

**A57 Link Roads
TR010034**

**6.5 Environmental Statement
Appendix 7.3 Arboricultural Impact
Assessment**

APFP Regulation 5(2)(a)

Planning Act 2008 Infrastructure Planning (Applications: Prescribed
Forms and Procedure) Regulations 2009

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1. Introduction

1.1 Scope of assessment

- 1.1.1 This Arboricultural Impact Assessment (AIA) has been prepared in respect of the A57 Link Roads Scheme (hereafter referred to as “the Scheme”) made by Highways England Company Limited (“the Applicant”) to the Secretary of State for Transport (“Secretary of State”) for a Development Consent Order (DCO) under section 37 of the Planning Act 2008 (“the Act”).
- 1.1.2 An Environmental Impact Assessment (EIA) has been undertaken and an Environmental Statement (ES) (TR010034/APP/6.3) prepared to support the application for the DCO.
- 1.1.3 This AIA presents the findings of a tree survey which has been undertaken for the Scheme. It is a scheme-wide AIA and reports on the impacts on the recorded trees within and adjacent to the DCO boundary and is supplemented by the production of Tree Protection Plans (TPPs), which are included within Appendix C of this AIA.
- 1.1.4 This AIA forms an Appendix to the Landscape and visual effects chapter (Chapter 7) of the ES (TR010034/APP/6.3).
- 1.1.5 The trees, woodlands and hedgerows have been recorded in accordance with the British Standard *BS5837:2012 ‘Trees in Relation to Design, Demolition and Construction – Recommendations’* to report on the impacts of the Scheme.
- 1.1.6 The tree survey also identified veteran trees; this included those trees which can be considered as ancient.
- 1.1.7 The Scheme extents are illustrated on the TPPs (Appendix C).

1.2 Location of the Scheme

- 1.2.1 The Scheme is located primarily within Mottram in Longdendale, on the eastern edge of the Manchester conurbation, adjacent to and within the settlements of Hattersley, Mottram in Longdendale, Hollingworth and Woolley Bridge. The road connects the M67 in the west, to the A57 Brookfield Road in the east and crosses through the surrounding, predominately pasture, agricultural land within the Harrop Edge and Mottram Moor valley sides and within the Etherow river valley.
- 1.2.2 The DCO boundary for the Scheme is presented in Figure 2.1 (TR010034/APP/6.5) of the ES.

1.3 Scheme description

- 1.3.1 The preferred route for the Scheme was announced by Highways England in 2017 and has since been updated in accordance with stakeholder and public concerns or comments that were raised during various consultations (see the Consultation Report (TR010034/APP/5.1) for more detail).

1.3.2 The Scheme lies mainly within the administrative boundaries of Tameside Metropolitan Borough Council (MBC), up until to the proposed River Etherow Bridge. To the east of this, the Scheme crosses over the boundary with High Peak Borough Council and Derbyshire County Council.

1.3.3 The Scheme includes the following components:

- A new offline bypass of 1.12 miles (1.8km) of dual carriageway road connecting the M67 Junction 4 to A57(T) Mottram Moor Junction
- A new offline bypass of 0.81 miles (1.3km) of single carriageway connecting the A57(T) Mottram Moor to the A57 Woolley Bridge
- Creation of two new junctions, Mottram Moor Junction and Woolley Bridge Junction and improvement works to the existing M67 Junction 4
- Creation of five new structures (Old Hall Farm Underpass, Roe Cross Road Overbridge, Mottram Underpass, Carrhouse Lane Underpass, River Etherow Bridge and Roe Cross Road overbridge)
- One main temporary construction compound area, located on agricultural land to the east of the M67 Junction 4
- De-trunking, including safety measures from the M67 Junction 4 to Mottram Back Moor Junction, to be agreed with Tameside MBC.
- Safety measures and improvements to the A57 from Mottram Moor Junction to Gun Inn Junction and from Gun Inn Junction to Woolley Lane Junction, to be agreed with Tameside MBC.

2. Methodology

2.1 General

- 2.1.1 This AIA has been undertaken in accordance with *BS5837:2012 Trees in Relation to Design, Demolition and Construction – Recommendations*. The Standard gives recommendations and guidance on the relationship between trees and the design, demolition and construction process, setting out the principles and procedures to be applied to achieve a harmonious and sustainable relationship between trees and structures.
- 2.1.2 *BS5837:2012* does not set explicit parameters for measuring the sensitivity of an arboricultural resource; nor does it assess the magnitude of impact of a proposed development on trees (other than by providing a record of the number or areas of trees that would need to be removed to facilitate the Scheme). Rather, the British Standard provides parameters which enable the arboriculturist to assess the quality of all the trees, hedges and other arboricultural features that may be affected by the development that is proposed.
- 2.1.3 Whilst the BS categories are open to varied interpretation, the guidelines in the cascade chart of *BS5837:2012* (see insert A.1 in Appendix A of this AIA) provide details on how to determine tree qualities and can be used to inform the design process to retain those trees of higher quality where possible.

2.2 Definition of Veteran Trees and Planning policy

- 2.2.1 The definition of veteran trees for the purposes of this assessment follows the core standing advice and planning policy.
- 2.2.2 The ‘Standing¹ advice on ancient woodland, ancient trees and veteran trees provides guiding principles for the classification of ancient and veteran trees. These principles are also covered within the Forestry Commission and Natural England (NE) guidance.
- 2.2.3 The standing advice clearly defines veteran trees as:
“All ancient trees are veteran trees, but not all veteran trees are ancient. A veteran tree may not be very old, but it has decay features, such as branch death and hollowing. These features contribute to its biodiversity, cultural and heritage value”.
- 2.2.4 The definition provides a degree of ambiguity, but provides clear guiding principles namely that veteran trees have:
- *Decay features, such as branch death and hollowing; and*
 - *These features contribute to its biodiversity, cultural and heritage value.*
- 2.2.5 The definition of ancient trees supplements this by focusing the definition of veteran trees arguably (but not definitively) on:
- *Great age*
 - *Size*
 - *Condition*

¹ <https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences>

- *Biodiversity value as a result of significant wood decay and the habitat created from the ageing process, and*
- *Cultural and heritage value.*

Very few trees of any species become ancient.

2.2.6 As such this assessment determines that the classification of veteran trees should take account of the specific features of trees (size and condition) alongside their biodiversity, cultural and heritage value.

2.2.7 The relevant planning policy is detailed within the National Planning Policy Framework (NPPF) and National Policy Statement for National Networks² (NPS NN).

2.2.8 The NPS NN provides clear consideration of veteran trees, but does not present a definition. The NPPF provides a joint definition:

Ancient or veteran tree: ‘*a tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage’.*

2.2.9 This definition extends that within the standing advice to include additional criteria:

- Exceptional biodiversity, cultural or heritage value; and
- Old relative to other trees of the same species.

2.2.10 Therefore, in line with policy compliance veteran trees have been classified in accordance with:

- Size
- Condition (decay features, such as branch death and hollowing, plus associated species)
- Exceptional biodiversity value as a result of significant wood decay and the habit created from the ageing process
- Exceptional cultural and heritage value, and
- Old relative to other trees of the same species.

2.2.11 Further guidance to assist in classifying trees as old for their species based on stem size criteria was obtained from Figure 1.3 ‘Chart of girth in relation to age and developmental classification of trees’ from the *Ancient and other veteran trees: further guidance on management* (Lonsdale, 2013). This lists tree species against ascending girth measurements to help define whether a tree is locally notable; veteran/notable; ancient or late ancient¹.

2.2.12 The National Planning Policy Framework (NPPF) was updated in July 2018 to provide greater protection for veteran trees (and subsequently updated so the latest published version is 2019). The pertinent section being paragraph 175 c) which states:

² National Policy Statement for National Networks, 2014, Department for Transport

‘development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists’.

2.2.13 Footnote 58 from the same section of the NPPF references applicable exceptional reasons as being:

‘for example, infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat’.

2.2.14 In relation to NSIPs, within the National Policy Statement for National Networks, paragraph 5.32 states:

“The Secretary of State should not grant development consent for any development that would result in the loss or deterioration of irreplaceable habitats including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the national need for and benefits of the development, in that location, clearly outweigh the loss. Aged or veteran trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals, the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons for this.” This has a footnote stating, *“This does not prevent the loss of such trees where the decision-maker is satisfied that their loss is unavoidable”.*

2.3 Statutory protection

2.3.1 Trees may be protected through a Tree Preservation Order (TPO) or through being located within a Conservation Area. The law on TPOs is in Part VIII of the Town and Country Planning Act 1990 as amended and in the Town and Country Planning (Tree Preservation) (England) Regulations 2012³.

2.3.2 A TPO is made by a local authority in respect of a tree(s) as the tree is considered to bring amenity value to the surrounding area. A TPO makes it an offence to cut down, uproot, lop, top, wilfully damage or wilfully destroy a protected tree without authorisation.

2.3.3 The local planning authorities of Tameside MBC and High Peak Borough Council were contacted to identify the presence of any TPOs or Conservation Areas within the DCO boundary.

2.4 Spatial scope

2.4.1 The survey has targeted trees within and adjacent to the DCO boundary.

2.4.2 This AIA is targeted at the impacts on the trees. It does not cover the subsequent impacts such tree removal would have on ecological or landscape receptors which are outline in the Biodiversity (Chapter 8) and Landscape and visual effects (Chapter 7) chapters of the ES.

2.4.3 The TPPs (see Appendix C of this report) show trees that have been surveyed.

³ <https://www.legislation.gov.uk/uksi/2012/605/contents/made->

2.5 Survey

- 2.5.1 The tree survey was undertaken by qualified and experienced arboriculturists during September and October 2020. The assessment written by a Level 6 qualified arboriculturist who is a professional member of the Arboricultural Associations (since 2008).
- 2.5.2 The approach to the survey involved ground level walked assessments.
- 2.5.3 The locations of individual trees and the start and end points of groups/hedgerows were where possible plotted using proprietary GIS data capture software on Trimble hand-held mobile mappers. These locations were verified using available aerial imagery and available topographical data showing tree locations.
- 2.5.4 The various arboricultural features were numbered sequentially from 001: individual trees recorded were prefixed with a 'T' (e.g. T001), groups of trees with a 'G', woodlands with a 'W' and hedges with an 'H'. No numbered aluminium tree tags were used for the survey, but where already fixed to trees these were noted within the survey schedule.

2.6 Data gathering

- 2.6.1 Data have been collected in accordance with *BS5837:2012*, as outlined in Appendix A of this report. The purpose of the tree categorisation method applied by the arboriculturist is to identify the quality and value (in a non-fiscal sense) of the recorded tree stock, allowing informed decisions to be made concerning which trees should be removed and which retained if development is to occur.
- 2.6.2 For a tree to qualify under any given category, it should fall within the scope of that category's definition as defined in Appendix A of this report (categories U, A, B, C) and, for trees in categories A to C, it should qualify under one or more of the three subcategories (1, 2, 3). Subcategories 1, 2 and 3 are intended to reflect arboricultural and landscape qualities, and cultural values, respectively.
- 2.6.3 Veteran trees are specifically noted in A3 category on the cascade chart. However, where the veteran habitat features significantly increase the risk of harm to adjacent people or property the estimated remaining life expectancy and safety issues were also considered in the assigning of tree categories.
- 2.6.4 Trees were recorded as individual specimens, groups, hedgerows and woodlands. Where trees were recorded as groups, hedgerows or woodlands measurements were taken from the largest tree within the group/hedgerow/woodland. The method of measuring diameters is defined in Appendix A of this report.
- 2.6.5 This level of survey meets the requirements of *BS5837:2012*, which states that 'trees growing as groups or woodland should be identified and assessed as such'. The standard defines the term group as 'trees that form cohesive arboricultural features either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally including for biodiversity (e.g. parkland or wood pasture)'.

2.6.6 Crown spreads of the surveyed trees were given as an average measurement where the tree's crowns were balanced. Where there was a notable difference in crown spread to a cardinal point, these were recorded. The average measurement was taken from the cardinal point relevant to the direction of the Scheme. This level of survey is deemed sufficient by the arboriculturist to establish the extent of the crown spread in the direction of any future proposals. All crown spread measurements should be taken from the tree survey schedules (see Appendix B of this report).

2.7 Limitations to survey

- 2.7.1 Where access was restricted due to safety concerns, particularly where trees were growing along watercourses then measurements were estimated.
- 2.7.2 Where access permitted, trees were identified and inspected from ground level only and were not climbed. No invasive examination techniques (such as increment boring, or internal decay detection) were carried out and as such no assessment of the internal condition of the wood of these trees can be given.
- 2.7.3 The tree survey undertaken is not intended to be a tree risk management survey targeting safety-related issues. However, where specific hazards have been identified these have been recorded and management recommendations provided and are detailed within the tree survey schedules (see Appendix B of this AIA).
- 2.7.4 Validity, accuracy and findings of the tree locations will relate directly to the accuracy of the supplied topographical data, available aerial imagery and the GIS data capture software being used. As such the accuracy of the tree locations is potentially open to discrepancies and their locations may need verifying.
- 2.7.5 Where tree groups have been illustrated as an outline this covers the extents of the tree group. It does not always illustrate individual trees within the groups. Where individual trees were identified they were plotted separately.
- 2.7.6 The report does not comment on possible effects of trees on neighbouring properties, including in relation to subsidence or heave, or with regard to possible hazards presented by trees surveyed.
- 2.7.7 Trees are living organisms subject to changes outside human control. Trees and their environment alter with the seasons and it is as well to inspect trees whilst in full leaf and when out of leaf. Following harsh or unexpected weather conditions, or heavy storms it is also prudent to inspect trees. Changes to ground water conditions will affect the root growth of a tree. Such changes are not always the result of human influence and other factors may be involved.
- 2.7.8 It is not considered that these limitations and/or assumptions have affected the ability to undertake the assessment nor the conclusions reported in this report.

3. Existing tree data

3.1 Existing tree stock

- 3.1.1 The existing tree stock is mainly growing along boundary features that include fields, roads, and watercourses. The tree stock is a mixture of planted and self-sown trees and shrubs that have received varying degrees of management. There are a number of lapsed hedgerows throughout the Scheme extents. These being sporadic lengths of primarily hawthorn species located throughout the DCO boundary.
- 3.1.2 The west extents of the Scheme include large expanses of grazing pasture bound by stock proof fencing and sections of hawthorn hedgerows. There is also the Hurstclough Brook watercourse passing through the Scheme in this location. The trees along this corridor are primarily goat willow with several multi-stemmed trees. There are occasional larger trees species including alder, but these are limited.
- 3.1.3 The former cricket ground is also located in this area of the Scheme. It is bound by lines of closely planted mixed tree species, which includes goat willow, silver birch and pine. These are semi-mature to early-mature trees. The close spacing between the trees inducing drawn forms through phototropic growth and the shading of branches leading to dieback and deadwood in places.
- 3.1.4 There is a woodland group (W042) and sporadic early-mature to mature trees growing adjacent to Old Hall Lane close to the centre point of the Scheme. The woodland itself is dominated by sycamore as it extends in a south east direction from Old Hall Lane, with an understory of holly. In the area directly adjacent to Old Hall Lane it contains a variety of broad leaf species including horse chestnut, ash and beech with limited understory - see Insert 3-1 for reference.



Insert 3-1: woodland W042 adjacent to Old Hall Lane (image from Google Street View)

- 3.1.5 A review of available online mapping resources indicates that Old Hall Lane has been tree-lined for many years. Insert 3-2 is an extract from the 1882 ordnance survey map. It shows Old Hall Lane having a woodland group along its east extents.



Insert 3-2: extract from 1882 ordnance survey mapping

- 3.1.6 The woodland has mixed species and mixed age classifications. The mature trees include the horse chestnut reference W042A, but these are limited. Self-sown semi-mature sycamore is dominant. The mean growth in girth of most trees *with a full crown* is one inch (25 mm) a year. The estimated age of tree W042A using 'Mitchell's Rule' (Mitchell, 1974) is a minimum of 140 years old.
- 3.1.7 Insert 3-3 shows the typical woodland composition as it extends south east from Old Hall Lane, showing the presence of trees that are semi-mature to early mature and dominated by sycamore trees.



Insert 3-3: southern section of W042 adjacent to Old Hall Road

- 3.1.8 The 1882 map also shows the area within the former Mottram Show Ground to the east of Old Hall Road that is still tree-covered. The layout of the trees is influenced by the local changes in topography. The trees are a mixture of broad leaf species including sporadic mature oaks. The oldest of the oak trees is estimated (using 'Mitchell's Rule') to be up to 120 years old. There are also younger trees present with sycamore appearing to self-established in several locations.
- 3.1.9 Insert 3-4 shows an aerial view of the current layout of the trees in this location. The area can be separated into distinct areas based on the tree species and assemblage.



Insert 3-4: former Mottram Show Ground trees, the red outlines distinguishing the different stands (image taken from google maps)

- 3.1.10 The west section is a stand of early mature sycamore growing either side of a small drainage channel. The trees have slender drawn stems and occluded crown growth. The close spacing between the trees has induced variable quantities of dieback in crowns with up to 30% in some trees. There has been historic browsing of lower crowns by sheep and there is no understorey vegetation present.
- 3.1.11 The southern section includes trees of mixed species growing in an unmanaged area near to a pond. It is enclosed by wire fencing and has semi-mature to mature trees including ash, birch, sycamore, oak, alder, rowan. There is a dense bramble understorey, with Guelder rose. There is the remnants of a hawthorn hedge around the south side.
- 3.1.12 The remaining area includes intermittent mature common oak and occasional ash, alder and sycamore specimens. The understorey includes grazing pasture and an area of saturated ground.
- 3.1.13 Further woodland areas are located to the south of the Scheme to the east and west of Carrhouse Lane.
- 3.1.14 The woodland to the west of Carrhouse Lane is illustrated on Insert 3-5.



Insert 3-5: woodland area to west of Carrhouse Lane, the red outline distinguishing the different stands (image taken from google maps)

- 3.1.15 The western section is an informal linear group that includes young to semi mature trees. There are mixed broadleaf species present including goat willow, ash, silver birch, hazel, cherry, hawthorn. The trees are growing on sloped bank with dense bramble present. There is a mature ash tree at the east extents of the group reference T111. A high-quality tree that is to be retained as part of the Scheme.
- 3.1.16 The eastern section is also an informal linear group containing semi-mature to early mature trees. There are mixed broadleaf and pine species present, including hybrid black poplar, Scots pine, ash, oak, hazel, hawthorn. The close spacing between the trees has led to mutual crown suppression.
- 3.1.17 The woodland to the east of Carrhouse Lane is illustrated on Insert 3-6.



Insert 3-6: woodland area to east of Carrhouse Lane, the red outline distinguishing the different stands (image taken from google maps)

- 3.1.18 The main stand of trees covering its west extents is a Norway spruce tree plantation that also includes Scots pine and infrequent Nordmann fir. These trees are semi-mature to early-mature. There are intermittent hawthorn and saplings of ash, oak on an earth bank along the west edge.
- 3.1.19 The area to the east contains intermittent mature oak along the edge of woodland. These are trees T114, T115 and T116, which are to be retained as part of the Scheme.
- 3.1.20 The remaining trees in the south extents of the Scheme include further informal linear groups and sporadic mature trees growing on field boundaries and along the banks of the River Etherow. In some cases, the trees have been identified for preliminary management recommendations. These works being in relation to visible defects and managing the risk of harm to adjacent people or property.

3.2 Veteran trees

- 3.2.1 There are no veteran trees recorded within the DCO boundary in line with the survey approach detailed in section 2 of this assessment.
- 3.2.2 The Biodiversity chapter (Chapter 8) of the ES provides information on a desk study approach to confirming the presence of any veteran trees based on a review of the Woodland Trust's Ancient Tree Inventory. This reported no veteran trees within the DCO boundary.

3.3 Ancient Woodland

3.3.1 There are no Ancient Woodlands within the DCO boundary. For further information on the presence of any Ancient Woodlands beyond the DCO boundary then see the Biodiversity chapter (Chapter 8) and the Landscape and visual chapter (Chapter 7) of the ES.

3.4 Protected trees

3.4.1 There are trees protected by TPOs within the DCO boundary. A TPO makes it an offence to cut down, uproot, lop, top, wilfully damage or wilfully destroy a protected tree without authorisation. However, a DCO may include powers to undertake works to trees which are subject to a TPO.

3.4.2 The TPOs within the DCO boundary are illustrated on the TPOS and Hedgerows Regulation 5 (2)(o) drawings (TR010034/APP/2.13).

