



**Land South of
Darton Lane,
Darton,
Staincross**

**Findings of
Arboricultural
Assessment**
(Incorporating
Arboricultural
Impact
Assessment and
Tree Protection)

Prepared by:
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Dimension
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On behalf of:
**The Church
Commissioners for
England**

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(edp3487_d003b 16 September 2019 CR/TR/RB)

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Non-technical Summary

- S1 The Environmental Dimension Partnership Ltd was commissioned by The Church Commissioners for England to undertake an Arboricultural Assessment of Land South of Darton Lane, Darton, Staincross.
- S2 The baseline Arboricultural Assessment included a desktop study and tree survey based on guidelines set out in *British Standard (BS) 5837:2012 Trees in Relation to Design, Demolition and Construction*, especially Section 4.4 'Tree Survey'.
- S3 Review of Barnsley Metropolitan Borough Council's (BMBC) online resources confirmed that there are no Tree Preservation Orders or Conservation Areas that would apply to any trees present on, or in close proximity to, the assessment site and therefore, no statutory constraints would apply to the development in respect of trees.
- S4 The Site is located in Darton, a large village in the Metropolitan Borough of Barnsley. It comprises a parcel of agricultural land split into three paddocks which were all being used for grazing by horses at the time of survey. The northern boundary is formed by Darton Lane, the eastern and western boundaries are formed by footpaths adjacent to existing residential parcels and Darton Primary School respectively, and the southern boundary is formed by a disused railway line.
- S5 To aid with masterplanning and to ensure adequate provision is made for the retention of trees, the recommended Root Protection Areas (RPA) have been calculated in accordance with *BS 5837:2012* and are shown on **Plan EDP 1** and **Schedule EDP 1**.
- S6 Design of the development (**Appendix EDP 1**) has been informed by arboricultural recommendations throughout and has sought to retain all trees where possible. There will be a small number of removals required to facilitate development with only minor tree surgery works required to facilitate construction close to the southern boundary. New planting has potential for greater longevity within the landscape areas of retained grassland and open space and will enhance the species diversity for the Site, whilst also contributing to the green infrastructure for the area.
- S7 Existing trees identified for retention on the appended Tree Protection Plan (**Plan EDP 2**) will continue to be managed in accordance with *BS 5837:2012*. Critically, this requires arboricultural review of any alteration to the development layout and the implementation of physical protection measures to safeguard the retained trees, including robust protection in the form of a barrier to *BS 5837:2012*, during the demolition and construction phases. The importance of such matters cannot be overlooked if a successful outcome is to be ensured. A suitably worded condition can secure any mitigation measures that would be required to minimise harm and ensure safe, long-term retention to trees.

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Section 1

Introduction and Methodology

- 1.1 The Environmental Dimension Partnership Ltd (EDP) has been commissioned by The Church Commissioners for England (hereafter referred to as 'the applicant') to undertake a *BS 5837:2012 Trees in Relation to Design, Demolition and Construction* compliant survey of trees in relation to development of Land South of Darton Lane, Darton, Staincross (hereafter referred to as 'the Site').
- 1.2 EDP is an independent environmental planning consultancy with offices in Cirencester, Cheltenham, Cardiff and Shrewsbury. The practice provides advice to private and public-sector clients throughout the UK in the fields of landscape, ecology, heritage, masterplanning and arboriculture. Details of the practice can be obtained at our website, www.edp-uk.co.uk.
- 1.3 The survey was undertaken on 09 October 2018 by one of EDP's qualified Arboriculturists. The focus of this survey was to assess the condition of the subject trees, specifically:
- The main bole and central stem;
 - The primary and secondary branch system and crown supported thereon; and
 - Their relation to the surroundings.
- 1.4 The assessment site is located in Darton, a large village in the Metropolitan Borough of Barnsley. It is centred on National Grid Reference (NGR) 432019, 409850 and lies within the administrative boundary of BMBC.
- 1.5 The Site comprises a parcel of agricultural land split into three paddocks which were all being used for grazing by horses at the time of survey. The paddocks themselves are further subdivided by temporary electric fences. The northern boundary is formed by Darton Lane, the eastern and western boundaries are formed by footpaths adjacent to existing residential parcels and Darton Primary School respectively, and the southern boundary is formed by a disused railway line.
- 1.6 This report has been prepared to inform an outline planning application for residential development.

Aims and Objectives

- 1.7 The purpose of this report is to:
- Identify principal trees suitable for retention; and

- Identify the constraints associated with retained trees to inform the conceptual design and layout of the proposed scheme.

Tree Survey Methodology

- 1.8 The methodology adopted for this survey is based on guidelines set out in *BS 5837:2012 Trees in Relation to Design, Demolition and Construction*, especially Section 4.4 'Tree Survey'. Site trees and other significant vegetation are as noted on the Tree Constraints Plan (**Plan EDP 1**). This is derived from the topographic survey data included as **Appendix EDP 2**. All surveyed items are detailed in **Schedule EDP 1** (contained at the rear of this report). No other trees are covered by this survey.
- 1.9 All trees have been visually inspected from ground level unless otherwise stated, with no climbing or further detailed investigative tests being undertaken. The comments made on their condition are based on observable factors present at the time of inspection. All measurements are metric and have been recorded in accordance with the measurement conventions set out in Section 4.4.2.6 of *BS 5837:2012*.
- 1.10 Any recommendations given regarding longer-term management are made on the basis of optimising the life expectancy of site trees, given their current situation and any effects that may result from the development proposals.
- 1.11 **Schedule EDP 1** provides information about the following factors in accordance with Paragraph 4.4.2.5 of *BS 5837:2012*:
- Sequential reference number (recorded on **Plan EDP 1**);
 - Species;
 - Height;
 - Stem diameter;
 - Branch spread;
 - Existing height above ground level;
 - Life stage;
 - Physiological condition;
 - Structural condition;
 - Preliminary management recommendations;

- Estimated remaining contribution;
- Category grading; and
- Tree works priority codes.

Limitations

- 1.12 Due to the changing nature of trees and other site circumstances, this report and any recommendations made are limited to a 24-month period from the survey date. Any alterations to the Site or the development proposals could change the current circumstances and may invalidate this report and any recommendations made.
- 1.13 Trees are dynamic structures that can never be guaranteed 100% safe, even those in good condition can suffer damage under average conditions. Regular inspections can help to identify potential problems before they become acute.
- 1.14 A lack of recommended work does not imply that a tree is safe and likewise it should not be implied that a tree will be made safe following the completion of any recommended work.
- 1.15 The subject trees have not been tagged for identification purposes.

Statutory Protection

Tree Preservation Orders and Conservation Areas

- 1.16 Review of BMBC online resources has confirmed that there are no Tree Preservation Orders or Conservation Areas affecting any trees present on, or in close proximity to, the assessment site and therefore, no statutory constraints apply to the development in respect of trees.

Protected Wildlife and Trees

Bats

- 1.17 All species of British bat are listed as European Protected Species (EPS) on *Schedule 2 of the Conservation Regulations (Annex IV (a) to the Habitats Directive)*. This affords bats protection under the *Conservation of Habitats and Species Regulations 2010*, and further information is provided in **Appendix EDP 3** of this report.

Nesting Birds

- 1.18 The main bird nesting season is between March and August inclusive. Current legislation relating to breeding birds, under the *Wildlife and Countryside Act 1981* (as amended) and the *Countryside and Rights of Way Act 2000*, confirms that birds, as well as their nests and eggs are protected. Further information is provided in **Appendix EDP 3** of this report.

Section 2

Summary of Findings

The Tree Stock

- 2.1 The survey process recorded a total of 25 individual trees and 11 groups of trees totalling 36 items. **Schedule EDP 1** contains full attribute details for each item surveyed. The survey data can be categorised into three specific areas of reference, species diversity, age distribution and grading classification, analysis of which enables a fuller arboricultural appraisal to be undertaken of the Site.

Species Diversity

- 2.2 A total of 13 species are represented throughout the Site, a summary of which is presented in **Table EDP 2.1**. To illustrate the overall diversity, each genus represented individually or in a group or hedgerow is allocated a single count.

Table EDP 2.1: Species Diversity

Genus	Count	Percentage (%)
Maple and Sycamore	2	3.5%
Birch	4	7.0%
Hawthorn	32	56.0%
Eucalyptus	1	1.8%
Ash	2	3.5%
Walnut	1	1.8%
Apple	2	3.5%
Poplar	1	1.8%
Prunus sp.	2	3.5%
Pear	1	1.8%
Oak	2	3.5%
Willow	3	5.3%
Elder	4	7.0%
Totals	57	100%

Age Distribution

- 2.3 Analysis of the data in **Table EDP 2.2** identifies that there are two young items which are tolerant of ground disturbance and easy to translocate, ten semi mature items which are partially tolerant of ground disturbance and relatively easy to translocate depending on the size of the stem and crown, 20 early mature items which, whilst being partially tolerant to ground disturbance are beyond the scale of trees that can be readily translocated and four mature items which have a particular sensitivity to abiotic factors such as ground disturbance and, therefore, require particular consideration in any future development proposals.

Table EDP 2.2: Age Distribution of the Tree Stock

Age Classification	Count	Percentage (%)
Young	2	5.6
Semi Mature	10	27.8
Early Mature	20	55.6
Mature	4	11.0
Totals	36	100

Grading Classification

- 2.4 Whilst age distribution and species diversity give an insight into the composition of the tree stock, arguably more important is the health and condition of these trees. Trees in poor health and condition have a limited lifespan and contribute little to the landscape character, sustainability and continuity of the population. Tree categorisation is applied in accordance with the Cascade Chart contained as **Appendix EDP 4**, following consideration of the presence of any disease, structural defects or tree related hazards. On occasion, and based on the professional judgment of a suitably qualified Arboriculturist, EDP may have down-graded or up-graded trees based on their arboricultural merit and individuality, despite a predicted short or long lifespan.
- 2.5 **Plan EDP 1** provides information about the relative merits of the trees in arboricultural and landscape terms. Distribution across the category range is depicted in **Table EDP 2.3**. Across the Site there are two Category 'B' items of moderate quality and value and 34 Category 'C' items of low quality and value.

Table EDP 2.3: Category Grading Across the Tree Stock

Category	Count	Percentage (%)
Category B	2	5.6
Category C	34	94.4
Totals	36	100

Tree Stock Summary

- 2.6 The distribution of species, age and categories is indicative of an unmanaged site and is consistent with its usage as paddock land for horses. Hawthorn dominated the individual tree species and was present in high numbers within the groups as well.
- 2.7 Only two items have been graded as Category 'B' and are of moderate quality, one being a boundary group and the other being an individual tree. Category 'B' trees, where possible, should all be prioritised for retention due to their condition, age and retention span.

