

# **M60/M62/M66 Simister Island Interchange**

**TR010064**

## **ENVIRONMENTAL STATEMENT APPENDICES**

### **APPENDIX 7.5 ARBORICULTURAL IMPACT ASSESSMENT**

APFP Regulation 5(2)(a)

Planning Act 2008

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

Infrastructure Planning

Planning Act 2008

**The Infrastructure Planning  
(Applications: Prescribed Forms and  
Procedure) Regulations 2009**

**M60/M62/M66 Simister Island Interchange  
Development Consent Order 202[ ]**

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APPENDIX 7.5 ARBORICULTURAL IMPACT ASSESSMENT**

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## Appendix 7.5 Arboricultural impact assessment

### Executive summary

#### Introduction

This Arboricultural Impact Assessment has been produced with reference to 'BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations' (British Standards Institute, 2012).

Initial desk-based assessments were undertaken using a mix of aerial photography and remote data collection. This data was then validated and updated following a ground based walkover tree survey with reference to the guidance set out in BS5837:2012.

#### Site observations and the tree survey

The survey recorded five woodlands, 13 hedgerows, 143 tree groups and 69 individual trees.

None of the trees are protected by a Tree Preservation Order. The site is not located within a Conservation Area. The site contains no veteran trees, or registered ancient trees and none have been identified by this survey.

#### Arboricultural impact assessment

The Scheme would require the following:

- The removal of 18 individual trees consisting of five B category trees, and 13 C category trees
- The complete removal of 36 groups of trees, 17 B category groups and 19 C category groups
- The partial removal of 38 groups of trees, consisting of 27 B category partial groups and 11 C category partial groups
- The complete removal of two C category hedgerow
- The partial removal of one C category hedgerow
- The partial removal of two woodlands, consisting of one B category and one C category.

The Scheme has been assessed as having an overall **moderate, negative, short term arboricultural effect** to the area.

#### Conclusions and recommendations

This report recommends the preparation of an Arboricultural Method Statement which would detail measures to protect retained trees during construction. This may require further amendments as the design evolves.

A competent arboriculturist should be present on site at suitable times to monitor the adoption of the Arboricultural Method Statement and ensure the appropriate protection of trees.

Additional visits are recommended post construction to identify any physiological and/or structural defect that may have been caused by the works. This should occur on a yearly basis for four years, with each visit being conducted during a different season.

# 1 Introduction

## 1.1 Purpose of the report

- 1.1.1 An Arboricultural Impact Assessment (AIA) has been undertaken. This report has been produced with reference to 'BS5837:2012 – Trees in relation to design, demolition and construction – Recommendations' (British Standards Institute (BSI), 2012).
- 1.1.2 The British Standard states '*The [Arboricultural Impact] assessment takes account of the effects of any tree loss required to implement the design, and any potentially damaging activities proposed in the vicinity of retained trees. Such activities might include the removal of existing structures and hard surfacing, the installation of new hard surfacing, the installation of services, and the location and dimensions of all proposed excavations or changes in ground level, including any that might arise from the implementation of the recommended mitigation measures. In addition to the impact of the permanent works, account [should be] taken of the buildability of the scheme in terms of access, adequate working space and provision for the storage of materials, including topsoil.*'
- 1.1.3 With reference to the above, this report assesses the Scheme impact on the arboricultural constraints present on site and summarise trees lost, trees at risk of removal and impacts on trees retained which may be compromised by activities on site.
- 1.1.4 There are no published criteria, guidance, or methodologies for the assessment of effects of development on forestry, trees or woodland, therefore this assessment has been based upon professional judgment of the arboriculturist and the criteria contained within the Environmental Impact Assessment for Forestry Projects (Forestry Commission, 2019). More information pertaining to this can be found in Chapter 2 of this report.

## 1.2 Structure of the report

- 1.2.1 This report contains the following sections, a brief summary of what is contained within each is provided below:
- Executive summary – A non-technical summary of the findings of this report
  - Introduction – A brief outline of the contents of this report
  - Baseline – The establishment of the existing tree resource associated with the survey area
  - Arboricultural Impact Assessment – A desk-based overlay exercise whereby the impacts and effects associated with the Scheme are identified and discussed
  - Conclusions and recommendations – A summary of the anticipated impacts and effects stemming from the design proposals and recommendations for the next steps as the proposals progress

- Annex A Tree Survey Schedule – a tabulated summary of the survey results, noting the relevant information collected during the survey effort
- Annex B Tree Constraints Plan – a plan identifying existing trees and groups of trees across the site, categorised in line with BS5837:2012
- Annex C Tree Removal Plan – The plan-based outcome of the overlay exercise, identifying where trees will require removal to facilitate the Scheme.

