



## Graven Hill, Bicester



## Land Transfer Area 1 Tree Survey Report

### **Waterman Infrastructure & Environment Limited**

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March 2016





**Client Name:** Graven Hill Village Development Company Limited  
**Document Reference:** WIC15119-118-R-2-2-1  
**Project Number:** WIB15119

## Quality Assurance – Approval Status

This document has been prepared and checked in accordance with Waterman Group's IMS (BS EN ISO 9001: 2008, BS EN ISO 14001: 2004 and BS OHSAS 18001:2007).

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<b>Issue</b>	<b>Date</b>	<b>Prepared by</b>	<b>Checked by</b>	<b>Approved by</b>
First	February 2016	Robyn Ablitt Consultant	Tim Arkell Principal Consultant	Wendy Wright Associate Director
Second	March 2016	Robyn Ablitt Consultant	Tim Arkell Principal Consultant	Martin Fairlie Technical Director

## Comments

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## Disclaimer

This report has been prepared by Waterman Infrastructure & Environment Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

## Contents

1. Introduction .....	1
2. Fieldwork Observations.....	6
3. Proposed Development .....	7
4. Tree Protection .....	8
5. Summary .....	10

## Drawings

Drawing 1: LTA 1 Tree Survey Sheets 1 to 4, Waterman Drawings WIC15119-118-AA-77-002 to -005 .....	
Drawing 2: LTA 1 Tree Retention and Removal Plan Sheets 1 to 4, Waterman Drawings WIC15119-118-AA-77-102 to -105 .....	
Drawing 3: LTA 1 Tree and Habitat Protection Plan Sheets 1 of 12, Waterman Drawings WIB13983-107-AA-74-503 to -514.....	

## Appendices

- A. Cascade Chart for Tree Quality Assessment (extract from BS5837:2012)
- B. Schedule of Existing Trees
- C. Extract from BS5837:2012 – Default Specification for Protective Barrier
- D. Extract from BS5837:2012 – Examples of Above-Ground Stabilising Systems
- E. Tree Protection Signage (Example)

## 1. Introduction

- 1.1. This Tree Survey Report has been prepared by Waterman Infrastructure & Environment Ltd (Waterman) on behalf of Graven Hill Village Development Company Limited in support of the proposed redevelopment of Land Transfer Area 1 (LTA1), Site E, MOD Graven Hill, Bicester (hereafter referred to as the 'Development').
- 1.2. A "Preliminary Tree Constraints Survey and Report" covering Site E, at MOD Bicester and dated 29<sup>th</sup> July 2010, (including the Development area) was previously undertaken by Amenity Tree Care Ltd in July 2010<sup>1</sup> on behalf of Amec, over 5 years ago. That report is contained in a report entitled "Redevelopment of MOD Bicester, Graven Hill: Tree Survey, BIC/OPA/DOC/19, September 2011, by Amec". That report was subsequently submitted and approved in support of the Outline Planning Application for the wider redevelopment the Graven Hill site.
- 1.3. In order to update the baseline arboreal conditions and reflect the revised requirements of BS5837 published in 2012, this updated Tree Survey Report has been prepared by Waterman covering the developable area of LTA1 (only). Graven Hill Wood, which is briefly referred to later in this report, forms part of Land Transfer Area 1, but does not form part of the developable area covered by this report.
- 1.4. This updated Tree Survey Report will be used to verify the tree retention and protection recommendations contained within the **Arboricultural Impact Analysis** for this area prepared by Waterman Infrastructure & Environment Ltd for the Development.
- 1.5. This updated Tree Survey Report sets out the findings of the survey of existing trees and tree groups on and immediately adjacent to the Development area. The above and below ground constraints and opportunities posed by the canopy shape and rooting area of the surveyed trees are described, including the implications of any known planned construction works in the vicinity of these trees, and best practice for retention of trees in this context.

