Preliminary
Arboricultural Impact Assessment

At

Bicester Airfield, Skimmingdish Lane, Bicester, OX26 5HA

Ridge & Partners LLP

Address	Bicester Airfield, Skimmingdish Lane, Bicester, OX26 5HA		
Client	Ridge & Partners LLP	**Client Ref**	
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Report Date	11 August 2016	**Quality Checked**	Karen Carr
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Contents

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Specific - Trees

All tree inspections, unless specified, have been undertaken from ground level and using non-invasive techniques. Comments contained within the report on the condition and risk associated with any tree relate to the condition of the tree at the date and time of survey. Please note that the condition of trees is subject to change. This change may occur, but is not limited to biological and non-biological factors as well as mechanical/ physical changes to conditions in the proximity of the tree. Trees should be inspected at intervals relative to identified site risks and in accordance with relevant HSE and Central Government guidance. Environmental Services can provide further information on this matter if required.

Please note no statutory control checks have been undertaken (unless specified). Where tree surgery works have been identified these works are based on the assumption that planning is approved, no tree works should be undertaken prior to determination of this application without up to date confirmation of the Tree Preservation Order / Conservation Area Status of the vegetation. All works should be undertaken in accordance with the appropriate Duty of Care. This should include, for example, site specific risk assessments and due diligence inspections for the presence of protected species.

Any comment relating to 3rd party trees has been made without full access to the tree(s). Should these trees have any impact on the proposed development we would advise you to instruct us to contact the 3rd party and undertake further inspection work.

1.0 Introduction

1.1 Environmental Services have been appointed by Ridge & Partners LLP to provide advice on the arboricultural issues relating to the proposed development of the above site.

1.2 We undertook a Pre-Development Tree Condition Survey (see Appendix 1), on 14th July 2016. This survey assessed the condition of the tree resource, categorised the trees and provided the Root Protection Area (RPA) information according to the BS5837:2012 "Trees in relation to design, demolition and construction – Recommendations".

1.3 Following preparation of our Tree Condition Survey we received a copy of the layout drawing showing the development proposal for the site.

1.4 Our detailed check with the Local Planning Authority has confirmed the following trees are subject to statutory protection:

	A	B	C	U
Tree Preservation Order	No TPO Present onsite	No TPO Present onsite	No TPO Present onsite	No TPO Present onsite
Conservation Area	All 'A' category trees	All 'B' category trees	All 'C' category trees	T5, T31, T41 & T52

1.5 In addition we note the site is located within RAF Bicester Conservation Area.

1.6 The tree numbers used in this report refer to the tree numbers used in our Tree Condition Survey.

2.0 Executive Summary

2.1 RAF Bicester was occupied by the military from 1916 and became part of the RAF in 1918 used as a Training Depot. By 1928 the airfield had been transformed into a state-of-the-art Bomber Station. Through the Second World War RAF Bicester progressively became a maintenance unit dealing with airplanes and motor transport.

2.2 Currently, there are two proposed sites under consideration as detailed in the appendix. The first site is located south of the Gliding Centre. It consists of grass land occasionally used by the Windrusher's Gliding Club. The second site is located to the north of the existing development and is similar in nature to the first site, containing short grass and existing tarmac surfaces used for access around the airfield. The sites are adjacent to the A4421, the road running along the western and southern boundary of the RAF Bicester site. The surrounding area consists of the airfield and existing buildings between the two sites and to the east. To the south is largely Greenfield and semi-detached residential properties. To the west is a mix of residential properties and a business park located on the other side of the A4421. The trees on the site surround each boundary with mature trees of high amenity value with younger trees located within the site amongst the existing buildings, most of low quality and landscape value.

2.3 The development proposal is currently in very early stages. Bicester Heritage has undertaken some initial master planning for future developments and has identified two projects which they would now like to progress with, these are set out below.

1. Independent Hotel: 350 Bed Hotel including gym, spa and conferencing facilities;
2. Garages with Accommodation (GWA): 60 units which provide garages with associated accommodation.

2.4 A summary of the affected trees is detailed in the table below:

Impact	Reason	A	B	C	U
Trees to be removed	To facilitate the development or due to their condition (U cat)	Not known at present	Not known at present	Not known at present	T5, T31, T41 & T52
Trees with RPA encroachment	To facilitate construction	Not known at present	Not known at present	Not known at present	Nil

3.0 Scope of Tree Survey

3.1 To carry out a tree condition survey on the trees and hedgerows at and immediately adjacent to the site, identifying any hazard trees and making recommendations for those trees to be retained and low amenity value and hazard trees to be replaced.

3.2 To undertake the tree survey in accordance with the principles of BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendations'.

3.3 To produce a tree constraints plan (TCP), showing the location of surveyed trees, their BS5837: 2012 categorisation, the theoretical Root Protection Areas (RPA).

3.4 To carry out an arboricultural impact assessment on the effect of the new development at the site identifying the construction exclusion zones (CEZ) shown on the tree protection plan (TPP). This will also show the locations for tree protective fencing, any temporary ground protection required and identify 'No-Dig' zones for RPAs shown outside of CEZs.

3.5 The purpose of this report is to comment on the arboricultural implication of the proposed development and to aid the preservation of trees to be retained at and adjacent to the site during the construction works by setting out the tree protection methods, construction techniques and working practices that are to be adopted on this site.

3.6 If the guidelines and principles outlined in this report are not adhered to, as with all development sites there is a risk that the construction activities will result in damage to and potentially the death of the retained trees. Damage to the trees will significantly increase the risk of their health declining and may increase the risk of their complete or partial failure.

4.0 Terms of Reference

4.1 Reference Documents:

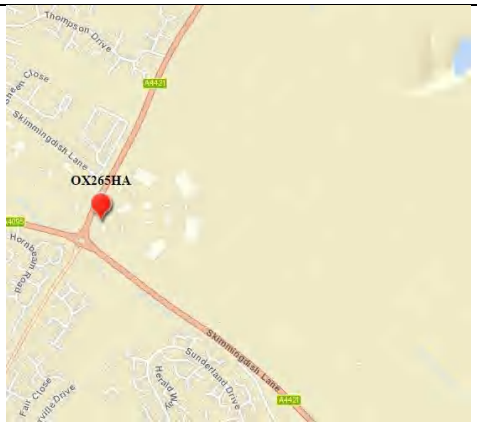
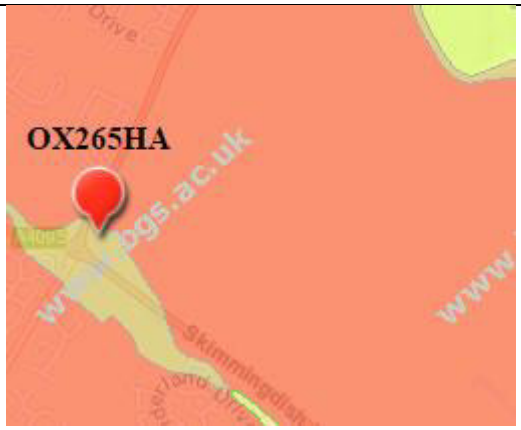
- BS5837:2012 'Trees in relation to design, demolition and construction – recommendations'
- BS3998:2010 'Tree work – recommendations'
- NJUG 4 – National Joint Utilities Group "Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees. Volume 4, issue 2. London: NJUG 2007"
- Information from the Cherwell District & South Northants Councils plan and website
- BGS Open Source Soil Data http://www.bgs.ac.uk/nercsoilportal/maps.html

5.0 Description of Site and Proposed Works

5.1 The site consists of 348 acres of a historic 1920s RAF bomber stations. There are multiple redbrick buildings, hangars, tree-lined avenues and airfield to provide an authentic period setting.

5.2 The immediate and distant landscape character is that of a semi –rural setting with a wide open airfield into a rural vista with a tree lined boundary to the South and West protecting against the A4421 road.

5.3 The topography of the site is generally level, and historically landscaped with no adverse topographical features.

Site Location (OS)	Site Location (BGS Soil)
	

Summary

Cornbrash Formation - Limestone. Sedimentary Bedrock formed approximately 161 to 168 million years ago in the Jurassic Period. Local environment previously dominated by shallow carbonate seas. (soil) Information from BGS online.

5.4 The underlying site soil has been identified as limestone. This decreases the risk of damage to the trees by way of site compaction as this soil type is less prone to compaction. Trees in this soil type generally explore a greater depth of soil horizons.

5.5 All comments regarding soils should be verified with onsite geotechnical investigations and laboratory testing with foundation depth and design undertaken by a structural engineer in accordance with the requirements of NHBC Chapter 4.2.

6.0 The Trees

6.1 There were 70 Individual trees, 8 groups and 1 woodland area surveyed onsite or immediately adjacent to the site boundary.

6.2 By BS5837:2012 categorisation individually there were; 1 'A' category trees, 26 'B' category trees and 39 'C' category trees. By group and Woodland Area there were 8 'C' category groups and 1 'C' category Woodland. In total there were 4 'U' category individual trees which were identified as in poor condition or dead/in-decline with less than ten years useful life expectancy. These should be felled and replaced regardless of any impact of the development proposal.

6.3 The trees can be summarized as follows:

BS 5837 Cat	A	B	C	U
Specific Trees	T50	T14, T15, T20, T27, T28, T32, T42, T43, T44, T46, T47, T49, T51, T55, T56, T57, T58, T59, T60, T61, T63, T64, T65, T67, T68 & T69	W1, TG1, TG2, TG3, TG4, TG5, TG6, TG7, TG8, T1, T2, T3, T4, T6, T7, T8, T9, T10, T11, T12, T13, T16, T17, T18, T19, T21, T22, T23, T24, T25, T26, T29, T30, T33, T34, T35, T36, T37, T38, T39, T40, T45, T48, T53, T54, T62, T66 & T70	T5, T31, T41 & T52
Total Number	1	26	39 Individual Trees 1 Woodland & 8 Tree Groups	4

6.4 The trees locations vary throughout the site however all trees contribute to the internal treescape within the immediate and distant landscape setting.

7.0 Arboricultural Impact Assessment

7.1 Tree Removals

7.1 The 4 Individual trees to be removed, by BS5837:2012 category, are:
U - T5, T31, T41 & T52

The 1 tree group to be removed, by BS5837:2012 category, is:
C - TG8
This is due to poor specimen trees of low quality and value.

7.1.1 The exact number of trees constraining the proposed is unknown to date, once the location of the proposed has been decided exact numbers of constrained trees will be identified.

7.1.2 Every effort will be made to reduce the removal of trees from the site. However, to mitigate the tree loss proposed, the Local Planning Authority is invited to secure a detailed Landscaping Proposal by way of Planning Condition.

7.2 Root Protection Area (RPA) Incursions

7.2.1 At current the following incursions into the RPA's of trees to be retained is not known.

7.3 Foundations

7.3.1 It is not known at current if the foundations of the proposal will encroach into the RPA of retained trees.

7.4 Services

7.4.1 The route of any services needs to be carefully considered so as to avoid unnecessary encroachment into retained trees RPA's.

7.4.2 These should, where possible, not encroach within the RPAs of retained trees, and currently the precise location of new excavations for services is not known. Where excavations slightly encroach into adjacent tree RPA's their excavation should only be considered when supervised by the consultant arboriculturist from Environmental Services and may need to be undertaken using an 'Airspade'/hand tool combination.

7.5 Ground Levels

7.5.1 It is currently not known if changes to existing ground levels are proposed within the RPA's of retained trees.

7.6 Shading

7.6.1 No shading issues have been identified with the preliminary proposal at this stage on the basis of the orientation of the tree resource relative to the proposed areas.

7.7 Site Supervision/ Monitoring

7.7.1 Most damage to trees on developments sites is caused inadvertently and to ensure continued protection during development a system of site monitoring is proposed.

7.7.2 Basic checks will ensure that protective fencing remains intact. Any unforeseen issues can also be identified and discussed before damage to the tree(s) occurs.

7.7.3 The Local Planning Authority is invited to secure the following schedule by way of Planning Condition. To be effective the Local Planning Authority must provide us with a copy of the formal Decision Notice to ensure we can then contact and follow up the proposed monitoring. A copy of the Decision Notice should be emailed to planning@innovation-environmental.co.uk . The number of proposed visits is driven by the scale of the proposal

7.7.4 A more detailed explanation of what will be assessed during the proposed monitoring visits is contained in Appendix 5.

Visit	Date	Status
Pre-commencement Inspections Attend site to inspect type and location of tree protection and any temporary ground protection prior to development commencing and discuss any issues associated with demolition/ enabling works	**TBC**	**Incomplete**
Site Inspection Attend site to confirm fencing remains in place and supervise etc.	**TBC**	**Incomplete**
Site Inspection Attend site to confirm fencing remains in place and supervise etc.	**TBC**	**Incomplete**
Site Inspection Attend site to confirm fencing remains in place and supervise etc.	**TBC**	**Incomplete**
Site Inspection Final site visit to confirm that no damage has been done to retained trees/ identify any remedial actions in the event damage has occurred. Assess any required tree surgery following construction	**TBC**	**Incomplete**

8.0 Recommendations

8.1 The preliminary tree works recommended are included in the tree tables contained within this report within the tree works schedule at Appendix 5.

8.2 That during the construction build phase, following current consultation with the arboriculturist, adequate provision is made for the protection of existing trees on site and the areas to be planted with new trees and shrubs.

8.3 That by liaison with the council tree officer, formal agreement should be sought regarding the tree pruning required and tree protection methods employed to protect retained trees. These will be via the production of a site specific method statement (SSMS) and will include:

- Tree protective fencing as shown on the tree protective plan
- No ground excavations within tree RPAs, unless approved by the tree officer
- Any anti-compaction measures taken
- The specific location of services trenches where possible to avoid excavations within RPAs, or if necessary to be undertaken by hand dig only
- Specific methods for construction of site access routes and new drainage ditches close to or within retained trees RPAs

8.4 Pre-commencement site meetings should be arranged to discuss the recommendations in this and subsequent reports and method statements. Copies of all relevant arboricultural reports should be available on site.

8.5 The SSMS should be developed further with the contractor through the development process to include comments made by them and the client and design team as well as council officers. A copy of the tree report, including the site specific method statements and tree protection plan is kept on site at all times.

8.6 That details of site inspection / supervision visits by the consultant arboriculturist are recorded and sent to the council tree officer with copies retained by the site manager.

9.0 Conclusions

9.1 The site is located within a semi-rural landscape setting, there are many significant amenity value trees on site. Most of which are 'B' category standard trees. The dominant individual tree species on this site is Sycamore, Beech, Whitebeam and Hornbeam as the other standard trees present. All of these trees are protected within the conservation area of RAF Bicester. Most of the trees are in need of some basic crown pruning works due to their lack of recent management.