3.4.3 Table 3-1 includes all the TPOs within the DCO boundary.

Table 3-1 – TPO table

TPO reference	Type of tree	Location
L4-T15	(NO REF) Sycamore (<i>Acer pseudoplatanus</i>)	A57 Mottram Moor Road, west of Stalybridge Road.
L4-T17	(NO REF) Lime (<i>Tilia spp.</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T18	(NO REF) Lime (<i>Tilia spp.</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T19	(NO REF) Ash (<i>Fraxinus excelsior</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T24	(NO REF) Beech (<i>Fagus sylvatica</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T25	(NO REF) Lime (<i>Tilia spp.</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T26	(NO REF) Lime (<i>Tilia spp.</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T27	(NO REF) Ash (<i>Fraxinus excelsior</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T28	(NO REF) Lime (<i>Tilia spp.</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T30	(NO REF) Beech (<i>Fagus sylvatica</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T31	(NO REF) Lime (<i>Tilia spp.</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T32	(NO REF) Lime (<i>Tilia spp.</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T33	(NO REF) Beech (<i>Fagus sylvatica</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L4-T34	(NO REF) Beech (<i>Fagus sylvatica</i>)	A57 Mottram Moor Road, east of Stalybridge Road.

TPO reference	Type of tree	Location
L4-T35	(NO REF) Ash (<i>Fraxinus excelsior</i>)	A57 Mottram Moor Road, east of Stalybridge Road.
L13-W2	W042 Beech (<i>Fagus sylvatica</i>), Sycamore (<i>Acer pseudoplatanus</i>), Elm (<i>Ulmus spp.</i>), Horse Chestnut (<i>Aesculus hippocastanum</i>), Ash (<i>Fraxinus excelsior</i>)	East of Old Hall Lane
L13-G2	T043 Oak (<i>Quercus robur</i>), T044 Oak (<i>Quercus robur</i>), G045A Oak (<i>Quercus robur</i>), G045B Sycamore (<i>Acer pseudoplatanus</i>), G045C Beech (<i>Fagus sylvatica</i>), G045D Beech (<i>Fagus sylvatica</i>), G045E Beech (<i>Fagus sylvatica</i>), G045F Beech (<i>Fagus sylvatica</i>)	East of Old Hall Lane
L13-T7	G047 Sycamore (<i>Acer pseudoplatanus</i>)	East of Old Hall Lane
L13-T8	T046 Ash (<i>Fraxinus excelsior</i>)	East of Old Hall Lane
L13-T9	T048 Sycamore (<i>Acer pseudoplatanus</i>)	East of Old Hall Lane
L15-W1	W042 Beech (<i>Fagus sylvatica</i>), Sycamore (<i>Acer pseudoplatanus</i>), Elm (<i>Ulmus spp.</i>), Horse Chestnut (<i>Aesculus hippocastanum</i>), Ash (<i>Fraxinus excelsior</i>)	East of Old Hall Lane

3.4.4 Trees may also be protected as part of a Conservation Area designation. The Mottram-in-Longdendale Conservation Area falls within part of the DCO boundary. The Conservation Area extents are illustrated on Figure 2.3 Environmental Constraints plan (TR010034/APP/6.4). No trees within this Conservation Area have been identified for removal.

4. Arboricultural impacts

4.1 General

- 4.1.1 This report determines the impact of the Scheme on the recorded tree stock. It provides details on the recorded trees including their condition and in some cases suitability for retention.
- 4.1.2 The report is supplemented by the TPPs (Appendix C of this AIA) that illustrate the proposed Scheme, the DCO boundary, the recorded trees and trees that would require removal to facilitate the Scheme.
- 4.1.3 The Works Plans and DCO Schedule 1: Work Plan Schedule (TR010034/APP/2.3 and 3.1) explain the works required to deliver the Scheme.
- 4.1.4 The TPPs cover the outline of the Scheme. This means a 'worst-case scenario' is currently having to be presented in terms of tree removals as, during further progression of the design, bespoke engineering options could be explored to retain trees where possible and in consultation with the arboriculturist. However, in view of the scale of the proposed earthworks, the ability to retain trees safely will be a significant challenge, and one which may not be possible in a lot of cases.
- 4.1.5 Confirmation on tree removals will be undertaken prior to construction and detailed within a final Arboricultural Method Statement (AMS), that shall also confirm protection measures for the retained trees. Section 5 contains an Outline AMS. The appointed Principal Contractor for the Scheme, as defined under the Construction (Design and Management) Regulations 2015 (CDM 2015)⁴ will develop this Outline AMS into a final version during the Detailed Design and Construction stages of the Scheme as part of the Environmental Management Plan (EMP) (TR010034/APP/7.2) and the Register of Environmental Actions and Commitments (REAC) (TR010034/APP/7.3), secured through Requirement 4 (c) of the dDCO.
- 4.1.6 The tree survey schedules within Appendix B of this AIA cover all the trees recorded as part of this assessment in line with the BS5837:2012 guidance. A column has been included to indicate the impact of the works.
- 4.1.7 Entries in the impact column include removal (abbreviated as REM and highlighted as red); part removal (abbreviated as PRG and highlighted as orange); and retained (abbreviated as RET and highlighted as green). Where the trees fall outside the DCO boundary, the default entry is retained.

4.2 Root protection areas

- 4.2.1 The root protection area (RPA), as defined in the BS5837:2012, is the minimum area around a tree 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. This area should be protected from disturbance "in order to avoid unacceptable damage to the tree as a result of severance or asphyxiation of the root system."

⁴ <https://www.hse.gov.uk/construction/cdm/2015/index.htm>

- 4.2.2 The recommended minimum area (m²) to avoid potentially harmful disturbance has been calculated and entered into the tree schedules (see Appendix B of this AIA) for all trees. The RPA for each individual tree has been illustrated on the TPPs as a circle centred on the tree's stem, while the RPAs of the tree groups and woodlands have been illustrated as an offset from canopy extents, unless trees have specifically been recorded within the groups.
- 4.2.3 The use of RPAs will become more prevalent during the detailed design process: the infringement into these areas should be reduced where possible through sympathetic engineering approaches. The current TPPs are to be used to inform the continued progression of the scheme, similarly, the survey schedules which contain RPA details for the groups recorded.
- 4.2.4 In addition to the RPAs of trees where individually recorded specimens are impacted upon by the proposals then the actual root zones of the trees could be mapped using sonic-tomography to determine extent of any root loss that could occur, and to reduce or remove works in these locations.

4.3 Arboricultural impacts

- 4.3.1 The impacts of the Scheme have been assessed, and Table 4.1 below reflects the **tree totals** for the surveyed trees that require removal to facilitate the works. This includes numbers of trees to be removed and also areas to be removed where tree groups were recorded as an outline.

Table 4-1: Arboricultural impact table

Type	BS Category Reference			
	Category A no./area (m ²)/m	Category B no./area (m ²)/m	Category C no./area (m ²)/m	Category U no./area (m ²)/m
Individual Tree (T) and individual trees in groups	8 no.	34 no.	30 no.	4 no.
Groups (G)	0	6,008m ²	8,144 m ²	0
Woodlands (W)	2,656m ²	3,083.5 m ²	0	0
Hedgerows (H)	0	7.5 m	1,258.7 m	0

- 4.3.2 These trees are currently within or closely adjacent to the footprint of the proposals. Where trees have over 20% of their RPAs severed by the works the trees have been identified for potential or actual removal depending on feasibility of re-designing certain areas or structures. The 20% figure being specifically referenced within BS5837:2012 for what is deemed potentially acceptable in terms of RPA infringement.
- 4.3.3 Tree removals shall continue to be scrutinised. Trees could be retained through detailed design, and confirmation on their removal should be undertaken prior to construction and detailed within a final AMS.
- 4.3.4 The compensation planting is covered within the Environmental Masterplan (Figure 2.4 of the ES, TR010034/APP/6.4)

4.4 Arboricultural impacts – TPO trees

4.4.1 TPO trees have been identified for removal and in some cases their RPAs extend into the works areas. Therefore, specific working measures adjacent to the trees would need to be confirmed in order to ensure the protection of the trees during construction. Any specific working measure would need to be confirmed within a final AMS.

4.4.2 Table 4-2 covers the current impacts of the Scheme on the TPOs within the DCO boundary.

Table 4-2: Arboricultural impact table

TPO reference	Type of tree	Works required as part of Scheme
L4-T15	(NO REF) Sycamore (<i>Acer pseudoplatanus</i>)	<i>No works required</i>
L4-T17	(NO REF) Lime (<i>Tilia spp.</i>)	<i>No works required</i>
L4-T18	(NO REF) Lime (<i>Tilia spp.</i>)	<i>No works required</i>
L4-T19	(NO REF) Ash (<i>Fraxinus excelsior</i>)	<i>No works required</i>
L4-T24	(NO REF) Beech (<i>Fagus sylvatica</i>)	<i>No works required</i>
L4-T25	(NO REF) Lime (<i>Tilia spp.</i>)	<i>No works required</i>
L4-T26	(NO REF) Lime (<i>Tilia spp.</i>)	<i>No works required</i>
L4-T27	(NO REF) Ash (<i>Fraxinus excelsior</i>)	<i>No works required</i>
L4-T28	(NO REF) Lime (<i>Tilia spp.</i>)	<i>No works required</i>
L4-T30	(NO REF) Beech (<i>Fagus sylvatica</i>)	<i>No works required</i>
L4-T31	(NO REF) Lime (<i>Tilia spp.</i>)	<i>No works required</i>
L4-T32	(NO REF) Lime (<i>Tilia spp.</i>)	<i>No works required</i>
L4-T33	(NO REF) Beech (<i>Fagus sylvatica</i>)	<i>No works required</i>
L4-T34	(NO REF) Beech (<i>Fagus sylvatica</i>)	<i>No works required</i>
L4-T35	(NO REF) Ash (<i>Fraxinus excelsior</i>)	<i>No works required</i>
L13-W2	W042 Beech (<i>Fagus sylvatica</i>), Sycamore (<i>Acer pseudoplatanus</i>), Elm (<i>Ulmus spp.</i>), Horse Chestnut (<i>Aesculus hippocastanum</i>), Ash (<i>Fraxinus excelsior</i>)	<i>Part of woodland group to be felled to permit construction of Scheme. Remaining trees are to be protected using temporary barriers to define a construction exclusions zone.</i>
L13-G2	T043 Oak (<i>Quercus robur</i>), T044 Oak (<i>Quercus robur</i>), G045A Oak (<i>Quercus robur</i>), G045B Sycamore (<i>Acer pseudoplatanus</i>),	<i>No direct impact. Trees to be protected. RPA and crown extents to be protected using temporary barriers</i>

TPO reference	Type of tree	Works required as part of Scheme
	G045C Beech (<i>Fagus sylvatica</i>), G045D Beech (<i>Fagus sylvatica</i>), G045E Beech (<i>Fagus sylvatica</i>), G045F Beech (<i>Fagus sylvatica</i>)	<i>to define a construction exclusion zone around trees.</i>
L13-T7	G047 Sycamore (<i>Acer pseudoplatanus</i>)	<i>Tree to be retained. Drainage feature proposed within root protection area. Detailed design to review works in root zones. Bespoke mitigation measures required to facilitate works. Potential for hand excavations, root pruning and arboricultural supervision. Mitigation measures to be confirmed within a final AMS.</i>
L13-T8	T046 Ash (<i>Fraxinus excelsior</i>)	<i>Tree to be retained. Drainage feature proposed within root protection area. Detailed design to review works in root zones. Bespoke mitigation measures required to facilitate works. Potential for hand excavations, root pruning and arboricultural supervision. Mitigation measures to be confirmed within a final AMS.</i>
L13-T9	T048 Sycamore (<i>Acer pseudoplatanus</i>)	<i>Tree dead. Reduce to standing monolith of approximately 3-4m and retain as dead wood habitat.</i>
L15-W1	W042 Beech (<i>Fagus sylvatica</i>), Sycamore (<i>Acer pseudoplatanus</i>), Elm (<i>Ulmus spp.</i>), Horse Chestnut (<i>Aesculus hippocastanum</i>), Ash (<i>Fraxinus excelsior</i>)	<i>Part of woodland group to be felled to permit construction of Scheme – approximately 285.5m² to be removed. Remaining trees are to be protected using temporary barriers to define a construction exclusions zone.</i>

4.4.3 The impacts to TPOs are covered within the Draft Development Consent Orders (TR010034/APP/3.1).

4.5 Preliminary management recommendations

4.5.1 The tree survey schedules (see Appendix B) show management recommendations for those trees which at the time of the survey were identified as requiring management intervention. Any works recorded for retained trees will be confirmed prior to construction and included within a final AMS.

5. Outline Arboricultural Method Statement

5.1 General

- 5.1.1 The purpose of this Outline Arboricultural Method Statement (Outline AMS) section is to outline the tree protection measures likely to be required during the implementation of the Scheme in line with guidance from the British Standard BS 5837:2012 *'Trees in Relation to Design, Demolition and Construction – Recommendations'*.
- 5.1.2 As stated previously, the appointed Principal Contractor will develop this Outline AMS into a final version during the detailed design and construction stages of the Scheme as part of the EMP (TR010034/APP/7.2) and the Register of REAC (TR010034/APP/7.3), secured through Requirement 4 of the dDCO.
- 5.1.3 An AMS is included as an environmental control/management plan (EPCs) within Table 2.1 of the REAC (references GEM1.1 and LV1.3).
- 5.1.4 This section describes the tree protection measures likely to be required during the detailed design and construction stages. It sets out the following information:
- Requirements and information for pre-commencement briefings
 - The roles and responsibilities associated with the delivery of the protection measures, control and communication
 - Mitigation measures to be recorded and implemented
 - Review and monitoring mechanisms.
- 5.1.5 The appointed Principal Contractor is to review the trees impacted by the Scheme as part of the detailed design stage of the Scheme and will update the final AMS to support the EMP, it being one of a number of plans that must be included in the EMP under Requirement 4 (c) of dDCO.
- 5.1.6 The production of the final AMS is to be undertaken by an experienced arboriculturist with a minimum of a level 4 qualification in arboriculture and who is a professional member of the Arboricultural Association. suitably qualified arboricultural specialist, appointed by the Principal Contractor, to ensure appropriate mitigation measures are implemented during the construction works and confirm protection measures and trees for retention.

5.2 Pre-commencement operations and site briefings

- 5.2.1 In line with bullet point LV2.35 of page 26 in the REAC the appointed Principal Contractor is to appoint an Environmental Clerk of Works (ECoW) and a suitably qualified arboricultural specialist to support the detail design and construction stages of the Scheme. The arboriculturist is to produce the final AMS and consult with the relevant stakeholders during its production, notably the Local Authority Tree Officers.

- 5.2.2 The appointed Principal Contractor is to review the trees impacted upon by the Scheme as part of the detailed design stages for the development of the final AMS to support the EMP. The impact column in the survey schedules in Appendix B and the red hatched areas and red crosses as illustrated on the TPPs are to be updated accordingly, where required.
- 5.2.3 Where trees previously identified for retention are required to be removed as part of detailed design stages, then this information shall form part of the consultation process with the relevant stakeholders. The appointed Principal Contractor would need to ensure that such changes do not give rise to any materially new or materially different environmental effects in comparison with those reported in the ES and the Outline AMS.

5.3 Work package plans and task briefing sheets

- 5.3.1 The requirements for tree protection measures shall be included within Work Package Plans (WPPs) and Task Briefing Sheets (TBS) produced by the appointed Principal Contractor as part of the planning of construction activities. All pre-commencement briefings shall make sure all members of staff working or visiting the area of site being worked upon are aware of the individual responsibilities regarding trees and the tree protection measures required to be in place to continue construction.
- 5.3.2 In the approval of WPPs and TBSs the reviewer shall make sure any protection of trees has been considered within the area and seek confirmation with either the supervising arboriculturist or ECoW if further clarification is required.
- 5.3.3 There are key areas that require pre-commencement site briefings with the supervising arboriculturist or ECoW. These currently include, but are not limited to the following areas, further areas may be added to where deemed appropriate:
- Land adjacent to Old Hall Lane, including TPOs
 - Land within the former Mottram Show Ground
 - Land to east and west of Carrhouse Lane
 - Land adjacent to River Etherow
 - Land adjacent to Woolley Bridge Road
- 5.3.4 These pre-commencement site briefings shall be attended by the construction manager or suitable delegate. They shall raise awareness with the relevant parties of the trees within the working extents, and confirm the requirements for tree related information to be included within induction material and daily briefings to members of staff working or visiting that area of the Scheme.
- 5.3.5 The briefings shall also confirm the following:
- The location of tree protective barriers
 - Tree works to facilitate that phase of the Scheme
 - Site specific mitigation measures
 - Where/when arboricultural supervision will be required.

5.4 Contact details

- 5.4.1 Overseeing management of the Scheme will be directed by the Applicant. The Applicant may delegate some site supervision roles and procure specialist consultants to supervise, monitor or check the appointed Principal Contractors procedures for sensitive activities where required.
- 5.4.2 The final AMS that will be produced by the appointed Principal Contractor shall confirm key roles and site contacts. The contacts list should include an arboriculturist to support the construction phase of the Scheme.

5.5 Site supervision

- 5.5.1 The supervisory role shall be performed by a suitably qualified arboriculturist. The frequency of these visits should align with key milestones identified in Table 5-1 below and shall be undertaken as required during the progression of the Scheme to enable an auditable succession of monitoring events for a review of the protection measures implemented for the trees.

Table 5-1: Programme of site supervision

Programme	Arboriculturist or delegate	Supervision
Pre-commencement site meeting	Arboriculturist	<ul style="list-style-type: none"> a) Confirm location and specification of tree protective barriers b) Confirm tree works to be undertaken c) Confirm requirements for tree protection information to be included in induction details for the site d) Confirm requirements for reporting any tree related incidents e) Confirm ongoing arboricultural monitoring and contact details.
Setting out of protective barriers	Arboriculturist	<ul style="list-style-type: none"> a) Review location and specification of tree protective barriers b) Confirm any additional tree protection measure requirements c) Submit site monitoring pro forma to the Highways England Project Manager.
During operation as minimum every 8 weeks.	Arboriculturist	<ul style="list-style-type: none"> a) Review location and specification of tree protective barriers b) Assess condition of retained trees, specifically for any construction related damage c) Confirm any additional tree protection measure requirements d) Submit site monitoring pro forma to the Highways England Project Manager.
Post-construction	Arboriculturist	<ul style="list-style-type: none"> a) Inspect all retained trees to make sure they have not been damaged during the construction operations b) To instruct any remedial works that may be required should a tree defect be identified as a result of the construction operations.

- 5.5.2 On completion of each site visit a report or site note should be completed by the arboricultural specialist.
- 5.5.3 Where emergency matters arise regarding trees, e.g. unexpected access required within construction exclusion zones or damage to retained trees, then an arboriculturist is to co-ordinate a visit to the site in person or delegate their powers to a suitably qualified person.
- 5.5.4 Any variations or incidents related to trees shall be reported in writing to the Applicant, or the Project Management Consultant appointed by the Applicant. Details of the variation(s) or incident(s) shall incorporate photographic evidence and site note(s) as appropriate. Suitable remedial measures, including potentially the provision of new planting where deemed appropriate.

5.6 Construction Exclusion Zone (CEZ)

- 5.6.1 The CEZs can be defined as all the soft surfaces within the RPAs of retained trees outside of the works areas and the areas behind the tree protection fencing or site hoarding.
- 5.6.2 Site operations will not be permitted in the CEZs without consultation with an arboriculturist, including storage of plant, equipment or materials, vehicular or plant access, washing down of vehicles or machinery, handling, discharge or spillage of any substances, including cement washings, and actions likely to cause localised water-logging. No mechanical digging, scraping or excavation shall be permitted in the CEZ, nor earthworks or changes in the finished ground levels other than those agreed by an arboriculturist.

