Arboricultural Impact Assessment and Tree Condition Survey

for

Phase 7B at Heyford Park

Upper Heyford,

Bicester,

OX25 5HD

Prepared for Dorchester Group

RUSKINS
TREE CONSULTANCY

A trading name of RG Consultancy Limited

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Our Ref: 0317-2112 Rev 2
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Contents

Appendices

1.0 Introduction

1.1 This Arboricultural Implication Assessment has been prepared By Ruskins Tree Consultancy to inform the detailed planning application for Phase 7B of the Heyford Park development as identified in the approved outline planning application 10/01642/OUT. The Phase 7B site is located on a parcel of land to the North of Camp Road, and to the western side of the Village Centre North site .

1.2 The scope of the assessment was to visit the site and to re-survey relevant trees, groups and hedges in accordance with BS5837:2012 '*Trees in relation to design, demolition and construction – recommendations*.' These trees have previously been surveyed by Pegasus Group over the period from March 2015 to June 2016 and we have been provided with a copy of this tree survey, within our tree survey we have used the same tree numbers as the earlier Pegasus Group tree survey.

1.3 We have been provided with a copy of the proposed layout plan and have been instructed to assess the impact of development proposals on the arboricultural resource and to produce the following:

- Arboricultural Impact Assessment
- Tree Retention and Loss Plan
- Tree Protection Plan
- Arboricultural Method Statement.

2.0 Report Limitations

2.1 Trees are living organisms as well as self-supporting dynamic structures. Their physiological and structural condition can change rapidly in response to a wide range of biotic/abiotic factors. They have the potential to fail structurally, both with and without prior manifestation of any reasonably observable symptoms.

2.2 This report is prepared for the planning application purposes only and does not evaluate the degree of risk posed by trees.

2.3 It is beyond the scope of this report to comment in relation to structural damage – direct or indirect, existing or potential – that might be associated with vegetation growth, or vegetation-related soil subsidence or heave.

2.4 Any management recommendations set out within this report are of an advisory and preliminary nature only and relate to trees within the context of current site use.

2.5 Any physical alterations to site conditions subsequent to the date of the site survey will have the potential to change/invalidate the findings and recommendations of this report.

2.6 Findings relate to the condition of the trees as found at the time of survey.

2.7 The findings and recommendations of this report are limited to a period of 24 months from the date of this report. In the event of any changes in the rooting environment of the trees including

excavation works, waterlogging or removal of any underground structures /services the condition of the trees should be reviewed.

2.8 After extreme weather events or if any large branch failure, storm damage, structural failure or symptoms of disease of decay including fungi are observed then we recommend that the condition of the trees should be reviewed.

3.0 Statutory Tree Protection

3.1 The site is located within the Upper Heyford Conservation Area therefore all the trees with a stem diameter in excess of 75mm are subject to protection under the Conservation Area legislation. Notwithstanding specific exemptions in general terms, a Conservation Area prevents the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of trees or woodlands without the prior consent of the local planning authority.

3.2 Unless tree works are explicitly approved within the full planning consent or are exempt from this statutory protection, no works should be undertaken to trees with a stem diameter of more than 75mm without the necessary notification (or if the trees are subject to a TPO a consent application for tree works) being submitted to Cherwell District Council.

3.3 We are not aware of any TPOs that protect trees within this area, but it should be noted that the Conservation Area status does not preclude the presence of Tree Preservation Orders (TPO) which may also serve to protect the trees.

3.4 On many sites (excluding specific exemptions) there is also a statutory restriction relating to tree felling that relates to quantities of timber that can be removed within set time periods. In basic terms, it is an offence to remove more than 5 cubic metres of timber in any one calendar quarter without having first obtained a felling licence from the Forestry Commission.

3.5 Prior to any treeworks or vegetation clearance being undertaken the possible presence of nesting birds or protected species needs to considered and if necessary specific ecological advice should be sought. Nesting birds and protected species (including bats and their roosts) are protected from disturbance under the Wildlife and Countryside Act 1981 (as amended), The Countryside and Rights of Way Act 2000 (as amended) and the Conservation of Habitat and Species Regulations 2010.

4.0 Planning Context

4.1 In December 2011, Cherwell District Council (CDC) granted outline planning permission for the development of Heyford Park; a new settlement on the former RAF Upper Heyford airbase (Ref. 10/01642/OUT).

4.2 The outline permission included: -

- Up to 1,075 dwellings (a mix of new build and conversion of existing former military accommodation)
- New employment comprising of B1 Offices
- B2/B8 industrial/ warehousing (new build and conversion of existing)
- A new Village Centre
- Other physical and social infrastructure

4.3 Heyford Park has been developed over a number of phases with a rolling programme of reserved matters applications. Phase 7B forms part of this ongoing development.

4.4 **National Planning Policy Framework**

4.5 National Planning Policy Framework (March 2012) from Department for Communities and Local Government includes guidance on design and the natural environment in paragraphs 17, 56, 57 and 61 and most specifically in paragraph 118 which states that;

'*planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss;'*

4.6 There are no irreplaceable habitats, veteran trees or areas of ancient woodland on this site; it is therefore our opinion that the NPPF guidance in relation to trees is not relevant to the proposed development of this site.

5.0 Site Description

5.1 The site is described in detail within the planning application in summary. The site extends to 0.36 hectares; it is broadly rectangular in shape. The site is located to the northern side of Camp Road and to the western side of the Village Centre North Site

5.2 The site is occupied by a hardened electricity sub-station which is to be retained. The site is broadly level, with no adverse topographical features. The site consists of an area of open ground to the southern part of the site, with concrete hardstanding to the northern part of the site.

6.0 The Tree Resource

6.1 The tree resource within the proposed development area consists of an informal group of trees planted as part of the airfield development of the site. The trees include sycamores with some beech, Scots pines, lime hornbeams and a hawthorn hedges. All the trees are estimated to be less than 70 years old.

6.2 The trees have an amenity value within the locality main derived from their group value. The quality of the individual trees within the group is considered generally to be average to poor.

6.3 The condition of the trees is due to a number of factors including; lack of management, poor nursery selection and lack of formative pruning, lack of any new planting and possibly poor growing conditions. For details on the individual trees please see the tree condition survey attached in Appendix 1.

6.4 A summary of the tree survey findings for the whole site is shown in the graph below and can be seen on the Tree Survey Plan. A total of 23 items consisting of 22 individual trees, and a hedge were surveyed.

