

**The Great Grid Upgrade**

Chesterfield to High Marnham

# Chesterfield to High Marnham

Environmental Appraisal Report – Part 8 of 8

October 2026

**nationalgrid**

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# Appendix J

# Arboricultural Survey

# Report

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Environmental Appraisal Report – Appendix J: Arboricultural Survey  
Report

October 2026

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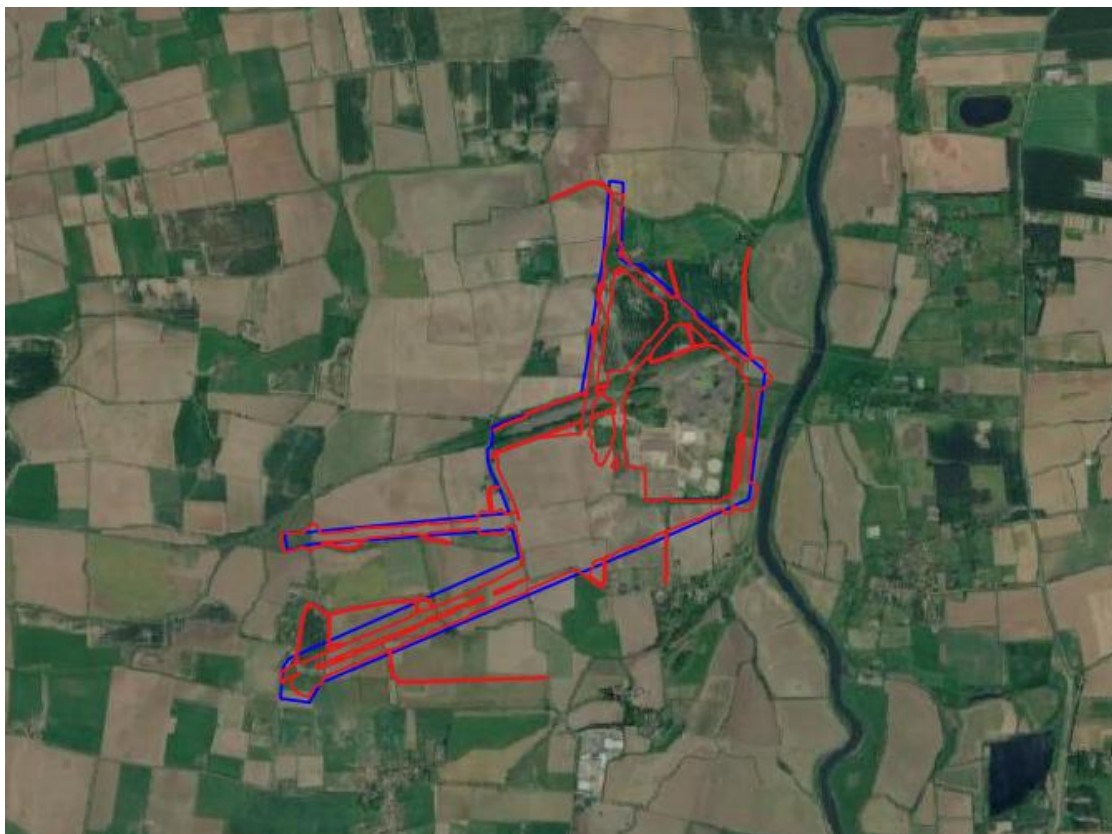
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# 1. Introduction

## 1.1 Overview

- 1.1.1 Arcadis Consulting (UK) Limited (Arcadis) was instructed by National Grid to undertake an Arboricultural Survey Report in line with British Standard BS 5837: 2012 Trees in relation to design, demolition and construction – Recommendations (British Standards Institution, 2012), henceforth referred to as BS 5837: 2012, in relation to the proposed overhead line “Tie-In” works (‘the land required to construct the Scheme’) on land near High Marnham.
- 1.1.2 The land required to construct the Scheme is located in Newark centred on Ordnance Survey (OS) Grid Reference SK 80295 70031 and centred around the post code NG23 6SF. The land required to construct the Scheme is comprised of arable agricultural land with associated boundary hedgerows and infrastructure. The existing High Marnham substation is situated in the east of the land required to construct the Scheme. The village of High Marnham is situated to the southeast of the land required to construct the Scheme. The land required to construct the Scheme is approximately 30m west of the River Trent.
- 1.1.3 An aerial screen shot illustrating the Site location (boundary the land required to construct the Scheme) and survey area (blue boundary) is presented in Image 1.1.

Image 1.1 Boundary of the land required to construct the Scheme (red line), Survey Boundary (blue line). Imagery © 2026 Infoterra Ltd & Bluesky



## 2. Methodology

### 2.1 Tree Survey Methodology

- 2.1.1 An Arboricultural Survey was undertaken by Barnes Associated Ltd on 01-02 April and 09 May 2025, and updated in 2026, in accordance with BS 5837:2012.
- 2.1.2 Where available, the survey was based on topographical data, document reference: B2441B05-JAC-HM-ZZ-M3-G-92320 (Jacobs 2023)
- 2.1.3 Observations were conducted from ground level, utilising the “Visual Tree Assessment” (VTA) system as outlined in The Body Language of Trees, A Handbook for Failure Analysis Research for Amenity Trees No.4 (Mattheck and Breloer, 1994) with the aid of binoculars.

### 2.2 Study Area

- 2.2.1 The study area included the Site itself (boundary of land required to construct the Scheme), and any trees considered to be within influencing distance (15m).

### 2.3 Survey Access

- 2.3.1 At the time of the survey several options were presented and therefore, trees have only been surveyed within the extent of the blue boundary – Figure 1. Areas of proposed haul routes were not confirmed at the time of the original surveys and therefore trees within these locations have not yet been assessed. Areas where trees have not been surveyed are indicated in Figure 1 by black crossed hatching

### 2.4 Individual trees

- 2.4.1 For the purposes of BS 5837: 2012, only trees with a stem diameter greater than 75mm, (measured at 1.5m above ground level), were included within the survey.
- 2.4.2 For reference, individual trees are identified with the letter T and an associated unique number on the tree schedules and Tree Constraints Plan (TCP).
- 2.4.3 The stem diameter of the trees was recorded at 1.5m above ground level or following Annex C of BS 5837:2012, using a rounded-down diameter tape and recorded in millimetres.
- 2.4.4 The height of trees was recorded in meters using a clinometer.
- 2.4.5 The maximum crown spread of each tree was measured from the centre of the trunk to the tips of the live lateral branches taken at four compass points (N-E-S-W) using a ground tape where safe and practical to do so. Crown spread measurements were recorded in metres.
- 2.4.6 Tree age was estimated from visual indicators (such as tree size and appearance of bark) which was taken as a provisional guide. Age estimates often need to be modified based on further information such as historical records and local knowledge.

- 2.4.7 If direct access to the tree was not possible, estimations from appropriate vantage points were taken, and any limitations or estimations are presented within the survey limitations section and noted in the associated schedules.

## **2.5 Groups of trees**

- 2.5.1 Features that have been recorded as a group where they have been considered to form a cohesive arboricultural feature either aerodynamically (e.g. trees that provide companion shelter), visually (e.g. avenues or screens) or culturally, including for biodiversity (e.g. wood pasture).
- 2.5.2 Groups of trees were identified with the letter G and number on the associated schedules and plans.
- 2.5.3 Crown spread was assessed by measuring the largest crown spread on each compass point (N-E-S-W). Groups have been plotted using aerial imagery. The stem diameter of tree groups has been calculated as an average stem diameter of trees within a group. Heights are displayed as the maximum height of the tallest tree within the group or displayed as a range of heights where two or more distinct height layers have been identified. (i.e. understorey trees/large woody shrubs).

## **2.6 Hedgerows**

- 2.6.1 Hedgerows were identified with the letter H and number on the associated schedules and plans. A 30m section of hedgerow was surveyed for each hedgerow, recording the number of species, average stem diameter, lateral spread and the maximum height. Any individual trees present within the hedgerow were recorded as individual trees.

## **2.7 Categorisation**

- 2.7.1 Trees surveyed have been categorised according to their quality and value in compliance with Table 3.1 Cascade chart for tree quality assessment of BS 5837: 2012. A glossary of survey terms can be found in Annex A Explanation of Terms and the full cascade chart for tree categorisation is displayed in Table B2 of Annex B Schedule of Trees.

## **2.8 Root Protection Area**

- 2.8.1 The Root Protection Area (RPA) of a tree is described in section 3.7 of BS 5837: 2012 as 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. It should be recognised that the calculated RPA may not entirely encompass all of the tree's rooting material.
- 2.8.2 RPAs were calculated in accordance with Section 4.6.1 in BS: 5837:2012 using the measurement of the stem diameter at 1.5m above ground level or at ground level if the tree is multi-stemmed. The shape and size of an RPA can be amended in accordance with Section 4.6.3 of BS: 5837:2012.
- 2.8.3 Tree RPAs are recorded in the Schedule of Trees (Annex B Schedule of Trees) and shown as a pink shaded area on the initial Figure 1 Tree Constraints Plan and form the initial Construction Exclusion Zone (CEZ) to protect the trees within and adjoining the land required to construct the Scheme.

- 2.8.4 Where RPAs have been calculated for tree groups, hedgerows or woodlands, they have been represented as an offset (in meters) from the plotted canopy line of the feature in question when detailed in Annex B Schedule of Trees.
- 2.8.5 No soil assessment or above/below ground investigations into the true extent of a tree's rooting area were undertaken as they are beyond the scope of this report.

## **2.9 Survey Limitations**

- 2.9.1 This report has been prepared in accordance with BS5837:2012 and is intended to inform the design and consenting process in relation to arboricultural constraints.
- 2.9.2 At the time of the survey topographic information was only available for part of the land required to construct the Scheme. As such, some tree locations are based on GPS tracking, line of sight with existing features, aerial imagery and OS base mapping.
- 2.9.3 Only trees with the potential to be affected by development within or adjacent to the land required to construct the Scheme as determined by the survey boundary displayed in Image 1.1 have been included within this report. Any additional trees in the vicinity of the Scheme have been deemed to not be affected by the proposals and have not been included.
- 2.9.4 Trees are living organisms and as such their health and condition are naturally subject to change over time. Unforeseen future circumstances such as neglect, wilful damage or severe/extreme weather conditions may affect the future health and condition of the trees included in this report.
- 2.9.5 At the time of survey and writing this report, there were land access restrictions for certain portions of the land required to construct the Scheme. These areas will require survey in order to enable a full assessment of potential arboricultural impacts.

## **2.10 Tree Constraints Check**

- 2.10.1 The following constraints checks were undertaken for the land required to construct the Scheme on 11 May 2026:
- A tree constraints check was performed by contacting Bassetlaw District Council planning department and using the Bassetlaw District Policies Map (Bassetlaw District Council 2026).
  - The Multi-Agency Geographical Information for the Countryside (MAGIC) website was used to search for statutory designated sites of nature conservation value and areas of ancient woodlands listed on the Ancient Woodland Inventory (DEFRA 2026); and
  - A check for catalogued Ancient and Veteran trees using the Woodland Trust Ancient Tree Inventory (Woodland Trust 2026).
- 2.10.2 The results of which are provided in Section 3 of this report.

## 3. Tree Survey Results

Full details of the survey data are presented within Annex B. Schedule of Trees and within Figure 1. Tree Constraints Plan.

### 3.1 Tree Assessment and Categorisation

- 3.1.1 A total of 251 arboricultural features were recorded within the study area, these were recorded as 152 individual trees (T), 54 groups of trees (G) and 45 hedgerows (H).
- 3.1.2 Each arboricultural feature was assigned to one of four categories, as listed in Table 3.1.

Table 3.1 Tree Categories Recorded

| Tree Category                                               | No. of Individual Trees | No. of Groups of Trees | No. of Hedgerows |
|-------------------------------------------------------------|-------------------------|------------------------|------------------|
| Category A (trees of high quality)                          | 11                      | 1                      | -                |
| Category B (trees of moderate quality)                      | 114                     | 37                     | 7                |
| Category C (trees of low quality)                           | 24                      | 14                     | 38               |
| Category U (trees of poor quality unsuitable for retention) | 3                       | 2                      | -                |
| <b>Totals</b>                                               | <b>99</b>               | <b>43</b>              | <b>27</b>        |

### 3.2 Tree Species Diversity

- 3.2.1 A total of 29 individual tree species were recorded during the survey and are represented throughout the survey area. A summary of the species surveyed can be found within the tree schedules in Annex B Schedule of Trees and also provided in Table 3.2. A number of mixed species arboricultural features were also recorded, the composition of which are presented in the accompanying survey schedule provided in Annex B Schedule of Trees.

Table 3.2 Tree Species Recorded

| Tree Species                        | Individual Trees | Tree Groups | Hedgerows |
|-------------------------------------|------------------|-------------|-----------|
| Alder ( <i>Alnus glutinosa</i> )    | 2                | -           | -         |
| Apple ( <i>Malus domestica</i> )    | 1                | -           | -         |
| Ash ( <i>Fraxinus excelsior</i> )   | 32               | 4           | -         |
| Beech ( <i>Fagus sylvatica</i> )    | 5                |             | -         |
| Bird Cherry ( <i>Prunus padus</i> ) | 2                |             | -         |

| Tree Species                                     | Individual Trees | Tree Groups | Hedgerows |
|--------------------------------------------------|------------------|-------------|-----------|
| Black Walnut ( <i>Juglas nigra</i> )             | 1                |             | -         |
| Common Lime ( <i>Tilia x europaea</i> )          | 7                |             | -         |
| Common Whitebeam ( <i>Sorbus aria</i> )          | 1                |             | -         |
| Crack Willow ( <i>Salix fragilis</i> )           | 4                | -           | -         |
| English Elm ( <i>Ulmus procera</i> )             |                  | 1           |           |
| False acacia ( <i>Robinia pseudoacacia</i> )     | 4                | -           | -         |
| Field Maple ( <i>Acer campestre</i> )            | 11               | -           | -         |
| Hawthorn ( <i>Crataegus monogyna</i> )           | 8                | -           | -         |
| Hornbeam ( <i>Carpinus betulus</i> )             | 1                | -           | -         |
| Horse Chestnut ( <i>Aesculus hippocastanum</i> ) | 4                | 1           | -         |
| Norway Maple ( <i>Acer platanoides</i> )         | 18               | 1           | -         |
| Leyland Cypress ( <i>Cupressus x leylandii</i> ) | -                | 4           | -         |
| Pedunculate Oak ( <i>Quercus robur</i> )         | 22               | -           | -         |
| Poplar Sp. ( <i>Populus Sp.</i> )                | 3                | 1           | -         |
| Prunus Sp. ( <i>Prunus sp.</i> )                 | 1                | -           | -         |
| Rowan ( <i>Sorbus aucuparia</i> )                | 2                |             | -         |
| Scots Pine ( <i>Pinus sylvestris</i> )           | -                | 1           | -         |
| Silver Birch ( <i>Betula pendula</i> )           | 4                | 2           | -         |
| Silver Maple ( <i>Acer saccharinum</i> )         | -                | 3           | -         |
| Sycamore ( <i>Acer pseudoplatanus</i> )          | 8                | 1           | -         |
| Wellingtonia ( <i>Sequoiadendron giganteum</i> ) | 1                | 1           | -         |
| Wild Cherry ( <i>Prunus avium</i> )              | 1                | -           | -         |
| Willow Sp. ( <i>Salix Sp.</i> )                  | 6                | -           | -         |
| Wych Elm ( <i>Ulmus glabra</i> )                 | 3                | -           | -         |
| Mixed species – See Annex B for detail           | -                | 34          | 45        |
| <b>Totals</b>                                    | <b>152</b>       | <b>54</b>   | <b>45</b> |

### 3.3 Age Diversity

- 3.3.1 All arboricultural features surveyed within the study area were assessed to be within the Semi Mature to Mature age classifications set by BS 5837: 2012. as illustrated in Table 3.3.

Table 3.3 Age Diversity

| Age Class     | Trees      | Groups    | Hedgerows |
|---------------|------------|-----------|-----------|
| Semi-mature   | 9          | 7         | 1         |
| Early mature  | 106        | 37        | 42        |
| Mature        | 36         | 10        | 2         |
| Veteran       | 1          | -         | -         |
| <b>Totals</b> | <b>152</b> | <b>54</b> | <b>45</b> |

### 3.4 Tree Constraints Check

- 3.4.1 It was confirmed by Bassetlaw District Council that no trees surveyed are subject to Tree Preservation Orders or Conservation Area restrictions.
- 3.4.2 It was confirmed that there are no designated ancient woodlands or ancient trees in the study area using online data sources listed in Section 2.9 and during the walkover survey.

### 3.5 Veteran Trees

- 3.5.1 A single veteran tree (T91, Ash (*Fraxinus excelsior*)) was identified during the site walkover. Further details of T91 are provided in Table 3.4 below.
- 3.5.2 The National Planning Policy Framework (NPPF, 2025) defines ancient or veteran trees as: 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.
- 3.5.3 Natural England and the Forestry Commission have prepared guidance, known as standing advice, on how to manage development in proximity to ancient woodland, veteran and ancient trees. This guidance states that buffer zones should be used to protect these trees and specifically advises that “For ancient or veteran trees (including those on the woodland boundary), the buffer zone should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5 metres from the edge of the tree’s canopy if that area is larger than 15 times the tree’s diameter. This will create a minimum root protection area.”  
(<https://www.gov.uk/guidance/ancient-woodland-ancient-trees-and-veteran-trees-advice-for-making-planning-decisions>).
- 3.5.4 This guidance has been followed in the preparation of the determination of the constraints presented by veteran trees to the land required to construct the Scheme. A Veteran Tree Buffer zone (15 x stem diameter) is presented on the accompanying plans. Veteran Tree Buffer zones are displayed as light blue circles in Figure 1.

Table 3.4      Veteran trees recorded

| Feature No. | Species                              | Steam Diameter (mm) | Core development categories | Estimated age range (years) | Primary Features | Secondary Features                                                                                                                                                       | Classification | Photograph                                                                          |
|-------------|--------------------------------------|---------------------|-----------------------------|-----------------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------------------------------------------------------------------------|
| T91         | Ash<br>( <i>Fraxinus excelsior</i> ) | 800                 | Good - Fair                 | 80 - 107                    | Extensive Decay  | <ul style="list-style-type: none"><li>• Habitat Spaces</li><li>• Large Quantity of dead wood present in crown</li><li>• Major storm damage</li><li>• Bark loss</li></ul> | Veteran        |  |

## 4. Trees and Planning

### 4.1 The Planning Process

- 4.1.1 LPAs in the UK have a statutory duty to consider both the protection and planting of trees when considering planning applications. The potential impact of development on all trees (including those not protected by a TPO or other statutory designation) is a material consideration in determining a planning application.
- 4.1.2 BS 5837: 2012 provides a framework which sets out how trees should be considered in the planning process and also explicitly applies to development where planning consent is not required.
- 4.1.3 BS 5837: 2012 recommends that a tree survey is undertaken to identify the quality and benefits of trees and the spatial constraints associated with them. This information is then used to produce a Figure 1 Tree Constraints Plan (TCP) illustrating the above and below ground constraints associated with trees RPA. The TCP is intended to be used to inform the design process and to identify those trees considered to be a constraint to development due to the quality and value (in a non-fiscal sense).
- 4.1.4 Following the production of the final scheme design, if required, an Arboricultural Impact Assessment (AIA) is produced to identify the likely direct and indirect impacts of the land required to construct the Scheme, along with a Tree Impact and Protection Plan (TIPP) to identify trees to be removed and retained and to illustrate the protection of retained trees. An Arboricultural Method Statement (AMS) is also often required as a condition of planning consent to detail how sensitive operations are to be undertaken in close proximity to retained trees.
- 4.1.5 These documents and plans are considered the minimum requirement for arboricultural matters within a planning application and are intended to ensure both a long term sustainable and harmonious relationship between existing trees and the Scheme.

### 4.2 National Planning Policy Framework 2025

- 4.2.1 The National Planning Policy Framework (NPPF 2025) seeks to ensure that new development is sustainable and underlines the importance of green infrastructure, of which trees form an integral part. This includes recognition of the importance of trees in relation to the management of air, soil and water quality along with other associated ecosystem services and climate change adaption. The NPPF also seeks to achieve the protection and enhancement of landscapes and a net gain in biodiversity. Finally, it specifically identifies veteran and ancient trees and woodland as a highly valuable and irreplaceable habitat.
- 4.2.2 At the heart of the National Planning Policy Framework (NPPF) is a presumption in favour of sustainable development, and specifically states that for decision making, the LPA should be approving development proposals that accord with the development plan without delay.

- 4.2.3 A single Veteran Tree, (T91 Ash (*Fraxinus excelsior*)) was identified during the site survey. This is considered an Irreplaceable Habitat under Section 15 of the NPPF 2025 and will therefore require retention and protection from damage/harm during proposed works in order for proposals to comply National Planning Policy.
- 4.2.4 Section 15 of the NPPF recognises the importance of conserving and enhancing the natural environment and specifically acknowledges the role of trees and woodland in the provision of natural capital and ecosystem services.
- 4.2.5 It further acknowledges the importance of ancient woodlands and veteran trees for habitats and biodiversity and requires that planning consent should be refused where development schemes require the removal of such features unless there are wholly exceptional reasons, stating that:
- “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.”*  
(Paragraph 193, C)”
- 4.2.6 Where the LPA does not have a development plan or the development plan is out of date, the LPA should grant planning consent insofar as the development proposals do not breach the NPPF.

## 4.3 Local Planning Policy

- 4.3.1 Bassetlaw District Council Local Plan (Bassetlaw District Council 2024) further acknowledges the importance of ancient woodlands and veteran trees for habitats and biodiversity and requires that planning consent should be refused where development schemes require the removal of such features unless there are wholly exceptional reasons, stating that:

Bassetlaw District Council Local Plan - Policy ST39: Trees, woodlands and hedgerows

*“1. The Council will protect existing trees, woodland and hedgerows and secure additional planting that increases canopy cover in the interests of biodiversity, amenity and climate change adaptation by:*

*a) retaining, protecting and improving woodland and trees subject to Tree Preservation Orders (TPOs), trees within conservation areas, and ‘important’ hedgerows as defined by the Hedgerows Regulations 1997;*

*b) making Tree Preservation Orders;*

*c) giving consideration to trees and hedgerows both on individual merit as well as their contribution to amenity and interaction as part of a group within the broader landscape setting;*

*d) resisting the loss or deterioration of ancient woodland and ancient or veteran trees unless there are wholly exceptional reasons and a suitable compensation strategy exists;*

*e) seeking from major development, provision for new trees or an equivalent financial contribution to help mitigate the impacts of climate change in accordance with Policy ST48.*

*2. Where development would adversely affect trees or hedgerows the application must be*

*accompanied by:*

*a) an accurate tree survey and arboriculture assessment, undertaken by an experienced arboriculturist, of all existing trees and hedgerows on site in accordance with BS5837 (Trees in relation to design, demolition and construction and construction – Recommendations) 201223;*

*b) details of protective measures to be put in place during the development to ensure the health and safety of each specimen and hedgerow to be retained;*

*c) an avoidance and mitigation strategy to include replacement planting for specimens of at least equal amenity and ecological value of a local provenance; and*

*d) a detailed management plan providing details of maintenance arrangements for 10 years.”*

## 5. Further Work

- 5.1.1 At the time of survey and writing this report, there were land access restrictions for certain portions of the land required to construct the Scheme. These areas will require survey in order to enable a full assessment of potential arboricultural impacts.
- 5.1.2 Should any future proposed development require tree removals or RPA incursions within RPAs of the retained trees an Arboricultural Impact Assessment (AIA) will be required.
- 5.1.3 A review of Scheme should be undertaken to ensure that there are no additional trees within the zone of influence of the development that require surveying. For example, parking requirements often extend the zone of influence.
- 5.1.4 For arboricultural survey data detailed in this report and associated Tree Constraints Plan to be used as a means of informing development proposals, or to be taken forward for use in an Arboricultural Impact Assessment compliant with BS5837:2012, topographic data must be used to accurately plot above and below ground tree constraints. The topographic data collected must comply with section 4.2.4 of BS 5837: 2012.
- 5.1.5 If required, the AIA should state the trees to be removed due to the design and access requirements and any proposed tree facilitation pruning works. This should also be accompanied by an assessment of the likely impacts due to construction activity on the trees to be retained. Indicative arboricultural mitigation measures should be provided which would include recommendations for tree re-provisioning. The AIA should be accompanied by an updated Tree Constraints Plan and a Tree Impact and Protection Plan based on the proposed design.
- 5.1.6 If required, the AIA should also include a Tree Replacement Strategy which should take into consideration the landscape character, local treescape and biodiversity features of the immediate and adjoining areas. The species, number, size, type of stock, location and planting aids for the compensating planting should be chosen for landscape, wildlife and arboriculture values. To ensure that appropriate and sustainable planting is achieved advice should be sought from an ecologist and arboriculturist. Furthermore, liaison with the LPA Tree Officer may be necessary during the consenting process to agree an approved tree compensation and or landscape scheme plan.
- 5.1.7 All new tree planting should be in accordance with British Standard 8545: Trees: From Nursery to Independence in the Landscape – Recommendations, 2014 and all tree works must be carried out by a qualified contractor in accordance with BS3998:2010: Tree Work – Recommendations.
- 5.1.8 This document encloses details of Preliminary Tree Protection Measures to be implemented on the land required to construct the Scheme prior to the commencement of demolition or construction works. A bespoke Arboricultural Method Statement may be required pre-construction and when the construction details are known to protect any retained trees within and adjoining the land required to construct the Scheme.

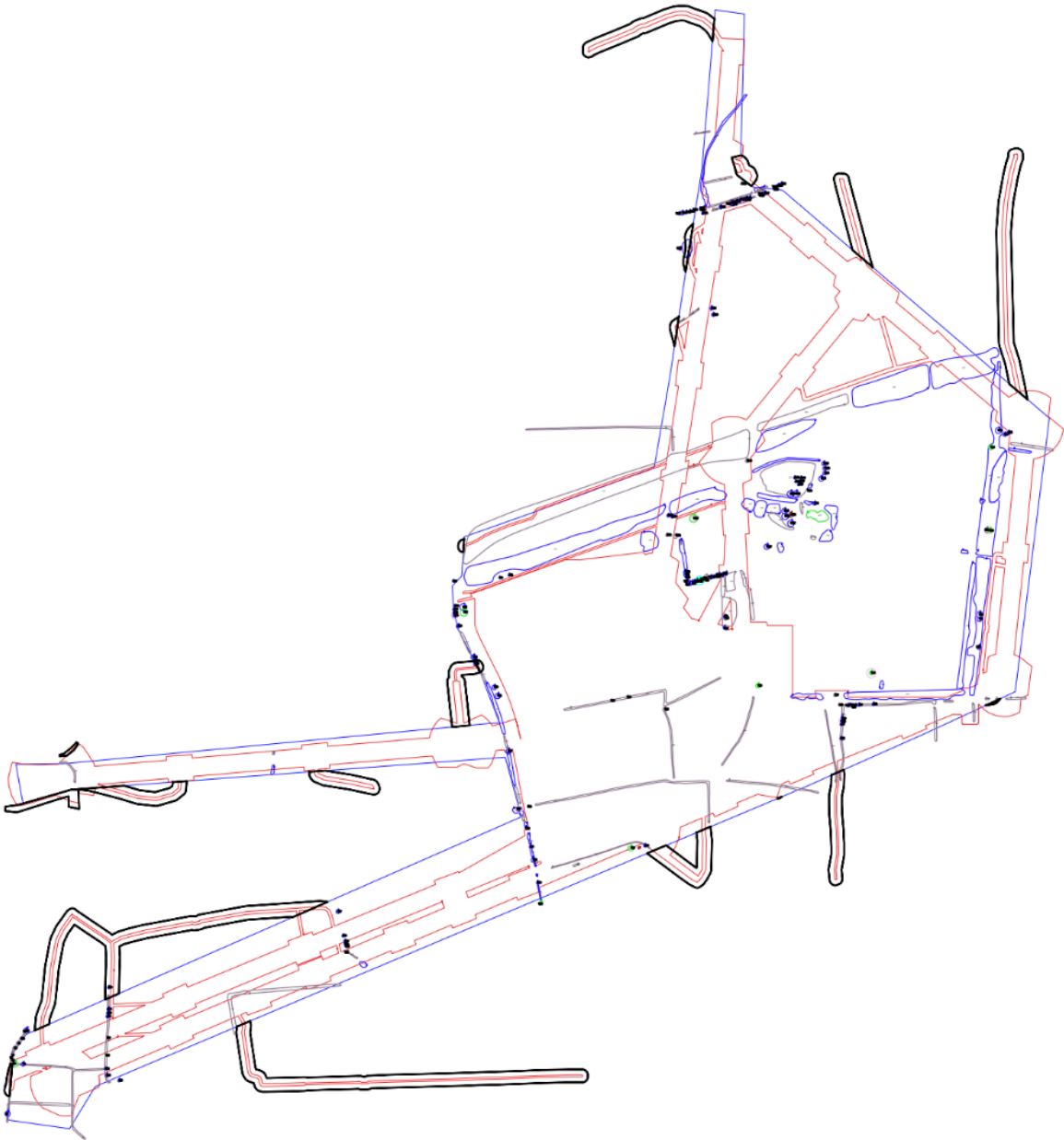
## 6. Summary

- 6.1.1 A total of 251 arboricultural features were recorded within the study area, these were recorded as 152 individual trees (T), 54 groups of trees (G) and 45 hedgerows (H).
- 6.1.2 Each arboricultural feature was assigned to one of four categories, as listed below:
- Category A features: 11 individual trees (T) and one group of trees (G) have been identified as Category A (trees of high quality) as part of this survey;
  - Category B features: 114 individual trees (T) and 37 groups of trees (G), and seven hedgerows (H) have been identified as Category B (trees of moderate quality) as part of this survey;
  - Category C features: 24 individual trees (T), 14 groups of trees (G) and 38 hedgerows (H) have been identified as Category C (trees of low quality) as part of this survey;
  - Category U features: three individual trees(T) and two groups of trees have been identified as Category U (trees of poor quality unsuitable for retention) as part of this survey
  - It was confirmed by the Rotherham Metropolitan Borough Council that no trees surveyed are subject to Tree Preservation Orders or Conservation Area restrictions.
- 6.1.3 It was confirmed by Bassetlaw District Council that no trees surveyed are subject to Tree Preservation Orders or Conservation Area restrictions.
- 6.1.4 It was confirmed that there are no designated ancient woodlands or ancient trees in the study area.
- 6.1.5 A single veteran tree (T91, Ash (*Fraxinus excelsior*)) was identified during the site survey, located outside the land required for construction of the Scheme. This is considered an Irreplaceable Habitat under Section 15 of the NPPF 2025 and will therefore require retention and protection from damage/harm during proposed works in order for proposals to comply National Planning Policy.
- 6.1.6 At the time of survey and writing this report, there were land access restrictions for certain portions of the land required to construct the Scheme. These areas will require survey in order to enable a full assessment of potential arboricultural impacts.
- 6.1.7 Should any future proposed development require tree removals or RPA incursions within RPAs of the retained trees, an Arboricultural Impact Assessment (AIA) may be required.
- 6.1.8 A review of Scheme should be undertaken to ensure that there are no additional trees within the zone of influence of the development that require surveying. For example, parking requirements often extend the zone of influence.
- 6.1.9 This document encloses details of Preliminary Tree Protection Measures (Annex C Preliminary Tree Protection Measures). Due to the nature of the proposed works, once further detail is known as to the construction process, a site-specific Arboricultural Method Statement (AMS) will be required to protect trees to be retained over the course of the works.

## 7. References

- Ref 1 Bassetlaw District Council Conservation Areas Map (2026). Available at: <https://www.bassetlaw.gov.uk/about-us/in-my-local-area-mapping-system/> [Accessed: June 2026]
- Ref 2 Bassetlaw Local Plan 2020 – 2038 Adopted May (2024). Available at: <https://www.bassetlaw.gov.uk/media/gn1kjm1b/adopted-bassetlaw-local-plan-2020-2038.pdf> [Accessed: June 2026]
- Ref 3 British Standards Institution (2010) BS 3998:2010, Tree Work Recommendations.
- Ref 4 British Standards Institution (2012) BS 5837: 2012 Trees in relation to design, demolition and construction – Recommendations.
- Ref 5 British Standards Institution (2014) BS 8545:2014 Trees: From nursery to Independence in the Landscape – Recommendations.
- Ref 6 DEFRA (2026) Magic Map: <https://magic.defra.gov.uk/MagicMap.aspx> [Accessed June 2026]
- Ref 7 Mattheck, C. and Breloer, H (1994) The Body Language of Trees: A Handbook for Failure Analysis Research for Amenity Trees No.4. HMSO.
- Ref 8 National Planning Policy Framework 2025. England. Available at: <https://www.gov.uk/government/publications/national-planning-policy-framework--2> [Accessed June 2026]
- Ref 9 The Town and Country (Tree Preservation) (England) Regulations 2012. England. Available at: <https://www.legislation.gov.uk/ukxi/2012/605/contents/made> [Accessed June 2026]
- Ref 10 The Town and Country Planning (General Permitted Development) Order 1995. England and Wales. Available at: <https://www.legislation.gov.uk/ukxi/1995/418/article/2/made> [Accessed June 2026]
- Ref 11 Town and Country Planning Act 1990. England and Wales. Available at: <https://www.legislation.gov.uk/ukpga/1990/8/contents> [Accessed June 2026]
- Ref 12 Woodland Trust (2026). Ancient Tree Inventory. [online] Available at: <https://ati.woodlandtrust.org.uk/> [Accessed June 2026].

Figure 1      Tree Constraints Plan



# Annex A

## Explanation of Terms

### Age Class

Young (Y) – Establishing tree that could be transplanted without specialist equipment.

Semi-mature (SM) – Fully established but has not reached its ultimate height and has significant growth potential.

Early-mature (EM) – A tree reaching its ultimate potential height, growth rate is slowing, will still increase in DBH.

Mature (M) – A mature specimen with limited potential for any significant increase in size.

Over Mature (OM) – A senescent or moribund specimen with a limited safe useful life expectancy.

Veteran (V) – A specimen of high value due to either its age, size, or ecological significance. Can be identified by the presence of specific characteristics.

### Stem Diameter

The diameter of the stem measured in millimetres (mm) at a height of 1.5m above ground level

### Crown Spread

Average measured in metres using a ground tape where possible

### Physiological Condition

Good – Healthy tree with no signs of ill health and signs of good extension growth for species

Fair – Trees with signs of disease, minor defects and decreased life expectancy due to physical damage

Poor – Trees with significant disease, significantly reduced life expectancy and/or under major physiological stress

Dead – Dead tree or trees with over 70% crown dieback

### Structural Condition

Good – Trees with no significant defects

Fair – Trees with remedial defects which require minor tree surgery works

Poor – Trees with remedial defects which require significant tree surgery works or felling

Dead – Trees which require felling

## **BS 5837 Retention Category**

Each tree, group of trees or hedge is assigned to a retention category. Category A trees of high quality and amenity value. Category B trees of moderate quality and amenity value. Category C trees of low quality or amenity value. Category U trees of very low quality or requiring immediate removal due to health and safety concerns

British Standards BS 5837:2012 recommends that these categories may be further broken down into sub-categories A1 A2 A3 pertaining to Arboricultural, Landscape or Cultural values respectively.