Section 3 Arboricultural Constraints

Consideration of Tree Constraints within the Design Process

- 3.1 This report recognises that construction activities pose a threat to the successful retention of trees if treated inappropriately. It has been essential to consider the relationship between development and trees during the design process, to identify the potential impacts on trees and the need for design alterations to accommodate the tree stock.
- 3.2 Sustainable design has sought to achieve a harmonious relationship between trees and the built form to reduce/eliminate impacts where possible. The development has been informed by the constraints information presented in **Plan EDP 1, Schedule EDP 1 and Schedule EDP 2** and the recommendations below ensure the long-term health of the tree stock.
- 3.3 These recommendations identify surveyed items of particular merit, which have been incorporated within the design, to avoid foreseeable conflicts between development and the tree stock.
- 3.4 The design of the development has sought to retain the majority of trees where possible. It is acknowledged that where practical and appropriate, tree loss/encroachment within the RPA can be mitigated through the provision of new landscape planting and no-dig methodology respectively. The default position, however, should be the retention of all living trees irrespective of grading where practical to do so.

Below-ground Constraints – Root Protection Area

- 3.5 The below-ground constraints are defined as the likely spread and disposition of the root system of the tree and are as depicted on **Plan EDP 1** as RPAs with pink outlined areas around each surveyed item.
- 3.6 The RPA is defined as the minimum area (in m²) around the tree that is deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority.
- 3.7 Where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, the shape of the RPA may be modified, but not reduced in area and its shape should reflect a soundly based assessment of the likely root distribution.
- 3.8 To ensure appropriate protection is afforded to the roots, the extent of the RPA shall be defined by means of the installation of protective barriers in accordance with the recommendations given in Section 6.2 of *BS 5837:2012*. The extent of this enclosed area, known as the Construction Exclusion Zone, is defined on **Plan EDP 2** with the use of the protective barriers.

- 3.9 Protective barriers should be fit for the purpose of excluding construction activity and special attention should be paid to ensuring that they remain intact throughout the construction process. It is recommended that protective barriers should be erected in accordance with *BS 5837:2012*, reproduced as **Appendix EDP 5**.

Above-ground Constraints – Proximity of Trees to Structures

- 3.10 The above-ground parts of a tree, whilst being more visible and easily protected are a potential constraint to development and consideration should be given to the current and ultimate height and spread of the trees, details of which are contained in **Schedule EDP 1** and **Schedule EDP 2**.
- 3.11 Where the current and/or ultimate height of a Category 'A', 'B' or 'C' item will cause an unreasonable obstruction to the proposed development, this must be considered as a constraint. This is usually considered in terms of issues relating to shade and light.
- 3.12 The above-ground constraints can be a combination of factors such as:
- Shading of buildings and open space - a detailed daylight and shading study may be necessary if any proposed buildings are in the immediate vicinity of retained trees;
 - Direct damage to structures;
 - Future pressure for removal;
 - Seasonal nuisance (e.g. leaf fall blocking gutters, fruit fall creating slippery patches and honey dew dripping on vehicles and surfaces);
 - Deciduous or evergreen; and
 - Density of foliage.

Site-specific Constraints

- 3.13 **Schedule EDP 1** contains full attribute details for 36 items. Only two items have been graded as Category 'B' and are of moderate quality, one being a boundary group and the other being an individual tree.
- 3.14 The assessment site comprised a high number of trees along the southern boundary with the old railway line. Trees were also located sporadically throughout the site with the vast majority assessed as having low arboricultural quality. Although, the development may not be considered to be constrained by the tree cover due to its low quality, and so necessitate removals, any retained trees will require their above and below-ground constraints to be considered in any future design process.

Section 4

Arboricultural Impact Assessment

- 4.1 This Arboricultural Impact Assessment (AIA) has been prepared following site-based observations, a desktop study of the survey data and consideration of the Parameter Plan (**Appendix EDP 1**) for the proposed scheme. In particular, it relates to the baseline Arboricultural Assessment and constraints information (**Plan EDP 1**), which is overlaid onto the Parameter Plan. The resulting drawing is the Tree Protection Plan (**Plan EDP 2**) which is provided at the rear of this report.
- 4.2 Trees within the urban environment are important features in terms of their contribution to psychological wellbeing, provision of ecological habitat and sociological benefits. Any scheme in proximity to trees has the potential to cause harm unless control measures are identified and acted upon. It has been essential to consider the relationship between the proposed scheme and the retained trees to identify what precautions are necessary and proportionate. The scheme has the potential to impact upon the above ground (canopy, stems and branches) and below ground (rooting environment) parts of the trees.
- 4.3 Whilst some clear and obvious physical damage can occur to trees during the construction phase, such as to stems and branches, other impacts are not always immediately evident. This includes damage to the soil structure by compaction and changes in ground levels causing root damage, altering the water table and affecting moisture availability.
- 4.4 This AIA recognises that construction activities pose a threat to subject trees if treated inappropriately and assesses the likely impacts of the proposals on the tree stock and where appropriate, provides mitigation with the view of achieving a harmonious relationship between the trees and the built form.
- 4.5 Assessment of the impact of the proposals has been determined following consideration of the constraints each surveyed item poses by virtue of its position, branch spread and designated RPA.
- 4.6 Consideration should be given to retaining all trees where possible. However, ultimately the removal of any tree is dependent on its proximity to the footprint of any proposal and associated landscaping.
- 4.7 The Parameter Plan has evolved following inputs from EDP and consideration of the constraints posed by the trees. As a result, the footprint of the proposed built development has taken account of the findings of this survey and tree losses have been minimised accordingly.

Damage to Rooting Environment During Construction Activities

- 4.8 The required RPA for each tree as described in **Schedule EDP 2** is depicted on **Plan EDP 1**. To ensure that appropriate protection is afforded to the roots, the extent of the RPA shall be defined by means of the installation of protective barriers in accordance with the recommendations given in Section 6.2 of BS 5837:2012. The extent of this enclosed area is depicted on **Plan EDP 2**.

Trees and Groups Impacted by Development Proposals

- 4.9 Assessment of the Parameter Plan determines that 13 items are impacted by the development proposals, these are detailed in **Table EDP 4.1**. Two items are Category 'B' of moderate quality and value and 11 items are Category 'C' of low quality and value.

Table EDP 4.1: Tree Cover Impacted by Development Proposals

Ref. Number	Species	Impact	Category Grading
G6	Hawthorn (<i>Crataegus monogyna</i>)	Partial removal to facilitate development.	C
G10	English oak (<i>Quercus robur</i>) Goat willow (<i>Salix caprea</i>) Hawthorn (<i>Crataegus monogyna</i>) Silver birch (<i>Betula pendula</i>)	Crown reduction to facilitate development.	B
G12	Blackthorn (<i>Prunus spinosa</i>) Common ash (<i>Fraxinus excelsior</i>) Field maple (<i>Acer campestre</i>) Hawthorn (<i>Crataegus monogyna</i>) Sycamore (<i>Acer pseudoplatanus</i>)	Partial removal to facilitate development.	C
G15	Elder (<i>Sambucus nigra</i>) Hawthorn (<i>Crataegus monogyna</i>)	Removal to facilitate development.	C
T17	Hawthorn (<i>Crataegus monogyna</i>)	Removal to facilitate development.	C
T18	Hawthorn (<i>Crataegus monogyna</i>)	Removal to facilitate development.	C
T26	Hawthorn (<i>Crataegus monogyna</i>)	Removal to facilitate development.	C
T27	Hawthorn (<i>Crataegus monogyna</i>)	Removal to facilitate development.	C
T29	Goat willow (<i>Salix caprea</i>)	Crown reduction to facilitate a driveway.	C
T31	Hawthorn (<i>Crataegus monogyna</i>)	Removal to facilitate development	C
G32	Blackthorn (<i>Prunus spinosa</i>) Elder (<i>Sambucus nigra</i>) Hawthorn (<i>Crataegus monogyna</i>) Apple (<i>Malus domestica</i>)	Removal to facilitate eastern access point.	C
G35	Common ash (<i>Fraxinus excelsior</i>) English oak (<i>Quercus robur</i>) Goat willow (<i>Salix caprea</i>)	Crown reduction to facilitate development.	C

Ref. Number	Species	Impact	Category Grading
	Hawthorn (<i>Crataegus monogyna</i>) Silver birch (<i>Betula pendula</i>) Apple (<i>Malus domestica</i>)		
T36	Silver birch (<i>Betula pendula</i>)	Removal to facilitate development.	B

- 4.10 Group G6, along the northern boundary, comprised four hawthorn stems, and so the southernmost stem(s) can be removed with crown reductions applied to the retained trees where they conflict with the proposed area for development.
- 4.11 Development along the southern boundary encroaches into the crowns of trees in groups G10 and G35, in the central and eastern section of the boundary, and so these crowns will need reducing away from the development to avoid conflict with the future proposed buildings. The crowns along the edge of G10 can be reduced by approximately 4m and any lower branches removed back to the stems allowing the space to facilitate development. The trees in G35 were semi-mature in age with smaller heights and crown spreads and so can be pruned back closer to the boundary with any lower branches also removed back to the stems.
- 4.12 Group G12 along the western boundary was more of an outgrown hedge located outside the Site, though there appeared to be some encroachment of certain species within the Site and so could be managed by removing these stems up to or close to the boundary and away from the buildings and allow more space within the gardens.
- 4.13 Within the central section of the Site, G15 will be removed to facilitate the residential development, which will also require the removal of three trees, T17, T18, T26 and T27.
- 4.14 Toward the eastern end of the Site there are two further access points off Darton Road which will require the crown reduction, mainly on the southern side, of T29 and the complete removal of group G32.
- 4.15 To facilitate the residential development in this area, individual trees T31 and T36 will be removed, with the crowns of G35 reduced back to the boundary as mentioned above.
- 4.16 The vast majority of these trees were assessed as having low quality and, therefore, their loss should not prove detrimental to the surrounding area.

Summary of Tree Loss and Retention

- 4.17 A summary of the tree losses and retention, based upon the Parameter Plan is provided in **Table EDP 4.2**. In this context, the term 'affected' means partial loss of a retained item.