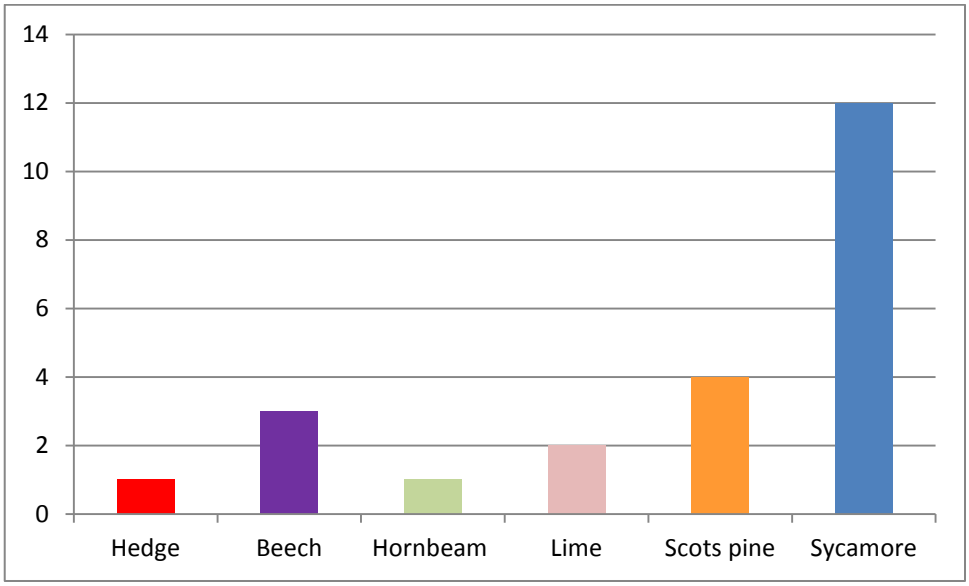

Table 1

6.5 The tree species are dominated by sycamore which make up over 50% of the tree resource.

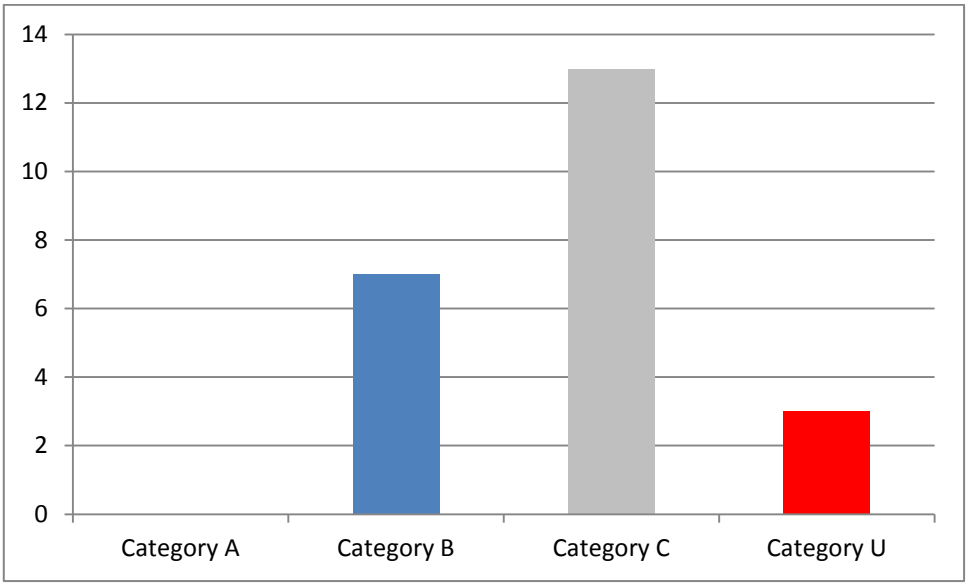

Table 2

6.6 The tree resource consists predominately of Category C trees which make up over 56% of the tree resource with 30% of the trees qualifying as Category B trees. There are no Category A trees and there are 3 Category U trees.

6.7 The BS Categories referred to in this report are described in detail in Appendix 1. In summary the quality of the trees resource is assessed and the trees are divided into 4 categories based a number of factors including; their condition, remaining life-expectancy, landscape, arboricultural and cultural/conservation value.

6.8 The BS 5837 (2012) categories are shown below:

Category U: Those in such a poor condition that they cannot realistically be retained

Category A: Trees of high quality

Category B: Trees of moderate quality

Category C: Trees of low quality

6.9 Due to the density of planting and lack of management many of the trees have grown either suppressed or attenuated. Some of the trees have structural defects including weak unions which compromise their structural integrity. It should be noted that the majority of the trees have matured as part of a group and have formed a co-dependent larger canopy. This has impacted on their individual form and any proposal for selective removals needs to consider the impact of these works on the stability and structural integrity of the newly exposed retained trees.

7.0 Arboricultural Impact Assessment

7.1 The proposed redevelopment of this part of this site impacts on the potential to retain trees growing in this area.

7.2 The trees to be removed to allow the proposed development are identified within the Tree Condition Survey and shown on the Tree Removals Plan. For ease of reference we have listed the trees to be removed.

Impact	Total	BS Cat A	BS Cat B	BS Cat C	BS Cat U
Trees to be removed To facilitate the Phase 7B Development	14 Trees, 1 Hedgerow	N/a	*T631, T634, T640*	*H133, T632, T633, T635, T636, T637, T638, T639, T643,T644, T646, T650 (11 Trees, 1 Hedgerow)*	*N/A*
Trees to be removed Due to poor condition	3 Trees	N/a			*T632,T641, T647*
Total (To be Removed)	***17 Trees, 1 Hedgerow***	**N/a**	***3***	***11 Trees, 1 Hedgerow***	***3***

Table 3

7.3 A total of 17 trees, and 1 hedgerow are to be removed to allow for Phase 7B of the Heyford Park development, of these trees 3 could be expected to be removed due to their poor quality as part of any tree management programme.

7.4 The trees to be removed to allow for the proposed development are 3 'B' category tree and 11 'C' category trees and 1 'C' category hedgerow and 3 'U' Category Trees.

7.5 The trees to be removed are identified on the Tree Removals Plan and within the Tree Condition Survey. The principal of removing trees to allow for an appropriate layout subject to appropriate new tree planting is supported in all the relevant planning policies and in BS5837 (2012).'Trees in relation to design, demolition and construction – Recommendations' which states that:

> *5.1.1 The constraints imposed by trees, both above and below ground (see Note to 5.2.1) should inform the site layout design, although it is recognized that the competing needs of development mean that trees are only one factor requiring consideration. Certain trees are of such importance and sensitivity as to be major constraints on development or to justify its substantial modification.*

7.6 In my opinion none of the trees to be removed are of considered to be of '*such importance or sensitivity to be major constraints on development or justify its substantial modification'*.