### Tree Survey Methodology

- 1.6. This Tree Survey Report is based upon existing topographical information relating to the Site provided by MK Surveys (Project Number 20338/NL/CF/AMG, May 2015) and has been informed by the previous Preliminary Tree Constraints Survey Report prepared by Amenity Tree Care Ltd (2010), and was otherwise prepared in accordance with the principles outlined within BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations<sup>2</sup> (BS5837) (see **Appendix A** extract).
- 1.7. Fieldwork was undertaken on 28-29 January and 1-2 February 2016, which comprised a non-intrusive, visual survey undertaken at ground level, during which dimensional data and observational information were collected. A Diameter at Breast Height (DBH) tape measure and Leica Disto™ laser distance meter were used in the collection of data presented in this report.
- 1.8. The following suffixes have been used:
  - 'T' suffix = individual trees;
  - 'G' suffix = groups, multiple trees, scrub or other arboreal features;

<sup>1</sup> Amenity Tree Care LTD (29<sup>th</sup> July 2010). *MOD Bicester – Site E, Preliminary Tree Constraints Survey and Report – Arboricultural Survey and Constraints Report.*

<sup>2</sup> BS5837:2012 Trees in relation to design, demolition and construction – Recommendations, 2012, British Standards Institution.

- 'W' suffix = woodlands; and
- 'H' suffix = hedgerows.

Where sufficiently consistent, these have been categorised and include information relating to species composition, age and condition ranges as appropriate. Within these features, principal trees have been identified, where appropriate.

## Height

- 1.9. Unless otherwise stated, tree heights are approximate and estimated in metres.

## Stem Diameter

- 1.10. The survey included collecting the following information on trees and woody vegetation with a stem diameter over 75mm.
- The stem diameter of single stemmed trees were measured at 1.5m above ground level and in millimetres.
  - The diameter measurement of multi-stemmed trees were taken as a combined measurement of all the major stems.
  - Where stems fork or swell, the measurement was taken at the narrowest point below the fork or swelling.
  - Where access to the trunk of a tree was not available, an estimation of the stem diameter was made and identified by '\*' or 'est' on the accompanying schedule of existing trees presented in **Appendix B**.

## Crown Spread

- 1.11. Radial crown spread was measured in metres. These were recorded for each of the four cardinal points as access restrictions allow. Where direct access was not available, the spread was estimated and identified by '\*' on the accompanying schedule of existing trees (**Appendix B**). The canopy shape for surveyed trees depicted on the accompanying **Drawing 1** is representative of the canopy spread as measured or estimated during fieldwork on the Site.

## Height of Crown Clearance and Canopy

- 1.12. The height of crown clearance was measured as the height above ground in metres of the first significant branch and the direction of growth. The height of canopy was measured as the height above ground in metres of the main canopy.

## Age Class

- 1.13. The age of each tree is defined as follows:
- Young (Y): Within the first 1/4 of useful life expectancy;
  - Semi-mature (SM): Within the second 1/4 of useful life expectancy;
  - Early Mature (EM): Within the third 1/4 of useful life expectancy;
  - Mature (M): Within the fourth 1/4 of useful life expectancy;
  - Over Mature (OM): Exceeded normal useful life expectancy; and
  - Veteran (V): Significantly exceeded normal life expectancy and/or displays characteristics associated with a veteran tree.

## Physiological and Structural Condition

- 1.14. The physiological and structural condition of each tree or tree group is summarised in this report, highlighting features relevant to the assessment process. This includes cultural conditions e.g. context and growing environment which may also be of relevance. Where further specialist inspection was deemed appropriate to ascertain the condition of the tree or other arboreal features, this is also highlighted within the report.
- 1.15. Unless otherwise stated, trees were found to be displaying 'normal' characteristics for their age, species and context.
- 1.16. The physiological condition for each tree is described as Good (G), Fair (F) or Poor (P) or may comprise a range where this relates to grouped features.
- 1.17. Where appropriate, notes on the structural integrity are provided on form, taper, forking habit, storm damage, decay, fungi, pests, etc.
- 1.18. No invasive investigations or climbing inspections were carried out to confirm visual or audible signs of defect or debility and no tissue or soil samples were taken for laboratory analysis.
- 1.19. Where identified, external signs of substantial defects or debility have been recorded.
- 1.20. Where access to a tree was restricted, this is qualified and, an estimation of physiological and structural condition have been made.

## Estimated Remaining Contribution in Years

- 1.21. The Estimated Remaining Contribution (ERC) for each tree is based on species, context and existing physiological and structural condition of the tree. The ERC may affect the Development because the longer the tree is likely to live, the greater the contribution it will make and the greater the need for retention.