## **Deadwood**

Minor – <70mm diameter

Moderate – >70mm and <150mm diameter

Major – >150mm diameter

Annex B

Schedule of Trees

Table B.1      Schedule of Trees

| Tree reference number | Species                                          | Height (m) | Stem diameter (mm) | Branch Spread (m) |   |   |   | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                               | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------------------|------------|--------------------|-------------------|---|---|---|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                  |            |                    | N                 | E | S | W |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                        |                                          |                  |
| T1                    | Ash ( <i>Fraxinus excelsior</i> )                | 14         | 400                | 7                 | 7 | 7 | 7 | 3.5                           | 4.8            | 72.4                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Buttress obscured by shrubbery.<br>Single stem.<br>A typical tree for the location.<br>Typical vitality levels for the species/season.                                                                                                                                                                                          | 20+                                      | B2               |
| T2                    | Ash ( <i>Fraxinus excelsior</i> )                | 14         | 400                | 5                 | 5 | 5 | 5 | 4.5                           | 4.8            | 72.4                                    | M         | Fair                    | Poor                 | Growing in a hedge.<br>Target - road.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Stem cavity- appears shallow/localised.<br>Minor dieback of canopy.<br>Cavities visible within main branches.<br>Cracking visible within main branches.<br>Canopy is lapsed pollard.<br>Canopy has been poorly pruned.<br>A tree with a limited safe life. | 10+                                      | C2               |
| T3                    | Pedunculate oak ( <i>Quercus robur</i> )         | 15         | 650                | 8                 | 8 | 8 | 8 | 2.5                           | 7.8            | 191.1                                   | EM        | Good                    | Good                 | Growing in a hedge.<br>Buttress obscured by shrubbery.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                             | 40+                                      | A2               |
| T4                    | Ash ( <i>Fraxinus excelsior</i> )                | 14         | 300                | 5                 | 5 | 5 | 5 | 2.5                           | 3.6            | 40.7                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Buttress obscured by shrubbery.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                             | 20+                                      | B2               |
| T5                    | Horse Chestnut ( <i>Aesculus hippocastanum</i> ) | 12         | 4 x 250            | 4                 | 4 | 4 | 4 | 4                             | 6.0            | 113.1                                   | EM        | Good                    | Fair                 | Growing in a hedge.<br>Target - road.<br>Buttress obscured by epicormic growth.<br>Multi stemmed close to ground level.<br>A typical tree for the location.                                                                                                                                                                                            | 20+                                      | C2               |

| Tree reference number | Species                                  | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2 (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                     | Estimated remaining contribution (years) | Category grading |
|-----------------------|------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                          |            |                    | N                 | E   | S   | W   |                               |                |                                        |           |                         |                      |                                                                                                                                                                                                              |                                          |                  |
| T6                    | Ash ( <i>Fraxinus excelsior</i> )        | 14         | 450                | 3                 | 3   | 3   | 3   | 4                             | 0.0            | 0.0                                    | M         | Poor                    | Poor                 | A storm damaged tree with historic main leader failures<br>Target - road.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Stem cavity- appears deep extensive decay.<br>Significant dieback of canopy. | <10                                      | U                |
| T7                    | Ash ( <i>Fraxinus excelsior</i> )        | 10         | 250                | 2.5               | 2.5 | 2.5 | 2.5 | 2.5                           | 3.0            | 28.3                                   | EM        | Fair                    | Poor                 | Tree in hedge.<br>Target - road.<br>Buttress obscured by ivy.<br>Single stem.<br>Stem obscured by ivy.<br>Appears incomplete canopy                                                                          | 10+                                      | C2               |
| T8                    | Ash ( <i>Fraxinus excelsior</i> )        | 12         | 450                | 5                 | 5   | 5   | 5   | 3                             | 5.4            | 91.6                                   | M         | Good                    | Fair                 | A storm damaged tree with historic main leader failures<br>Target - road.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Stem cavity- appears deep extensive decay.                                   | 10+                                      | C2               |
| T9                    | Ash ( <i>Fraxinus excelsior</i> )        | 12         | 450                | 4                 | 4   | 4   | 4   | 3.5                           | 5.4            | 91.6                                   | M         | Good                    | Fair                 | Target - road.<br>Buttress obscured by shrubbery.<br>Single stem<br>Buttress obscured by ivy.<br>Stem obscured by ivy.<br>Ivy within canopy.                                                                 | 10+                                      | C2               |
| T10                   | Ash ( <i>Fraxinus excelsior</i> )        | 12         | 450                | 4                 | 4   | 1   | 4   | 3.5                           | 5.4            | 91.6                                   | M         | Good                    | Fair                 | Appears to have lost its main leader.<br>Target - road.<br>Buttress obscured by shrubbery.<br>Single stem<br>Buttress obscured by ivy.<br>Stem obscured by ivy.<br>Ivy within canopy.                        | 10+                                      | C2               |
| T11                   | Pedunculate oak ( <i>Quercus robur</i> ) | 14         | 500                | 6                 | 6   | 4   | 6   | 4                             | 6.0            | 113.1                                  | M         | Good                    | Good                 | Growing in a hedge.<br>Target - road.<br>Buttress obscured by ivy.<br>Single stem.<br>Stem obscured by ivy.<br>Ivy within canopy.                                                                            | 20+                                      | B2               |
| T12                   | Ash ( <i>Fraxinus excelsior</i> )        | 8          | 250                | 2                 | 2   | 2   | 2   | 3                             | 3.0            | 28.3                                   | EM        | Fair                    | Poor                 | Growing in a hedge.<br>Next to a electricity pole<br>A tree covered in ivy that appears to have been topped and redeveloped.                                                                                 | 10+                                      | C2               |

| Tree reference number | Species                                 | Height (m) | Stem diameter (mm) | Branch Spread (m) |   |   |   | Height of crown clearance (m) | RPA Radius (m) | RPA (m2 (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                    | Estimated remaining contribution (years) | Category grading |
|-----------------------|-----------------------------------------|------------|--------------------|-------------------|---|---|---|-------------------------------|----------------|----------------------------------------|-----------|-------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                         |            |                    | N                 | E | S | W |                               |                |                                        |           |                         |                      |                                                                                                                                                                                                                                                                                                                                             |                                          |                  |
| T13                   | Horse Chestnut (Aesculus hippocastanum) | 8          | 3 x200             | 3                 | 3 | 3 | 3 | 1.5                           | 2.4            | 18.1                                   | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Growing in the open. Single stemmed Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Limited inspection of the stem. Small diameter (<25 mm) deadwood can be seen in the outer canopy. Thin canopy cover.                                                        | 20+                                      | B2               |
| T14                   | Bird Cherry (Prunus padus)              | 8          | 3 x200             | 4                 | 4 | 4 | 4 | 1.5                           | 2.4            | 18.1                                   | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Growing in the open. Multi-stemmed close to ground level. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Limited inspection of the stem. Included union Crossing branches Small diameter (<25 mm) deadwood can be seen in the outer canopy. Thin canopy cover. | 20+                                      | B2               |
| T15                   | Ash (Fraxinus excelsior)                | 8          | 300                | 4                 | 4 | 4 | 4 | 2.5                           | 3.6            | 40.7                                   | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Growing in the open. Single Stem. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Limited inspection of the stem. Small diameter (<25 mm) deadwood can be seen in the outer canopy. Thin canopy cover.                                                          | 20+                                      | B2               |
| T16                   | Ash (Fraxinus excelsior)                | 8          | 2 x300             | 4                 | 4 | 4 | 4 | 2.5                           | 3.6            | 40.7                                   | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Growing in the open. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Bi forked close to ground level. Limited inspection of the stem. Small diameter (<25 mm) deadwood can be seen in the outer canopy. Thin canopy cover.                                      | 20+                                      | B2               |

| Tree reference number | Species                                    | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                            |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                          |                  |
| T17                   | <i>False acacia (Robinia pseudoacacia)</i> | 5          | 300                | 1.5               | 1.5 | 1.5 | 1.5 | 0.5                           | 3.6            | 40.7                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing in a hedge.<br>Buttress obscured by shrubbery.<br>Decay within buttress.<br>Bi forked close to ground level.<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>A well-located tree with good potential.                                                                                                                 | 20+                                      | B2               |
| T18                   | <i>Common Lime (Tilia x europaea)</i>      | 6          | 200                | 1.5               | 1.5 | 1.5 | 1.5 | 1                             | 2.4            | 18.1                                    | SM        | Good                    | Good                 | Limited inspection due to vegetation.<br>Growing in a hedge.<br>Growing close to boundary.<br>Buttress obscured by shrubbery.<br>Inspection limited or not possible due to visibility.<br>Single stem.<br>Limited inspection of the stem.<br>A well-located tree with good potential.                                                                                                                                                                     | 40+                                      | A1               |
| T19                   | <i>Bird Cherry (Prunus padus)</i>          | 6          | 100                | 3                 | 3   | 3   | 3   | 0                             | 1.2            | 4.5                                     | EM        | Good                    | Good                 | Limited inspection due to vegetation.<br>Growing in a hedge.<br>Growing close to above ground utility wire<br>Growing close to boundary.<br>Buttress obscured by shrubbery.<br>Inspection limited or not possible due to visibility.<br>Multi stemmed close to ground level.<br>Stem obscured by epicormic growth.<br>Limited inspection of the stem.<br>Maintained with flail                                                                            | 20+                                      | B2               |
| T20                   | <i>Ash (Fraxinus excelsior)</i>            | 12         | 2 x 300            | 4                 | 4   | 4   | 4   | 2.5                           | 3.6            | 40.7                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing close to footpath/highway<br>Growing on a bank.<br>Growing close to watercourse.<br>Buttress obscured by shrubbery.<br>Inspection limited or not possible due to visibility.<br>Bi forked close to ground level.<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>Thin canopy cover.<br>Growing underneath power lines | 20+                                      | B2               |

| Tree reference number | Species                                | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                   | Estimated remaining contribution (years) | Category grading |
|-----------------------|----------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                        |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                            |                                          |                  |
| T21                   | Ash ( <i>Fraxinus excelsior</i> )      | 10         | 2 x 250            | 3.5               | 3.5 | 3.5 | 3.5 | 1                             | 3.0            | 28.3                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing close to footpath<br>Buttress obscured by shrubbery.<br>Inspection limited or not possible due to visibility.<br>Multi-forked close to ground level.<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>Thin canopy cover.<br>Growing next to power lines | 20+                                      | B2               |
| T22                   | Ash ( <i>Fraxinus excelsior</i> )      | 8          | 2 x 250            | 2.5               | 2.5 | 2.5 | 2.5 | 0                             | 3.0            | 28.3                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing on a bank close to watercourse<br>Single Stem<br>Cavity within main branches<br>Historically lost its leader<br>A typical tree for the location.                                                                                                                                                                  | 10+                                      | C2               |
| T23                   | Hawthorn ( <i>Crataegus monogyna</i> ) | 5          | 150                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.8            | 10.2                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing on a bank close to watercourse<br>Multi stemmed close to ground level.<br>Included union visible between stems.<br>Epicormic shoots are visible throughout the canopy.<br>Included unions between significant branches.<br>A typical tree for the location.                                                       | 20+                                      | B2               |
| T24                   | Hawthorn ( <i>Crataegus monogyna</i> ) | 4          | 150                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.8            | 10.2                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing on a bank close to watercourse<br>Multi stemmed close to ground level.<br>Included union visible between stems.<br>Epicormic shoots are visible throughout the canopy.<br>Included unions between significant branches.<br>A typical tree for the location.                                                       | 20+                                      | B2               |
| T25                   | Hawthorn ( <i>Crataegus monogyna</i> ) | 6          | 2 x 180            | 4                 | 3   | 4   | 3   | 0                             | 2.2            | 14.7                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing on a bank close to watercourse<br>Multi stemmed close to ground level.<br>Included union visible between stems.                                                                                                                                                                                                   | 20+                                      | B2               |

| Tree reference number | Species                                | Height (m) | Stem diameter (mm) | Branch Spread (m) |   |   |   | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                             | Estimated remaining contribution (years) | Category grading |
|-----------------------|----------------------------------------|------------|--------------------|-------------------|---|---|---|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                        |            |                    | N                 | E | S | W |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                      |                                          |                  |
|                       |                                        |            |                    |                   |   |   |   |                               |                |                                         |           |                         |                      | Epicormic shoots are visible throughout the canopy.<br>Included unions between significant branches.<br>A typical tree for the location.                                                                                                                                                                                             |                                          |                  |
| T26                   | <i>Hawthorn (Crataegus monogyna)</i>   | 6          | 2 x 180            | 3                 | 3 | 3 | 3 | 0                             | 2.2            | 14.7                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing on a bank close to watercourse<br>Multi stemmed close to ground level.<br>Included union visible between stems.<br>Epicormic shoots are visible throughout the canopy.<br>Included unions between significant branches.<br>A typical tree for the location. | 20+                                      | B2               |
| T27                   | <i>Pedunculate oak (Quercus robur)</i> | 10         | 350                | 5                 | 5 | 5 | 5 | 4.5                           | 4.2            | 55.4                                    | EM        | Fair                    | Fair                 | Growing in the open.<br>Growing in a group.<br>Growing within a hedge<br>Growing on a bank<br>Single stem<br>Co-dominant canopy<br>A typical tree for the species<br>Canopy is distorted due to available light.                                                                                                                     | 20+                                      | B2               |
| T28                   | <i>Pedunculate oak (Quercus robur)</i> | 12         | 180<br>220         | 5                 | 4 | 5 | 5 | 3                             | 3.4            | 36.6                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Target - road.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                            | 40+                                      | A1               |
| T29                   | <i>Alder (Alnus glutinosa)</i>         | 8          | 250                | 4                 | 2 | 3 | 3 | 1.5                           | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing on a verge.<br>Roadside tree.<br>Target - road.<br>Buttress obscured by epicormic growth.<br>Single stem.<br>Large diameter (>25 mm) deadwood in the inner canopy.<br>A well-located tree with good potential.                                                                                                               | 20+                                      | B2               |
| T30                   | <i>Pedunculate oak (Quercus robur)</i> | 8.5        | 350                | 6                 | 6 | 6 | 6 | 4.5                           | 4.2            | 55.4                                    | EM        | Fair                    | Fair                 | Growing in the open.<br>Growing close to footpath/highway<br>Growing in a group.<br>Growing on a verge.<br>Growing within a hedge<br>Growing underneath power lines<br>Single stem                                                                                                                                                   | 20+                                      | B2               |

| Tree reference number | Species                                    | Height (m) | Stem diameter (mm) | Branch Spread (m) |   |   |   | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                            | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------------|------------|--------------------|-------------------|---|---|---|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                            |            |                    | N                 | E | S | W |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                     |                                          |                  |
|                       |                                            |            |                    |                   |   |   |   |                               |                |                                         |           |                         |                      | Canopy has some fused branches<br>Co-dominant canopy<br>A typical tree for the species<br>Canopy is distorted due to available light.<br>Canopy grows over highway                                                                                                                                                                                                  |                                          |                  |
| T31                   | Common Whitebeam<br>( <i>Sorbus aria</i> ) | 10         | 450                | 3                 | 3 | 3 | 3 | 0.5                           | 5.4            | 91.6                                    | EM        | Fair                    | Fair                 | Growing in the open.<br>Growing close to footpath/highway<br>Growing in a group.<br>Growing on a verge.<br>Growing on a bank<br>Single stem<br>Canopy multi-forks<br>Co-dominant stem<br>Included unions between significant branches<br>A typical tree for the location.<br>Canopy is distorted due to available light.                                            | 20+                                      | B2               |
| T32                   | Silver Birch<br>( <i>Betula pendula</i> )  | 10         | 300                | 3                 | 3 | 3 | 3 | 0.5                           | 3.6            | 40.7                                    | EM        | Fair                    | Fair                 | Growing in the open.<br>Growing close to footpath/highway<br>Growing in a group.<br>Growing on a verge.<br>Growing on a bank<br>Single stem<br>Butress and stem has epicormic shooting<br>Canopy multi-forks<br>Co-dominant stem<br>Included unions between significant branches<br>A typical tree for the location.<br>Canopy is distorted due to available light. | 20+                                      | B2               |
| T33                   | Wych Elm ( <i>Ulmus glabra</i> )           | 3          | 100                | 2                 | 2 | 2 | 2 | 1.5                           | 1.2            | 4.5                                     | SM        | Good                    | Good                 | Growing in a hedge.<br>Growing close to footpath/highway<br>Roadside tree.<br>Buttress obscured by shrubbery.<br>Bi forked close to ground level.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                | 20+                                      | C2               |
| T34                   | Common Lime<br>( <i>Tilia x europaea</i> ) | 10         | 4 x 350            | 3                 | 3 | 3 | 3 | 0.5                           | 4.2            | 55.4                                    | EM        | Poor                    | Poor                 | Growing in the open.<br>Growing close to footpath/highway<br>Growing in a group.<br>Growing on a verge.                                                                                                                                                                                                                                                             | 10+                                      | C2               |

| Tree reference number | Species                                  | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                              | Estimated remaining contribution (years) | Category grading |
|-----------------------|------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                          |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                       |                                          |                  |
|                       |                                          |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | Soil level changes<br>Single stem<br>Canopy bi-forks<br>Co-dominant stem<br>Epicormic shoots from buttress and stem.<br>Deadwood with the canopy and loose and hanging branches in canopy<br>Included unions between significant branches<br>A typical tree for the location.<br>Canopy is distorted due to available light.<br>Canopy has been reduced historically. |                                          |                  |
| T35                   | Field Maple ( <i>Acer campestre</i> )    | 7          | 350                | 3.5               | 3.5 | 3.5 | 3.5 | 2.5                           | 4.2            | 55.4                                    | M         | Good                    | Good                 | Growing on a verge.<br>Target - road.<br>Soil level has been reduced within the rootzone.<br>Single stem.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                          | 20+                                      | B2               |
| T36                   | Pedunculate oak ( <i>Quercus robur</i> ) | 14         | 600                | 6                 | 7   | 7   | 9   | 1                             | 7.2            | 162.9                                   | M         | Good                    | Good                 | Growing on a verge.<br>Target - road.<br>Soil level has been reduced within the rootzone.<br>Single stem.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                          | 40+                                      | A1               |
| T37                   | Pedunculate oak ( <i>Quercus robur</i> ) | 12         | 550                | 7                 | 7   | 7   | 7   | 4.5                           | 6.6            | 136.8                                   | EM        | Fair                    | Fair                 | Growing in the open.<br>Growing close to footpath/highway<br>Growing in a group.<br>Growing on a verge.<br>Growing within a hedge<br>Single stem<br>Canopy multi-forks<br>Co-dominant stem<br>A typical tree for the species<br>Canopy is distorted due to available light.<br>Canopy grows over highway                                                              | 20+                                      | B2               |

| Tree reference number | Species                                   | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                   | Estimated remaining contribution (years) | Category grading |
|-----------------------|-------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                           |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                            |                                          |                  |
| T38                   | Hornbeam<br>( <i>Carpinus betulus</i> )   | 14         | 550                | 7.5               | 7.5 | 7.5 | 7.5 | 4.5                           | 6.6            | 136.8                                   | M         | Good                    | Good                 | Tree displays ecological/habitat value.<br>Growing in a hedge.<br>Growing close to watercourse.<br>Buttress obscured by shrubbery.<br>Cavity within buttress.<br>Decay within buttress.<br>Single stem.<br>Leaning stem.<br>Bark missing on stem.<br>Stem cavity- appears deep extensive decay.<br>A tree of poor shape and form for the species.<br>A tree with a limited safe life.<br>The tree is unlikely to survive.  | 20+                                      | B2               |
| T39                   | Sycamore ( <i>Acer pseudoplatanus</i> )   | 14         | 550                | 6                 | 6   | 6   | 6   | 4.5                           | 6.6            | 136.8                                   | M         | Good                    | Good                 | Growing in a hedge.<br>Buttress obscured by shrubbery.<br>Single stem.<br>A typical tree for the location.                                                                                                                                                                                                                                                                                                                 | 20+                                      | B2               |
| T40                   | Silver Birch<br>( <i>Betula pendula</i> ) | 7.5        | 300                | 4.5               | 4.5 | 4.5 | 4.5 | 0.5                           | 3.6            | 40.7                                    | EM        | Fair                    | Fair                 | Growing in the open.<br>Growing close to footpath/highway<br>Growing in a group.<br>Growing on a verge.<br>Soil level changes<br>Single stem<br>Canopy multi-forks<br>Co-dominant stem<br>Included unions between significant branches<br>A typical tree for the location.<br>Canopy is distorted due to available light.<br>Buttress obscured by epicormic growth.<br>Epicormic shoots are visible throughout the canopy. | 20+                                      | B2               |
| T41                   | Wild Cherry<br>( <i>Prunus avium</i> )    | 7.5        | 350                | 4.5               | 4.5 | 4.5 | 4.5 | 0.5                           | 4.2            | 55.4                                    | EM        | Fair                    | Fair                 | Growing in the open.<br>Growing close to footpath/highway<br>Growing in a group.<br>Growing on a verge.<br>Soil level changes<br>Single stem<br>Canopy multi-forks<br>Co-dominant stem<br>Included unions between significant branches                                                                                                                                                                                     | 20+                                      | B2               |

| Tree reference number | Species                                | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                               | Estimated remaining contribution (years) | Category grading |
|-----------------------|----------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                        |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                        |                                          |                  |
|                       |                                        |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | A typical tree for the location.<br>Canopy is distorted due to available light.                                                                                                                                                                                                                                                                        |                                          |                  |
| T42                   | <i>Pedunculate oak (Quercus robur)</i> | 12         | 600                | 7                 | 7   | 7   | 7   | 2.5                           | 7.2            | 162.9                                   | EM        | Fair                    | Fair                 | Growing in the open.<br>Growing close to footpath/highway<br>Growing in a group.<br>Growing on a verge.<br>Single stem<br>Canopy multi-forks<br>Co-dominant stem<br>A typical tree for the species<br>Canopy is distorted due to available light.<br>Canopy grows over highway                                                                         | 20+                                      | B2               |
| T43                   | <i>Pedunculate oak (Quercus robur)</i> | 10         | 450                | 5                 | 5   | 5   | 5   | 0.5                           | 5.4            | 91.6                                    | EM        | Fair                    | Fair                 | Growing in the open.<br>Growing close to footpath/highway<br>Growing in a group.<br>Growing on a verge.<br>Single stem<br>Canopy multi-forks<br>Co-dominant stem<br>Included unions between significant branches<br>A typical tree for the species<br>Canopy is distorted due to available light.                                                      | 20+                                      | B2               |
| T44                   | <i>Common Lime (Tilia x europaea)</i>  | 10         | 4 x 350            | 4.5               | 4.5 | 4.5 | 4.5 | 0.5                           | 4.2            | 55.4                                    | EM        | Fair                    | Fair                 | Growing in the open.<br>Growing close to footpath/highway<br>Growing next to utilities<br>Growing in a group.<br>Growing on a verge.<br>Soil level changes<br>Single stem<br>Canopy multi-forks<br>Co-dominant stem<br>Included unions between significant branches<br>A typical tree for the location.<br>Canopy is distorted due to available light. | 20+                                      | B2               |
| T45                   | <i>Silver Birch (Betula pendula)</i>   | 7          | 350                | 3.5               | 3.5 | 3.5 | 3.5 | 0.5                           | 4.2            | 55.4                                    | EM        | Fair                    | Fair                 | Growing in the open.<br>Growing close to footpath/highway<br>Growing next to utilities<br>Growing in a group.<br>Growing on a verge.<br>Single stem<br>Canopy Bi-forks<br>A typical tree for the location.                                                                                                                                             | 20+                                      | B2               |

| Tree reference number | Species                                | Height (m) | Stem diameter (mm)       | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                          | Estimated remaining contribution (years) | Category grading |
|-----------------------|----------------------------------------|------------|--------------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                        |            |                          | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                   |                                          |                  |
|                       |                                        |            |                          |                   |     |     |     |                               |                |                                         |           |                         |                      | Canopy develops towards/obstructs utility.<br>Canopy has been reduced/topped and re-developed.<br>Canopy is distorted due to available light.                                                                                                                                                                                                                                     |                                          |                  |
| T46                   | <i>Beech (Fagus sylvatica)</i>         | 7          | 400                      | 3.5               | 3.5 | 3.5 | 3.5 | 0.5                           | 4.8            | 72.4                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing close to footpath/highway<br>Growing next to utilities<br>Growing in a group.<br>Growing on a verge.<br>Single stem<br>A typical tree for the location.<br>Canopy develops towards/obstructs utility.<br>Canopy has been reduced/topped and re-developed.<br>Canopy is distorted due to available light. | 20+                                      | B2               |
| T47                   | <i>Pedunculate oak (Quercus robur)</i> | 17         | 900                      | 10                | 10  | 10  | 10  | 1                             | 10.8           | 366.4                                   | M         | Good                    | Good                 | Growing in a hedge.<br>Buttress obscured by shrubbery.<br>Single stem.<br>A typical tree for the location.                                                                                                                                                                                                                                                                        | 40+                                      | A2               |
| T48                   | <i>Ash (Fraxinus excelsior)</i>        | 16         | 450<br>400<br>400<br>150 | 9                 | 10  | 8   | 9   | 1.5                           | 10.1           | 318.9                                   | M         | Good                    | Fair                 | Growing on a verge.<br>Roadside tree.<br>Target - road.<br>Buttress obscured by epicormic growth.<br>Single stem.<br>Large diameter (>25 mm) deadwood in the inner canopy.<br>A well-located tree with good potential.                                                                                                                                                            | 20+                                      | B2               |
| T49                   | <i>Pedunculate oak (Quercus robur)</i> | 3          | 100                      | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.2            | 4.5                                     | SM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing close to footpath/highway<br>Growing next to utility pole<br>Single stem<br>Future problem tree<br>A typical tree for the location.                                                                                                                                                                      | 20+                                      | B2               |
| T50                   | <i>Hawthorn (Crataegus monogyna)</i>   | 3.5        | 100                      | 2                 | 2   | 2   | 2   | 0                             | 1.2            | 4.5                                     | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing next to hard surfacing.<br>Growing close to footpath/highway<br>Multi stemmed close to ground level.<br>Included union visible between stems.<br>Epicormic shoots are visible throughout the canopy.<br>Included unions between significant                                                              | 20+                                      | B2               |

| Tree reference number | Species                              | Height (m) | Stem diameter (mm) | Branch Spread (m) |   |   |   | Height of crown clearance (m) | RPA Radius (m) | RPA (m2 (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                           | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------|------------|--------------------|-------------------|---|---|---|-------------------------------|----------------|----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                      |            |                    | N                 | E | S | W |                               |                |                                        |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                    |                                          |                  |
|                       |                                      |            |                    |                   |   |   |   |                               |                |                                        |           |                         |                      | branches.<br>A typical tree for the location.                                                                                                                                                                                                                                                                                                                      |                                          |                  |
| T51                   | <i>Hawthorn (Crataegus monogyna)</i> | 3.5        | 100                | 2                 | 2 | 2 | 2 | 0                             | 1.2            | 4.5                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing next to hard surfacing.<br>Growing close to footpath/highway<br>Multi stemmed close to ground level.<br>Included union visible between stems.<br>Epicormic shoots are visible throughout the canopy.<br>Included unions between significant branches.<br>A typical tree for the location. | 20+                                      | B2               |
| T52                   | <i>Prunus Sp. (Prunus sp.)</i>       | 3.5        | 150                | 3                 | 3 | 3 | 3 | 0                             | 1.8            | 10.2                                   | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Growing next to hard surfacing.<br>Growing close to footpath/highway<br>Multi stemmed close to ground level.<br>Included union visible between stems.<br>Epicormic shoots are visible throughout the canopy.<br>Included unions between significant branches.<br>A typical tree for the location. | 20+                                      | B2               |
| T53                   | <i>Wych Elm (Ulmus glabra)</i>       | 5          | 100                | 2                 | 2 | 2 | 2 | 1.5                           | 1.2            | 4.5                                    | SM        | Good                    | Good                 | Growing in a hedge.<br>Buttress obscured by shrubbery.<br>Single stem.<br>A typical tree for the location.                                                                                                                                                                                                                                                         | 20+                                      | C2               |
| T54                   | <i>Wych Elm (Ulmus glabra)</i>       | 5          | 100                | 2                 | 2 | 2 | 2 | 1.5                           | 1.2            | 4.5                                    | SM        | Good                    | Good                 | Growing in a hedge.<br>Target – road.<br>Buttress obscured by shrubbery.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                       | 20+                                      | C2               |
| T55                   | <i>Crack Willow (Salix fragilis)</i> | 8          | 500                | 5                 | 5 | 5 | 5 | 0.5                           | 6.0            | 113.1                                  | M         | Fair                    | Poor                 | Growing in the open.<br>Growing close to footpath/highway<br>Buttress obscured by epicormic growth.<br>Single stem.<br>Minor quantities of deadwood can be seen within the canopy.<br>A well-located tree with good potential.                                                                                                                                     | +10                                      | C2               |

| Tree reference number | Species                                | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Estimated remaining contribution (years) | Category grading |
|-----------------------|----------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                        |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |                  |
|                       |                                        |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | A typical shape and form for the species.<br>Typical vitality levels for the species/season.<br>A dominant tree in its setting.                                                                                                                                                                                                                                                                                                                                                                                    |                                          |                  |
| T56                   | <i>Pedunculate oak (Quercus robur)</i> | 12         | 500                | 6                 | 6   | 6   | 6   | 0.5                           | 6.0            | 113.1                                   | M         | Good                    | Good                 | Inappropriately located tree.<br>Growing in the open.<br>Buttress obscured by shrubbery.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                                                                                                                                           | 40+                                      | A1               |
| T57                   | <i>Hawthorn (Crataegus monogyna)</i>   | 6          | 100                | 4                 | 4   | 4   | 4   | 0                             | 1.2            | 4.5                                     | EM        | Good                    | Good                 | Tree in hedge.<br>Inonotus hispidus (Shaggy Bracket).<br>Single stem.<br>Stem cavity- appears deep extensive decay with woodpecker holes visible.<br>Minor quantities of deadwood can be seen within the canopy.<br>Fruiting bodies floor which have fallen from tree.                                                                                                                                                                                                                                             | 10+                                      | C1               |
| T58                   | <i>Hawthorn (Crataegus monogyna)</i>   | 4          | 150                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 0.0            | 0.0                                     | SM        | Dead                    | Poor                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Buttress obscured by shrubbery.<br>Canopy Bi-forks with included unions<br>Co-dominant stem.<br>Included union visible between stems.<br>Broken and hanging branches snapped<br>branches that are touching the ground<br>Limited inspection of the stem.<br>A typical tree for the location.<br>Significant dieback of canopy.<br>Small elder growing at the base of the tree and growing though the canopy. | <10                                      | U                |
| T59                   | <i>Sycamore (Acer pseudoplatanus)</i>  | 7          | 3 x 150            | 2                 | 2   | 2   | 2   | 3                             | 1.8            | 10.2                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Growing in a hedge.<br>Buttress obscured by shrubbery.<br>Multi stemmed close to ground level.<br>Co-dominant stem.<br>Included union visible between stems.<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>A typical tree for the location.                                                                                                     | 20+                                      | B2               |

| Tree reference number | Species                               | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                       | Estimated remaining contribution (years) | Category grading |
|-----------------------|---------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                       |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |                  |
| T60                   | <i>Sycamore (Acer pseudoplatanus)</i> | 7          | 6 x 250            | 2.5               | 4   | 4   | 4   | 3                             | 7.3            | 169.6                                   | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Growing in a hedge.<br>Buttress obscured by shrubbery.<br>Multi stemmed close to ground level.<br>Co-dominant stem.<br>Included union visible between stems.<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>A typical tree for the location. | 20+                                      | B2               |
| T61                   | <i>Sycamore (Acer pseudoplatanus)</i> | 10         | 4 x 200            | 1.5               | 3.5 | 3.5 | 3.5 | 3                             | 2.4            | 18.1                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Growing in a hedge.<br>Buttress obscured by shrubbery.<br>Multi stemmed close to ground level.<br>Co-dominant stem.<br>Included union visible between stems.<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>A typical tree for the location. | 20+                                      | B2               |
| T62                   | <i>Sycamore (Acer pseudoplatanus)</i> | 7          | 7 x 150            | 3                 | 3   | 3   | 3   | 3                             | 4.8            | 71.3                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Growing in a hedge.<br>Buttress obscured by shrubbery.<br>Multi stemmed close to ground level.<br>Co-dominant stem.<br>Included union visible between stems.<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>A typical tree for the location. | 20+                                      | B2               |
| T63                   | <i>Ash (Fraxinus excelsior)</i>       | 10         | 4 x 180            | 4                 | 4   | 4   | 4   | 3                             | 2.2            | 14.7                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Buttress obscured by shrubbery.<br>Buttress obscured by ivy<br>Multi stemmed close to ground level.<br>Co-dominant stem.<br>Included union visible between stems.<br>Ivy within canopy                                                                                                                   | 20+                                      | B2               |

| Tree reference number | Species                           | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Estimated remaining contribution (years) | Category grading |
|-----------------------|-----------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                   |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |                  |
|                       |                                   |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>A typical tree for the location.                                                                                                                                                                                                                                                                                                                                                              |                                          |                  |
| T64                   | Ash ( <i>Fraxinus excelsior</i> ) | 10         | 180                | 3                 | 3   | 3   | 3   | 3                             | 2.2            | 14.7                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Buttress obscured by shrubbery.<br>Buttress obscured by ivy<br>Multi stemmed close to ground level.<br>Co-dominant stem.<br>Included union visible between stems.<br>Ivy within canopy<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>A typical tree for the location.                                                              | 20+                                      | B2               |
| T65                   | Ash ( <i>Fraxinus excelsior</i> ) | 8          | 200                | 3.5               | 3.5 | 3.5 | 3.5 | 3                             | 2.4            | 18.1                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Cavity within buttress<br>Buttress obscured by shrubbery.<br>Buttress obscured by ivy<br>Multi stemmed close to ground level.<br>Co-dominant stem.<br>Included union visible between stems.<br>Ivy within canopy<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>A typical tree for the location.<br>Suppressed by surrounding trees | 10+                                      | C2               |
| T66                   | Ash ( <i>Fraxinus excelsior</i> ) | 8          | 2 x 180            | 3.5               | 3.5 | 3.5 | 3.5 | 3                             | 2.2            | 14.7                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Buttress obscured by shrubbery.<br>Buttress obscured by ivy<br>Multi stemmed close to ground level.<br>Co-dominant stem.<br>Included union visible between stems.<br>Ivy within canopy and stem<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>A typical tree for the location.                                                     | 20+                                      | B2               |

| Tree reference number | Species                                          | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                            | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                  |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |                  |
| T67                   | Ash ( <i>Fraxinus excelsior</i> )                | 8          | 3 x 180            | 3.5               | 3.5 | 3.5 | 3.5 | 3                             | 2.2            | 14.7                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Buttress obscured by shrubbery.<br>Buttress obscured by ivy<br>Multi stemmed close to ground level.<br>Co-dominant stem.<br>Included union visible between stems.<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>A typical tree for the location. | 20+                                      | B2               |
| T68                   | Ash ( <i>Fraxinus excelsior</i> )                | 8          | 180                | 3.5               | 3.5 | 3.5 | 3.5 | 3                             | 2.2            | 14.7                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in the open.<br>Buttress obscured by ivy<br>Single Stem<br>Co-dominant stem.<br>Epicormic shoots where branch has failed<br>Limited inspection of the stem.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>A typical tree for the location.                                                                                               | 20+                                      | B2               |
| T69                   | Wellingtonia ( <i>Sequoiadendron giganteum</i> ) | 16         | 1050               | 5.5               | 5.5 | 5.5 | 5.5 | 1.5                           | 12.6           | 498.8                                   | M         | Good                    | Good                 | Growing in the open.<br>Compaction from vehicles visible.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                       | 40+                                      | A1               |
| T70                   | Field Maple ( <i>Acer campestre</i> )            | 13         | 400<br>400         | 6                 | 6   | 6   | 6   | 2                             | 6.8            | 144.8                                   | M         | Good                    | Good                 | Growing in the open.<br>Growing on a bank.<br>Growing close to watercourse.<br>Buttress obscured by shrubbery.<br>Bi forked close to ground level.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                               | 20+                                      | B2               |
| T71                   | Sycamore ( <i>Acer pseudoplatanus</i> )          | 16         | 750                | 3                 | 7   | 6   | 6   | 2.5                           | 9.0            | 254.5                                   | M         | Good                    | Good                 | Growing in a group.<br>Buttress obscured by epicormic growth.<br>Single stem.<br>Leaning stem.<br>Minor quantities of deadwood can be seen within the canopy.                                                                                                                                                                                                                                                       | 20+                                      | B2               |