7.7 There are no Veteran or near Veteran trees on this site and no BS5837 Category A trees to be removed as part of this development.

7.8 A total of 5 trees are to be retained within open space to the southern side of the proposed development. The tree resource within this site will be supplemented by new planting of appropriate tree species which are proposed as part of the landscaping scheme.

7.9 These trees will be planted in suitably specified and prepared planting pits with sufficient soil volume to ensure there long-term future and appropriate maintenance to assist with their establishment. All tree planting will be subject to ongoing management to ensure the trees become successfully established.

7.10 The proposed new tree planting within the development will serve to significant increase the tree species and age class diversity within this site. This planting also gives the opportunity to secure the long-term future and amenity value of the tree resource within the site.

7.11 To ensure there is no net loss of trees as part of the wider Heyford Park development a comprehensive landscape strategy is currently being prepared to ensure that significant new tree planting is undertaken in appropriate locations across the site. This planting will aim to enhance the quality, landscape and amenity value of the tree resource across the site, whilst protecting valuable ecological habitats, increasing the bio-diversity value of the wider area and considering the long-term impacts of tree planting on the setting of the heritage assets and the wider landscape. It is proposed that this landscape strategy and the mechanism for securing its delivery will subject to consultation and agreement with the Cherwell District Council Arboricultural Officer and Landscape Officer.

7.12 To ensure that the retained trees are protected and maintained in the most favourable growing conditions it is proposed that as per the BS5837 (2012) the area around retained trees is fenced-off with tree protection fencing prior to commencement of any enabling or demolition works.

7.13 All works within this fenced-off area including the removal of the existing hardstanding and proposed new hardstanding and soft landscaping will be undertaken following a detailed Arboricultural Method Statement and under the direct on-site supervision by the Arboricultural Clerk of Works.

7.14 Providing the retained trees are subject to appropriate protection it is my opinion that the proposed development can be constructed without detriment to the health, or longevity of the retained trees.

7.15 The following sections of this report outline the site works in relation to the retained trees, it is proposed as recommended in BS5837 (2012) that subject to planning consent being granted, the guidelines outlined in this report will be revisited and addressed in detail prior to site works commencing.

8.0 Summary of Tree Protection Measures

8.1 The main points of note regarding the tree protection measures during the proposed works are listed below:

- **An Arboricultural Clerk of Works (ACoW) will be appointed to help ensure that the retained trees are considered during the preparation of all external works drawings and are successfully protected during the proposed works.**
- **Prior to any works commencing on site a meeting will be held with the site agent, client representative, demolition contractor and ground-workers to discuss the Tree Protection Measures associated with this project.**
- **The theoretical root protection area of retained trees will be spray painted on the existing hardstanding all works in these areas will be undertaken under direct supervision by the Arboricultural Clerk of Works (ACoW).**
- **Trees identified for removal as per the approved drawings will be clearly marked with spray paint. Any Trees works including clearance, removal or facilitation pruning will be undertaken by a suitably qualified and insured Arboricultural Contractor.**
- **The initial site scrape will not be undertaken until the Tree Protection Fencing has been inspected by the ACoW.**
- **All tree protection measures including The Tree Protection Fencing, Temporary Ground Protection will be installed prior to enabling, demolition, ground works or construction works commencing and will remain in situ during the construction programme.**
- **No Machinery will overhang or pass over the line of the Tree Protection Fencing.**
- **The open ground within the fenced off Tree Protection Area / Construction Exclusion Zone will be mulched to a depth of 100mm and if necessary will be subject to irrigation during periods of prolonged dry weather.**
- **Prior to any Enabling / Demolition / Construction works commencing the Tree Protection Measures will be inspected by the ACoW.**
- **The Tree Protection / Site Logistics Plan will be on display in the site agent's office.**
- **Any variations to the agreed construction methodology that may impact on the retained trees or the ground around the retained trees will be reviewed by the ACoW**
- **All works (including Landscaping works) within the fenced-off Tree Protection / Construction Exclusion Zone and as identified on the Tree Protection Plan will be specified to avoid excavation, level changes and damage to the root system of the retained trees. The specifications and construction methodologies for all these works will be reviewed by the ACoW prior to works commencing.**
- **The removal of existing hardstanding will be undertaken following the guidance outlined in the Arboricultural Method Statement and under direct Arboricultural Supervision by the ACoW.**
- **The removal or movement of Tree Protection Fencing will only be undertaken following discussion with and receipt of written confirmation from the ACoW.**

8.2 It should be noted that damage to trees both above and below ground may impact on the health and structural integrity of the tree and this may (usually in the longer term result) in whole or partial tree failure, which has the potential to result in personal injury and or damage to property. With regard to the size and location of the retained trees it is therefore essential that the construction methodology and tree protection measures outlined in this report are fully implemented.

8.3 Below is an extract from BS5837 (2012) *'Trees in relation to design, demolition and construction – Recommendations*' relating to the preparation of an Arboricultural method statement.

6.1 Arboricultural method statement

6.1.1 *A precautionary approach towards tree protection should be adopted and any operations, including access, proposed within the RPA (or crown spread where this is greater) should be described within an arboricultural method statement, in order to demonstrate that the operations can be undertaken with minimal risk of adverse impact on trees to be retained.*

6.1.2 *The arboricultural method statement should be appropriate to the proposals and might typically address some or all of the following, incorporating relevant information from other specialists as required:*

a) removal of existing structures and hard surfacing;

b) installation of temporary ground protection,

c) excavations and the requirement for specialized trenchless techniques;

d) installation of new hard surfacing – materials, design constraints and implications for levels;

e) specialist foundations – installation techniques and effect on finished floor levels and overall height;

f) retaining structures to facilitate changes in ground levels;

g) preparatory works for new landscaping;

h) auditable/audited system of arboricultural site monitoring, including a schedule of specific site events requiring input or supervision.

6.1.3 *The arboricultural method statement should also include a list of contact details for the relevant parties.*

8.4 Within Section of 9 of this report we will deal with each of the above points in turn but the 1st works to be undertaken prior to any demolition or enabling works commencing will be the tree works along with the installation of the tree protection fencing as per the Tree Protection Plan prepared by Ruskins Tree Consultancy (See Appendix 1).

8.5 Prior any site demolition, ground works or construction works commencing Tree Protection Fencing will be installed in accordance with the Tree Removals and Tree Protection Plan attached in Appendix 1. Any subsequent works within the fenced-off area will be subject to detailed specification and direct arboricultural supervision.