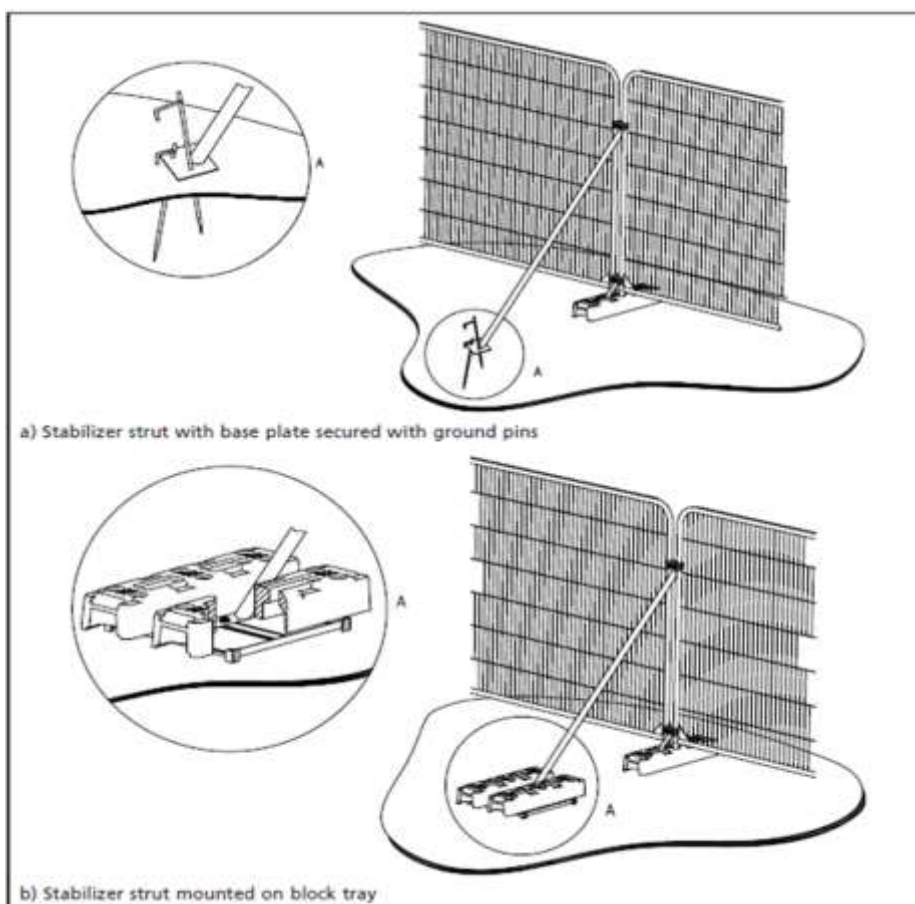
5.7 Tree protection plans (TPPs)

- 5.7.1 The tree protection plans (TPPs) (Appendix C) include the locations of tree protection fencing likely to be required during the construction stage. These are not exhaustive at this stage and further fencing and confirmation on their positioning would need to be confirmed by the appointed Principal Contractor as part of the final AMS.
- 5.7.2 The protected areas once installed shall not be moved or altered without approval by the arboriculturist and, where necessary following consultation with the local planning authority.

5.8 Tree protective barriers

- 5.8.1 The locations of temporary protective fencing are to be finalised as part of the final AMS. Where there is existing boundary fencing which is deemed adequate by an arboriculturist to protect the retained trees, no additional fencing shall be provided. Similarly, where retained trees are positioned in areas of no proposed construction activity then these shall not be identified for protective fencing. These areas shall be kept under review by the supervising engineers and if works are required, including any potential access route, then the arboriculturist is to agree the location of any additional protective fencing.
- 5.8.2 Where site hoarding fencing is proposed, this is permitted to form part of the tree protective barriers where deemed appropriate by the arboriculturist.

- 5.8.3 Where existing vegetation scheduled for removal prevents the installation of the protective fencing for adjacent retained trees, then this is permitted for removal prior to the erection of the fencing. Any plant involved in the removal of vegetation shall be positioned outside of the RPAs of the retained trees as confirmed with the arboriculturist.
- 5.8.4 The default specification for the protective barriers could comprise 2 m tall welded mesh panels on rubber or concrete feet or other similar protection measures. The panels would be joined together using a minimum of two anti-tamper couplers, installed so they can only be removed from inside the fence. The distance between the fence couplers is to be at least 1m and is to be uniform throughout the fence; the panels are to be supported by inner side stabiliser struts attached to a base plate secured on a block tray. See Insert 5.1 below.
- 5.8.5 For any tree or areas deemed to be of high risk to adjacent trees for extensive construction activity, the use of rigid fencing shall be considered in accordance with default specification set out in BS5837:2012, with the stabiliser strut to be fixed to a post that is set in concrete. Any excavation for supporting post is to be undertaken by hand and surrounded by an impermeable geotextile as curing cement is toxic to tree roots.



Insert 5-1: Illustrative tree protection fencing

5.9 Ground protection matting

- 5.9.1 The locations for ground protection matting shall be specified as required by the arboriculturist.
- 5.9.2 If ground protection matting is required to protect tree roots and to minimise ground compaction within RPAs, then an example of a proprietary matting product is Ground-Guards (<http://www.ground-guards.co.uk/solutions/tree-root-protection/>). A double layer of Ground-Guards panels with a 150mm layer of wood chips sandwiched in-between will create a suitably cushioned base to facilitate access within RPAs where absolutely necessary

5.10 Compound areas

- 5.10.1 The locations of site accommodation, temporary buildings and areas used for storage of materials are to be located outside of the CEZ of retained trees as defined within the TPPs.

5.11 Hand excavations within RPAs

- 5.11.1 Hand excavations within the RPAs of trees shall be specified as a last resort and following a review of the works in the location to make certain there are no other design solutions to avoid the RPA of retained trees.
- 5.11.2 If hand excavations are specified, then they shall accord with the following:
- a. The area to receive excavations is to be clearly marked out on site and agreed with the arboriculturist.
 - b. Hand tools are to be used, with all spoil to be positioned outside of the RPA of the tree.
 - c. Vacuum excavation is permitted where deemed appropriate by the arboriculturist. Small plant may also be permitted in consultation with the arboriculturist.
 - d. The use of an air-spade rig to loosen the sub-base material can be instructed by supervising arboriculturist if required to loosen clay based material or similar.
 - e. Once excavated if tree roots are located, these are to be moved if sufficiently pliable or pruned on the advice of the arboriculturist.

5.12 No-dig construction

- 5.12.1 Where no-dig construction is specified this is due to works having to be undertaken within the RPAs of trees, and to limit their impact on the underlying tree roots. The exact locations for this approach would need to be confirmed within the AMS and prior to construction.

- 5.12.2 A no-dig construction approach uses a product such as Cellweb TRP® as supplied by Geosynthetics Limited⁵. This cellular confinement system will laterally confine the sub-base material into three-dimensional interconnected honeycomb cells, reducing compaction and maintaining the soil bulk density at levels suitable for tree root growth. It also prevents direct tree root severance by building on top of existing ground levels. The product can be laid in multiple sections to account for level changes.
- 5.12.3 The installation method shall accord with the following:
- The area to receive the no-dig approach is to be clearly marked out on site and agreed with the arboriculturist.
 - The existing turf or vegetative layer within the works area is to be treated with a glyphosate-based herbicide as per the manufacturer's guidelines or removed using a turf cutter or strimmer. This is to prevent any scraping of the turf layer and potential damage to underlying tree roots.
 - The cellweb product is then to be laid as per the manufacture's guidelines and the cells are to be filled with clean angular stone of sufficient type to maintain porosity and the surface course is to be a permeable tarmac.

5.13 Root pruning

- 5.13.1 As a last resort, where tree roots have to be severed, the pruning points shall be agreed with the supervising arboriculturist, and pruning undertaken using a sharp pair of secateurs or a hand saw, or if pliable, moved out of the construction profile and re-covered within topsoil.
- 5.13.2 On completion of the pruning operations the remaining grassed or soft surfaces surrounding the tree shall have soil amendments applied that include phosphites to maximise the trees resilience to fungal colonisation.

5.14 Tree works

- 5.14.1 All tree works are to be undertaken in line with current recommendations in accordance with BS3998:2010 Tree Work – Recommendations and comply with the current Arboriculture and Forestry Advisory Group (AFAG) or applicable Forestry Industry Safety Accord (FISA) advice published by the Health and Safety Executive (HSE) or FISA.
- 5.14.2 Tree works are to be planned to ensure protection of people, property and wildlife. Mitigation commitments in regard to protected species, including bats and nesting birds are included in the REAC (TR010034/APP/7.3). If the works are to be undertaken during the bird nesting season, then advice is to be sought from the ECoW prior to undertaking tree works.
- 5.14.3 The trees to be removed or worked upon for facilitation, such as pruning, shall be clearly marked by the supervising arboriculturist prior to any tree works commencing on site. These works are to be agreed with the supervising arboriculturist. and ECoW where required. The method of removal shall be informed by the site and ecological constraints.

⁵ <http://www.geosyn.co.uk/>

- 5.14.4 The tree works contractor shall provide access routes and loading bay locations for approval by the main contractor. These shall take into account the retention of trees and following existing access tracks or hard surfaces to try and reduce tree removals. The tree works contractor will have to submit a risk assessment and method statement for review by the Appointed Principal Contractor or arboriculturist prior to commencing works on site.

5.15 Tree works schedule

- 5.15.1 All current trees and areas of trees for removal are illustrated on the TPPs and detailed within the survey schedule. These are to be reviewed as part of the detailed design phase of the Scheme and updated to support the EMP that will be produced by the appointed Principal Contractor.
- 5.15.2 The method of removal shall be informed by the site constraints.
- 5.15.3 The requirements for facilitation pruning operations are to be confirmed prior to construction and covered within the pre-commencement site meetings for each phase of the works.
- 5.15.4 The ability to retain further trees shall be kept under review as part of construction planning.

Appendices

Appendix A. Tree survey key and method for measurements and categorisation criteria

A.1 Survey key

Tree No: Sequential reference number given to the tree or group of trees as shown on the tree survey drawings.

Species: This is the common name given to the tree. The botanical name is sometimes given.

Height (Ht): tree height from the base of the tree to its full stem height, measured in metres (m). Measurements are taken to the nearest half metre.

Stem diameter (mm): measured in accordance with figure A1 below. Measurements are rounded to the nearest 10mm.

Branch spread (m): measurement of crown spread to the four cardinal points; if the crown is balanced a single measurement is given. Crown spread plotted on the tree survey drawings. Measurements are taken to the nearest half metre.

1st significant branch and direction of growth (m): measurement of the height of the first significant branch above ground level, given in metres and direction of growth e.g. 2.4-N.

Canopy height (m): height of the canopy above ground level. Measurements are taken to the nearest half metre.

Life stage: The following abbreviations are used:

Y = Young trees <1/5 life expectancy

SM = Semi-Mature trees 1/5 – 2/5 life expectancy

EM = Early Mature trees 2/5 – 3/5 life expectancy

M = Mature trees 3/5 – 4/5 life expectancy

OM= Over-Mature trees >4/5 life expectancy

Vitality: Good, fair, poor or dead

Good – a tree with little or no obvious physiological defects; leaf density and colour is typical for the species, bud, flower and fruit production are good and there are no signs of dieback at any point throughout the crown.

Fair – a tree with moderate physiological defects; leaf density is less than typical for the species, leaf cover is chlorotic, bud, flower or fruit production are deficient, there are signs of minor dieback within the crown, there is a moderate degree of deadwood within the crown.

Poor – a tree with major or multiple physiological defects; evidence of extensive crown thinning, bud, flower or fruit production is poor or missing, there are signs of advanced dieback throughout the crown, there is extensive or major deadwood throughout the crown.

Dead – a tree that has died due to either old age, drought, disease, pest infestation, physical damage to the main stem or rooting system, or a combination of these factors.

General observations, particularly of structural and/or physiological condition: e.g. observations of any decay and physical defect.

Preliminary management recommendations: any identified preliminary management to rectify defects recorded in general observations. These may include the need for further detailed inspection, or works to address immediate hazard to life or property.

Estimated remaining contribution, in years:

<10

10+

20+

40+

Category grading: As per BS5837:2012 chart in accordance with figure A2 below.

A – Illustrated as light green (RGB code 000-255-000)

B – Illustrated as mid blue (RGB code 000-000-255)

C – Illustrated as grey (RGB code 091-091-091)

U – Illustrated as dark red (RGB code 127-000-000)

Root Protection Area (m²): plotted around each of the category A, B and C trees on relevant drawings, illustrating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability. The protection of the roots and soil structure is treated as of paramount importance.

Impact:

Remove – abbreviated as REM in red highlighted box

Part remove – abbreviated as PRG in orange highlighted box

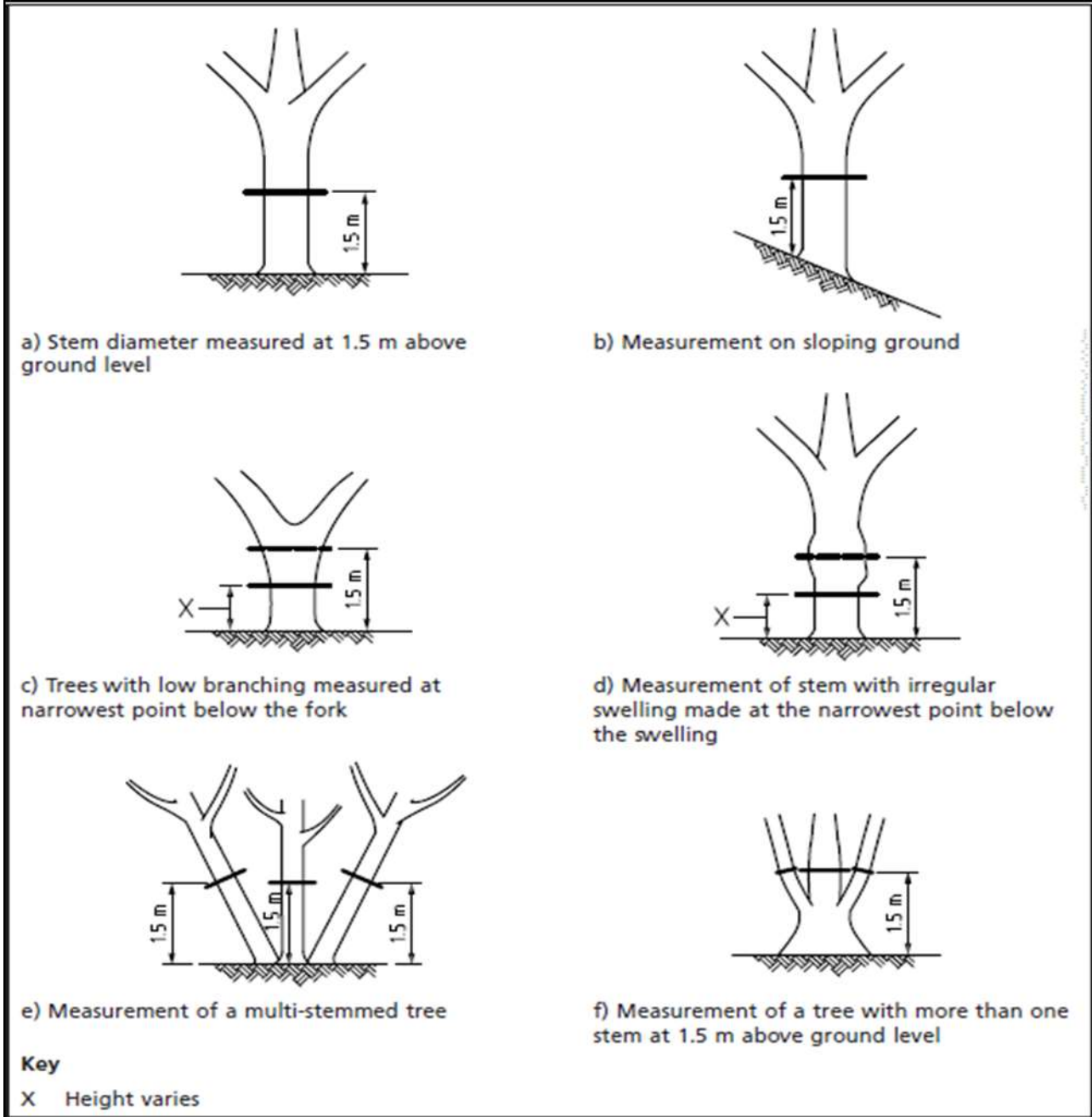
Potential remove – abbreviated as POT REM in blue highlighted box

Retain – abbreviated as RET in a green highlighted box

A.2 Measuring table

A.2.1 Measurement of tree stems dependant on tree form

Insert A.1: BS5837:2012 measurement of tree stems dependant on tree form methods



A.3 BS5837:2012 Cascade chart

A.3.1 Cascade chart for tree quality assessment from BS5837:2012

Insert A.2: BS5837:2012 cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)		
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 10 years	<ul style="list-style-type: none"> Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <p><i>NOTE</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</p>		
	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 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value

Appendix B. Tree Survey Schedule

A57 Link Road
Appendix B: Tree Survey Schedule

Tree ID	Species	Height (m)	Stem Diameter (mm)	Branch spread N (m)	Branch spread E (m)	Branch spread S (m)	Branch spread W (m)	First significant branch height (m)	Canopy height (m)	Life Stage	Vitality	General observations	Preliminary management recommendations	Estimated Remaining Contribution (Years)	Category Grading	RPA Radius (m)	Impact: Remove / Part Remove / Retain (REM, PRG, RET)
G001	A Group	to 12	to 260	4.5	4.5	4.5	4.5	0.5	0.5	SM-EM	Good	Varied native trees and shrubs, highways plantation appearing to pre-date current roundabout; goat willow prominent, with occasional collapsed stems; infrequent standing dead trees; no apparent recent management; some sycamore	Remove dead trees and collapsed stems if adjacent to proposed works	20+	B2	3.1	PRG - 768m2
G002	A Group	to 4	to 70	1.5	1.5	1.5	1.5	0.5	0.5	Y	Fair	Young third party trees, planted natives and self-set (ash, growing against and through wire mesh boundary fencing, showing signs of dieback) in area of unmanaged vegetation; species include Scots pine, birch, rowan	Remove dead and dying ash if adjacent to proposed works	10+	C2	0.8	RET
G003	Aspen	to 15	to 200	4.0	4	4	4	2	1.5	SM	Good	Small 'pando' of aspen, 500mm average between stems, overhanging boundary fence with slight lean; infrequent specimens with advanced dieback	Remove any specimens with advanced dieback if adjacent to proposed works	10+	C2	2.4	RET
G004	Silver birch, ash, sycamore, crack willow, oak	16	300	4.5	4.5	4.5	4.5	N/A	0	SM to EM	Fair to good	Linear group of trees and shrubs. Trees approximately 2m offset from pavement edge. Growing on raised bank at centre.	No works presently required	20+	B2	3.6	RET
G005	Scots pine, alder, sycamore, ash, hawthorn, goat willow, rowan, silver birch	15	350	5.0	5	5	5	N/A	0	SM to EM	Good	Informal group of trees and shrubs. Single and multi stems. Growing on sloped bank for part. Screen function.	No works presently required	20+	B2	4.2	RET
G006	Sycamore, hawthorn	7	180	3.0	3	3	3	N/A	1.5	Y	Good	Informal linear group of 9no. trees. Growing adjacent to close board boundary fence. Existing pavement approximately 1-1.5m south. Intermittent screen function.	No works presently required	10+	C2	2.2	RET
H007	A Hedgerow	2.5	100	1.5	1.5	1.5	1.5	0	0	M	Good	Managed field boundary hedge, hawthorn at typically 1m spacing; no evidence of former laying; infrequent small gaps	No works required at time of survey	20+	B2	1.2	PRG - 7.5m
G008	A Group	to 10	to 200	3.5	3.5	3.5	3.5	0.5	0.5	SM	Good to fair	Screen planting around highways junction; oak, cherry, birch; prominent shrub element, mostly blackthorn; no recent management; possible low vitality among some ash	No works required at time of survey	10+	C2	2.4	RET
G009	A Group	10	250 + 220 + 200	4.5	4.5	4.5	4.5	0	0.5	SM-EM	Good	Screen planting on descending bank on north-east section of roundabout, cut back from roadside pavement and signage; multi-stemmed goat willow prominent, with shrubby hawthorn and holly; occasional sycamore, hornbeam	No works required at time of survey	20+	B2	4.7	REM - 1582m2
G010-A	Sycamore	11	330	4.0	4	4	4	0	0	EM	Good	Short row of more established specimen trees on verge at side of roundabout/driveway, with 2no smaller sycamores in between, multi-stemmed from ground level, mutual crown suppression; this tree: crown cut back from pavement	No works required at time of survey	20+	B2	4.0	REM
G010-B	Wych Elm	12	470	6.0	6	6	3	1.5-S	1	EM-M	Good	Compact form, rounded crown growth suppressed on west side, no dieback observed	No works required at time of survey	20+	B2	5.6	REM
G010-C	Sycamore	12	220 + 180 + 160 + 150 + 150	4.0	1.5	4	4	1	1	EM	Fair to poor	Multi-stemmed, hard by timber field boundary fence; extensive dieback, especially in northern crown; deadwood branches to 80mm diameter	Remove deadwood if adjacent to proposed works	10+	C2	4.7	REM