9.2 It is currently not known the exact number of trees in direct conflict with the proposed. However four trees are 'U' category and should be felled regardless of the constraining development. One 'C' category group has been recommended for removal due to poor form and low quality specimen trees.

9.3 Tree protection measures, once the proposed has been set may include the use of cellular confinement sub-base systems, and the installation of tree protective fencing and temporary ground protection will adequately protect the other retained trees RPAs if accompanied by detailed methods and supervision by a consultant arboriculturist.

9.4 Sufficient development room will be available after protection measures are instigated as described within this report. Excavations within retained tree RPAs for construction operations such as; service trenches; changes in levels, foundations excavations and removal of existing hard surfacing will be avoided where possible.

9.5 The development of the site will bring an opportunity for best practice tree management of the remaining trees and group areas on the site and an opportunity for further native tree and hedgerow planting. All tree works, translocation and landscape replacement tree planting will require agreement with the council officers.

Jonnie Setterfield. BSc (Hons)
Consultant Arboriculturist
11th August 2016

10.0 Appendices

Appendix 1 Key to Survey Sheets

Appendix 2 Tree Survey Sheets

Appendix 3 Tree Constraints Plan

Appendix 4 Tree Protection Plan

Appendix 5 Tree Works Schedule

Appendix 6 Site Inspection & Monitoring Schedule

Appendix 7 BS5837:2012 Tree Constraints & Protection Methods

Appendix 8 Tree Protection Fencing Specification

Appendix 9 Temporary Ground Protection Specification

Appendix 10 Photographs

Appendix 1 – Key to Tree Survey Sheets

Key

BS 5837 Cat	Description
A	Those of high quality and value: in such a condition as to be able to make a substantial contribution (> 40 years)
B	Those trees of moderate quality and value: those in such a condition as to make a significant contribution (> 20 years)
C	Those trees of low quality and value: currently in adequate condition to remain until new planting could be established (> 10 years)
U	Those in such a condition that any existing value would be lost within 10 years and which should, in the current context, be removed regardless of development

Note: Sub categories are denoted in the tree survey data (A1, B1, C2 etc.). You are referred to the BS for further detail if required.

Tree No.	T (tree), G (group), H (hedge), W (woodland) + Ref No.
Species	Common Name
Ht (m)	Measured height in metres
DBH (m)	Diameter at 1.5m above ground level
Branch Spread	In m to cardinal points
Cr Ht Clearance (m)	Overall height of lowest branches from the ground level on side of proposed development
Life Stage	Young, Semi-Mature, Early-Mature, Mature, Over-Mature
General Observations	Observations on the condition of the tree(s)
Tree Work Specification	Proposed tree works in accordance with BS3998
BS Cat	See above
Life Exp	Estimated remaining contribution in years.
RPA Radius(m)	Radius of the trees Root Protection Area measured from the trunk to the edge of the RPA circle in metres
RPA (m2)	Overall Root Protection Area in m2
*	Indicates where tree data may have been estimated as tree was offsite/restricted access/dense vegetation hindering full inspection

Appendix 2 – Tree Survey Sheets

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
W1	Mixed Species woodland mainly comprising of Ash, Elm, Acer sp and Prunus sp with other understory species.	0.25	M/s	12	2	2	2	2	C2	Early-Mature	10_19	1	Woodland boundary trees, between airfield and highway. No significant recent crown management. Dutch elm disease present.3rd party offsite trees, unable to fully inspect. Offsite boundary trees with overhanging branches.	No Works.	20
TG1	Ash. Elm. Elder and Hawthorn.	0.2	M/s	6	3	3	3	3	C2	Early-Mature	10_19	0.5	Poor form, shape and condition. Unable to inspect due to restricted access. Offsite boundary tree with overhanging branches. Hedgerow standard tree. Self-set, pioneer tree. Dead Elms	Cut back to boundary line, and remove all dead elm trees.	13
TG2	Ash, Sycamore, Elm, Elder and Hawthorn.	0.2	M/s	6	3	3	3	3	C2	Early-Mature	10_19	0.5	Poor form, shape and condition. Unable to inspect due to restricted access. Offsite boundary tree with overhanging branches. Hedgerow standard tree. Self-set, pioneer tree. Dead Elms	Cut back to boundary line, and remove all dead elm trees.	13
TG3	Hawthorn, Elder, Elm and Prunus sp	0.22	M/s	6	2	2	2	2	C2	Early-Mature	10_19	1	Poor form, shape and condition. Offsite boundary tree with overhanging branches. Dead Elms	Remove all dead elms	15
TG4	Hawthorn, Elder, Elm, Ash and Prunus sp	0.22	M/s	6	2	2	2	2	C2	Early-Mature	10_19	1	Poor form, shape and condition. Dead Elms	Remove all dead elms	15
TG5	Ash, Apple, Elm, Elder, Sycamore, Norway Maple, Field Maple, Hawthorn and Prunus Sp	0.27	M/s	8	2	2	2	2	C2	Early-Mature	10_19	1	Average form, shape and condition. Hedgerow standard tree. Mixed hedge - managed / unmanaged. No significant recent crown management. Tree located near to highway, boundary trees.	No Works.	23

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
TG6	Apple, Hawthorn, Elder, Prunus	0.25	M/s	6	2	2	2	2	C2	Early-Mature	10_19	0.5	Poor form (Asymmetric canopy), shape and condition. Unable to inspect due to restricted access. No significant recent crown management. Self-set, pioneer tree. Mixed hedge - managed / unmanaged. Hedgerow standard trees.	No Works.	20
TG7	Hawthorn, Cherry, Field maple, Birch, Alder and Acer sp	0.18	1	6	2	2	2	2	C1	Early-Mature	10_19	2	Average form, shape and condition. Young newly established tree. 3rd party offsite tree, unable to fully inspect. Highway boundary trees.	No Works.	15
TG8	Sycamore. Elm. Elder.	0.25	M/s	8	3	3	3	3	C2	Early-Mature	10_19	1	Poor form, shape and condition. Self-set, pioneer tree. Young newly established tree. Dead elms	Fell to ground level.	20
T1	Walnut.	0.35	M/s	7.5	3	3	3	3	C2	Early-Mature	10_19	2	Average form, shape and condition. Co-dominant tree with included unions. Multiple pruning wounds on main stem.	No Works.	38
T2	Norway Maple.	0.28	M/s	8.5	2	3	2	3	C2	Early-Mature	10_19	1	Poor form (Asymmetric canopy), shape and condition. Unable to inspect due to restricted access. Offsite boundary tree with overhanging branches. 3rd party offsite tree, unable to fully inspect.	No Works.	25
T3	Sycamore	0.26	M/s	8.5	2	3	2	3	C2	Early-Mature	10_19	1	Poor form (Asymmetric canopy), shape and condition. Unable to inspect due to restricted access. Offsite boundary tree with overhanging branches. 3rd party offsite tree, unable to fully inspect.	No Works.	21

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T4	Ash.	0.3	1	8	3	3	3	3	C2	Early-Mature	10_19	2	Poor form, shape and condition. Unable to inspect due to restricted access. Offsite boundary tree with overhanging branches. Hedgerow standard tree.	No Works.	41
T5	Elm.	0.18	M/s	6	2	3	2	3	U	Early-Mature	<10	1	Poor form (Asymmetric canopy), shape and condition. Dutch elm disease	Fell to ground level.	10
T6	Norway Maple	0.26	M/s	8.5	2	3	2	3	C2	Early-Mature	10_19	1	Poor form (Asymmetric canopy), shape and condition. Unable to inspect due to restricted access. Offsite boundary tree with overhanging branches. 3rd party offsite tree, unable to fully inspect.	No Works.	21
T7	Field Maple.	0.14	1	6.5	2	1.5	2	3	C2	Early-Mature	10_19	2	Poor form (Asymmetric canopy), shape and condition. No significant recent crown management. 3rd party offsite tree, unable to fully inspect.	No Works.	9
T8	Norway Maple	0.38	M/s	8.5	4	3	4	3	C2	Early-Mature	10_19	1	Poor form (Asymmetric canopy), shape and condition. Unable to inspect due to restricted access. Offsite boundary tree with overhanging branches. 3rd party offsite tree, unable to fully inspect.	No Works.	45
T9	Ash.	0.24	M/s	8.5	2	3	2	3	C2	Early-Mature	10_19	1	Poor form (Asymmetric canopy), shape and condition. Unable to inspect due to restricted access. Offsite boundary tree with overhanging branches. 3rd party offsite tree, unable to fully inspect.	No Works.	18

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T10	Cherry.	0.09	M/s	5	2	2	2	2	C1	Early-Mature	10_19	2	Average form, shape and condition. No significant recent crown management. Co-dominant tree with included unions. Young newly established tree. Tree located on driving course potential soil compaction.	No Works.	3
T11	Hawthorn.	0.08	M/s	3	1.5	1.5	1.5	1.5	C1	Semi-Mature	10_19	1	Average form, shape and condition. Co-dominant tree with included unions. Potential compaction due to driving course.	No Works.	2
T12	Hornbeam	0.74	2	17.4	4	4	4	4	C1	Mature	10_19	2	Average form, shape and condition. No significant recent crown management. Co-dominant tree with major stem included union. Damaged bark with sound woo exposed. Multiple pruning wounds on main stem with minor decay.	Cut branches back from fence by 2m	172
T13	Hornbeam	0.49	2	12.7	4	4	4	4	C1	Mature	10_19	2	Average form, shape and condition. No significant recent crown management. Co-dominant tree with included union. Multiple pruning wounds on main stem with minor decay.	Cut branches back from fence by 2m	75
T14	Sycamore.	0.36	1	14	3	3	2	3	B2	Mature	20_39	3.5	Average form, shape and condition. Subject to crown management - Lifted. Soil compacted within rooting zone vehicle tracks.	No Works.	59
T15	Norway Maple.	0.4	1	14	3	3	2	3	B2	Mature	20_39	3.5	Average form, shape and condition. Subject to crown management - Lifted. Soil compacted within rooting zone vehicle tracks. Root girdling base of stem.	No Works.	72

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T16	Sycamore.	0.47	1	16	4	2	4	3	C2	Mature	20_39	3.5	Average form, shape and condition. Subject to crown management - Lifted. Soil compacted within rooting zone vehicle tracks. Multiple Pruning wounds on main stem.	No Works.	100
T17	Hornbeam	0.41	2	12.7	4	2	2	4	C1	Mature	10_19	2.5	. No significant recent crown management. Co-dominant tree with included union. Multiple pruning wounds on main stem with minor decay. Poor form (Asymmetric canopy), shape and condition. Soil heavily compacted within rooting zone.	Cut branches back from fence by 2m	53
T18	Hornbeam	0.46	2	14.5	3	2	4	4	C1	Mature	10_19	2.5	No significant recent crown management. Co-dominant tree with included union. Multiple pruning wounds on main stem with minor decay. Poor form (Asymmetric canopy), shape and condition. Soil heavily compacted within rooting zone.	Cut branches back from fence by 2m	66
T19	Hornbeam	0.49	2	12.7	4	2	2	4	C1	Mature	10_19	2.5	. No significant recent crown management. Co-dominant tree with included union. Multiple pruning wounds on main stem with minor decay. Poor form (Asymmetric canopy), shape and condition. Soil heavily compacted within rooting zone.	Cut branches back from fence by 2m	75
T20	Western Red Cedar.	0.6	1	16.7	3	3	3	3	B1	Mature	20_39	1.7	Good form, shape and condition. No significant recent crown management.	No Works.	163

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T21	Sycamore.	0.81	1	18.4	4	3	4	4	C2	Mature	10_19	3	Poor form (Asymmetric canopy), shape and condition. No significant recent crown management. Ivy clad crown and stem unable to fully inspect.	Cut back from fence by 2mSever ivy at 2m from ground level and remove section.	297
T22	Norway Maple.	0.81	1	17.8	6	3	5	5	C2	Mature	10_19	5	Poor form (Asymmetric canopy), shape and condition. No significant recent crown management. Ivy clad crown and stem unable to fully inspect. Dense crown, major crown deadwood.	Sever ivy at 2m from ground level and remove section. Remove dead wood >5cm diameter throughout the crown / overhanging site.	297
T23	Hawthorn.	0.19	M/s	4.3	2	2	2	2	C2	Mature	20_39	0.5	Average form, shape and condition. No significant recent crown management.	No Works.	11
T24	Goat Willow.	0.38	M/s	6.7	3	3	3	3	C2	Early-Mature	10_19	0	Poor form, shape and condition. No significant recent crown management. Co-dominant tree with included unions. Hedgerow standard tree. Unable to inspect due to restricted access.	Remove basal vegetation and re-inspect root crown.	45
T25	Goat Willow.	0.37	M/s	6.9	3	3	3	3	C2	Early-Mature	10_19	0	Poor form, shape and condition. No significant recent crown management. Co-dominant tree with included unions. Hedgerow standard tree. Unable to inspect due to restricted access.	Remove basal vegetation and re-inspect root crown.	43
T26	Sycamore.	0.14	2	5	1.5	1.5	1.5	1.5	C2	Early-Mature	10_19	0	Poor form (Asymmetric canopy), shape and condition. Unable to inspect due to restricted access. Ivy clad crown and stem unable to fully inspect.	Sever ivy at 2m from ground level and remove section.	6

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T27	Hornbeam.	0.57	1	14.8	4	4	4	4	B1	Mature	20_39	3	Average form, shape and condition. No significant recent crown management. Co-dominant tree with included unions.	No Works.	147
T28	Lime.	0.69	1	17.2	4	4	4	4	B1	Mature	20_39	3.5	Average form, shape and condition. No significant recent crown management. Ivy clad crown and stem unable to fully inspect.	Sever ivy at 2m from ground level and remove section.	215
T29	Rowan.	0.27	M/s	5.3	3	2	2	2	C1	Early-Mature	10_19	2	Poor form (Asymmetric canopy), shape and condition. No significant recent crown management. Multiple stemmed tree - with basal included unions. Sparse crown showing signs of stress with crown retrenchment.	No Works.	23
T30	Rowan.	0.31	1	4	2	2	2	2	C1	Early-Mature	10_19	2	Average form, shape and condition. No significant recent crown management. Sparse crown showing signs of stress with crown retrenchment. Tree located on bomb shelter	Tag 1424	43
T31	Silver Birch.	0.38	1	8	2	2	2	1	U	Early-Mature	<10	3	Poor form (Asymmetric canopy), shape and condition. Sparse crown showing signs of stress with crown retrenchment. Cavity between buttress roots with early/moderate decay.	Fell to ground level.	65
T32	Sycamore.	0.7	1	18.2	5	5	5	5	B2	Mature	20_39	2	Average form, shape and condition. Dense crown, moderate/major crown deadwood. No significant recent crown management.	Remove dead wood >5cm diameter throughout the crown/overhanging site.	222