## Category Grading

- 1.22. Each individual tree was given a Category Grading in accordance with BS5837: 2012 to reflect the overall arboricultural value and retention category. Where sufficiently consistent, grouped features have also been graded. However, such grouped features may still contain trees of a range of potential Category Grading's.
- 1.23. The Category Grading's are defined according to the following criteria, and are further divided into sub-categories based on arboriculture, landscape and/or historic value, as defined within BS5837:2012 (**Appendix A**):
  - **Category Grading A:** Trees of high quality and value, (with a suggested remaining life expectancy exceeding 40 years);
  - **Category Grading B:** Trees of moderate quality and value, (with a suggested remaining life expectancy of at least 20 years);
  - **Category Grading C:** Trees of low quality and value, (with a suggested remaining life expectancy exceeding 10 years or young/immature trees which may have the potential to attract a higher Grade as they mature); and
  - **Category Grading U:** Trees which are in such a condition that they are unsuitable for retention in the context of the current land use for longer than 10 years.



## Preliminary Management Recommendations

- 1.24. Any recommendations made for management of the existing tree stock, (for example, tree surgery) are not a 'specification' for tree work. These recommendations are instead intended as a preliminary guide to inform future management of tree stock in the current context which should be formalised as a separate management plan. References to habitat value should be taken as comparative observations compared with a baseline situation with no tree present.
- 1.25. Proposed tree surgery or inspection works should be undertaken by a qualified arboricultural contractor, such as those listed in the Arboricultural Association's Approved Contractors Directory (Ref. [www.trees.org.uk](http://www.trees.org.uk)). Any work undertaken by the contractor should be in accordance with best practice, such as the European Tree Pruning Guide<sup>3</sup> or required by BS3998: 2010 Tree Work - Recommendations<sup>4</sup>.

## Limitations

- 1.26. All trees were visually inspected from ground level with no climbing, boring or sampling undertaken. All measurements are metric and where qualified, approximate. The comments made were based on the conditions observable factors present at the time of inspection, including weather, seasonality and access.
- 1.27. This report is intended to assist with the planning and management of construction, refurbishment and/or demolition operations under current best practice.
- 1.28. This Tree Survey Report does not constitute a tree risk assessment or tree condition survey. This report is not intended to confirm the safety, (or otherwise) of surveyed trees or tree groups. References to defects or potential safety issues are not exhaustive intended as a guide only to inform the provision of further resources / more detailed investigations.
- 1.29. The person(s) responsible for the management of the trees surveyed within this report are recommended to commission a separate tree condition survey by a suitably qualified and experienced person in order to manage the Health and Safety aspects of trees under their control, and discharge their reasonable Duty of Care under the 'Duty of Care' owed under the Occupiers' Liability Act 1984<sup>5</sup>.

## Un-assessable Risks

- 1.30. Owing to the changing nature of trees as living, dynamic features and other Site circumstances, this report and any recommendations made remain valid for a period of 18 months from first issue.
- 1.31. Unless otherwise stated, trees should be re-inspected regularly to satisfy the 'Duty of Care' owed under the Occupiers' Liability Act 1984<sup>6</sup>, or directly proceeding heavy storms (i.e. force 6-7 and above on the Beaufort scale). It is recommended that advice from an ecologist is sought prior to carrying out any works to trees, in order to ensure these are carried out in accordance with, (in particular) the protection afforded to wild birds and bats under The Wildlife and Countryside Act<sup>7</sup> and The Conservation of Habitats and Species Regulations<sup>8</sup>.

<sup>3</sup> European Tree Pruning Guide, 2001, Arboricultural Association

<sup>4</sup> BS3998:2010 'Treework - Recommendations', 2010, BSI

<sup>5</sup> Occupiers' Liability Acts 1957 and 1984. HMSO

<sup>6</sup> Occupiers' Liability Acts 1957 and 1984. HMSO

<sup>7</sup> The Wildlife and Countryside Act 1981 (as amended), OPSI

<sup>8</sup> The Conservation of Habitats and Species Regulations 2010, OPSI

## Root Protection Area

- 1.32. The Root Protection Area (RPA) defines the approximate underground area occupied by the tree roots based on a calculation relating to the girth of the tree, point above ground at which the trunk begins to branch out and the number of stems. BS5837 outlines the calculation of Root Protection Area as follows:

$$\text{RPA(m}^2\text{)} = \left( \frac{\text{stem diameter (mm) @ 1.5 m} \times 12}{1\,000} \right)^2 \times \pi \text{ (3.142)}$$

- 1.33. Trees with more than one stem below 1.5m above ground level are given an aggregate stem diameter using either of the following two calculations as outlined in BS5837. This diameter is then used in the above calculation to estimate Root Protection Area:

- a) For trees with two to five stems:

$$\sqrt{(\text{stem diameter } 1)^2 + (\text{stem diameter } 2)^2 \dots + (\text{stem diameter } 5)^2}$$