8.6 Within the fenced off Tree Protection Area unless agreed with the ACoW there will be;

- No level changes + or -
- No storage of plant or materials.
- No storage or handling of any chemical including cement washings.
- No Pedestrian, Machinery or Vehicular Access.
- Any works within the Fenced off areas will be subject to Arboricultural Supervision.

8.7 Fires on site should be avoided if possible. Where they are unavoidable, they must not be lit in a position where heat could damage foliage or branches. Fires must be a minimum of 20m from the trunk of any retained tree or the centre line of any hedgerow to be retained. No signs, cables, fixtures or fittings of any other description shall be attached to any part of a retained tree.

8.8 The fencing should only be removed only after completion of the construction works to allow for landscaping works. The fenced off area is a Construction Exclusion Zone (CEZ). 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 3).

9.0 Arboricultural Site Supervision

9.1 To ensure that the construction process is undertaken with minimal disturbance to the retained tree stock, an Arboricultural Clerk of Works (ACoW) will be appointed to undertake regular inspections of the site.

9.2 The Arboricultural Clerk of Works role shall be to:

a. To assess the specification and methodology of the proposed works and ensure these works have the minimum impact on the retained trees.
b. Brief the workers on the necessity to protect the retained trees.
c. To ensure the agreed methodology is followed by direct on-site supervision.
d. To prune roots using clean sharp pruning tools during manual excavation (if necessary).
e. To provide direction on tree protection issues as they arise.
f. To monitor and photograph the works undertaken.

9.3 Prior to site works commencing a site meeting will be held with the site agent and the arboricultural clerk of works and the demolition and ground works contractors.

9.4 The purpose of this meeting is to brief the site manager and relevant parties on the arboricultural issues to be considered, agree the programme of works and the location tree protection fencing.

9.5 The tree protection measures will be explained to all contactors and sub-contractors who will read, and sign this document before they undertake any works on site.

9.6 Arboricultural monitoring site visits will be undertaken at regular intervals during the construction process.

9.7 To deal with any emergences involving damage to trees, the Arboricultural Supervisor will provide a contact number that will be answered during all the hours of works on site. The Cherwell District Council Tree Officer will be informed of any accidents or emergencies involving trees.

10.0 Tree and Hedge Removals and Tree Pruning

10.1 Tree Works will be undertaken as per the approved plans on the granting of full planning permission. The works will be undertaken prior to the erection of the tree protection fencing, all vehicles and machinery will be located on the existing hardstanding or on open ground well beyond the Root Protection Area of the retained vegetation. All tree works will be undertaken by appropriately qualified and insured Tree Surgery Contractors with all works to comply with BS3998 2010.

11.0 Arboricultural Method Statement

11.1 Removal of existing structures and hard surfacing

11.2 There is no demolition works proposed as part of the works.

11.3 Prior to works commencing the tree protection fencing will be erected to restrict the working zone and if necessary temporary ground protection will be installed as per the Tree Protection Plan (See Appendix 2). This 2m high fencing will form a rigid immovable barrier which will be braced and secured in place using ground pins (See Appendix 3). Tree protection fencing must remain in place throughout the demolition and construction works.

11.4 The removal of existing hardstanding within the theoretical root protection area of retained trees will be undertaken following the guidance outlined below.

- The theoretical root protection area of retained trees will be spray painted on the existing hardstanding all works in these areas will be undertaken under direct supervision by the Arboricultural Clerk of Works (ACoW).
- The existing concrete and kerb stones will be carefully lifted.
- The existing concrete and sub-base will be carefully removed, by hand using an air-spade if required to remove only the inert sub-base material beneath the tarmac during these works any roots over 20mm diameter encountered will be carefully exposed.
- During these works all contractors and machinery will be located on the existing hardstanding, carefully working away from the trees.
- Any large roots (over 20mm in diameter) encountered will be hand excavated to determine the direction of growth and these roots will be retained. This work shall be undertaken by hand and any roots found over 25mm in diameter to be left intact and protected from the elements such as frost, wind, sun, drying out etc.
- The area will be backfilled using imported clean topsoil. No machinery will move across the exposed area of open ground or backfilled topsoil.
- The Tree Protection Fencing will be moved to fence this area off and prevent access into this area.

11.5 All spoil, including excavated soil and excavated hardstanding material, will be removed from site or stored in a location remote from any tree protection barriers. The fuel storage and refuelling point is to be located in an area remote from any of the trees.

11.6 No underground structures or services will be removed in proximity to trees within the Root Protection Area; this includes any structures / services located within the Root Protection Area of trees running beneath existing hardstanding.

11.7 Installation of temporary ground protection

11.8 There is no requirement for temporary ground protection.

11.9 Excavations and the requirement for specialized trenchless techniques

11.10 Underground services will be designed to avoid the root protection areas of retained trees. The underground services drawing will be reviewed by the ACoW. If underground services are located within the Root Protection Area of retained trees the works the works will follow the guidelines outlined in NJUG Volume 4 Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2.

11.11 This guidance recommends works are undertaken following these rules; (with our additional comments in italics).

- **Don't** excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques. (*Preferably using an air-spade to excavate soil to determine the size, location and density of roots within the service route).*
- **Don't** cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer. (or ACoW)
- **Don't** move / use heavy mechanical plant except on hard standing.
- **Don't** store spoil or building material, including chemicals and fuels, within this zone.
- **Do** prune roots which have to be removed using a sharp tool (e.g. secateurs or handsaw). Make a clean cut and leave as small a wound as possible.
- **Do** backfill the trench with an inert granular material and top soil mix. Compact the backfill with care around the retained roots. On non-highway sites backfill only with excavated soil.
- **Do** protect any exposed roots with dry sacking ensuring this is removed before backfilling.
- **Do** notify the local authority tree officer and the tree's owner of any damage.

11.12 Installation of new hard surfacing;

11.13 The proposed area of new hardstanding identified as No-Dig on the Tree Protection Plan which aree restricted to a single parking bay and a footpath to the existing sub-station will be installed to limit excavation and avoid damage to the root system and rooting environment of the retained trees.

11.14 The sub-base and surface finish of the proposed hardstanding will be specified to be both permeable and porous. Within the RPA of retained trees in areas of existing open ground the new 'No-Dig' hardstanding will be specified and constructed to avoid excavation >150mm below the existing ground level.

11.15 Detailed site specific specification for the permanent No-Dig Hardstanding will be prepared based on the soil characteristics and expected traffic prior to works commencing on this site, this specification will be reviewed and approved by the Arboricultural Clerk of Works.