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G011	Cherry, hawthorn, sycamore, hazel	8	250	3.0	3	3	3	N/A	0.5	Y to SM	Fair	Remnants of former hedgerow. Trees in contact with boundary fence in places. Existing hard surface access road to south. No direct damage recorded from surface root activity.	No works presently required	10+	C2	3.0	RET
G012	Sycamore	18	500	8.0	8	8	8	N/A	1.8	EM	Good	5no. Trees growing within third party garden. Dry stone wall immediately adjacent. No obvious direct damage recorded from tree root activity. Grassed verge between trees and existing hard surface access road. No obvious direct damage recorded from surface root activity.	No works presently required	20+	B2	6.0	RET
H013	Holly, hawthorn	3	80	1.0	1	1	1	N/A	0	SM	Fair	Predominantly holly hedgerow. Intermittent.	No works presently required	10+	C2	1.0	PRG - 53m
T014	Common Oak	9	250	4.5	4.5	4.5	4.5	1.6-SE	0.5	Y	Good	Balanced crown. Occasional small diameter dead wood in lower crown. Saturated ground to west.	No works presently required	20+	C2	3.0	REM
G015	A Group	14 ave.	250 + 250 ave.	4.5	4.5	4.5	4.5	1.5	1.5	EM	Good	Trees along narrow ditch with flowing water; multi-stemmed birch, holly, goat willow; co-dominant forks at base; mutual crown suppression; 1no willow leaning at 45 degree angle to south; small diameter deadwood in birch	Remove larger deadwood if adjacent to proposed works	10+	C2	4.3	PRG - 16m2
H016	Hawthorn, dogrose, goat willow	3	250	2.0	2	2	2	N/A	0	EM	Fair	Intermittent lapsed hedgerow. Some collapsed stems. Lower crowns browsed. Dieback and dead wood in some trees. Growing along shallow ditch.	No works presently required	10+	C2	3.0	PRG - 47.5m
T017	Goat Willow	8	300 + 270 + 270 + 200 + 150	8.0	9	6	10	0	0	M	Good	Sprawling specimen on south side of small watercourse; occasional collapsed stems and deadwood branches	Remove larger deadwood and collapsed stems if	20+	C2	6.6	RET
H018	Hawthorn	3	250	2.0	2	2	2	N/A	0	EM	Fair	Intermittent lapsed hedgerow. Limited to individual trees in places. Heavy browsing activity around bases. Dieback and dead wood in crowns.	No works presently required	10+	C2	3.0	PRG - 20m
H019	Holly, hawthorn	3	100	1.0	1	1	1	N/A	0	EM	Fair	Intermittent lapsed hedgerow. Occasional dead stem. Holly and hawthorn.	No works presently required	10+	C2	1.2	PRG - 44.5m
G020	Hawthorn, holly, goat willow	4	250	2.5	2.5	2.5	2.5	N/A	0	EM	Fair	Intermittent lapsed hedgerow. Limited to sporadic trees in places. Dense ivy encroachment on some stems. Multi stems on goat willow. Dense goat willow clumps at east extents. Stream passing through centre. Collapsed stems in places	No works presently required	10+	C2	3.0	PRG - 1866m2
G021	Hawthorn	5 ave.	300 ave.	3.0	3	3	3	0	0	M	Fair	Hedgerow remnants along stony field boundary; some enveloping of fence wire; some dieback and small to medium diameter deadwood	Remove larger deadwood only if adjacent to proposed works	10+	C2	3.6	RET
G022	Goat willow, silver birch	7	250;250;250 ;250	5.0	5	5	5	N/A	1	SM to M	Fair	Growing sporadically in linear groups. Former tennis court facility at centre of group. Single and multi stems. Evidence of browsing activity from livestock. Lowest crowns browsed and stems with bark removed. Dessicated white rot visible at old wounds. Dieback and dead wood in some crowns. Clumps of goat willow in places.	No works presently required	10+	C2	6.0	RET
G023	A Group	11	300	4.5	4.5	4.5	4.5	0.5	1	EM	Fair	Linear planting along three sides of former playing field, earth lightly mounded along line; wider belt on west side; ground in area damp; 2m average spacing between trees; birch and goat willow predominant, and Scots pine to north-west; infrequent horse chestnut, alder, oak; approximately 7no standing dead (cherry) or windthrown trees (pine, cypress); at south-east end, low vitality and occasionally dying outriders of elder, Scots pine; certain prominent specimens recorded individually; 'B' categorisation is for collective value	Remove dead or dying trees and larger deadwood if adjacent to proposed works	20+	B2	3.6	PRG - 660m2

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G023-A	Grey Poplar	14	350	6.0	7	5	7	2-W	2	EM	Good	Tree with potential to attain local dominance; small diameter deadwood in shaded lower crown area	No works required at time of survey	20+	B2	4.2	RET
G023-B	Ash	14	420	7.0	7	7	7	1.5-SW	1.5	EM	Poor	Dying tree, small clumps of epicormic growth only; extensive fruiting bodies of <i>Grifola frondosa</i> fungus on roots on all sides of tree	No works required at time of survey	<10	U	5.0	REM
T024	Goat Willow	11	150 x 12	7.0	7	7	7	0.5	1	M	Good	Large for species, profusion of stems rising from bole at 600mm height; multiple compression forks at bole; pockets of decay at old branch failure points; small diameter deadwood	No works required at time of survey	20+	B2	6.2	RET
G026	Sycamore, Norway Maple, Lime	9	350	4.0	4	4	4	2-N	2	SM to EM	Good	1no. Sycamore, 1no. Norway maple, 1no. Lime. Growing on redline boundary. Hard surfaces to south. Main stems enveloped wire fence.	No works presently required	20+	B2	4.2	RET
G027	Goat willow, holly, rowan	6	150	2.0	2	2	2	N/A	0	SM	Fair to poor	Growing on redline boundary. Occasional dead stem.	No works presently required	10+	C2	1.8	RET
G028	Alder, ash, horse chestnut hawthorn	6	250;250;250	4.0	4	4	4	N/A	2	Y to SM	Fair to poor	Sporadic trees. Some standing dead stems. Dead wood and dieback in some crown. Elongated wounds on self sown alder. Grazing damage. Dessicated white rot present.	No works presently required	10+	C2	5.2	REM 6NO.
T029	Alder	14	600;300	5.0	5	5	5	2-E	1	M	Good	Growing on north bank of stream. Basal stem to east. Moderate ivy encroachment on main stem and into crown.	No works presently required	20+	B2	8.1	REM
G029	Hawthorn, holly, goat willow	4	100;100;100	2.0	2	2	2	N/A	1	SM to EM	Fair	Lapsed hedgerow. Sporadic trees. Clump of goat willow. Single and multi stems. Bases not accessible.	No works presently required	10+	C2	2.1	PRG - 151m2
G030	Silver birch, Leyland cypress, ash, Norway maple, red oak, hawthorn, goat willow	18	300	4.0	4	4	4	N/A	0	SM to EM	Fair to good	Majority within gardens. Two hawthorn on field side. Boundary features not providing root barrier into field.	No works presently required	20+	B2	3.6	REM - 339m2
G031	A Group	8	150	3.0	3	3	3	0.5	0.5	SM-EM	Good to fair	Third party trees beyond boundary on north side of road; includes, to west, small plantation of mostly topped Scots pine and small grove of self-set ash, branches cut back from pavement; these behind wire mesh fencing and concrete posts; further to east, intermittent specimens of self-set sycamore and low-vitality ash, these all behind waist-high stone wall acting as barrier to root growth, growing either on steeply descending bank or shelf to rear of wall structure	No works required at time of survey	10+	C2	1.8	RET
G032	Cherry, Leyland cypress, Norway maple,	18	350	4.0	4	4	4	N/A	0	SM to EM	Fair to good	Third party garden trees. Informal group. Stone retaining wall along Roe Crossroad. Growing approximately 2.5m below level of road. Root barrier to growth.	No works presently required	20+	B2	4.2	PRG - 127m2

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G033-A	Ash	18	520 + 400	7.5	7.5	7.5	7.5	2	4	M	Fair	Behind wire mesh fence, within beech hedge grown tall on property boundary; crown lifted and branches cut back above road and bus stop to south; possibly two trees; pockets of established decay at crown lifting wounds, where occlusion only partial; natural bracing where branches rub against beech; crown vitality appears better than G033-B	No works required at time of survey	20+	B2	7.9	RET
G033-B	Ash	500	520 + 400	7.0	7	7	7	2	4	M	Fair	Location as G033-A; deadwood branches and stubs to 80mm diameter in lower crown; foliage throughout crown sparse, possibly not wholly due to autumn	Remove deadwood if adjacent to proposed works	10+	C2	7.9	RET
G033	Beech, sycamore, silver birch, ash, lime	18	350	4.0	4	4	4	N/A	0	SM to EM	Fair to good	Linear group. Screen planting function. Crowns lifted over road. Mutual crown suppression. Dense privet and hawthorn understory to south of group. Low crowns over grassed verge. Obscuring sign at south extents. Large stone edging beyond	No works presently required	20+	B2	4.2	PRG - 227m2
G034	Silver birch, hawthorn	16	350	4.5	4.5	4.5	4.5	N/A	0	SM to EM	Good	Part managed mixed hedgerow. Intermittent standard birch trees. 5no. Existing hard surfaces within part of root zones.	No works presently required	20+	B2	4.2	PRG - 107m2
G035	Sycamore	15	300	4.0	4	4	4	N/A	2	SM	Fair	Sycamore. 5no. Intermittent standard trees. Existing hard surface road to east. No direct damage recorded from surface root activity. Ivy encroachment on some stems. Lapsed hawthorn hedgerow in between	No works presently required	20+	B2	3.6	RET
T036	Sycamore	14	400	5.0	5	5	5	3-W	4	EM	Good	Growing within third party garden. Stone boundary wall between tree and existing pavement. No obvious direct damage recorded from surface root activity. Multi stems from approximately 3m. Suggest in past pollard for over head utility clearance	No works presently required	10+	C1	4.8	RET
H037	Privet, hawthorn	1.8	80	0.5	0.5	0.5	0.5	N/A	0	SM	Good	Managed garden hedgerow.	No works presently required	10+	C2	1.0	REM - 10m
T038	Beech	16	700	8.0	8	8	8	1.6-W	3	EM	Good	Growing within third party garden. Potential direct damage recorded from surface root activity to adjacent pavement. Broad open crown.	No works presently required	20+	B2	8.4	REM
H039	Hawthorn, beech	1.5	80	0.5	0.5	0.5	0.5			SM	Fair	Managed section of hawthorn hedgerow, and a beech hedgerow. Retaining wall between trees and adjacent pavement. Lawson cypress to east.	No works presently required	10+	C2	1.0	REM - 12m
G040	Deodar cedar, Scots pine	12	300	3.5	3.5	3.5	3.5	N/A	1	SM	Good	Ornamental plot. Extensive tree root activity to adjacent pavement. Raised and mounded surface. Crowns lifted. Mutual crown suppression. Crowns encroaching on overhead cables.	No works presently required	10+	C2	3.6	RET
G041-A	Sycamore	16	500	7.5	7.5	7.5	7.5	4	4	M	Good	Third party tree growing 1m behind stone retaining wall, at 1500mm above road level; upright form, ivy on lower stem, telecommunications cable below crown	No works required at time of survey	40+	B2	6.0	REM
G041-B	Sycamore	18	500	7.0	11	9	7	8	6	M	Good	Above 800mm stone retaining wall, stem lean and most crown growth to east	No works required at time of survey	40+	B2	6.0	RET
G041-C	Sycamore	18	500	9.0	9	10	13	6	4	M	Good	1m behind 1m retaining wall, upright form	No works required at time of survey	40+	B2	6.0	RET
W042	Beech, sycamore, elm, horse chestnut,	18	500	6.0	6	6	6	N/A	0	Y to M	Good	Informal group. Informal path through centre. Steep sloped bank to east. Existing access road along west extents. Mutual crown suppression. Leans on some stems.	No works presently required	40+	A2	6.0	PRG - 2656m2 , 285.5m2 (TPO Area)
W042-A	Horse Chestnut	24	1100	9.0	9	8	10	8-SW	3	M	Good	At edge of wood, low stone wall 1m to west; locally dominant; minor storm damage, deadwood only; location today sheltered, twisting of bole suggests exposure to wind in early life	No works required at time of survey	40+	A1/2	13.2	REM
T043	Oak	17	800	5.0	9	9	6	3-SE	2	M	Good	Stone retaining wall wraps close around west side, ground on opposite side 300mm lower; main stem twists to south-west; deadwood branches to 600mm diameter in shaded lower crown area	No works required at time of survey	40+	B2	9.6	RET

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T044	Oak	14	600 + 560 + 260	9.0	7	7.5	6.5	2	1	M	Good	Broad bole extensively hollow at base, cavities opening to north; historic strip wound on third stem offers habitat opportunities	No works required at time of survey	40+	A3	10.4	RET
G045A	Common Oak	16	600	7.0	7	4	5	3-E	2	M	Good	Part of intermittent group of standard trees. Co-dominant stems from approximately 3m. Union appears sound.	No works presently required	20+	B2	7.2	RET
G045B	Sycamore	14	460	5.0	5	5	5	4-W	3	SM	Good	Part of intermittent group of standard trees. Existing hard surface access road to south.	No works presently required	20+	B2	5.5	RET
G045C	Beech	16	250	3.0	3	3	3	N/A	N/A	SM	Dead	Part of intermittent group of standard trees. Standing dead tree.	Fell to ground level.	<10	U	3.0	RET
G045D	Beech	18	750	6.0	9	6	6	3-S	2	M	Good	Part of intermittent group of standard trees. Growing on slight lean to south east. Correcting in crown.	No works presently required	20+	B2	9.0	RET
G045E	Beech	14	600	5.0	10	5	5	2-E	2	M	Fair	Part of intermittent group of standard trees. Slight loss of vitality in upper crown. Co-dominant stems from approximately 2m. Union appears sound. Over extended crown towards east. Moderate diameter dead wood in lower crown.	No works presently required	20+	B2	7.2	RET
G045F	Beech	18	1250	6.0	10	6	6	3-S	2	M	Fair	Part of intermittent group of standard trees. Co-dominant stems from approximately 1m. Tight union. Compression fork with included bark junction.	No works presently required	20+	B2	15.0	RET
T046	Ash	22	600	10.0	10	9	9	4	2	M	Fair	Third party tree in evergreen shrubbery, no access to base - diameter estimated; large crown, rather sparse, has assorted storm damage, established pockets of decay at branch failure points; crack in bark-included union high on south side; rubbing and crossing of high branches to south	General reduction of crown advised due to life stage of tree; remove branch below bark-included union	20+	B2	7.2	RET
G047	Sycamore, ash, rhododendron, holly	18	450	6.0	6	6	6	N/A	0	SM to M	Fair to good	Informal group. Bases not accessible. Dense understory.	No works presently required	10+	C2	5.4	RET
T048	Sycamore	14	600	6.0	6	6	6	1.5-S	3	M	Poor	Extensive dieback and dead wood throughout crown. Live crown epicormic in habit. Saprophytic wood decay fungus present at old branch wounds.	Monolith at approximately 4m and retain as dead wood habitat.	<10	U	7.2	RET
G048	Hawthorn	4	200	3.0	3	0	0	N/A	2	EM	Fair	Growing on lean to north east.		10+	C2	2.4	RET
T049	Sycamore	10	220;240	4.0	4.5	4	2	3-E	1	SM	Good	Co-dominant stems from ground level. Union appears sound. Drawn stems. Slight leans. Mutual crown suppression. Tarspot on foliage	No works presently required	10+	C2	3.9	RET
G050	Hawthorn	4	200	3.0	3	3	3	N/A	0	M	Fair	Part of lapsed hedgerow. Sporadic trees. Previously laid specimens still present. Decay pockets at old branch wounds.	No works presently required	10+	C3	2.4	PRG - 3No. TREES
G051	Sycamore	11 ave.	400 ave.	5.0	5	5	5	3	2	EM	Fair	Stand of sycamore in pasture to either side of small crevasse; lesser trees with slender drawn stems and occluded crown growth; variable quantities of dieback in crowns - up to 30% in some trees; sheep browsing of lower crowns; squirrel damage	Remove larger deadwood if adjacent to proposed works And fell decayed stem tree - I?	20+	C2	4.8	REM - 783.5m2

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G051-I	Sycamore	11	400	5.0	5	5	5	2	2	EM	Fair to poor	Stem hollow, open 0-2000mm, north-east side, established heartwood decay; slender columns of reaction wood growth at sides of opening	Remove, or retain as monolith if adjacent to proposed works	<10	C2 / U	4.8	REM
G051-U	Oak	11	440	1.0	6	9	6	3-E	1	EM	Good	void	No works required at time of survey	40+	B2	5.3	REM
G051-V	Dead tree	9	250	3.0	3	3	3	1.5	1.5	EM	Dead	Standing dead tree	Remove, or retain as monolith if adjacent to proposed works	<10	U	3.0	REM
G051-W	Birch	15	290 + 190	5.0	5	5	5	6	3	EM	Good	Twinstem	No works required at time of survey	20+	B2	4.2	REM
G052-A	Common Alder	12	410 + 340	4.0	6	6	7.5	2-S	1	M	Good	Characterful pair of compact trees 1200mm apart on grassy bank, damp ground adjacent; southern tree possibly two trees grown together; bulbous bases denoting decay - exposed brown rot heartwood decay on northern tree; <100mm diameter deadwood in shaded lower crown area	Remove larger deadwood only if adjacent to proposed works	20+	B3	6.5	REM
G052-B	Alder	10	700 at 1200mm	7.0	5	3	5	1-N	1	M	Good	As G052-A	Remove larger deadwood only if adjacent to proposed works	20+	B3	8.4	REM
T053	Common Oak	18	750	7.0	7	9	6	1-SE	1	M	Good	Growing on steep bank face. Curved main stem at approximately 5m. Broad crown. Occasional small to moderate diameter dead wood throughout crown. Area of historically saturated ground to south east.	No works presently required	40+	A2	9.0	REM
G054A	Common Oak	12	500	4.0	4	4	4	2-W	1	SM	Fair	Growing on steep bank face. Occasional small to moderate diameter dead wood in upper crown.	No works presently required	20+	B2	6.0	REM
G054B	Common Oak	16	600	8.0	8	8	3	2-SE	1	EM	Good	Growing on sloped bank. Area of historically saturated ground to east. Occasional small to moderate diameter dead wood in lower crown	No works presently required	20+	B2	7.2	REM
G055	A Group	14 ave.	400 ave.	6.0	6	6	6	2	2	SM-EM	Good	Trees of mixed species growing in unmanaged area near pond, enclosed by wire fencing; ash, birch, sycamore, oak, alder, rowan; dense bramble understorey, with Guelder rose; remnants of hawthorn hedge around south side; prominent specimens recorded individually	No works required at time of survey	20+	B2	4.8	PRG - 1322m2
G055A	Common Oak	12	580	7.0	3	8	7	1.5-S		M	Fair	Elongated column of decay in main stem to north west. Tree growing on lean to south. Potential root heave. Hollowing main stem. Habitat value.	No works presently required	20+	B3	7.0	REM
G055B	Common Oak	18	700	9.0	9	7	9	4-SW	4	M	Good	Multi stems from approximately 4m. Unions appear sound. Broad open crown. Occasional small to moderate diameter dead wood in lower crown.	No works presently required	40+	A2	8.4	REM
G055C	Common Oak	19	750	8.0	8	8	8	2-S	1.5	M	Good	Growing on steep bank of pond. Broad open crown Occasional small to moderate diameter dead wood in middle crown.	No works presently required	40+	A2	9.0	REM
G055D	Sycamore	14	450	6.0	6	6	6	3-NE	3	EM	Fair to good	Cavity in main stem at approximately 200mm to north east, and large wound in main stem to south. Dessicated white rot visible. Slight loss of vitality, crown thinning. Small to moderate diameter dead wood in upper crown.	No works presently required	10+	C3	5.4	REM