- b) For trees with more than five stems:

$$\sqrt{(\text{mean stem diameter})^2 \times \text{number of stems}}$$

- 1.34. The Root Protection Area of existing tree stock is an important material consideration when considering Site constraints and planning development activities.
- 1.35. Construction activities, materials storage or changes in level should generally be avoided within the Root Protection Area of a tree to be retained. This is because these operations have the potential to damage or kill the tree, the safe retention of which may be a condition of planning permission. This is significant when considering construction in proximity to off-Site / third party land. Special construction techniques, i.e. no-dig construction / permeable surfacing may be considered for light loadings, e.g. pedestrian footpaths etc., within the Root Protection Area.
- 1.36. The Root Protection Area often varies in size to the physical area occupied by the canopy spread (due to particular tree species or management practices to artificially alter the canopy size). This is of particular importance when integrating new development in proximity of existing trees. Similarly, the canopy heights (as identified in the schedule of existing trees in **Appendix B**) should be considered as the usable space below a low branching tree will be severely restricted without specific arboricultural works to raise the canopy (which may not always be appropriate).

It should also be noted that BS5837 states that although Root Protection Areas should be plotted as a circle centred on the base of the stem, pre-existing site conditions or other factors may indicate that rooting has occurred asymmetrically and so Root Protection Areas may instead be represented as a polygon of equivalent area.

## 2. Fieldwork Observations

- 2.1. A total of 198No. individual trees, 32No. tree groups, 5No. Woodlands and 8No. Hedgerows are present on or adjacent to the Development area and is shown in LTA1 Tree Survey **Drawings 1 to 4 (ref. WIC15119-118-AA-77-002 to -005)**.
- 2.2. Land Transfer Area 1 (LTA1) comprises an agricultural landscape with later C20th development associated with the MOD occupation and use of the site. The existing trees, tree groups, hedgerows and woodlands are reflective of this phased development. Many of the existing hedgerows are likely to be of historic origins with several mature field trees recorded. Many of the existing field hedgerows are gappy, out-grown and generally degraded in quality due to lapsed management and some gazing damage.
- 2.3. The later tree planting within LTA1 is associated with the MOD occupation of the site and includes the planting of groups and avenues of trees associated with roads and boundaries together with some areas of natural regeneration within unoccupied areas. Locally gappy avenues of trees were recorded flanking Anniversary Avenue, Graven Hill Road North and Circular Road and included Red Horse Chestnut (*Aesculus x carnea*) and Small Leaved Lime (*Tilia cordata*). The former trees appear to be variably infected by Bleeding Canker of Horse Chestnut (*Pseudomonas syringae* pv *aesculi*) and may continue to deteriorate and have a limited safe, useful life expectancy in this context. Some individual Hawthorn (*Crataegus monogyna*) are of particularly gnarled appearance and are likely to be out-grown remnants of boundary hedgerow plants.
- 2.4. Other species recorded within the LTA1 area included Crabs (*Malus sp.*), and Willows (*Salix sp.*) Hedgerow boundaries vary in management, with some dense, stock-proof hedges and gappy sections of out-grown woody vegetation. Hedgerows are typically species-poor and dominated by Hawthorn with other native hedgerow species represented in much smaller quantities.
- 2.5. Several pest and pathogen species were recorded on Site. Dutch Elm Disease (*Ophiostoma novo-ulmi*) is present within Elm (*Ulmus*) trees within woodlands W198 and W238 and some hedgerows. Signs of bleeding Canker of Horse Chestnut was also recorded within Red Hose Chestnut trees, as noted above. Symptoms of Chalara Dieback of Ash (*Hymenoscyphus fraxineus*) were not recorded within LTA1 at the time of survey. This disease is however known to be present within the region and can reasonably be expected to impact the Ash trees within the Site in the short to medium term.
- 2.6. Graven Hill Wood, which forms part of Land Transfer Area 1, is a mixed plantation woodland on ancient woodland site and includes both native and non-native tree species. Historic records show the wood was felled around 1966 and replanted by around 1970 which would account for the apparent immaturity of the trees within this feature. The conifer woodland comprises mostly Scots Pine (*Pinus sylvestris*) appears to date from the 1970's and was undertaken on former agricultural land.

### **3. Proposed Development**

- 3.1. The proposed development includes the provision of new infrastructure to support residential, commercial, leisure and educational uses. This will comprise construction of new highways, attenuation pond, drainage swales and ditches, areas of public open space with associated access paths and new tree, woodland, and hedgerow planting undertaken as part of a wider landscape scheme.