11.16 For the No-Dig hardstanding the following guidelines will be followed:

- No excavation is to be undertaken without agreement and supervision by the Arboricultural Clerk of Works.
- During construction of the hardstanding all operations will be carried out using machinery located on the existing hardstanding, temporary ground protection or the installed hardstanding. No machinery will travel across the area where the existing hardstanding has been removed.
- Install 'Infraweb'/ 'Cellweb' / 'Gopla' / 'Bodcell' or similar as per manufacturers specification.
- Fill with 100mm of clean stones sizes 6mm-50mm as per the manufacturers' specifications. This fill must contain no fines, crushed concrete or MOT 'Type 1' is not a suitable fill material.
- Concrete kerbs can be used if bedded using a concrete haunch keyed into the Cellular Confinement System. No excavation for edging kerbs will be permitted.
- The finished surface must be permeable to moisture penetration.

11.17 Specialist foundations

11.18 The underlying soil conditions and proximity of existing and proposed trees will be considered during the specification of the foundations. This specification for these garage foundations and the construction methodology will be reviewed and approved by the Arboricultural Clerk of Works prior to these works commencing in this area.

11.19 Retaining structures to facilitate changes in ground levels

11.20 No changes in ground level are proposed with the root protection areas of retained trees.

11.21 Preparatory works for new landscaping

11.22 Dismantling the protection barriers will be required to allow completion of final landscaping. Supervision of this exercise and control of the landscaping thereafter will be administered by the appointed Arboriculturist. The removal of the Tree Protection Fencing is not an opportunity for machinery to access the previously fenced off area.

11.23 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 at all within 2m of the trunk.

11.24 During landscaping works the following guidance will be followed.

- Landscaping within the RPA of retained trees shall be by manual methods only.
- No machinery is to be used for cultivation, removal of soil or additional of soil.
- For areas of open ground original soil levels shall be unchanged, without import of topsoil or removal of existing soil.
- For laying of turf, the soil will not be rotavated. The soil will be lightly forked, manually hoed and raked to a fine tilthe prior to laying of turf.
- For shrubs or herbaceous beds. Planting shall be by use of hand tools and excavation shall be to the minimum extent required for planting of shrubs etc., on an individual plant by plant basis.
- Bark mulch may be applied to a maximum 75mm depth. No mulch should be piled up against the trunk of retained or newly planted trees.

11.25 Auditable / audited system of arboricultural site monitoring

11.26 See Section 9.0. Arboricultural monitoring site visits will be undertaken at regular intervals during the enabling / demolition and construction programme. During the demolition / groundworks and initial phases of construction works site the visits will be undertaken on a maximum of a fortnightly intervals, as the construction programme progresses and the high risk activities in terms of impacting on trees have been completed the intervals will increase with the maximum interval between site visits of 1 month.

11.27 To deal with any issues involving the trees, the Arboricultural Clerk of Works will provide a contact number that will be answered during all the hours of works on site (See Below). The Local Authority Tree Officer will be informed of any accidents or emergencies involving trees.

12.0 Contact Details

Dorchester Group Project Manager
Barry Dell
01869 238410
07548 650556
b.dell@dorchestergrp.com

Cherwell District Council Arboricultural Officer
Rhodri Jones
01295 221708
Rhodri.jones@cherwellandsouthnorthants.gov.uk

Arboricultural Clerk of Works Ruskins Tree Consultancy
Peter Wilkins,
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peter@ruskins-tree-consultancy.co.uk

Appendix 1

Tree Condition Survey

Tree Condition Survey for Phase 7B, Heyford Park, Upper Heyford, Bicester, OX25 5HD

Prepared for Dorchester Group

RUSKINS
TREE CONSULTANCY

A trading name of RG Consultancy Limited

Prepared by
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Our Ref: 0317-2107 Rev1
March 2017

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Tree Condition Survey for Phase 7B, Heyford Park, Upper Heyford, Bicester, OX25 5HD

1.0 Introduction

This survey has been undertaken on behalf of Dorchester Group, The scope of our assessment was to visit the site and to re-survey relevant trees, we have been asked to re-assess the condition of trees located within and close to the boundary of the site in accordance with BS5837:2012 '*Trees in relation to design, demolition and construction – recommendations*.' These trees have previously been surveyed by Pegasus Group over the period from March 2015 to June 2016 and we have been provided with a copy of this tree survey, within our tree survey we have used the same tree numbers as the earlier Pegasus Group tree survey.

We have received a copy of the proposed layout plan and have updated this survey to reflect the tree works necessary to allow for the redevelopment of the site. .

2.0 Survey Methodology

We have surveyed all the individual trees and groups of trees located within and close to the boundary of the site. The objective of the survey is to collect tree data relevant to the proposed redevelopment of the site and to categorise individual trees or tree groups in accordance with BS 5837 (2012) 'Trees in relation to design, demolition and construction – Recommendations' based on their condition, quality and future potential.

The purpose of the categories within BS5837 2012, is not to determine whether retention of trees is desirable, '*The purpose of the tree categorization method, which should be applied by an arboriculturist, is to identify the quality and value (in a non-fiscal sense) of the existing tree stock, allowing informed decisions to be made concerning which trees should be removed or retained in the event of development occurring*.' (BS5837 2012 Section 4.5.2).

This survey should therefore be regarded as an initial appraisal and observations, assessments or recommendations relating to tree protection zones, remedial tree works, protective fencing, foundation design, material specification are beyond the scope of this report. The location of the tree is shown on the attached drawing.

A detailed inspection with respect to decay, defects and hazard is not included.

Within the tree survey schedule, each surveyed Tree (T) or Group (G) on or adjacent to the site is given a reference number which refers to its position on the overall tree survey plan for Upper Heyford (electronic copy available on request). Tree survey plan information such as quality grading, preliminary tree constraints: root protection areas are subsequently used in order to assess arboricultural impacts and tree protection measures.

In accordance with BS5837:2012, the following measurement standards were applied.