| Tree reference number | Species                                | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                             | Estimated remaining contribution (years) | Category grading |
|-----------------------|----------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                        |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |                  |
|                       |                                        |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.<br>A dominant tree in its setting.                                                                                                                                                                                                                                                                  |                                          |                  |
| T72                   | <i>Sycamore (Acer pseudoplatanus)</i>  | 16         | 900                | 8                 | 8   | 8   | 8   | 2.5                           | 10.8           | 366.4                                   | M         | Good                    | Fair                 | Growing in a group.<br>Buttress obscured by epicormic growth.<br>Single stem.<br>Leaning stem.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.<br>A dominant tree in its setting.<br>Adaptive growth on buttress/lower stem.<br>Cavity within buttress.<br>Decay within buttress. | 20+                                      | B2               |
| T73                   | <i>Pedunculate oak (Quercus robur)</i> | 18         | 700                | 8                 | 1   | 8   | 8   | 4                             | 8.4            | 221.7                                   | M         | Good                    | Poor                 | Growing in a group.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Co dominant stem, failed leaving tearing wound.<br>Canopy has asymmetric form.                                                                                                                                                                                                                                                                             | 10+                                      | C2               |
| T74                   | <i>Pedunculate oak (Quercus robur)</i> | 18         | 650                | 7                 | 8   | 5   | 2   | 2                             | 7.8            | 191.1                                   | M         | Good                    | Good                 | Growing in a group.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Canopy has asymmetric form.                                                                                                                                                                                                                                                                                                                                | 40+                                      | A2               |
| T75                   | <i>Pedunculate oak (Quercus robur)</i> | 10         | 300<br>400         | 6                 | 6   | 6   | 6   | 0.5                           | 6.0            | 113.1                                   | EM        | Good                    | Good                 | Growing in a group.<br>Growing on a bank.<br>Bi forked close to ground level.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.<br>A dominant tree in its setting.                                                                                                                                                      | 40+                                      | A2               |
| T76                   | <i>Ash (Fraxinus excelsior)</i>        | 18         | 700                | 8                 | 8   | 8   | 8   | 2                             | 8.4            | 221.7                                   | M         | Fair                    | Fair                 | Growing in a group.<br>Unable to inspect the buttress and lower stem. Inspected from distance.                                                                                                                                                                                                                                                                                                                                       | 20+                                      | B2               |
| T77                   | <i>Crack Willow (Salix fragilis)</i>   | 13         | 4 x 250            | 4.5               | 4.5 | 4.5 | 4.5 | 4                             | 3.0            | 28.3                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Buttress obscured by epicormic growth.<br>Multi stemmed close to ground level                                                                                                                                                                                                                                                  | 20+                                      | B2               |

| Tree reference number | Species                                | Height (m) | Stem diameter (mm)       | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Estimated remaining contribution (years) | Category grading |
|-----------------------|----------------------------------------|------------|--------------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                        |            |                          | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |                  |
|                       |                                        |            |                          |                   |     |     |     |                               |                |                                         |           |                         |                      | Co-dominant stem<br>Epicormic shooting on main stem.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>Significant crossing and rubbing branches.<br>Canopy is distorted due to available light.<br>A typical tree for the location.                                                                                                                                                                                                                                       |                                          |                  |
| T78                   | Crack Willow ( <i>Salix fragilis</i> ) | 13         | 4 x 250                  | 4.5               | 4.5 | 4.5 | 4.5 | 4                             | 3.0            | 28.3                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Buttress obscured by epicormic growth.<br>Multi stemmed close to ground level.<br>Co-dominant stem<br>Epicormic shooting on main stem.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>Significant crossing and rubbing branches visible.<br>Broken/hanging branches in canopy.<br>Canopy is distorted due to available light.<br>A typical tree for the location. | 20+                                      | B2               |
| T79                   | Field Maple ( <i>Acer campestre</i> )  | 8          | 150<br>150<br>150<br>100 | 3.5               | 3.5 | 3.5 | 3.5 | 0                             | 3.3            | 35.1                                    | EM        | Good                    | Good                 | Growing in the open.<br>Compaction from vehicles visible.<br>Single stem.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                         | 20+                                      | B2               |
| T80                   | Silver Birch ( <i>Betula pendula</i> ) | 8          | 200                      | 4.5               | 4.5 | 4.5 | 4.5 | 2                             | 2.4            | 18.1                                    | EM        | Fair                    | Good                 | Growing in the open.<br>Inspection limited or not possible due to visibility.<br>Multi stemmed close to ground level.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                                            | 10+                                      | C2               |
| T81                   | Field Maple ( <i>Acer campestre</i> )  | 8          | 150<br>150<br>150<br>100 | 3.5               | 3.5 | 3.5 | 3.5 | 0                             | 3.3            | 35.1                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                                                                                                                              | 20+                                      | B2               |

| Tree reference number | Species                                     | Height (m) | Stem diameter (mm)             | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                  | Estimated remaining contribution (years) | Category grading |
|-----------------------|---------------------------------------------|------------|--------------------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                             |            |                                | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                           |                                          |                  |
| T82                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 14         | 200                            | 5                 | 2   | 5   | 5   | 1.5                           | 2.4            | 18.1                                    | EM        | Good                    | Good                 | Growing in the open.<br>Inspection limited or not possible due to visibility.<br>Multi stemmed close to ground level.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season. | 20+                                      | B2               |
| T83                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 14         | 150<br>100<br>100<br>100<br>80 | 5                 | 2   | 5   | 5   | 1.5                           | 2.9            | 26.6                                    | EM        | Good                    | Good                 | Growing in the open.<br>Inspection limited or not possible due to visibility.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Single stem.<br>Minor dieback of canopy.                                                | 20+                                      | B2               |
| T84                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 12         | 250                            | 5                 | 5   | 5   | 5   | 1.5                           | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.<br>Multi stemmed close to ground level.                                                           | 20+                                      | B2               |
| T85                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 12         | 250                            | 5                 | 5   | 5   | 5   | 1.5                           | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                   | 20+                                      | B2               |
| T86                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 10         | 170                            | 3.5               | 3.5 | 3.5 | 3.5 | 1.5                           | 2.0            | 13.1                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                   | 20+                                      | B2               |
| T87                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 12         | 250                            | 5                 | 5   | 5   | 5   | 1.5                           | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                   | 20+                                      | B2               |
| T88                   | Ash ( <i>Fraxinus excelsior</i> )           | 14         | 600                            | 10                | 7.5 | 7   | 7   | 2.5                           | 7.2            | 162.9                                   | M         | Fair                    | Fair                 | Growing in an avenue.<br>Growing close to footpath/highway<br>Growing on a bank.<br>Growing close to watercourse.<br>Single stem.<br>Soil level changes.<br>Canopy multi-forked<br>Co-dominant branches<br>Small diameter (<25 mm) deadwood in the        | 10+                                      | C2               |

| Tree reference number | Species                                     | Height (m) | Stem diameter (mm) | Branch Spread (m) |   |   |   | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                             | Estimated remaining contribution (years) | Category grading |
|-----------------------|---------------------------------------------|------------|--------------------|-------------------|---|---|---|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                             |            |                    | N                 | E | S | W |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |                  |
|                       |                                             |            |                    |                   |   |   |   |                               |                |                                         |           |                         |                      | inner canopy<br>A well-located tree with good potential.                                                                                                                                                                                                                                                                                                                                             |                                          |                  |
| T89                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 8          | 170                | 3                 | 3 | 3 | 3 | 1.5                           | 2.0            | 13.1                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                                              | 20+                                      | B2               |
| T90                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 8          | 150                | 3                 | 3 | 3 | 3 | 1.5                           | 1.8            | 10.2                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                                              | 20+                                      | B2               |
| T91                   | Ash ( <i>Fraxinus excelsior</i> )           | 12         | 800                | 6                 | 6 | 6 | 6 | 4                             | 9.6            | 289.5                                   | V         | Fair                    | Poor                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                                              | 10+                                      | A3               |
| T92                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 10         | 250                | 6                 | 4 | 4 | 4 | 1.5                           | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                                              | 20+                                      | B2               |
| T93                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 8          | 200                | 4                 | 4 | 4 | 4 | 1.5                           | 2.4            | 18.1                                    | EM        | Good                    | Good                 | Tree displays ecological/habitat value.<br>Growing in a hedge.<br>Growing on boundary.<br>Decay within buttress.<br>Single stem.<br>Stem cavity- appears deep extensive decay.<br>Stem cavity- unable to inspect.<br>Large diameter (>25 mm) deadwood in the inner canopy.<br>Broken/hanging branches in canopy.<br>Wounding from branch failures visible.<br>A tree that displays veteran features. | 20+                                      | B2               |
| T94                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 14         | 250                | 5                 | 5 | 5 | 5 | 1.5                           | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                                              | 20+                                      | B2               |

| Tree reference number | Species                                     | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                   | Estimated remaining contribution (years) | Category grading |
|-----------------------|---------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                             |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                            |                                          |                  |
| T95                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 14         | 250                | 5                 | 5   | 5   | 5   | 1.5                           | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.<br>Failed tree hung up in canopy                                   | 20+                                      | B2               |
| T96                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 12         | 150                | 2.5               | 2.5 | 2.5 | 2.5 | 1.5                           | 1.8            | 10.2                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                    | 20+                                      | B2               |
| T97                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 14         | 250                | 5                 | 5   | 5   | 5   | 1.5                           | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                    | 20+                                      | B2               |
| T98                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 12         | 150                | 2.5               | 2.5 | 2.5 | 2.5 | 1.5                           | 1.8            | 10.2                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                    | 20+                                      | B2               |
| T99                   | Norway Maple<br>( <i>Acer platanoides</i> ) | 14         | 250                | 5                 | 5   | 5   | 5   | 1.5                           | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                    | 20+                                      | B2               |
| T100                  | Norway Maple<br>( <i>Acer platanoides</i> ) | 14         | 250                | 5                 | 5   | 5   | 5   | 1.5                           | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                    | 20+                                      | B2               |
| T101                  | Crack Willow<br>( <i>Salix fragilis</i> )   | 6          | 100<br>100<br>100  | 3.5               | 3.5 | 3.5 | 3.5 | 1                             | 2.1            | 13.6                                    | SM        | Fair                    | Fair                 | Growing in a hedge beneath voltage lines.<br>A poorly located tree with poor form.                                                                                                                                                         | 10+                                      | C2               |
| T102                  | Norway Maple<br>( <i>Acer platanoides</i> ) | 16         | 600                | 3                 | 3   | 7   | 7   | 1.5                           | 7.2            | 162.9                                   | M         | Good                    | Fair                 | Growing in the open.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Included union visible between stems.<br>Stem cavity- appears deep extensive decay.<br>Stem decay visible.<br>Vertical cracking.<br>Canopy has asymmetric form. | 9+                                       | C1               |

| Tree reference number | Species                                    | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                            |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |                  |
|                       |                                            |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | A tree of poor shape and form for the species.<br>A tree with a limited safe life.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |                  |
| T103                  | <i>False acacia (Robinia pseudoacacia)</i> | 12         | 400                | 3.5               | 3.5 | 3.5 | 3.5 | 4                             | 4.8            | 72.4                                    | M         | Fair                    | Fair                 | Growing next to hard surfacing.<br>Growing close to footpath/highway<br>Growing on a verge.<br>Buttress obscured by epicormic growth.<br>Buttress obscured by shrubbery.<br>Bi forked close to ground level.<br>Stem cavity- appears shallow/localised.<br>Stem obscured by epicormic growth.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>Epicormic shoots are visible throughout the canopy.<br>Included unions visible between stems and branches<br>Broken/hanging branches in canopy. | 20+                                      | B1               |
| T104                  | <i>False acacia (Robinia pseudoacacia)</i> | 12         | 400                | 3.5               | 3.5 | 3.5 | 3.5 | 4                             | 4.8            | 72.4                                    | M         | Fair                    | Fair                 | Growing next to hard surfacing.<br>Growing close to footpath/highway<br>Growing on a verge.<br>Buttress obscured by epicormic growth.<br>Buttress obscured by shrubbery.<br>Bi forked close to ground level.<br>Stem cavity- appears shallow/localised.<br>Stem obscured by epicormic growth.<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>Epicormic shoots are visible throughout the canopy.<br>Included unions visible between stems and branches                                       | 20+                                      | B1               |
| T105                  | <i>Pedunculate oak (Quercus robur)</i>     | 18         | 700                | 11                | 11  | 11  | 11  | 4                             | 8.4            | 221.7                                   | M         | Good                    | Good                 | Growing in the open.<br>Growing next to hard surfacing.<br>Target - car park.<br>Root compaction visible.<br>Limited rooting potential due to restricted growing area.<br>Damage to hard surfacing from rooting.<br>Single stem.<br>Small diameter (<25 mm) deadwood in the                                                                                                                                                                                                                                                                                                    | 40+                                      | A1               |

| Tree reference number | Species                              | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                          | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                      |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                          |                  |
|                       |                                      |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | inner canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.<br>A dominant tree in its setting.                                                                                                                                                                                                                                                              |                                          |                  |
| T106                  | Black Walnut ( <i>Juglas nigra</i> ) | 13         | 550                | 7.5               | 7.5 | 7.5 | 7.5 | 3.5                           | 6.6            | 136.8                                   | M         | Good                    | Good                 | Growing in the open. Adjacent to a demolished building.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Stem cavity- appears shallow/localised.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                             | 20+                                      | B1               |
| T107                  | Willow Sp. ( <i>Salix Sp.</i> )      | 15         | 650                | 9                 | 9   | 9   | 9   | 0.5                           | 7.8            | 191.1                                   | M         | Good                    | Fair                 | Limited inspection due to vegetation.<br>Growing in a group.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Canopy multi-forked<br>Historic branch failures<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>A typical tree for the location.                                                                                                              | 20+                                      | B2               |
| T108                  | Willow Sp. ( <i>Salix Sp.</i> )      | 4          | 500                | 7                 | 7   | 7   | 7   | 0                             | 0.0            | 0.0                                     | M         | Dead                    | Poor                 | Limited inspection due to vegetation.<br>Growing in a group.<br>Growing next to hard surfacing.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Canopy bi-forks<br>Stem has snapped into two and is laid on the ground<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>A typical tree for the location.<br>Inspection not possible due to thick vegetation | <10                                      | U                |
| T109                  | Willow Sp. ( <i>Salix Sp.</i> )      | 15         | 650                | 9                 | 9   | 9   | 9   | 0.5                           | 7.8            | 191.1                                   | M         | Good                    | Fair                 | Limited inspection due to vegetation.<br>Growing in a group.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Stem cavity decay seems shallow and localised.<br>Canopy multi-forked                                                                                                                                                                                                                                                          | 20+                                      | B2               |

| Tree reference number | Species                  | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                              | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                          |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |                  |
|                       |                          |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | Historic branch failures<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>A typical tree for the location.                                                                                                                                                                                                                            |                                          |                  |
| T110                  | Willow Sp. (Salix Sp.)   | 15         | 650                | 7                 | 7   | 7   | 7   | 0.5                           | 7.8            | 191.1                                   | M         | Good                    | Fair                 | Limited inspection due to vegetation.<br>Growing in a group.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Canopy multi-forked<br>Historic branch failures<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>A typical tree for the location.                                                                                  | 20+                                      | B2               |
| T111                  | Ash (Fraxinus excelsior) | 13         | 350                | 4.5               | 4.5 | 4.5 | 4.5 | 1.5                           | 4.2            | 55.4                                    | EM        | Fair                    | Fair                 | Species prone to endemic disease.<br>Limited inspection due to vegetation.<br>Growing in a group.<br>Buttress obscured by shrubbery.<br>Bi forked close to ground level.<br>Limited inspection of the stem.                                                                                                                                                                                                           | 20+                                      | B2               |
| T112                  | Willow Sp. (Salix Sp.)   | 17         | 500                | 9                 | 9   | 9   | 9   | 4                             | 6.0            | 113.1                                   | M         | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in a group.<br>Growing next to hard surfacing.<br>Growing on a verge.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Canopy multi-forked<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>A typical tree for the location.<br>Inspection not possible due to thick vegetation | 20+                                      | B2               |
| T113                  | Willow Sp. (Salix Sp.)   | 17         | 500                | 9                 | 9   | 9   | 9   | 4                             | 6.0            | 113.1                                   | M         | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in a group.<br>Growing next to hard surfacing.<br>Growing on a verge.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Canopy multi-forked                                                                                                                                                                                                                      | 20+                                      | B2               |

| Tree reference number | Species                                | Height (m) | Stem diameter (mm) | Branch Spread (m) |   |   |   | Height of crown clearance (m) | RPA Radius (m) | RPA (m2 (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                         | Estimated remaining contribution (years) | Category grading |
|-----------------------|----------------------------------------|------------|--------------------|-------------------|---|---|---|-------------------------------|----------------|----------------------------------------|-----------|-------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                        |            |                    | N                 | E | S | W |                               |                |                                        |           |                         |                      |                                                                                                                                                                                                                                                                  |                                          |                  |
|                       |                                        |            |                    |                   |   |   |   |                               |                |                                        |           |                         |                      | Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>A typical tree for the location.<br>Inspection not possible due to thick vegetation.                                               |                                          |                  |
| T114                  | <i>Pedunculate oak (Quercus robur)</i> | 4          | 60                 | 1                 | 1 | 1 | 1 | 0.5                           | 0.7            | 1.6                                    | SM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in a group.<br>Buttress obscured by shrubbery.<br>Single Stem<br>Good potential                                                                                                                                 | 20+                                      | B2               |
| T115                  | <i>Ash (Fraxinus excelsior)</i>        | 11         | 250                | 3                 | 3 | 3 | 3 | 1.5                           | 3.0            | 28.3                                   | EM        | Fair                    | Fair                 | Species prone to endemic disease.<br>Limited inspection due to vegetation.<br>Growing in a group.<br>Buttress obscured by shrubbery.<br>Single Stem<br>Limited inspection of the stem.<br>Canopy Bi-forks                                                        | 20+                                      | B2               |
| T116                  | <i>Ash (Fraxinus excelsior)</i>        | 11         | 250                | 3                 | 3 | 3 | 3 | 1.5                           | 3.0            | 28.3                                   | EM        | Fair                    | Fair                 | Species prone to endemic disease.<br>Limited inspection due to vegetation.<br>Growing in a group.<br>Buttress obscured by shrubbery.<br>Single Stem<br>Limited inspection of the stem.<br>Canopy Bi-forks<br>Epicormic shoots are visible throughout the canopy. | 10+                                      | C2               |
| T117                  | <i>Ash (Fraxinus excelsior)</i>        | 11         | 250                | 3                 | 3 | 3 | 3 | 1.5                           | 3.0            | 28.3                                   | EM        | Fair                    | Fair                 | Species prone to endemic disease.<br>Limited inspection due to vegetation.<br>Growing in a group.<br>Buttress obscured by shrubbery.<br>Single Stem<br>Limited inspection of the stem.<br>Canopy Bi-forks                                                        | 20+                                      | B2               |
| T118                  | <i>Ash (Fraxinus excelsior)</i>        | 11         | 250                | 3                 | 3 | 3 | 3 | 1.5                           | 3.0            | 28.3                                   | EM        | Fair                    | Fair                 | Species prone to endemic disease.<br>Limited inspection due to vegetation.<br>Growing in a group.<br>Buttress obscured by shrubbery.<br>Single Stem<br>Limited inspection of the stem.<br>Canopy Bi-forks                                                        | 20+                                      | B2               |

| Tree reference number | Species                           | Height (m) | Stem diameter (mm) | Branch Spread (m) |   |   |   | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                        | Estimated remaining contribution (years) | Category grading |
|-----------------------|-----------------------------------|------------|--------------------|-------------------|---|---|---|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                   |            |                    | N                 | E | S | W |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                          |                  |
| T119                  | Ash ( <i>Fraxinus excelsior</i> ) | 11         | 200                | 3                 | 3 | 3 | 3 | 1.5                           | 2.4            | 18.1                                    | EM        | Fair                    | Fair                 | Species prone to endemic disease. Limited inspection due to vegetation. Growing in a group. Buttress obscured by shrubbery. Single Stem Limited inspection of the stem. Canopy Bi-forks                                                                                                                                                                                                                                         | 20+                                      | B2               |
| T120                  | Poplar Sp. ( <i>Populus Sp.</i> ) | 17         | 500                | 7                 | 7 | 7 | 7 | 4                             | 6.0            | 113.1                                   | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Growing in a group. Growing next to hard surfacing. Growing on a verge. Buttress obscured by shrubbery. Single stem. Canopy tri-forks Broken and hanging branches in canopy Small diameter (<25 mm) deadwood can be seen in the outer canopy. Small diameter (<25 mm) deadwood in the inner canopy. A typical tree for the location. Historic failed branches                             | 20+                                      | B2               |
| T121                  | Poplar Sp. ( <i>Populus Sp.</i> ) | 17         | 500                | 5                 | 5 | 5 | 5 | 4                             | 6.0            | 113.1                                   | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Growing in a group. Growing next to hard surfacing. Growing on a verge. Buttress obscured by shrubbery. Cavity within buttress Single stem. Canopy Bi-forks Small diameter (<25 mm) deadwood can be seen in the outer canopy. Small diameter (<25 mm) deadwood in the inner canopy. Canopy is distorted due to available light. A typical tree for the location. Historic failed branches | 20+                                      | B2               |
| T122                  | Poplar Sp. ( <i>Populus Sp.</i> ) | 17         | 600                | 5                 | 5 | 5 | 5 | 4                             | 7.2            | 162.9                                   | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Growing in a group. Growing next to hard surfacing. Growing on a verge. Buttress obscured by shrubbery. Single stem. Canopy Bi-forks Small diameter (<25 mm) deadwood can be seen in the outer canopy.                                                                                                                                                                                    | 20+                                      | B2               |

| Tree reference number | Species                                  | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Estimated remaining contribution (years) | Category grading |
|-----------------------|------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                          |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |                  |
|                       |                                          |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | Small diameter (<25 mm) deadwood in the inner canopy.<br>Canopy is distorted due to available light.<br>A typical tree for the location.                                                                                                                                                                                                                                                                                                                       |                                          |                  |
| T123                  | Alder ( <i>Alnus glutinosa</i> )         | 17         | 600                | 5                 | 5   | 5   | 5   | 4                             | 7.2            | 162.9                                   | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Growing in a group.<br>Growing next to hard surfacing.<br>Growing on a verge.<br>Buttress obscured by shrubbery.<br>Single stem.<br>Canopy Bi-forks<br>Small diameter (<25 mm) deadwood can be seen in the outer canopy.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>Canopy is distorted due to available light.<br>A typical tree for the location.<br>Historic failed branches                      | 20+                                      | B2               |
| T124                  | Pedunculate oak ( <i>Quercus robur</i> ) | 12         | 350                | 4.5               | 4.5 | 4.5 | 4.5 | 0                             | 4.2            | 55.4                                    | EM        | Fair                    | Fair                 | Growing in a group.<br>Growing next to fence.<br>Severance/trenching of major roots.<br>Impact damage to buttress.<br>Single stem.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>Canopy develops towards/obstructs fence.<br>Historic limb failures.<br>Branch failure scaring on main stem shallow and localised.                                                                                                                               | 10+                                      | C1               |
| T125                  | Ash ( <i>Fraxinus excelsior</i> )        | 14         | 450                | 4                 | 4   | 4   | 4   | 0                             | 5.4            | 91.6                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Growing on a bank.<br>Growing close to watercourse.<br>Single Stem.<br>Cavities within stem.<br>Tree has lost its leader<br>Buttress obscured by epicormic growth.<br>Buttress obscured by shrubbery.<br>Inspection limited or not possible due to visibility.<br>Bi forked close to ground level.<br>Significant crossing and rubbing branches visible. | 20+                                      | B2               |

| Tree reference number | Species                                 | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Estimated remaining contribution (years) | Category grading |
|-----------------------|-----------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                         |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          |                  |
|                       |                                         |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | Wounding from branch failures visible.<br>A well-located tree with good potential.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |                  |
| T126                  | Ash ( <i>Fraxinus excelsior</i> )       | 14         | 450<br>450         | 4                 | 4   | 4   | 4   | 0                             | 5.4            | 91.6                                    | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Growing on a bank.<br>Growing close to watercourse.<br>Buttress obscured by epicormic growth.<br>Buttress obscured by shrubbery.<br>Inspection limited or not possible due to visibility.<br>Bi forked close to ground level.<br>Significant crossing and rubbing branches visible.<br>Wounding from branch failures visible.<br>A well-located tree with good potential.                                                                                                          | 20+                                      | B2               |
| T127                  | Sycamore ( <i>Acer pseudoplatanus</i> ) | 12         | 5 x 250            | 4                 | 4   | 4   | 4   | 0.5                           | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Limited inspection due to vegetation.<br>Limited inspection due to access.<br>Growing in the open.<br>Growing on a bank.<br>Growing close to watercourse.<br>Buttress obscured by epicormic growth.<br>Inspection limited or not possible due to visibility.<br>Decay within buttress.<br>Impact damage to buttress.<br>Multi stemmed close to ground level.<br>Epicormic shooting on main stem.<br>Included union visible between stems.<br>Stem obscured by ivy.<br>Limited inspection of the stem.<br>Canopy is distorted due to available light.<br>A typical tree for the location. | 20+                                      | B2               |
| T128                  | Common Lime ( <i>Tilia x europaea</i> ) | 6          | 250                | 3.5               | 3.5 | 3.5 | 3.5 | 1                             | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing on a verge.<br>Target - road.<br>Soil level has been reduced within the rootzone.<br>Single stem.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                                                                                             | 20+                                      | B2               |

| Tree reference number | Species                                 | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2 (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                  | Estimated remaining contribution (years) | Category grading |
|-----------------------|-----------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|----------------------------------------|-----------|-------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                         |            |                    | N                 | E   | S   | W   |                               |                |                                        |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                           |                                          |                  |
| T129                  | Common Lime ( <i>Tilia x europaea</i> ) | 6          | 250                | 3.5               | 3.5 | 3.5 | 3.5 | 1                             | 3.0            | 28.3                                   | EM        | Good                    | Good                 | Growing on a verge.<br>Target - road.<br>Soil level has been reduced within the rootzone.<br>Single stem.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                              | 20+                                      | B2               |
| T130                  | Field Maple ( <i>Acer campestre</i> )   | 6          | 250                | 3.5               | 3.5 | 3.5 | 3.5 | 0                             | 3.0            | 28.3                                   | EM        | Good                    | Good                 | Growing on a verge.<br>Target - road.<br>Soil level has been reduced within the rootzone.<br>Single stem.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                              | 20+                                      | B2               |
| T131                  | Common Lime ( <i>Tilia x europaea</i> ) | 3.5        | 80                 | 2                 | 2   | 2   | 2   | 1                             | 1.0            | 2.9                                    | EM        | Good                    | Good                 | Growing in a group.<br>Growing next to fence.<br>Target - road.<br>Buttress obscured by epicormic growth.<br>Multi stemmed close to ground level.<br>Minor quantities of deadwood can be seen within the canopy.<br>Low branches (3 m) obstruct pedestrian access.<br>A typical tree for the location.<br>Typical vitality levels for the species/season. | 20+                                      | B2               |
| T132                  | Field Maple ( <i>Acer campestre</i> )   | 6          | 200                | 3.5               | 3.5 | 3.5 | 3.5 | 0                             | 2.4            | 18.1                                   | EM        | Good                    | Good                 | Growing on a verge.<br>Target - road.<br>Soil level has been reduced within the rootzone.<br>Single stem.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                              | 20+                                      | B2               |
| T133                  | Field Maple ( <i>Acer campestre</i> )   | 6          | 200                | 3.5               | 3.5 | 3.5 | 3.5 | 0                             | 2.4            | 18.1                                   | EM        | Good                    | Good                 | Growing on a verge.<br>Target - road.<br>Soil level has been reduced within the                                                                                                                                                                                                                                                                           | 20+                                      | B2               |

| Tree reference number | Species                                        | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                               | Estimated remaining contribution (years) | Category grading |
|-----------------------|------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                        |                                          |                  |
|                       |                                                |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | rootzone.<br>Single stem.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                                                                                           |                                          |                  |
| T134                  | <i>Pedunculate oak (Quercus robur)</i>         | 6          | 300                | 5.5               | 5.5 | 5.5 | 5.5 | 1                             | 3.6            | 40.7                                    | EM        | Good                    | Good                 | Growing on a verge.<br>Target - road.<br>Soil level has been reduced within the rootzone.<br>Single stem.<br>Minor quantities of deadwood can be seen within the canopy.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                           | 20+                                      | B2               |
| T135                  | <i>Field Maple (Acer campestre)</i>            | 6          | 200                | 3.5               | 3.5 | 3.5 | 3.5 | 0                             | 2.4            | 18.1                                    | EM        | Good                    | Good                 | Growing in a group.<br>Growing next to fence.<br>Cavity within buttress appears localised<br>Decay within buttress appears localised.<br>Single stem.<br>Significant quantities of deadwood can be seen within the canopy.<br>A well-located tree with good potential.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season. | 20+                                      | B2               |
| T136                  | <i>Horse Chestnut (Aesculus hippocastanum)</i> | 7          | 300                | 4.5               | 4.5 | 4.5 | 4.5 | 1                             | 3.6            | 40.7                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Growing on a bank.<br>Buttress obscured by epicormic growth.<br>Single stem.<br>Exudates/oozing on stem.                                                                                                                                                                                                                                        | 20+                                      | B2               |
| T137                  | <i>Beech (Fagus sylvatica)</i>                 | 7          | 250                | 3                 | 3   | 3   | 3   | 1                             | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Growing on a bank.<br>Buttress obscured by epicormic growth.<br>Single stem.<br>A typical tree for the location.<br>Typical vitality levels for the species/season.                                                                                                                                                                             | 20+                                      | B2               |
| T138                  | <i>Pedunculate oak (Quercus robur)</i>         | 10         | 300                | 7                 | 7   | 7   | 7   | 1                             | 3.6            | 40.7                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Growing on a bank.<br>Target - road.<br>Buttress obscured by epicormic growth.<br>Single stem.                                                                                                                                                                                                                                                  | 20+                                      | B2               |

| Tree reference number | Species                                          | Height (m) | Stem diameter (mm) | Branch Spread (m) |   |   |   | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                  | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------------------|------------|--------------------|-------------------|---|---|---|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                  |            |                    | N                 | E | S | W |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                           |                                          |                  |
| T139                  | Rowan ( <i>Sorbus aucuparia</i> )                | 4          | 100                | 2                 | 2 | 2 | 2 | 1                             | 1.2            | 4.5                                     | SM        | Good                    | Good                 | Growing in a group.<br>Growing on a bank.<br>Target - road.<br>Buttress obscured by epicormic growth.<br>Single stem.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                     | 20+                                      | C2               |
| T140                  | Field Maple ( <i>Acer campestre</i> )            | 10         | 250                | 4                 | 4 | 4 | 4 | 1                             | 3.0            | 28.3                                    | EM        | Good                    | Good                 | Growing on a bank.<br>Target - road.<br>Buttress obscured by epicormic growth.<br>Single stem.<br>A typical tree for the location.<br>Typical vitality levels for the species/season.                                                     | 20+                                      | B2               |
| T141                  | Beech ( <i>Fagus sylvatica</i> )                 | 7          | 300                | 4                 | 4 | 4 | 4 | 1                             | 3.6            | 40.7                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Growing on a bank.<br>Buttress obscured by epicormic growth.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.   | 20+                                      | B2               |
| T142                  | Horse Chestnut ( <i>Aesculus hippocastanum</i> ) | 7          | 300                | 4                 | 4 | 4 | 4 | 1                             | 3.6            | 40.7                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Growing on a bank.<br>Buttress obscured by epicormic growth.<br>Single stem.<br>Exudates/oozing on stem.                                                                                                           | 20+                                      | B2               |
| T143                  | Pedunculate oak ( <i>Quercus robur</i> )         | 12         | 350                | 5                 | 5 | 5 | 5 | 2                             | 4.2            | 55.4                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Growing on a bank.<br>Single stem.<br>A well-located tree with good potential.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season. | 20+                                      | B2               |
| T144                  | Field Maple ( <i>Acer campestre</i> )            | 12         | 350                | 5                 | 5 | 5 | 5 | 1                             | 4.2            | 55.4                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Growing on a bank.<br>Single stem.<br>A well-located tree with good potential.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season. | 20+                                      | B2               |
| T145                  | Beech ( <i>Fagus sylvatica</i> )                 | 7          | 300                | 3                 | 3 | 3 | 3 | 2                             | 3.6            | 40.7                                    | EM        | Good                    | Good                 | Growing in a hedge.<br>Single stem.<br>A typical tree for the location.<br>A typical shape and form for the species.<br>Typical vitality levels for the species/season.                                                                   | 20+                                      | B2               |

| Tree reference number | Species                                      | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                               | Estimated remaining contribution (years) | Category grading |
|-----------------------|----------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                              |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                        |                                          |                  |
| T146                  | Beech ( <i>Fagus sylvatica</i> )             | 7          | 300                | 3                 | 3   | 3   | 3   | 2                             | 3.6            | 40.7                                    | EM        | Good                    | Good                 | Growing in an avenue.<br>Growing next to hard surfacing.<br>Growing close to footpath/highway<br>Growing close to watercourse.<br>Single stem.<br>Canopy Bi-forks<br>Co-dominant branches<br>Canopy has been topped and re-developed due to powerlines<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>A well-located tree with good potential.                            | 20+                                      | B2               |
| T147                  | Pedunculate oak ( <i>Quercus robur</i> )     | 12         | 450                | 5                 | 5   | 5   | 5   | 3.5                           | 5.4            | 91.6                                    | M         | Good                    | Good                 | Growing in an avenue.<br>Growing next to hard surfacing.<br>Growing close to footpath/highway<br>Growing close to watercourse.<br>Single stem.<br>Canopy Bi-forks<br>Co-dominant branches<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>A well-located tree with good potential.                                                                                         | 20+                                      | B2               |
| T148                  | Rowan ( <i>Sorbus aucuparia</i> )            | 5          | 150                | 2                 | 2   | 2   | 2   | 2                             | 1.8            | 10.2                                    | EM        | Good                    | Good                 | Growing in an avenue.<br>Growing next to hard surfacing.<br>Growing close to footpath/highway<br>Growing close to watercourse.<br>Single stem.<br>Leaning stem<br>Co-dominant branches<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>A well-located tree with good potential.                                                                                            | 20+                                      | B2               |
| T149                  | False acacia ( <i>Robinia pseudoacacia</i> ) | 7          | 300                | 2.5               | 2.5 | 2.5 | 2.5 | 2                             | 3.6            | 40.7                                    | EM        | Good                    | Good                 | Growing in an avenue.<br>Growing next to hard surfacing.<br>Growing close to footpath/highway<br>Growing close to watercourse.<br>Single stem.<br>Canopy Bi-forks<br>Co-dominant stem<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>Included unions between significant branches.<br>Think foliage at the time of inspection<br>A well-located tree with good potential. | 20+                                      | B2               |

| Tree reference number | Species                                                                                                                    | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Estimated remaining contribution (years) | Category grading |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                                            |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                          |                  |
| T150                  | Common Lime ( <i>Tilia x europaea</i> )                                                                                    | 12         | 400                | 3.5               | 3.5 | 3.5 | 3.5 | 2                             | 4.8            | 72.4                                    | EM        | Good                    | Good                 | Growing in an avenue.<br>Growing next to hard surfacing.<br>Growing close to footpath/highway<br>Growing close to watercourse.<br>Single stem.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>Included unions between significant branches.<br>A well-located tree with good potential.                                                                                                                                                                                                                                                      | 20+                                      | B2               |
| T151                  | Field Maple ( <i>Acer campestre</i> )                                                                                      | 10         | 420                | 4                 | 4   | 4   | 4   | 2.5                           | 5.0            | 79.8                                    | M         | Good                    | Good                 | Growing in an avenue.<br>Growing close to footpath/highway<br>Growing on a bank.<br>Growing close to watercourse.<br>Single stem.<br>Small diameter (<25 mm) deadwood in the inner canopy.<br>Canopy develops towards/obstructs utility.                                                                                                                                                                                                                                                                                                                  | 20+                                      | B2               |
| T152                  | Apple ( <i>Malus domestica</i> )                                                                                           | 8          | 250                | 2.5               | 2.5 | 2.5 | 2.5 | 2                             | 3.0            | 28.3                                    | M         | Good                    | Fair                 | Garden tree<br>Single stem.<br>Typical vitality levels for the species/season.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 10+                                      | C2               |
| G1                    | Mixed species: Hawthorn ( <i>Crataegus monogyna</i> ), Ash ( <i>Fraxinus excelsior</i> ), Wych Elm ( <i>Ulmus glabra</i> ) | 12         | 150                | 4                 | 4   | 4   | 4   | 1                             | 1.8            | 1                                       | EM        | Good                    | Good                 | Limited inspection due to vegetation.<br>Limited inspection due to access. Growing in a group. Growing next to fence. Growing on a bank. Growing close to the boundary.<br>Limited access due to fencing Buttress obscured by shrubbery. Multi stemmed close to ground level. Small diameter (<25 mm) deadwood in the inner canopy. Canopy is distorted due to available light. A group dominated by understory restricting inspection. Included unions within group. Sparse undergrowth. Public foot path running though the group limited access gained | 20+                                      | B2               |
| G2                    | Ash ( <i>Fraxinus excelsior</i> )                                                                                          | 13         | 300                | 3.5               | 3.5 | 3.5 | 3.5 | 4                             | 3.6            | 1                                       | EM        | Fair                    | Fair                 | Limited inspection due to vegetation.<br>Limited inspection due to access. Growing in a group. Growing next to fence. Growing close to the boundary. Limited access due to fencing Buttress obscured by epicormic growth. Buttress obscured by shrubbery. Multi stemmed close to ground level. Included union visible between stems. Epicormic shoots are visible throughout the                                                                                                                                                                          | 20+                                      | B2               |