Table EDP 4.2: Summary of Tree Losses and Retention

Category	Existing	Trees and Groups Lost Due to Proposals	Trees and Groups Affected by Proposals	Trees and Groups Unaffected by Proposals
Category B	2	1	1	0
Category C	34	7	4	23
Totals	36	8	5	23

Mitigation

- 4.18 Existing trees identified for retention on **Plan EDP 2** will continue to be managed in accordance with *BS 5837:2012*. Critically, this requires arboricultural review of any future emerging detailed design and the implementation of physical protection measures to safeguard the retained trees, including robust protection in the form of a barrier to *BS 5837:2012* (**Appendix EDP 5**), during the demolition and construction phases. The importance of such matters cannot be overlooked if a successful outcome is to be ensured.

Section 5

Recommendations for Tree Works and Tree Protection

Tree Surgery Works

- 5.1 Any tree surgery works or further detailed investigations detailed in **Schedule EDP 1** are proposed on the basis that they are undertaken by a qualified arboricultural contractor who is listed in the Arboricultural Association's Approved Contractors Directory (ref: www.trees.org.uk).
- 5.2 All tree surgery work should be undertaken in accordance with the requirements of *BS 3998:2010 British Standard Recommendations for Tree Work* and *BS 5837:2012 Trees in Relation to Design, Demolition and Construction*.

Tree Protection - General Considerations

- 5.3 The adequate protection of retained trees on development sites is of paramount importance if they are to be retained successfully. In the event that development of the Site proceeds, the trees identified as retainable via preparation of an AIA shall be protected in accordance with the provisions outlined in *BS 5837:2012* following the preparation of a detailed Tree Protection Plan.
- 5.4 The protection measures specified below should be implemented prior to any development or site clearance works commencing and must be maintained throughout the construction period.

Recommendations for Future Action

- 5.5 To minimise the impact on retained trees the following is recommended:
- The 'Recommendations for Tree Protection' detailed in this section and **Appendix EDP 5** of this report are as follows. It is proposed that the lines of protective barriers are agreed with the Local Planning Authority (LPA) prior to commencement on site;
 - All protective barriers must remain intact and in place throughout the period of construction if it is to be effective and should only be removed by the main contractor following a written instruction from the Contract Administrator;
 - It is recommended that, prior to demolition or construction commencing close to trees, where access will be required under canopies, such as areas required for scaffolding, the ground is protected with appropriate ground protection as described and specified in Section 6.2.3 of *BS 5837:2012*;

- Excavation under the canopies of trees to construct roads or other paved areas with their associated kerb drainage and service runs can seriously affect tree health. The line of service runs should be carefully designed to avoid passing under tree canopies. Guidance for the planning and installation of services should be sought from NJUG 4, Issue 2¹ (**Appendix EDP 7**). Where this is not possible, allowance should be made to ensure excavations are undertaken by hand in accordance with the Sections 7.1 and 7.7 of BS 5837:2012;
- The lowering of the water table and/or the disruption of soil moisture profiles can be detrimental to retained trees. It is recommended that as much of the hard-standing areas as possible either drain to soft landscape areas and/or drain to soakaways; and
- It is recommended that following the completion of the development, arboricultural inspections of all site trees are undertaken on an annual cycle. This is so that the health of the trees can be monitored in relation to their continued viability and safety.

¹ National Joint Utilities Group - Guidelines for The Planning, Installation and Maintenance Of Utility Apparatus In Proximity To Trees

Glossary

Arboricultural Impact Assessment	Study, undertaken by an Arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.
Arboricultural Method Statement	Methodology for the implementation of any aspect of development that has the potential to result in loss of, or damage to a tree.
Construction Exclusion Zone	Area based on the RPA (in m ²), identified by an Arboriculturist, to be protected during development, including demolition and construction work, by the use of barriers and/or ground protection fit for purpose to ensure the successful long-term retention of a tree.
Detailed Investigation	During a visual inspection, a tree may be identified as requiring further detailed investigation. Examples of further assessment can include invasive boring tests, Picus reports, climbing inspections or root scans.
Root Protection Area (RPA)	Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in m ² .
Services	Any above ground and piped and/or ducted underground infrastructure including water main, electricity supply, gas supply, fibre-optic utilities, telecommunications cabling, storm and foul water drainage, including temporary storage for run-off, pumping stations, interceptors and other allied buried structures.
Special Engineering	Design of a structure with the physiological requirements of trees as a priority.
Tree Constraints Plan	Plan prepared by an Arboriculturist for the purposes of layout design showing the RPA and representing the effect that the mature height and spread of retained trees will have on layouts through shade, dominance, etc.
Tree Protection Plan	Scale drawing prepared by an Arboriculturist showing the finalised layout proposals, tree retentions and tree and landscape protection measures detailed within the Arboricultural Method Statement (AMS), which can be shown graphically.
Veteran Trees	A tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range of the species concerned.

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Appendix EDP 1
Parameter Plan
(0708-EA-A-S20190411A)

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Land South of Darton Lane, Darton, Staincross

Parameter Plan



Appendix EDP 2
Topographic Site Data
(7816/01 November 2018)

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Appendix EDP 3

Protected Species and Trees

Bats

- A3.1 All species of British bat are listed as European Protected Species (EPS) on Schedule 2 of the Conservation Regulations (Annex IV (a) to the Habitats Directive). This affords bats protection under the Conservation of Habitats and Species Regulations 2010, making it an offence to:
- Damage or destroy a breeding site or resting place of a wild individual of an EPS;
 - Deliberately capture, injure or kill a wild individual of an EPS;
 - Deliberately disturb a wild individual of an EPS wherever they are occurring, in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce or, in the case of hibernating or migratory species, to hibernate or migrate; and
 - Affect significantly the local distribution or abundance of the species to which they belong.
- A3.2 Additional protection for bats is also afforded under the *Wildlife and Countryside Act 1981 (as amended)* and the *Countryside Rights of Way Act 2000*, making it an offence to intentionally or recklessly disturb bats whilst they are occupying a structure or place that is used for shelter or protection, or to obstruct access to this structure or place. As bats tend to re-use the same roosts, legal opinion is that roosts are protected whether or not bats are currently occupying these resting places/places of shelter.
- A3.3 Prior to undertaking any tree works or tree removal, further advice should be sought from a suitably qualified Ecologist.

Nesting Birds

- A3.4 The main bird nesting season is between March and August inclusive. Contractors have a legal responsibility to comply with current legislation relating to breeding birds. Under the *Wildlife and Countryside Act 1981 (as amended)* and the *Countryside and Rights of Way Act 2000*, birds, as well as their nests and eggs are protected and it is an offence to:
- Take, damage or destroy the nest of any wild bird whilst it is in use or being built;
 - Take or destroy the egg of any wild bird; and

- To disturb any wild bird while it is nest building, or at a nest containing young, or disturb the dependent young of such a bird.

Appendix EDP 4

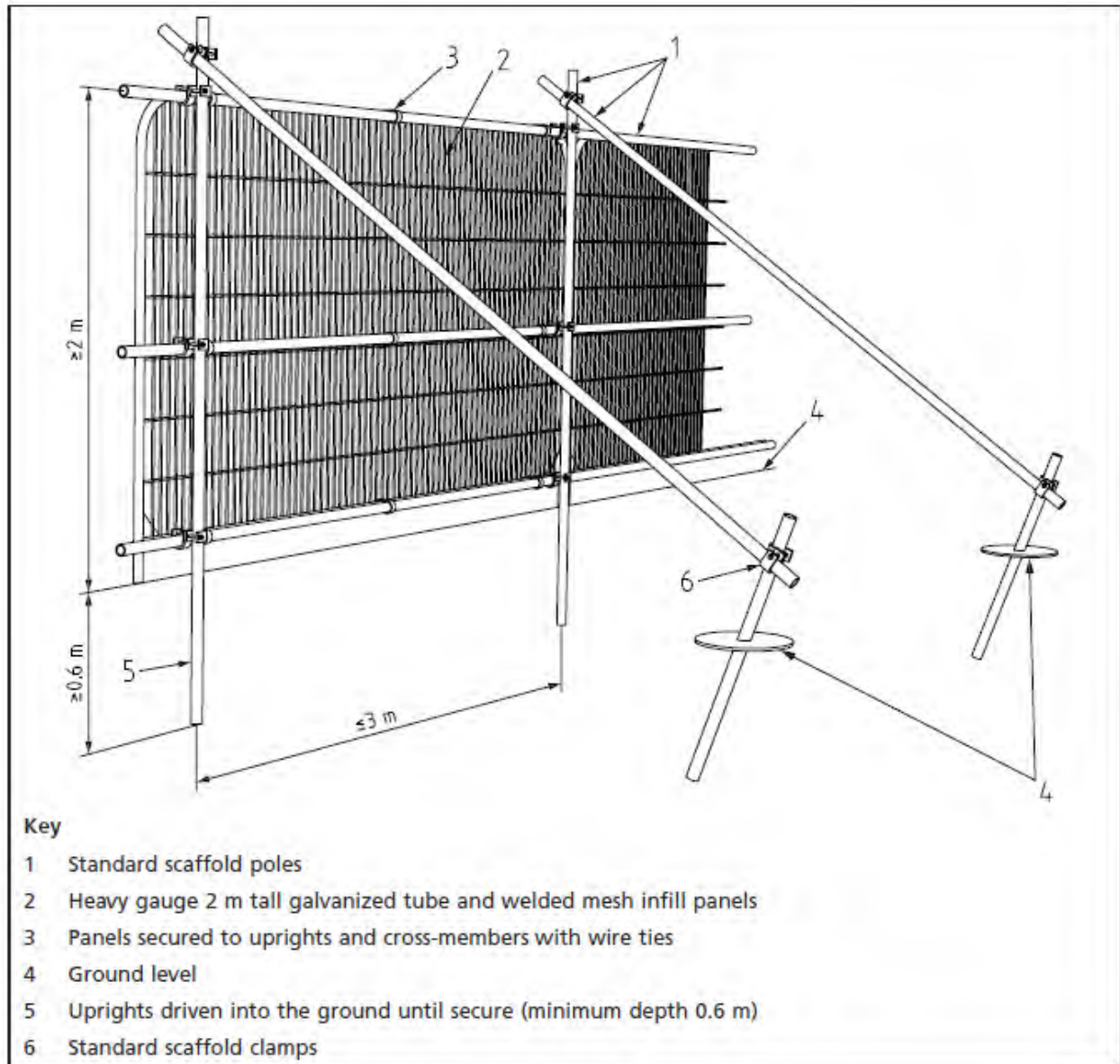
Cascade Chart for Tree Quality Assessment (Extract of BS 5837:2012, Table 1)

Category and Definition	Criteria (Including Subcategories where Appropriate) Identification on Plan		
Trees Unsuitable for Retention (See Note)			
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 ten 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; and - 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.		
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation
Trees to be Considered for Retention			
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 of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture).
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.
Category C Trees of Low Quality with an estimated remaining life expectancy of at least ten years, or young trees with a stem diameter below 150mm.	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.