## **2 Methodology**

### **2.1 Tree survey and arboricultural impact assessment**

- 2.1.1 A BS5837:2012 compliant tree survey has been undertaken.
- 2.1.2 The tree survey was conducted in line with the methodology detailed within BS 5837:2012 (BSI, 2012) and involved the surveying of trees as individuals or groups of trees within an agreed study area (forming the survey area) supplied by the design team. The information collected is summarised in Chapter 3 of this report. A proportion of the data was collected using high resolution camera's mounted to vehicles, these items are noted within the Tree Survey Schedule (Annex A) as being surveyed by AVIS. This method was selected for health and safety reasons to avoid the need for surveyors to access the motorway network.
- 2.1.3 Initially the AVIS system was utilised to undertake a desk based assessment and grouping exercise across the site, to allow for initial constraints mapping. Follow up surveys were undertaken to ground truth this remote work, across a number of survey cycles. Further site visits were undertaken where gaps in the survey data was identified. The site was visited and surveyed by a qualified arboriculturist during 2021, with further surveys undertaken in January 2023 to capture additional areas.
- 2.1.4 The survey area has been defined as the Order Limits with a 15m buffer, allowing for the largest root protection area (RPA) of trees outside of the boundary to be considered as a constraint.
- 2.1.5 Trees are reported as individuals or groups. Tree locations were determined on site using digital survey software and hardware which use a combination of aerial imagery and the devices inbuilt Global Positioning System (GPS). Trees plotted with the internal GPS can be assumed to have an accuracy of +/- 5m.
- 2.1.6 Trees were categorised using BS 5837 (BSI, 2012) into four categories (A, B, C, U) and for trees in categories A-C, they also qualified under three subcategories (1, 2, 3).
- 2.1.7 The tree survey data is shown in the Tree Survey Schedule (Annex A) and was used to produce a Tree Constraints Plan (Annex B), which depicts the existing rooting area and canopy constraints posed by the trees within the survey area.
- 2.1.8 The Tree Constraints Plan was used in conjunction with the Scheme design, to inform the AIA and the Tree Removals Plan (Annex C).

### **2.2 Determining significance of effect**

- 2.2.1 A BS5837:2012 AIA has been carried out for trees present across the survey area. This methodology evaluates the direct and indirect effects of the Scheme and where necessary recommends mitigation.

- 2.2.2 BS5837:2012 is the accepted standard for the management of trees on development sites. The standard offers advice on the assessment of impacts of a scheme on trees, based on a tree survey carried out to the same BS5837 specifications. However, the standard gives no guidance on the assessment of the significance of any arboricultural impact.
- 2.2.3 To ensure clarity and consistency the project arboriculturists have adopted a similar approach to evaluating impacts on the arboricultural resource present on site as would be used in undertaking an Environmental Impact Assessment (EIA). The methodology used assesses the sensitivity of the receptor and the magnitude of change to give a significance of any effect.
- 2.2.4 There are no published criteria, guidance or methodologies for the assessment of effects of development on forestry, trees or woodland. The Forestry Commission published 'Environmental Impact Assessment for Forestry Projects' in February 2019, however this is concerned with forestry operations and is not relevant to trees on development sites. As a result, the assessment of effects is based on professional judgement, with reference to:
- The sensitivity of the tree population present, taking account of the degree and rate of change in the tree population, both in the recent past and that anticipated in the near future, and therefore the susceptibility/vulnerability of the tree population to change; the quality of the tree population (based on the categorisation method outline in BS5837:2012 broadly based on amenity value and useful life expectancy) and the extent to which it is rare or distinctive, the value attributed to the tree population through designations
  - Magnitude of change and extent of tree removal, impact of development on retained trees and impact of any required tree work
  - Duration and reversibility - timescale of effect (days/weeks/months/years) until recovery. Permanent effects are described as such, and likelihood of recovery is detailed where appropriate
  - Adverse/beneficial - if the effect will be beneficial or detrimental to the feature.
- 2.2.5 The definitions of sensitivity, magnitude of change and the significance matrix are presented in Tables 2.1 to 2.3.
- 2.2.6 The effect of tree removal is normally considered to be of an adverse nature; however indirect beneficial effects in some areas may arise where the introduction of a development allows for the removal of ecologically habitat-poor or discretionary trees. This may be followed up by detailed landscape masterplans, ecological and woodland management plans or schemes of compensatory planting to replace lost trees with more beneficial individuals.