| Tree reference number | Species                                                                                                                                                                        | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                                                                                                |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |                  |
|                       |                                                                                                                                                                                |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | canopy. Canopy is distorted due to available light. A typical group for the area. Low level story group, dense limited inspection public foot path running though the group limited access gained                                                                                                                                                                                                                                                                                                                                                           |                                          |                  |
| G3                    | Common ash ( <i>Fraxinus excelsior</i> )                                                                                                                                       | 13         | 300                | 3.5               | 3.5 | 3.5 | 3.5 | 4                             | 3.6            | 1                                       | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Limited inspection due to access. Growing in a group. Growing next to fence. Growing close to the boundary. Limited access due to fencing Buttress obscured by epicormic growth. Buttress obscured by shrubbery. Multi stemmed close to ground level. Included union visible between stems. Epicormic shoots are visible throughout the canopy. Canopy is distorted due to available light. A typical group for the area. Low level story group, dense limited inspection Sparse growing group, growing in scrub land | 20+                                      | B2               |
| G4                    | English Elm ( <i>Ulmus procera</i> )                                                                                                                                           | 12         | 300                | 4                 | 4   | 4   | 4   | 2.5                           | 3.6            | 1                                       | EM        | Dead                    | Poor                 | Growing in a group. Growing on a bank. Buttress obscured by epicormic growth. Buttress obscured by shrubbery. Multi stemmed close to ground level. Included union visible between stems. Limited inspection of the stem. Small diameter (<25 mm) deadwood in the inner canopy. Canopy is distorted due to available light. A typical group for the area. Scrub and brambles growing withing Group making inspection harder.                                                                                                                                 | >10                                      | U                |
| G5                    | Mixed species: Black pine ( <i>Pinus nigra</i> ), Pedunculate oak ( <i>Quercus robur</i> ), European lime ( <i>Tilia x europaea</i> ), Sycamore ( <i>Acer pseudoplatanus</i> ) | 14         | 400                | 4.5               | 4.5 | 4.5 | 4.5 | 4                             | 4.8            | 1                                       | EM        | Good                    | Good                 | Limited inspection due to vegetation. Limited inspection due to access. Growing in a group. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Single stem. Included union visible between stems. Limited inspection of the stem. Broken/hanging branches in canopy. Branch and stem failures within the group. Included unions between significant branches. Canopy has asymmetric form. Canopy is distorted due to available light. A typical tree for the location.                                                   | 20+                                      | B2               |
| G6                    | Mixed species: Norway maple ( <i>Acer platanoides</i> ), Maple Sp. ( <i>Acer</i>                                                                                               | 10         | 300                | 3                 | 3   | 3   | 3   | 0                             | 3.6            | 1                                       | EM        | Fair                    | Fair                 | Growing in a group. Single stem. Included union visible between stems. Significant crossing and rubbing branches visible. Canopy has asymmetric form. Canopy is                                                                                                                                                                                                                                                                                                                                                                                             | 20+                                      | B2               |

| Tree reference number | Species                                                                                                                                                                        | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                                                                                                |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                         |                                          |                  |
|                       | <i>sp.), Birch (Betula sp.), Hawthorn (Crataegus monogyna), Horse chestnut (Aesculus hippocastanum)</i>                                                                        |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | distorted due to available light. A typical tree for the location.                                                                                                                                                                                                                                                                                      |                                          |                  |
| G7                    | <i>Mixed species: Hawthorn, (Crataegus monogyna) Elder (Sambucus nigra)</i>                                                                                                    | 2          | 50                 | 1                 | 1   | 1   | 1   | 0                             | 0.6            | 1                                       | EM        | Fair                    | Fair                 | Growing in a group. Growing next to hard surfacing. Single stem. Included union visible between stems. Significant crossing and rubbing branches visible. Canopy has asymmetric form. Canopy is distorted due to available light. A typical tree for the location.                                                                                      | 10+                                      | C2               |
| G8                    | <i>Ash (Fraxinus excelsior)</i>                                                                                                                                                | 14         | 300                | 5                 | 5   | 5   | 5   | 1                             | 3.6            | 1                                       | EM        | Fair                    | Fair                 | Growing in a group. Growing as scrub land Single stem. Multi stemmed close to ground level. Included union visible between stems. Canopy is distorted due to available light. A typical tree for the location. Sparce growing group, growing in scrub land inspection not possible due to thick vegetation and brambles                                 | 20+                                      | B2               |
| G9                    | <i>Mixed species: Maple Sp. (Acer sp.), Birch (Betula sp.), Hawthorn (Crataegus monogyna), Horse chestnut (Aesculus hippocastanum)</i>                                         | 10         | 300                | 3                 | 3   | 3   | 3   | 0                             | 3.6            | 1                                       | EM        | Fair                    | Fair                 | Growing in a group. Multi-stemmed Included union visible between stems. Canopy has been topped and re-developed Canopy has asymmetric form. A typical tree for the location.                                                                                                                                                                            | 20+                                      | B2               |
| G10                   | <i>Mixed species: Horse chestnut (Aesculus hippocastanum) European lime (Tilia x europaea), Wych elm (Ulmus glabra), Ash (Fraxinus excelsior), Blackthorn (Prunus spinosa)</i> | 7          | 150                | 2                 | 2   | 2   | 2   | 0                             | 1.8            | 1                                       | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Limited inspection due to access. Growing in a group. Growing next to hard surfacing. Buttress obscured by shrubbery. Single stem. Co-dominant canopy. Included unions between significant branches. Limited inspection of the stem. Canopy is distorted due to available light. A typical tree for the location. | 10+                                      | C2               |
| G11                   | <i>Mixed species: Lombardy poplar (Populus nigra italica), Whitebeam (Sorbus aria),</i>                                                                                        | 14         | 350                | 3.5               | 3.5 | 3.5 | 3.5 | 0.5                           | 4.2            | 1                                       | M         | Good                    | Fair                 | Limited inspection due to vegetation. Limited inspection due to access. Growing in a group. Growing on a verge. Single stem. Stem cavity- unable to inspect. Limited inspection of the stem. Small diameter (<25 mm) deadwood in the inner                                                                                                              | 20+                                      | B2               |

| Tree reference number | Species                                                                                                                                                                                                                                                                                                           | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                       | Estimated remaining contribution (years) | Category grading |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                                                                                                                                                                                                                                   |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |                  |
|                       | Sycamore ( <i>Acer pseudoplatanus</i> ), Ash ( <i>Fraxinus excelsior</i> ), Beech ( <i>Fagus sylvatica</i> ), Common hawthorn ( <i>Crataegus monogyna</i> ), Willow ( <i>Salix</i> sp.), Prunus ( <i>Prunus</i> sp.), Horse chestnut ( <i>Aesculus hippocastanum</i> ), Norway maple ( <i>Acer platanoides</i> )* |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | canopy. Canopy is distorted due to available light. Historic branch failures. Group that fits in with the surroundings                                                                                                                                                                                                                                                                                                         |                                          |                  |
| G12                   | Mixed species: Hawthorn ( <i>Crataegus monogyna</i> ), Ash ( <i>Fraxinus excelsior</i> ), Willow ( <i>Salix</i> sp.), Sycamore ( <i>Acer pseudoplatanus</i> ), Birch ( <i>Betula</i> sp.)                                                                                                                         | 11         | 250                | 3                 | 3   | 3   | 3   | 0                             | 3              | 1                                       | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Limited inspection due to access. Growing in a group. Growing on a verge. Target - dwelling. Single stem. Canopy have been topped and re-developed. Stem cavity- unable to inspect. Limited inspection of the stem. Small diameter (<25 mm) deadwood in the inner canopy. Canopy is distorted due to available light. Historic branch failures. Group that fits in with the surroundings | 10+                                      | C2               |
| G13                   | Mixed species: Pedunculate oak ( <i>Quercus robur</i> ), Crack willow ( <i>Salix fragilis</i> ), Sycamore ( <i>Acer pseudoplatanus</i> ), Norway maple ( <i>Acer platanoides</i> )                                                                                                                                | 14         | 300                | 4                 | 4   | 4   | 4   | 2                             | 3.6            | 1                                       | EM        | Good                    | Good                 | Limited inspection due to vegetation. Growing in a group. Multi stemmed close to ground level. Included union visible between stems. Limited inspection of the stem. Significant crossing and rubbing branches visible. Included unions between significant branches. Canopy is distorted due to available light. A typical tree for the location. Low level group growing as good scrub                                       | 40+                                      | B2               |
| G14                   | Leyland cypress ( <i>X Cuprocyparis leylandii</i> )                                                                                                                                                                                                                                                               | 15         | 250                | 3.5               | 3.5 | 3.5 | 3.5 | 0                             | 3              | 1                                       | EM        | Fair                    | Fair                 | Growing in a group. Growing on a verge. Target - road Single stem. Limited inspection of the stem. Small diameter (<25 mm) deadwood in the inner canopy. Canopy is distorted due to available light and group pressure Historic branch failures. Group that fits in with the surroundings Buttress obscured by epicormic growth.                                                                                               | 10+                                      | C2               |

| Tree reference number | Species                                                                                                                                                                                                                                                  | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Estimated remaining contribution (years) | Category grading |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                                                                                                                                                                          |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                          |                  |
| G15                   | Mixed species: Sycamore ( <i>Acer pseudoplatanus</i> ), Ash ( <i>Fraxinus excelsior</i> ), Field maple ( <i>Acer campestre</i> ), Hawthorn ( <i>Crataegus monogyna</i> ), Blackthorn ( <i>Prunus spinosa</i> ), Norway maple ( <i>Acer platanoides</i> ) | 12         | 150                | 3                 | 3   | 3   | 3   | 0                             | 1.8            | 1                                       | EM        | Good                    | Good                 | Self-seeded tree. Growing in a group. Growing close to above ground utility wire. Buttress obscured by epicormic growth. Buttress obscured by shrubbery. Single stem. Limited inspection of the stem. Canopy is distorted due to available light. A typical tree for the location. Sparse growing group, with thick vegetation and brambles within. Sense understory of vegetation inspection very limited                                                                                                                                                                                                                                                                                                                                     | 20+                                      | B2               |
| G16                   | Leyland cypress ( <i>X Cuprocyparis leylandii</i> )                                                                                                                                                                                                      | 18         | 500                | 4                 | 4   | 4   | 4   | 0                             | 6              | 1                                       | M         | Good                    | Poor                 | Limited inspection due to vegetation. Growing in a group. Growing close to highway. Buttress obscured by ivy. Buttress obscured by epicormic growth. Buttress obscured by shrubbery. Included union visible between stems. Stem obscured by ivy. Limited inspection of the stem. Small diameter (<25 mm) deadwood in the inner canopy. Included unions between significant branches. Canopy is distorted due to available light. A typical tree for the location. Typical vitality levels for the species/season.                                                                                                                                                                                                                              | >10                                      | U                |
| G17                   | Mixed species: Silver birch ( <i>Betula pendula</i> ), Alder ( <i>Alnus glutinosa</i> ), Bramble ( <i>Rubus sp.</i> ), Sycamore ( <i>Acer pseudoplatanus</i> ), Leyland cypress ( <i>X Cuprocyparis leylandii</i> )                                      | 10         | 150                | 3.5               | 3.5 | 3.5 | 3.5 | 0                             | 1.8            | 1                                       | SM        | Fair                    | Fair                 | Tree displays ecological/habitat value. Limited inspection due to vegetation. Growing in a group. Growing next to hard surfacing. Growing close to footpath/highway Growing on a verge. Buttress obscured by shrubbery. Cavity within buttress. Decay within buttress. Single stem. Leaning stem. Limited inspection of the stem. Small diameter (<25 mm) deadwood can be seen in the outer canopy. Small diameter (<25 mm) deadwood in the inner canopy. Broken/hanging branches in canopy. Included unions between significant branches. Canopy is distorted due to available light. Few failed branches within group. Few standing dead trees within group. Epicormic growth on the buttress of so,e trees within the group. Few trees have | 10+                                      | C2               |

| Tree reference number | Species                                                                                                                                                                                                                 | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Estimated remaining contribution (years) | Category grading |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                                                                                                                                         |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                          |                  |
|                       |                                                                                                                                                                                                                         |            |                    |                   |     |     |     |                               |                |                                         |           |                         |                      | decay at the base of the tree seems shallow and localised. Most of the group isn't within falling distance of the road.                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                          |                  |
| G18                   | Mixed species: Hawthorn ( <i>Crataegus monogyna</i> ), Silver birch ( <i>Betula pendula</i> )                                                                                                                           | 8.5        | 100                | 2.5               | 2.5 | 2.5 | 2.5 | 0                             | 1.2            | 1                                       | SM        | Fair                    | Fair                 | Growing in the open. Growing in a group. Single stem. Small diameter (<25 mm) deadwood in the inner canopy. Canopy is distorted due to available light. A typical tree for the location. Typical vitality levels for the species/season.                                                                                                                                                                                                                                                                                                                         | 10+                                      | C2               |
| G19                   | Mixed species: Ivy ( <i>Hedera</i> sp.), Common hawthorn ( <i>Crataegus monogyna</i> ), Elder ( <i>Sambucus nigra</i> )                                                                                                 | 4          | 100                | 2                 | 2   | 2   | 2   | 0                             | 1.2            | 1                                       | SM        | Fair                    | Fair                 | Limited inspection due to vegetation. Growing in the open. Growing close to footpath/highway Growing on a verge. Soil level changes. Buttress obscured by shrubbery. Epicormic shooting on main stem. Stem obscured by ivy. Limited inspection of the stem. Small diameter (<25 mm) deadwood can be seen in the outer canopy. Small diameter (<25 mm) deadwood in the inner canopy. Canopy is distorted due to available light. Few failed and split trees within the group. Dense section of group.                                                             | 10+                                      | C2               |
| G20                   | Mixed species: Ivy ( <i>Hedera</i> sp.), Common hawthorn ( <i>Crataegus monogyna</i> ), Elder ( <i>Sambucus nigra</i> )                                                                                                 | 4          | 100                | 2                 | 2   | 2   | 2   | 0                             | 1.2            | 1                                       | SM        | Fair                    | Fair                 | Limited inspection due to vegetation. Limited inspection due to access. Growing in a group. Growing in a hedge. Growing close to footpath/highway Growing on a verge. Buttress obscured by ivy. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Stem obscured by epicormic growth. Stem obscured by ivy. Limited inspection of the stem. Ivy within canopy. Canopy is distorted due to available light. Tree line growing within hedge that has been maintained. Tree canopy above road. Dead trees standing within group. | 10+                                      | C2               |
| G21                   | Mixed species: Hawthorn ( <i>Crataegus monogyna</i> ), Field maple ( <i>Acer campestre</i> ), Elder ( <i>Sambucus nigra</i> ), Blackthorn ( <i>Prunus spinosa</i> ), Lawson cypress ( <i>Chamaecyparis lawsoniana</i> ) | 12         | 250                | 4                 | 4   | 4   | 4   | 0                             | 3              | 1                                       | EM        | Good                    | Good                 | Limited inspection due to vegetation. Limited inspection due to access. Growing in a group. Growing in a hedge. Growing close to footpath/highway Growing on a verge. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Stem obscured by epicormic growth. Limited inspection of the stem. Canopy is distorted due to available light. Tree line growing within hedge that has been maintained. Tree canopy above road.                                                                                                      | 20+                                      | B2               |

| Tree reference number | Species                                                                                                                                                                                                                                                                             | Height (m) | Stem diameter (mm) | Branch Spread (m) |   |   |   | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Estimated remaining contribution (years) | Category grading |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|---|---|---|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                                                                                                                                                                                                     |            |                    | N                 | E | S | W |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |                  |
| G22                   | <i>Sycamore (Acer pseudoplatanus)</i>                                                                                                                                                                                                                                               | 6          | 150                | 2                 | 2 | 2 | 2 | 2.5                           | 1.8            | 1                                       | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Growing in a group. Growing close to footpath/highway Growing on a verge. Soil level has been raised within the rootzone. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Single stem. Limited inspection of the stem. Small diameter (<25 mm) deadwood can be seen in the outer canopy. Small diameter (<25 mm) deadwood in the inner canopy. High-end loading on main branches. Canopy is distorted due to available light. A well-located tree with good potential. Plowing within the rpa of the tree | 20+                                      | B2               |
| G23                   | <i>Mixed species: Alder (Alnus glutinosa), Blackthorn (Prunus spinosa), Hawthorn (Crataegus monogyna), Aspen (Populus tremula), Black elder (Sambucus nigra), Wild cherry (Prunus avium), Lawson cypress (Chamaecyparis lawsoniana), Black hybrid poplar (Populus × canadensis)</i> | 12         | 200                | 4                 | 4 | 4 | 4 | 0                             | 2.4            | 1                                       | EM        | Good                    | Good                 | Growing in a group. Growing close to footpath/highway Growing on a verge. Buttress obscured by epicormic growth. Buttress obscured by shrubbery. Tri forked close to ground level. Included union visible between stems. Small diameter (<25 mm) deadwood in the inner canopy. Canopy is distorted due to available light.                                                                                                                                                                                                                                                            | 20+                                      | B2               |
| G24                   | <i>Wellingtonia (Sequoiadendron giganteum)</i>                                                                                                                                                                                                                                      | 15         | 1000               | 4                 | 4 | 4 | 4 | 1                             | 12             | 1                                       | M         | Good                    | Good                 | Growing in a group. Growing close to footpath/highway Growing on a verge. Growing on a bank Buttress obscured by epicormic growth. Buttress obscured by shrubbery. Tri forked close to ground level. Included union visible between stems. Small diameter (<25 mm) deadwood in the inner canopy. Canopy is distorted due to available light. Minor dieback of canopy.                                                                                                                                                                                                                 | 20+                                      | B2               |

| Tree reference number | Species                                                                                                                                                                                    | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                 | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                                                                                                            |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                          |                                          |                  |
| G25                   | Leyland cypress (X Cuprocyparis leylandii)                                                                                                                                                 | 13         | 300                | 3                 | 3   | 3   | 3   | 0                             | 3.6            | 1                                       | EM        | Good                    | Fair                 | Limited inspection due to access. Growing in the open. Growing on a verge Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. A sparse group.                                                                                                      | 20+                                      | B2               |
| G26                   | Mixed species: Hawthorn (Crataegus monogyna), Pedunculate oak (Quercus robur), Elder (Sambucus nigra), Silver birch (Betula pendula), Ash (Fraxinus excelsior), Goat willow (Salix caprea) | 5          | 150                | 2.5               | 2.5 | 2.5 | 2.5 | 0.5                           | 1.8            | 1                                       | M         | Good                    | Good                 | Limited inspection due to vegetation. Growing in a group. Growing in a hedge. Growing on a bank. Buttress obscured by shrubbery. Multi stemmed close to ground level. Limited inspection of the stem. Small diameter (<25 mm) deadwood in the inner canopy. Canopy is distorted due to available light. A typical tree for the location. | 20+                                      | B2               |
| G27                   | Leyland cypress (X Cuprocyparis leylandii)                                                                                                                                                 | 12         | 350                | 3                 | 3   | 3   | 3   | 0.5                           | 4.2            | 1                                       | EM        | Good                    | Good                 | Growing in a group. Growing next to fence. Growing on a bank. Growing close to watercourse. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. A valuable group with good diversity of species. A typical group for the area. A dense group requiring management.                                     | 20+                                      | B2               |
| G28                   | Mixed species: Goat willow (Salix caprea), Pedunculate oak (Quercus robur), Hawthorn (Crataegus monogyna), Silver birch (Betula pendula), Ash (Fraxinus excelsior)                         | 5          | 150                | 2.5               | 2.5 | 2.5 | 2.5 | 0.5                           | 1.8            | 1                                       | M         | Good                    | Good                 | Growing in a group. Growing on a bank. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Multi stemmed close to ground level. A typical tree for the location. Typical vitality levels for the species/season.                                                                                       | 20+                                      | B2               |
| G29                   | Horse chestnut (Aesculus hippocastanum)                                                                                                                                                    | 10         | 250                | 7                 | 7   | 7   | 7   | 1                             | 3              | 1                                       | EM        | Good                    | Good                 | Limited inspection due to vegetation. Limited inspection due to access. Growing in a group. Trees of mature size and age in comparison to the group surrounding them. Very limited access due to under foot conditions and due to dense vegetation.                                                                                      | 20+                                      | B2               |

| Tree reference number | Species                                                                                                                                                                | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                         | Estimated remaining contribution (years) | Category grading |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                                                                                        |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                  |                                          |                  |
| G30                   | Mixed species: Ash ( <i>Fraxinus excelsior</i> ), Pedunculate oak ( <i>Quercus robur</i> ), Sycamore ( <i>Acer pseudoplatanus</i> )                                    | 16         | 400                | 7                 | 7   | 7   | 7   | 2                             | 4.8            | 1                                       | EM        | Good                    | Good                 | Growing as part of the short edge of trees which do not appear to have had any past management. The group is a unmaintained hedge which is a line of trees.                                                                                                                                                      | 20+                                      | B2               |
| G31                   | Mixed species: Sycamore ( <i>Acer pseudoplatanus</i> ), Elder ( <i>Sambucus nigra</i> ), Hawthorn ( <i>Crataegus monogyna</i> )                                        | 12         | 300                | 3.5               | 3.5 | 3.5 | 3.5 | 2.5                           | 3.6            | 1                                       | EM        | Fair                    | Fair                 | Growing in a group. Growing next to fence. Growing on a bank. Growing close to watercourse. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. A valuable group with good diversity of species. A typical group for the area. A dense group requiring management.             | 20+                                      | B2               |
| G32                   | Mixed species: Ash ( <i>Fraxinus excelsior</i> ), Hawthorn ( <i>Crataegus monogyna</i> ), Silver birch ( <i>Betula pendula</i> ), Blackthorn ( <i>Prunus spinosa</i> ) | 5          | 50                 | 2                 | 2   | 2   | 2   | 0                             | 0.6            | 1                                       | EM        | Fair                    | Fair                 | Growing on a bank as a visual barrier. Growing as a single line of trees. Single species. Typical attributes for the species. some gaps present within line of trees.                                                                                                                                            | 20+                                      | B2               |
| G33                   | Norway maple ( <i>Acer platanoides</i> )                                                                                                                               | 12         | 300                | 3.5               | 3.5 | 3.5 | 3.5 | 2                             | 3.6            | 1                                       | EM        | Good                    | Good                 | Growing in the open. Growing in a group. Inspection limited or not possible due to visibility. Multi stemmed close to ground level. A typical group for the area. Top layer of soil around the trees appear to have been scraped off.                                                                            | 20+                                      | B2               |
| G34                   | Mixed species: English yew ( <i>Taxus baccata</i> ), Common juniper ( <i>Juniperus communis</i> )                                                                      | 4.5        | 150                | 4                 | 4   | 4   | 4   | 0                             | 1.8            | 1                                       | EM        | Fair                    | Fair                 | Growing in a group. Growing on a bank. An attractive group of trees of the same species and similar age. Single stems. Significant quantities of deadwood can be seen within the canopy.                                                                                                                         | 10+                                      | C2               |
| G35                   | Silver maple ( <i>Acer saccharinum</i> )                                                                                                                               | 15         | 400                | 6                 | 6   | 6   | 6   | 1.5                           | 4.8            | 1                                       | M         | Good                    | Good                 | Growing in a group. Growing close to footpath/highway Signs of filled in trenching through the group. Compaction from vehicles visible. Damage to roots suspected. Single stem. Minor quantities of deadwood can be seen within the canopy. A group dominated by a single species. A typical group for the area. | 40+                                      | B2               |

| Tree reference number | Species                                                                                                                              | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                         | Estimated remaining contribution (years) | Category grading |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                                                      |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                  |                                          |                  |
| G36                   | Silver maple ( <i>Acer saccharinum</i> )                                                                                             | 15         | 400                | 6                 | 6   | 6   | 6   | 1.5                           | 4.8            | 1                                       | M         | Good                    | Good                 | Growing in a group. Growing close to footpath/highway Signs of filled in trenching through the group. Compaction from vehicles visible. Damage to roots suspected. Single stem. Minor quantities of deadwood can be seen within the canopy. A group dominated by a single species. A typical group for the area. | 40+                                      | B2               |
| G37                   | Scots pine ( <i>Pinus sylvestris</i> )                                                                                               | 12         | 300                | 3.5               | 3.5 | 3.5 | 3.5 | 0.5                           | 3.6            | 1                                       | EM        | Good                    | Good                 | Growing in the open. Damage to roots visible. Decay within buttress. A a an attractive group dominated by a single species with evidence of trenching that has been filled in through the group.                                                                                                                 | 40+                                      | A2               |
| G38                   | Silver birch ( <i>Betula pendula</i> )                                                                                               | 3          | 50                 | 1                 | 1   | 1   | 1   | 0                             | 0.6            | 1                                       | SM        | Fair                    | Poor                 | Limited inspection due to vegetation. Limited inspection due to access. Buttress obscured by shrubbery. Multi stemmed close to ground level. Small diameter (<25 mm) deadwood in the inner canopy. Buttress obscured by shrubbery.                                                                               | 10+                                      | C2               |
| G39                   | Silver birch ( <i>Betula pendula</i> )                                                                                               | 12         | 200                | 3                 | 3   | 3   | 3   | 2.5                           | 2.4            | 1                                       | EM        | Fair                    | Fair                 | Growing in a group that is fenced off. A typical group with trees being of similar age. The group hosts some hung up trees and fallen dead trees. A lack of species diversity is noted.                                                                                                                          | 20+                                      | B2               |
| G40                   | Mixed species: Birch ( <i>Betula sp.</i> ), Willow ( <i>Salix sp.</i> )                                                              | 3          | 20                 | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 0.24           | 1                                       | SM        | Fair                    | Fair                 | Growing in a group. Growing in a hedge. Growing next to fence. A line of trees within a boundary hedge.                                                                                                                                                                                                          | 10+                                      | C2               |
| G41                   | Mixed Willow species ( <i>Salix sp.</i> )                                                                                            | 12         | 450                | 5                 | 5   | 5   | 5   | 4                             | 5.4            | 1                                       | M         | Good                    | Fair                 | Limited inspection due to vegetation. Growing close to the boundary. Tree in fence line. Tree in hedge. An overgrown hedge with no signs of management.                                                                                                                                                          | 20+                                      | B2               |
| G42                   | Poplar ( <i>Populus sp.</i> )                                                                                                        | 15         | 450                | 5                 | 5   | 5   | 5   | 6                             | 5.4            | 1                                       | M         | Good                    | Fair                 | Growing in a group. Growing in a domestic garden. Limited inspection due to access. Domestic growing orchard.                                                                                                                                                                                                    | 20+                                      | B2               |
| G43                   | Silver maple ( <i>Acer saccharinum</i> )                                                                                             | 16         | 450                | 5                 | 5   | 5   | 5   | 4                             | 5.4            | 1                                       | M         | Good                    | Fair                 | Growing in a group in a field corner. Multiple failures with canopies, some main leaders hung up in neighbouring tree canopies.                                                                                                                                                                                  | 20+                                      | B2               |
| G44                   | Mixed species: Birch ( <i>Betula sp.</i> ), Hawthorn ( <i>Crataegus monogyna</i> ), Horse chestnut ( <i>Aesculus hippocastanum</i> ) | 12         | 250                | 3                 | 3   | 3   | 3   | 2                             | 3              | 1                                       | EM        | Good                    | Fair                 | Self-seeded trees. Growing in a group. Tree in fence line. Inappropriately located trees Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Stem obscured by ivy. Ivy within canopy.                                                                                          | 20+                                      | B2               |

| Tree reference number | Species                                                                                                                                                                                                                     | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                                                                                                                    | Estimated remaining contribution (years) | Category grading |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                                                                                                                                             |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |                  |
| G45                   | Mixed species: Birch ( <i>Betula</i> sp.), Hawthorn ( <i>Crataegus monogyna</i> ), Pedunculate oak ( <i>Quercus robur</i> ), Ash ( <i>Fraxinus excelsior</i> )                                                              | 4.5        | 100                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.2            | 1                                       | SM        | Fair                    | Fair                 | Limited inspection due to access. Self-seeded trees. Growing in a group. Self seeded trees and scrub.                                                                                                                                                                                                                                                                                                                       | 10+                                      | C2               |
| G46                   | Mixed species: Willow ( <i>Salix</i> sp.), Silver birch ( <i>Betula pendula</i> )                                                                                                                                           | 12         | 200                | 2.5               | 2.5 | 2.5 | 2.5 | 2.5                           | 2.4            | 1                                       | EM        | Fair                    | Fair                 | Self-seeded tree. Growing in a group. Tree in fence line. Inappropriately located trees Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Stem obscured by ivy. Ivy within canopy.                                                                                                                                                                                                      | 20+                                      | B2               |
| G47                   | Mixed species: White poplar ( <i>Populus alba</i> ), Lawson cypress ( <i>Chamaecyparis lawsoniana</i> )                                                                                                                     | 14         | 400                | 2                 | 1.5 | 2   | 1.5 | 0                             | 4.8            | 1                                       | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Limited inspection due to access. Inappropriately located tree. Self-seeded tree. Growing in a group. Growing close to boundary. Tree in fence line. With exception to the Western boundary many of the trees are self-seated and young growing in cracks between concrete slabs in large quantities. Western boundary has slightly older trees of mixed species at sporadic spacing. | 20+                                      | B2               |
| G48                   | Mixed species: Sycamore ( <i>Acer pseudoplatanus</i> ), Apple ( <i>Malus</i> sp.), Goat willow ( <i>Salix caprea</i> ), Birch ( <i>Betula</i> sp.), Hawthorn ( <i>Crataegus monogyna</i> ), Elder ( <i>Sambucus nigra</i> ) | 13         | 350                | 3.5               | 3.5 | 3.5 | 3.5 | 0.5                           | 4.2            | 1                                       | EM        | Good                    | Fair                 | Growing in a group. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. A typical group for the area. A dense group requiring management.                                                                                                                                                                                                                                                 | 20+                                      | B2               |
| G49                   | Mixed species: Norway maple ( <i>Acer platanoides</i> ), Apple ( <i>Malus</i> sp.), Hawthorn ( <i>Crataegus monogyna</i> ), Elder ( <i>Sambucus nigra</i> ), Willow ( <i>Salix</i> sp.)                                     | 12         | 300                | 2.5               | 2.5 | 2.5 | 2.5 | 0.5                           | 3.6            | 1                                       | EM        | Fair                    | Fair                 | Growing in a group. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. A typical group for the area. A dense group requiring management. Some dead standing trees.                                                                                                                                                                                                                       | 20+                                      | B2               |

| Tree reference number | Species                                                                                                 | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                       | Estimated remaining contribution (years) | Category grading |
|-----------------------|---------------------------------------------------------------------------------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                                                                                                         |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                |                                          |                  |
| G50                   | Mixed species: Blackthorn (Prunus spinosa), Common hawthorn (Crataegus monogyna)                        | 5          | 50                 | 2                 | 2   | 2   | 2   | 0                             | 0.6            | 1                                       | EM        | Fair                    | Fair                 | Growing in a group. A typical group for the area.                                                                                                                                                                                                                                                              | 10+                                      | C2               |
| G51                   | Mixed species: Pedunculate oak (Quercus robur), Ash (Fraxinus excelsior), Hawthorn (Crataegus monogyna) | 13         | 300                | 2.5               | 2.5 | 2.5 | 2.5 | 3                             | 3.6            | 1                                       | EM        | Good                    | Good                 | Growing in a hedge. Growing close to watercourse. Third tree from the south appears in reduced vitality. Buttress obscured by ivy. A typical group for the area. A group dominated with Ivy restricting inspection.                                                                                            | 20+                                      | B2               |
| G52                   | Ash (Fraxinus excelsior)                                                                                | 12         | 350                | 6                 | 6   | 6   | 6   | 3                             | 4.2            | 1                                       | EM        | Fair                    | Fair                 | Growing in a group. Roadside tree. Target - road. Risk offered to General Public. Risk offered by expected branch failure. Risk offered by expected failure of main stem. Risk offered by expected root plate failure. Growing on neighbouring land. A group of dead standing trees with dead intact canopies. | 20+                                      | B2               |
| G53                   | Mixed species: Hawthorn, (Crataegus monogyna), Rowan (Sorbus aucuparia)                                 | 4          | 100                | 2.5               | 2.5 | 2.5 | 2.5 | 0                             | 1.2            | 1                                       | EM        | Good                    | Good                 | Growing in a group. Growing close to above ground utility wire A typical group for the area. A dense group requiring management.                                                                                                                                                                               | 10+                                      | C2               |
| G54                   | Mixed species: Hawthorn, (Crataegus monogyna), Rowan (Sorbus aucuparia)                                 | 7          | 150                | 3                 | 3   | 3   | 3   | 2                             | 1.8            | 1                                       | EM        | Good                    | Good                 | Growing in a group. Growing on a bank. A dense low-level group.                                                                                                                                                                                                                                                | 20+                                      | B2               |
| H1                    | Mixed hedge (Mixed hedge)                                                                               | 2          | 100                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.2            | 1                                       | EM        | Good                    | Good                 | Limited inspection due to access. Growing in the open. Growing on a bank. Growing close to watercourse. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. A sparse group.                                              | 20+                                      | C2               |

| Tree reference number | Species                      | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments | Estimated remaining contribution (years) | Category grading                                                                                                                                                                                                                                                            |     |    |
|-----------------------|------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|----------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
|                       |                              |            |                    | N                 | E   | S   | W   |                               |                |                                         |           |                         |                      |          |                                          |                                                                                                                                                                                                                                                                             |     |    |
| H2                    | Mixed hedge<br>(Mixed hedge) | 2.5        | 100                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             |                | 1.2                                     | 1         |                         | EM                   | Good     | Good                                     | Limited inspection due to access. Growing in the open. Growing on a bank. Growing close to watercourse. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. A sparse group.           | 20+ | C2 |
| H3                    | Mixed hedge<br>(Mixed hedge) | 2          | 100                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             |                | 1.2                                     | 1         |                         | EM                   | Good     | Good                                     | Limited inspection due to access. Growing in the open. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. A sparse group. Some escaped trees in a small section on the eastern side. | 20+ | C2 |
| H4                    | Mixed hedge<br>(Mixed hedge) | 2.5        | 80                 | 1                 | 1   | 1   | 1   | 0                             |                | 1.2                                     | 1         |                         | EM                   | Good     | Good                                     | Limited inspection due to access. Growing in the open. Growing on a verge. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. A sparse group.                                        | 20+ | C2 |
| H5                    | Mixed hedge<br>(Mixed hedge) | 2          | 100                | 1                 | 1   | 1   | 1   | 0                             |                | 1.2                                     | 1         |                         | EM                   | Good     | Good                                     | Limited inspection due to access. Growing in the open. Growing on a verge. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. A sparse group.                                        | 20+ | C2 |
| H6                    | Mixed hedge<br>(Mixed hedge) | 6          | 80                 | 1.5               | 1.5 | 1.5 | 1.5 | 0                             |                | 1.2                                     | 1         |                         | EM                   | Good     | Good                                     | Limited inspection due to access. Growing in the open. Growing on a verge. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. A sparse group.                                        | 20+ | C2 |
| H7                    | Mixed hedge<br>(Mixed hedge) | 2          | 100                | 2                 | 2   | 2   | 2   | 0                             |                | 1.2                                     | 1         |                         | EM                   | Good     | Good                                     | Limited inspection due to access. Growing in the open. Growing on a verge. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. A sparse group.                                        | 20+ | C2 |
| H8                    | Mixed hedge<br>(Mixed hedge) | 19         | 50                 | 1                 | 1   | 1   | 1   | 0                             |                | 12.0                                    | 12        | 1                       | EM                   | Fair     | Fair                                     | Limited inspection due to access. Growing in the open. Growing on a verge. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. Typical agricultural hedge that has been maintained    | 20+ | B2 |