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Appendix EDP 5

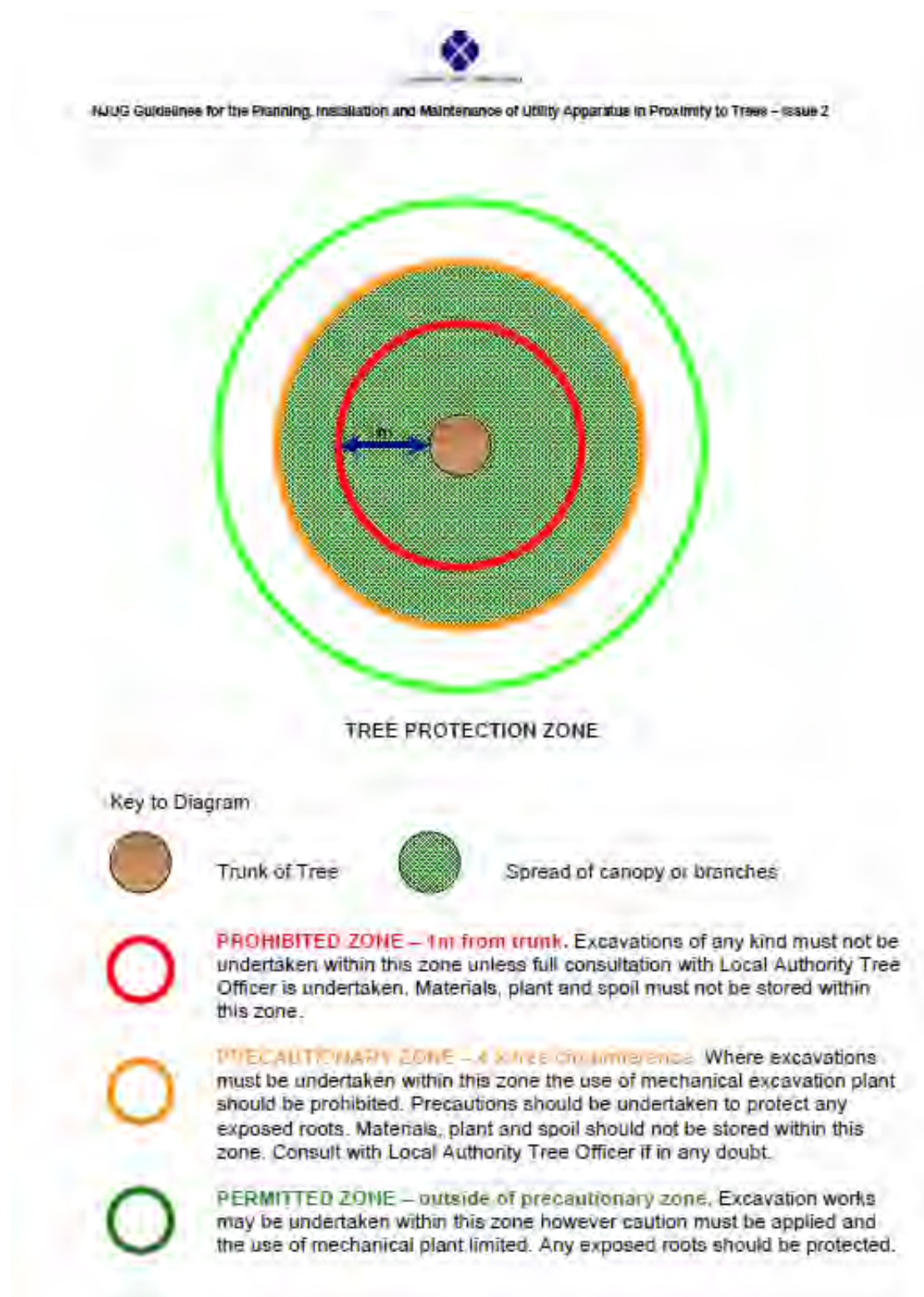
Tree Protection Barrier on Scaffold 2.0m High (Extract from BS 5837:2012, Figure 2 'Protective Barrier')



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Appendix EDP 6

NJUG Vol. 4: Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees (Issue 2)





NUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees – Issue 2

DAMAGE TO TREES

Tree roots keep a tree healthy and upright. Most roots are found in the top 600mm of soil and often grow out further than the tree's height. The majority of these roots are very fine; even close to a tree few will be thicker than a pencil. Most street tree roots grow under the footway but may also extend under the carriageway. If roots are damaged the tree may suffer irreversible harm and eventually die.

PROTECTING ROOTS – DO'S and DON'TS

There are three designated zones around a tree each of which has its own criteria for working practices.

THE PROHIBITED ZONE

Don't excavate within this zone.

Don't use any form of mechanical plant within this zone.

Don't store materials, plant or equipment within this zone.

Don't move plant or vehicles within this zone.

Don't lean materials against, or chain plant to, the trunk.

Do contact the local authority tree officer or owner of the tree if excavation within this zone is unavoidable.

Do protect any exposed roots uncovered within this zone with dry sacking.

Do backfill with a suitable inert granular and top soil material mix as soon as possible on completion of works.

Do notify the local authority tree officer or the tree's owner of any damage.

THE PRECAUTIONARY ZONE

Don't excavate with machinery. Where excavation is unavoidable within this zone excavate only by hand or use trenchless techniques.

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Don't repeatedly 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 or the tree's owner of any damage.

THE PERMITTED ZONE

Don't cut roots over 25mm in diameter, unless advice has been sought from the local authority tree officer.

Do use caution if it is absolutely necessary to operate mechanical plant 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 protect any exposed roots with dry sacking ensuring this is removed before backfilling.

Do notify the local authority tree officer or the tree's owner of any damage.

Schedule EDP 1

Tree Survey Schedule and Key

Sequential Reference Number	T - Individual specimen; G - Group, Trees that form cohesive arboricultural features either aerodynamically, visually or culturally; H - Linear group of specimens that form a hedge or boundary; and W - A larger group or area of trees that should be regarded as a single woodland unit.
Species	Common English names are used wherever possible for simplicity.
Height	An approximation of height (in metres) is provided for the highest point of the tree.
Stem Diameter	This is the measurement of stem diameter in millimetres taken in accordance with Annex C of <i>BS 5837:2012</i> .
Branch Spread	This is taken at four cardinal points, with a stated value in metres to enable an accurate representation of the crown, as shown on Plan EDP 1 .
Existing Height Above Ground Level	An approximation of height (in metres) of crown clearance above adjacent ground level.
Life Stage	There are five classes to which trees are assigned: • Young; • Early mature; • Mature; • Over mature; and • Veteran.
Physiological Condition	An indication of the tree's physiological condition is represented and classed as good, fair, poor or dead, this is informed by the following: • Canopy Density: It should be taken that, unless otherwise stated with each individual entry, the canopy density of the trees is typical of the species; and • Leaf Size and Colouration: It should be taken that, unless otherwise stated with each individual entry, leaf size and colouration is typical of the species.
Structural Condition	Additional notes are provided giving details of the tree's structural condition. This is informed by "the presence of any decay and physical defect ² ".
Preliminary Management Recommendations	These are made on the basis of optimising the life expectancy of site trees, given their current situation and that which may result from the development proposals. The survey process pays particular attention to implications for life and/or property, defects recorded under the structural condition have the necessary mitigation measures proposed within this section of the schedule.

² BS 5837:2012 Section 4.4.2.5

Estimated Remaining Contribution	The definitions of the terms used are as follows and describe the estimated length of time (in years) over which the tree can be expected to make a safe contribution to local amenity: • Less than 10; • 10+; • 20+; and • 40+.
Category Grading	Trees have been assigned 'U' or Category Grading 'A' to 'C' in accordance with the Cascade Chart given in <i>BS 5837:2012</i> (copy extract contained as Appendix EDP 4).
Tree Works Priority Codes	Priority codes from 1 to 3 have been given for trees requiring work. The definition of the codes used is as follows: • Priority 1: Work that should be undertaken urgently due to the identification of a potential hazard; • Priority 2: Work that should be undertaken prior to any works commencing on site; and • Priority 3: Work that should be undertaken following the completion of the development.

Client:	The Church Commissioners for England								Site:	Darton Lane, Barnsley							
Date of Survey:	9th October 2018								Consultant	Tim Ranger							
Tagged	N/A								Weather	Dry and Sunny							
Sequential Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Recommendations	Estimated Remaining Contribution (Years)	Category Grading	Priority	
				North	East	South	West										
T1	Hawthorn (Crataegus monogyna)	5	6x60	3	3	3	3	1	Early Mature	Fair	Fair	Base obscured Branches - Broken Branches - Crossing and Rubbing Compacted ground at the base - on the north side Dense undergrowth at the base No obvious defects Unable to gain access to base	No work required	10+	C1	N/A	
T2	Hawthorn (Crataegus monogyna)	7	220 250 260	5	5	5	5	1	Mature	Fair	Fair	Branches - Broken Branches - Crossing and Rubbing Browsing damage on the stem Compacted ground at the base - on the north side No obvious defects	No work required	10+	C1	N/A	
T3	Hawthorn (Crataegus monogyna)	4	90 90	2	2	2	2	1	Semi Mature	Fair	Fair	Branches - Broken Branches - Crossing and Rubbing Browsing damage on the stem Compacted ground at the base - on the north side No obvious defects	No work required	10+	C1	N/A	
T4	Hawthorn (Crataegus monogyna)	4	6x30	2	2	2	2	1	Semi Mature	Fair	Fair	Branches - Broken Branches - Crossing and Rubbing Browsing damage on the stem Compacted ground at the base - on the north side No obvious defects	No work required	10+	C1	N/A	
T5	Hawthorn (Crataegus monogyna)	4	100	2	2	2	2	1	Semi Mature	Fair	Fair	Branches - Broken Branches - Crossing and Rubbing Browsing damage on the stem Compacted ground at the base - on the north side No obvious defects	No work required	10+	C1	N/A	
G6	Hawthorn (Crataegus monogyna)	5	6x60	3	3	3	3	1	Semi Mature	Fair	Fair	No obvious defects Unable to gain access to base - low hanging crowns Four stems	No work required	10+	C1	N/A	
T7	Hawthorn (Crataegus monogyna)	6	6x60	4	4	4	4	1	Mature	Fair	Fair	No obvious defects Typical crown form for the species Unable to gain access to base - low hanging crown	No work required	10+	C1	N/A	
T8	Hawthorn (Crataegus monogyna)	4	90	3	3	3	3	1	Semi Mature	Fair	Fair	Base obscured Dense undergrowth at the base No obvious defects Unable to gain access to base	No work required	10+	C1	N/A	
T9	Hawthorn (Crataegus monogyna)	4	90	2	2	2	2	1	Semi Mature	Fair	Fair	Base obscured Dense undergrowth at the base No obvious defects Unable to gain access to base	No work required	10+	C1	N/A	
G10	English Oak (Quercus robur) Goat Willow (Salix caprea) Hawthorn (Crataegus monogyna) Silver Birch (Betula pendula)	16	400	6	6	6	6	1	Semi Mature	Fair	Fair	Base obscured Branches - Crossing and Rubbing Crown - Suppressed - in places Crown overhanging into the site - by up to 4m Crowns - Interlocked - in places Dense undergrowth at the base Located outside the site - along an embankment to a railway	No work required	20+	B1	N/A	
T11	Hawthorn (Crataegus monogyna)	5	6x60	3	3	3	3	1	Early Mature	Fair	Fair	Base obscured - by basal growth No obvious defects Stem - multi - from base Typical crown form for the species	No work required	10+	C1	N/A	