A57 Link Road
Appendix B: Tree Survey Schedule

Tree ID	Species	Height (m)	Stem Diameter (mm)	Branch spread N (m)	Branch spread E (m)	Branch spread S (m)	Branch spread W (m)	First significant branch height (m)	Canopy height (m)	Life Stage	Vitality	General observations	Preliminary mangement recommendations	Estimated Remaining Contribution (Years)	Category Grading	RPA Radius (m)	Impact: Remove / Part Remove / Retain (REM, PRG, RET)
T056	Common Oak	17	750	7.0	7	7	7	2.5-W	1.5	M	Good	Dessicated wound at 1.2m to east on main stem. Historic. Crown break at approximately 3m. Occasional small to moderate diameter dead wood in middle crown.	No works presently required	40+	A2	9.0	REM
T057	Common Oak	20	900	8.0	8	8	8	3-NW	1.5	M	Good	Wood decay fungi <i>Griffola fondosa</i> in between eastern buttress roots and south west. Buttress roots sound on periphery. Broad crown, pronounced north west scaffold branch. Occasional small to moderate diameter dead wood in middle crown. Dessicated in appearance.	No works presently required	40+	A2	10.8	REM
T058	Common Oak	14	420	6.0	6	2	2	4-E	2	EM	Fair	Loss of crown vitality. Thinning and dieback within crown. Small to moderate diameter dead wood present.	No works presently required	10+	C3	5.0	REM
T059	Common Oak	16	500	4.0	6	7	4	3-SE	1	EM	Good	Crown suppression to north. Saprophytic fungin within middle crown on piece of moderate diameter dead wood.	No works presently required	20+	B2	6.0	REM
T060	Common Oak	16	480	7.0	2	2	2	2-N	1.5	EM	Fair	Crown mutually suppressed. Moderate diameter dead wood in middle crown. Elongated column of decay extending down main stem from dead branch. Reaction wood on periphery. Dessicated white rot present. Evidence of decay on underside of south buttress root. Not significant at present.	No works presently required	20+	B3	5.8	REM
T061	Common Oak	18	700	8.0	3	9	7	4-S	1.5	M	Good	Crown suppression to east. Epicormic growths on main stem. Co-dominant union from approximately 6m. Union appears sound. Occasional small to moderate diameter dead wood in middle crown. Dessicated in appearance.	No works presently required	40+	A2	8.4	REM
G063-A	Sycamore	11	500	4.0	2	6	5.5	2.5	1.5	M	Good	Crown growth suppressed on east side; small diameter deadwood in shaded lower crown; minor squirrel damage in upper crown	No works required at time of survey	20+	B2	6.0	REM
G063-B	Sycamore	15	540	6.0	5.5	5.5	3.5	4-N	2	M	Good	Central and dominant tree of trio, although some crown growth suppression on west side; upright form; patches of dieback in southern crown	No works required at time of survey	20+	B2	6.5	REM
T064	Oak	13	610	7.5	8	7.5	0	3-E	1.5	M	Good	Crown growth suppressed by sycamore 1.5m to west - stem veers sharply to east at 6m; large decay hollows on stem at 2.5m and 4m associated with historic limb failures; woodpecker holes around 5m height; old girdling root not restricting circumferential growth	No works required at time of survey	40+	B2	7.3	REM
T065	Oak	17	710	10.5	9.5	7	6	3	1	M	Good	On steep bank of landscape hollow, leaning over hollow to north; exposed 'guy rope' roots on slope to south; ground at base eroded on north side, creating voids beneath tree; crown slightly straggling, regulation storm damage, light dieback, above average epicormic growth	No works required at time of survey	40+	B2	8.5	REM
T066	Sycamore	9	460 at 1200mm	6.0	5.5	4	4	2	1.5	EM-M	Good	Compact form, twisting stem; ground erosion and mammal burrowing in north RPA; squirrel damage, light crown dieback	No works required at time of survey	20+	B2	5.5	REM
T067	Sycamore	12	470	8.0	6	6	6.5	2	2	EM	Good	At top of steep bank descending into landscape hollow; frequent established pockets of decay on upper side of branches close to unions with stem - likely squirrel damage; light crown dieback	No works required at time of survey	20+	B2	5.6	REM
G068A	Common Oak	14	450	1.0	0.5	6	9	5-SW	1.5	EM	Fair	Growing in corner of field boundary. Crown suppression to north and east. Curved main stem. Pronounced buttress roots. Column of internal decay in main stem from approximately 2m to 4m. Dessicated white rot visible. Historic. Reaction wood on periphery.	No works presently required	20+	B2	5.4	REM
G068B	Common Oak	18	580	3.0	6	8	6	2-SW	4	M	Fair to good	Evidence of storm damage recorded within crown. Frayed wounds and large diameter dead wood stubs remaining. Dessicated in appearance. Curved main stem from approximately 4m.	No works presently required	20+	B2	7.0	REM

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Appendix B: Tree Survey Schedule

Tree ID	Species	Height (m)	Stem Diameter (mm)	Branch spread N (m)	Branch spread E (m)	Branch spread S (m)	Branch spread W (m)	First significant branch height (m)	Canopy height (m)	Life Stage	Vitality	General observations	Preliminary management recommendations	Estimated Remaining Contribution (Years)	Category Grading	RPA Radius (m)	Impact: Remove / Part Remove / Retain (REM, PRG, RET)
T069	Ash	8	900	5.0	6	5	5	2.5-S	2	M	Good	Squat in form. Swelling on main stem indicative reaction to internal decay. Co-dominant stems from approximately 2.5m. Union appears sound.	No works presently required	40+	B3	10.8	REM
H070	Hawthorn	5	100	0.5	0.5	0.5	0.5	N/A	0	M	Fair	Hawthorn dominant hedgerow. Top not recently managed. Sporadic gaps. Formerly laid. Occasional dead stem.	No works presently required	10+	C3	1.2	PRG - 145.5m
T071	Common Oak	14	600	5.5	5	5	7	2-W	2	M	Good	Growing to east of deep drainage ditch. Approximately 1.8m in depth. Roots growing along ditch face. Pronounced west scaffold branch. Relatively squat in habit. Occasional small to moderate diameter dead wood in lower crown.	No works presently required	20+	B2	7.2	REM
T072	Sycamore	12	400;400	5.0	5	5	5	N/A	1	M	Dead	Standing dead tree. Co-dominant stems. Growing within ditch. Extensive dessicated white rot present. Dead wood habitat value.	Monolith at approximately 4m and retain as dead wood habitat	<10	U	6.8	REM
T073	Common Oak		700	5.0	10	7	8	1-S	1.5	M	Good	Growing within deep drainage ditch, on west side. Growing on lean to east. Root barrier to growth to east. Ground raises by approximately 1.5m. Co-dominant stems from approximately 4m. Union appears sound.	No works presently required	20+	B2	8.4	REM
T074	Sycamore	14	700	5.0	6	6	6	2-W	1	M	Good	Growing on east side of drainage ditch. Pronounced basal flare. Co-dominant stems from approximately 3m. Union appears sound. Suckering growths around base. Tarspot on foliage.	No works presently required	20+	B2	8.4	REM
H075	A Hedgerow	2	150	2.0	2	2	2	0	0	M	Fair	Intermittent remnants of lapsed hawthorn hedge; occasional dying specimens; no evidence of former laying; occasional holly; at north end, to west of steep ditch; regular larger trees growing along hedge line	No works required at time of survey	20+	C2	1.8	PRG - 155m
T076	Common Oak	16	660	6.0	6	6	6	4-SE	2	M	Good	Isolated tree. Co-dominant stems from approximately 4m, union appears sound. Occasional small to moderate diameter dead wood in lower crown. Epicormic growths on main stem.	No works presently required	20+	B2	7.9	RET
H077	A Hedgerow	3	150	1.5	1.5	1.5	1.5	0	0	M	Fair	Unmanaged hawthorn field boundary hedge, barbed wire reinforcement; occasional elder, often dead or dying; holly, bramble	Remove dead or dying specimens only if adjacent to proposed works	10+	C2	1.8	PRG - 248m
G078	hawthorn, ash, crap apple, rowan, holly	4	200	3.0	3	3	3	N/A	0	SM to M	Fair	Sporadic clumps of hawthorn, ash, crap apple, rowan and holly. Drainage channel through centre. No active management recorded.	No works presently required	10+	C2	2.4	PRG - 4 No. TREES & 427m2
G079	A Group	6	250	4.5	4.5	4.5	4.5	0	0	SM-M	Good	Shrubby vegetation on banks of stream - holly, multi-stemmed hazel - occasionally large - hawthorn, Guelder rose, bramble; small specimens of oak and sycamore; larger sycamore recorded individually; high habitat and green infrastructure value	No works required at time of survey	20+	B2	3.0	PRG - 306m2
T080	Sycamore	16	670	6.5	6.5	6.5	6.5	2	1.5	EM-M	Good	On north bank of small watercourse, barbed wire fencing embedded in stem; minor ground erosion on bank side	No works required at time of survey	20+	B2	8.0	REM
G081	Ash, oak, hawthorn, holly	6	200	3.5	3.5	3.5	3.5	N/A	0	Y to SM	Fair	Informal planted group. Young ash with dieback. Not conclusive to be a result of chalara fraxinea.	Consider sampling ash trees in decline for confirmation of	10+	C2	2.4	PRG - 219m2
T082	Common Oak	9	450	3.0	6	6	6	1.6-SW	1.8	SM	Fair	Area of saturated ground to south. Slight crown thinning. Dieback within crown. Small diameter dead wood present.	No works presently required	10+	C1	5.4	REM
T083	Oak	14	430 + 290	7.0	6	7	6	1.5	1	EM	Good	Twinstem on steep bank, basal compression fork; stems and branches crossing and rubbing at 2m	No works required at time of survey	20+	B2	6.2	RET

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Appendix B: Tree Survey Schedule

Tree ID	Species	Height (m)	Stem Diameter (mm)	Branch spread N (m)	Branch spread E (m)	Branch spread S (m)	Branch spread W (m)	First significant branch height (m)	Canopy height (m)	Life Stage	Vitality	General observations	Preliminary management recommendations	Estimated Remaining Contribution (Years)	Category Grading	RPA Radius (m)	Impact: Remove / Part Remove / Retain (REM, PRG, RET)
G084	hawthorn, holly	6	200	3.0	3	3	3	N/A	0	SM to EM	Fair	Sporadic hawthorn, holly. Clumps tops managed on trees underneath plyons. Dense scrub around base. No access to inspect bases.	No works presently required	10+	C2	2.4	PRG - 1035m2
G085	Ash	12	300	6.0	4	3	2	2-N	1	SM	Fair	Growing within third party garden. Bases not accessible. Evidence of storm damage recorded within crown. Broken branch within site extents.	No works presently required	10+	C2	3.6	RET
G086	Goat Willow	7	320	5.5	5.5	6.5	5.5	3	1.5	EM	Good	3no clear-stemmed trees growing close behind stone building; mutual crown suppression		10+	C2	3.8	REM
G087	Leyland Cypress	18	350	3.0	3	3	3	N/A	0	EM	Good	Third party planted group. No active management recorded. Occasional sycamore sapling and self sown hawthorn within group.	No works presently required	10+	C2	4.2	REM - 92m2
H088	A Hedgerow	3	150	2.0	2	2	2	0	0	M	Fair	Barely maintained hedgerow at side of pavement and bus stop on A57; hawthorn, occasional holly, elder, saplings of ash; gaps; widespread human detritus, fly-tipping; infrequent dead specimens	Remove dead trees if adjacent to proposed works	10+	C2	1.8	REM - 86m
H089	A Hedgerow	4	150	2.0	2	2	2	0	0	M	Good	Coherent hawthorn hedge, plants at c.300mm spacing for much of length; stems occasionally tangling with timber post and rail fence at rear; occasional ash saplings, elder; flail-managed along pavement; snowberry at front around bus stop	No works required at time of survey	20+	C2	1.8	REM (356m)
G092	Horse chestnut, Field maple, sycamore, birch, hawthorn	14	250	4.0	4	4	4	N/A	0	SM	Fair	Linear group of trees and shrubs along third party boundary. Ground compaction within site from horse activity. Lower crowns of hawthorn browsed.	No works presently required	20+	B2	3.0	RET
G093	Hawthorn, goat willow, elder	4.5	350	4.0	4	4	4	N/A	0	EM to M	Fair	Intermittent clumps of hawthorn, goat willow, elder. Dead stems in places. Remnants of old field boundary hedgerows. Single and large multi stems	No works presently required	10+	C2	4.2	PRG - 1366.5m2
T094	Wild Cherry	6	600	6.0	6	6	6	1.5-N	1.5	M	Good	Multi stems recorded from approximately 1.8m. Unions not visible. Base not accessible. Boundary fence between tree and highway verge and pavement. Lower branches cut back over pavement. Small diameter dead wood in lower and middle crown.	No works presently required	20+	B2	7.2	REM
T095	Horse Chestnut	13	510 at 700mm	7.0	7	7	7	1.5	0	M	Good	No access to base; compact rounded form, surface roots extending from stem; animal browsing where overhanging field	No works required at time of survey	20+	B2	6.1	REM
T096	Rowan	7	250	4.0	4	4	4	2	1.5	EM	Fair	No access to base; 1m behind timber boundary fence; foliage sparse, frequent twiggy deadwood in lower crown	No works required at time of survey	10+	C2	3.0	REM
T097	Ash	16	370 + 350 + 300	5.5	7	7	9	3	2	M	Fair	Three-stemmed hedgerow tree, likely formerly coppiced; barbed wire embedded in stems; neighbouring hawthorn limb historically grown into bole and embedded in stems; exposed location, branch tears and stubs, deadwood mostly small diameter; foliage slightly sparse at time of survey	No works required at time of survey	20+	B2	7.2	RET
H098	Hawthorn, elder	3.5	200	2.0	2	2	2	N/A	0	EM to M	Fair	Sporadic field boundary hedgerow. Dead stems in places. Dense bramble scrub established. Tops not recently managed. Multi stems at approximately 2m. Suggesting past flail point.	No works presently required	10+	C2	2.4	PRG - 45m
H099	Hawthorn, ash, holly	3	200	2.0	2	2	2	N/A	0	SM to EM	Fair	Sporadic hawthorn, ash, holly. Remnants of field boundary hedgerow, large gaps. Some dead stems. Crowns topped.	No works presently required	10+	C2	2.4	PRG - 27m

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Tree ID	Species	Height (m)	Stem Diameter (mm)	Branch spread N (m)	Branch spread E (m)	Branch spread S (m)	Branch spread W (m)	First significant branch height (m)	Canopy height (m)	Life Stage	Vitality	General observations	Preliminary management recommendations	Estimated Remaining Contribution (Years)	Category Grading	RPA Radius (m)	Impact: Remove / Part Remove / Retain (REM, PRG, RET)
T101	Ash	8	450	1.0	1	1	2	2	3	M	Poor	Crown died back to handful of dead branches; very limited live adventitious growth	Remove or, preferably, retain as monolith	<10	U	5.4	REM
T102	Leyland Cypress	11	300	2.5	2.5	2.5	2.5	0	0	SM	Good	Characteristic upright form, telecommunications cable passes through crown	No works required at time of survey	20+	C2	3.6	RET
G100																	REM
G103	A Group	8	320	4.5	4.5	4.5	4.5	2	1	EM	Fair	Mixed group of trees on unmanaged ground - dense bramble restricts access; 5no low vitality white poplar along road side, growing beneath telecommunications cables and formerly topped; crowns generally sprawling to east; deadwood limbs to 100mm diameter; also, shrubby goat willow and rosemary willow displaying good vitality	Remove deadwood if adjacent to proposed works	10+	C2	3.8	RET
T104	Common Oak	4	250	4.0	2	3	3	2-N	1	Y	Fair	Growing adjacent to existing access road. Co-dominant stems from approximately 1.6m. Compression fork with included bark junction. Not significant at present.	No works presently required	10+	C2	3.0	RET
H105	Hawthorn, holly	2.5	150	0.5	0.5	0.5	0.5	N/A	0	EM	Fair	Sporadic clumps of hawthorn and holly. Remnants of hedgerows. Large gaps. Bramble scrub established.	No works presently required	10+	C2	1.8	RET
T106	Fir	16	400	6.0	6	6	6	2-W	0	EM	Good	Growing on east side of dry ditch balanced crown.	No works presently required	20+	B2	4.8	REM
T107	Common Oak	16	300;300	6.0	7	6	6	1.5-S	2	EM	Fair	Twin stemmed from ground level. Growing on west side of dry ditch. Dead ivy on stems. Kinked south stem.	No works presently required.	20+	B2	5.1	REM
T108	Oak	14	600	10.0	7	10	10	3	3	M	Good	On west bank of dry boundary ditch; crown growth part suppressed by adjacent hollies; minor storm damage - deadwood branch stubs, tears	No works required at time of survey	40+	B2	7.2	REM
G109	Hybrid black poplar, Scots pine, ash, oak,	18	500	5.0	5	5	5	N/A	0	SM to EM	Fair to good	Linear group of trees and shrubs. Mutual crown suppression. Bee hives close to centre. Access limited to bases.	No works presently required	20+	B2	6.0	PRG - 570m2
G110	Goat willow, silver birch, hazel, cherry,	12	250	4.0	4	4	4	N/A	0	Y to SM	Fair to good	Informal group. Growing on sloped bank. Bases not accessible. Area of road planing at centre.	No works presently required	10+	C2	3.0	PRG - 186m2
T111	Ash	18	1200	9.0	9	9	9	5-N	2	M	Good	Prominent tree given size. Decay pockets at old branch wounds. Broad open crown. Main stem trifurcates at approximately 3m. Unions appear sound. Occasional small to moderate diameter dead wood in lower and middle crown. No obvious significant saproxylic features.	No works presently required	40+	A1	14.4	RET
W112	Norway Spruce	14 ave.	200 ave.	4.0	4	4	4	0.5	0.5	SM-EM	Good	Christmas tree plantation also including Scots pine and infrequent Nordmann fir; 16m maximum tree height observed at time of survey; stem spacing variable but less than 500mm in places; infrequent dead trees; on earth bank along west edge, intermittent hawthorn, saplings of ash, oak	Remove dead trees if adjacent to proposed works	20+	B2	2.4	PRG - 3083.5m2
G113	A Group	4	150	2.5	2.5	2.5	2.5	0	0	M	Good	Hawthorn planted along earth bank at edge of plantation; intermittent for most of length, not recently managed; group includes infrequent holly and 1no semi-mature ash (G113-A); larger gaps and occasional elder at south end	No works required at time of survey	20+	C2	1.8	PRG -336.5m2
G113-A	Ash	9	220	3.5	3.5	3.5	3.5	2	2	SM	Good		No works required at time of survey	10+	C2	2.6	REM
T114	Common Oak	8	700	7.0	7	5	6	2-E	2	M	Good	Squat habit. Growing on woodland boundary. Drainage ditch to east. Swellings on main stem. Loss of apical dominance from approximately 2-3m.	No works presently required	20+	B2	8.4	RET

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Tree ID	Species	Height (m)	Stem Diameter (mm)	Branch spread N (m)	Branch spread E (m)	Branch spread S (m)	Branch spread W (m)	First significant branch height (m)	Canopy height (m)	Life Stage	Vitality	General observations	Preliminary mangement recommendations	Estimated Remaining Contribution (Years)	Category Grading	RPA Radius (m)	Impact: Remove / Part Remove / Retain (REM, PRG, RET)
T115	Common Oak	14	700	6.0	7	7	6	2-N		M	Good	Growing on sloped bank of currently dry pond area. Main stem trifurcates at approximately 3m. Unions appear sound. Dense epicormic growths at or close to unions. Basal swelling. Extensive surface roots growing along bank face.	No works presently required	40+	A2	8.4	RET
T116	Common Oak	18	1100	9.0	9	9	9	2-E	2	M	Good	Growing within historical wet area. Himalayan balsam present. Multi stems recorded from approximately 4m. Unions appear sound. Potential former pollard. Large diameter branch failed close to ground level to north. Frayed wound, dessicated in appearance. Broad open crown. Ground levels rise to north and east of tree.	No works presently required	40+	A2	13.2	RET
T117	Ash	18	660	8.5	7	9	10	2	2.5	M	Good	Prominent hedgerow tree in breezy location - moderate storm damage includes branch tears and stubs; pockets of decay associated with these; deadwood mostly small; ground in RPA compacted by cattle	Remove larger deadwood if adjacent to proposed works	40+	A2	7.9	REM
G118	Hawthorn, cherry, ash	10	300	4.0	4	4	4	N/A	0	Y to M	Fair to good	Remnants of hedgerows. Sporadic clumps of trees. Dense ivy encroachment on some stems. Successional growth around cherry. Hawthorn largely multi stems. Formerly flailed, some still flailed. Pockets of dense bramble.	No works presently required.	10+	C2	3.6	PRG - 892m2
G119	Hawthorn	4	150	1.0	1	1	1	0	0	EM	Good	Intermittent hawthorn trees along north side of fenced track, stems growing against timber rails in places; flail-managed on track side; spacing between plants variable	No works required at time of survey	10+	C2	1.8	PRG - 229.5m2
T120	Ash	18	800	10.0	10	7	5	4-N	3	M	Fair	Pronounced basal swelling, indicative of reaction wood to internal decay. Basal cavity to south east. Revealing hollowing main stem. Crown break at approximately 4m into 4no. Stems. Decay pockets at old branch wounds.	No works presently required	20+	B3	9.6	REM
T121	Ash	8	650	1.0	3	9	6	4-S	3	M	Fair	Basal cavity to south and north. Revealing hollow main stem. Developing heartwood decay. Loss of main stem at approximately 4m. Large tear out wound. Dessicated white rot present. Habitat hole. West stem assuming dominance. Lower crown previously pruned.	No works presently required	20+	B3	7.8	REM
G123	A Group	4	100	3.0	3	3	3	N/A	0	Y	Fair	Intermittent trees on river bank. Willow, alder, goat willow and hawthorn. Bases not accessible. Drawn stems.	No works presently required	10+	C2	1.2	RET
H124	A Hedgerow	3	100	1.5	1.5	1.5	1.5			M	Good	Hawthorn. Boundary hedgerow. Formerly managed. Top not flailed recently. Multi stem forms	No works presently required	10+	C2	1.2	REM (177.5m)
T125	Ash	9	100;100;100;100	3.0	3	3	3	3-E	2	SM	Fair	Multi stem form. Suggesting past felling and regeneration. Drawn stems. Growing within hedgerow. Basal area not accessible.	No works presently required	10+	C2	2.4	REM
T126	Ash	16	150;150;150;150;150	5.0	4	4	4	N/A	4	EM	Fair	Multi stems recorded from ground level, suggesting past felling and regeneration. Two west stems topped at approximately 1.5m. Drawn stems. Growing through overhead utility cables.	No works presently required	10+	C2	4.0	REM
T127	Sycamore	15	470;350	6.0	6	6	6	2-S	2	EM	Fair	Co-dominant stems from ground level. North stem with extensive wound from past grazing activity. Dessicated white rot present. Early leaf fall. South stem foliage still present. Evidence of tar spot. Earth bunds to north and south	No works presently required	20+	B2	7.0	RET
G128	A Group	18	350	4.0	4	4	4	N/A	0	SM	Fair	Line of approximately 8no. Trees. Crack willow and ash present. Growing on river bank. Bases covered by mounded building debris and earth. Drawn stems. Multi stem as at north extents.	No works presently required	10+	C2	4.2	RET
T129	Ash	20	450;450	10.0	8	4	10	5-NE	5	M	Fair	Co-dominant stems from ground level. Earth mounded to east. Elongated wounds on south side of stems. Dessicated white rot present. Old fungal attachment points on stems. Moderate diameter dead wood in lower	Crown reduction by approximately 5m in height and lateral spread.	20+	B3	7.6	RET

