGE DEVELOPMENT

Drg Title:
SITE LOCATION PLAN FOR PLANNING

Size:	Date:	Drawn By:	Designed By:	Checked By:
A1	15/11/2017	AMB	AMB	MK

Scale: 1:1250

Project No:	Originator:	Zone:	Level:	Type:	Discipline:	Category / Number:	Rev:
065157	CUR	00	ZZ	DR	C	90001	-P01

K:\065157 CEG Oughtibridge\QMS 4 Production\4B Models & Drawings_Civil\CIDrawings\5\0\

Appendix 6: Tree Constraints Plan

ADDRESS: Oughtibridge Mill, Oughtibridge, Sheffield, South Yorkshire, S35 0DN. JCA REF: 12563/AJB.

SCALE : 1:1000	PAPER SIZE : A1

SURVEYED BY: AJB	DRAWN BY: AJB	APPROVED BY: EW

BRITISH STANDARD 5837:2012: 4.5 RETENTION CATEGORIES

Detailed definitions of these categories are at Appendix 2 of our report. N.B. These categories do not necessarily represent or correspond to recommendations for action made in this report.

	CATEGORY A: 'RETENTION MOST DESIRABLE'
	CATEGORY B: 'RETENTION DESIRABLE'
	CATEGORY C: 'TREE WHICH COULD BE RETAINED'
	CATEGORY U: 'TREE FOR REMOVAL'
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	ROOT PROTECTION AREA

JCA Limited

Arboricultural & Forestry Consultants

Root Protection Area: RPA

THE ROOT PROTECTION AREA (RPA) INDICATES THE LIKELY ROOTING ZONE OF A TREE. THE RPA SHOULD IDEALLY REMAIN UNDISTURBED IF A TREE IS TO BE RETAINED.

THE DEVELOPMENT PROPOSALS SHOULD THEREFORE BE DESIGNED TO AVOID THE RPA OF ANY TREE WHICH IS TO BE RETAINED.

IF IT IS NECESSARY FOR THE DEVELOPMENT TO ENCROACH INTO THE RPA OF A TREE WHICH IS TO BE RETAINED THEN SPECIALIST CONSTRUCTION TECHNIQUES AND MATERIALS MUST BE CONSIDERED.

NB: DUE TO SITE CONSTRAINTS, WHICH INCLUDE AREAS OF HARD STANDING, BUILDINGS, WALLS, ACCEES ROAD AND OTHER FEATURES LOCATED IN CLOSE PROXIMITY TO TREES, RPA'S HAVE NOT BEEN OFFSET AS THE ACCURATE EXTENT OF ROOTING ACTIVITY CANNOT BE DETERMINED ON THIS OCCASION. AS SUCH; THE RPA'S SHOWN IN CLOSE PROXIMITY TO SITE FEATURES MUST BE TREATED AS INDICATIVE ONLY.

TPO TREE RETENTION AND REMOVAL PLAN

ADDRESS: Oughtibridge Mill Estate, Outibridge, Sheffield, South Yorkshire, S35 0DN. JCA REF: 12563-B/AJB.

SCALE : 1:1000	PAPER SIZE : A1

	TREE/GROUP OR PLANTATION TO BE RETAINED
	TREE TO BE REMOVED WITH A TREE PRESERVATION ORDER
	TREE TO BE REMOVED WITHOUT A TREE PRESERVATION ORDER
	STEM OF TREE TO BE RETAINED
	STEM OF TREE TO BE REMOVED
	STAND OFF AREA FROM RETAINED TREES. NO HEAVY PLANT OR VEHICLES ARE TO ENTER THIS AREA. LIGHT MACHINERY ETC ONLY

JCA Limited

Arboricultural & Forestry Consultants

0 1 10 20 30 40 50 100 metres