| Tree reference number | Species                      | Height (m) | Stem diameter (mm) | Branch Spread (m) |   |   |   | Height of crown clearance (m) | RPA Radius (m) | RPA (m2) (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                                                                                                                                                  | Estimated remaining contribution (years) | Category grading |
|-----------------------|------------------------------|------------|--------------------|-------------------|---|---|---|-------------------------------|----------------|-----------------------------------------|-----------|-------------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                              |            |                    | N                 | E | S | W |                               |                |                                         |           |                         |                      |                                                                                                                                                                                                                                                                                                                           |                                          |                  |
| H9                    | Mixed hedge<br>(Mixed hedge) | 2          | 50                 | 1                 | 1 | 1 | 1 | 0                             | 0.6            | 1                                       | EM        | Fair                    | Fair                 | Limited inspection due to access. Growing in the open. Growing on a verge. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. Typical agricultural hedge that has been maintained                                                  | 20+                                      | B2               |
| H10                   | Mixed hedge<br>(Mixed hedge) | 2          | 50                 | 1                 | 1 | 1 | 1 | 0                             | 0.6            | 1                                       | EM        | Fair                    | Fair                 | Limited inspection due to access. Growing in the open. Growing on a verge. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. Typical agricultural hedge that has been maintained                                                  | 20+                                      | B2               |
| H11                   | Mixed hedge<br>(Mixed hedge) | 2          | 50                 | 1                 | 1 | 1 | 1 | 0                             | 0.6            | 1                                       | EM        | Fair                    | Fair                 | Limited inspection due to access. Growing in the open. Growing on a verge. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. Typical agricultural hedge that has been maintained                                                  | 20+                                      | B2               |
| H12                   | Mixed hedge<br>(Mixed hedge) | 2          | 50                 | 1                 | 1 | 1 | 1 | 0                             | 0.6            | 1                                       | EM        | Fair                    | Fair                 | Limited inspection due to access. Growing in the open. Growing on a verge. Multi stemmed close to ground level. Included union visible between stems. A typical tree for the location. A typical group for the area. Typical agricultural hedge that has been maintained                                                  | 20+                                      | B2               |
| H13                   | Mixed hedge<br>(Mixed hedge) | 2          | 50                 | 1                 | 1 | 1 | 1 | 0                             | 0.6            | 1                                       | EM        | Fair                    | Fair                 | Limited inspection due to vegetation. Growing in a group. Growing as a hedge. Growing on boundary. Buttress obscured by epicormic growth. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. Multi stemmed close to ground level. Normal agricultural hedge with trees growing within. | 10+                                      | C2               |
| H14                   | Mixed hedge<br>(Mixed hedge) | 2          | 50                 | 1                 | 1 | 1 | 1 | 0                             | 0.6            | 1                                       | EM        | Fair                    | Fair                 | Growing in a group. Growing close to the boundary. Tree in fence line. A high unmaintained hedge. Buttress obscured by shrubbery. Inspection limited or not possible due to visibility. A group dominated by a single species. A typical group for the area. Trees towards the southern section of the group are dead     | 10+                                      | C2               |

| Tree reference number | Species                      | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2 (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                                                                                                                              | Estimated remaining contribution (years) | Category grading |
|-----------------------|------------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|----------------------------------------|-----------|-------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                              |            |                    | N                 | E   | S   | W   |                               |                |                                        |           |                         |                      |                                                                                                                                                                                                       |                                          |                  |
| H15                   | Mixed hedge<br>(Mixed hedge) | 2          | 100                | 1                 | 1   | 1   | 1   | 0                             | 0.96           | 1                                      | SM        | Good                    | Good                 | Growing in a hedge. A typical boundary hedge, unmaintained                                                                                                                                            | 20+                                      | C2               |
| H16                   | Mixed hedge<br>(Mixed hedge) | 2          | 100                | 1                 | 1   | 1   | 1   | 0                             | 1.2            | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. A typical boundary hedge, unmaintained                                                                                                                                            | 20+                                      | C2               |
| H17                   | Mixed hedge<br>(Mixed hedge) | 1.5        | 100                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.2            | 1                                      | EM        | Good                    | Good                 | Growing on boundary. Growing close to watercourse. A typical maintained agricultural style hedge.                                                                                                     | 20+                                      | C2               |
| H18                   | Mixed hedge<br>(Mixed hedge) | 2          | 100                | 2                 | 2   | 2   | 2   | 0                             | 1.2            | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge.                                                                                                                                    | 20+                                      | C2               |
| H19                   | Mixed hedge<br>(Mixed hedge) | 2          | 100                | 1                 | 1   | 1   | 1   | 0                             | 0.96           | 1                                      | EM        | Fair                    | Fair                 | Growing in a hedge. A typical maintained agricultural style hedge.                                                                                                                                    | 10+                                      | C2               |
| H20                   | Mixed hedge<br>(Mixed hedge) | 2          | 100                | 1                 | 1   | 1   | 1   | 0                             | 1.2            | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge.                                                                                                                                    | 20+                                      | C2               |
| H21                   | Mixed hedge<br>(Mixed hedge) | 2          | 50                 | 1                 | 1   | 1   | 1   | 0                             | 0.6            | 1                                      | EM        | Fair                    | Fair                 | The hedge has sporadic gaps, particularly on the western side towards the highway. Mapping these gaps without an accurate Topo not thought worthwhile. A typical maintained agricultural style hedge. | 10+                                      | C2               |
| H22                   | Mixed hedge<br>(Mixed hedge) | 2          | 50                 | 1                 | 1   | 1   | 1   | 0                             | 0.6            | 1                                      | EM        | Fair                    | Fair                 | Growing in a hedge. A typical maintained agricultural style hedge.                                                                                                                                    | 10+                                      | C2               |
| H23                   | Mixed hedge<br>(Mixed hedge) | 2          | 100                | 1                 | 1   | 1   | 1   | 0                             | 1.2            | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge.                                                                                                                                    | 20+                                      | C2               |
| H24                   | Mixed hedge<br>(Mixed hedge) | 18         | 250                | 3                 | 3   | 3   | 3   | 0                             | 3              | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. With sporadic lapsed hedgerow trees towards corner. A typical maintained agricultural style hedge with lapsed hedge trees near the corner.                                        | 10+                                      | C2               |
| H25                   | Mixed hedge<br>(Mixed hedge) | 2          | 100                | 1                 | 1   | 1   | 1   | 0                             | 1.2            | 1                                      | EM        | Fair                    | Fair                 | Growing in a hedge. A typical maintained agricultural style hedge                                                                                                                                     | 20+                                      | C2               |
| H26                   | Mixed hedge<br>(Mixed hedge) | 2          | 80                 | 1                 | 1   | 1   | 1   | 0                             | 0.96           | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge                                                                                                                                     | 20+                                      | C2               |
| H27                   | Mixed hedge<br>(Mixed hedge) | 2          | 80                 | 1                 | 1   | 1   | 1   | 0                             | 0.96           | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge                                                                                                                                     | 20+                                      | C2               |
| H28                   | Mixed hedge<br>(Mixed hedge) | 2          | 80                 | 1                 | 1   | 1   | 1   | 0                             | 0.96           | 1                                      | EM        | Good                    | Good                 | A sparse hedge with multiple gaps. A sparse hedge requiring bulking up. Gaps not mapped as Topo required for accuracy.                                                                                | 20+                                      | C2               |
| H29                   | Mixed hedge<br>(Mixed hedge) | 2          | 80                 | 1                 | 1   | 1   | 1   | 0                             | 0.96           | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge                                                                                                                                     | 20+                                      | C2               |

| Tree reference number | Species                   | Height (m) | Stem diameter (mm) | Branch Spread (m) |     |     |     | Height of crown clearance (m) | RPA Radius (m) | RPA (m2 (T) / RPA Offset (m) (G, H, W) | Age Class | Physiological condition | Structural Condition | Comments                                                                                 | Estimated remaining contribution (years) | Category grading |
|-----------------------|---------------------------|------------|--------------------|-------------------|-----|-----|-----|-------------------------------|----------------|----------------------------------------|-----------|-------------------------|----------------------|------------------------------------------------------------------------------------------|------------------------------------------|------------------|
|                       |                           |            |                    | N                 | E   | S   | W   |                               |                |                                        |           |                         |                      |                                                                                          |                                          |                  |
| H30                   | Mixed hedge (Mixed hedge) | 2          | 80                 | 1                 | 1   | 1   | 1   | 0                             | 0.96           | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge                        | 20+                                      | C2               |
| H31                   | Mixed hedge (Mixed hedge) | 2          | 80                 | 1                 | 1   | 1   | 1   | 0                             | 0.96           | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge                        | 20+                                      | C2               |
| H32                   | Mixed hedge (Mixed hedge) | 2          | 80                 | 1                 | 1   | 1   | 1   | 0                             | 0.96           | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge                        | 20+                                      | C2               |
| H33                   | Mixed hedge (Mixed hedge) | 2          | 80                 | 1                 | 1   | 1   | 1   | 0                             | 0.96           | 1                                      | EM        | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge                        | 20+                                      | C2               |
| H34                   | Mixed hedge (Mixed hedge) | 3          | 100                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.2            | 1                                      | M         | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge, gappy in places.      | 20+                                      | B2               |
| H35                   | Mixed hedge (Mixed hedge) | 3          | 100                | 1                 | 1   | 1   | 1   | 0                             | 1.2            | 1                                      | M         | Good                    | Good                 | Growing in a hedge. A typical maintained agricultural style hedge, gappy in places.      | 20+                                      | C2               |
| H36                   | Mixed hedge (Mixed hedge) | 2          | 50                 | 1                 | 1   | 1   | 1   | 0                             | 0.6            | 1                                      | EM        | Fair                    | Fair                 | Growing in a hedge. A typical maintained agricultural style hedge                        | 10+                                      | C2               |
| H37                   | Mixed hedge (Mixed hedge) | 2          | 50                 | 1                 | 1   | 1   | 1   | 0                             | 0.6            | 1                                      | EM        | Fair                    | Fair                 | Located within a field boundary A typical well maintained agricultural hedge             | 10+                                      | C2               |
| H38                   | Mixed hedge (Mixed hedge) | 2          | 50                 | 1                 | 1   | 1   | 1   | 0                             | 0.6            | 1                                      | EM        | Fair                    | Fair                 | Located within a field boundary A typical well maintained agricultural hedge             | 10+                                      | C2               |
| H39                   | Mixed hedge (Mixed hedge) | 2          | 50                 | 1                 | 1   | 1   | 1   | 0                             | 0.6            | 1                                      | EM        | Fair                    | Fair                 | Target - road. A typical well maintained agricultural hedge                              | 10+                                      | C2               |
| H40                   | Mixed hedge (Mixed hedge) | 2          | 100                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.2            | 1                                      | EM        | Good                    | Good                 | A typical well maintained agricultural hedge Target - road. Well maintained hedge        | 20+                                      | C2               |
| H41                   | Mixed hedge (Mixed hedge) | 2.5        | 100                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.2            | 1                                      | EM        | Good                    | Good                 | Located within a field boundary A typical well maintained agricultural hedge             | 20+                                      | C2               |
| H42                   | Mixed hedge (Mixed hedge) | 2.5        | 100                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.2            | 1                                      | EM        | Good                    | Good                 | Located within a field boundary A typical well maintained agricultural hedge             | 20+                                      | C2               |
| H43                   | Mixed hedge (Mixed hedge) | 2.5        | 100                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.2            | 1                                      | EM        | Good                    | Good                 | Located in a field boundary. Target - road. A typical well maintained agricultural hedge | 20+                                      | C2               |
| H44                   | Mixed hedge (Mixed hedge) | 2.5        | 100                | 1.5               | 1.5 | 1.5 | 1.5 | 0                             | 1.2            | 1                                      | EM        | Good                    | Good                 | Field boundary hedge. A typical well maintained agricultural hedge                       | 20+                                      | B2               |
| H45                   | Mixed hedge (Mixed hedge) | 1.5        | 100                | 1                 | 1   | 1   | 1   | 0                             | 1.2            | 1                                      | EM        | Good                    | Good                 | A boundary hedge. A typical well maintained agricultural hedge                           | 20+                                      | C2               |

Table B.2      Key to Categories

| Trees unsuitable for retention                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                           |                                                                                               |                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|------------------------|
| Category and Definition                                                                                                                                                     | Criteria (including subcategories where appropriate)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                           |                                                                                               | Identification on Plan |
| <b>Category U</b><br>Those in such a condition that they cannot realistically be retained as a living tree in the context of the current land use for longer than 10 years. | <ul style="list-style-type: none"><li>• 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 U category trees (i.e. Where for whatever reason the loss of companion shelter cannot be mitigated by pruning)</li><li>• Trees that are dead or are showing signs of significant immediate or irreversible overall decline.</li><li>• Trees infected with pathogens of significance to the health and or safety of other trees nearby by or very low-quality trees suppressing adjacent trees of better quality.</li></ul> |                                                                                                                                                                                                                                                           |                                                                                               | Red                    |
| Trees to be considered for retention                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                           |                                                                                               |                        |
| Category and Definition                                                                                                                                                     | Mainly arboricultural values                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Mainly landscape values                                                                                                                                                                                                                                   | Mainly cultural values                                                                        | Identification on Plan |
| <b>Category A</b><br>Trees of high quality with an estimated remaining life expectancy of at least 40 years                                                                 | Trees that are a particularly good example of their species, especially if rare or unusual, or essential components of groups or of formal or semi-formal arboricultural features.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Tree groups or woodlands of particular visual importance as arboricultural and/or landscape features.                                                                                                                                                     | Tree groups or woodlands of significant conservation historical, commemorative or other value | Green                  |
| <b>Category B</b><br>Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.                                                            | Trees that might be included in the high category but are downgraded because of impaired condition.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Trees present in numbers, usually 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 benefits.                                  | Blue                   |
| <b>Category C</b><br>Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.                | Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Trees present in groups or woodlands but without this conferring on them significantly greater landscape value and/or trees offering low or only temporary/transient landscape benefits.                                                                  | Trees with no material conservation or other cultural benefits.                               | Grey                   |

# Annex C

## Preliminary Tree Protection Measures

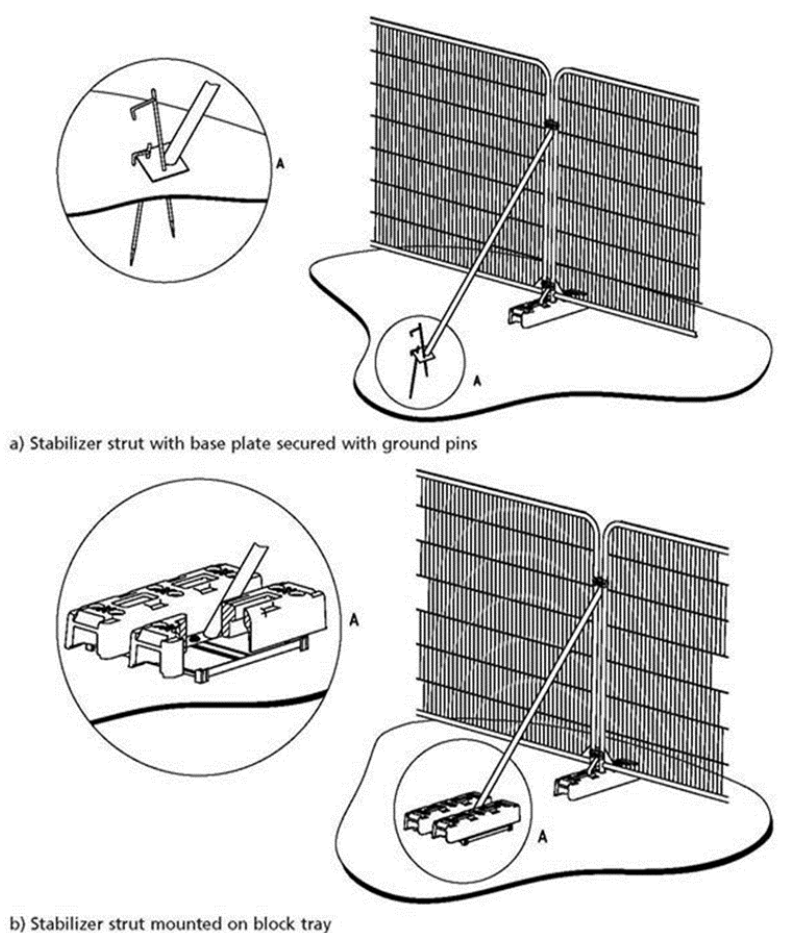
### Overview

These Preliminary Tree Protection Measures provide generic best practice measures to be adopted in order to protect retained trees during the development process. It has been prepared in order to inform the consenting and the construction/ development process. Should a bespoke AMS be recommended by the suitably qualified arboriculturist, one should be drawn up in liaison with the contractor undertaking the works.

### Protective Fencing

The purpose of this fencing is to provide protection to the RPAs of retained trees/groups and to protect trees and hedgerows prior to their translocation. The type of fencing used shall be appropriate to the level of adjacent construction activity and shall be agreed with the Local Authority tree officer. Weather-proof notices shall be attached to any protective fencing located adjacent to retained trees displaying the words “Construction Exclusion Zone” and listing restrictions which apply. All personnel must be made aware of these restrictions.

Figure C.1 Tree protection fencing specification (extract from BS 5837: 2012)



## Construction Exclusion Zone (CEZ)

The Construction Exclusion Zone (CEZ) is the area identified by a suitably qualified arboriculturist as the area to be protected during development, from site clearance and construction work through the use of barriers and/or ground protection to ensure the successful long-term retention of a tree. Fencing or ground protection shall not be taken down or relocated at any time without prior agreement and/or site supervision as recommended by the arboriculturist.

All areas excluded by protective tree fencing shall be treated as CEZs, and the following restrictions shall apply:

- No construction activity must occur within these areas.
- No works on trees unless agreed by a suitably qualified arboriculturist.
- No alterations of ground levels or conditions.
- No chemicals or cement washings.
- No excavation.
- No temporary structures\*
- No storage of soil, rubble or other materials.
- No vehicles or machinery to be used or parked without appropriate ground protection measures as per BS5837 recommendations. This will require the use of a proprietary system of reinforced concrete slabs/steel road plates on a compressible layer, or side butting scaffold boards/ 18mm plywood sheets on a compressible layer. The type of ground protection used shall be appropriate for the likely loading applied.
- No fixtures (lighting, signs etc.) to be attached to trees.
- No fires within 10 metres of the canopies of any tree or hedgerow.

\*Site huts, provided they are of the “Jack Leg” type, can be sited to act as ground protection for the duration of the construction.

## Temporary Ground Protection

New temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing compaction of underlying soil. The ground protection might comprise one of the following:

- For pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression-resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;
- For pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;
- For wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

## New Permanent Surfacing Within RPAs

Any new surfacing within the RPAs shall occur above ground level without soil stripping. New surfaces shall be constructed on a cellular confinement to prevent localised compaction of the rooting medium post development. Porous geotextile membranes shall be used both above and below the cellular confinement system to prevent mixing of materials with the binding layer or the soil. The new surface needs to be permeable to air and water (resin bound gravel or similar is recommended). This is to allow roots to respire without there being a build-up of carbon dioxide, and to ensure the roots continue to receive the moisture and oxygen they require to function. Traditional kerbing requires excavation to install and will therefore not be suitable within the root protection areas of retained trees. As an alternative, haunched kerbing, treated timber edging, aluminium L-shaped edging, galvanised metal edging or no fixed edging shall be used. Construction of the new surface will require access into the construction exclusion zone defined by the temporary ground protection. The ground protection shall not be removed until new surface is installed. The root protection areas should not be left exposed during construction.

## General Canopy Protection

Since the canopies of retained trees may be in close proximity to areas of plant operation, the following restrictions will apply:

- All plant will be sited outside the defined RPAs of retained trees / groups, and the appointed contractor will ensure all relevant personnel shall be made aware of the location of branches and the need to avoid causing damage to them.
- Prior to the implementation of lifting operations, a representative from the equipment supply company shall visit the site and ensure all operations can be completed without causing damage to retained trees. A lifting plan will be prepared and submitted for approval prior to all lifting operations. The lifting plan will make provision for the potential for damage of retained trees.
- All lifting operations will be completed under the close direction of a qualified banksman, who will be briefed by the appointed contractor as to the need to avoid damage the stems and branches of retained trees.
- Should additional tree removal or pruning be required the Local Authority Tree Officer shall be contacted and the scope of works agreed in writing.

## Hazardous Materials

Any mixing of cement-based materials is to take place outside the RPAs of all trees. Provision shall be made to ensure that the mixing area is contained so that no water runoff enters the RPAs of any trees. All mixers and barrows shall be cleaned within this dedicated mixing area.

All other chemicals hazardous to tree health, including petrol and diesel, are to be stored in suitable containers as specified by the Control of Substances Hazardous to Health (COSHH) Regulations (2002) (Ref 4), and kept away from the RPAs.

Example of Protective Fencing Signs



# **Appendix K Excerpts from Appendix F Ecology Report**

**The Great Grid Upgrade**

Chesterfield to High Marnham

# Chesterfield to High Marnham

Environmental Appraisal Report – Appendix K: Excerpts from Appendix  
F of the new 400kV High Marnham Substation EAR

October 2026

**nationalgrid**

**The text in this report comprises excerpts from Appendix F Ecology Report to the New 400kV High Marnham substation Environmental Appraisal Report. Where possible, the original paragraph, table and figure references have been retained to aid the reader.**

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# 1. Introduction

- 1.1.1 Arcadis Consulting (UK) Limited was commissioned by National Grid Electricity Transmission plc (National Grid) to undertake a Preliminary Ecological Appraisal (PEA) and subsequent targeted species surveys of a site located near High Marnham... [Figure 1.1]

Figure 1.1 High Marnham Scheme boundary



## 2. Legislation

### 2.1 Bats

- 2.1.1 This section provides an overview of the legislation applicable to bats; for further information the source legislation should be reviewed.
- 2.1.2 All bat species are afforded full protection under UK and European legislation, including the Wildlife and Countryside Act (WCA) 1981 (as amended), the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Together, this legislation makes it illegal to recklessly, intentionally or deliberately:
- take, kill or injure a bat;
  - damage, destroy, or obstruct access to, a bat roost; and
  - disturb a bat occupying a roost.
- 2.1.3 A bat roost is defined in the legislation as ‘any structure or place which a bat uses for shelter or protection’. Annex II bats are those species listed on Annex II of the Habitats Directive, which lists animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation (SAC).
- 2.1.4 Bats are also protected by the Wild Mammals (Protection) Act 1996, which prohibits cruel treatment. The UK Post-2010 Biodiversity Framework (Joint Nature Conservation Committee and Defra, 2012) identifies 65 Priority Habitats and 150 Priority Species that are in need of protection. This list has been used to define Habitats and Species of Principal Importance in England (the Section 41 list) as required by the Natural Environment and Rural Communities (NERC) Act 2006 (as amended). Noctule bat (*Nyctalus noctula*), Soprano pipistrelle (*Pipistrellus pygmaeus*) and brown long-eared bat (*Plecotus auritus*) are bat species recorded within the Bassetlaw District Council area, which are listed as Species of Principal Importance (SPI) under the NERC Act 2006 (as amended)). All planning decisions must have regard to the conservation of these species.

...

### 2.3 Breeding Birds

- 2.3.1 In the UK, all wild bird species, their eggs and nests are protected by law. In addition, there are several pieces of legislation or policy, which afford certain species extra legal protection, or emphasise their conservation importance, as outlined below:
- species that are specially protected when breeding under Schedule 1 Part 1 of the WCA 1981 (as amended); and
  - Species of Principal Importance listed under Section 41 (S41) of the 2006 NERC Act.

- 2.3.2 Species that are of high nature conservation concern are listed as ‘Red-List’ and ‘Amber-list’ on the Royal Society for the Protection of Birds (RSPB) list of Birds of Conservation Concern (BoCC). This non-legislative system was derived from the review of the population status of bird species that are regularly found breeding within the UK, using data from national monitoring schemes by the leading governmental and non-governmental conservation organisations in the UK. A brief outline of the traffic light criteria is given below in Table 2.1.

Table 2.1 Outline of BoCC Traffic Light Criteria

| Criteria | Status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Red      | <p>Globally threatened</p> <p>Historical population decline in UK during 1800–1995</p> <p>Rapid (&gt; or =50%) decline in UK breeding population over last 25 years</p> <p>Rapid (&gt; or =50%) contraction of UK breeding range over last 25 years</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Amber    | <p>Moderate (25-49%) decline in UK breeding population over last 25 years</p> <p>Moderate (25-49%) contraction of UK breeding range over last 25 years</p> <p>Moderate (25-49%) decline in UK non-breeding population over last 25 years</p> <p>Species with unfavourable conservation status in Europe (SPEC = Species of European Conservation Concern)</p> <p>Five-year mean of 1–300 breeding pairs in UK</p> <p>&gt; or =50% of UK breeding population in 10 or fewer Sites, but not rare breeders</p> <p>&gt; or =50% of UK non-breeding population in 10 or fewer Sites</p> <p>&gt; or =20% of European breeding population in UK</p> <p>&gt; or =20% of NW European (wildfowl), East Atlantic Flyway (waders) or European (others) non-breeding populations in UK</p> |
| Green    | No identified threat to the population’s status                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## 3. Methodology

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### Legislation and Guidance

- 3.3.6 This assessment has been undertaken in accordance with current national legislation, and national, regional and local plans and policies relating to biodiversity in the context of the Scheme. Relevant legislation and guidance are listed below:
- Council Directive 92/43/EEC of the European Parliament and of the Council of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive) (Council of the European Communities, 1992);
  - ...
  - The WCA 1981 (as amended);
  - ...
  - Countryside and Rights of Way Act 2000;
  - NERC Act 2006 (as amended);
  - Wild Mammals Protection Act 1996;
  - The Environment Act 2021;
  - National Planning Policy Framework 2024 (Ministry of Housing, Communities and Local Government, 2021);
  - Guidelines for Ecological Impact Assessment in the UK and Ireland Terrestrial, Freshwater, Coastal and Marine (CIEEM, 2019);
  - BS 42020:2013. Biodiversity: Code of Practice for Planning and Development (BSI 42020: 2013).
  - The Status of our Bird Populations: The Fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second International Union for Conservation of Nature (IUCN) Red List assessment of extinction risk for Great Britain (Stanbury et al., 2021);
  - The Bassetlaw Local Plan (Bassetlaw District Council, 2021); and
  - Nottinghamshire BAP (Nottinghamshire Biodiversity Action Group, 2016).

### Night-time Bat Walkover Survey

- 3.3.7 A single NBW route was selected to incorporate features within the Site most likely to be used by foraging and commuting bats (such as woodland and scrub edges and hedgerows). The transect route is shown on the Bat Activity Survey Map in Annex A, Figure A.2 of this report.
- 3.3.8 Surveys were undertaken by suitably qualified and bat licenced ecologists, following The Bat Conservation Trust (BCT) 'Good Practice Guidelines' (Collins, 2023) of one survey visit per season, as the Site was considered as having low suitability for foraging and commuting bats. Details on weather and timings are provided within Annex B, Table B.1 of this Report. Surveys were undertaken on the following dates:

- 20 September 2023, conducted by Principal Ecologist Ben Mclean (ISS Labour) and Senior Ecologist Gemma Longman (ISS Labour);
  - 24 April 2024, conducted by Ecologist Nick Clayton (ISS Labour) and Ecologist Andrea Lee (ISS Labour); and
  - 12 June 2024, conducted by Ecologist Nick Clayton (ISS Labour) and Ecologist Andrea Lee (ISS Labour).
- 3.3.9 Dusk surveys commenced at sunset and ended two to three hours after sunset. The transect was walked once during the survey. At the starting point of the survey, surveyors listened for >30 minutes before starting the transect. Throughout the survey, surveyors included series of five minute ‘Listening Stops’.
- 3.3.10 The start point and the direction in which the transect was traversed was varied between surveys. Bat activity was recorded using portable Anabat Scout 1 handheld bat detectors and an Echo Meter Touch 2 Pro with an iPad Mini 5. Information on the following was recorded relating to observed bat activity:
- time of bat activity;
  - species;
  - behaviour (foraging, commuting, social);
  - number of bats and passes; and
  - where possible, additional information including direction of flight.
- 3.3.11 Although all habitats were sampled during the transect survey, the habitats that were identified as having moderate to high suitability for bats, such as the hedgerows, were the main focus when undertaking the surveys.
- 3.3.12 Echolocation data was analysed using Kaleidoscope Pro Software, which assigned a species label/s to each recorded file based on call parameters or classified a file as “No ID” where the call parameters could not be identified by the software. Where possible, bat calls were identified to species level. However, species of the genus *Myotis* were grouped together and collectively referred to as *Myotis* species (sp.) because in most cases their call characteristics are too similar in structure and have overlapping call parameters to identify to species level. Similarly, *Pipistrellus* sp. and *Nyctalus* sp. were used to describe calls where it was not possible to distinguish between species within the respective genus.
- 3.3.13 As there was little activity recorded on the evening of the surveys, all the auto analysed files were manually identified as part of the quality assurance process by a competent ecologist experienced in the use of the Kaleidoscope Pro software.

## Automated Detector Surveys

- 3.3.14 Full spectrum Songmeter SM4Bat static detectors with SMM-U2 microphones were deployed at three locations within the Site, once per season (spring, summer and autumn) of the survey period from April to October 2024, based upon the prescriptions and design recommendations present within The Bat Conservation Trust ‘Good Practice Guidelines’. The static detector locations are shown on the Bat Activity Survey Map in Annex A, Figure A.2.
- 3.3.15 The locations of the static detectors were determined according to a ‘judgmental’ sampling protocol, as other, more randomised detector deployment strategies were not practicable. The judgmental positioning employed the following assessment considerations:
- distributed across the survey area to gain maximum area coverage;

- positioned within or adjacent to a range of habitats present, ensuring that all broad habitats received; coverage from the detectors; and
- positioned on linear features and habitats considered likely to be of value for bats;

3.3.16 For each deployment, microphones were placed 1-2m above the ground, secured to landscape features (e.g. fence posts and trees) with the microphones in a 45 degree downwards position and micro-sited to avoid interference from surrounding vegetation. Omni-directional microphones were used to maximise the number of bat calls detected.

3.3.17 The detectors were programmed to record from 30 minutes prior to sunset until 30 minutes after sunrise, in line with BCT guidelines. Once triggered by ultrasound, the SM4 static detectors recorded sound files (saved in a .WAV format) with a duration of 15 seconds. As per the BCT guidelines, only five nights of data was analysed for each location and month deployed. Each night of monitoring comprises two separate dates – as surveys commence on one evening and continue until the morning of the following day.

3.3.18 Survey data was analysed for the nights shown on Table 3.1.

**Table 3.1 Automated detector survey deployment dates and survey conditions**

| Survey Season | Deployment Date | Sunrise Time | Sunset Time | Recording time (Hours) | Sunrise Temp, (°C) | Sunset Temp. (°C) | Rain      | Cloud (Oktas) | Wind (Beaufort) |
|---------------|-----------------|--------------|-------------|------------------------|--------------------|-------------------|-----------|---------------|-----------------|
| Spring        | 29/05/2024      | 04:44        | 21:17       | 7.43                   | 12                 | 14                | None      | 8             | 3               |
|               | 30/05/2024      | 04:43        | 21:18       | 7.40                   | 12                 | 12                | None      | 6             | 4               |
|               | 31/05/2024      | 04:42        | 21:19       | 7.38                   | 11                 | 12                | None      | 1             | 3               |
|               | 01/06/2024      | 04:42        | 21:20       | 7.35                   | 8                  | 11                | None      | 0             | 2               |
|               | 02/06/2024      | 04:41        | 21:21       | 7.32                   | 9                  | 16                | None      | 2             | 3               |
| Summer        | 20/07/2024      | 05:02        | 21:16       | 7.78                   | 18                 | 20                | None      | 5             | 3               |
|               | 21/07/2024      | 05:03        | 21:14       | 7.83                   | 15                 | 17                | None      | 3             | 2               |
|               | 22/07/2024      | 05:04        | 21:13       | 7.88                   | 16                 | 20                | None      | 4             | 2               |
|               | 23/07/2024      | 05:06        | 21:11       | 7.93                   | 14                 | 17                | None      | 4             | 2               |
|               | 24/07/2024      | 05:07        | 21:10       | 7.98                   | 13                 | 18                | 1 hour    | 6             | 3               |
| Autumn        | 25/09/2024      | 06:54        | 18:53       | 12.05                  | 9                  | 11                | 7 hours   | 8             | 4               |
|               | 26/09/2024      | 06:56        | 18:51       | 12.12                  | 12                 | 12                | All night | 8             | 5               |
|               | 27/09/2024      | 06:58        | 18:48       | 12.2                   | 10                 | 10                | None      | 2             | 2               |

| Survey Season | Deployment Date | Sunrise Time | Sunset Time | Recording time (Hours) | Sunrise Temp. (°C) | Sunset Temp. (°C) | Rain    | Cloud (Oktas) | Wind (Beaufort) |
|---------------|-----------------|--------------|-------------|------------------------|--------------------|-------------------|---------|---------------|-----------------|
|               | 28/09/2024      | 07:00        | 18:46       | 12.25                  | 5                  | 13                | None    | 3             | 2               |
|               | 29/09/2024      | 07:01        | 18:41       | 12.37                  | 5                  | 12                | 5 hours | 8             | 4               |

- 3.3.19 Echolocation data was analysed using Kaleidoscope Pro Software, which assigned a species label/s to each recorded file based on call parameters or classified a file as “No ID” where the call parameters could not be identified by the software. Where possible, bat calls were identified to species level. However, species of the genus *Myotis* were grouped together and collectively referred to as *Myotis* species (sp.) because in most cases their call characteristics are too similar in structure and have overlapping call parameters to identify to species level. Similarly, *Pipistrellus* sp. and *Nyctalus* sp. were used to describe calls where it was not possible to distinguish between species within the respective genus.
- 3.3.20 The auto analysed files for the automated static monitoring were manually identified as part of the quality assurance process, with all unidentified (NoID) and identified calls manually checked (for pipistrelle species if only under 90 per cent match ratio) and 10 per cent Noise files. However, if 50 per cent of the 10 per cent Noise files are bats then all Noise files were manually reviewed.
- 3.3.21 All recordings reported as Noise after the quality assurance process were then removed from the dataset.
- 3.3.22 Data analysis was then undertaken using ‘R’ script software that allows more comprehensive automated data handling. This approach provides improvements in the depth of assessment and graphical representation of the data than manual data handling.
- 3.3.23 To enable activity levels between positions to be compared, the data was ‘standardised’. Transforming the data controls seasonal variation in night length, allowing for standardised data to provide an index of activity which can be compared across different detector locations. This was conducted by dividing the number of calls recorded by the number of hours that a detector was recording.
- ...

## Breeding Birds

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- 3.3.25
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3.3.31

3.3.32 Breeding bird surveys were conducted based on the guidelines in the British Trust for Ornithology (BTO) Breeding Bird Survey methodology. The surveys involved walking along pre-determined transect routes around the Site, with surveys starting just after dawn and finishing before 11am. All encountered bird species that are afforded protection under Schedule 1 of the WCA 1981 (as amended), and those that are red and amber listed BoCC are recorded and plotted on a map/plan shown in Annex A, Figure A.3 to Figure A.9. The Site was considered to have relatively low suitability and therefore in line with guidance, Arcadis proposed three surveys for breeding birds. This number increased to five, following discussions with AECOM, to assist with the progression of a crossover project (North Humber to High Marnham).