#### **Tree Removal & New Tree Planting**

- 3.2. Trees to be removed are shown on **Drawings 5 to 8 Waterman LTA 1 Tree Retention and Removal drawing No.'s WIC15119-118-AA-77-102 to -105.**
- 3.3. The proposed Development will require the localised removal of some trees, tree groups and hedgerows to allow construction of the new infrastructure and built form. The overwhelming majority of trees to be removed were Graded as 'C' Category being of low quality and value. These are typically arboreal features of young to early mature ages derived from the current MOD occupation of the site and offering little or no current contribution to the wider public realm.
- 3.4. It is proposed to remove and replace the diseased avenue(s) of Red Horse Chestnut due to their limited longer term contribution. Sections of the avenue(s) of Small Leaved Lime flanking Graven Hill Road North and the Circular Road will be retained and reinforced by the planting of new Lime trees.
- 3.5. Some areas of scrub may be locally cleared to allow for construction/demolition access. Where these fall within areas of suitable open space/habitat creation, natural regeneration will be actively encouraged in combination with new tree planting.
- 3.6. An extensive programme of new tree planting is proposed throughout the public realm including streetscapes, pocket parks, new woodland creation, and new boundary hedgerows which will provide a net gain in long term canopy cover within the Development.

## 4. Tree Protection

- 4.1. Within LTA1, where existing trees are retained in proximity to demolition and construction works, tree protection will be required in order to manage and minimise any adverse construction impacts upon the existing trees to be retained. This includes both above and below ground impacts and extends to the extent of the Construction Working Area (CWA) required to complete these works. Tree protection proposals are illustrated on **Drawings 9 to 19 LTA 1 Tree and Habitat Protection Detail drawings WIB13983-107-AA-74-503 to -514**.
- 4.2. The canopy spreads and/or Root Protection Areas of some trees and tree groups adjacent to the southern and north-eastern Site boundary extend into the Site and could be damaged by construction operations, (including the regrading or cultivation of soils within proposed rear garden spaces). These areas should be protected at the extent of Root Protection Area or canopy spread, (whichever is the greater) with temporary protective fencing as per figure 1 and 2 extracts from BS5837 within **Appendix C and D**. Suitable weather-proofed warning signage should be affixed to all tree protection fencing for the duration of construction and demolition operations. An example is provided within **Appendix E**.
- 4.3. All temporary fencing should be erected prior to the commencement of any works on Site and remain intact for the duration of construction works. The area enclosed by such fencing shall be regarded as a Construction Exclusion Zone with no access for any construction operations permitted.
- 4.4. The proximity of the proposed buildings and vehicular access drives adjacent to the north-eastern and southern Site boundaries may require construction work within the Root Protection Area and/or canopy spreads of retained trees. These areas will become **Construction Working Areas (CWA's)** and subject to control in the form of a **method statement** to prevent damage to the retained trees. The extent of the Construction Working Area should be identified on site prior to the commencement of any works on Site and remain intact for the duration of construction works
- 4.5. In addition to the principals outlined within BS5837, for demolition, it is therefore recommended that the construction works are developed using the following method statement which includes, (but is not limited to);
  - Select site access route(s) and construction plant that can safely access the Construction Working Area given the physical constraints imposed by the canopy heights of the adjacent existing trees to be retained.
  - For construction purposes, systems for the control and suppression of dust, hydrocarbons, cementitious and other phytotoxic elements should be employed within the Construction Working Area to prevent damage to the adjacent trees.
  - Do not store materials or construction plant within the Construction Working Area.
  - In order to minimise damage to shallow tree roots, it is recommended that the depth of any excavation work within the Construction Working Area is minimised to reduce the potential to expose and/or damage shallow tree roots.
  - Construction work within the Construction Working Area should include the use of temporary ground protection and selection of hand working operations or lighter, tracked plant over heavier, wheeled alternatives where possible to minimise compaction of the tree root zone(s).