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T33	Sycamore.	0.65	2	16.5	4	4	4	4	C2	Mature	10_19	2	Poor form, shape and condition. Unable to inspect due to restricted access. Ivy clad crown and stem unable to fully inspect. Co-dominant tree with included unions. Dense crown, moderate/major crown deadwood.	Sever ivy at 2m from ground level and remove section. Remove basal vegetation and re-inspect root crown.	133
T34	Sycamore.	0.25	2	12	4	3	2	3	C2	Mature	10_19	2	Poor form, shape and condition. Unable to inspect due to restricted access. Ivy clad crown and stem unable to fully inspect. Co-dominant tree with included unions. Dense crown, moderate/major crown deadwood.	Sever ivy at 2m from ground level and remove section. Remove basal vegetation and re-inspect root crown.	20
T35	Sycamore.	0.25	2	12	4	3	2	3	C2	Mature	10_19	2	Poor form, shape and condition. Unable to inspect due to restricted access. Ivy clad crown and stem unable to fully inspect. Co-dominant tree with included unions. Dense crown, moderate/major crown deadwood.	Sever ivy at 2m from ground level and remove section. Remove basal vegetation and re-inspect root crown.	20
T36	Whitebeam.	0.53	1	9.7	3	3	3	2	C2	Mature	10_19	4	Average form, shape and condition. No significant recent crown management. Central leader lost in past stag-headed crown, naturally reducing. Fiber buckling on stem at 6m. Decay cavity at base of stem major decay.	Climbing inspection to measure the extent of branch decay.	127
T37	Sycamore.	0.4	1	11	3	2	2	3	C2	Mature	10_19	5	Poor form (Asymmetric canopy), shape and condition. No significant recent crown management. Dense crown, low/moderate crown deadwood.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	72
T38	Whitebeam.	0.45	1	9	3	2	3	2	C1	Mature	10_19	3	Average form, shape and condition. No significant recent crown management. Wounding to buttress roots - Mower/Strimmer damage.	No Works.	92

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T39	Whitebeam.	0.41	1	9	3	2	3	2	C1	Mature	10_19	3	Average form, shape and condition. No significant recent crown management. Wounding to buttress roots - Mower/Strimmer damage.	No Works.	76
T40	Sycamore.	0.39	1	11	3	2	2	3	C2	Mature	10_19	2.5	Poor form (Asymmetric canopy), shape and condition. No significant recent crown management.	No Works.	69
T41	Sycamore.	0.71	1	18	6	5	5	4	U	Mature	<10	5	Poor form (Asymmetric canopy), shape and condition. Dense crown, moderate/major crown deadwood. Sparse crown showing signs of stress with crown retrenchment. Cavity between buttress roots with moderate/major decay. Decay cavity on main stem.	Fell to ground level.	228
T42	Whitebeam.	0.55	1	11	3	3	3	3	B1	Mature	10_19	3	Average form, shape and condition. No significant recent crown management.	No Works.	137
T43	Sycamore.	0.45	1	11	3	3	3	3	B1	Mature	10_19	6	Average form, shape and condition. No significant recent crown management. Dense crown, moderate/major crown deadwood.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	92
T44	Whitebeam.	0.64	1	12.4	4	3	4	3	B1	Mature	20_39	4	Average form, shape and condition. No significant recent crown management. Decay branches on central stems with moderate\major decay.	Climbing inspection to measure the extent of decay	185

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T45	Sycamore.	0.44	1	11	3	2	3	2	C1	Mature	10_19	2	Average form, shape and condition. No significant recent crown management. Dense crown, moderate/major crown deadwood. Multiple pruning wounds on main stem with moderate decay cavities.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	88
T46	Whitebeam.	0.64	1	12.4	4	3	4	3	B1	Mature	20_39	4	Average form, shape and condition. No significant recent crown management. Decay branches on central stems with moderate\major decay.	Climbing inspection to measure the extent of decay	185
T47	Whitebeam.	0.61	1	12.4	4	3	4	3	B1	Mature	20_39	4	Average form, shape and condition. No significant recent crown management. Decay branches on central stems with moderate\major decay.	Climbing inspection to measure the extent of decay	168
T48	Sycamore.	0.5	1	13.4	4	3	4	4	C2	Mature	10_19	6	Average form, shape and condition. No significant recent crown management. Twin stemmed tree at 2m with moderate included union. Tree located on bomb shelter bank.	No Works.	113
T49	Whitebeam.	0.62	1	12	3	2	3	3	B1	Early-Mature	20_39	2	Average form, shape and condition. Tree located on bomb shelter, multiple pruning wounds.	No Works.	174
T50	Laburnum.	100	M/s	9	3	3	2	3	A3	Veteran	20_39	2	Subject to crown management - Lifted Thinned. Lapse multiple stemmed coppice stool - with included unions. Dense crown, low/moderate crown deadwood. Co-dominant tree with included unions.	No Works.	707

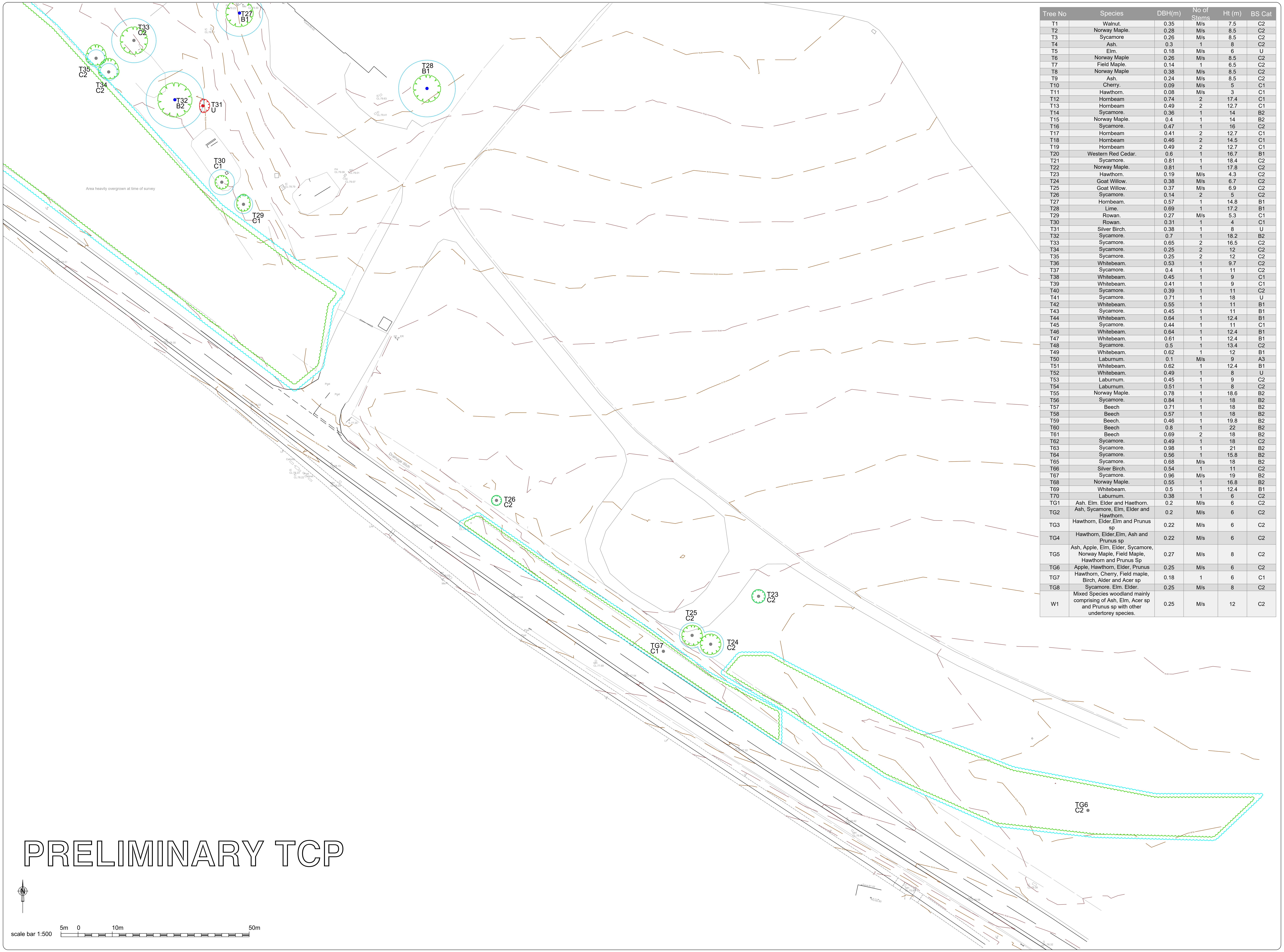
Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T51	Whitebeam.	0.62	1	12.4	4	3	4	3	B1	Mature	20_39	4	Average form, shape and condition. No significant recent crown management. Decay branches on central stems with moderate\major decay.	Climbing inspection to measure the extent of decay	174
T52	Whitebeam.	0.49	1	8	2	2	2	2	U	Mature	<10	3	Sparse crown showing signs of stress with crown retrenchment. Tree colonised by fungi thought to be Innotus sp.	Fell to ground level.	109
T53	Laburnum.	0.45	1	9	2	2	2	2	C2	Early-Mature	10_19	2.4	Average form, shape and condition. No significant recent crown management. Multiple pruning wounds and stem cracking on main stem. Decay pocket at 1.6m in height.	No Works.	92
T54	Laburnum.	0.51	1	8	2	2	2	2	C2	Early-Mature	10_19	2.4	Average form, shape and condition. No significant recent crown management. Multiple pruning wounds and stem cracking on main stem. Dense crown, low/moderate crown deadwood.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	118
T55	Norway Maple.	0.78	1	18.6	5	5	5	5	B2	Mature	20_39	3	Good form, shape and condition. No significant recent crown management. Helical trunk wound with Blunt nosed/Knife edged reaction wood. Dense crown, lower crown deadwood.	No Works.	275
T56	Sycamore.	0.84	1	18	3	3	5	5	B2	Mature	20_39	2.4	Average form, shape and condition. No significant recent crown management. Twin stemmed tree at 2.4m with moderate included union.	No Works.	319

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T57	Beech	0.71	1	18	3	3	5	5	B2	Mature	20_39	2.4	Average form, shape and condition. No significant recent crown management. Twin stemmed tree at 2.4m with moderate included union. Possibly ustulina at base.	Insert flexible restraint system between co-dominant stems. Re-inspect in 6months to confirm if ustulina.	228
T58	Beech	0.57	1	18	3	3	5	5	B2	Mature	20_39	2.4	Average form, shape and condition. No significant recent crown management. Multiple stemmed tree at 3.2m with moderate included union. Natural grafting in crown.	Insert flexible restraint system between co-dominant stems.	147
T59	Beech.	0.46	1	19.8	4	4	4	4	B2	Mature	20_39	0	Good form, shape and condition. No significant recent crown management.	No Works.	96
T60	Beech	0.8	1	22	5	5	5	5	B2	Mature	20_39	2.4	Average form, shape and condition. No significant recent crown management. Twin stemmed tree at 6.4m with moderate included union. Dense crown, moderate/major crown deadwood.	Insert flexible restraint system between co-dominant stems. Remove dead wood >5cm diameter throughout the crown / overhanging site.	290
T61	Beech	0.69	2	18	3	3	5	5	B2	Mature	20_39	3.2	Average form, shape and condition. No significant recent crown management. Twin stemmed tree at 1.1m with moderate included union.	Insert flexible restraint system between co-dominant stems.	150
T62	Sycamore.	0.49	1	18	1	1	4	3	C2	Mature	10_19	3	Poor form (Asymmetric canopy), shape and condition. No significant recent crown management.	No Works.	109

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T63	Sycamore.	0.98	1	21	6	6	5	5	B2	Mature	20_39	2	Average form, shape and condition. No significant recent crown management. Twin stemmed tree at 1.6m with moderate included union. Dense crown, moderate/major crown deadwood.	Remove dead wood >5cm diameter throughout the crown/overhanging site.	434
T64	Sycamore.	0.56	1	15.8	5	5	5	5	B2	Mature	20_39	2.4	Average form, shape and condition. No significant recent crown management.	No Works.	142
T65	Sycamore.	0.68	M/s	18	5	5	5	5	B2	Mature	20_39	3.5	Average form, shape and condition. No significant recent crown management. Dense crown, moderate/major crown deadwood.	Remove dead wood >5cm diameter throughout the crown/overhanging site.	145
T66	Silver Birch.	0.54	1	11	3.5	3.5	3.5	3.5	C2	Mature	10_19	0	Average form, shape and condition. Ivy clad crown and stem unable to fully inspect.	Sever ivy at 2m from ground level and remove section.	132
T67	Sycamore.	0.96	M/s	19	5	5	5	5	B2	Mature	20_39	3.5	Average form, shape and condition. No significant recent crown management. Dense crown, moderate/major crown deadwood. Ivy clad crown and stem unable to fully inspect.	Remove dead wood >5cm diameter throughout the crown/overhanging site. Sever ivy at 2m from ground level and remove section.	290
T68	Norway Maple.	0.55	1	16.8	5	5	5	4	B2	Mature	20_39	3	Average form, shape and condition. Dense crown, low/moderate crown deadwood. No significant recent crown management.	Remove dead wood >5cm diameter throughout the crown/overhanging site.	137

Tree No.	Species	DBH	No of Stems	Ht (m)	N	E	S	W	BS Cat	Age Class	Life Expect	Cr Ht (m)	Observation	Recommendations	RPA (m2)
T69	Whitebeam.	0.5	1	12.4	4	3	4	3	B1	Mature	20_39	4	Average form, shape and condition. No significant recent crown management. Decay branches on central stems with moderate\major decay.	Climbing inspection to measure the extent of decay	113
T70	Laburnum.	0.38	1	6	2	2	2	2	C2	Early-Mature	10_19	2.4	Average form, shape and condition. No significant recent crown management. Multiple pruning wounds and stem cracking on main stem. Decay pocket at 1.6m in height.	No Works.	65