- *Tree species* are listed by common name.
- *Heights* are measured in metres. They are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- *Trunk diameters* are measured in millimetres and are rounded to the nearest 10mm. Single stemmed tree diameters are measured at 1.5m above ground level or, where a fork or swelling makes this impractical, at the narrowest point beneath. Diameters of multi-stemmed trees are calculated as 'combined stem diameters' according to specific guidance set out within BS5837:2012. W here trunk diameters have had to be estimated due to poor access, for example, this is indicated with a '#'.
- *Branch spreads* are taken at the four cardinal points to derive an accurate representation of the tree crown. They are recorded up to the nearest half metre for dimensions up to 10m and to up the nearest whole metre for dimensions over *10m.*
- *Crown clearance* is expressed both as existing height above ground level of first significant branch along with its direction of growth (eg 2.5m-N), and also in terms of the overall canopy. Measurements are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- *Estimates.* Where any other measurement has had to be estimated, due to inaccessibility for example, this is indicated by a "#" suffix to the measurement as shown in the tree survey schedule.
- *Life stage* is defined as Y – young (stake dependent), SM - Semi-Mature (still capable of being transplanted without preparation, up to 30cm girth and not yet sexually mature), EM – Early Mature (not yet having reached 75% of expected mature size), M – Mature (anything else up to normal life expectancy for the species), OM – Over Mature (anything beyond mature and in natural decline), V
  – Veteran (any tree displaying characteristics described by Natural England).
- *General observations are* recorded in relation to a tree's structural and/or physiological condition (e.g. the presence of any decay and physical defect) and /or any preliminary management recommendations that may be appropriate.
- *Physiological condition* is described as Good (no indications of impaired physiological function and in optimum condition for age and species), Fair (with indicators of reduced vitality. Some intervention may be required), Poor (with significantly impaired physiological function for age and species).
- *Structural condition* is described as Good (without any observable significant bio-mechanical structural weaknesses), Fair (with minor biomechanical structural flaws. Some remedial action may be required), Poor (with significant biomechanical weaknesses requiring intervention particularly where risk management is required).
- *Useful life expectancy,* or the length of time a tree's is estimated to be able to make a useful contribution, is expressed in years as: <10, 10+, 20+, and 40+.
- *Quality of individual trees, groups of trees and woodlands is assessed in terms of quality* and benefit within the context of proposed development and graded into one of four categories (A, B, C and U) which are differentiated on the tree survey (Appendix 3) plan as per the Cascade chart for tree quality assessment BS 5837 (2012) 'Trees in relation to design, demolition and construction – Recommendations' see below.

BS 5837 (2012) 'Trees in relation to design, demolition and construction – Recommendations'.

Table 1 Cascade chart for tree quality assessment

Trees unsuitable for retention (See Note)				
Category and definition	**Criteria (including subcategories where appropriate**			**Identification on plan**
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see ***4.5.7***.			Red
Trees to be considered for retention				
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands See Table 2 of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	Green
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	Blue
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm *	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	Grey

From BS 5837 (2012) Trees in relation to design, demolition and construction – Recommendations

TABLE 1

Tree No.	Species	Hgt (m)	Stem Dia (mm)	CS N (m)	CS S (m)	CS E (m)	CS W (m)	1st branch	1st branch direction	Canopy Hgt (m)	Structural Condition	Physiological Condition	ERCY	Life stage	General observations Physiological and structural condition	Proposed Works	BS Cat
H133	Mixed hedge.	1.5	-		-	-	-	-	-	-	-	-	-	-	A mixed hedge along the Camp Road highway boundary of the site.	Remove to allow for proposed development.	C2
T630	Beech (Common)	18	910	6	7	8	6	3.5	East	0.5	Fair	Good	40+	M	Twin stems, raise canopy to 2m. Typical of age and species., has been pruned in the past.	Retain and protect during construction works	B1
T631	Sycamore	18	790	9	6	7	4	N/A	N/A	2	Fair	Fair	20+	M	Forks at 1.5m. Thin canopy, crossing branches, weak forks, good shape, excavation to south, exposed roots.	Remove to allow for proposed development.	B1
T632	Pine (Scots)	8	240	0.5	4	3	0.5	N/A	N/A	8	Poor	Poor	<10	M	Poor shape, drawn up form with thin canopy.	Remove to allow for proposed development.	U
T633	Lime (Common)	11	530	6	3	4	5.5	2	West	0.5	Fair	Good	20+	M	Remove epicormic growth from base. Suppressed to south, crossing branches, dense canopy,	Remove to allow for proposed development.	C1
T634	Lime (Common)	18	590	5	3	5	5.5	N/A	N/A	0.5	Fair	Good	20+	M	Fork at 2.5m. Typical of age and species, dense canopy, minor deadwood	Remove to allow for proposed development.	B2
T635	Sycamore	15	552	1.5	7	3	1.5	N/A	N/A	2	Fair	Fair	20+	M	Twin stems, thin canopy. Cavity at 1.5m northern stem. Typical of age and species, minor deadwood, wound north side.	Remove to allow for proposed development.	C1
T636	Sycamore	16	480	3	7	4	4	2.5	North	2.5	Fair	Fair	20+	M	Thin canopy, forks at 1.8m. Slightly suppressed. Typical of age and species, some internal deadwood thinning canopy	Remove to allow for proposed development.	C1
T637	Hornbeam	15	330	5	5	5	5.5	N/A	N/A	0.5	Fair	Fair	20+	M	Loss part of canopy to south.	Remove to allow for proposed development.	C1
T638	Pine (Scots)	11	340	0.5	6.5	1	3	N/A	N/A	3	Poor	Fair	10	M	Mature supressed tree	Remove to allow for proposed development.	C1
T639	Pine (Scots)	9	250	1	4.5	0.5	2	N/A	N/A	3	Poor	Fair	10	M	Mature supressed tree	Remove to allow for proposed development.	C1
T640	Sycamore	15	552	6	5	6	3.5	N/A	N/A	3.5	Fair	Fair	20+	M	Forks at 0.5m. Suppressed to west. Remove adventitious growth on stem to 2m clear stem. Typical of age and species, thinning canopy, minor to ,moderate deadwood.	Remove to allow for proposed development.	B1
T641	Pine (Scots)	11	200	2	0.5	3	0.5	N/A	N/A	9	Poor	Poor	<10	M	Mature supressed tree	Remove to allow for proposed development.	U
T642	Beech (Common)	17	540	7	4	5	5	3	West	0.5	Fair	Good	40+	M	Good shape, some crossing branches. Typical of age and species,	Retain and protect during construction works	B1