3.3.33 Surveys were undertaken and lead by suitably qualified ecologists/ornithologists on the following dates:

- 4 April 2024, conducted by Consultant and Ornithologist Ewan Gibson (Arcadis), and Consultant Ecologist Rory Murphy (Arcadis);
- 28 May 2024, conducted by Ornithologist Ian Nixon (ISS Labour) and Consultant Ecologist Vicky Handby (Arcadis);
- 12 June 2024, conducted by Ornithologist Ian Nixon (ISS Labour) and Assistant Field Engineer David Pellett (Arcadis);
- 26 June 2024, conducted by Ornithologist Ian Nixon (ISS Labour) and Assistant Field Engineer David Pellett (Arcadis); and
- 10 July 2024, conducted by Ornithologist Ian Nixon (ISS Labour) and Consultant Ecologist Vicky Handby (Arcadis).

3.3.34 Data analysis was undertaken, and breeding status was assessed using the BTO breeding evidence methodology. For this report, 'probable' and 'confirmed' breeding have been combined as 'breeding', as during these surveys no intensive checks within vegetation were undertaken to identify any nests.

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## 3.4 Survey Limitations

### Protected Species Surveys

3.4.1

3.4.2

3.4.3

3.4.4 The findings presented in this report represent those at the time of survey and reporting, and data collected from available sources. Ecological surveys are limited by factors, which affect the presence of species, such as weather conditions, movement patterns and behaviour.

#### Night-time Bat Walkover

3.4.5 The second survey in April 2024 was undertaken in sub-optimal conditions, with the temperature being less than 10 degrees at the start of the survey, which was unusual for the time of year. No bats were recorded during the time of the survey. The Site

was of low suitability for foraging and commuting bats, with activity level low across all the surveys and so, is unlikely to affect the suitability status of the Site for foraging and commuting bats.

- 3.4.6 The distribution of commuting and foraging bats across the survey area, as illustrated in Annex A Figure A.2, reflects the routes that were followed by the surveyors on the transects. This means that the survey results of the NBWs may not be representative of commuting and foraging activity across the whole Site.

#### **Automated Detector Surveys**

- 3.4.7 Surveys undertaken using bat detectors are inherently biased as bats with louder calls (e.g. *Nyctalus* sp. and *Pipistrellus* sp.) can be recorded at a greater distance and with greater confidence than species with quiet calls (e.g. brown long-eared bat), leading to potential under-representation of the quieter calling species. This limitation has been partially overcome by manual verification of all calls to increase identification of species that may otherwise be overlooked (including multiple species within one sound file).
- 3.4.8 A single 15 second WAV file recorded on a static detector may contain a number of individual bat calls, or discrete groups of ultrasound 'pulses'. A series of separate WAV files may represent multiple bats making an individual pass within the range of the microphone, or an individual/smaller number of bats repeatedly passing within the range of the microphone. One limitation of automated surveys is being unable to distinguish between these two scenarios. Sound files recorded during automated surveys are therefore an index of bat activity, rather than a measure of abundance. For the purposes of analysis, a single WAV file was identified as a bat 'pass'.
- 3.4.9 Less than the required five nights of data was collected due to detector malfunctions during the spring deployment at static location two. The data was standardised to bat passes per hour so that this was not considered a limitation and constraint to have impacted the robustness of the baseline data.

## 4. Results

### 4.1 Reporting Outline

- 4.1.1 The results of the desk study and field surveys are described below. All figures including the Phase 1 Habitat Survey Map, Bat Activity Map and Breeding Bird Map can be found in Annex A within this report.

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#### Birds

- 4.3.1
- 4.3.2
- 4.3.3
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- 4.3.41 The desk study returned records of 88 protected and/or notable birds; many of them located within Old Trent Oxbow Spalford LWS, approximately 2km south east of the Site.
- 4.3.42 Records were also present from within and/or adjacent to the Site; details are provided in Table 4.1.

**Table 4.1** Records of protected and notable bird species located within and/or adjacent to the Site

| Common Name   | Scientific Name                   | Conservation Status                              |
|---------------|-----------------------------------|--------------------------------------------------|
| Sedge warbler | <i>Acrocephalus schoenobaenus</i> | Amber list <sup>1</sup>                          |
| Greylag goose | <i>Anser anser</i>                | Amber list                                       |
| Reed bunting  | <i>Emberiza schoeniclus</i>       | Amber list, S41 <sup>2</sup> , LBAP <sup>3</sup> |
| Kestrel       | <i>Falco tinnunculus</i> )        | Amber list, LBAP                                 |
| Oystercatcher | <i>Haematopus ostralegus</i>      | Amber list, LBAP                                 |
| Herring gull  | <i>Larus argentatus</i>           | Red list, S41                                    |

<sup>1</sup> As listed on Stanbury et al. (2015).

<sup>2</sup> SoPI under Section 41 of the NERC Act (2006).

<sup>3</sup> SoCC as listed on the Nottinghamshire BAP (Nottinghamshire Biodiversity Action Group, 2016).

| Common Name    | Scientific Name          | Conservation Status                             |
|----------------|--------------------------|-------------------------------------------------|
| Yellow wagtail | <i>Motacilla flava</i>   | Red list, S41, LBAP                             |
| Osprey         | <i>Pandion haliaetus</i> | Schedule 1 WCA <sup>4</sup> , Amber list, LBAP3 |

- 4.3.43 The adjacent former High Marnham Power Station, particularly along the former railway yard/power station and dismantled railway, comprises a mix of woodland, scrub, grassland and bare gravel/ballast. These habitats can be used by a variety of birds for breeding, foraging and commuting, and are well connected to other habitats via the dismantled railway. Several bird species have been confirmed using this area, as shown on Table 4.1.
- 4.3.44 The habitats within the Site predominantly comprised large arable fields with boundary hedgerows, as well as areas of scrub and unmanaged grassland. These habitats were considered suitable for nesting birds, particularly those farmland habitats, such as yellow wagtail.
- 4.3.45 The likelihood that the Site supports nesting birds was assessed as medium.

### Bats

- 4.3.46 The desk study returned numerous records of bat species within 2km of the Site, including Myotis bat species (*Myotis sp.*), Natterer's bat (*M. nattererii*), whiskered/Brandt's bat (*M. mystacinus/M. brandtii*), Nyctalus bat (*Nyctalus sp.*), noctule bat, Leisler's bat (*N. leisleri*), pipistrelle bat (*Pipistrellus sp.*), common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle, Nathusius' pipistrelle (*Pipistrellus nathusii*), long-eared bat (*Plecotus sp.*), brown long-eared bat and barbastelle bat (*Barbastella barbastellus*).
- 4.3.47 There was a record of a common pipistrelle foraging within the Scheme boundary. There were also many records of bat activity around the Scheme boundary within the former power station (mostly common pipistrelle and one record of noctule bat).
- 4.3.48 All bat species in the UK are protected under the Habitats Regulations 2017 (as amended) and are protected under Schedule 5 of the WCA 1981 (as amended) and the Wild Mammals (Protection) Act. Noctule bat, soprano pipistrelle, brown long-eared bat and barbastelle bat are listed as SPIs under Section 41 of the NERC Act 2006 (as amended). Noctule bat, soprano pipistrelle, brown long-eared bat, barbastelle bat and Leisler's bat are SoCC as listed on the Nottinghamshire BAP (Nottinghamshire Biodiversity Action Group, 2016).
- 4.3.49 The desk study identified one granted EPS licence application for common pipistrelle and brown long-eared bat located approximately 460m east of the Site.
- 4.3.50 Scattered trees were present adjacent to the Site, with three trees identified during the survey to have features suitable for roosting bats (TN1, 2 and 3). The adjacent woodlands within the former High Marnham Power Station were also considered likely to support trees with suitable roosting features for bats.
- 4.3.51 The Site comprises mainly arable fields and boundary hedgerows, mixed woodland plantation and scrub. The hedgerow, woodland and scrub are habitats that can be

<sup>4</sup> As listed on Schedule 1 of the WCA 1981 (as amended).

used by a variety of bat species for foraging and commuting. These habitats also provide connectivity to the wider former High Marnham Power Station area, including the former railway yard/power station and dismantled railway, which comprises linear belts of woodland, scrub and unmanaged grassland, and are well connected to the wider landscape.

4.3.52 The suitability of these habitats for roosting, foraging and/or commuting bats, in accordance with BCT’s ‘Good Practice Guidelines’ (Collins, 2016), was assessed as low.

4.4 Protected Species Surveys

Night-time Bat Walkover

- 4.4.1 A summary of the transect activity results is provided below. Refer to Annex B for survey timing and weather conditions.
- 4.4.2 At least three distinct species were identified during the transect surveys:
- Common pipistrelle;
  - Soprano pipistrelle;
  - Pipistrellus sp.
  - Noctule; and
  - Nyctalus sp.
- 4.4.3 During the three transects between September 2023 and June 2024, a total of 169 bat calls were recorded. There was no bat activity recorded the night of the 24 April 2024. The majority of bat passes recorded came from September, with nearly all identifications over the survey period comprising common pipistrelle (72.78 per cent) with 17.16 per cent soprano pipistrelle passes and 5.92 per cent Noctule and Nyctalus sp. passes, as shown in Table 4.2.
- 4.4.4 Bat activity was the highest during the September survey, followed by June and the lowest activity levels in April (Table 4.2).

Table 4.2 Bat activity during the three NBW at High Marnham

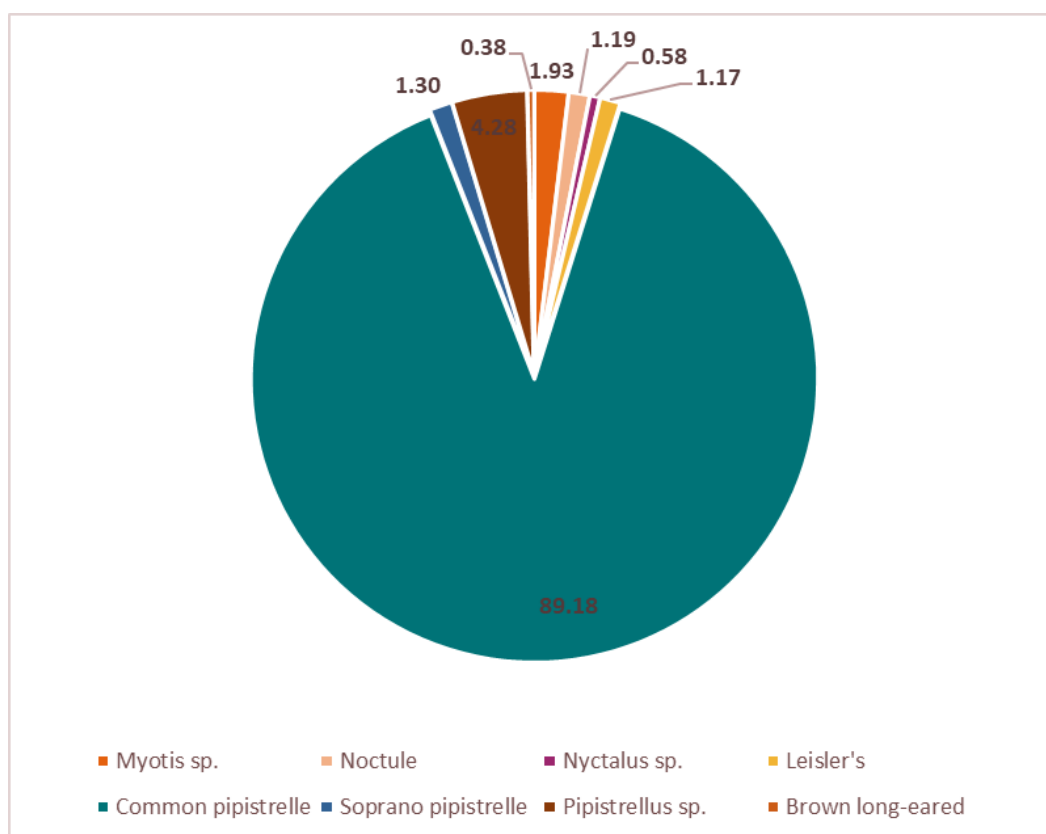
| Species                 | Total Count (No. of passes) |            |           | Percentage of Total (%) |
|-------------------------|-----------------------------|------------|-----------|-------------------------|
|                         | September 2023              | April 2024 | June 2024 |                         |
| Common pipistrelle      | 58                          | 0          | 65        | 72.78                   |
| Soprano pipistrelle     | 28                          | 0          | 1         | 17.16                   |
| <i>Pipistrellus</i> sp. | 7                           | 0          | 0         | 4.14                    |
| Noctule                 | 1                           | 0          | 2         | 1.78                    |
| <i>Nyctalus</i> sp.     | 1                           | 0          | 6         | 4.14                    |
| Total                   | 95                          | 0          | 74        | 100                     |

4.4.5 The distribution of commuting and foraging bats across the survey area, as illustrated in Annex A Figure A.2, reflects the routes that were followed by the surveyors on the transects. Bat activity recorded was predominantly focused to the east of the Site, with the occasional common pipistrelle foraging to the west and one *Nyctalus* sp. to the north. Commuting activity was mainly found in areas where linear features were present, providing good connectivity between adjacent habitats. Such features included areas of the woodland edge (adjacent to the northern Scheme boundary), tree lines, hedgerows and dense scrub to the east and north of the Site.

## Automated Detector Surveys

4.4.6 During the deployment period (May to September), a total of 4,462 bat passes were recorded. Of the data analysed, the calls recorded were largely pipistrelle bats (common and soprano pipistrelle and *Pipistrellus* sp. combined), totalling 95 per cent of calls, followed by <3 per cent noctule, *Nyctalus* sp. and Leisler's and the remainder *Myotis* sp. and brown long-eared bats, as shown in Figure 4.1 below.

Figure 4.1 Proportion of calls attributable to each species/species group during static surveys.



4.4.7 Table 4.3 shows the normalised bat passes per hour during static detector surveys at each static detector position. Activity levels across the Site varied greatly for some species, with location two (located along mixed scrub habitat) having the highest number of bat passes per hour and location one (located in a small parcel of broadleaved woodland plantation) having lower number of bat passes over the static detector deployment period, as shown in Table 4.3 below.

Table 4.3 Passes per hour during static detector surveys at each static detector position

| Species                 | Passes per hour |               |               |
|-------------------------|-----------------|---------------|---------------|
|                         | Location        |               |               |
|                         | 1               | 2             | 3             |
| Common pipistrelle      | 26.90           | 279.14        | 148.50        |
| Soprano pipistrelle     | 1.99            | 2.47          | 2.14          |
| <i>Pipistrellus sp.</i> | 2.61            | 2.19          | 19.46         |
| Noctule                 | 3.14            | 2.03          | 1.52          |
| Leisler's               | 1.44            | 3.44          | 1.68          |
| <i>Nyctalus sp.</i>     | 1.66            | 1.39          | 0.25          |
| <i>Myotis sp.</i>       | 2.75            | 5.33          | 1.95          |
| Brown long-eared        | 1.27            | 0.89          | 0             |
| <b>Total</b>            | <b>41.75</b>    | <b>296.88</b> | <b>175.50</b> |

4.4.8 Both spring and autumn are relatively consistent with the amount of bat passes per hour. However, the month of July (summer), as can be seen in Table 4.4, had the greatest number of bat passes per hour. The lowest activity recorded was in the month of September.

Table 4.4 Passes per hour for each bat species across all positions for each month

| Species                 | Passes per hour |               |               |
|-------------------------|-----------------|---------------|---------------|
|                         | May             | July          | September     |
| Common pipistrelle      | 108.57          | 240.24        | 105.73        |
| Soprano pipistrelle     | 1.08            | 3.95          | 1.57          |
| <i>Pipistrellus sp.</i> | 18.20           | 4.07          | 1.97          |
| Noctule                 | 0.14            | 6.46          | 0.08          |
| Leisler's               | 0.27            | 6.11          | 0.17          |
| <i>Nyctalus sp.</i>     | 0.14            | 3.17          | 0             |
| <i>Myotis sp.</i>       | 1.35            | 6.88          | 1.80          |
| Brown long-eared        | 0.68            | 1.40          | 0.08          |
| <b>Total</b>            | <b>130.43</b>   | <b>272.29</b> | <b>111.41</b> |

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# Breeding Birds

## Habitat Assessment

4.4.9

4.4.10

4.4.11

4.4.12 The Site is dominated by a large arable field with small scrub, ruderal/ephemeral, urban and grassland parcels, hedgerows, and two woodland parcels to the north of the Site, adjacent to the Scheme boundary. A summary of the key habitats of use to birds present on the Site is provided in Table 4.5, and the habitats present on the Site are shown on Figure A.1.

Table 4.5 Summary of key habitats

| Tree Reference | Description                                                                                                                | Value to breeding birds                                                                                                                                                                 |
|----------------|----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Arable         | The majority of the Site is an arable field.                                                                               | Important foraging habitat for a range of bird species. A limited subset of species will nest in this habitat. The management of this habitat impacts greatly upon its value for birds. |
| Scrub          | Scrub parcels are present in the east of the Site.                                                                         | This habitat can support bird nesting, particularly for farmland and urban birds, in addition to providing food to these species.                                                       |
| Hedgerows      | The Site contains multiple hedgerows. All hedgerows were categorised as native.                                            | Hedgerows can provide foraging and nesting opportunities for a range of bird species.                                                                                                   |
| Woodland       | Two woodland parcels are present to the north, directly adjacent to the Scheme boundary, dominated by sycamore and shrubs. | Woodlands are important for a range of bird species, for both nesting and foraging.                                                                                                     |

## Survey Results

4.4.13 Twenty-one species of bird were recorded on and around the Site including 14 species considered of conservation concern, SPI, or listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). Of these, seven species were considered breeding or possible breeding. The locations of amber and red listed species of conservation concern breeding territories are presented in Figure A.6. Primary bird species, behaviours and numbers recorded can be seen in Table 4.6.

Table 4.6 Survey results

| Common name        | Scientific Name                | Behaviour(s)                                                         | Total Number of Birds Recorded | Breeding Status (breeding/ possible breeding/ not breeding) | Conservation Status                                          |
|--------------------|--------------------------------|----------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------|--------------------------------------------------------------|
| Eurasian skylark   | <i>Alauda arvensis</i>         | Song/ hunting/ foraging                                              | 10                             | Possible                                                    | Red list <sup>5</sup> , S41 <sup>6</sup> , LBAP <sup>7</sup> |
| Wood pigeon        | <i>Columba palumbus</i>        | Song/ individuals observed/ flushed by surveyor/ foraging/commuting  | 36                             | Breeding                                                    | Amber list <sup>1</sup>                                      |
| Linnet             | <i>Linaria cannabina</i>       | Song/ individuals observed/ contact call/ flushed by surveyor/flying | 31                             | Breeding                                                    | Red list, S41, LBAP                                          |
| Dunnock            | <i>Prunella modularis</i>      | Song/ individuals observed                                           | 11                             | Not breeding                                                | LBAP                                                         |
| Yellowhammer       | <i>Emberiza citrinella</i>     | Song/ individuals observed/ contact call                             | 21                             | Breeding                                                    | Red list, S41, LBAP                                          |
| Song thrush        | <i>Turdus philomelos</i>       | Song/ contact call                                                   | 5                              | Possible                                                    | S41                                                          |
| Reed bunting       | <i>Emberiza schoeniclus</i>    | Contact call                                                         | 1                              | Not breeding                                                | Amber list, S41, LBAP                                        |
| Meadow pipit       | <i>Anthus pratensis</i>        | Contact call                                                         | 1                              | Not breeding                                                | Amber list, LBAP                                             |
| Common whitethroat | <i>Sylvia communis</i>         | Song/ individuals observed/ contact call/ flying                     | 17                             | Breeding                                                    | Amber list                                                   |
| Wren               | <i>Troglodytes troglodytes</i> | Song                                                                 | 16                             | Breeding                                                    | Amber list                                                   |
| Mallard            | <i>Anas platyrhynchos</i>      | Individuals observed/ commuting                                      | 2                              | Not breeding                                                | Amber list, LBAP                                             |
| Barn owl           | <i>Tyto alba</i>               | Individuals observed                                                 | 1                              | Not breeding                                                | Schedule 1 WCA <sup>8</sup> , LBAP                           |

<sup>5</sup> As listed on Stanbury et al. (2021)/Stanbury et al. (2024) Addendum.

<sup>6</sup> SPI under Section 41 of the NERC Act 2006(as amended) .

<sup>7</sup> SoCC as listed on the Nottinghamshire BAP (Nottinghamshire Biodiversity Action Group, 2016).

<sup>8</sup> As listed on Schedule 1 of the WCA 1981 (as amended).

| Common name | Scientific Name          | Behaviour(s)                    | Total Number of Birds Recorded | Breeding Status (breeding/ possible breeding/ not breeding) | Conservation Status  |
|-------------|--------------------------|---------------------------------|--------------------------------|-------------------------------------------------------------|----------------------|
| Peregrine   | <i>Falco peregrinus</i>  | Contact call/ hunting/ foraging | 2                              | Not breeding                                                | Schedule 1 WCA, LBAP |
| Bearded tit | <i>Panurus biarmicus</i> | Alarm call                      | 1                              | Not breeding                                                | LBAP                 |

4.4.14 The overall value of the Site for breeding birds is considered to be low. This is because there are limited key habitats present on-site, and the majority of bird species recorded were utilising the hedgerows, which are defunct and already subject to disturbance through management. Additionally, the arable fields are being intensely managed and therefore providing limited suitability for breeding.

## 5. Discussion

### Birds

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5.1.22 Breeding bird surveys have been undertaken at the Site to determine the importance of the bird assemblage within the Site and inform required mitigation.

5.1.23 If removal of any habitats identified as suitable for breeding birds within the Site is required, this should ideally be undertaken outside of the nesting season (outside of 1 March to 31 August inclusive, weather dependent). If clearance works are required within the main nesting season, then a nesting bird check must be undertaken by a suitably experienced ecologist prior to any clearance works. If an active nest is found during the inspection, then an exclusion cordon must be put in place around the nest and remain in situ until the chicks within the nest have fledged. Replacement habitat would need to be incorporated in the design of the proposed development to replace any removed habitat that is found to be of value to nesting birds, to ensure no negative effects on nesting birds.

## Bats

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- 5.1.24 Bat activity surveys were undertaken supported by the use of static bat detectors and NBW to determine the importance of the Site for foraging/commuting bats and inform required mitigation. The following survey effort was recommended and undertaken (following the updated Bat Survey Guidelines 2023):
- static detectors: five consecutive nights per season; and
  - NBW: one survey visit per season.
- 5.1.25 The results of the bat activity surveys will inform the design of a sensitive lighting strategy for the Scheme. Such lighting strategy should minimise impacts on bats during the construction phase and as part of the Scheme design. Bats are sensitive to lighting and therefore lighting should be designed to minimise spill and to target areas where lighting is considered essential. It is recommended that loss of habitats suitable for foraging bats is limited to areas necessary to construct the Scheme based on detailed development plans.

## 5.2 Protected Species Surveys

### Bat Commuting and Foraging

- 5.2.1 Three NBW and automated static monitoring surveys were undertaken following The Bat Conservation Trust 'Good Practice Guidelines', to understand bat activity on the Site. The results show the highest level of activity to be to the east and north of the Site, where habitats provide suitable features for commuting and foraging bats were predominantly found. These habitats include woodland edge, tree lines, hedgerows and dense scrub. These habitats also provide suitable commuting habitat to the wider landscape with the small woodland and LNR to the north of the Site.
- 5.2.2 Overall, the results show that the Site generally had a low level of activity, predominantly used by common species such as common and soprano pipistrelle, with the occasional commuting noctule, Leisler's, Nyctalus sp., brown long-eared and Myotis sp., with the summer season having the highest recorded activity on the Site. This may be due to the Site providing some suitable habitat for foraging and commuting (hedgerows within the Scheme boundary, and small parcels of scrub and woodland adjacent to the Scheme boundary) but limited overall roosting resource. Additionally, the River Trent is adjacent to the Scheme boundary, which bats may be using as a more optimal commuting corridor, meaning that activity levels appear lower within the Scheme boundary. There is no known suitability on-site to support a maternity roost.
- 5.2.3 The importance of the bat species assemblage recorded within the entire survey area to date was assessed in line with the UK Bat Mitigation Guidelines. The species assemblage recorded within the survey area to date scored 12 out of a possible 26 points for locations within the Midlands region, which is assessed as being of County importance (Table 5.1).

Table 5.1 UK Bat Mitigation Guidelines importance assessment of bat assemblage

| Rarity Category                                                               | Central/<br>Midlands<br>England                                              | Score<br>for the<br>Site | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Widespread all<br>geographies<br>[score 1]                                    | <i>P.pip</i><br><i>P.pyg</i><br><i>P.aur</i>                                 | 3                        | Common and soprano pipistrelle and brown long-eared recorded.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Widespread in many<br>geographies, but not as<br>abundant in all<br>[score 2] | <i>M.mys</i><br><i>M.bra</i><br><i>M.dau</i><br><i>M.nat</i><br><i>N.nyc</i> | 6                        | Noctule recorded during the NBW and automated static monitoring.<br><br>Myotis species have been grouped during sonogram analysis. However, for the purposes of this assessment as Daubenton's have been recorded within the desk based search, it is assumed they are present within the Site. Most Myotis sp. favour woodland habitats however the landscape is dominated by arable (open landscape), and the River Trent is nearby, with few pockets of woodland in the wider landscape. As a result, it is assumed presence of only whiskered on-site due to their preference of open country and flowing water. |
| Rarer or restricted<br>distribution<br>[score 3]                              | <i>Eser</i><br><i>Nlei</i><br><i>Pnat</i>                                    | 3                        | Leisler's recorded during the automated static monitoring.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Rarest Annex II species<br>and very rare<br>[score 4]                         | <i>Bbar</i>                                                                  | 0                        | No records of barbastelle from the surveys or desk study.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Total</b>                                                                  |                                                                              | <b>12</b>                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Importance                                                                    |                                                                              | County                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

*P.pip* – Common pipistrelle  
*P.pyg* – Soprano pipistrelle  
*P.aur* – Brown long-eared bat  
*M.mys* – Whiskered bat  
*M.bra* – Brandt's bat  
*M.dau* – Daubenton's bat  
*M.nat* – Natterer's bat  
*N.nyc* – Noctule  
*Eser* – Serotine  
*Nlei* – Leisler's bat  
*Pnat* – Nathusius' pipistrelle  
*Bbar* – Barbastelle

## Breeding Birds

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5.2.9 Two Schedule 1 birds, barn owl and peregrine falcon, were recorded during the surveys. One barn owl was observed by the surveyors on only one of the survey visits. Two peregrine falcons were noted displaying behaviours such as contact calling and foraging/hunting across two survey visits; one in June and one in July. The Site provides suitable foraging opportunities for these species with the open arable field, hedgerows and scrub habitat. The pylons on and around the Site are also suitable to support breeding peregrine falcon.

5.2.10 The Site supports several BoCC, including common linnet, song thrush, yellowhammer, wood pigeon, common whitethroat, wren and Eurasian skylark. Of these, Eurasian skylark and song thrush were considered possible breeders on the Site, and common linnet, yellowhammer, wood pigeon, common whitethroat and wren are considered to be breeding.

5.2.11 High species counts of wood pigeon (n = 36), linnet (n = 31), yellowhammer including one male and female pair (n = 21), common whitethroat (n = 17) and wren (n = 16) were noted on at least three of the five surveys, with species favouring the hedgerows and scrub habitat throughout the Site.

5.2.12 The hedgerows, scrub and arable field within and around the Scheme boundary provide the majority of nesting and foraging opportunities for a range of species, including those of conservation concern.

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## Recommendations

5.2.13

5.2.14

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5.2.16 The Environmental Appraisal Report (EAR) provides an assessment of potential impacts to bats and breeding birds. It also details recommendations for mitigation and enhancement measures required during the construction and operation phase of the development and ensures the favourable conservation status of this group of species is maintained with regard to bats.

## 6. Conclusion

### 6.1 Preliminary Ecological Appraisal

- 6.1.1 The Site contained habitats with the potential to support protected or notable species. Table 6.1 below summarises further ecological survey and mitigation requirements. Potential measures to target biodiversity objectives within the Site have also been provided in the report.

Table 6.1 Recommended further ecological surveys and mitigation

| Species/Feature                    | Recommended Survey and Seasonal Timing                                                                                                                                                                                                                                                           | Mitigation Required and Seasonal Timing                                                                                                                                                                                                                                                                                                                  |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nesting birds (excluding barn owl) | Breeding bird surveys.<br><u>Timing:</u> Six visits (late March to early July).                                                                                                                                                                                                                  | If vegetation removal needs to be undertaken during the core nesting bird period (March to August inclusive), the vegetation removal must be overseen by an Ecological Clerk of Works. If active nest(s) are found, a delay is likely to be required until young have fledged.<br>Impacts should be compensated by the creation of replacement habitats. |
| Bats (foraging/commuting)          | Bat activity surveys – NBW<br><u>Timing:</u> one visit per season (spring – April/May, summer – June/July/August, autumn – September/October).<br>Bat activity surveys – Automated Static Detectors<br><u>Timing:</u> April to October.<br>One survey visit per season (spring, summer, autumn). | Impacts should be compensated by the creation of replacement habitats.<br>Inclusion of sensitive lighting strategy during construction and operation.                                                                                                                                                                                                    |

### 6.2 Protected Species Surveys

- 6.2.1 As recommended by the PEA, surveys were required to understand the impacts on foraging/commuting bats and breeding birds.
- 6.2.2 Further recommendations, impact assessment and mitigation will be provided within the EAR for all species surveyed.

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# Annex A Figures

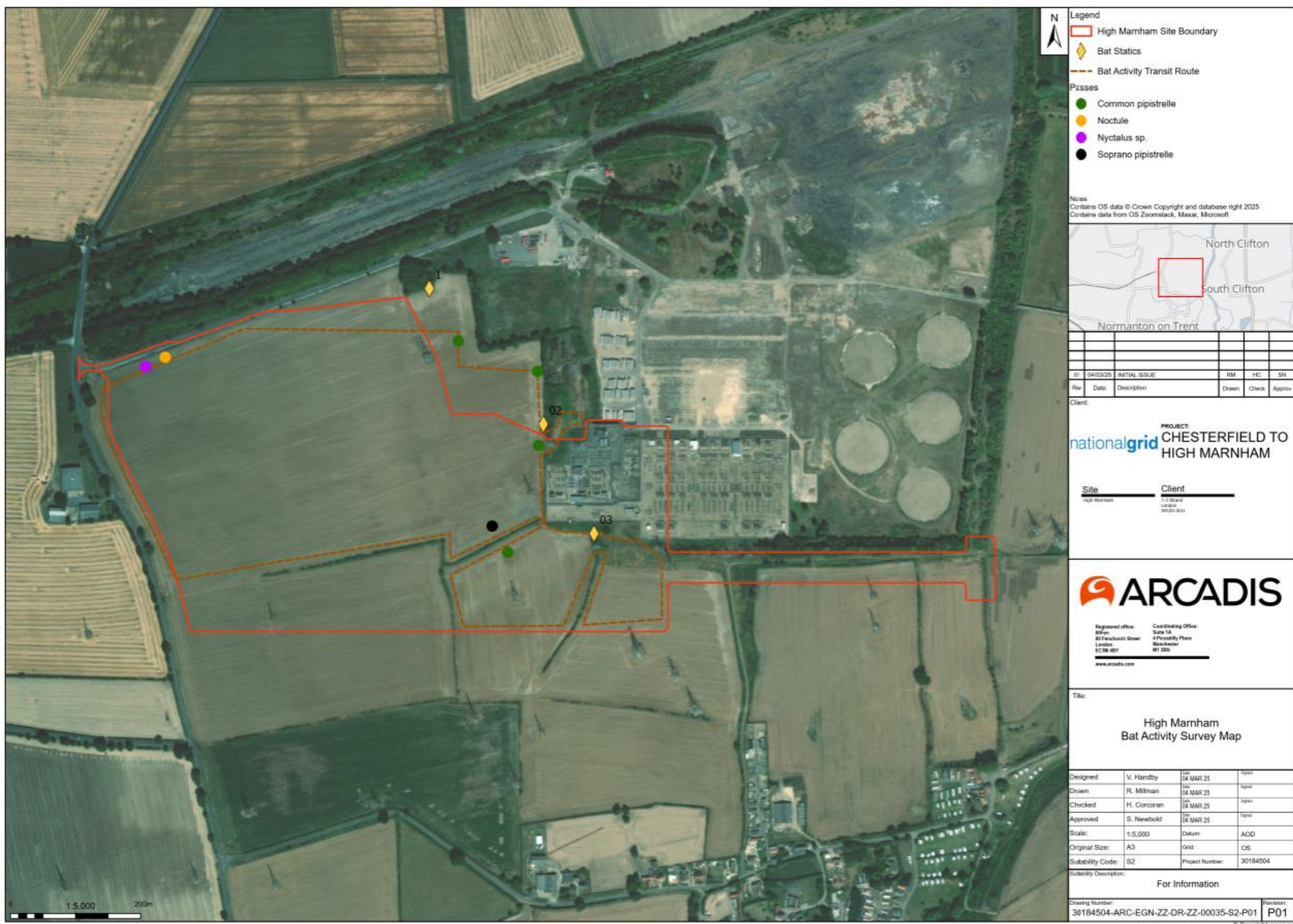
# Annex A

## Figures

Figure A.1 Phase 1 habitat map



Figure A.2 Bat activity survey map



National Grid | October 2026 | Chesterfield to High Marnham



Figure A.4 Breeding bird survey maps



Figure A.5 Breeding bird survey maps



Figure A.6 Breeding bird survey maps



Figure A.7 Breeding bird survey maps



Figure A.8 Breeding bird survey maps



Figure A.9 Breeding bird survey maps



# **Annex B**

# **Bat Survey Tables**

# Annex B

## Bat Survey Tables

Table B.1 Bat Activity survey details, including weather and timings of the surveys at High Marnham

| Visit No. | Lead Surveyor/ Assistant Surveyor | Dusk or Pre-dawn | Date       | Sunset/ Sunrise | Start Time | End Time | Weather at Start |          |             |                      | Weather at End   |          |             |                      |
|-----------|-----------------------------------|------------------|------------|-----------------|------------|----------|------------------|----------|-------------|----------------------|------------------|----------|-------------|----------------------|
|           |                                   |                  |            |                 |            |          | Temperature (°C) | Rainfall | Cloud Cover | Windspeed (Beaufort) | Temperature (°C) | Rainfall | Cloud Cover | Windspeed (Beaufort) |
| 1         | Ben Mclean                        | Dusk             | 20.09.2023 | Sunset          | 7:08pm     | 9:41pm   | 16.5             | 0        | 8           | 2                    | Poor             | 0        | 0           | 1                    |
| 2         | Nick Clayton                      | Dusk             | 24.04.2024 | Sunset          | 8:22pm     | 10:24pm  | 8                | 0        | 1           | 0                    | Below average    | 0        | 1           | 0                    |
| 3         | Nick Clayton                      | Dusk             | 12.06.2024 | Sunset          | 9:31pm     | 11:38pm  | 15               | 0        | 3           | 1                    | Average          | 0        | 8           | 1                    |

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# **Appendix L Flood Risk Assessment (FRA)**

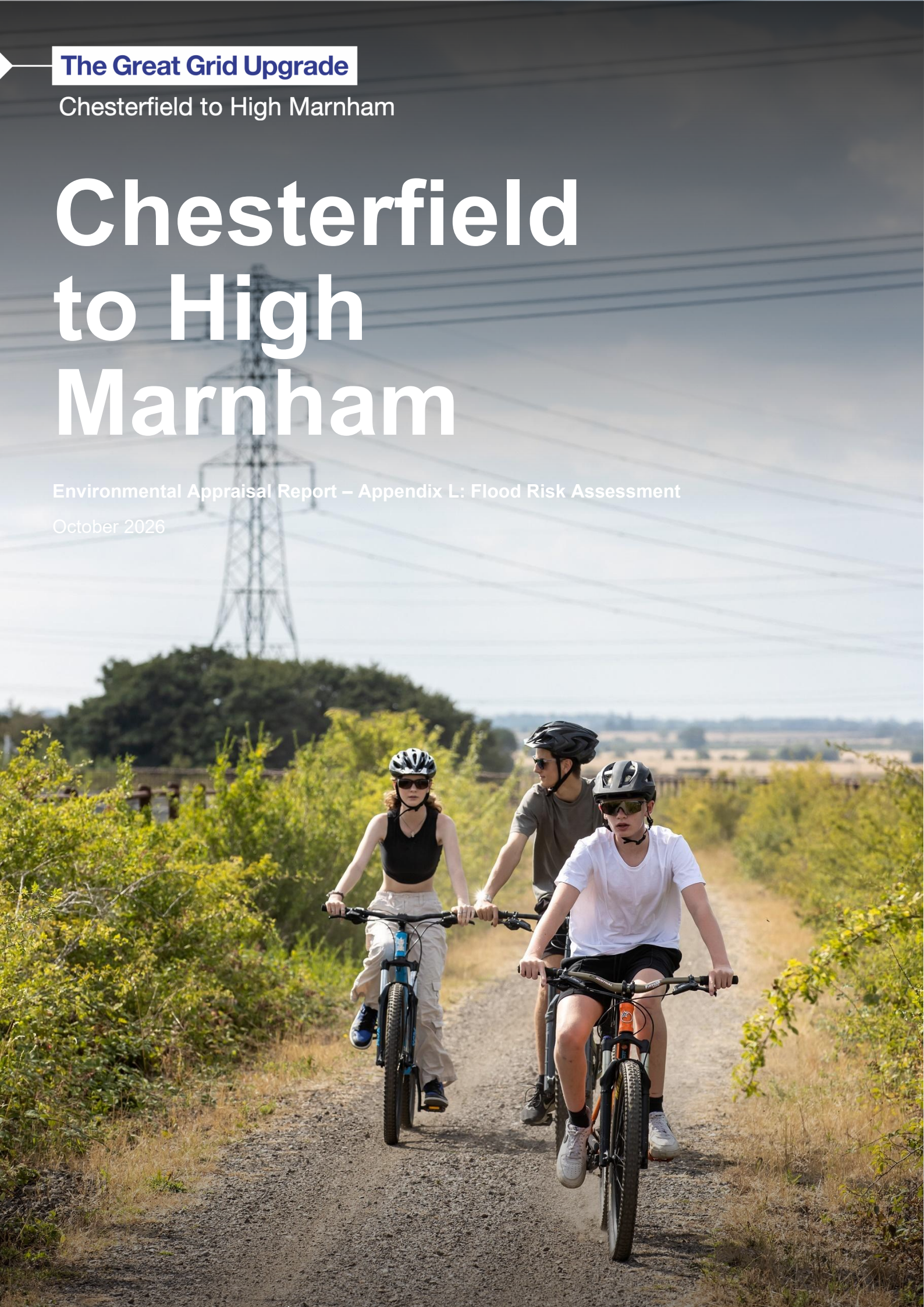
**The Great Grid Upgrade**

Chesterfield to High Marnham

# Chesterfield to High Marnham

Environmental Appraisal Report – Appendix L: Flood Risk Assessment

October 2026



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# 1. Introduction

- 1.1.1 Arcadis Consulting (UK) Limited was commissioned by National Grid ('the client') to undertake a Flood Risk Assessment (FRA) for the proposed overhead line (OHL) tie in works associated with the proposed new 400kV substation at High Marnham, Nottinghamshire, NG22 0FX. The new substation does not form part of the assessment scope. A separate FRA has been produced for the substation (Ref: B2441B05-JAC-HM-XX-RP-C-02316, dated: 9th May 2025). The OHL works are herein referred to as 'the Scheme'.
- 1.1.2 This FRA has been prepared to support an application for Section 37 consent under the Electricity Act 1989 (as amended). This FRA assesses the risk of flooding from all sources in accordance with the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance (PPG): Flood Risk and Coastal Change. The scope of the assessment is to provide an overview of risk from all sources of flooding.
- 1.1.3 In addition to assessing flood risk associated with the permanent development, this FRA also outlines the flood risk considerations and mitigation measures required during the construction phase, as detailed in Section 5.