Sequential Reference Number -T - Individual specimen; G - Group, Trees that form cohesive arboricultural features either aerodynamically, visually or culturally; H - Linear group of specimens that form a hedge or boundary; W - A larger group or area of trees that should be regarded as a single woodland unit.

Species -Common English names are used wherever possible for simplicity.

Height -An approximation of height (in metres) is provided for the highest point of the tree.

Stem Diameter -This is the measurement of stem diameter in millimetres taken in accordance with Annex C of BS5837:2012. # - estimated

Branch Spread -This is taken at four cardinal points, with a stated value in metres to enable an accurate representation of the crown

First Significant Branch -Height of first significant branch and direction of growth e.g. 2.4 N, measured from adjacent ground level.

Existing Height Above Ground Level -An approximation of height (in metres) of crown clearance above adjacent ground level.

Life Stage -There are five classes to which trees are assigned: Young; Early Mature; Mature; Over Mature; Veteran.

Physiological Condition -An indication of the tree's physiological condition is represented and classed as good, fair, poor or dead, this is informed by the following: Canopy Density: It should be taken that, unless otherwise stated with each individual entry, the canopy density of the trees is typical of the species; and Leaf Size and Colouration: It should be taken that, unless otherwise stated with each individual entry, leaf size and colouration is typical of the species.

Structural Condition -Additional notes are provided giving details of the tree's structural condition. This is informed by "the presence of any decay and physical defect".

Preliminary Management Recommendations -These are made on the basis of optimising the life expectancy of site trees, given their current situation and that which may result from the development proposals. The survey process pays particular attention to implications for life and/or property; defects recorded under the structural condition have the necessary mitigation measures proposed within this section of the schedule.

Estimated Remaining Contribution -The definitions of the terms used are as follows and describe the estimated length of time (in years) over which the tree can be expected to make a safe contribution to local amenity: Less than 10; 10+; 20+; and 40+.

Category Grading -Trees have been assigned 'U' or Category Grading 'A' to 'C' in accordance with the Cascade Chart given in BS5837:2012

Tree Works Priority Codes -Priority codes from 1 to 3 have been given for trees requiring work. The definition of the codes used is as follows: Priority 1: Work that should be undertaken urgently due to the identification of a potential hazard; Priority 2: Work that should be undertaken prior to any works commencing on site; and Priority 3: Work that should be undertaken following the completion of the development.

Sequential Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Recommendations	Estimated Remaining Contribution (Years)	Category Grading	Priority
				North	East	South	West									
G12	Blackthorn (Prunus spinosa) Common Ash (Fraxinus excelsior) Field Maple (Acer campestre) Hawthorn (Crataegus monogyna) Sycamore (Acer pseudoplatanus)	10	6x100	6	6	6	6	1	Early Mature	Fair	Fair	Base obscured Branches - Crossing and Rubbing Crown - Suppressed Crowns - Interlocked Dense undergrowth at the base Located outside the site No obvious defects Unable to gain access to base	No work required	10+	C1	N/A
G13	Hybrid Black Poplar (Populus x canadensis) Lombardy Poplar (Populus nigra 'Italica')	22	300	4	4	4	4	2	Early Mature	Fair	Fair	No obvious defects Typical crown form for the species	No work required	10+	C1	N/A
G14	Silver Birch (Betula pendula) Cider Gum (Eucalyptus gunni) Common Walnut (Juglans regia) Pear (Pyrus communis) Leyland Cypress (Cupressocyparis leylandii)	14	500	6	6	6	6	2	Mature	Fair	Fair	Branches - Broken Crown overhanging into the site - by up to 6m Located outside the site No obvious defects Pruning wounds Unable to gain access to base	No work required	10+	C1	N/A
G15	Elder (Sambucus nigra) Hawthorn (Crataegus monogyna)	8	6x60	4	4	4	4	1	Early Mature	Fair	Fair	Crown - Suppressed Crowns - Interlocked Dense undergrowth at the base No obvious defects Typical crown form for the species Unable to gain access to base - mineshafts in the area around the trees	No work required	10+	C1	N/A
T16	Hawthorn (Crataegus monogyna)	4	6x60	3	3	3	3	1	Early Mature	Fair	Fair	Base obscured - by basal growth No obvious defects Stem - multi - from base Typical crown form for the species	No work required	10+	C1	N/A
T17	Hawthorn (Crataegus monogyna)	4	6x60	3	3	3	3	1	Early Mature	Fair	Fair	Base obscured - by basal growth No obvious defects Stem - multi - from base Typical crown form for the species Poached ground at the base	No work required	10+	C1	N/A
T18	Hawthorn (Crataegus monogyna)	4	6x60	3	3	3	3	1	Early Mature	Fair	Fair	Base obscured - by basal growth No obvious defects Stem - multi - from base Typical crown form for the species Poached ground at the base	No work required	10+	C1	N/A
T19	Hawthorn (Crataegus monogyna)	4	6x60	3	3	3	3	1	Early Mature	Fair	Fair	Base obscured - by basal growth No obvious defects Stem - multi - from base Typical crown form for the species	No work required	10+	C1	N/A
T20	Hawthorn (Crataegus monogyna)	4	6x60	3	3	3	3	1	Early Mature	Fair	Fair	Base obscured - by basal growth No obvious defects Stem - multi - from base Typical crown form for the species	No work required	10+	C1	N/A
T21	Hawthorn (Crataegus monogyna)	4	6x60	3	3	3	3	1	Early Mature	Fair	Fair	Base obscured - by basal growth No obvious defects Stem - multi - from base Typical crown form for the species	No work required	10+	C1	N/A

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Stem Diameter -This is the measurement of stem diameter in millimetres taken in accordance with Annex C of BS5837:2012. # - estimated

Branch Spread -This is taken at four cardinal points, with a stated value in metres to enable an accurate representation of the crown

First Significant Branch -Height of first significant branch and direction of growth e.g. 2.4 N, measured from adjacent ground level.

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Life Stage -There are five classes to which trees are assigned: Young; Early Mature; Mature; Over Mature; Veteran.

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Sequential Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Recommendations	Estimated Remaining Contribution (Years)	Category Grading	Priority
				North	East	South	West									
T22	Hawthorn (Crataegus monogyna)	4	8x60	3	3	3	3	1	Early Mature	Fair	Fair	Base obscured - by basal growth No obvious defects Stem - multi - from base Typical crown form for the species Poached ground at the base	No work required	10+	C1	N/A
T23	Hawthorn (Crataegus monogyna)	4	6x80	3	3	3	3	1	Mature	Fair	Fair	Base obscured - by basal growth No obvious defects Stem - multi - from base Typical crown form for the species Poached ground at the base Compacted ground at the base - on the east side by a tarmac road	No work required	10+	C1	N/A
T24	Hawthorn (Crataegus monogyna)	3	80	2	2	2	2	1	Young	Fair	Fair	Base obscured - by basal growth No obvious defects Stem - multi - from base Typical crown form for the species Poached ground at the base Compacted ground at the base - on the east side by a tarmac road	No work required	10+	C1	N/A
G25	Elder (Sambucus nigra) Hawthorn (Crataegus monogyna)	6	6x60	3	3	3	3	1	Semi Mature	Fair	Fair	Branches - Crossing and Rubbing Compacted ground at the base - on the east side by a tarmac road Crown - Suppressed Crowns - Interlocked Spoil piled at the bases	No work required	10+	C1	N/A
T26	Hawthorn (Crataegus monogyna)	5	150 200	4	1	4	4	1	Early Mature	Fair	Fair	Base obscured - by basal growth Browsing damage on the stem Compacted ground at the base - on the east side by a tarmac road No obvious defects Poached ground at the base Stem - multi - from base Typical crown form for the species	No work required	10+	C1	N/A
T27	Hawthorn (Crataegus monogyna)	5	150 200	2	3	2	0.5	1	Early Mature	Fair	Fair	Base obscured - by basal growth Browsing damage on the stem Compacted ground at the base - on the east side by a tarmac road No obvious defects Poached ground at the base Stem - multi - from base Typical crown form for the species	No work required	10+	C1	N/A
T28	Hawthorn (Crataegus monogyna)	5	6x80	4	4	4	4	1	Early Mature	Fair	Fair	Base obscured - by basal growth Browsing damage on the stem Compacted ground at the base - on the east side by a tarmac road No obvious defects Poached ground at the base Stem - multi - from base Typical crown form for the species	No work required	10+	C1	N/A
T29	Goat Willow (Salix caprea)	5	150	4	4	4	4	1	Early Mature	Fair	Fair	Base obscured - by basal growth Browsing damage on the stem Compacted ground at the base - on the east side by a tarmac road No obvious defects Poached ground at the base Stem - multi - from base Typical crown form for the species	No work required	10+	C1	N/A

Sequential Reference Number -T - Individual specimen; G - Group, Trees that form cohesive arboricultural features either aerodynamically, visually or culturally; H - Linear group of specimens that form a hedge or boundary; W - A larger group or area of trees that should be regarded as a single woodland unit.