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Tree No.	Species	Hgt (m)	Stem Dia (mm)	CS N (m)	CS S (m)	CS E (m)	CS W (m)	1st branch	1st branch direction	Canopy Hgt (m)	Structural Condition	Physiological Condition	ERCY	Life stage	General observations Physiological and structural condition	Proposed Works	BS Cat
T643	Sycamore	12	300	4	2.5	2	2	2	South	2	Fair	Fair	10+	M	Remove epicormic growth at base. Poor shape, thin canopy.	Remove to allow for proposed development.	C1
T644	Sycamore	17	547	5	6	6	1	N/A	N/A	3	Fair	Fair	20+	M	Forks at 0.5m. suppressed to west. Included bark at union, minor deadwood.	Remove to allow for proposed development.	C1
T645	Sycamore	17	708	6	7	5	4	N/A	N/A	2	Fair	Fair	20+	M	Forks at 0.5m. Twin stem each with twin stems. Minor cavities observed, minor deadwood., thin internal cavity, drawn up.	Retain and protect during construction works	C1
T646	Sycamore	16	502	1.5	6	1	6	N/A	N/A	2	Fair	Fair	10	M	Suppressed to north east. Forks at 1m, poor shape, thin canopy, pruned in past, wet cavity forming at union.	Remove to allow for proposed development.	C1
T647	Sycamore	15	450	4	4	3	3	N/A	N/A	3	Poor	Poor	<10	M	Dead	Remove dead	U
T648	Sycamore	15	410	0.5	6	1.5	1	1.5	East	3.5	Poor	Fair	10+	M	Poor form, suppressed canopy. Forks at 2m. Pruned in past, moderate deadwood, thin canopy	Remove to allow for proposed development.	C1
T649	Beech (Common)	16	510	3.5	4	4.5	6	3.5	North east	0.5	Fair	Good	40+	M	Slightly suppressed, good form. Typical of age and species. Recommend crown lift to 2m.	Retain and protect during construction works	B1
T650	Sycamore	16	670	6	5	4	6	2	South	2.5	Fair	Fair	20+	M	Forks at 2m, open canopy. Typical of age and species. Remove epicormic growth from base. Evidence of past pruning, supressed to the south.	Remove to allow for proposed development.	C1
T651	Sycamore	15	800	8	8	8	7.5	2	South	2	Fair	Good	40+	M	Typical of age and species. Crossing and fused branches. Good form, dense canopy, Evidence of past branch loss, suppressed to north east,	Retain and protect during construction works	B1

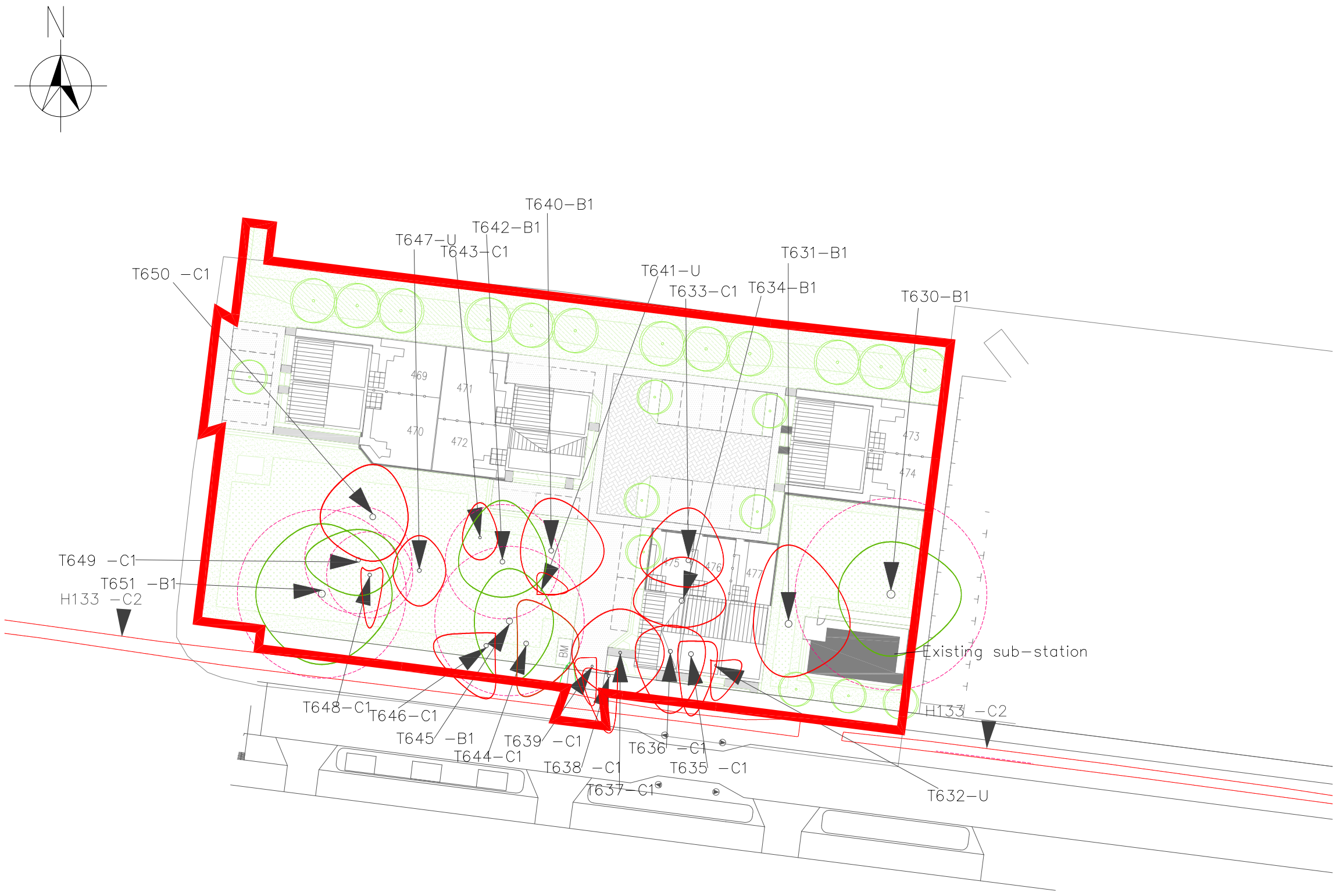
Appendix 2

Tree Removals Plan

Tree Protection Plan

(If digital versions of these plans are required

please email info@ruskins-tree-consultancy.co.uk to request a copy)



Tree Removals Plan Key

Tree to be planted

T651 –B1
Tree to be retained

T651 –B1
Tree to be removed

Hedge to be removed

T651 –B1
Tree Survey Number- BS5837 Category
Extent of Tree Canopy
Theoretical Root Protection Area (BS5837)

BS 5837 Category

(See Tree Survey for further details)

Category U Red Stem Disc
Those in such a condition that any existing value would be lost within 10 years and which should in the current context, be removed for reasons of sound arboricultural management.

Category A Green Stem Disc
Those of high quality and value: -
in such a condition as to be able to make a substantial contribution (a minimum of 40 years is suggested).