Appendix 3 – Tree Constraints Plan



Tree No	Species	DBH(m)	No of Stems	Ht (m)	BS Cat
T1	Walnut.	0.35	M/s	7.5	C2
T2	Norway Maple.	0.28	M/s	8.5	C2
T3	Sycamore	0.26	M/s	8.5	C2
T4	Ash.	0.3	1	8	C2
T5	Elm.	0.18	M/s	6	U
T6	Norway Maple	0.26	M/s	8.5	C2
T7	Field Maple.	0.14	1	6.5	C2
T8	Norway Maple	0.38	M/s	8.5	C2
T9	Ash.	0.24	M/s	8.5	C2
T10	Cherry.	0.09	M/s	5	C1
T11	Hawthorn.	0.08	M/s	3	C1
T12	Hornbeam	0.74	2	17.4	C1
T13	Hornbeam	0.49	2	12.7	C1
T14	Sycamore.	0.36	1	14	B2
T15	Norway Maple.	0.4	1	14	B2
T16	Sycamore.	0.47	1	16	C2
T17	Hornbeam	0.41	2	12.7	C1
T18	Hornbeam	0.46	2	14.5	C1
T19	Hornbeam	0.49	2	12.7	C1
T20	Western Red Cedar.	0.6	1	16.7	B1
T21	Sycamore.	0.81	1	18.4	C2
T22	Norway Maple.	0.81	1	17.8	C2
T23	Hawthorn.	0.19	M/s	4.3	C2
T24	Goat Willow.	0.38	M/s	6.7	C2
T25	Goat Willow.	0.37	M/s	6.9	C2
T26	Sycamore.	0.14	2	5	C2
T27	Hornbeam.	0.57	1	14.8	B1
T28	Lime.	0.69	1	17.2	B1
T29	Rowan.	0.27	M/s	5.3	C1
T30	Rowan.	0.31	1	4	C1
T31	Silver Birch.	0.38	1	8	U
T32	Sycamore.	0.7	1	18.2	B2
T33	Sycamore.	0.65	2	16.5	C2
T34	Sycamore.	0.25	2	12	C2
T35	Sycamore.	0.25	2	12	C2
T36	Whitebeam.	0.53	1	9.7	C2
T37	Sycamore.	0.4	1	11	C2
T38	Whitebeam.	0.45	1	9	C1
T39	Whitebeam.	0.41	1	9	C1
T40	Sycamore.	0.39	1	11	C2
T41	Sycamore.	0.71	1	18	U
T42	Whitebeam.	0.55	1	11	B1
T43	Sycamore.	0.45	1	11	B1
T44	Whitebeam.	0.64	1	12.4	B1
T45	Sycamore.	0.44	1	11	C1
T46	Whitebeam.	0.64	1	12.4	B1
T47	Whitebeam.	0.61	1	12.4	B1
T48	Sycamore.	0.5	1	13.4	C2
T49	Whitebeam.	0.62	1	12	B1
T50	Laburnum.	0.1	M/s	9	A3
T51	Whitebeam.	0.62	1	12.4	B1
T52	Whitebeam.	0.49	1	8	U
T53	Laburnum.	0.45	1	9	C2
T54	Laburnum.	0.51	1	8	C2
T55	Norway Maple.	0.78	1	18.6	B2
T56	Sycamore.	0.84	1	18	B2
T57	Beech	0.71	1	18	B2
T58	Beech	0.57	1	18	B2
T59	Beech.	0.46	1	19.8	B2
T60	Beech	0.8	1	22	B2
T61	Beech	0.69	2	18	B2
T62	Sycamore.	0.49	1	18	C2
T63	Sycamore.	0.98	1	21	B2
T64	Sycamore.	0.56	1	15.8	B2
T65	Sycamore.	0.68	M/s	18	B2
T66	Silver Birch.	0.54	1	11	C2
T67	Sycamore.	0.96	M/s	19	B2
T68	Norway Maple.	0.55	1	16.8	B2
T69	Whitebeam.	0.5	1	12.4	B1
T70	Laburnum.	0.38	1	6	C2
TG1	Ash. Elm. Elder and Haethorn.	0.2	M/s	6	C2
TG2	Ash, Sycamore, Elm, Elder and Hawthorn.	0.2	M/s	6	C2
TG3	Hawthorn, Elder,Elm and Prunus sp	0.22	M/s	6	C2
TG4	Hawthorn, Elder,Elm, Ash and Prunus sp	0.22	M/s	6	C2
TG5	Ash, Apple, Elm, Elder, Sycamore, Norway Maple, Field Maple, Hawthorn and Prunus Sp	0.27	M/s	8	C2
TG6	Apple, Hawthorn, Elder, Prunus	0.25	M/s	6	C2
TG7	Hawthorn, Cherry, Field maple, Birch, Alder and Acer sp	0.18	1	6	C1
TG8	Sycamore. Elm. Elder.	0.25	M/s	8	C2
W1	Mixed Species woodland mainly comprising of Ash, Elm, Acer sp and Prunus sp with other undertorey species.	0.25	M/s	12	C2

Tree Survey Drawing Key

Root Protection Area m2
Tree Canopy Extent
Stem Location / Coloured disc denotes BS: 5837 Category
T1
Tree Number

See Innovation Environmental Tree Survey for Individual Tree Details

KEY

Please refer to Innovation Environmental arboricultural report for details

- Category A - high quality and value
- Category B - moderate quality and value
- Category C - low quality and value
- Category U - removal

RPA - root protection area as defined by Table 2 BS 5837:2012

Category U - removal

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REV	AMENDMENTS	DRAWN	DATE	AUTH'D

PROJECT
Bicester Airfield,
Skimmingdish Lane,
Bicester, OX26 5HA

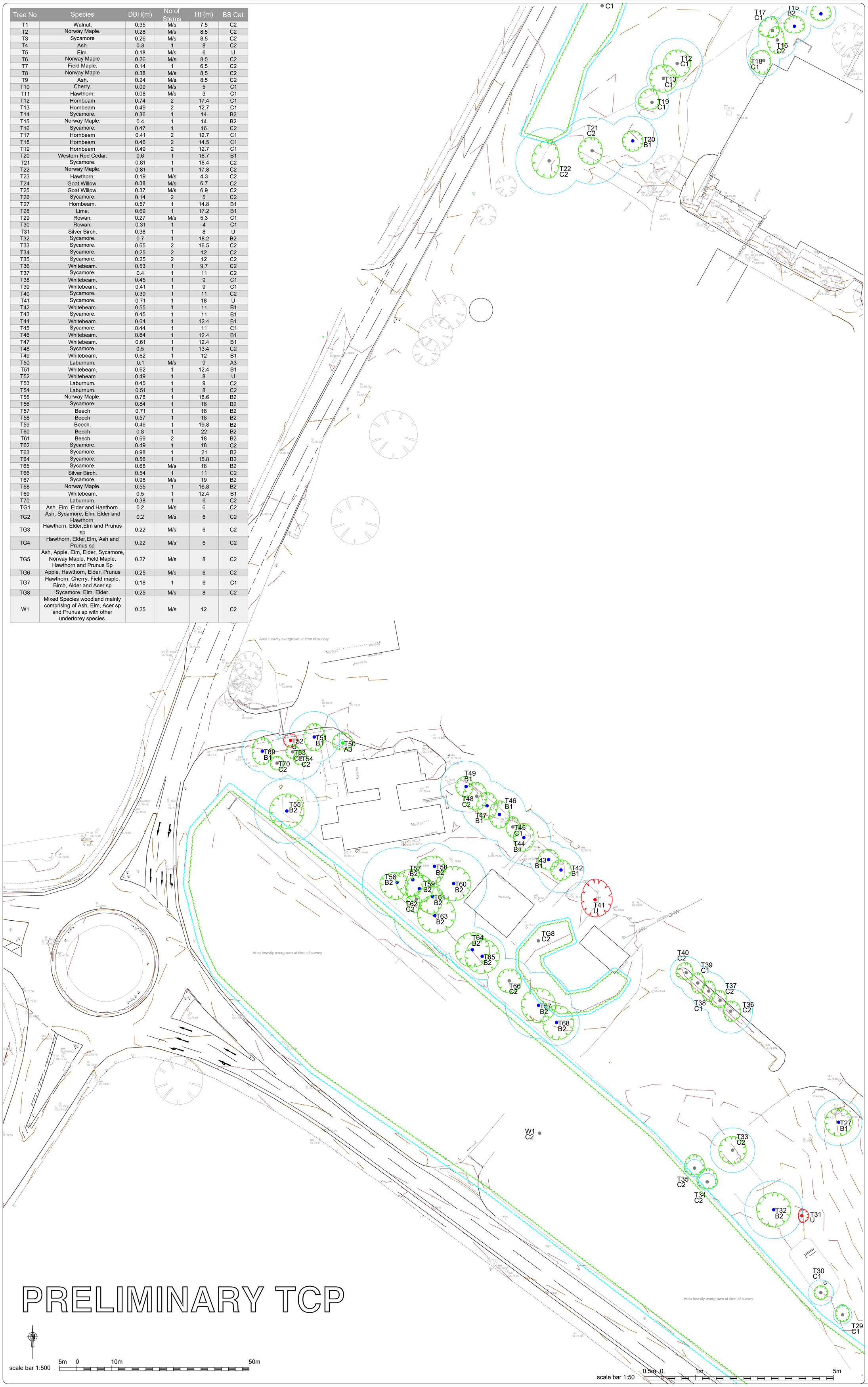
CLIENT
Bicester Airfield

TITLE
Tree Constraint Plan (TCP)
Sheet 1 of 4

Job	Scale	DRG NO	Revision
D0807161029	1:500 @ A1	13109	-
Date: 30/07/16	Type: MT.TCP.13109.v1		

Innovation Group

Tree No	Species	DBH(m)	No of Stems	Ht (m)	BS Cat
T1	Walnut.	0.35	M/s	7.5	C2
T2	Norway Maple.	0.28	M/s	8.5	C2
T3	Sycamore	0.26	M/s	8.5	C2
T4	Ash.	0.3	1	8	C2
T5	Elm.	0.18	M/s	6	U
T6	Norway Maple	0.26	M/s	8.5	C2
T7	Field Maple.	0.14	1	6.5	C2
T8	Norway Maple	0.38	M/s	8.5	C2
T9	Ash.	0.24	M/s	8.5	C2
T10	Cherry.	0.09	M/s	5	C1
T11	Hawthorn.	0.08	M/s	3	C1
T12	Hornbeam	0.74	2	17.4	C1
T13	Hornbeam	0.49	2	12.7	C1
T14	Sycamore.	0.36	1	14	B2
T15	Norway Maple.	0.4	1	14	B2
T16	Sycamore.	0.47	1	16	C2
T17	Hornbeam	0.41	2	12.7	C1
T18	Hornbeam	0.46	2	14.5	C1
T19	Hornbeam	0.49	2	12.7	C1
T20	Western Red Cedar.	0.6	1	16.7	B1
T21	Sycamore.	0.81	1	18.4	C2
T22	Norway Maple.	0.81	1	17.8	C2
T23	Hawthorn.	0.19	M/s	4.3	C2
T24	Goat Willow.	0.38	M/s	6.7	C2
T25	Goat Willow.	0.37	M/s	6.9	C2
T26	Sycamore.	0.14	2	5	C2
T27	Hornbeam.	0.57	1	14.8	B1
T28	Lime.	0.69	1	17.2	B1
T29	Rowan.	0.27	M/s	5.3	C1
T30	Rowan.	0.31	1	4	C1
T31	Silver Birch.	0.38	1	8	U
T32	Sycamore.	0.7	1	18.2	B2
T33	Sycamore.	0.65	2	16.5	C2
T34	Sycamore.	0.25	2	12	C2
T35	Sycamore.	0.25	2	12	C2
T36	Whitebeam.	0.53	1	9.7	C2
T37	Sycamore.	0.4	1	11	C2
T38	Whitebeam.	0.45	1	9	C1
T39	Whitebeam.	0.41	1	9	C1
T40	Sycamore.	0.39	1	11	C2
T41	Sycamore.	0.71	1	18	U
T42	Whitebeam.	0.55	1	11	B1
T43	Sycamore.	0.45	1	11	B1
T44	Whitebeam.	0.64	1	12.4	B1
T45	Sycamore.	0.44	1	11	C1
T46	Whitebeam.	0.64	1	12.4	B1
T47	Whitebeam.	0.61	1	12.4	B1
T48	Sycamore.	0.5	1	13.4	C2
T49	Whitebeam.	0.62	1	12	B1
T50	Laburnum.	0.1	M/s	9	A3
T51	Whitebeam.	0.62	1	12.4	B1
T52	Whitebeam.	0.49	1	8	U
T53	Laburnum.	0.45	1	9	C2
T54	Laburnum.	0.51	1	8	C2
T55	Norway Maple.	0.78	1	18.6	B2
T56	Sycamore.	0.84	1	18	B2
T57	Beech	0.71	1	18	B2
T58	Beech	0.57	1	18	B2
T59	Beech.	0.46	1	19.8	B2
T60	Beech	0.8	1	22	B2
T61	Beech	0.69	2	18	B2
T62	Sycamore.	0.49	1	18	C2
T63	Sycamore.	0.98	1	21	B2
T64	Sycamore.	0.56	1	15.8	B2
T65	Sycamore.	0.68	M/s	18	B2
T66	Silver Birch.	0.54	1	11	C2
T67	Sycamore.	0.96	M/s	19	B2
T68	Norway Maple.	0.55	1	16.8	B2
T69	Whitebeam.	0.5	1	12.4	B1
T70	Laburnum.	0.38	1	6	C2
TG1	Ash. Elm. Elder and Haethorn.	0.2	M/s	6	C2
TG2	Ash, Sycamore, Elm, Elder and Hawthorn.	0.2	M/s	6	C2
TG3	Hawthorn, Elder,Elm and Prunus sp	0.22	M/s	6	C2
TG4	Hawthorn, Elder,Elm, Ash and Prunus sp	0.22	M/s	6	C2
TG5	Ash, Apple, Elm, Elder, Sycamore, Norway Maple, Field Maple, Hawthorn and Prunus Sp	0.27	M/s	8	C2
TG6	Apple, Hawthorn, Elder, Prunus	0.25	M/s	6	C2
TG7	Hawthorn, Cherry, Field maple, Birch, Alder and Acer sp	0.18	1	6	C1
TG8	Sycamore. Elm. Elder.	0.25	M/s	8	C2
W1	Mixed Species woodland mainly comprising of Ash, Elm, Acer sp and Prunus sp with other undertorey species.	0.25	M/s	12	C2