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Tree ID	Species	Height (m)	Stem Diameter (mm)	Branch spread N (m)	Branch spread E (m)	Branch spread S (m)	Branch spread W (m)	First significant branch height (m)	Canopy height (m)	Life Stage	Vitality	General observations	Preliminary management recommendations	Estimated Remaining Contribution (Years)	Category Grading	RPA Radius (m)	Impact: Remove / Part Remove / Retain (REM, PRG, RET)
H130	Leyland Cypress	16	400	4.0	4	4	4		1.5	EM	Good	Planted 3no. Trees. Growing Screen function. No crown management. Rowan present.	No works presently required	10+	C2	4.8	RET
T131	Ash	16	500;450	8.0	8	8	8	4-S	4	M	Good	Co-dominant stems from approximately 300mm. Union not visible. Dense bramble around base hindering full visual inspection. Broad crown. Occasional small to moderate diameter dead wood in middle crown. Tributary to north. Root barrier to growth.	No works presently required	20+	B2	8.1	RET
T132	Ash	10	330;250	4.5	5	4	4	3-W	2	SM	Fair	Co-dominant stems from ground level. North stem on slight lean. Mutual crown suppression. Wire fence attached to south stem.	No works presently required	10+	C2	5.0	RET
G133A	Crack Willow	9	500	8.0	3	1	2	N/A	0	M	Fair	Part of group of trees growing on waters edge. Bases not accessible. Measurements estimated. Elongated wound on north side of main stem. Stems collapsing. Tree to south collapsed.	Coppice or monolith at approximately 3m.	<10	C3	6.0	REM
G133B	Crack Willow	20	750	9.0	4	3	9	5-W	5	M	Fair	Moderate ivy encroachment on main stem and into crown. Evidence of storm damage recorded within crown. Frayed wounds. Large diameter dead wood to west.	Consider undertaking crown reduction.	10+	C2/3	9.0	REM
G133C	Crack Willow	20	500;400	9.0	6	3	8	5-W	3	M	Fair	Co-dominant stems from approximately 1m. Union appears sound. Evidence of storm damage recorded within crown. Frayed wounds. Growing on slight lean to north due to crown suppression to south.	Consider undertaking crown reduction.	10+	C2/3	7.7	REM
G133D	Crack Willow	20	400;300;400;300;300	9.0	8	4	8	4-W	2	M	Fair	Multi stems from ground level. Mutual crown suppression. Drawn forms. Central stem dead. Dessicated white rot present. South stems ivy encroachment into upper crowns. Moderate diameter dead wood in middle crown.	Consider undertaking crown reduction.	10+	C2/3	9.2	REM
G133E	Crack Willow	20	350;350	3.0	8	4	3	4-W	1	M	Poor	Co-dominant stems from ground level. Bases not visible. Stems in contact at approximately 4m. Abrasion and reaction wood formation. Hazard beam over river to east. Storm damage. Habitat value.	Consider undertaking crown reduction.	10+	C2/3	5.9	RET
G133F	Crack Willow	20	650	4.0	4	6	9	3-SW	3	M	Fair	Co-dominant stems from approximately 2m. Union appears sound. Mutually suppressed crown. Evidence of storm damage recorded within crown. Frayed dessicated wounds.	Consider undertaking crown reduction.	10+	C2/3	7.8	RET
G133G	Crack Willow	20	700	1.0	6	13	6	5-SW	2	M	Fair	Sections of lose bark on main stem on compression side. Tree leans to south. Crown dominant to south through suppression to north evidence of storm damage recorded within crown. Frayed wounds. Hazard beams. Decay cavities. Habitat potential.	Consider undertaking crown reduction.	10+	C2/3	8.4	RET
T134	Sycamore	8	300;150	4.5	4.5	4.5	4.5	3-W	2	SM	Good	Growing directly on waters edge. Measurements estimated. Basal stem established to south. Fused with main stem at approximately 2m. Balanced crown.	No works presently required	10+	C2	4.0	RET
T135	Ash	20	1100	9.0	9	6	9	8-N	5	OM	Fair	Prominent tree. Veteran habitat features. Armillaria spp. wood decay fungi around basal flare. Pronounced basal swelling indicative of reaction wood formation to internal decay. Evidence of storm damage recorded within crown. Frayed wounds. Water run point on south west side of main stem. Innonotus hispidus and daldinia concentrica at wounds in crown. Moderate diameter dead throughout crown. Growth epicormic in habit in places. Broad open crown. Increasing risk of branch failures.	Further investigation using PICUS sonic tomograph.	20+	A3	13.2	RET
T136	Ash	15	740	6.0	6	6	4	4-N	2	M	Good	Pronounced basal flare. Aerial buttress roots. Hollowing main stem. Cavity at approximately 2m to west. Revealing developing heartwood decay. Further cavities and decay entry points in middle and upper crown. Innonotus hispidus at old wound in middle crown.	Define construction exclusion around tree.	20+	B3	8.9	RET

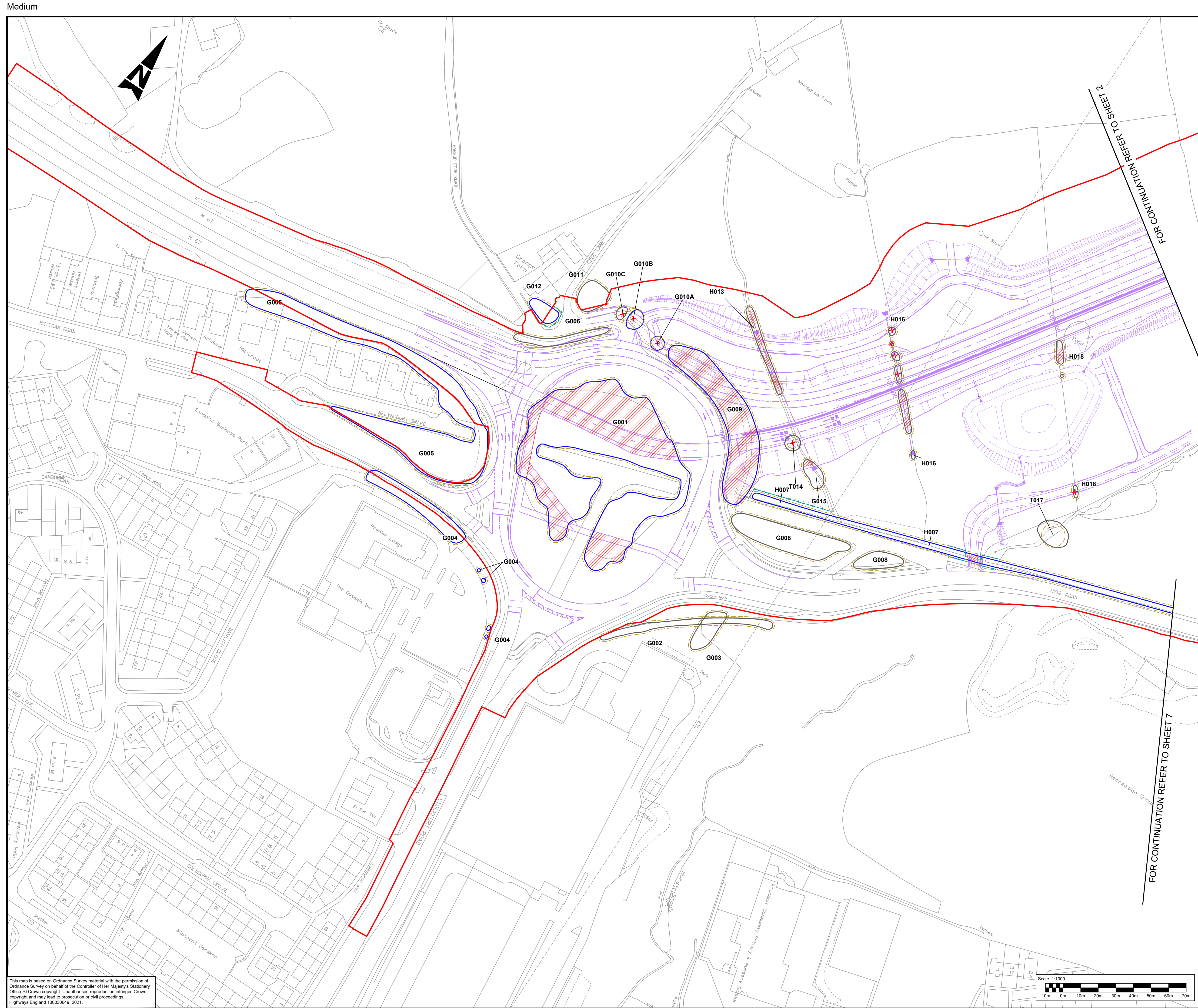
A57 Link Road
Appendix B: Tree Survey Schedule

Tree ID	Species	Height (m)	Stem Diameter (mm)	Branch spread N (m)	Branch spread E (m)	Branch spread S (m)	Branch spread W (m)	First significant branch height (m)	Canopy height (m)	Life Stage	Vitality	General observations	Preliminary management recommendations	Estimated Remaining Contribution (Years)	Category Grading	RPA Radius (m)	Impact: Remove / Part Remove / Retain (REM, PRG, RET)
H137	Hawthorn	4	250	3.0	3	3	3			M	Fair	Occasional elder. Field boundary hedgerow. Evidenced of past laying and flail management. Sporadic in patches.	No works presently required	10+	C2	3.0	PRG - 9.2m
T138	Silver Birch	16	950	8.0	8	8	8	2-N	2	M	Good	Growing on slight lean to east. Stems correcting in crown. Co-dominant stems from approximately 1m. Union appears sound. Tree growing over section of culvert. Water pockets. No saprophytic value. Prominent tree given size for species.	No works presently required	40+	A1	11.4	RET
G139	A Group	5	250	3.5	3.5	3.5	3.5			M	Fair	Sporadic hawthorn and holly. Dense bramble inbetween trees. Lapsed hedgerow. Multi stems. Crowns thinning.	No works presently required	10+	C2	3.0	REM - 398.5m2
T140	Goat Willow	8	150;150;150;150;150	4.0	4	4	4		2.5	M	Good	Multi stems. Crown height approximately 3m to east. Access track to east has no hard surfacing. Crown previously lifted.	No works presently required	10+	C2	4.0	RET
T141	Ash	7	240	5.0	5	5	5			Y	Good	Balanced crown.	No works presently required	10+	C2	2.9	RET
T142	Hawthorn	4	200	2.5	2.5	2.5	2.5	N/A	1	EM	Fair	Pronounced buttress roots. Multi-stems from approx. 1m.	No works presently required	10+	C2	2.4	REM
T143	Hawthorn	4	200	2.5	2.5	2.5	2.5	N/A	1	EM	Fair	Grazing damage on stems. Abrupt angles on branches. Occasional small diameter dead wood.	No works presently required	10+	C2	2.4	REM
T144	Sycamore	15	500	4.5	4.5	4.5	4.5	N/A	3	EM	Fair to good	Pronounced buttress roots.	No works presently required	20+	B2	6.0	RET
T145	Sycamore	15	500	4.5	4.5	4.5	4.5	N/A	3	EM	Fair to good	Mutual crown suppression.	No works presently required	20+	B2	6.0	RET
T146	Sycamore	15	400	4.5	4.5	4.5	4.5	N/A	3	EM	Fair to good	Slight curve on main stem. Mutual crown suppression.	No works presently required	20+	B2	4.8	RET
T147	Sycamore	15	500	4.5	4.5	4.5	4.5	N/A	3	EM	Fair to good	Co-dominant stems in middle crown. Union appears sound. Mutual crown suppression.	No works presently required	20+	B2	6.0	RET
T148	Sycamore	8	300	3.0	3	3	3	N/A	2	SM	Fair	Loss of apical dominance.	No works presently required	10+	C2	3.6	RET
T149	Sycamore	8	150;200	3.0	3	3	3	N/A	1	SM	Fair	Basal stem established. Cavity at base. Loss of apical dominance.	No works presently required	10+	C2	3.5	RET
T150	Sycamore	10	300	3.0	3	3	3	N/A	1	SM	Fair to good	Mutual crown suppression.	No works presently required	10+	C2	3.6	RET
T151	Sycamore	8	300	3.0	3	3	3	N/A	1	SM	Fair to good	Mutual crown suppression.	No works presently required	10+	C2	3.6	RET
T152	Oak	18	1000	9.0	9	9	9	N/A	3	M	Good	Co-dominant stems in middle crown. Union appears sound. Prominent tree given size and scale.	No works presently required	40+	A1/2	12.0	RET
T153	Sycamore	10	300	2.0	2	2	2	N/A	3	SM	Fair to good	Mutual crown suppression.	No works presently required	10+	C2	3.6	RET
T154	Sycamore	4	200	0.0	0	0	0	N/A	N/A	SM	Dead	Standing dead stem.	No works presently required	<10	U	2.4	RET
T155	Sycamore	8	200;200	4.0	4	4	4	N/A	1	SM	Fair to good	Mutual crown suppression.	No works presently required	10+	C2	3.5	RET
T156	Oak	15	900	6.0	6	6	6	N/A	2	M	Good	Multi stems in middle crown. Pronounced buttress roots. Occasional moderate diameter dead wood in middle crown.	No works presently required	40+	A2	10.8	RET
T157	Oak	16	700	6.0	6	6	6	N/A	3	M	Good	Co-dominant stems from middle crown. Union appears sound.	No works presently required	40+	A2	8.4	RET

Appendix C. Tree Protection Plans

DO NOT SCALE

Millimetres



KEY

- CATEGORY A TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY B TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY C TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY U TREE / GROUP / WOODLAND / HEDGEROW
- REFERENCE NUMBER: INDIVIDUAL TREE / TREE GROUP / WOOD / H000
- ROOT PROTECTION AREA
- DCO BOUNDARY
- PROPOSED SCHEME
- PROTECTIVE FENCING (INDICATIVE LOCATION FOR REFERENCE ONLY)
- TREE TO BE REMOVED AS PART OF WORKS
- EXTENT OF TREE GROUP TO BE REMOVED AS PART OF WORKS

SHEET LAYOUT
N.T.S

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Maintenance / Cleaning	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Use	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Decommissioning / Demolition	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:

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Description	Status	Revision	Issue Date

Description	Status	Revision	Issue Date
DCO APPLICATION	A4	P01.1	---

Drawing Suitability	DCO APPLICATION	Status	A4
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Scheme Name: **A57 LINK ROADS**

Drawing Title: **A57 LINK ROADS
TREE PROTECTION PLAN
SHEET 1 OF 10
SHEET 1 OF 10**

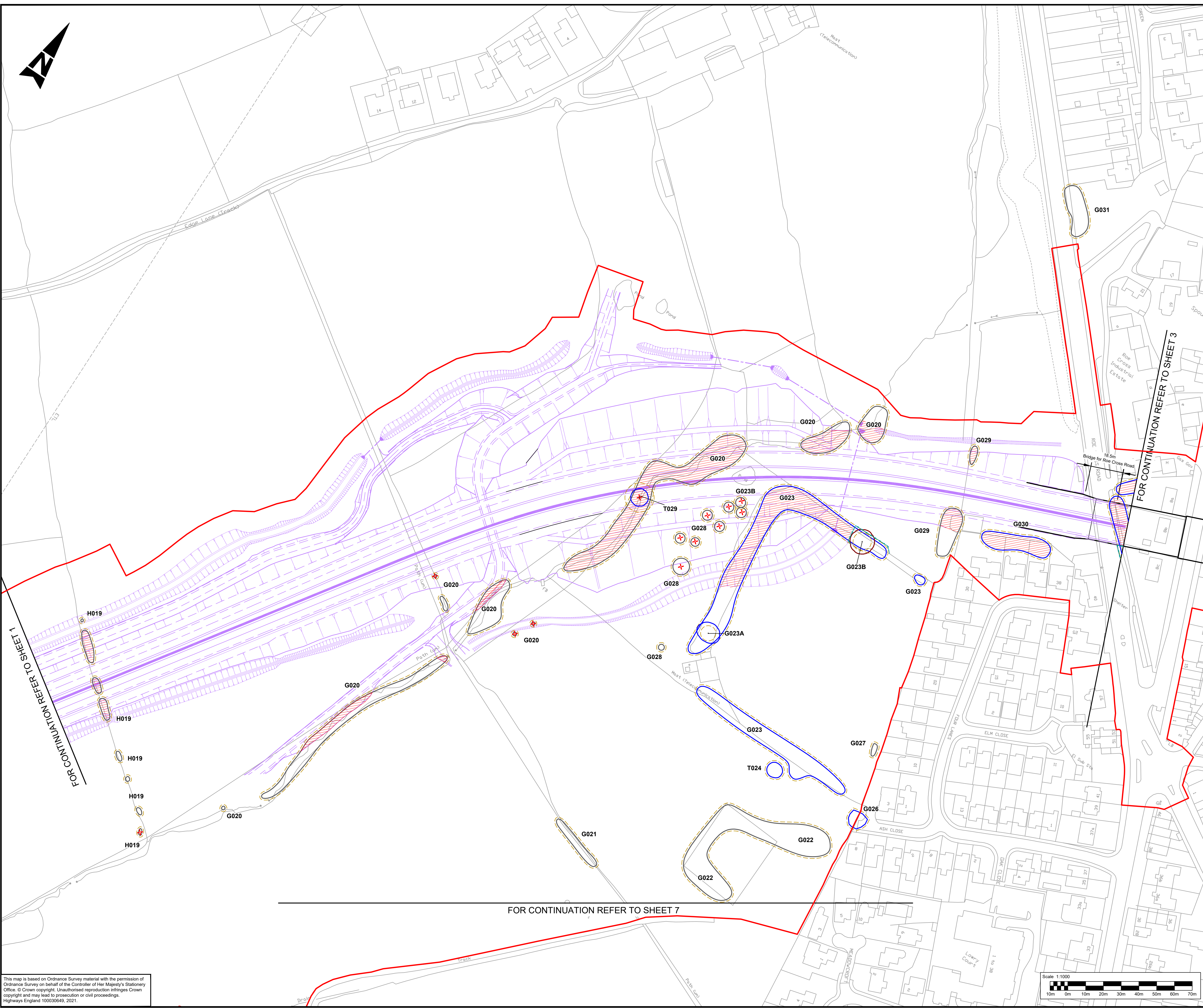
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Drawing Number: HE551473
Scheme: BBA
Originator: BBA
Volume: ELS

A57_AL_SCHEME · DR · LL · 000201

Scale: 1:1000 @ A1
Original Size: A1
Rev: P01.1

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KEY

- CATEGORY A TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY B TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY C TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY U TREE / GROUP / WOODLAND / HEDGEROW
- T000 / G000 / W000 / H000 REFERENCE NUMBER: INDIVIDUAL TREE / TREE GROUP / WOODLAND / HEDGEROW
- ROOT PROTECTION AREA
- DCO BOUNDARY
- PROPOSED SCHEME
- PROTECTIVE FENCING (INDICATIVE LOCATION FOR REFERENCE ONLY)
- ✕ TREE TO BE REMOVED AS PART OF WORKS
- EXTENT OF TREE GROUP TO BE REMOVED AS PART OF WORKS