## 5. Summary

- 5.1. A total of 198No. individual trees, 32No. tree groups, 5No. Woodlands and 8No. Hedgerows are present on or adjacent to the Development area and is shown in LTA1 Tree Survey **Drawings 1 to 4 (ref. WIC15119-118-AA-77-002 to -005)**.
- 5.2. LTA1 comprises an agricultural landscape with later C20th development associated with the MOD occupation and use of the site. The existing trees, tree groups, hedgerows and woodlands are reflective of this phased development. Many of the existing field hedgerows are gappy, out-grown and generally degraded in quality due to lapsed management and some grazing damage.
- 5.3. The later tree planting within LTA1 is associated with the MOD occupation of the site and includes the planting of groups and avenues of trees associated with roads and boundaries together with some areas of natural regeneration within unoccupied areas.
- 5.4. Graven Hill Wood is a mixed plantation woodland on ancient woodland site and includes both native and non-native tree species. The conifer woodland comprises mostly Scots Pine (*Pinus sylvestris*) appears to date from the 1970's and was undertaken on former agricultural land.
- 5.5. The proposed development includes the provision of new infrastructure to support residential, commercial, leisure and educational uses. This will comprise construction of new highways, attenuation pond, drainage swales and ditches, areas of public open space with associated access paths and new tree, woodland, and hedgerow planting undertaken as part of a wider landscape scheme.
- 5.6. Trees to be removed are shown on **Drawings 5 to 8 Waterman LTA 1 Tree Retention and Removal drawing No.'s WIC15119-118-AA-77-102 to -105**.
- 5.7. The proposed Development will require the localised removal of some trees, tree groups and hedgerows to allow construction of the new infrastructure and built form. The overwhelming majority of trees to be removed were Graded as 'C' Category being of low quality and value. These are typically arboreal features of young to early mature ages derived from the current MOD occupation of the site and offering little or no current contribution to the wider public realm.
- 5.8. An extensive programme of new tree planting is proposed throughout the public realm including streetscapes, pocket parks, new woodland creation, and new boundary hedgerows which will provide a net gain in long term canopy cover within the Development.