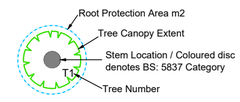


PRELIMINARY TCP

scale bar 1:500 5m 0 10m 50m

scale bar 1:50 0.5m 0 1m 5m

Tree Survey Drawing Key



See Innovation Environmental Tree Survey for Individual Tree Details

KEY

Please refer to Innovation Environmental arboricultural report for details

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- Category C - low quality and value
- Category U - removal

RPA - root protection area as defined by Table 2 BS 5837:2012

Category U - removal

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PROJECT
Bicester Airfield,
Skimmingdish Lane,
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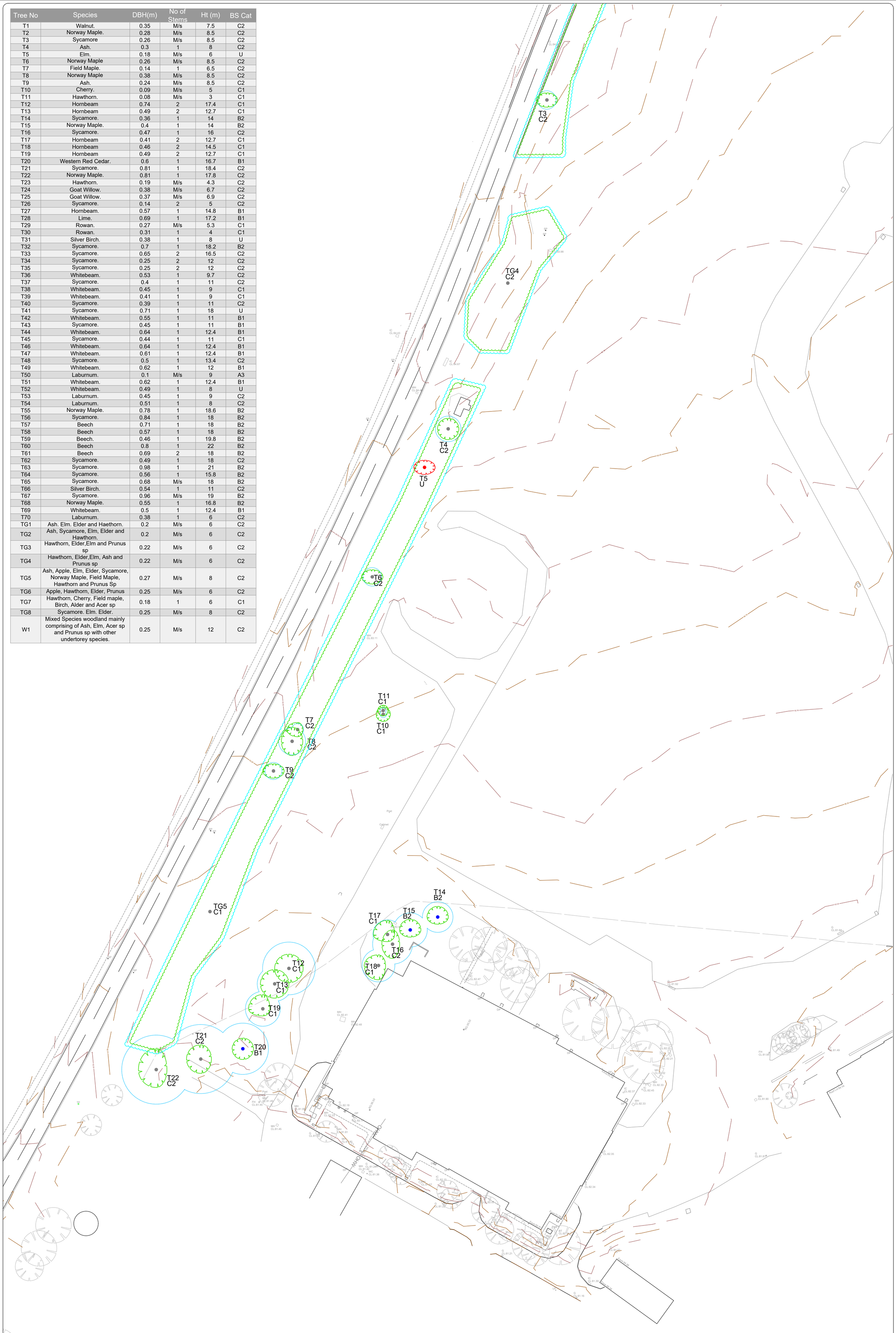
CLIENT
Bicester Airfield

TITLE
Tree Constraint Plan (TCP)
Sheet 2 of 4

Job	Scale	DRG NO	Revision
D0807161029	1:500 @ A1	13109	-
Date 30/07/16	Type MT.TCP.13109.v1		

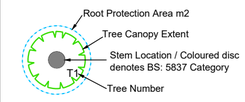
Innovation Group

Tree No	Species	DBH(m)	No of Stems	Ht (m)	BS Cat
T1	Walnut.	0.35	M/s	7.5	C2
T2	Norway Maple.	0.28	M/s	8.5	C2
T3	Sycamore	0.26	M/s	8.5	C2
T4	Ash.	0.3	1	8	C2
T5	Elm.	0.18	M/s	6	U
T6	Norway Maple	0.26	M/s	8.5	C2
T7	Field Maple.	0.14	1	6.5	C2
T8	Norway Maple	0.38	M/s	8.5	C2
T9	Ash.	0.24	M/s	8.5	C2
T10	Cherry.	0.09	M/s	5	C1
T11	Hawthorn.	0.08	M/s	3	C1
T12	Hornbeam	0.74	2	17.4	C1
T13	Hornbeam	0.49	2	12.7	C1
T14	Sycamore.	0.36	1	14	B2
T15	Norway Maple.	0.4	1	14	B2
T16	Sycamore.	0.47	1	16	C2
T17	Hornbeam	0.41	2	12.7	C1
T18	Hornbeam	0.46	2	14.5	C1
T19	Hornbeam	0.49	2	12.7	C1
T20	Western Red Cedar.	0.6	1	16.7	B1
T21	Sycamore.	0.81	1	18.4	C2
T22	Norway Maple.	0.81	1	17.8	C2
T23	Hawthorn.	0.19	M/s	4.3	C2
T24	Goat Willow.	0.38	M/s	6.7	C2
T25	Goat Willow.	0.37	M/s	6.9	C2
T26	Sycamore.	0.14	2	5	C2
T27	Hornbeam.	0.57	1	14.8	B1
T28	Lime.	0.69	1	17.2	B1
T29	Rowan.	0.27	M/s	5.3	C1
T30	Rowan.	0.31	1	4	C1
T31	Silver Birch.	0.38	1	8	U
T32	Sycamore.	0.7	1	18.2	B2
T33	Sycamore.	0.65	2	16.5	C2
T34	Sycamore.	0.25	2	12	C2
T35	Sycamore.	0.25	2	12	C2
T36	Whitebeam.	0.53	1	9.7	C2
T37	Sycamore.	0.4	1	11	C2
T38	Whitebeam.	0.45	1	9	C1
T39	Whitebeam.	0.41	1	9	C1
T40	Sycamore.	0.39	1	11	C2
T41	Sycamore.	0.71	1	18	U
T42	Whitebeam.	0.55	1	11	B1
T43	Sycamore.	0.45	1	11	B1
T44	Whitebeam.	0.64	1	12.4	B1
T45	Sycamore.	0.44	1	11	C1
T46	Whitebeam.	0.64	1	12.4	B1
T47	Whitebeam.	0.61	1	12.4	B1
T48	Sycamore.	0.5	1	13.4	C2
T49	Whitebeam.	0.62	1	12	B1
T50	Laburnum.	0.1	M/s	9	A3
T51	Whitebeam.	0.62	1	12.4	B1
T52	Whitebeam.	0.49	1	8	U
T53	Laburnum.	0.45	1	9	C2
T54	Laburnum.	0.51	1	8	C2
T55	Norway Maple.	0.78	1	18.6	B2
T56	Sycamore.	0.84	1	18	B2
T57	Beech	0.71	1	18	B2
T58	Beech	0.57	1	18	B2
T59	Beech.	0.46	1	19.8	B2
T60	Beech	0.8	1	22	B2
T61	Beech	0.69	2	18	B2
T62	Sycamore.	0.49	1	18	C2
T63	Sycamore.	0.98	1	21	B2
T64	Sycamore.	0.56	1	15.8	B2
T65	Sycamore.	0.68	M/s	18	B2
T66	Silver Birch.	0.54	1	11	C2
T67	Sycamore.	0.96	M/s	19	B2
T68	Norway Maple.	0.55	1	16.8	B2
T69	Whitebeam.	0.5	1	12.4	B1
T70	Laburnum.	0.38	1	6	C2
TG1	Ash. Elm. Elder and Haethorn.	0.2	M/s	6	C2
TG2	Ash, Sycamore, Elm, Elder and Hawthorn.	0.2	M/s	6	C2
TG3	Hawthorn, Elder,Elm and Prunus sp	0.22	M/s	6	C2
TG4	Hawthorn, Elder,Elm, Ash and Prunus sp	0.22	M/s	6	C2
TG5	Ash, Apple, Elm, Elder, Sycamore, Norway Maple, Field Maple, Hawthorn and Prunus Sp	0.27	M/s	8	C2
TG6	Apple, Hawthorn, Elder, Prunus	0.25	M/s	6	C2
TG7	Hawthorn, Cherry, Field maple, Birch, Alder and Acer sp	0.18	1	6	C1
TG8	Sycamore. Elm. Elder.	0.25	M/s	8	C2
W1	Mixed Species woodland mainly comprising of Ash, Elm, Acer sp and Prunus sp with other undertorey species.	0.25	M/s	12	C2



PRELIMINARY TCP

Tree Survey Drawing Key



See Innovation Environmental Tree Survey for Individual Tree Details

KEY

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- Category U - removal

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Category U - removal

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REV	AMENDMENTS	DRAWN	DATE	AUTH'D

PROJECT
Bicester Airfield,
Skimmingdish Lane,
Bicester, OX26 5HA

CLIENT
Bicester Airfield

TITLE
Tree Constraint Plan (TCP)
Sheet 3 of 4

Job	Scale	DRG NO	Revision
D0807161029	1:500 @ A1	13109	-
Date	Type		
30/07/16	MT.TCP.13109.v1		

Innovation Group

PRELIMINARY TCP

Tree No	Species	DBH(m)	No of Stems	Ht (m)	BS Cat
T1	Walnut.	0.35	M/s	7.5	C2
T2	Norway Maple.	0.28	M/s	8.5	C2
T3	Sycamore	0.26	M/s	8.5	C2
T4	Ash.	0.3	1	8	C2
T5	Elm.	0.18	M/s	6	U
T6	Norway Maple	0.26	M/s	8.5	C2
T7	Field Maple.	0.14	1	6.5	C2
T8	Norway Maple	0.38	M/s	8.5	C2
T9	Ash.	0.24	M/s	8.5	C2
T10	Cherry.	0.09	M/s	5	C1
T11	Hawthorn.	0.08	M/s	3	C1
T12	Hornbeam	0.74	2	17.4	C1
T13	Hornbeam	0.49	2	12.7	C1
T14	Sycamore.	0.36	1	14	B2
T15	Norway Maple.	0.4	1	14	B2
T16	Sycamore.	0.47	1	16	C2
T17	Hornbeam	0.41	2	12.7	C1
T18	Hornbeam	0.46	2	14.5	C1
T19	Hornbeam	0.49	2	12.7	C1
T20	Western Red Cedar.	0.6	1	16.7	B1
T21	Sycamore.	0.81	1	18.4	C2
T22	Norway Maple.	0.81	1	17.8	C2
T23	Hawthorn.	0.19	M/s	4.3	C2
T24	Goat Willow.	0.38	M/s	6.7	C2
T25	Goat Willow.	0.37	M/s	6.9	C2
T26	Sycamore.	0.14	2	5	C2
T27	Hornbeam.	0.57	1	14.8	B1
T28	Lime.	0.69	1	17.2	B1
T29	Rowan.	0.27	M/s	5.3	C1
T30	Rowan.	0.31	1	4	C1
T31	Silver Birch.	0.38	1	8	U
T32	Sycamore.	0.7	1	18.2	B2
T33	Sycamore.	0.65	2	16.5	C2
T34	Sycamore.	0.25	2	12	C2
T35	Sycamore.	0.25	2	12	C2
T36	Whitebeam.	0.53	1	9.7	C2
T37	Sycamore.	0.4	1	11	C2
T38	Whitebeam.	0.45	1	9	C1
T39	Whitebeam.	0.41	1	9	C1
T40	Sycamore.	0.39	1	11	C2
T41	Sycamore.	0.71	1	18	U
T42	Whitebeam.	0.55	1	11	B1
T43	Sycamore.	0.45	1	11	B1
T44	Whitebeam.	0.64	1	12.4	B1
T45	Sycamore.	0.44	1	11	C1
T46	Whitebeam.	0.64	1	12.4	B1
T47	Whitebeam.	0.61	1	12.4	B1
T48	Sycamore.	0.5	1	13.4	C2
T49	Whitebeam.	0.62	1	12	B1
T50	Laburnum.	0.1	M/s	9	A3
T51	Whitebeam.	0.62	1	12.4	B1
T52	Whitebeam.	0.49	1	8	U
T53	Laburnum.	0.45	1	9	C2
T54	Laburnum.	0.51	1	8	C2
T55	Norway Maple.	0.78	1	18.6	B2
T56	Sycamore.	0.84	1	18	B2
T57	Beech	0.71	1	18	B2
T58	Beech	0.57	1	18	B2
T59	Beech.	0.46	1	19.8	B2
T60	Beech	0.8	1	22	B2
T61	Beech	0.69	2	18	B2
T62	Sycamore.	0.49	1	18	C2
T63	Sycamore.	0.98	1	21	B2
T64	Sycamore.	0.56	1	15.8	B2
T65	Sycamore.	0.68	M/s	18	B2
T66	Silver Birch.	0.54	1	11	C2
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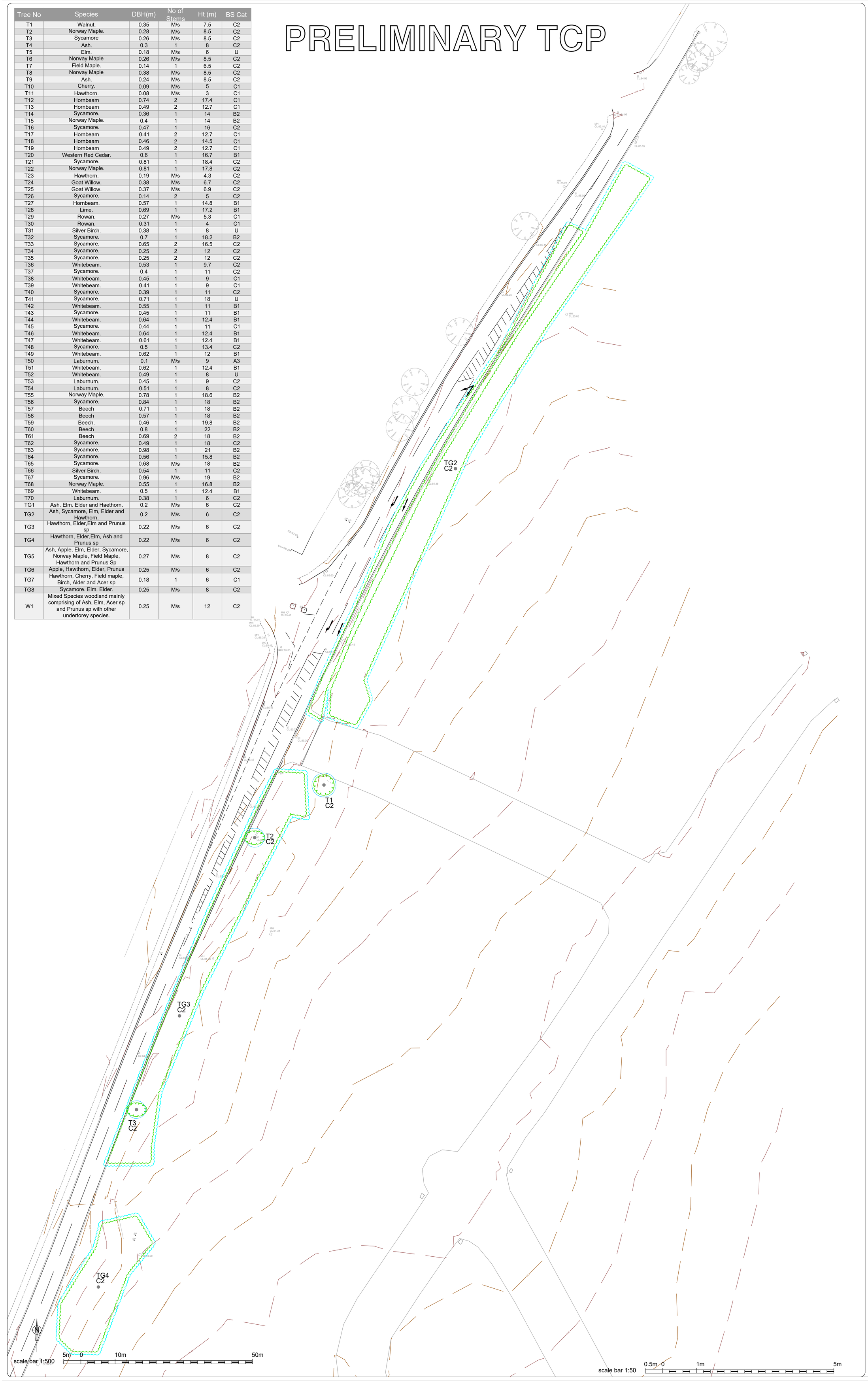
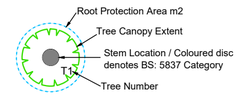
T70	Laburnum.	0.38	1	6	C2
TG1	Ash. Elm. Elder and Haethorn.	0.2	M/s	6	C2
TG2	Ash, Sycamore, Elm, Elder and Hawthorn.	0.2	M/s	6	C2
TG3	Hawthorn, Elder,Elm and Prunus sp	0.22	M/s	6	C2
TG4	Hawthorn, Elder,Elm, Ash and Prunus sp	0.22	M/s	6	C2
TG5	Ash, Apple, Elm, Elder, Sycamore, Norway Maple, Field Maple, Hawthorn and Prunus Sp	0.27	M/s	8	C2
TG6	Apple, Hawthorn, Elder, Prunus	0.25	M/s	6	C2
TG7	Hawthorn, Cherry, Field maple, Birch, Alder and Acer sp	0.18	1	6	C1
TG8	Sycamore. Elm. Elder.	0.25	M/s	8	C2
W1	Mixed Species woodland mainly comprising of Ash, Elm, Acer sp and Prunus sp with other undertorey species.	0.25	M/s	12	C2