## 1.2 Proposed Development

- 1.2.1 The Scheme is composed of several elements, set out below, to enable the connection of the new 400kV substation at High Marnham to the Project and the wider network. This will comprise the installation of short stretches of overhead line between the new 400kV High Marnham substation and the existing overhead line network, as well as the removal of some existing stretches of overhead line, together with the temporary works (such as temporary masts) required to make the proposed permanent changes.

## 1.3 Aims and Objectives

- 1.3.1 The aim of this FRA is to address the requirements of national and local planning policy with respect to flood risk and demonstrate that the Scheme is compliant with relevant planning policy and flood risk requirements.
- 1.3.2 FRAs should be prepared to a level of detail proportionate to both the risk of flooding and the scale of the proposed development. Specific objectives of this FRA are to:
- Assess the proposed development against the requirements of the NPPF,
  - Demonstrate that the proposed development does not increase the risk of flooding to third party land,
  - Discuss the risk of flooding to the proposed development from all sources, demonstrating how the development will remain safe from flooding over its lifetime; and,
  - Demonstrate how flood risk will be managed during construction phase.

## **1.4 Terminology**

- 1.4.1 Flood risk is a product of both the likelihood and consequences of flooding. Throughout this document, flood events are defined according to their likelihood of occurrence. Floods are described according to an 'annual chance', meaning the chance of a particular flood occurring in any one year. This is directly linked to the probability of a flood. For example, a flood with an annual chance of 1 in 100 (a 1 in 100 chance of occurring in any one year), has an annual probability of 1%. This may also be referred to as a 1% annual probability (AP).

## **1.5 Limitations**

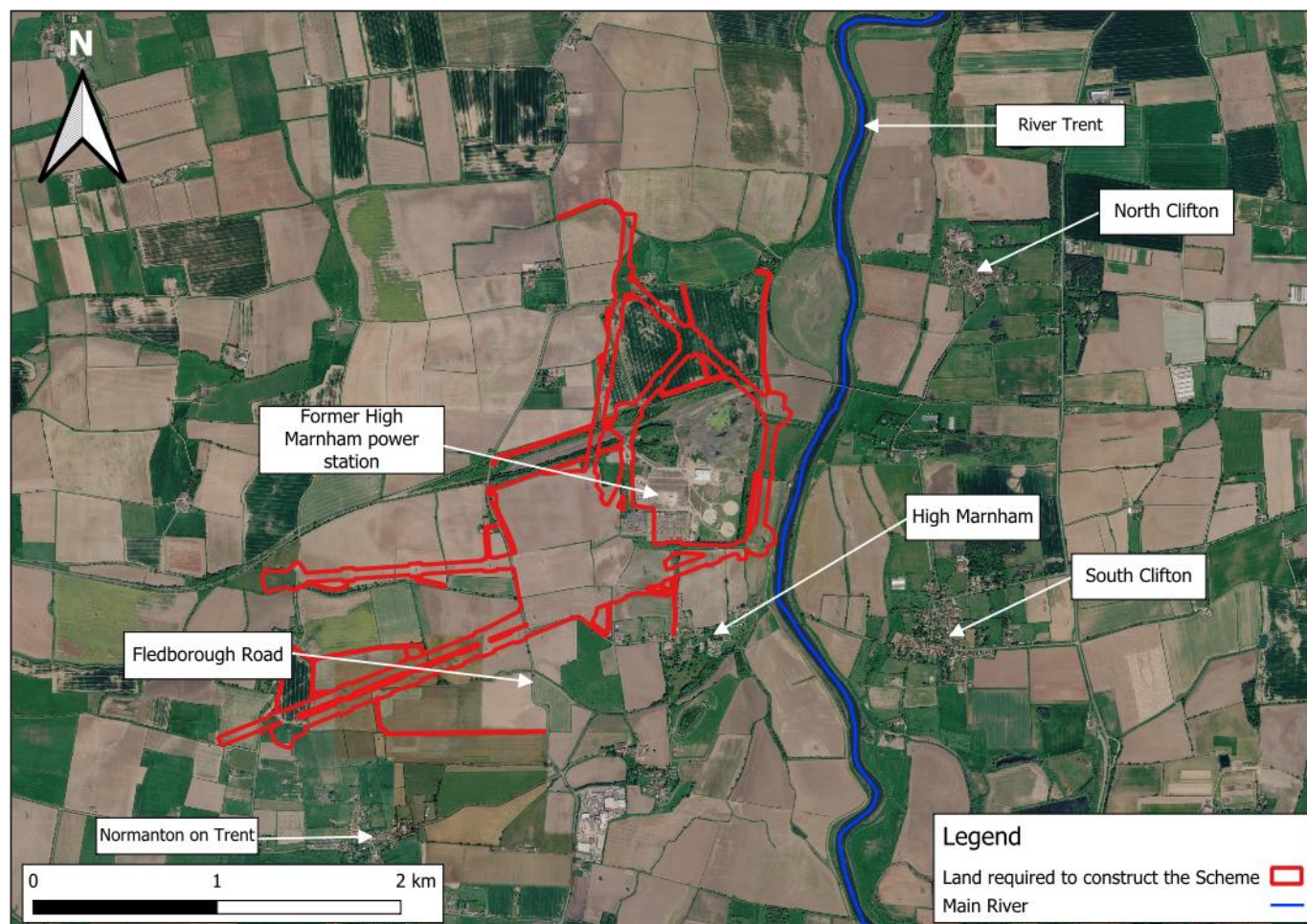
- 1.5.1 This report has been compiled from a number of sources which Arcadis believes to be trustworthy. However, Arcadis is unable to guarantee the accuracy of information provided by others. The report is based on information available at the time of writing. Additional information may become available in the future which may have a bearing on the conclusions of this report and for which Arcadis cannot be held responsible.

## 2. Background

### 2.1 Overview

- 2.1.1 The Scheme is located to the north of High Marnham village, Nottinghamshire, around the existing High Marnham Substation, at approximate National Grid Reference is SK 80590 70808. The red line boundary in Figure 2.1 (herein referred to as ‘the Site’) shows the extent of the land required to construct the Scheme.
- 2.1.2 The Site currently comprises predominantly of agricultural land bordered by hedgerows, as well as containing part of the existing High Marnham Substation. The Site covers approximately 113 hectares. The Site is bound by local roads and agricultural parcels to the north, west and south, and by the River Trent to the east. The land directly adjacent to the Site is predominantly agricultural in nature, while the wider area is rural and includes village settlements, such as Normanton on Trent, High and Low Marnham, North Clifton, and South Clifton.

Figure 2.1 Site Overview

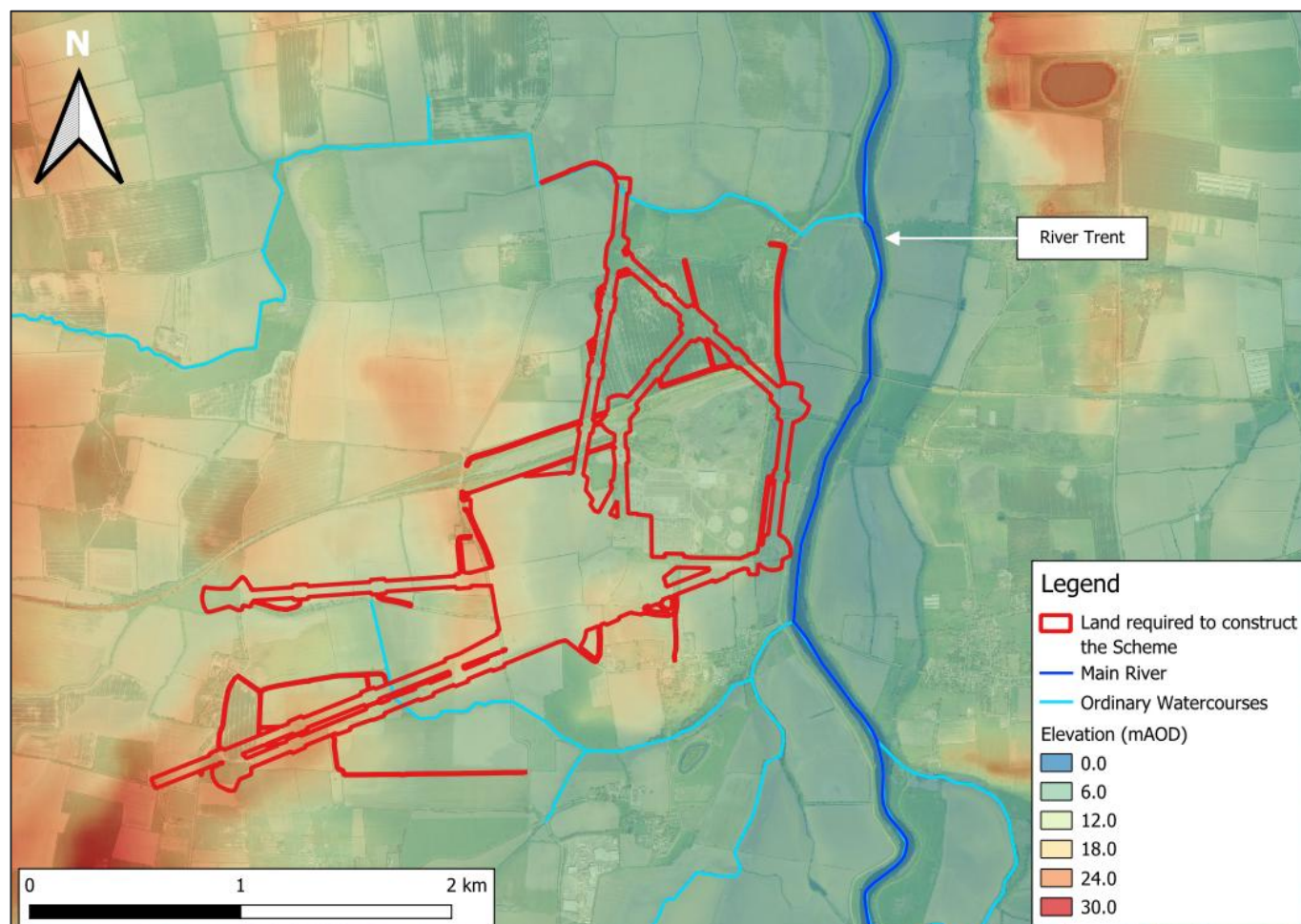


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## 2.2 Topography

- 2.2.1 As shown in Figure 2.2, elevations across the Site range from 24.8m Above Ordnance Datum (AOD) in the southwest to 4mAOD in the northeast. Ground levels generally fall from west to east, from an area of higher ground in the west of the Site towards the River Trent and the ordinary (small) watercourses that cross the Site.
- 2.2.2 Across the wider area, ground levels slope west to east towards the River Trent valley.

Figure 2.2 Topography



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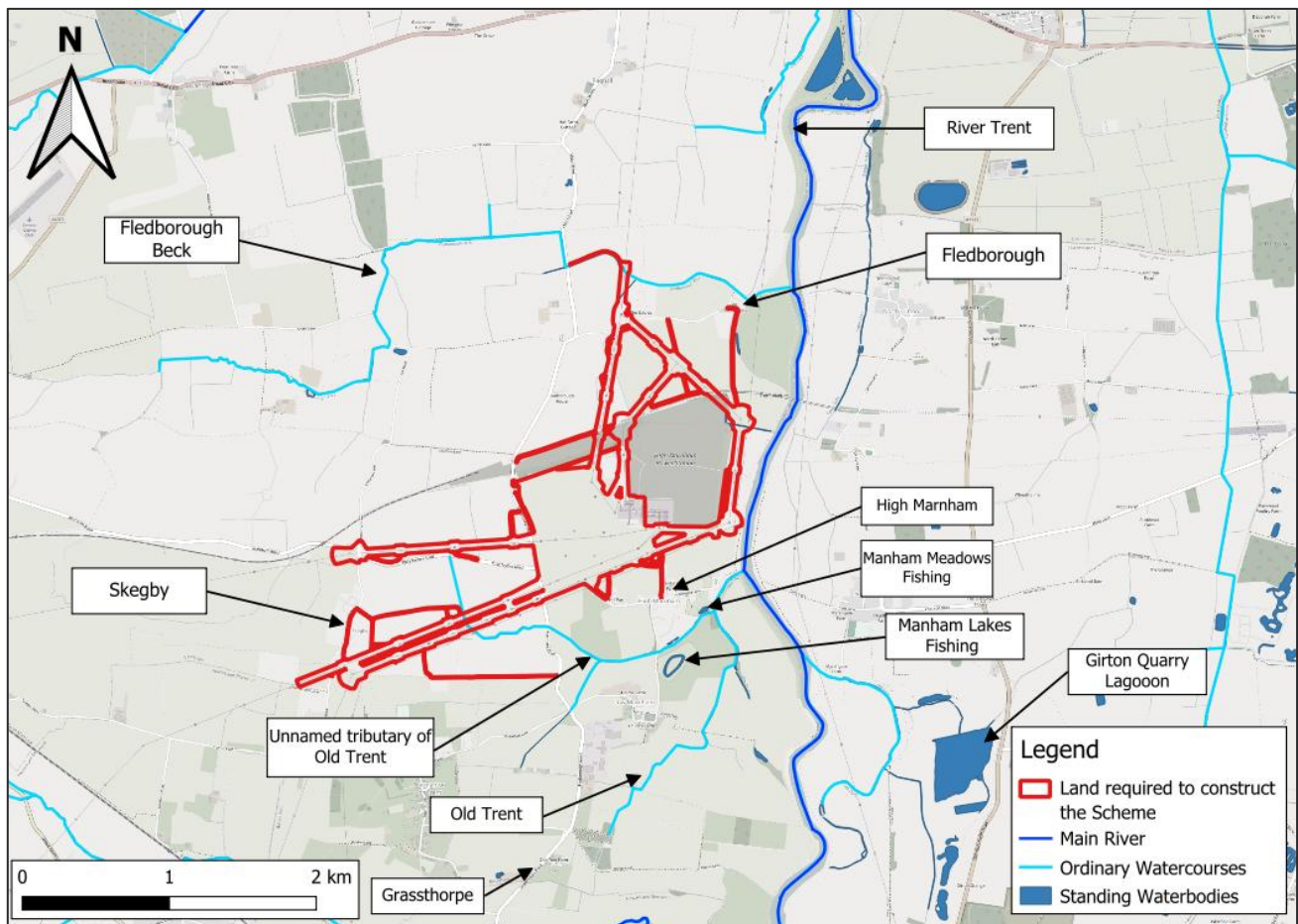
## 2.3 Catchment Description

- 2.3.1 The Environment Agency Catchment Data Explorer shows that the Scheme is located in the Trent and Lower Erewash Management Catchment, within the wider Humber River Basin District. The local catchment context, including nearby main river, ordinary watercourses and standing waterbodies, is shown in Figure 2.3.
- 2.3.2 The River Trent, an Environment Agency designated main river, flows in a south to north direction approximately 8m east of the Site at its closest point. Nearby ordinary watercourses include Fledborough Beck, an unnamed tributary of the Old Trent, and the Old Trent. Fledborough Beck flows in a general west to east direction at the north

of the Site and crosses through the Site before joining the River Trent at Fledborough. The unnamed tributary of the Old Trent flows in a general west to east direction. It crosses the Site between High Marnham and Skegby, before reaching its confluence with the Old Trent south of High Marnham. The Old Trent flows northeast from Grassthorpe to its confluence with the River Trent approximately 260m southeast of the Site.

- 2.3.3 There are no standing waterbodies within the Site but several small waterbodies in the vicinity of the Site, including two fishing lakes as labelled on Figure 2.3. There are several small waterbodies on the east bank of the River Trent, including Girtton Quarry Lagoon.

Figure 2.3 Catchment Overview



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- 2.3.4 The British Geological Society (BGS) Geology Viewer shows that Site is underlain by sedimentary bedrock in the Mercia Mudstone Group. Across the majority of the Site there are no superficial deposits, however, where the Site intersects ordinary watercourses superficial deposits of Alluvium are recorded, comprising of clay, sand, silt and gravel.
- 2.3.5 Soils mapping indicates that there are three soil types underlying the Site. The majority of the Site, in particular the central area, is underlain by slightly acid loamy and clayey soils with impeded drainage. Loamy and clayey floodplain soils with naturally high groundwater underlie parts of the west and east of the Site. There are also naturally wet, very acid, sandy loamy soils present in the east of the Site.

## 3. Planning Policy Context

### 3.1 NPPF and Flood Risk

- 3.1.1 The NPPF was first published in 2012 and most recently republished in 2024 (with amendments made in 2025). Along with its accompanying PPG (flood risk and coastal change), updated in 2025, the NPPF sets out the government's planning policies for England and how these are expected to be applied. The principal aim of the NPPF is to achieve sustainable development. This includes ensuring that flood risk is taken into account at all stages of the planning process, avoiding inappropriate development in areas at risk of flooding and directing development away from those areas where risks are highest. Where development is necessary in areas of flooding, the NPPF aims to ensure that it is safe, without increasing flood risk elsewhere. Suitable mitigation and adaption measures are also advised in the planning process to address the likely future impacts of climate change.
- 3.1.2 Early adoption of, and adherence to, the principles set out in the NPPF and its PPG, with respect to flood risk, should ensure that detailed designs and plans for developments take due account of flood risk and the need for appropriate mitigation, if required.

### 3.2 The Sequential and Exception Test

- 3.2.1 The NPPF identifies four Flood Zone classifications, detailed in Table 3.1 below.

Table 3.1 Flood Zones (PPG, Flood Risk and Coastal Change, Table 1)

| Flood Zone                          | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Zone 1 - Low Probability            | Land having a less than 0.1% AP of river or sea flooding.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Zone 2 - Medium Probability         | Land having between a 1% and 0.1% AP of river flooding; or land having between a 0.5% and 0.1% AP of sea flooding.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Zone 3a - High Probability          | Land having a 1% or greater AP of river flooding; or Land having a 0.5% or greater AP of sea flooding.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Zone 3b - The Functional Floodplain | <p>Land where water has to flow or be stored in times of flood, identified by local authorities in Strategic Flood Risk Assessments. Identification of functional floodplain should take account of local circumstances and not be solely defined on rigid probability parameters.</p> <p>Functional floodplain normally comprises:</p> <p>Land having &gt;3.3% AP of flooding (with any existing flood risk management infrastructure operating effectively); or</p> <p>Land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% AP of flooding).</p> |

- 3.2.2 The NPPF specifies that the suitability of all new development in relation to flood risk should be assessed by applying the Sequential Test to demonstrate that there are no reasonably available sites in areas with a lower probability of flooding that would be appropriate to the type of development proposed. The PPG provides further guidance on the compatibility of each land use classification in relation to each of the Flood Zones as summarised in Table 3.2.

**Table 3.2 Flood Risk Vulnerability Classifications (PPG, Flood Risk and Coastal Change, Table 2)**

| <b>Flood Zone</b>            | <b>Essential Infrastructure</b> | <b>Highly Vulnerable</b> | <b>More Vulnerable</b>                | <b>Less Vulnerable</b> | <b>Water Compatible</b> |
|------------------------------|---------------------------------|--------------------------|---------------------------------------|------------------------|-------------------------|
| 1 Low Probability            | ✓                               | ✓                        | ✓                                     | ✓                      | ✓                       |
| 2 Medium Probability         | ✓                               | Exception Test required  | ✓                                     | ✓                      | ✓                       |
| 3a High Probability          | Exception Test required         | ✗                        | Exception Test required               | ✓                      | ✓                       |
| 3b The Functional Floodplain | Exception Test required         | ✗                        | ✗                                     | ✗                      | ✓                       |
| Key:                         | ✓ Development is appropriate    |                          | ✗ Development should not be permitted |                        |                         |

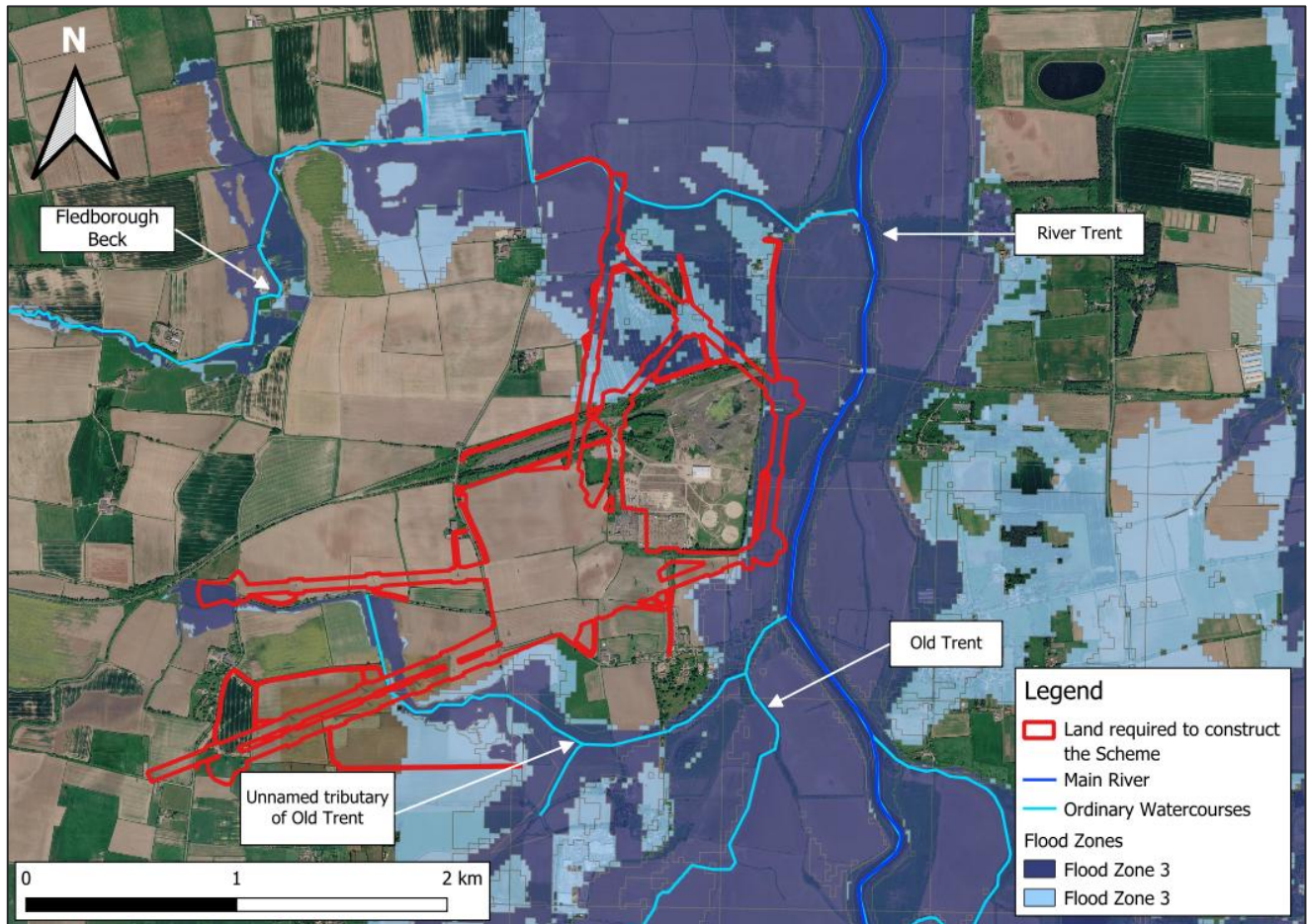
- 3.2.3 When a development site falls partly within multiple Flood Zones, the highest risk Flood Zone should be used when assessing development vulnerability.

- 3.2.4 If it is not possible for development to be located in zones with a lower risk of flooding, the Exception Test may have to be applied. For the Exception Test to be passed, it should be demonstrated that:
- The development would provide wider sustainability benefits to the community that outweigh the flood risk; and
  - The development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.

### 3.3 Flood Zone Classification

- 3.3.1 The Environment Agency Flood Map for Planning (Flood Zones), replicated in Figure 3.1, shows that the majority of the Site is located in Flood Zone 1. However, areas of the Site in the north, and much smaller extents of the Site in the east and south, are located within Flood Zone 2 and 3, associated with Fledborough Beck, the unnamed tributary of the Old Trent, and the River Trent.

Figure 3.1 Environment Agency Flood Map for Planning – Flood Zones 2 and 3



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### 3.4 Application of the Sequential Test and Exception Test

- 3.4.1 The Scheme is classified as ‘essential infrastructure’ in accordance with the NPPF, falling within the category of ‘infrastructure for electricity supply’. As defined in Table 3.2, essential infrastructure is deemed appropriate within Flood Zones 1, 2 and 3, subject to satisfaction of the NPPF Exception Test in Flood Zones 3a and 3b.
- 3.4.2 With regard to the Sequential Test, the Scheme is necessarily associated with the existing High Marnham Substation and proposed 400kV substation, and therefore there are no reasonably available alternative sites at lower risk of flooding in which to locate the Scheme.
- 3.4.3 For the Exception Test to be passed the following criteria are to be satisfied:
- a) It must be demonstrated that the development provides wider sustainability benefits to the community that will outweigh flood risk; and
  - b) A site-specific FRA must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere and, where possible, will reduce flood risk overall.
- 3.4.4 Part (a) is justified on the basis that the Scheme forms part of the Great Grid Upgrade, which will enable the electricity grid to carry more clean energy from renewable sources to communities, homes and businesses in every part of England and Wales, helping the UK to reach net zero.
- 3.4.5 Section 5 of this FRA demonstrate that the proposed development satisfies Part (b) of the criteria.

## 4. Potential Sources of Flooding

### 4.1 Overview

- 4.1.1 In line with best practice, this section considers the flood risk from range of possible sources listed in Table 4.1 and identifies where further appraisal and/or mitigation measures are required.

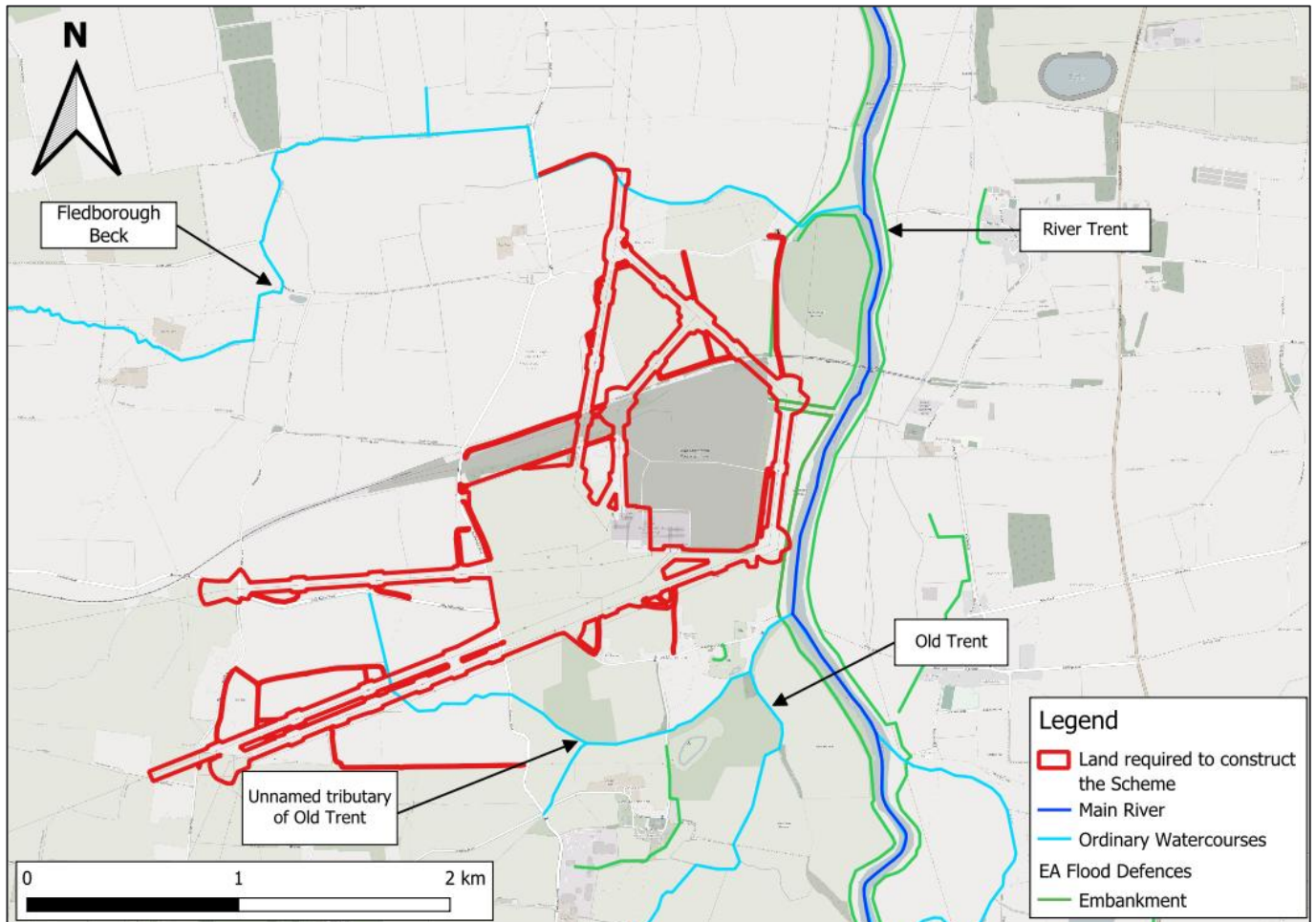
Table 4.1 Sources of flooding

| Source of Flooding                                             | Description                                                                                                                                          |
|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flooding from rivers (fluvial)                                 | Floodwater originating from a nearby watercourse when the amount of water exceeds the channel capacity of that watercourse                           |
| Flooding from the sea (tidal)                                  | Flooding originating from the sea or a connected waterbody when seawater overflows onto land through extreme tidal conditions, storm surge or breach |
| Flooding from surface water (pluvial)                          | Flooding caused by intense rainfall exceeding the available infiltration and/or drainage capacity of the ground                                      |
| Flooding from groundwater                                      | Flooding caused when groundwater levels rise above ground level following prolonged rainfall                                                         |
| Flooding from sewers                                           | Flooding originating from surface water, foul or combined drainage systems, typically caused by limited capacity or blockages                        |
| Flooding from reservoirs, canals, and other artificial sources | Failure of infrastructure that retains or transmits water or controls its flow                                                                       |

### 4.2 Flood Defences

- 4.2.1 The Environment Agency Spatial Flood Defences dataset shows that flood defences are present along both banks of the River Trent in the form of embankments, as shown in Figure 4.1. These defences are recorded as having a current Standard of Protection of 1 in 5 years.