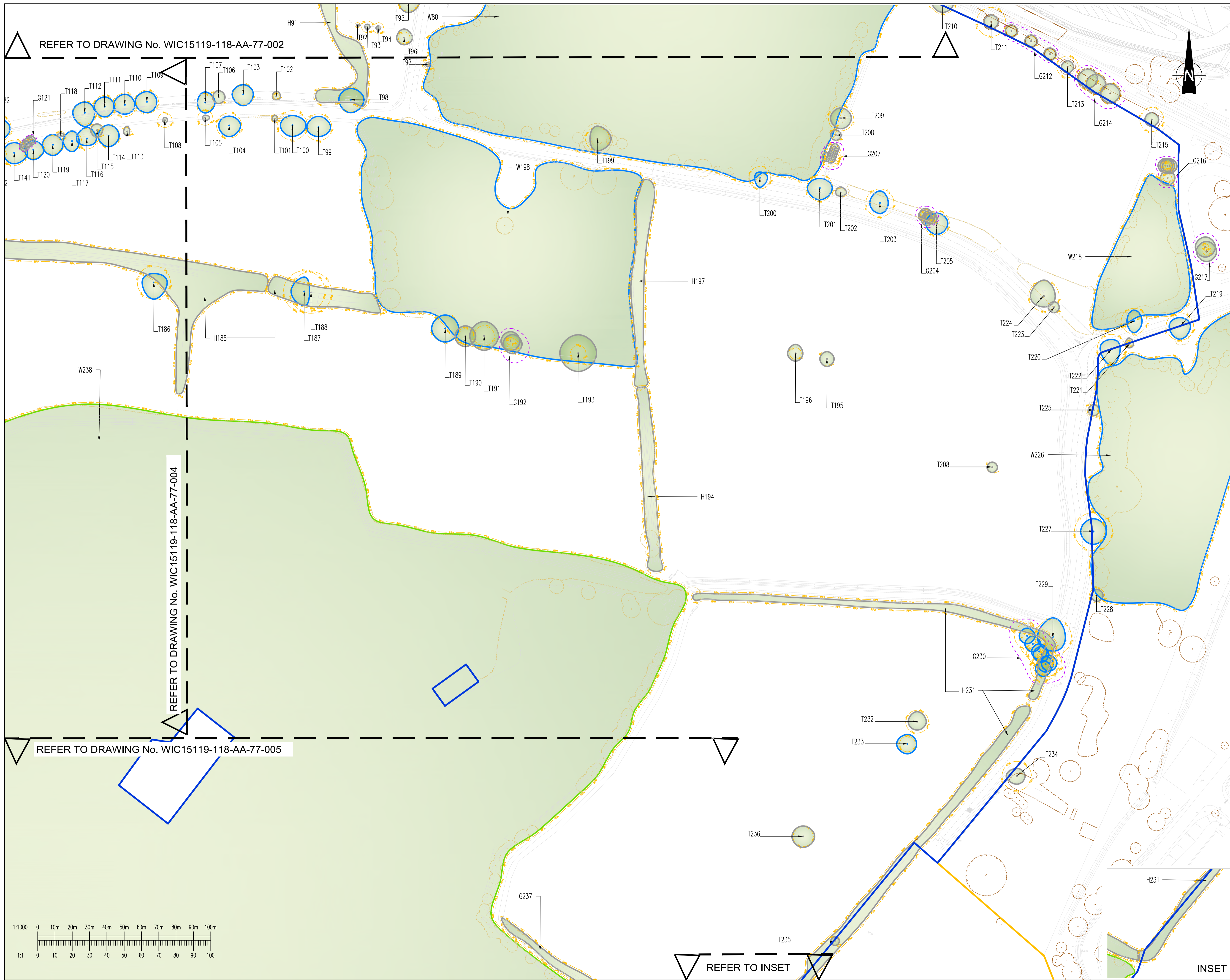
## **Drawings**

Drawing 1: LTA 1 Tree Survey Sheets 1 to 4, Waterman Drawings WIC15119-118-AA-77-002 to -005









**LEGEND**

- LTA 1 BOUNDARY
- LTA 2 BOUNDARY
- CATEGORY GRADE A  
Trees of high quality (none shown)
- CATEGORY GRADE B  
Trees of moderate quality
- CATEGORY GRADE C  
Trees of low quality
- CATEGORY GRADE U  
Trees unsuitable for retention
- ROOT PROTECTION AREAS (RPA)
- INDICATIVE EXTENT OF GROUPED FEATURE
- TREES, SCRUB & WOODY VEGETATION AS RECORDED BY TOPOGRAPHICAL SURVEY WITHIN LTA 1
- TREES, SCRUB & WOODY VEGETATION AS RECORDED BY TOPOGRAPHICAL SURVEY OUTSIDE OF SURVEY AREA

**NOTES:**

**ROOT PROTECTION AREA**  
Root Protection Areas are calculated in accordance with BS5837: 2012. The precise morphology and disposition of roots may not be fully reflected by these areas, particularly where there are hard standings, however they provide a good indication of potential root constraint.

THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH WATERMAN TREE SURVEY REPORT

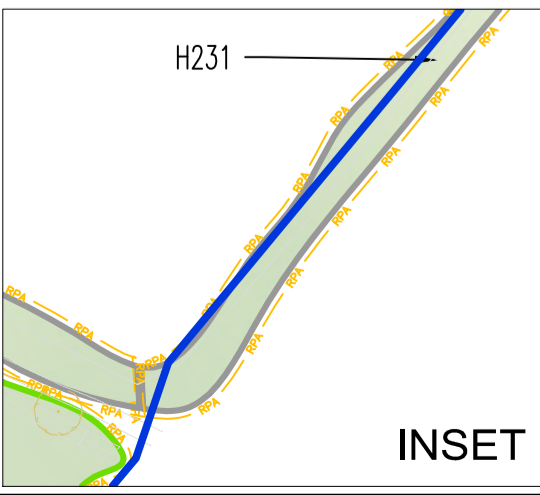
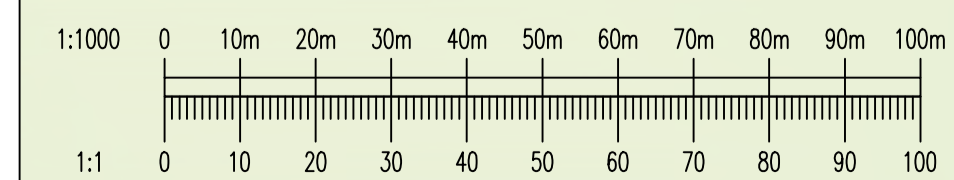
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Project: **Graven Hill, Bicester**