Category B Blue Stem Disc
Those of moderate quality and value: -
those in such a condition as to make a significant contribution (a minimum of 20 years is suggested)

Category C Grey Stem Disc
Those of low quality and value: - currently in adequate condition to remain until new planting could be established (a minimum of 10 years is suggested), or young trees with a stem diameter below 150 mm.

Heyford Park
Phase 7B

Tree Removals Plan
For
Dorchester Group

RUSKINS
TREE CONSULTANCY
01277 849990
info@ruskins-tree-consultancy.co.uk
www.ruskins-tree-consultancy.co.uk

Scale	1 : 500 @ A3	Drawn by	PW
Date	25/04/2017	Checked by	*
Project No.	0317-2112		
Dwg. No.	TSP 1		

Tree Protection Plan Key

Tree Protection Zone / Construction Exclusion Zone
Fence-off this area prior to any works commencing on site, no access during enabling, demolition or construction works except under direct supervision by the Arboricultural Clerk of Works (ACoW). Fencing to be moved to allow removal of existing hardstanding and installation of No-Dig paths and No-Dig hardstanding to follow the guidelines as outlined in the Arboricultural Report and to be undertaken under direct supervision by the (ACoW).follow guidelines as outlined in the Arboricultural Report.

No-Dig Hardstanding
Fence-off this area prior to any works commencing on site, No-Dig Hardstanding to be specified as permeable and porous construction. Specification, including levels and Construction Methodology to be approved by the Arboricultural Clerk of Works (ACoW) prior to works commencing. All works within this areas to follow the guidelines as outlined in the Arboricultural Report and to be undertaken under direct supervision by the (ACoW).

T651 –B1

Tree to be retained

Heyford Park
Phase 7B

Tree Protection Plan
For
Dorchester Group

RUSKINS
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Scale	1 : 500 @ A3
Date	26/04/2017
Project No.	0317-2112
Dwg. No.	TPP 1
Drawn by	PW
Checked by	*

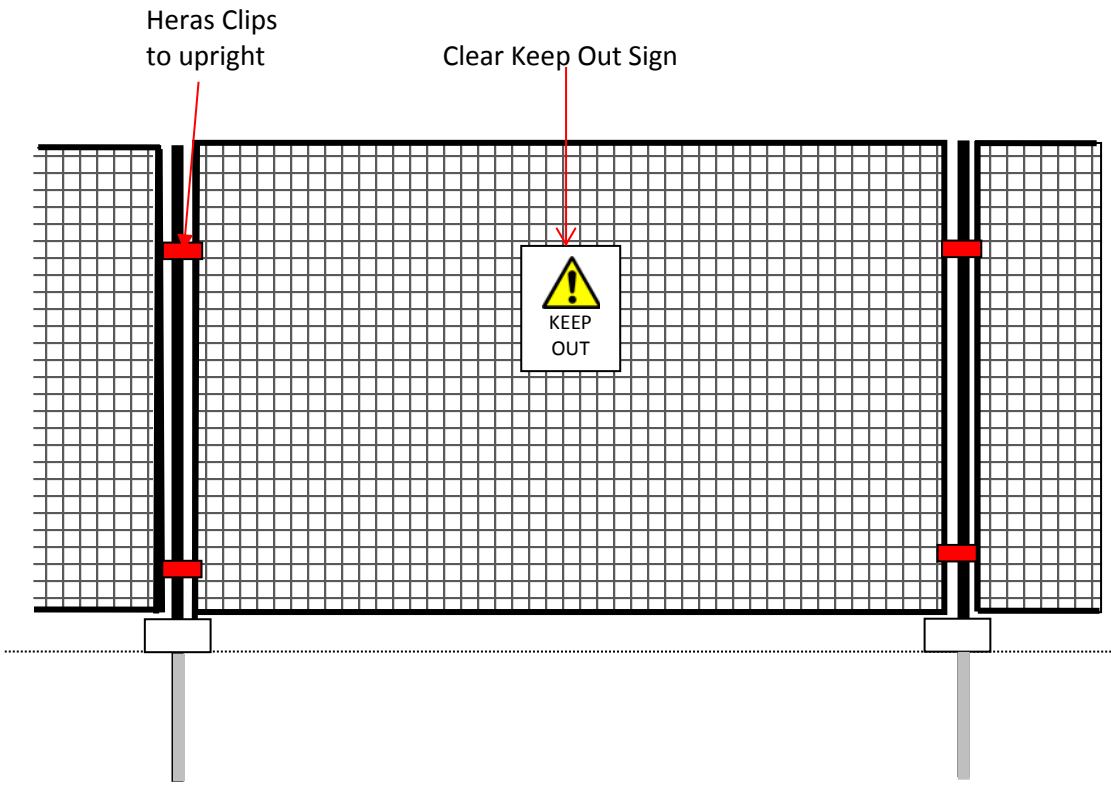
Appendix 3

Tree Protection Fencing Specification

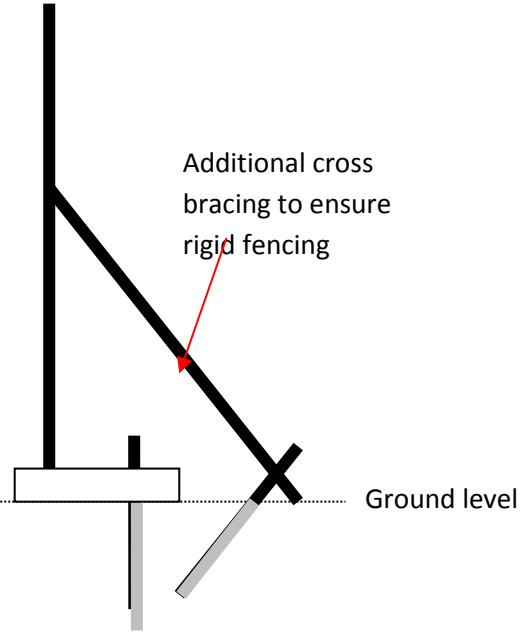
Tree Protection Fencing Notice

Tree Protection Fencing Specification

Elevation



Section



Tree Protection Fencing should be erected as per the Tree Protection Plan prior to any works commencing or materials being delivered to site.

If concrete or rubber feet are used these must be securely pinned to the ground to prevent movement.

info@ruskins-tree-consultancy.co.uk

TREE PROTECTION AREA

PLEASE KEEP OUT

The trees in this area are protected by statutory protection and / or planning conditions. Any works in this fenced off area may result in damage to the above ground parts or root system of these trees.

Damage to these trees is a breach of the planning consent and may lead to enforcement action and / or a criminal prosecution.

Please contact peter@ruskins-tree-consultancy.co.uk for more information.