Species -Common English names are used wherever possible for simplicity.

Height -An approximation of height (in metres) is provided for the highest point of the tree.

Stem Diameter -This is the measurement of stem diameter in millimetres taken in accordance with Annex C of BS5837:2012. # - estimated

Branch Spread -This is taken at four cardinal points, with a stated value in metres to enable an accurate representation of the crown

First Significant Branch -Height of first significant branch and direction of growth e.g. 2.4 N, measured from adjacent ground level.

Existing Height Above Ground Level -An approximation of height (in metres) of crown clearance above adjacent ground level.

Life Stage -There are five classes to which trees are assigned: Young; Early Mature; Mature; Over Mature; Veteran.

Physiological Condition -An indication of the tree's physiological condition is represented and classed as good, fair, poor or dead, this is informed by the following: Canopy Density: It should be taken that, unless otherwise stated with each individual entry, the canopy density of the trees is typical of the species; and Leaf Size and Colouration: It should be taken that, unless otherwise stated with each individual entry, leaf size and colouration is typical of the species.

Structural Condition -Additional notes are provided giving details of the tree's structural condition. This is informed by "the presence of any decay and physical defect".

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Sequential Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Recommendations	Estimated Remaining Contribution (Years)	Category Grading	Priority
				North	East	South	West									
T30	Hawthorn (Crataegus monogyna)	3	6x30	1.5	1.5	1.5	1.5	1	Young	Fair	Fair	Browsing damage on the stem No obvious defects Poached ground at the base Stem - multi - from base Typical crown form for the species	No work required	10+	C1	N/A
T31	Hawthorn (Crataegus monogyna)	5	6x60	2	2	2	2	1	Early Mature	Fair	Fair	Browsing damage on the stem No obvious defects Poached ground at the base Stem - multi - from base Typical crown form for the species	No work required	10+	C1	N/A
G32	Blackthorn (Prunus spinosa) Elder (Sambucus nigra) Hawthorn (Crataegus monogyna) Apple (Malus domestica)	6	180	4	4	4	4	1	Early Mature	Fair	Fair	Base obscured Crowns - Interlocked Dense undergrowth at the base Typical crown form for the species Self-seeded dense group of trees around larger stems	No work required	10+	C1	N/A
G33	Hawthorn (Crataegus monogyna)	5	6x60	3	3	3	3	1	Early Mature	Fair	Fair	No obvious defects Stem - multi - at the base Typical crown form for the species Sporadically grown around field	No work required	10+	C1	N/A
G34	Elder (Sambucus nigra) Field Maple (Acer campestre) Hawthorn (Crataegus monogyna)	6	150	3	3	3	3	1	Early Mature	Fair	Fair	Base obscured Branches - Crossing and Rubbing Crowns - Interlocked Dense undergrowth at the base Ivy growth – main stem Located outside the site - and partially within the site in one area No obvious defects Typical crown form for the species Unable to gain access to base	No work required	10+	C1	N/A
G35	Common Ash (Fraxinus excelsior) English Oak (Quercus robur) Goat Willow (Salix caprea) Hawthorn (Crataegus monogyna) Silver Birch (Betula pendula) Apple (Malus domestica)	8	6x80	3	3	3	3	1	Semi Mature	Fair	Fair	Located outside the site - along an old railway cutting Minor deadwood No obvious defects Stems - multi, single & twin Typical crown form for the species Most likely self-seeded trees	No work required	10+	C1	N/A
T36	Silver Birch (Betula pendula)	15	200 210 230	5	5	5	5	2	Semi Mature	Fair	Fair	No obvious defects Stem - multi - three at the base Typical crown form for the species	No work required	20+	B1	N/A

Sequential Reference Number -T - Individual specimen; G - Group, Trees that form cohesive arboricultural features either aerodynamically, visually or culturally; H - Linear group of specimens that form a hedge or boundary; W - A larger group or area of trees that should be regarded as a single woodland unit.

Species -Common English names are used wherever possible for simplicity.

Height -An approximation of height (in metres) is provided for the highest point of the tree.

Stem Diameter -This is the measurement of stem diameter in millimetres taken in accordance with Annex C of BS5837:2012. # - estimated

Branch Spread -This is taken at four cardinal points, with a stated value in metres to enable an accurate representation of the crown

First Significant Branch -Height of first significant branch and direction of growth e.g. 2.4 N, measured from adjacent ground level.

Existing Height Above Ground Level -An approximation of height (in metres) of crown clearance above adjacent ground level.

Life Stage -There are five classes to which trees are assigned: Young; Early Mature; Mature; Over Mature; Veteran.

Physiological Condition -An indication of the tree's physiological condition is represented and classed as good, fair, poor or dead, this is informed by the following: Canopy Density: It should be taken that, unless otherwise stated with each individual entry, the canopy density of the trees is typical of the species; and Leaf Size and Colouration: It should be taken that, unless otherwise stated with each individual entry, leaf size and colouration is typical of the species.

Structural Condition -Additional notes are provided giving details of the tree's structural condition. This is informed by "the presence of any decay and physical defect".

Preliminary Management Recommendations -These are made on the basis of optimising the life expectancy of site trees, given their current situation and that which may result from the development proposals. The survey process pays particular attention to implications for life and/or property; defects recorded under the structural condition have the necessary mitigation measures proposed within this section of the schedule.

Estimated Remaining Contribution -The definitions of the terms used are as follows and describe the estimated length of time (in years) over which the tree can be expected to make a safe contribution to local amenity: Less than 10; 10+; 20+; and 40+.

Category Grading -Trees have been assigned 'U' or Category Grading 'A' to 'C' in accordance with the Cascade Chart given in BS5837:2012

Tree Works Priority Codes -Priority codes from 1 to 3 have been given for trees requiring work. The definition of the codes used is as follows: Priority 1: Work that should be undertaken urgently due to the identification of a potential hazard; Priority 2: Work that should be undertaken prior to any works commencing on site; and Priority 3: Work that should be undertaken following the completion of the development.

Schedule EDP 2 Tree Constraints Schedule

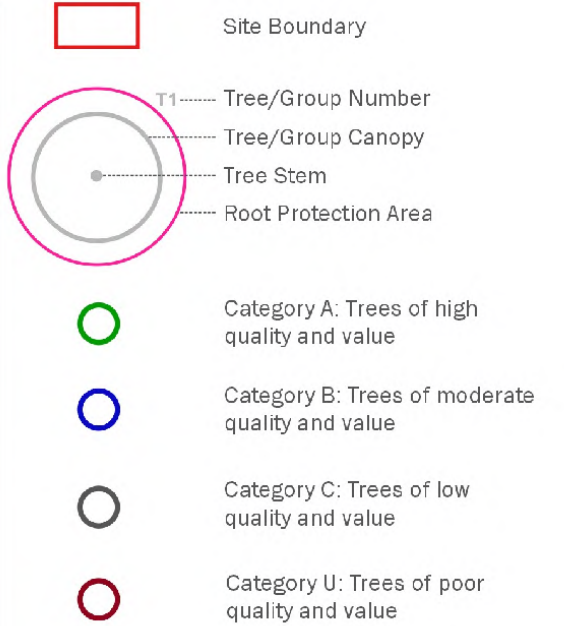
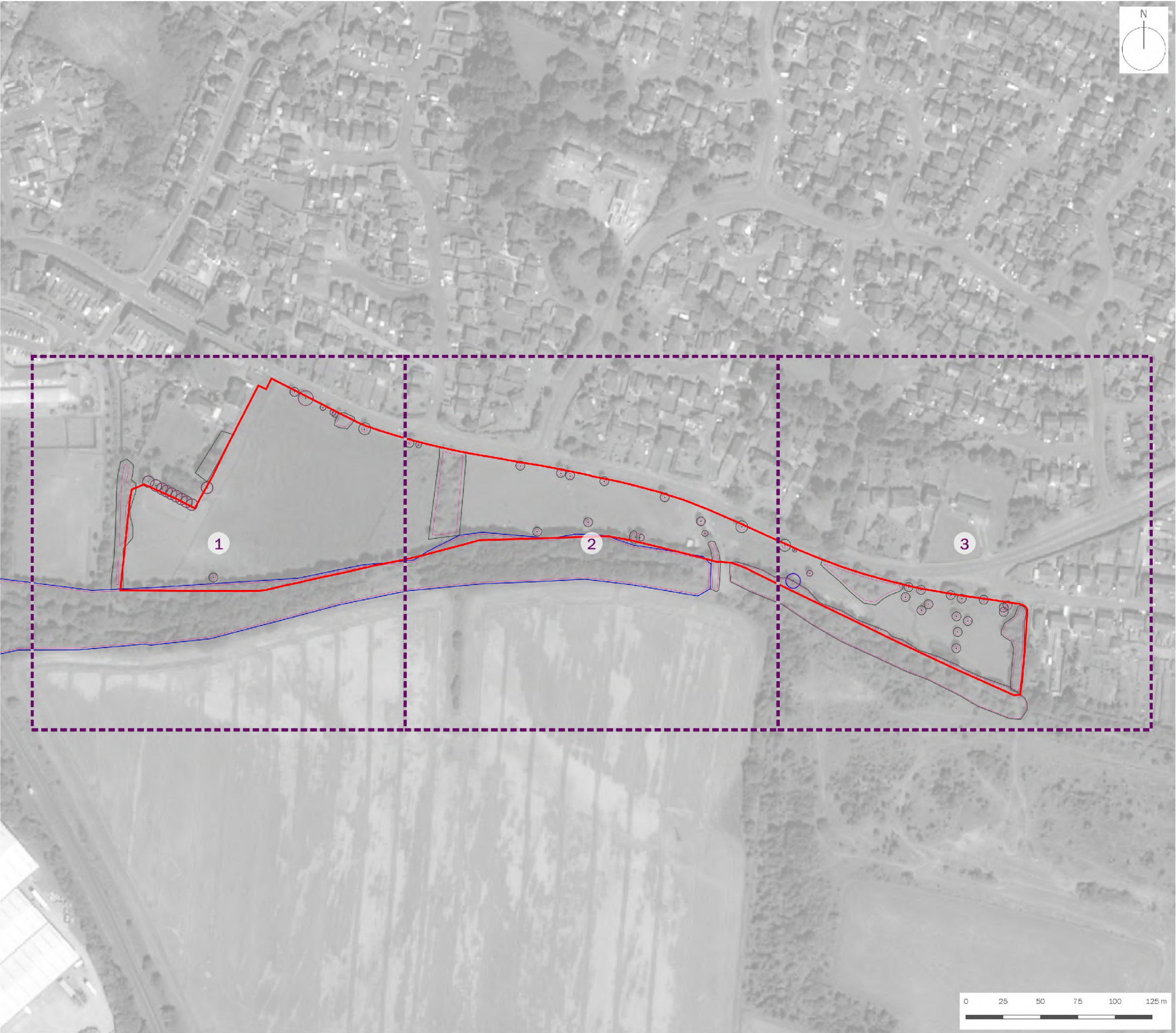
Reference No.	Cat Grading	No. of Stems	RPA Radius (m)	RPA Area m ²	Ultimate Height (m)	Ultimate Crown Spread (m)			
						N	E	S	W
T1	C1	6	1.8	9.8	6	4	4	4	4
T2	C1	3	5.1	80.8	9	6	6	6	6
T3	C1	2	1.5	7.3	5	2	2	2	2
T4	C1	6	0.9	2.4	5	2	2	2	2
T5	C1	1	1.2	4.5	5	2	2	2	2
G6	C1	6	1.8	9.8	6	4	4	4	4
T7	C1	6	1.8	9.8	8	5	5	5	5
T8	C1	1	1.1	3.7	5	4	4	4	4
T9	C1	1	1.1	3.7	5	2	2	2	2
G10	B1	1	4.8	72.4	20	7	7	7	7
T11	C1	6	1.8	9.8	6	4	4	4	4
G12	C1	6	2.9	27.1	13	7	7	7	7
G13	C1	1	3.6	40.7	28	5	5	5	5
G14	C1	1	6.0	113.1	18	7	7	7	7
G15	C1	6	1.8	9.8	10	5	5	5	5
T16	C1	6	1.8	9.8	5	4	4	4	4
T17	C1	6	1.8	9.8	5	4	4	4	4
T18	C1	6	1.8	9.8	5	4	4	4	4
T19	C1	6	1.8	9.8	5	4	4	4	4
T20	C1	6	1.8	9.8	5	4	4	4	4
T21	C1	6	1.8	9.8	5	4	4	4	4
T22	C1	8	2.0	13.0	5	4	4	4	4
T23	C1	6	2.4	17.4	5	4	4	4	4
T24	C1	1	1.0	2.9	4	2	2	2	2
G25	C1	6	1.8	9.8	8	4	4	4	4
T26	C1	2	3.0	28.3	6	5	1	5	5
T27	C1	2	3.0	28.3	6	2	4	2	1
T28	C1	6	2.4	17.4	6	5	5	5	5
T29	C1	1	1.8	10.2	6	5	5	5	5
T30	C1	6	0.9	2.4	4	2	2	2	2
T31	C1	6	1.8	9.8	6	2	2	2	2
G32	C1	1	2.2	14.7	8	5	5	5	5
G33	C1	6	1.8	9.8	6	4	4	4	4
G34	C1	1	1.8	10.2	8	4	4	4	4
G35	C1	6	2.4	17.4	10	4	4	4	4
T36	B1	3	4.4	62.0	19	6	6	6	6