SHEET LAYOUT
N.T.S

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No: _____

Maintenance / Cleaning
REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No: _____

Use
REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No: _____

Decommissioning / Demolition
REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No: _____

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Description	Status	Revision	Issue Date

DCO APPLICATION

Description	Status	Revision	Issue Date

Drawing Suitability: WORK IN PROGRESS | Status: S0



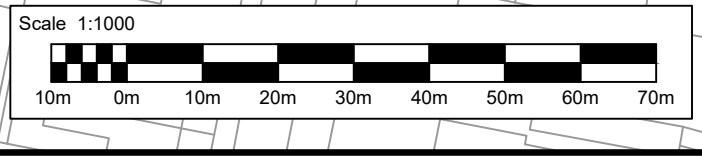
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Drawing Title: **A57 LINK ROADS TREE PROTECTION PLAN**

SHEET 2 OF 10

PINS Ref No: _____

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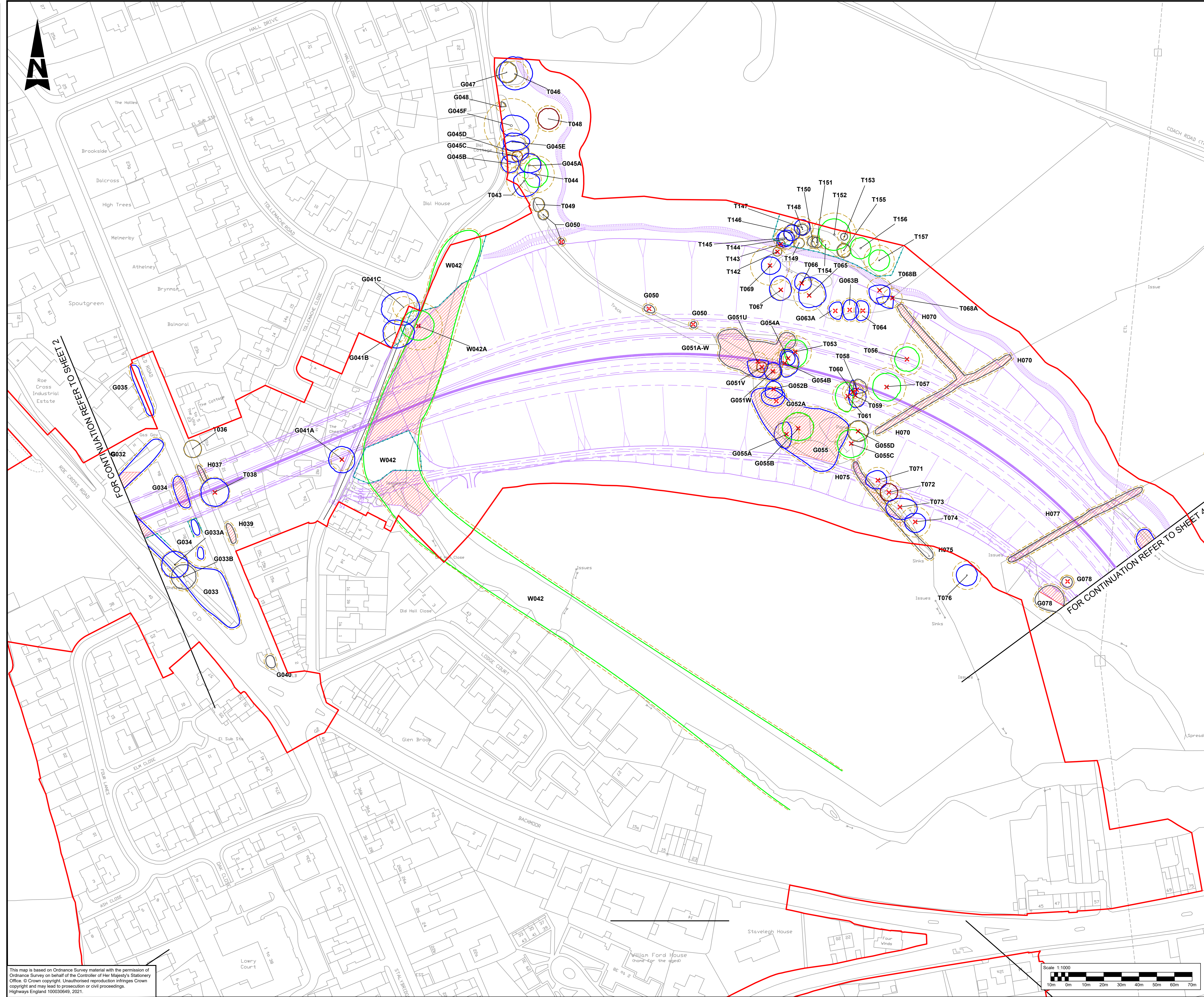


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DO NOT SCALE

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Medium



KEY

- CATEGORY A TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY B TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY C TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY U TREE / GROUP / WOODLAND / HEDGEROW
- T000 / G000 / W000 / H000 REFERENCE NUMBER: INDIVIDUAL TREE / TREE GROUP / WOODLAND / HEDGEROW
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- TREE TO BE REMOVED AS PART OF WORKS
- EXTENT OF TREE GROUP TO BE REMOVED AS PART OF WORKS

SHEET LAYOUT
N.T.S.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Maintenance / Cleaning	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Use	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Decommissioning / Demolition	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:

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Description	Status	Revision	Issue Date
DCO APPLICATION	S0	P01.1	---

WORK IN PROGRESS S0



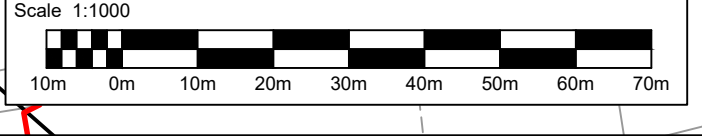
Scheme Name
A57 LINK ROADS

Drawing Title
A57 LINK ROADS
TREE PROTECTION PLAN

SHEET 3 OF 10

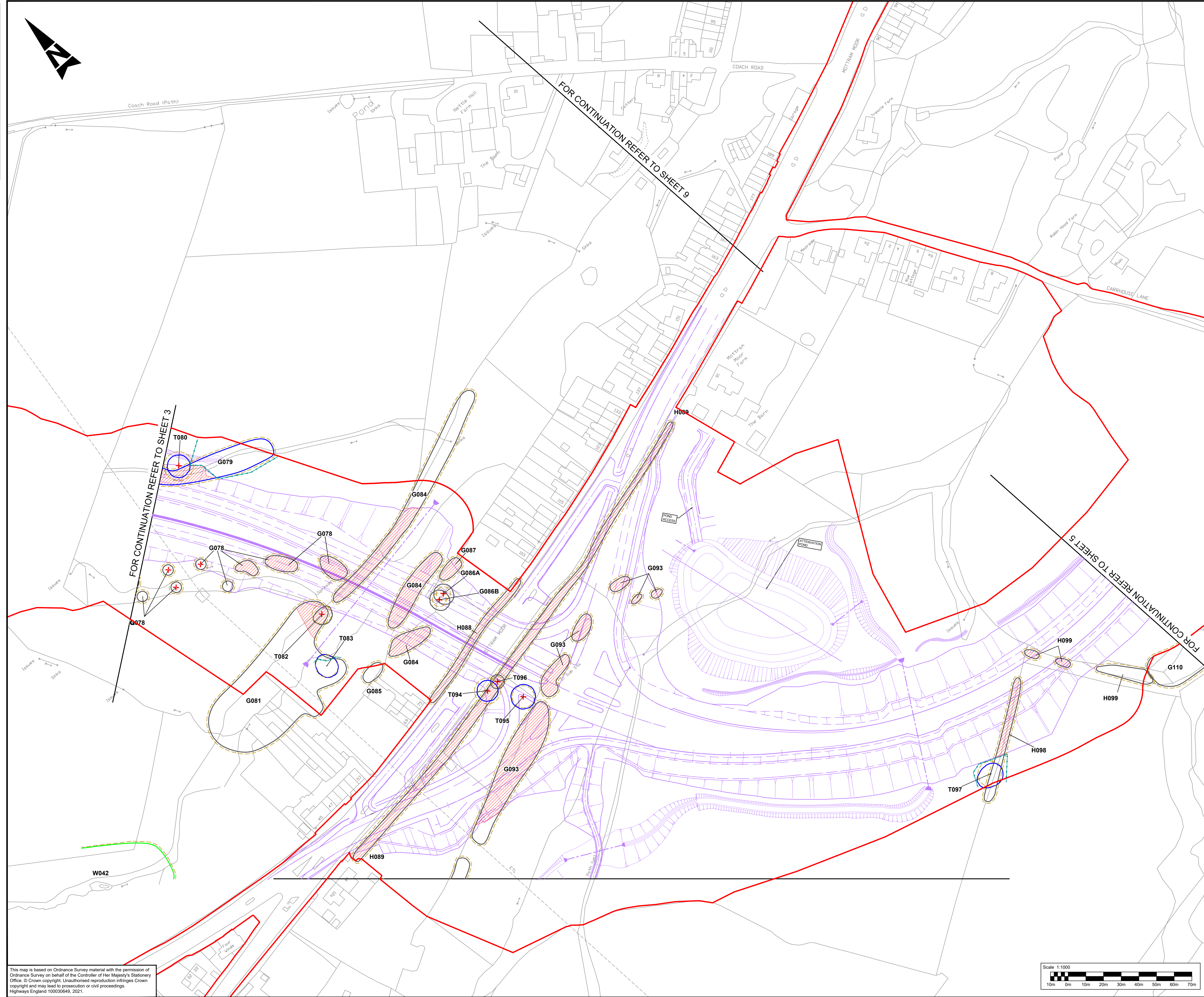
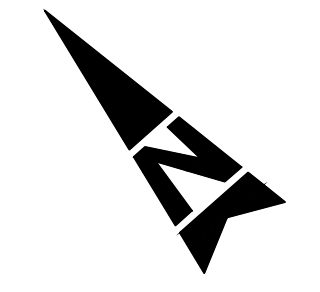
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Role	LL
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Rev.	P01.1

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DO NOT SCALE

Millimetres 0 10 100



KEY

- CATEGORY A TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY B TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY C TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY U TREE / GROUP / WOODLAND / HEDGEROW
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- TREE TO BE REMOVED AS PART OF WORKS
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SHEET LAYOUT
N.T.S

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction
REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:

Maintenance / Cleaning
REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:

Use
REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:

Decommissioning / Demolition
REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:

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Description

Status	Revision	Issue Date

Description

Status	Revision	Issue Date

Description

Status	Revision	Issue Date

Description

Status	Revision	Issue Date

DCO APPLICATION

Status	Revision	Issue Date
S0	P01.1	---

Drawing Suitability	Status
WORK IN PROGRESS	S0



Scheme Name
A57 LINK ROADS

Drawing Title
**A57 LINK ROADS
TREE PROTECTION PLAN**

SHEET 4 OF 10

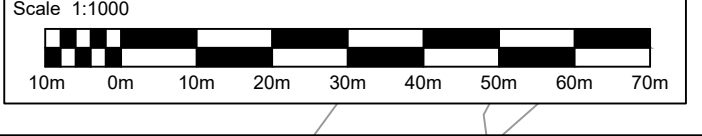
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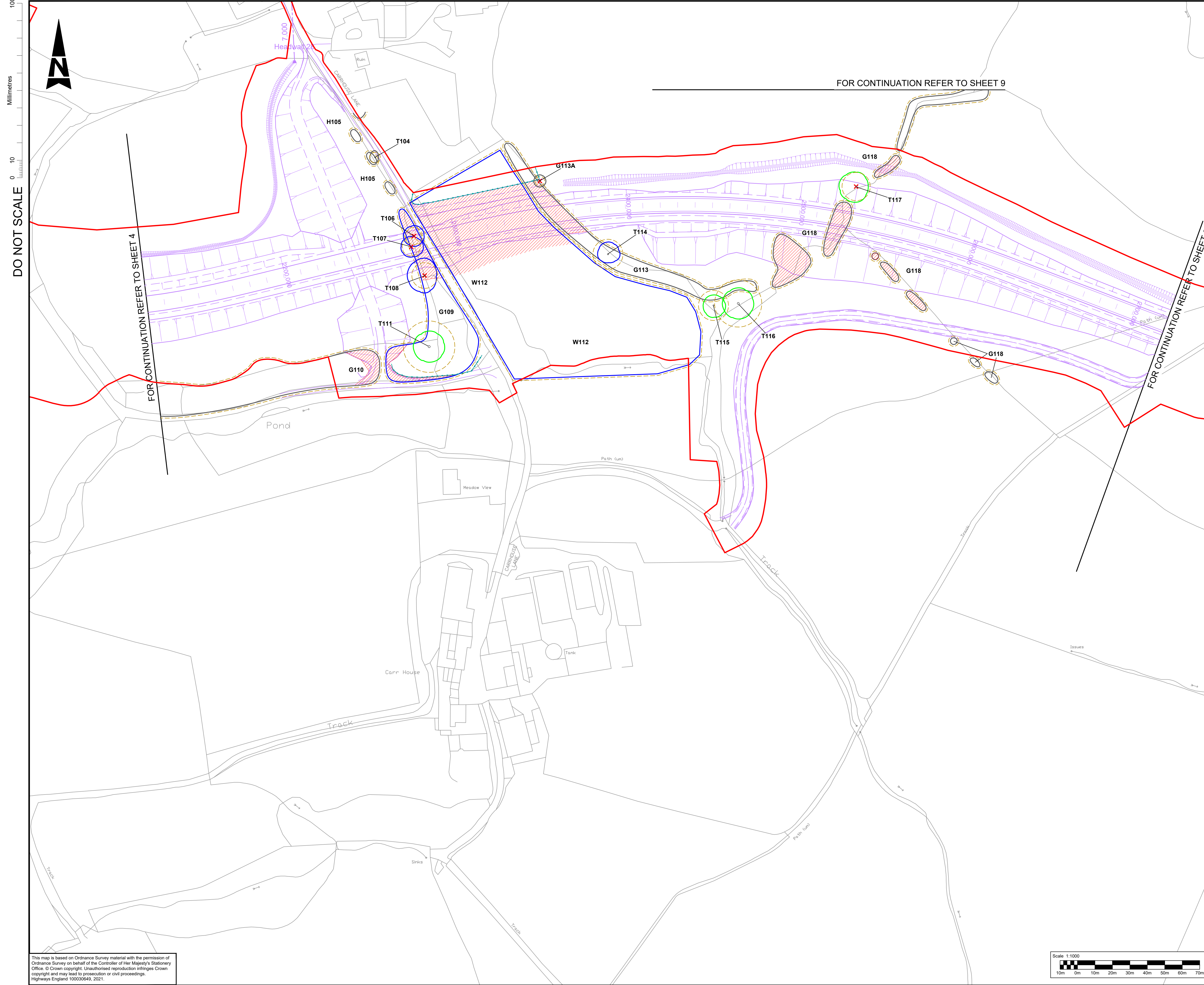
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Millimetres

0 10 100



FOR CONTINUATION REFER TO SHEET 9

FOR CONTINUATION REFER TO SHEET 4

FOR CONTINUATION REFER TO SHEET 6

KEY

- CATEGORY A TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY B TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY C TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY U TREE / GROUP / WOODLAND / HEDGEROW
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- EXTENT OF TREE GROUP TO BE REMOVED AS PART OF WORKS

SHEET LAYOUT
N.T.S

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Maintenance / Cleaning	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Use	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Decommissioning / Demolition	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:

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Description	Status	Revision	Issue Date

Description DCO APPLICATION			
Status	S0	Revision	P01.1
Issue Date	---		

Drawing Suitability	WORK IN PROGRESS	Status	S0
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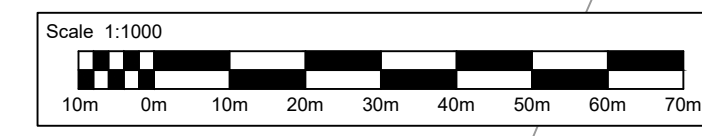
Scheme Name
A57 LINK ROADS

Drawing Title
**A57 LINK ROADS
TREE PROTECTION PLAN**

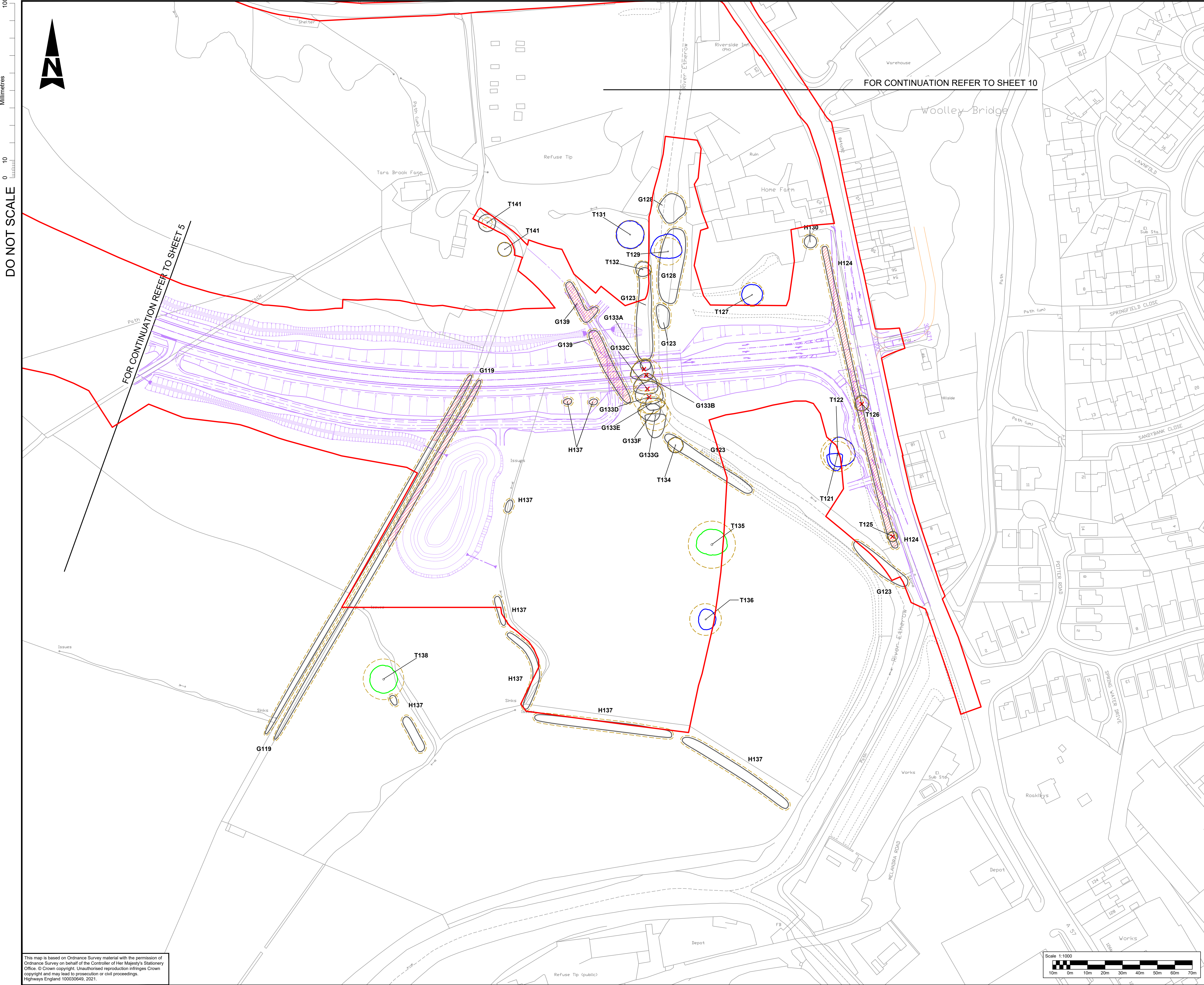
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PINS Ref. No.