Tree Survey Drawing Key



See Innovation Environmental Tree Survey for Individual Tree Details

KEY

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Category U - removal

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REV AMENDMENTS DRAWN DATE AUTH'D

PROJECT
Bicester Airfield,
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Bicester, OX26 5HA

CLIENT
Bicester Airfield

TITLE
Tree Constraint Plan (TCP)
Sheet 4 of 4

Job	Scale	DRG NO	Revision
D0807161029	1:500 @ A1	13109	-
Date 30/07/16	Type MT.TCP.13109.v1		

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Appendix 4 – Tree Protection Plan

PRELIMINARY TPP

Tree Survey Drawing Key

- Root Protection Area m2
- Tree Canopy Extent
- Stem Location / Coloured disc denotes BS: 5837 Category
- Tree Number

See Innovation Environmental Tree Survey for Individual Tree Details

KEY

- Tree to be retained
- Tree to be Pruned
- Tree to be removed
- Tree protective fencing
- No Dig Surface
- Surpervised Excavations
- Construction Exclusion Zone
- Temporary Ground Protection
- Proposed Development Area

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CLIENT
Bicester Airfield

TITLE
Tree Protection Plan (TPP)
Sheet 1 of 4

Job	Scale	DRG NO	Revision
D0807161029	1:500 @ A1	13109	-
Date: 30/07/16	Type: MT.TPP.13109.v1		

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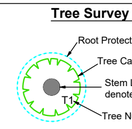
Tree Survey Drawing Key



See Innovation Environmental Tree Survey for Individual Tree Details

KEY

- Tree to be retained
- Tree to be Pruned
- Tree to be removed
- Tree protective fencing
- No Dig Surface
- Supervised Excavations
- Construction Exclusion Zone
- Temporary Ground Protection
- Proposed Development Area

Area heavily overgrown at time of survey

PRELIMINARY TPP

scale bar 1:500 — 5m 0 10m 50m

scale bar 1:50 — 0.5m 0 1m 5m

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TITLE
Tree Protection Plan (TPP)
Sheet 2 of 4

Job	Scale	DRG NO	Revision
D0807161029	1:500 @ A1	13109	-
Date 30/07/16	Type MT.TPP.13109.v1		

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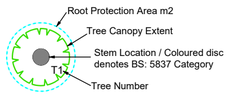
Tree Survey Drawing Key



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KEY

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- No Dig Surface
- Surpervised Excavations
- Construction Exclusion Zone
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REV	AMENDMENTS	DRAWN	DATE	AUTH'D

PRELIMINARY TPP

TG3 C2
T3 C2
TG4 C2
T4 C2
T5 U
T6 C2
T11 C1
T10 C1
T7 C2
T8 C2
T9 C2
TG5 C1
T14 B2
T17 C1
T15 B2
T16 C2
T18 C1
T12 C1
T13 C1
T19 C1
T21 C2
T20 B1
T22 C2

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CLIENT
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Tree Protection Plan (TPP)
Sheet 3 of 4

Job	Scale	DRG NO	Revision
D0807161029	1:500 @ A1	13109	-
Date	Type		
30/07/16	MT.TPP.13109.v1		

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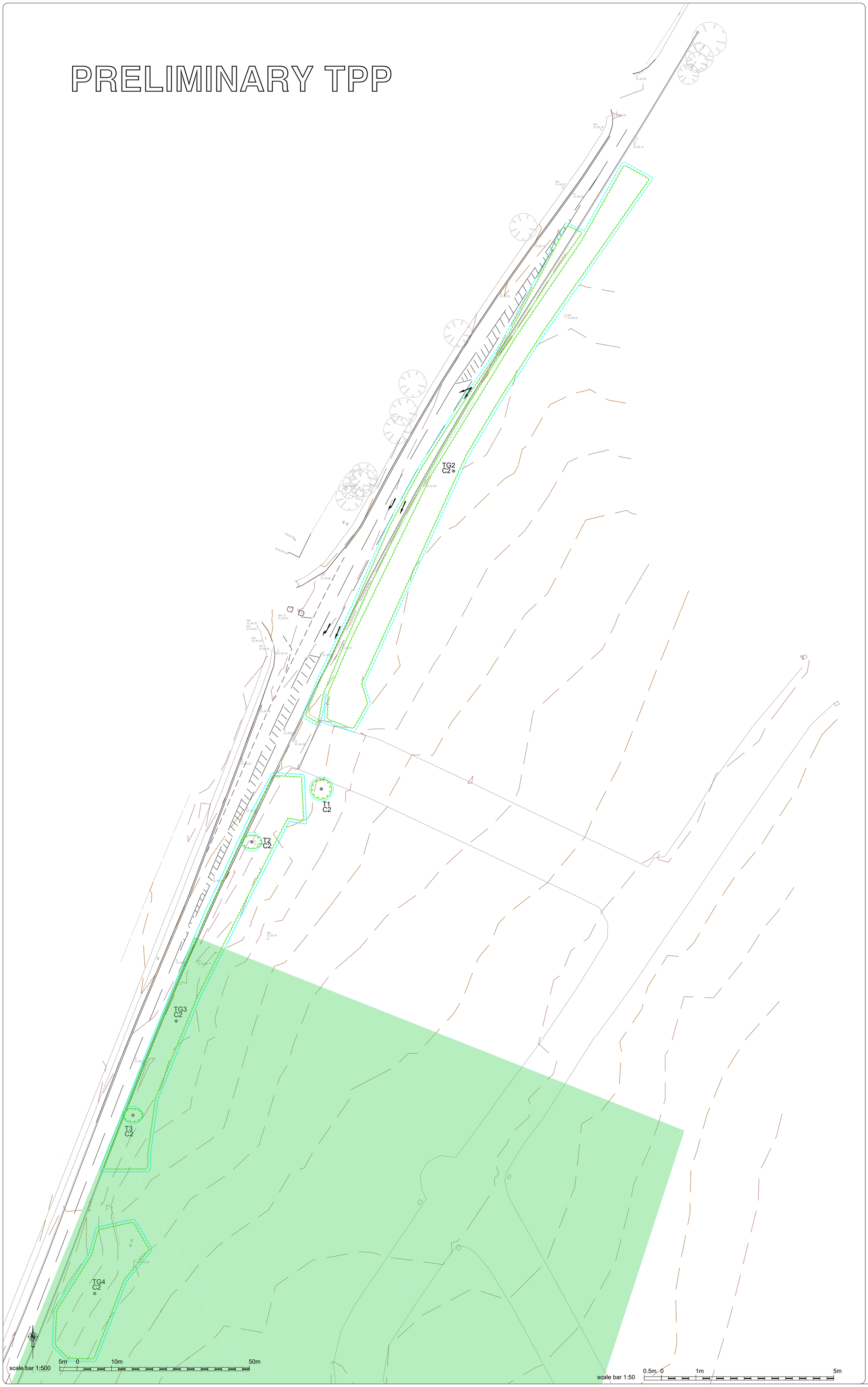
scale bar 1:50 0.5m 0 1m 5m

PRELIMINARY TPP



Tree Survey Drawing Key

Root Protection Area m2
Tree Canopy Extent
Stem Location / Coloured disc denotes BS: 5837 Category
Tree Number

See Innovation Environmental Tree Survey for Individual Tree Details

KEY

- Tree to be retained
- Tree to be Pruned
- Tree to be removed
- Tree protective fencing
- No Dig Surface
- Supervised Excavations
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Sheet 4 of 4

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Date 30/07/16	Type MT.TPP.13109.v1		

Innovation Group

Appendix 5 – Tree Works Schedule

NOTE: All tree works to be undertaken in accordance with BS 3998:2010 'Tree work - Recommendations'. All pruning cuts to be made at suitable growing points, in line with the principles of natural target pruning. *<(In accordance to the current proposed design layout provided>).*

Tree Works Schedule

Tree No.	Species	Proposed Tree Works	Reason	BS Cat
TG1	Ash. Elm. Elder and Hawthorn.	Cut back to boundary line, and remove all dead elm trees.	Poor form, shape and condition. Unable to inspect due to restricted access. Offsite boundary tree with overhanging branches. Hedgerow standard tree. Self-set, pioneer tree. Dead Elms	C2
TG2	Ash, Sycamore, Elm, Elder and Hawthorn.	Cut back to boundary line, and remove all dead elm trees.	Poor form, shape and condition. Unable to inspect due to restricted access. Offsite boundary tree with overhanging branches. Hedgerow standard tree. Self-set, pioneer tree. Dead Elms	C2
TG3	Hawthorn, Elder, Elm and Prunus sp	Remove all dead elms	Poor form, shape and condition. Offsite boundary tree with overhanging branches. Dead Elms	C2
TG4	Hawthorn, Elder, Elm, Ash and Prunus sp	Remove all dead elms	Poor form, shape and condition. Dead Elms	C2
T12	Hornbeam	Cut branches back from fence by 2m	Average form, shape and condition. No significant recent crown management. Co-dominant tree with major stem included union. Damaged bark with sound woo exposed. Multiple pruning wounds on main stem with minor decay.	C1
T13	Hornbeam	Cut branches back from fence by 2m	Average form, shape and condition. No significant recent crown management. Co-dominant tree with included union. Multiple pruning wounds on main stem with minor decay.	C1
T17	Hornbeam	Cut branches back from fence by 2m	. No significant recent crown management. Co-dominant tree with included union. Multiple pruning wounds on main stem with minor decay. Poor form (Asymmetric canopy), shape and condition. Soil heavily compacted within rooting zone.	C1
T18	Hornbeam	Cut branches back from fence by 2m	. No significant recent crown management. Co-dominant tree with included union. Multiple pruning wounds on main stem with minor decay. Poor form (Asymmetric canopy), shape and condition. Soil heavily compacted within rooting zone.	C1
T19	Hornbeam	Cut branches back from fence by 2m	. No significant recent crown management. Co-dominant tree with included union. Multiple pruning wounds on main stem with minor decay. Poor form (Asymmetric canopy), shape and condition. Soil heavily compacted within rooting zone.	C1
T21	Sycamore.	Cut back from fence by 2mSever ivy at 2m from ground level and remove section.	Poor form (Asymmetric canopy), shape and condition. No significant recent crown management. Ivy clad crown and stem unable to fully inspect.	C2
T22	Norway Maple.	Sever ivy at 2m from ground level and remove section. Remove dead wood >5cm diameter throughout the crown / overhanging site.	Poor form (Asymmetric canopy), shape and condition. No significant recent crown management. Ivy clad crown and stem unable to fully inspect. Dense crown, major crown deadwood.	C2
T24	Goat Willow.	Remove basal vegetation and re-inspect root crown.	Poor form, shape and condition. No significant recent crown management. Co-dominant tree with included unions. Hedgerow standard tree. Unable to inspect due to restricted access.	C2
T25	Goat Willow.	Remove basal vegetation and re-inspect root crown.	Poor form, shape and condition. No significant recent crown management. Co-dominant tree with included unions. Hedgerow standard tree. Unable to inspect due to restricted access.	C2
T26	Sycamore.	Sever ivy at 2m from ground level and remove section.	Poor form (Asymmetric canopy), shape and condition. Unable to inspect due to restricted access. Ivy clad crown and stem b32unable to fully inspect.	C2
T28	Lime.	Sever ivy at 2m from ground level and remove section.	Average form, shape and condition. No significant recent crown management. Ivy clad crown and stem unable to fully inspect.	B1
T30	Rowan.	Tag 1424	Average form, shape and condition. No significant recent crown management. Sparse crown showing signs of stress with crown retrenchment. Tree located on bomb shelter	C1
T32	Sycamore.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	Average form, shape and condition. Dense crown, moderate/major crown deadwood. No significant recent crown management.	B2