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Plans

Plan EDP 1	Tree Constraints Plan (edp3487_d003b 16 September 2019 CR/TR/RB)
Plan EDP 2	Tree Protection Plan Overview (edp3487_d004b 16 September 2019 RB/TR)

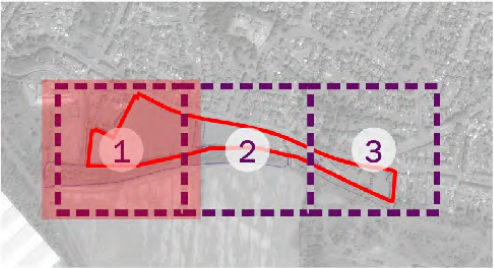
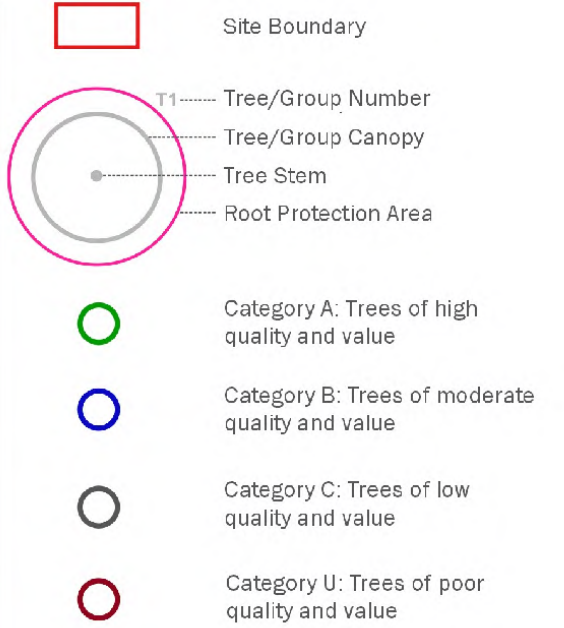
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client	Church Commisloners for England		
project title	Land South of Darton Lane, Darton, Staincross		
drawing title	Plan EDP 1: Tree Constraints Plan Overview		
date	16 SEPTEMBER 2019	drawn by	CR
drawing number	edp3487_d003b	checked	TR
scale	1:2,500 @ A3	QA	RB

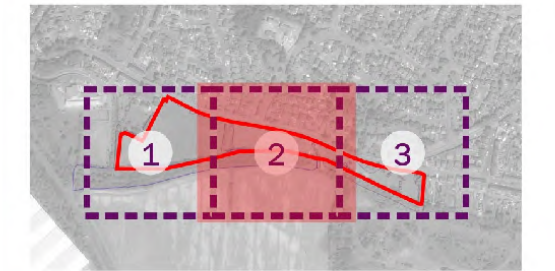
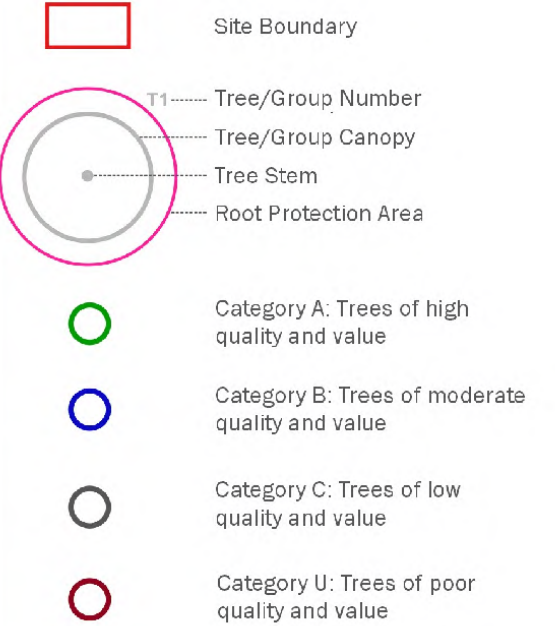


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client	Church Commisloners for England		
project title	Land South of Darton Lane, Darton, Staincross		
drawing title	Plan EDP 1: Tree Constralnts Plan (Sheet 1 of 3)		
date	16 SEPTEMBER 2019	drawn by	CR
drawing number	edp3487_d003b	checked	TR
scale	1:1,000 @ A3	QA	RB





client	Church Commssloners for England		
project title	Land South of Darton Lane, Darton, Staincross		
drawing title	Plan EDP 1: Tree Constraints Plan (Sheet 2 of 3)		
date	16 SEPTEMBER 2019	drawn by	CR
drawing number	edp3487_d003b	checked	TR
scale	1:1,000 @ A3	QA	RB



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Site Boundary

T1

Tree/Group Number

Tree/Group Canopy

Tree Stem

Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

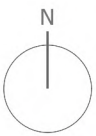
Category C: Trees of low quality and value

Category U: Trees of poor quality and value

client	Church Commisloners for England		
project title	Land South of Darton Lane, Darton, Staincross		
drawing title	Plan EDP 1: Tree Constralnts Plan (Sheet 3 of 3)		
date	16 SEPTEMBER 2019	drawn by	CR
drawing number	edp3487_d003b	checked	TR
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T1

Site Boundary

Tree/Group Number

Tree/Group Canopy

Tree Stem

Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

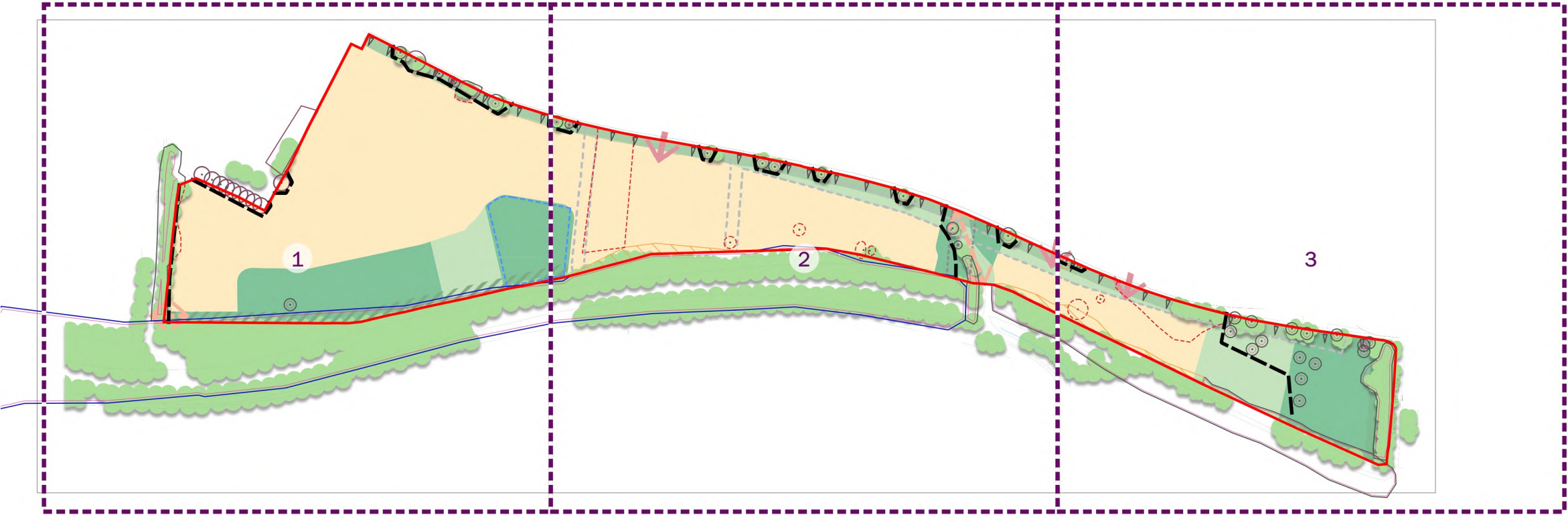
Category C: Trees of low quality and value