**Table 2.1 Definitions of sensitivity levels of trees/woodland/forestry**

Value	Definition
Very High	<ul style="list-style-type: none"> <li>• Receptor has little or no ability to absorb change without altering its present character, is of very high environmental value (supporting large population of European protected species), or of international importance (red data list species)</li> <li>• Tree species which have no tolerance to disturbance or pruning</li> <li>• Predominantly A category trees</li> </ul>
High	<ul style="list-style-type: none"> <li>• Highly valued, subject of national designation e.g. Ancient Woodland Category, veteran and heritage trees</li> <li>• Memorial trees planted by the community to commemorate specific events or people (depending on tree's age and condition)</li> <li>• Particularly rare or distinctive in a national context (such as registered parklands or major memorial plantings); or</li> <li>• Considered susceptible to low levels of disturbance and pruning.</li> <li>• Mainly A category trees</li> </ul>
Medium	<ul style="list-style-type: none"> <li>• Valued more locally, subject to local designation;</li> <li>• Memorial trees planted by the community to commemorate specific events or people (depending on trees age and condition)</li> <li>• Rare or distinctive in a regional context; and/or</li> <li>• Are tolerant of medium levels of pruning and disturbance.</li> <li>• Mainly B and C category trees</li> </ul>
Low	<ul style="list-style-type: none"> <li>• Generally, more commonplace, not designated;</li> <li>• Considered potentially tolerant of noticeable change; or</li> <li>• Undergoing substantial modification/physiological change such that their character is one of change.</li> <li>• Resilient tree species which respond well to pruning or are tolerant of root damage/disturbance</li> <li>• Mainly C category trees</li> </ul>
Negligible	<ul style="list-style-type: none"> <li>• Low quality, insignificant trees,</li> <li>• Considered tolerant of noticeable change; or</li> <li>• Trees affected by pest, disease or other forms of damage, with very limited useful life expectancy</li> <li>• Mainly C and U category trees</li> </ul>

**Table 2.2 Definitions of magnitude of change levels**

<b>Magnitude</b>	<b>Definition</b>
High	A noticeable change to the tree population over a wide area or an intensive change over a limited area or (for an individual) significant canopy pruning or root loss (pruning beyond guidance given in BS3998:2010 or root damage beyond guidance given in BS5837:2012).
Medium	Small changes to the tree population over a wide area or noticeable change over a limited area or (for an individual) pruning up to the maximum suggested in BS3998:2010.
Low	Very small changes to the tree population over a wide area or small changes over a limited area or (for an individual) small levels of pruning to an individual tree or minor impact on rhizosphere.
Negligible	No discernible change to the tree population or individuals

**Table 2.3 Framework for assessment of the significance of effect**

		<b>Sensitivity of receptor</b>				
		<b>Very High</b>	<b>High</b>	<b>Medium</b>	<b>Low</b>	<b>Negligible</b>
<b>Magnitude of change</b>	<b>High</b>	Major	Major	Moderate	Moderate	Minor
	<b>Medium</b>	Major	Moderate	Moderate	Minor	Negligible
	<b>Low</b>	Moderate	Moderate	Minor	Negligible	Negligible
	<b>Negligible</b>	Minor	Minor	Negligible	Negligible	Negligible

## 2.3 Assumptions and limitations

- 2.3.1 No soil survey data is included in this report.
- 2.3.2 Indicative RPAs have been calculated for tree groups based on the maximum stem diameter taken for each group.
- 2.3.3 No data for individual trees within surveyed groups was recorded. An exception to this is when a tree was deemed notable within a group.
- 2.3.4 First branch height and direction was not recorded for individual trees or groups. We do not consider this information necessary to inform design.
- 2.3.5 Where access was restricted, tree measurement data has been estimated. This has been indicated within the Tree Survey Schedule (Annex A) with the use of an '#' next to the tree number.

- 2.3.6 The health and condition of trees can change rapidly and all trees, even healthy ones, are at risk from unpredictable climatic and man-made events. This report is based on the observed health and structural condition of the trees at the time of survey by suitably qualified inspectors. The health, condition and safety of trees should be checked on a basis commensurate with the level of risk and preferably on an annual basis, as recommended in Common Sense Risk Management of Trees (National Tree Safety Group, 2011). The tree survey conducted for this report is not a tree health and safety survey and should not be used as such.
- 2.3.7 Plotting the location of trees is based predominantly on using a GPS active mapping system. The location is displayed on a tablet layered on top of OS data and aerial photography. GPS is considered accurate to an accuracy of +/- 5m .
- 2.3.8 An RPA provides a notional circular buffer around a given stem based on the stem diameter taken at 1.5m. However, this is not necessarily representative of a tree root system e.g. the roots may extend beyond the RPA boundary on one side and remain inside it on the opposite. The root network extent is dependent on many factors including species, age, soil conditions, topography and exposure etc. The assessment has taken consideration of these above factors together with root morphology and observations of buttress root formation.
- 2.3.9 This document is prepared as an AIA to represent the impact on trees of the Scheme. However, actual impacts on trees will not be fully known until a detailed design and mitigation is applied on site. This assessment is indicative and the results of which largely depend on the contractor's assumed working methods. Using this document as reference, the contractor(s) should re-assess the features on site and deliver site-specific mitigation as detailed in Chapter 5 (Conclusion and Recommendations) to ensure appropriate tree protection.