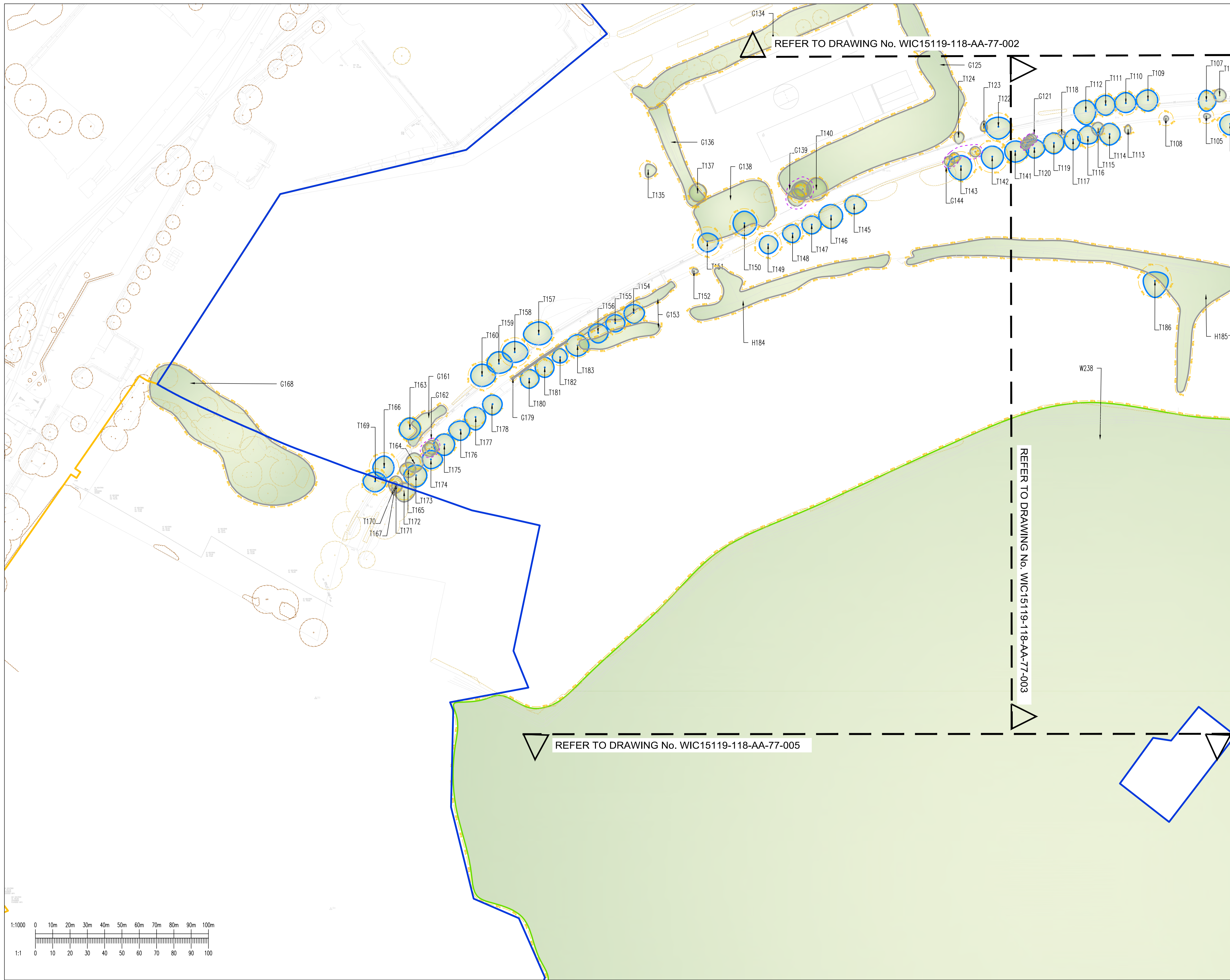
Title: **LTA 1 TREE SURVEY**  
Sheet 2 of 4



Drawing Status: <b>TENDER</b>				
Designed by: RA	Checked by: TA	Project No: WIC15119		
Drawn by: DD	Date: Jan 2016	Work Order No: 118		
Scales @ A1 work to figured dimensions only		1:1000		
Publisher: WIC	Zone: AA	Category: 77	Number: 003	Revision: A01







**LEGEND**

- LTA 1 BOUNDARY
- LTA 2 BOUNDARY
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Trees of high quality (none shown)
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**NOTES:**

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REV	00.00.00	ISSUED	XXX
Rev	Date	Description	By

Project		Graven Hill, Bicester
Title		LTA 1 TREE SURVEY Sheet 3 of 4
Client		 Graven Hill Village Development Company

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Drawing Status				
<b>TENDER</b>				
Designed by	RA	Checked by	TA	Project No
Drawn by	DD	Date	Jan 2016	WIC15119
Scales @ A1 work to figured dimensions only				Work Order No
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WIC	AA	77	004	A01