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Location					
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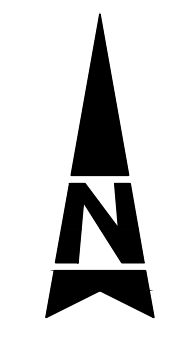
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Millimetres

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10



FOR CONTINUATION REFER TO SHEET 5

FOR CONTINUATION REFER TO SHEET 10

KEY

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- CATEGORY B TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY C TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY U TREE / GROUP / WOODLAND / HEDGEROW
- T000 / G000 / W000 / H000 REFERENCE NUMBER: INDIVIDUAL TREE / TREE GROUP / WOODLAND / HEDGEROW
- ROOT PROTECTION AREA
- DCO BOUNDARY
- PROPOSED SCHEME
- PROTECTIVE FENCING (INDICATIVE LOCATION FOR REFERENCE ONLY)
- TREE TO BE REMOVED AS PART OF WORKS
- EXTENT OF TREE GROUP TO BE REMOVED AS PART OF WORKS

SHEET LAYOUT
N.T.S

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Maintenance / Cleaning	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Use	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Decommissioning / Demolition	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:

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Description	Status	Revision	Issue Date

Description	Status	Revision	Issue Date
DCO APPLICATION	S0	P01.1	---

Drawing Suitability	WORK IN PROGRESS	Status	S0
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Scheme Name **A57 LINK ROADS**

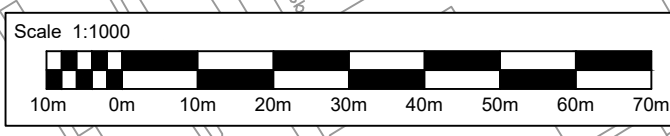
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SHEET 6 OF 10

PINS Ref. No.

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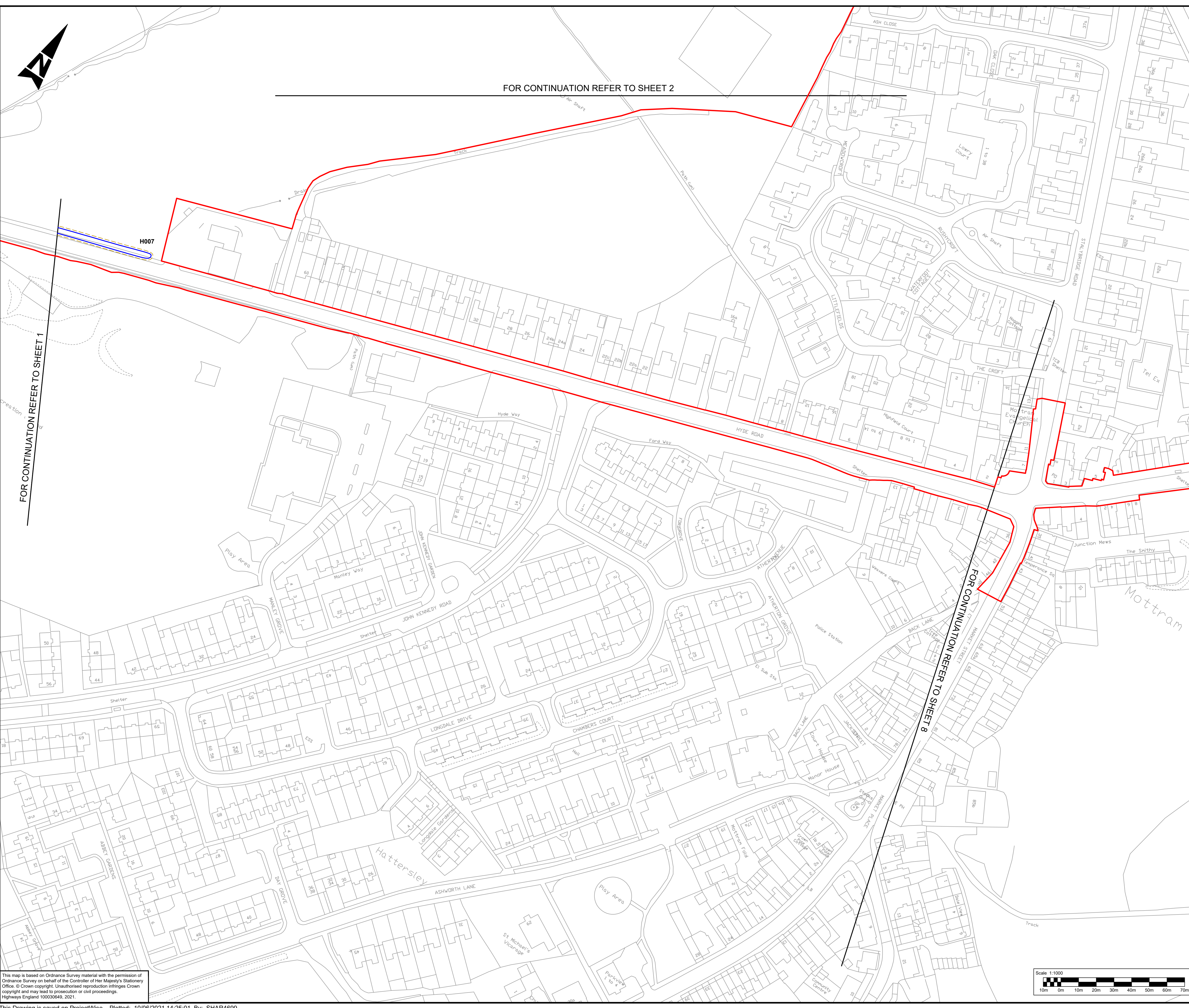
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Millimetres 0 10 100



FOR CONTINUATION REFER TO SHEET 2

FOR CONTINUATION REFER TO SHEET 1

FOR CONTINUATION REFER TO SHEET 8

KEY

- CATEGORY A TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY B TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY C TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY U TREE / GROUP / WOODLAND / HEDGEROW
- T000 / G000 / W000 / H000 REFERENCE NUMBER: INDIVIDUAL TREE / TREE GROUP / WOODLAND / HEDGEROW
- ROOT PROTECTION AREA
- DCO BOUNDARY
- PROPOSED SCHEME
- PROTECTIVE FENCING (INDICATIVE LOCATION FOR REFERENCE ONLY)
- TREE TO BE REMOVED AS PART OF WORKS
- EXTENT OF TREE GROUP TO BE REMOVED AS PART OF WORKS

SHEET LAYOUT
N.T.S

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Maintenance / Cleaning	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Use	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Decommissioning / Demolition	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:

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Description	Status	Revision	Issue Date

DCO APPLICATION			
Status	S0	Revision	P01.1
Issue Date			

Drawing Suitability	WORK IN PROGRESS	Status	S0
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Scheme Name: **A57 LINK ROADS**

Drawing Title: **A57 LINK ROADS TREE PROTECTION PLAN**

SHEET 6 OF 10

PINS Ref. No.

Drawing Number	HE551473	Originator	BBA	Volume	ELS
Scheme	A57_AL_SCHEME	DR	LL	000206	

Location	Scale: 1:1000 @ A1	Original Size: A1	Rev: P01.1
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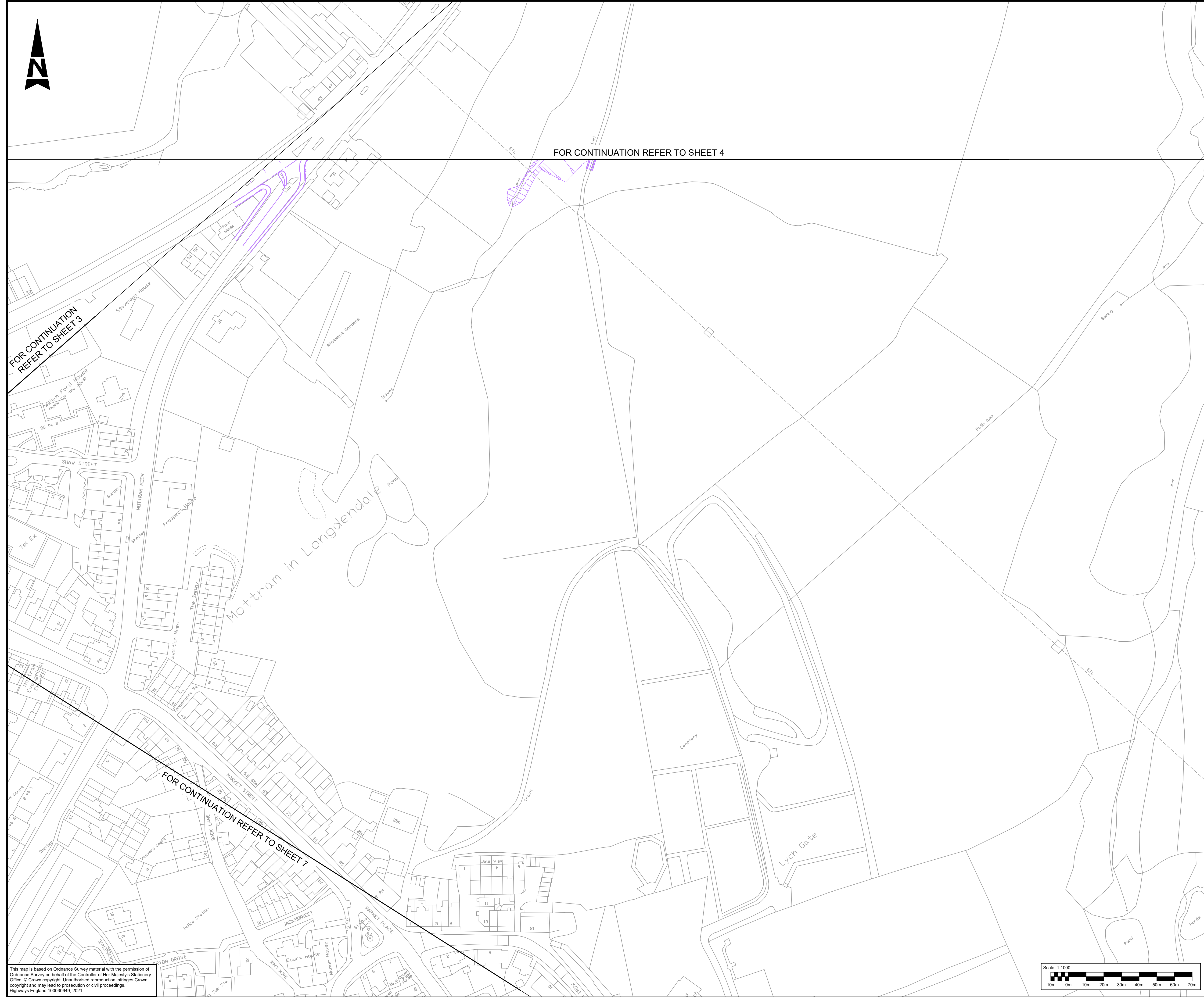
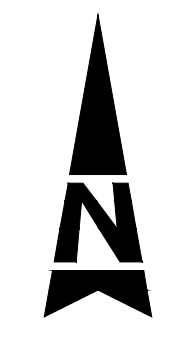


DO NOT SCALE

Millimetres

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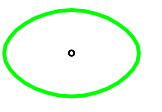
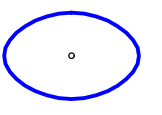
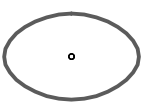
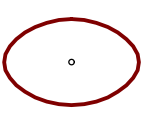






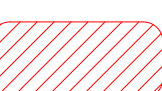


FOR CONTINUATION REFER TO SHEET 4

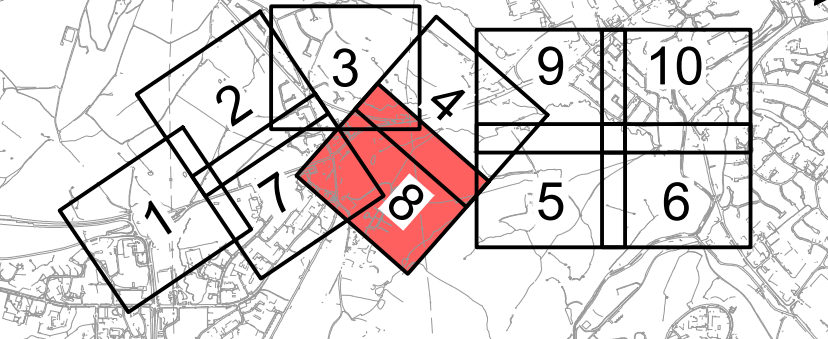
FOR CONTINUATION REFER TO SHEET 3

FOR CONTINUATION REFER TO SHEET 7

KEY

-  CATEGORY A TREE / GROUP / WOODLAND / HEDGEROW
-  CATEGORY B TREE / GROUP / WOODLAND / HEDGEROW
-  CATEGORY C TREE / GROUP / WOODLAND / HEDGEROW
-  CATEGORY U TREE / GROUP / WOODLAND / HEDGEROW
-  T000 / G000 / W000 / H000 REFERENCE NUMBER: INDIVIDUAL TREE / TREE GROUP / WOODLAND / HEDGEROW
-  ROOT PROTECTION AREA
-  DCO BOUNDARY
-  PROPOSED SCHEME
-  PROTECTIVE FENCING (INDICATIVE LOCATION FOR REFERENCE ONLY)
-  TREE TO BE REMOVED AS PART OF WORKS
-  EXTENT OF TREE GROUP TO BE REMOVED AS PART OF WORKS

SHEET LAYOUT
N.T.S



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following significant residual risks (Reference shall also be made to the design hazard log).

Construction	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Maintenance / Cleaning	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Use	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Decommissioning / Demolition	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:

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Description	Status	Revision	Issue Date

DCO APPLICATION		
Status	S0	Revision P01.1
Issue Date	---	---
Drawing Suitability	WORK IN PROGRESS	Status S0



Scheme Name **A57 LINK ROADS**

Drawing Title **A57 LINK ROADS TREE PROTECTION PLAN**

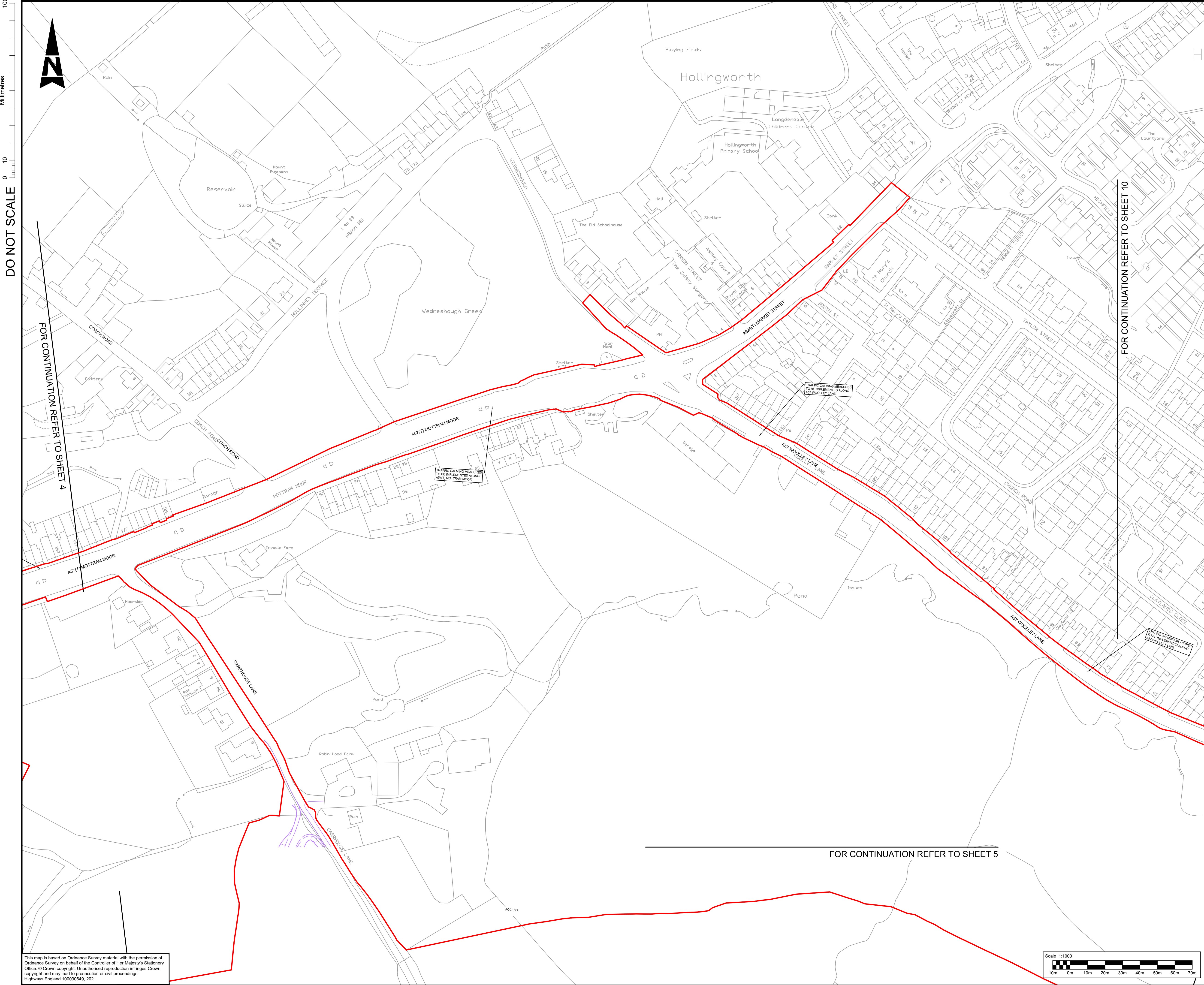
SHEET 8 OF 10

PWS Ref. No.

Drawing Number HE551473 | Originator BBA | Volume ELS
A57_AL_SCHEME | DR | LL | 000208

Scale: 1:1000 @ A1 | Original Size: A1 | Rev: P01.1

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DO NOT SCALE

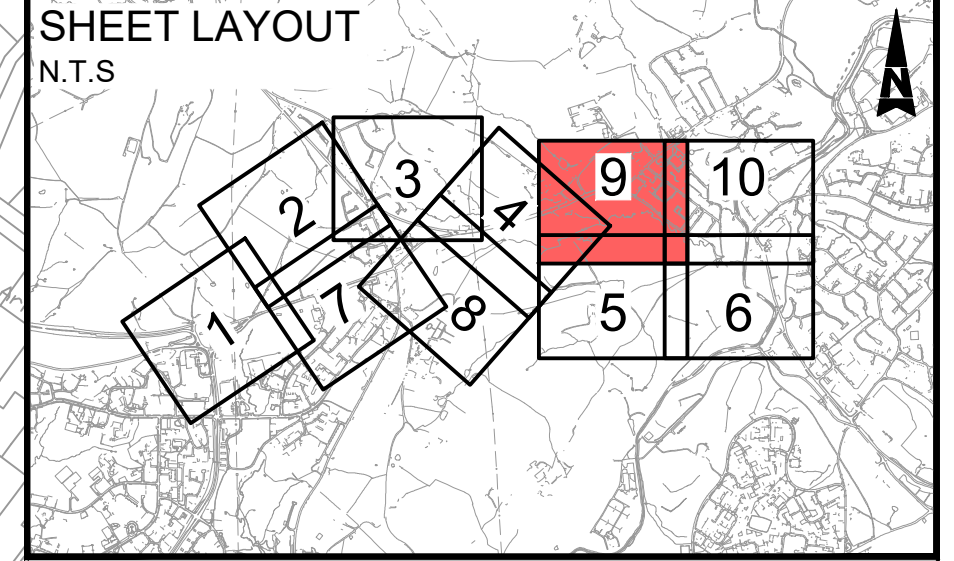
FOR CONTINUATION REFER TO SHEET 4

FOR CONTINUATION REFER TO SHEET 10

FOR CONTINUATION REFER TO SHEET 5

KEY

- CATEGORY A TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY B TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY C TREE / GROUP / WOODLAND / HEDGEROW
- CATEGORY U TREE / GROUP / WOODLAND / HEDGEROW
- REFERENCE NUMBER: INDIVIDUAL TREE / TREE GROUP / WOODLAND / HEDGEROW
- ROOT PROTECTION AREA
- DCO BOUNDARY
- PROPOSED SCHEME
- PROTECTIVE FENCING (INDICATIVE LOCATION FOR REFERENCE ONLY)
- TREE TO BE REMOVED AS PART OF WORKS
- EXTENT OF TREE GROUP TO BE REMOVED AS PART OF WORKS



SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

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Maintenance / Cleaning	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Use	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:
Decommissioning / Demolition	REFER TO HEALTH AND SAFETY RISK REGISTER DOCUMENT No:

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Description	Status	Revision	Issue Date

Description		DCO APPLICATION	
Status	S0	Revision	P01.1
Issue Date		Issue Date	

WORK IN PROGRESS S0

Scheme Name: **A57 LINK ROADS**

Drawing Title: **A57 LINK ROADS TREE PROTECTION PLAN**

SHEET 9 OF 10

Drawing Number	HE551473	Originator	BBA	Volume	ELS
Scheme	A57_AL_SCHEME	Type	DR	Roll	LL
Location		Number	000209		
Scale:	1:1000 @ A1	Original Size:	A1	Rev:	P01.1

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