Figure 4.1 Environment Agency Flood Defences

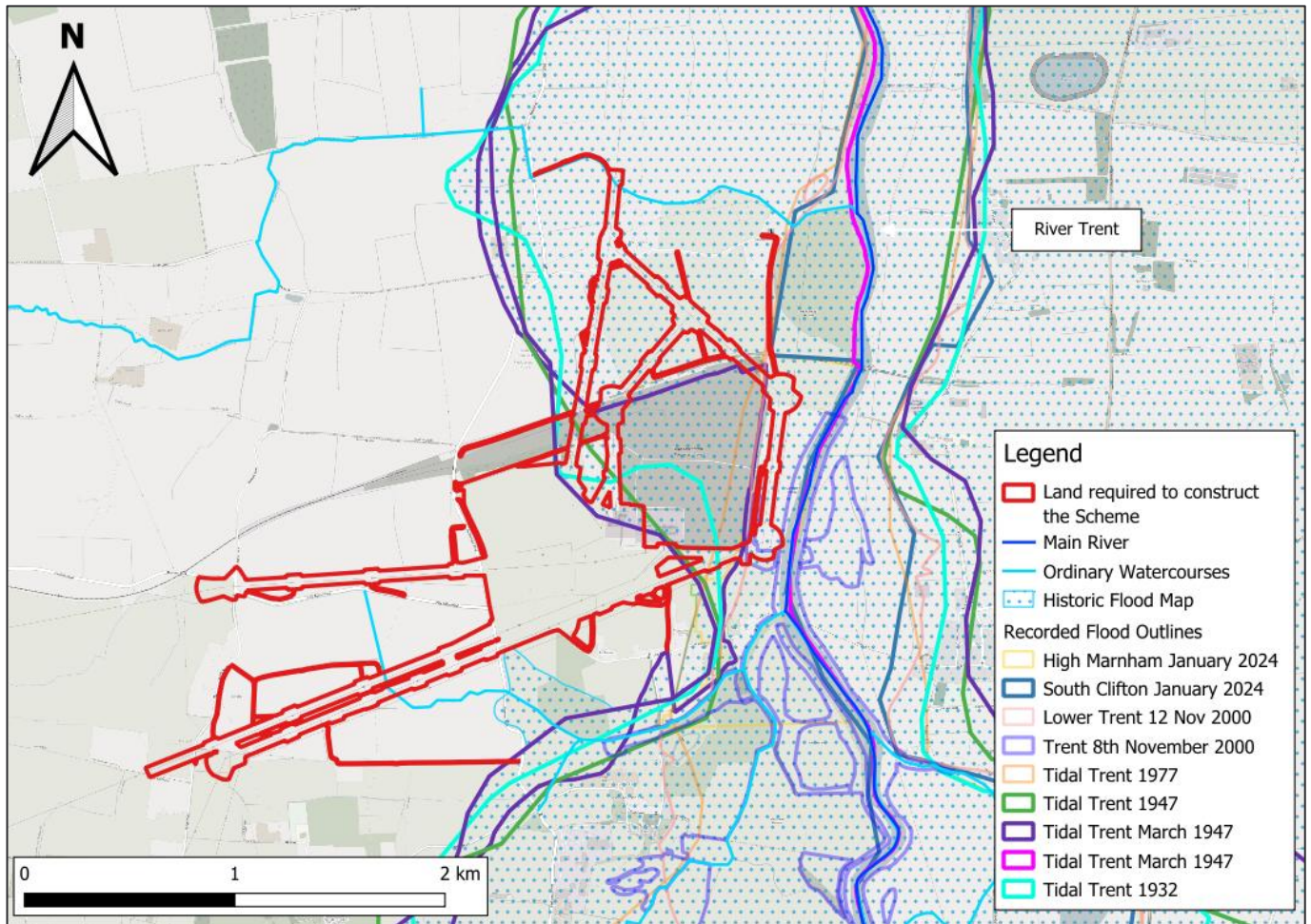


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## 4.3 Historic Flooding

- 4.3.1 The Bassetlaw Level 1 Strategic Flood Risk Assessment (SFRA) outlines that severe flooding has affected parts of the district in multiple years, particularly severely in 2007. Further recent flood events which affected smaller rural settlement are reported to have occurred in 2002, 2004, 2006, 2008, November 2012 and March 2016. Sources of flooding are outlined as fluvial, surface water, sewer, and incidents relating to culvert blockages or capacity issues.
- 4.3.2 The Environment Agency Historic Flood Map and Recorded Flood Outlines datasets identify areas of land that have previously been subject to flooding, as shown in Figure 4.2. These datasets show that eastern parts of the Site have been impacted by flooding on numerous occasions, including 1932, 1947, 1977, 2000 and 2024. The Recorded Flood Outlines dataset records the cause of these events to be the River Trent exceeding its channel capacity.
- 4.3.3 A request for historical flooding records was sent to the Environment Agency. No response has been received to date.

Figure 4.2 Historical Flooding



## 4.4 Flooding from Rivers and Sea

4.4.1 Two available sources of online mapping exist that consider the risk of flooding from these sources. The Environment Agency Risk of Flooding from Rivers and Sea Map (RoFRS) is based on the National Flood Risk Assessment (NaFRA2), which takes account of modelled in-channel flood levels for watercourses and asset inspection information relating to raised flood defences, where they exist. NaFRA2 maps consider the risk of overtopping or failure of raised defences or natural ground to provide a probabilistic assessment of the risk of flooding. This contrasts with the previously described Flood Map for Planning (Flood Zones), which is deterministic, and shows whether sites are 'in' or 'out' of given 'Flood Zones'. It ignores the presence of flood defences but highlights where defences exist. Given the presence of defences along the River Trent, the RoFRS mapping has been used in the assessment of fluvial flood risk to the Scheme.

### Present Day Flood Risk

4.4.2 The Environment Agency RoFRS defines the following scenarios for flood risk:

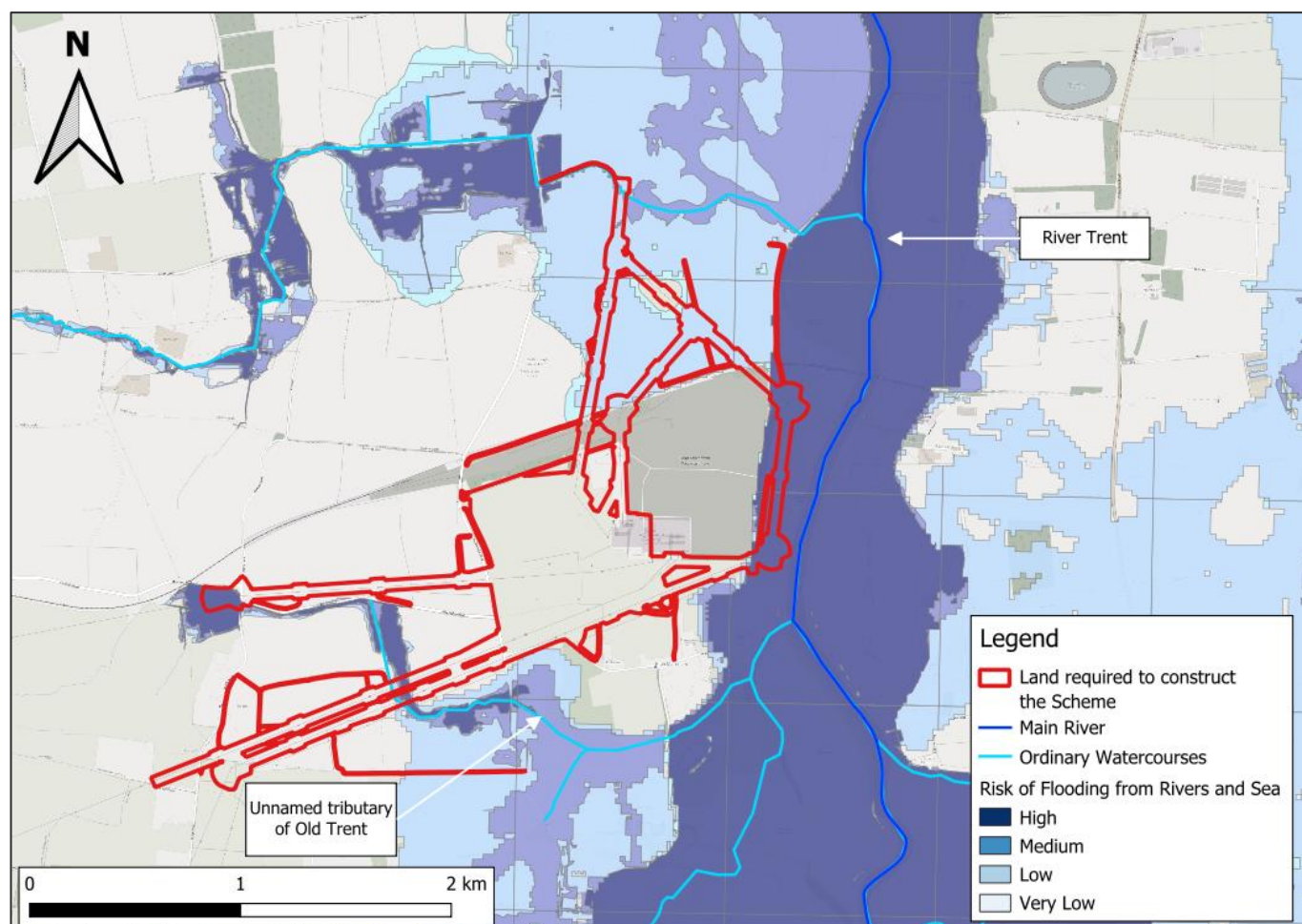
- High - greater than or equal to 3.3% chance in any given year (1 in 30)

- Medium - less than 3.3% (1 in 30) but greater than or equal to 1% (1 in 100) chance in any given year
- Low - less than 1% (1 in 100) but greater than or equal to 0.1% (1 in 1,000) chance in any given year
- Very Low - less than 0.1% chance in any given year (1 in 1,000)

4.4.3 The RoFRS mapping (Figure 4.3) indicates the majority of the Site is at very low risk of fluvial flooding. Parts of the north of the Site are shown to be at low risk of flooding. The eastern part of the Site is at high risk of flooding. Where the Site intersects the tributary of the Old Trent in the southwest of the Site, there is also a high risk of fluvial flooding.

4.4.4 The Scheme is located approximately 75km from the coast so is not considered to be at risk of coastal flooding. However, the Scheme is located within the floodplain of the River Trent, which is tidally influenced along the reach local to the Site. The Scheme is therefore considered to be at risk of tidal flooding.

Figure 4.3 Risk of Flooding from Rivers and Sea



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### Future Flood Risk

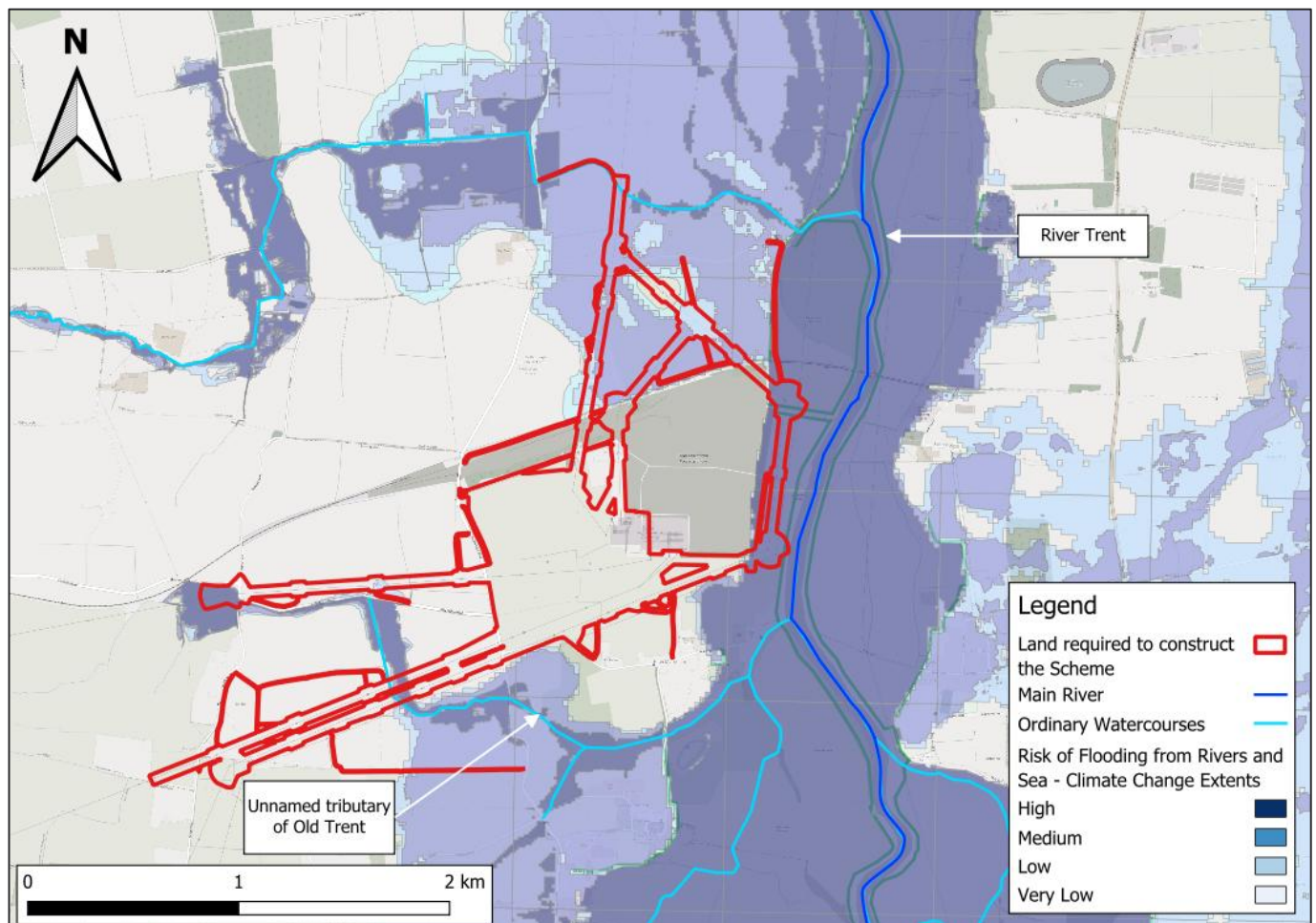
4.4.5 The NaFRA2 data set includes climate change scenarios to indicate the predicted future flood risk. The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration

Pathway (RCP) 8.5. Near-term epochs and central/higher central allowances are being used initially, to support short and medium-term decisions informed by the highest flood likelihood projections:

- Fluvial: central allowance - 2040-2069 ("2050s" epoch)
- Coastal: higher central allowance - 2036-2065

4.4.6 This mapping has been reviewed and is presented in Figure 4.4. This shows the Site is at increased risk of fluvial flooding in the future. Large areas in the north of the Site which are at 'low' risk of flooding in the present day become 'medium' risk in the future due to climate change.

Figure 4.4 Risk of Flooding from Rivers and Sea – Climate change extents



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4.4.7 The majority of the Scheme is considered to be at 'low' risk of fluvial and tidal flooding. Parts of the Scheme, namely in the east, are at 'high' risk of fluvial and tidal flooding from the River Trent. In the future due to climate change, the northern part of the Site is at 'medium' risk of flooding from this source.

## 4.5 Flooding from Surface Water

4.5.1 The Environment Agency Flood Map for Planning Surface Water Spatial Planning (SWSP) Extents Present Day has been used to inform this assessment of surface water flood risk to the Site. The mapping defines the following scenarios:

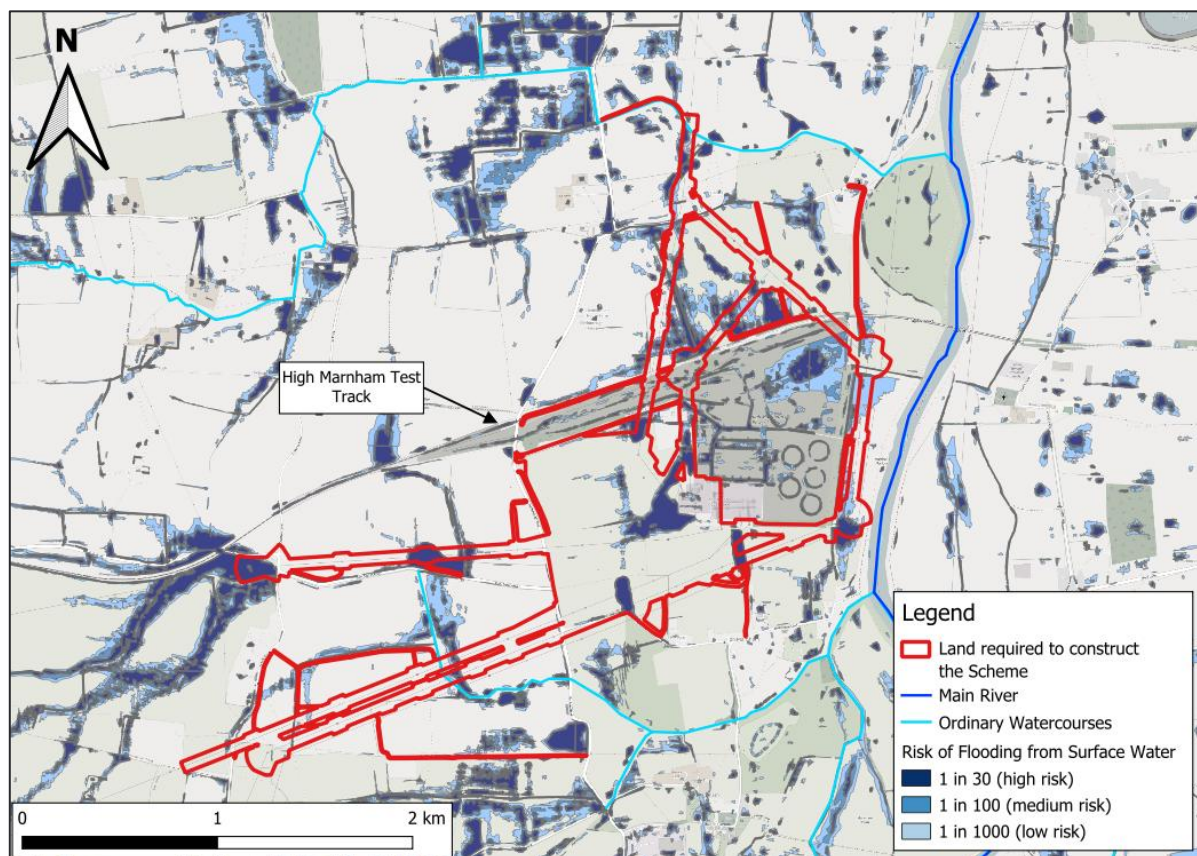
- Low risk: 0.1% (1 in 1000) annual exceedance probability
- Medium risk: 1% (1 in 100) annual exceedance probability
- High risk: 3.3% (1 in 30) annual exceedance probability

### Present Day Flood Risk

4.5.2 As shown in Figure 4.5, the majority of the Site is at a very low risk of surface water flooding. There are areas of the Site which are at 'medium' and 'high' risk of flooding, particularly in the central and northern parts of the Site. These areas are associated with localised topographical depressions or constraints to surface water flow regimes, such as High Marnham Test Track railway line in the north of the Site, as labelled on Figure 4.5.

4.5.3 Predicted surface water flood depths across the Site are typically less than 0.15m in the 'high' risk event. There are several areas in the south of the Site where predicted surface water depths in the 'high' risk event reach between 0.3m and 0.6m, and in a few isolated locations reaching between 0.6m and 0.9m. Predicted surface water depths in the 'medium' risk event are similar, with flood depths reaching between 0.6m and 0.9m in isolated areas in the centre of the Site.

Figure 4.5 Risk of Flooding from Surface Water

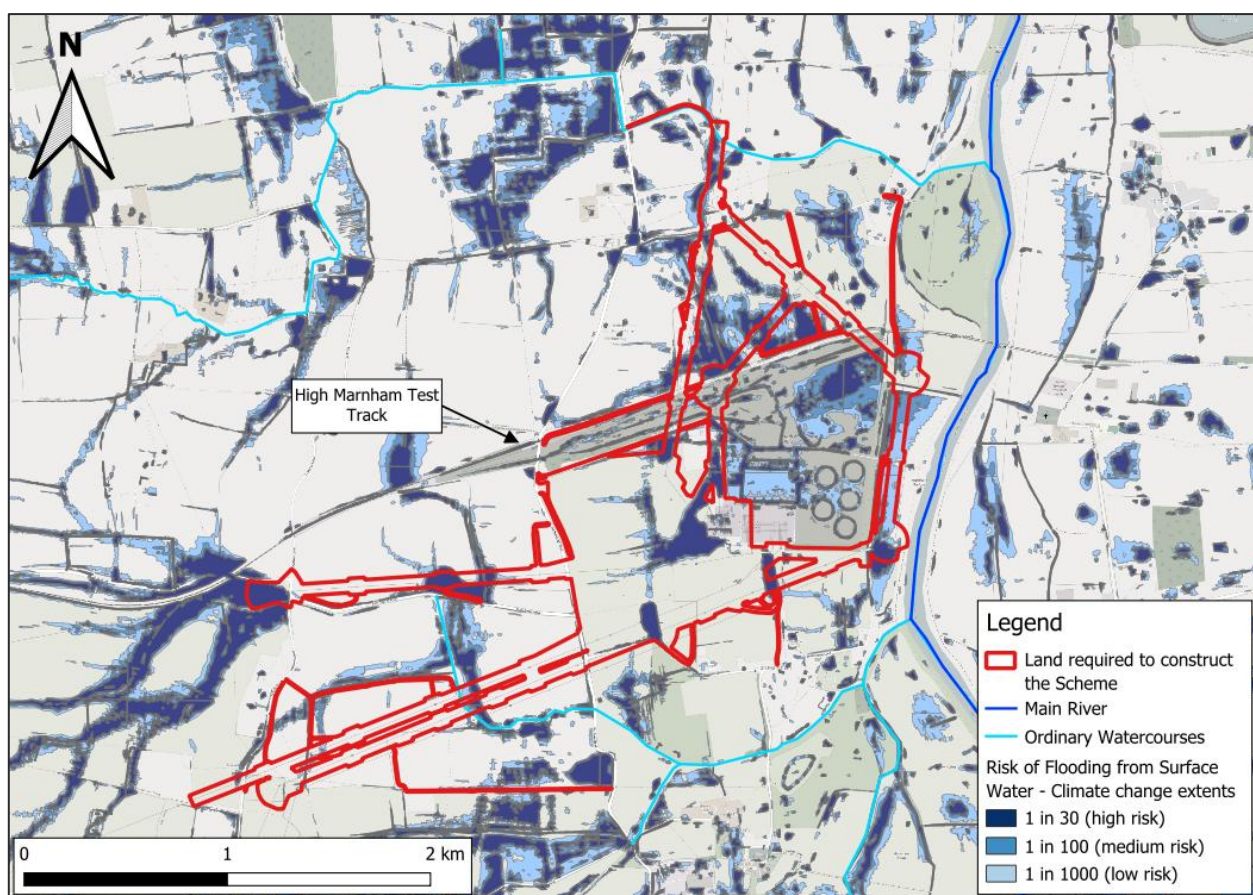


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## Future Flood Risk

- 4.5.4 The Environment Agency Flood Map for Planning SWSP Extents Climate Change show how the risk of surface water flooding is expected to increase in the future due to climate change, based on the upper end scenario for the 2070s epoch. This mapping is shown in Figure 4.6 and indicates a slight increase in surface water flood risk due to climate change across the Site, with the future surface water flooding extents covering larger areas than the present-day extents.

Figure 4.6 Flood Map for Planning Surface Water extents including climate change



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- 4.5.5 The majority of the Scheme is at very low risk of surface water flooding. Isolated areas across the Scheme are at 'medium' and 'high' risk of surface water flooding associated with local topographical depressions.

## 4.6 Flooding from groundwater

- 4.6.1 Groundwater flooding occurs when groundwater rises to the ground surface. This may happen during winter and/or after prolonged or heavy rainstorms. There are generally two forms of groundwater flooding:

- (i) 'clearwater flooding' associated with the water table rising to the surface in areas of permeable bedrock geology such as chalk; and
- (ii) 'river-groundwater interaction' where river levels interact with permeable superficial deposits within river valleys, flooding areas far from the river without necessarily overtopping raised riverbanks.

- 4.6.2 As discussed in Section 2.3, the Site is underlain by sedimentary bedrock in the Mercia Mudstone Group. Magic Map classifies this as a Secondary B aquifer, comprising low permeability layers that may store and yield limited amounts of groundwater. Where superficial deposits overlie the Site, they are classified as a Secondary A aquifer, which may support local water supplies or form important base flow to rivers. Given the absence of a principal aquifer, the risk of clearwater flooding at the Site is considered to be low.
- 4.6.3 The Scheme is located partially on flat, low-lying land immediately adjacent to the River Trent. The Site is underlain by naturally wet floodplain soils with high groundwater, on top of permeable superficial deposits. Therefore, there is risk of groundwater flooding at the Site from 'river-groundwater' interaction.
- 4.6.4 The Bassetlaw SFRA (2019) outlines lower lying mudstone geology valleys to be at increased susceptibility to groundwater flooding caused by higher water tables. Appendix E of the Bassetlaw SFRA indicates the majority of the Site to be at low to medium susceptibility to groundwater flooding. The east of the Site is shown to be of high susceptibility to groundwater flooding.
- 4.6.5 The Site is considered to be at medium risk of groundwater flooding from river groundwater interaction.

## **4.7 Flooding from sewers**

- 4.7.1 Flooding from sewers can result from lack of sewer capacity, blockages within the sewer network or failure of infrastructure such as pumps. Any area that benefits from sewerage infrastructure has a potential risk of flooding, but the likelihood and consequences are increased by topographic constraints such as low spots or flow paths that could influence the behaviour of floodwater originating from sewers. Any area served by sewers carries a potential flood risk in the event of sewer failure or breach. However, this form of flooding is unlikely to pose a significant development constraint.
- 4.7.2 The Bassetlaw SFRA (2019) indicates no instances of historical sewer flooding at the Site.
- 4.7.3 In the absence of detailed sewer flooding records, the Environment Agency Flood Map for Planning SWSP Extents dataset can be used to make a reasonable assumption of the risk of flooding from sewers. The Scheme is located in a predominantly rural area. If sewer flooding was to occur in the nearby villages of High Marnham or Fledborough, the mapping indicates that floodwater would drain directly to the River Trent, bypassing the Site.
- 4.7.4 The Site is considered to be at very low risk of sewer flooding.

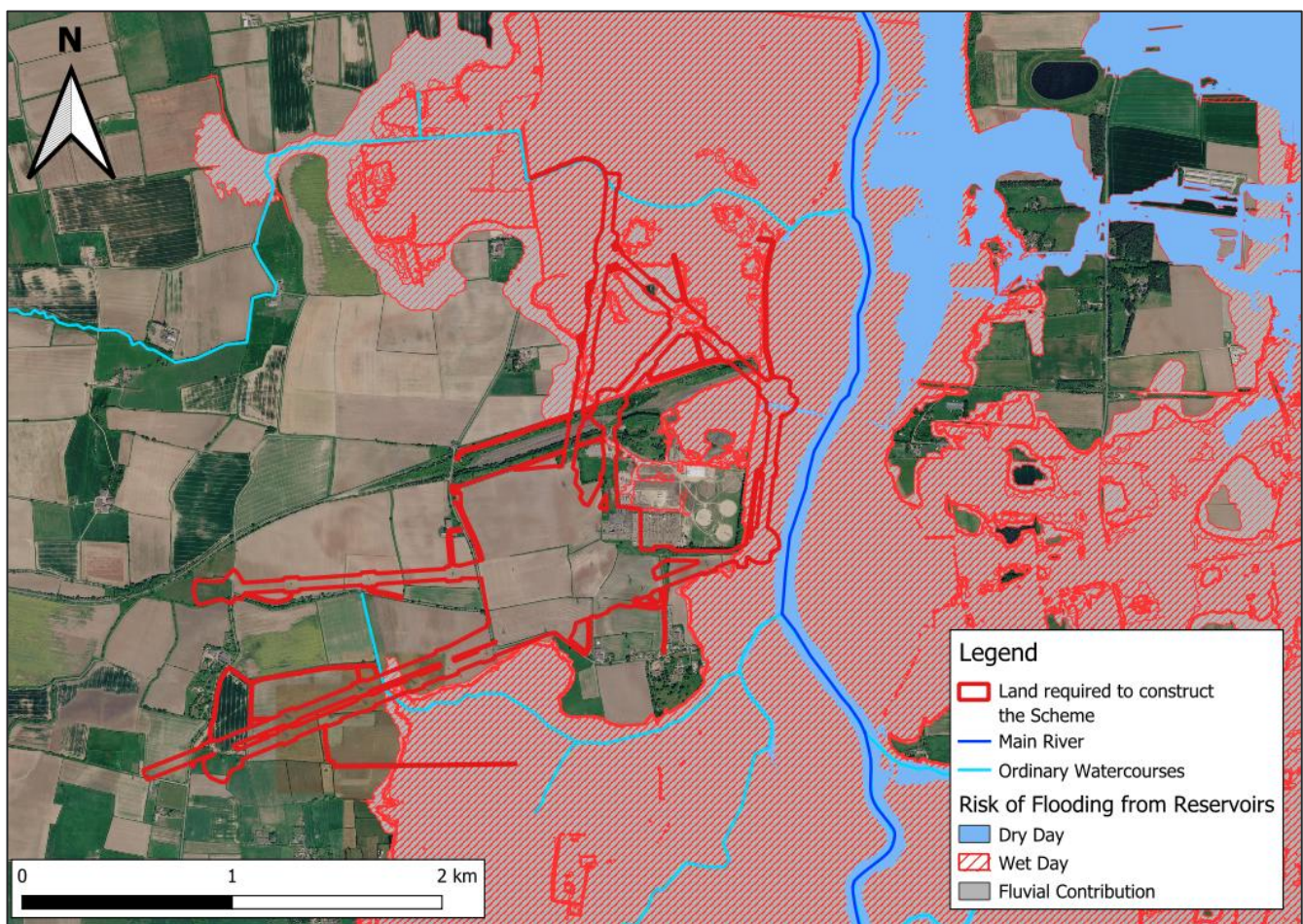
## **4.8 Flooding from reservoirs, canals and other artificial sources**

- 4.8.1 The Environment Agency Risk of Flooding from Reservoirs Map indicates the potential flood extent if large, raised reservoirs were to fail and release the water they hold.
- 4.8.2 Figure 4.7 below shows the 'Dry Day' event, where rivers are at normal levels, the 'Wet Day', which indicates the extents if a river was already experiencing an extreme

out of bank flooding event, and the 'Fluvial Contribution', which shows the extent of river flooding added to the reservoir model to determine the impacts of failure on a 'Wet Day'.

- 4.8.3 Figure 4.7 shows that the risk of reservoir flooding to the Scheme is varied. The eastern and northern parts of the Scheme are shown to be at risk of reservoir flooding in the 'wet day' event. The central, southern and western part of the Scheme are not shown to be risk of reservoir flooding.
- 4.8.4 The Environment Agency Flood Risk from Reservoirs map represents an extreme worst-case scenario of dam breach flooding, and in reality, the chances of a reservoir failing in the UK are extremely remote. This is due to the stringent inspection and maintenance requirements imposed by the Reservoirs Act 1975, as amended by the Flood and Water Management Act 2010. This form of flooding is therefore not considered to pose an onerous risk to the Scheme.
- 4.8.5 As discussed in Section 2.3, there are several standing waterbodies nearby the Site, including two fishing lakes in High Marnham. Were these to overtop, Lidar data indicates that flows would drain away from the Site into the Old Trent.
- 4.8.6 There are no further artificial sources or other waterbodies near the Site.

**Figure 4.7** Environment Agency Risk of Flooding from Reservoirs



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- 4.8.7 The Scheme is considered to be at a low risk of flooding from reservoirs. The Scheme is not considered to be at risk of flooding from artificial sources.

## 5. Flood risk and mitigation

- 5.1.1 As outlined in Section 4, the Scheme is generally at very low to low risk from flooding from sewers, reservoirs, canals and other artificial sources. The Scheme, during construction and operation, presents a negligible risk of exacerbating flooding from these sources to third parties and therefore no mitigation measures are considered necessary.
- 5.1.2 Fluvial and tidal, surface water, and groundwater flood risks are medium to high across parts of the Scheme. These flood sources have been investigated further in this section to understand the flood risk implications as a result of the Scheme.

### 5.2 Fluvial and tidal flood risk

#### Construction Phase

- 5.2.1 Parts of the proposed construction works will be undertaken within Flood Zones 2 and 3, associated with a risk of flooding from the nearby River Trent. The temporary work sites would be managed in accordance with a Construction Environmental Management Plan, that will include protocols and procedures for a flood emergency, linked to receipt of Environment Agency flood warnings.
- 5.2.2 Given the nature of the proposed construction works and their very limited above ground level footprint, potential for impacts on flood risk to third party land during construction of the Scheme is negligible.

#### Operational Phase

- 5.2.3 The permanent works involve the removal and restringing of existing pylons, as well as construction of new pylons and associated overhead lines. No additional pylons are proposed within Flood Zones 2 or 3, and the above ground footprint of permanent pylon infrastructure will remain largely consistent with the existing baseline. The permanent works are therefore not expected to materially affect fluvial or tidal flood risk or increase flood risk elsewhere.
- 5.2.4 Land not required for permanent infrastructure will be reinstated to its pre-construction condition following completion of the works. As there would be no permanent change to flood risk, no mitigation measures are considered necessary.

### 5.3 Surface water flood risk

#### Construction phase

- 5.3.1 Surface water drainage during the construction phase will be managed through the implementation of temporary drainage and water management measures in accordance with good practice. These measures will be designed to minimise runoff generation, manage flows and prevent pollution incidents. As such it is considered that the Scheme would be resilient to flooding from this source and there would be no increase in surface water flood risk elsewhere as a result of the Scheme.

### **Operational Phase**

- 5.3.2 The Scheme involves works of a nature such that there would be no appreciable change to impermeable land cover area. As such, the permanent works are therefore not expected to materially affect surface water flood risk or increase flood risk elsewhere. Land not required for permanent infrastructure will be reinstated to its pre-construction condition following completion of the works. As there would be no permanent change to surface water flood risk, no mitigation measures are considered necessary.

## **5.4 Groundwater Flood Risk**

### **Construction Phase**

- 5.4.1 During construction, localised excavations for pylon foundations and temporary works may encounter shallow groundwater, particularly in lower-lying areas of the Site. However, any groundwater-related risk would be temporary and localised and would be managed through appropriate construction-phase controls, including groundwater management measures where required. These measures would be set out in the Construction Environmental Management Plan. On this basis, construction activities are not expected to materially alter groundwater levels, groundwater flow pathways or groundwater storage, and would not increase groundwater flood risk elsewhere.

### **Operational Phase**

- 5.4.2 The Scheme infrastructure comprises reinforcement of existing energy transmission infrastructure. The proposed new and replacement/refurbished pylons and their concrete foundations will maintain a comparable ground footprint to the existing baseline and are not expected to alter groundwater levels, groundwater flow pathways. On this basis, groundwater flooding is not considered to present a material operational constraint to the Scheme, and the permanent works are not expected to increase groundwater flood risk elsewhere, no mitigation measures are considered necessary.

## **5.5 Satisfaction of Exception Test**

- 5.5.1 This FRA demonstrates that the proposed Scheme is considered to remain safe for its lifetime without increasing flood risk elsewhere, thereby satisfying Part (b) of the Exception Test in relation to flood risk.

## 6. Conclusions

- 6.1.1 This FRA has been prepared to support the application for Section 37 consent for the Scheme.

### **Flood Risk Summary**

- 6.1.2 Flood risk to the Site can be summarised as follows:

- Much of the Scheme is located in Flood Zone 1 (indicative of a low risk of flooding from rivers and the sea). Areas of the north, south and east of the Site are located in Flood Zones 2 and 3 (indicative of a medium and high risk of flooding respectively) associated with the River Trent, Fledborough Beck and the unnamed tributary of the Old Trent.
- There are areas of the Scheme which are at 'medium' and 'high' risk of surface water flooding. Predicted flood depths are typically less than 0.2m but exceed this in isolated locations across the Site in localised topographical depressions.
- The Site is considered to be at medium risk of groundwater flooding. However, the Scheme is not considered to be vulnerable to groundwater flooding and therefore this is not considered a constraint.
- The Scheme is at low risk of flooding from all other sources considered in this FRA.

### **Proposed Mitigation**

- 6.1.3 Measures will be implemented to manage surface water runoff during construction of the Scheme, and the construction worksites within Flood Zone 3 would be managed in accordance with flood emergency protocols and procedures (informed by Environment Agency flood warnings), in the unlikely event of flooding from the River Trent.

### **Conclusions**

- 6.1.4 The Scheme will deliver wider sustainability benefits to the community by means of secure and sustainable energy transmission as part of the Great Grid Upgrade. The Scheme is necessarily associated with the existing High Marnham Substation and proposed 400kV substation and therefore there are no reasonable alternative sites at lower risk of flooding. The Scheme is considered essential infrastructure and on the grounds that the works are reinforcing existing energy infrastructure, there would be no increase to flood risk at the Site or elsewhere. This is because any new and replacement pylons would be naturally resilient to all forms of flooding given their concrete bases and lattice designs, which allow water to move through them and result in negligible impediment to the flow or storage of water in a floodplain.
- 6.1.5 This FRA has demonstrated that the Scheme would be safe from flooding over its lifetime and not increase flood risk elsewhere, therefore satisfying the Exception Test.

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