Tree No.	Species	Proposed Tree Works	Reason	BS Cat
T33	Sycamore.	Sever ivy at 2m from ground level and remove section. Remove basal vegetation and re-inspect root crown.	Poor form, shape and condition. Unable to inspect due to restricted access. Ivy clad crown and stem unable to fully inspect. Co-dominant tree with included unions. Dense crown, moderate/major crown deadwood.	C2
T34	Sycamore.	Sever ivy at 2m from ground level and remove section. Remove basal vegetation and re-inspect root crown.	Poor form, shape and condition. Unable to inspect due to restricted access. Ivy clad crown and stem b33unable to fully inspect. Co-dominant tree with included unions. Dense crown, moderate/major crown deadwood.	C2
T35	Sycamore.	Sever ivy at 2m from ground level and remove section. Remove basal vegetation and re-inspect root crown.	Poor form, shape and condition. Unable to inspect due to restricted access. Ivy clad crown and stem unable to fully inspect. Co-dominant tree with included unions. Dense crown, moderate/major crown deadwood.	C2
T36	Whitebeam.	Climbing inspection to measure the extent of branch decay.	Average form, shape and condition. No significant recent crown management. Central leader lost in past stag-headed crown, naturally reducing. Fiber buckling on stem at 6m. Decay cavity at base of stem major decay.	C2
T37	Sycamore.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	Poor form (Asymmetric canopy), shape and condition. No significant recent crown management. Dense crown, low/moderate crown deadwood.	C2
T43	Sycamore.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	Average form, shape and condition. No significant recent crown management. Dense crown, moderate/major crown deadwood.	B1
T44	Whitebeam.	Climbing inspection to measure the extent of decay	Average form, shape and condition. No significant recent crown management. Decay branches on central stems with moderate\major decay.	B1
T45	Sycamore.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	Average form, shape and condition. No significant recent crown management. Dense crown, moderate/major crown deadwood. Multiple pruning wounds on main stem with moderate decay cavities.	C1
T46	Whitebeam.	Climbing inspection to measure the extent of decay	Average form, shape and condition. No significant recent crown management. Decay branches on central stems with moderate\major decay.	B1
T47	Whitebeam.	Climbing inspection to measure the extent of decay	Average form, shape and condition. No significant recent crown management. Decay branches on central stems with moderate\major decay.	B1
T51	Whitebeam.	Climbing inspection to measure the extent of decay	Average form, shape and condition. No significant recent crown management. Decay branches on central stems with moderate\major decay.	B1
T54	Laburnum.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	Average form, shape and condition. No significant recent crown management. Multiple pruning wounds and stem cracking on main stem. Dense crown, low/moderate crown deadwood.	C2
T57	Beech	Insert flexible restraint system between co-dominant stems. Re-inspect in 6months to confirm if ustulina.	Average form, shape and condition. No significant recent crown management. Twin stemmed tree at 2.4m with moderate included union. Possibly ustulina at base.	B2
T58	Beech	Insert flexible restraint system between co-dominant stems.	Average form, shape and condition. No significant recent crown management. Multiple stemmed tree at 3.2m with moderate included union. Natural grafting in crown.	B2
T60	Beech	Insert flexible restraint system between co-dominant stems. Remove dead wood >5cm diameter throughout the crown / overhanging site.	Average form, shape and condition. No significant recent crown management. Twin stemmed tree at 6.4m with moderate included union. Dense crown, moderate/major crown deadwood.	B2
T61	Beech	Insert flexible restraint system between co-dominant stems.	Average form, shape and condition. No significant recent crown management. Twin stemmed tree at 1.1m with moderate included union.	B2
T63	Sycamore.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	Average form, shape and condition. No significant recent crown management. Twin stemmed tree at 1.6m with moderate included union. Dense crown, moderate/major crown deadwood.	B2
T65	Sycamore.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	Average form, shape and condition. No significant recent crown management. Dense crown, moderate/major crown deadwood.	B2
T66	Silver Birch.	Sever ivy at 2m from ground level and remove section.	Average form, shape and condition. Ivy clad crown and stem b33unable to fully inspect.	C2
T67	Sycamore.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	Average form, shape and condition. No significant recent crown management. Dense crown, moderate/major crown deadwood. Ivy clad crown and stem unable to fully inspect.	B2

Tree No.	Species	Proposed Tree Works	Reason	BS Cat
		Sever ivy at 2m from ground level and remove section.		
T68	Norway Maple.	Remove dead wood >5cm diameter throughout the crown / overhanging site.	Average form, shape and condition. Dense crown, low/moderate crown deadwood. No significant recent crown management.	B2
T69	Whitebeam.	Climbing inspection to measure the extent of decay	Average form, shape and condition. No significant recent crown management. Decay branches on central stems with moderate\major decay.	B1

To Be Removed

Tree No.	Species	Proposed Tree Works	Observations	BS Cat
TG8	Sycamore. Elm. Elder.	Fell to ground level.	Poor form, shape and condition. Self-set, pioneer tree. Young newly established tree. Dead elms	C2
T5	Elm.	Fell to ground level.	Poor form (Asymmetric canopy), shape and condition. Dutch elm disease	U
T31	Silver Birch.	Fell to ground level.	Poor form (Asymmetric canopy), shape and condition. Sparse crown showing signs of stress with crown retrenchment. Cavity between buttress roots with early/moderate decay.	U
T41	Sycamore.	Fell to ground level.	Poor form (Asymmetric canopy), shape and condition. Dense crown, moderate/major crown deadwood. Sparse crown showing signs of stress with crown retrenchment. Cavity between buttress roots with moderate/major decay. Decay cavity on main stem.	U
T52	Whitebeam.	Fell to ground level.	Sparse crown showing signs of stress with crown retrenchment. Tree colonised by fungi thought to be Innotus sp.	U

Appendix 6 – Site Inspection & Monitoring Schedule

In order to ensure that the principals of tree protection set out in the statement are adhered to, it is important to set out communication details for key individuals and tasks that require supervision. These details should be retained by all relevant parties and available on site at all times. Relevant parties will be advised of any changes in personnel or contractor during the development process.

To ensure that the construction process is undertaken with minimal disturbance to the retained tree stock, we recommend that an experienced Environmental Services arboricultural consultant be appointed to undertake regular inspections of the site according to a site inspection / supervision schedule below.

It is our experience that a mix of scheduled and unannounced site visits are appropriate these unannounced inspections will serve to identify any damage to the Tree Protection Fencing, poor working practices, potential problems and points of conflict between the construction process and the health of the trees. These reports will include recommendations for remedial action.

During these visits any changes to the proposed works will be discussed, their impact assessed and recommendations for best practice will be outlined. After each of these visits a copy of the report should be sent to the Site Agent, Local Authority Tree Officer and Client. The remedial action undertaken will be recorded on the next visit.

It should be noted that these visits will only be undertaken if a written instruction is received from the client prior to commencement of works on site.

With reference to relevant published guidance, the methodology of this statement follows a logical sequence essential to the efficacy of the protection measures. References may include: British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'; British Standard 3998:2010 'Tree Work - Recommendations' and National Joint Utilities Group 'Guidelines for the planning, installation and maintenance of utility apparatus in proximity to trees, Volume 4' 2007.

It is essential to the successful implementation of the principals set out in this document that effective supervision and enforcement are implemented from the outset as detailed in the following construction phases.

Constraints Item	Site Supervision required	Number of Visits Expected	Timing of Site Visits	Actual Visit Date
Tree works operations	Optional	Visit 1	Prior to construction	TBC
Pre-commencement meeting between relevant parties informing Council of development start date	Yes	Visit 2	Prior to site clearance	TBC
Establishment & protection of Root Protection Areas (RPA) for retained trees to 'sign off' installed tree protection fencing and temporary ground protection	Yes	Visit 2	Prior to site clearance	TBC
Changes in soil levels in close proximity to retained trees – retaining walls	Yes	Visit 3	During site clearance phase	TBC
Location of temporary access route through / adjacent to the retained trees and for access for construction vehicles and avoidance of compaction to the RPA of retained trees	Yes	Visit 3	During construction phase	TBC
Protection and prevention of damage to retained tree canopies during construction	Yes	Visit 3	During construction phase	TBC
Installation of 'Reduced / No-dig' special surfacing within / through retained tree RPAs	Yes	Visit 4	During construction phase	TBC
Excavation of services trenches in close proximity to retained trees	Possible	Visit 5	During construction phase	TBC
Generic construction site constraints: **1 Site office / Welfare unit location** **2 Temporary toilets** **3 Siting of bonfires** **4 Location of contaminant storage and washout areas** **5 Location of stripped topsoil**	Yes	Visit 3	During construction phase	TBC
Post construction site assessment for any required remedial treeworks operations recommendations.	Yes	Visit 6	Post construction	TBC

Appendix 7 – BS5837: 2012 Tree Constraints & Protection Methods

Phase 1 Pre-Construction Meeting

Prior to commencement of the works an onsite meeting will be held with all relevant parties including the site agent and appointed Environmental Services arboricultural consultant of works. The purpose of this meeting is to record site features including tree condition, agree tree works (See Tree Works Schedule, location of site storage and welfare facilities and the location of tree protection measures.

Phase 2 Tree Protection Measures

Subject to planning the Tree Protection Measures outlined in this report will be revisited in detail based on the working drawings, construction programme and method statement to be prepared.

Tree protection fencing should be installed prior to any demolition or ground-works commencing, remain in place throughout construction and be removed only after completion.

The provision of tree protection and light tree surgery will reduce the risk of direct damage to the retained trees. The demolition and construction process should not be commenced until the tree surgery works has been completed and the protective areas have been fenced off.

Tree protection will be installed as per the Tree Protection Plan which will be agreed with the Local Authority Tree Officer and with reference to the British Standard 5837 2012 'Trees in relation to design, demolition and construction – Recommendations'. Prior to commencing any demolition or construction works, the fencing will be inspected by the appointed Environmental Services Arboricultural consultant.

Within the fenced zone, no materials or chemicals should be stored at any time, no fires should be lit, no pedestrian or vehicle traffic, and level changes within these areas should be kept to an absolute minimum. Every effort should be taken to protect a maximum possible area of the root system.

Within the Root Protection Area no level changes or excavation within the RPA should be undertaken without the consent of the LPA Tree Officer.

Clear notices are to be fixed to the outside of the fencing with words such as 'TREE PROTECTION AREA – NO ACCESS OR WORKING WITHIN THIS AREA'. See Appendix 8.

The site agent, all contractors and other relevant personnel are to be informed of the role of the Tree Protection Fencing and their importance. A copy of the Tree Protection Plan will be displayed on site at all times during construction.

Phase 3 Demolition and Enabling Works

Prior to any works commencing on site the Tree Protection Fencing will be erected. During demolition programme and enabling works the existing front access will be in use. Any plant or vehicles engaged in the demolition works will operate outside the fenced off No-Dig / Root Protection Areas.

Phase 4 Locations of Site Offices Compound and Storage Area

The site office, welfare facilities, storage yard and contractors parking area need to be located within an area of the site that is outside the Root Protection Area (RPA). The compound will remain at least 1 metre outside the RPA with access from the main access road.

All fuel storage and loose cement / sand to be batched and stored in the compound area.

Phase 5 Groundworks, Level Changes, Foundations and Services

All spoil, including excavated soil and demolition material will be removed from site or stored in a location remote from any tree protection barriers.

With regard to the drawings provided the construction of foundations for the new build is located beyond the Root Protection Area (RPA) of retained trees, therefore with regard to the health of the retained trees no specialised foundation design is required. If the subsoil is found to be plastic, the foundations will be specified to take into account the potential influence of the vegetation on the moisture content and volume of the subsoil.

We recommend that all drainage and underground service routes are located beyond the RPA of all the retained trees. If the service runs are to be located within the RPA, we recommend that this matter is dealt with by method statement secured by planning condition. If services are located within the RPA special implementation techniques such as moleing, airspade, or hand digging may be required by the LPA. In the majority of cases, however, careful excavation with a low tonnage mechanical excavator supervised by the Environmental Services consultant arboriculturist can adequately undertake services excavations. When tree roots are encountered, hand digging and root protection can then be undertaken as and when they are observed.

Phase 6 Dismantling Protection Barriers

Dismantling the protection barriers around retained trees may be required to allow completion of final surface treatments and landscaping. Supervision of this exercise and control of the landscaping thereafter will be administered by the appointed Environmental Services arboricultural consultant. The removal of the Tree Protection Fencing is not an opportunity for machinery to access the previously fenced off area.

No further excavation will be carried out during this process and soils levels will not be raised above that existing by greater than 100mm and not within 2m of the trunk. Any removal of existing structures within the Root Protection Area including gardens type walls or paths will be carried out by hand.

Appendix 8 – Tree and Ground Protection Specification

on retained hard surfacing or it is otherwise unfeasible to use ground pins, e.g. due to the presence of underground services, the stabilizer struts should be mounted on a block tray (Figure 3b).