Category U: Trees of poor quality and value

Trees to be Removed

Protective Fencing in accordance with BS 5837:2012

Crown Reduction in accordance with BS 3998:2010



Default specification for protective barrier

BRITISH STANDARD

Key

1 Standard scaffold poles

2 Heavy gauge 2m tall galvanized tube and welded mesh infill panels

3 Panels secured to uprights and cross-members with wire ties

4 Ground level

5 Uprights driven into the ground until secure (minimum depth 0.6m)

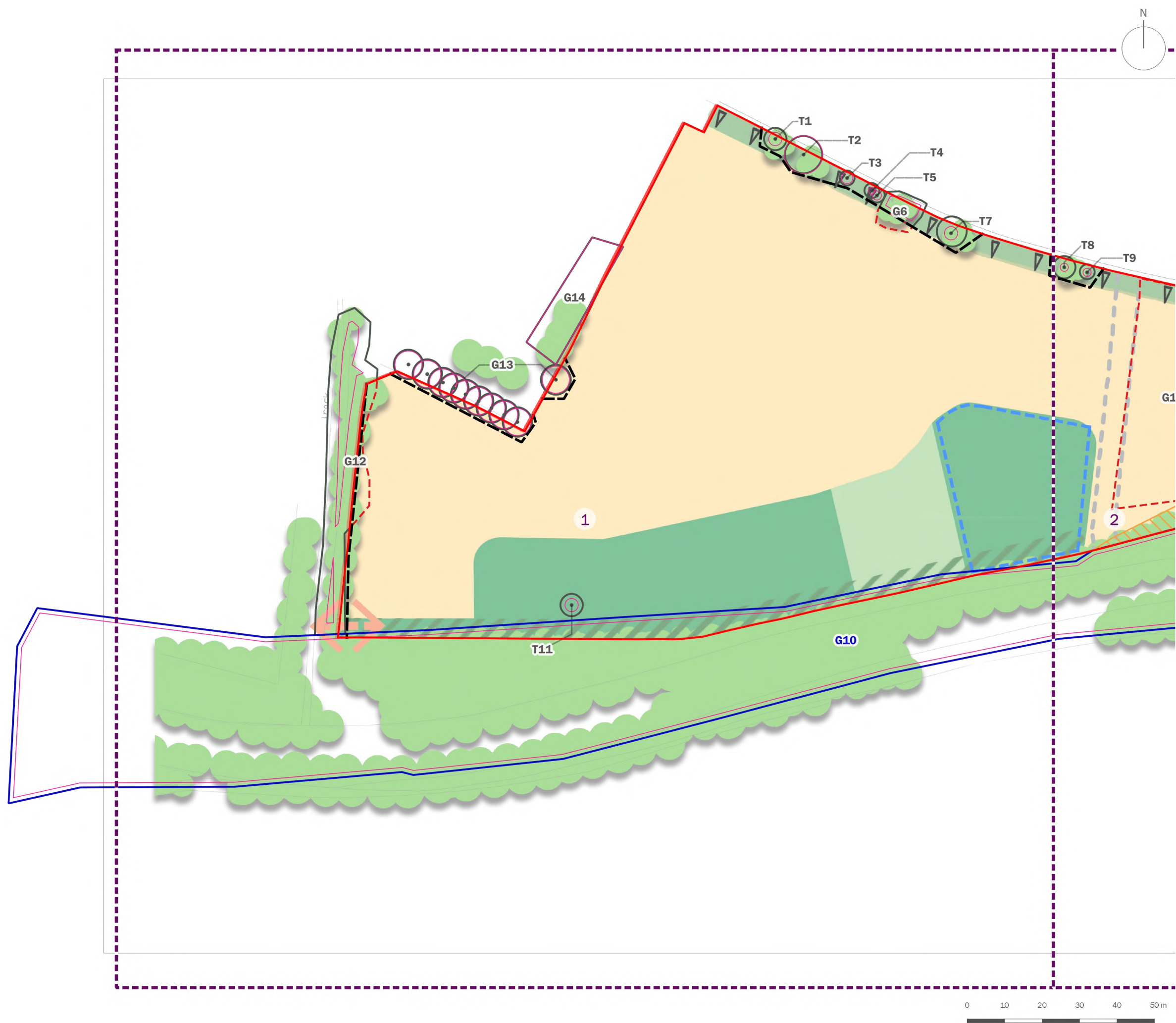
6 Standard scaffold clamps



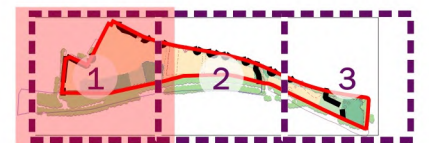
client	Church Commissioners for England		
project title	Land South of Darton Lane, Darton, Staincross		
drawing title	Plan EDP 2: Tree Protection Plan Overview		
date	16 SEPTEMBER 2019	drawn by	RB
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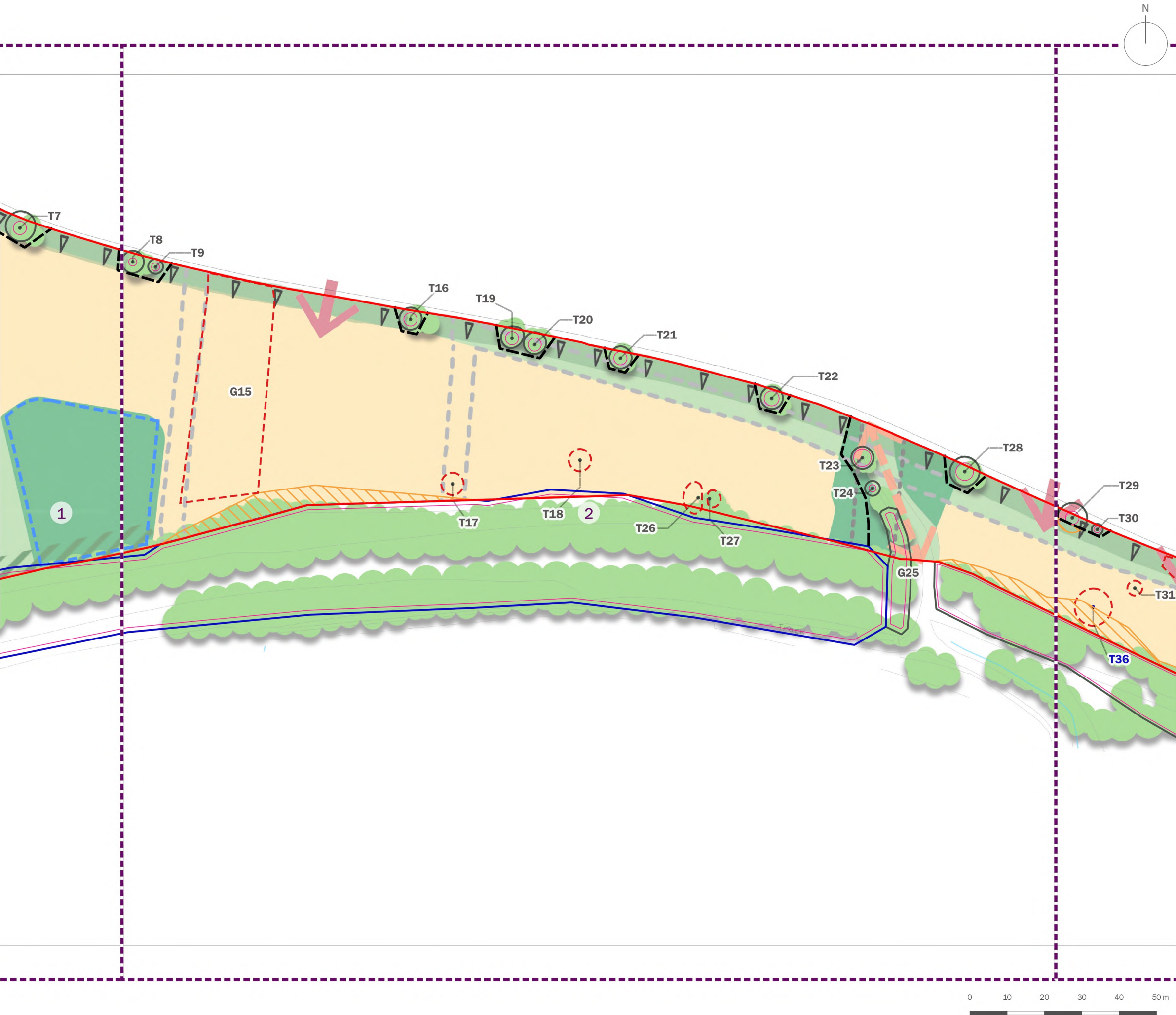
- Site Boundary
- T1 Tree/Group Number
- Tree/Group Canopy
- Tree Stem
- Root Protection Area
- Category A: Trees of high quality and value
- Category B: Trees of moderate quality and value
- Category C: Trees of low quality and value
- Category U: Trees of poor quality and value
- Trees to be Removed
- Protective Fencing in accordance with BS 5837:2012
- Crown Reduction in accordance with BS 3998:2010



client	Church Commissioners for England		
project title	Land South of Darton Lane, Darton, Staincross		
drawing title	Plan EDP 2: Tree Protection Plan (Sheet 1 of 3)		
date	16 SEPTEMBER 2019	drawn by	RB
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Site Boundary

T1

Tree/Group Number

Tree/Group Canopy

Tree Stem

Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value

Trees to be Removed

Protective Fencing in accordance with BS 5837:2012

Crown Reduction in accordance with BS 3998:2010

client			
Church Commissioners for England			
project title			
Land South of Darton Lane, Darton, Staincross			
drawing title			
Plan EDP 2: Tree Protection Plan (Sheet 2 of 3)			
date	16 SEPTEMBER 2019	drawn by	RB
drawing number	edp3487_d004b	checked	TR
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