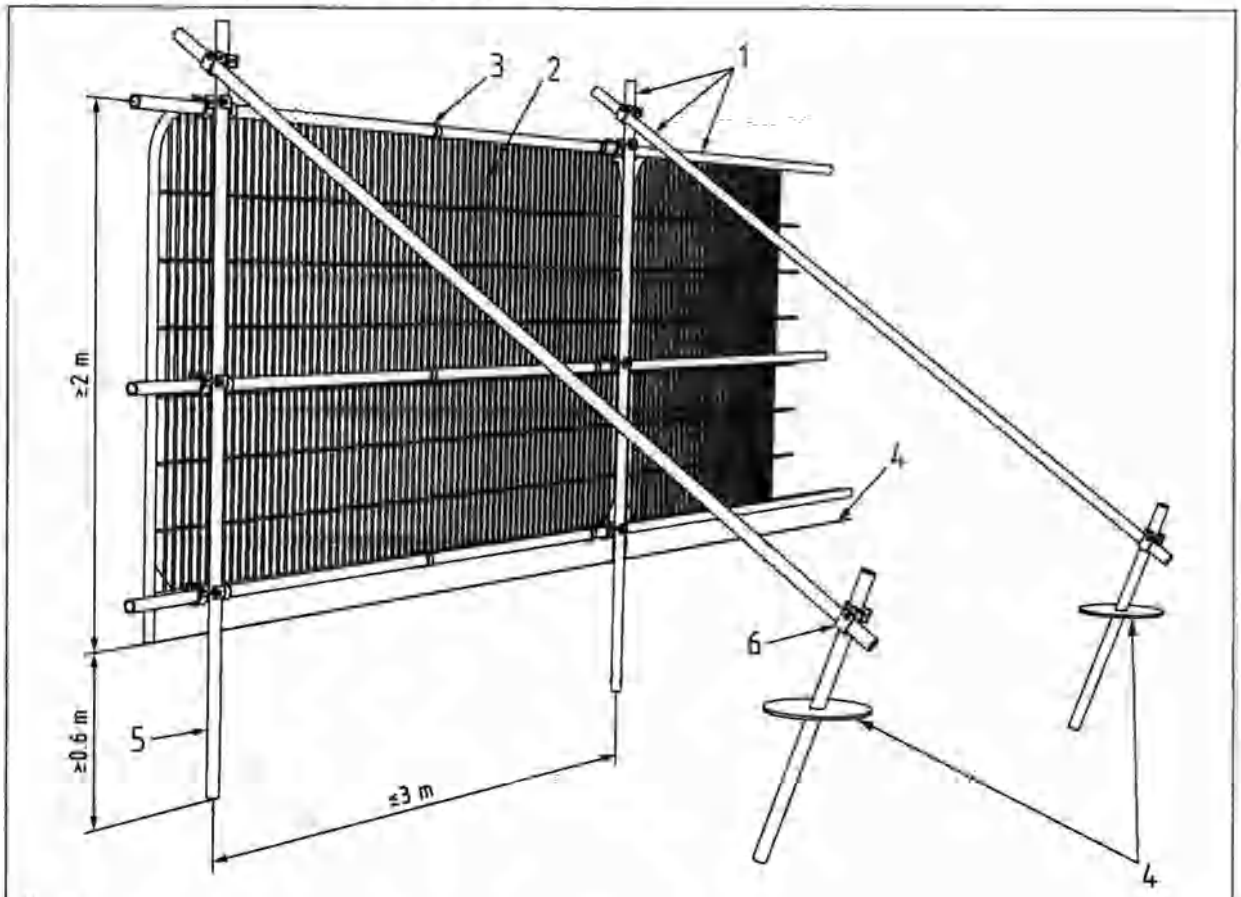
NOTE 1 Examples of configurations for steel mesh perimeter fencing systems are given in BS 1722-18.

NOTE 2 It might be feasible on some sites to use temporary site office buildings as components of the tree protection barriers, provided these can be installed and removed without damaging the retained trees or their rooting environment.

6.2.2.4 All-weather notices should be attached to the barrier with words such as:

"CONSTRUCTION EXCLUSION ZONE – NO ACCESS".

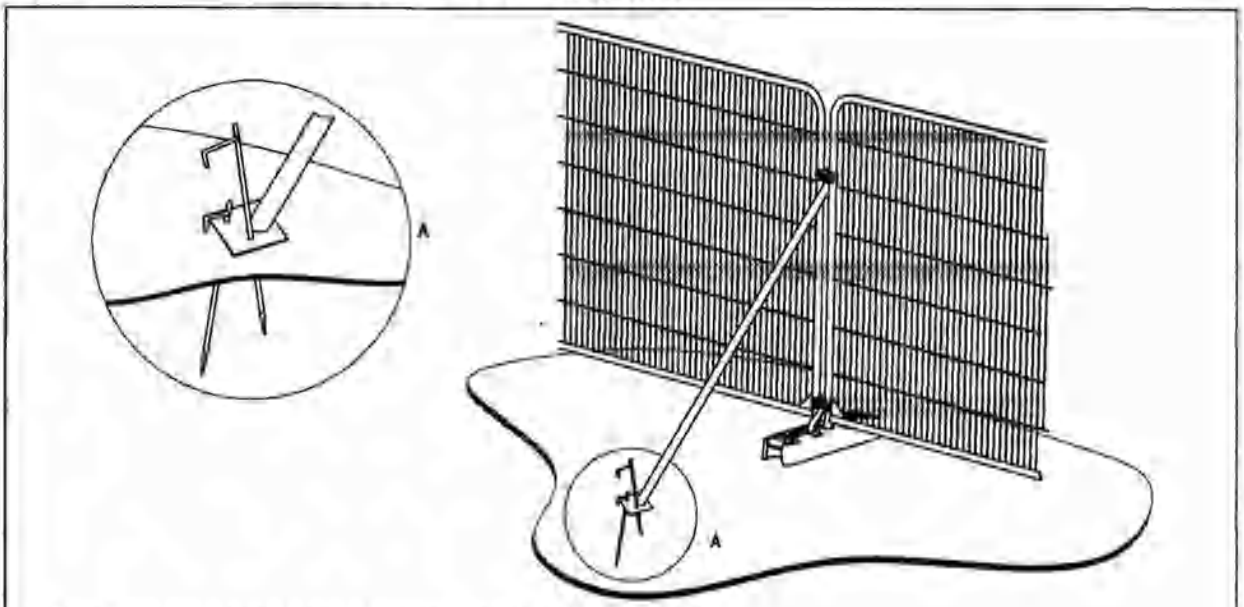
Figure 2 **Default specification for protective barrier**



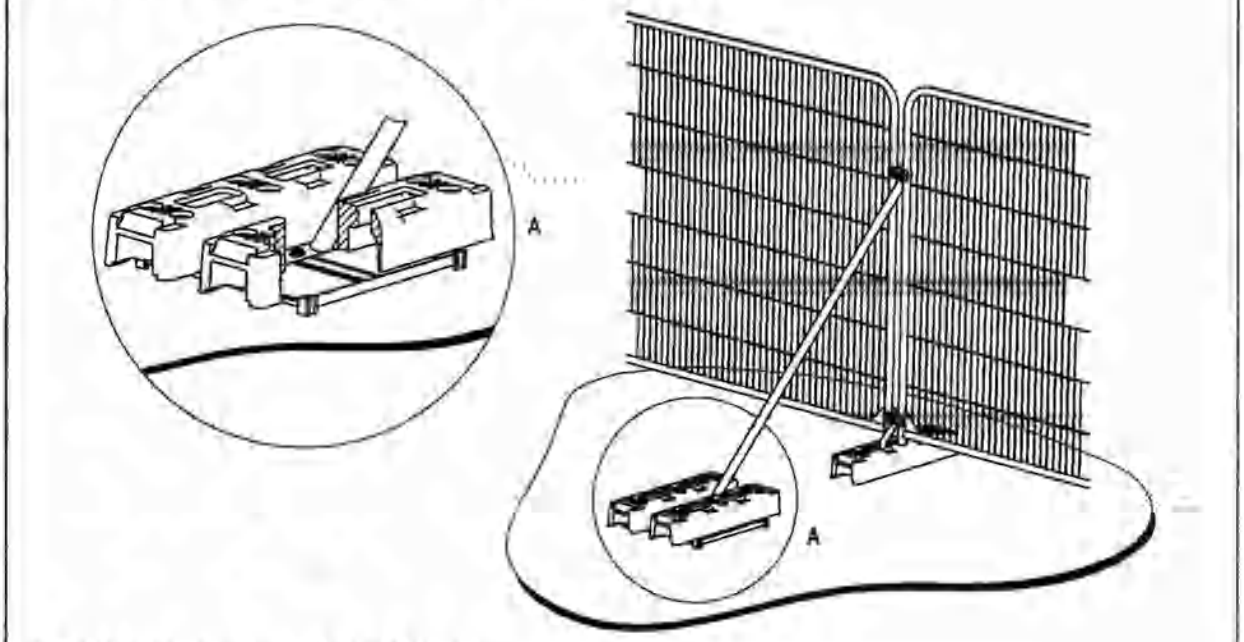
Key

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 **Examples of above-ground stabilizing systems**



a) Stabilizer strut with base plate secured with ground pins



b) Stabilizer strut mounted on block tray

6.2.3 Ground protection during demolition and construction

6.2.3.1 Where construction working space or temporary construction access is justified within the RPA, this should be facilitated by a set-back in the alignment of the tree protection barrier. In such areas, suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during construction, rather than being removed during demolition. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate.

Suggested protective fencing warning sign format

TREE PROTECTION AREA

KEEP OUT

(TOWN & COUNTRY PLANNING ACT 1990)

THE VEGETATION PROTECTED BY THIS FENCE IS PROTECTED BY PLANNING CONDITIONS AND/OR IS THE SUBJECT OF A TREE PRESERVATION ORDER.

IF YOU REQUIRE ACCESS INTO THIS AREA PLEASE CONTACT

planning@innovation-environmental.co.uk

T: +44 (0)330 380 1036

Appendix 9 – Temporary Ground Protection Specification

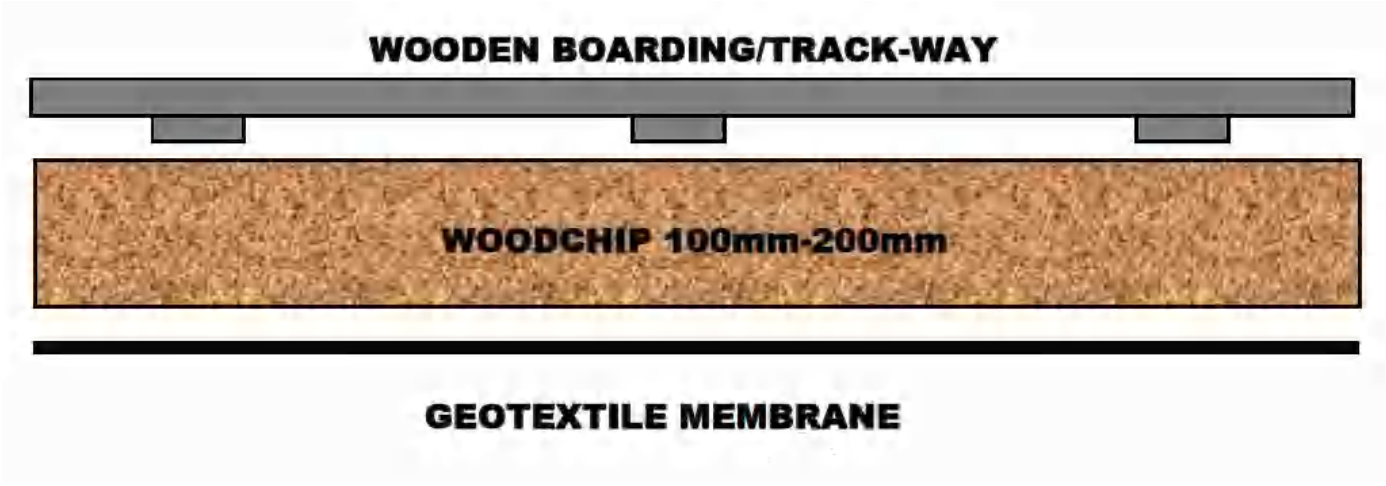
BS5837 recognizes that incursions in to the construction inclusion zones will be required at times during some developments.

The objective is to minimize soil compaction

Example 1 - *for pedestrian movements only, a single thickness of scaffold boards places either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g.) 100mm depth of woodchip), laid on to a geotextile membrane.*

Example 2 - *For pedestrian-operated plant up to a gross weight of 2 t, proprietary inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150mm depth of woodchip), laid onto a geotextile membrane;*

Example 3 - *For wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.*

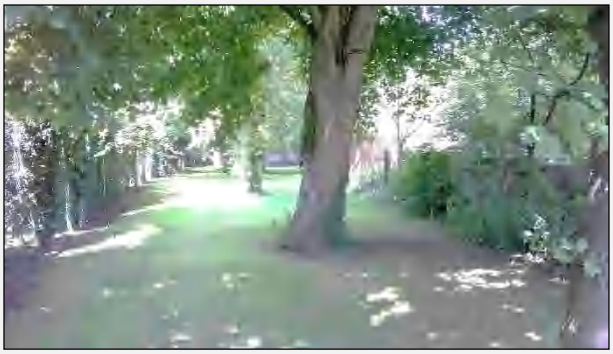


Appendix 10 – Photographs

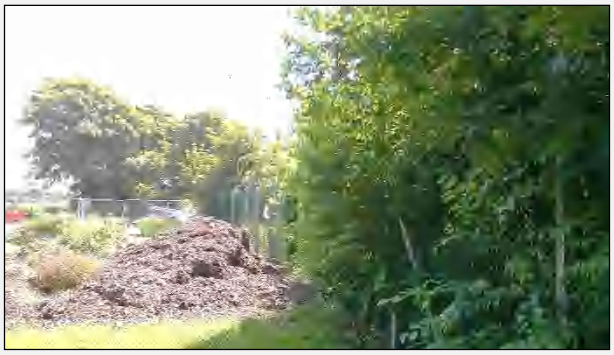
W1

Main Site Entrance

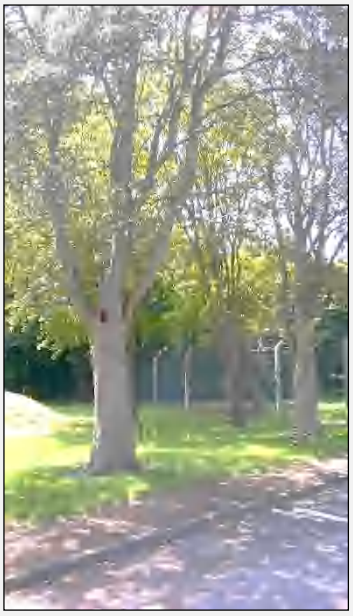
TG8



T68



W1 Boundary



T40 Whitebeam

TG1 – TG2

TG5