### **Ash die back**

- 2.3.10 Ash die back (ADB), also known as Chalara or Chalara dieback of ash, is a disease of ash trees caused by a fungus called *Hymenoscyphus fraxineus*. ADB causes leaf loss, crown dieback and bark lesions in affected trees. Once a tree is infected the disease is usually fatal, either directly or indirectly by weakening the tree to the point where it succumbs more readily to attacks by other pests or pathogens, especially Armillaria fungi, or honey fungus.
- 2.3.11 It has caused widespread damage to ash populations in continental Europe, where experience indicates that it can kill young ash trees quite quickly, while older trees can resist it for some time, until prolonged exposure or another pest or pathogen attacking them in their weakened state, eventually causes them to succumb.
- 2.3.12 It is becoming increasingly difficult to assign ash trees a retention category using the BS5837:2012 standards. The general advice from public bodies is to retain ash trees and see how the disease develops within the local population. However, if clear signs of ADB are found on sites, it is likely that most of the ash trees on that site will succumb in a relatively short period. It would be unreasonable to consider an ash tree a significant constraint to a site, if it is to die within a short period of time.

- 2.3.13 Evidence from other parts of the country suggest that infected trees rapidly lose structural integrity and are more prone to branch shedding and total collapse. Furthermore, ash, as a species is known for its inability to retain even small deadwood, which it sheds regularly as it appears in the crown.
- 2.3.14 The Tree Council has produced a document giving guidance on how to deal with ADB to tree owners and managers called 'Ash dieback: an Action Plan Toolkit' (Stokes. J., and Jones, G. 2019). This excellent document gives guidance on assessing the danger posed by the trees infected by ADB. As suggested in the document, the Suffolk County Council Ash Health Assessment System (EATaLOG, 2014) has been adopted, below. The system categorises ash trees with the symptoms in four categories of Ash Health Class (AHC):
- AHC 1 – 100 – 75% Canopy healthy (Vitality Class 0)
  - AHC 2 – 75% -50% Canopy healthy (Vitality Class 1)
  - AHC 3 – 50% - 25% Canopy healthy (Vitality Class 2)
  - AHC 4 – 25% - 0% Canopy healthy (Vitality Class 3)
- 2.3.15 Many local authorities have concluded that any trees which fall within AHC 3 and 4 require management and it seems reasonable to follow a similar system. The priority of that management depends on the severity of the tree's decline with trees progressing from AHC 2 into AHC 3 requiring work as part of a program of regular works. As the trees progress (decline) towards class 4, action becomes more urgent to abate any hazard, assuming the tree is in a high risk area.
- 2.3.16 This report has taken into account the high number of infected ash trees on the site, and has assumed that none will survive longer than 10 years, at most. A number of the trees are showing significant signs of infection that they are recommended for removal and it may be pertinent to remove all ash at the pre-development stage while tree and site conditions allow for the safest working environment.

### **3 Baseline**

#### **3.1 Site location**

- 3.1.1 The site is located to the north of Manchester, situated at the intersection of the M60/M62/M66, known as Simister Island. The Order Limits for the Scheme are shown in Figure 1.1: Location Plan of the Environmental Statement Figures (TR010064/APP/6.2).
- 3.1.2 The survey area comprises the M60/M62/M66 motorways, and associated boundary features, areas of open agricultural land directly adjacent to the motorways and urban highways required for direct access to compounds and sites.

#### **3.2 Tree preservation orders and conservation areas**

- 3.2.1 A Tree Preservation Order (TPO) and Conservation Area (CA) check was conducted to identify the presence of TPOs or CAs within the survey area. No TPOs appear within the survey area and the survey area is not covered by a CA.

#### **3.3 Ancient woodland**

- 3.3.1 No part of the site is listed in the Ancient Woodland Inventory, as shown on the Multi-Agency Geographical Information for the Countryside (MAGIC) website (Department for Environment, Food and Rural Affairs, 2023). This is a spatial dataset that describes the geographic extent and location of Natural Environment and Rural Communities Act (2006) Section 41 habitats of principal importance.

#### **3.4 Ancient and veteran trees**

- 3.4.1 The Ancient Tree Inventory (Woodland Trust, 2021a) was checked on 13th March 2023 for the presence of verified veteran/ancient trees within the survey area. National Planning Policy Framework (Department for Levelling Up, Housing and Communities, 2023)) refers to veteran trees as *‘irreplaceable habitat’* which due to their “age, size and condition, is of exceptional biodiversity, cultural or heritage value’.
- 3.4.2 Arboriculturists based their assessment of potential veteran (ancient and notable) trees on the guidance provided by the Ancient Tree Forum and the Woodland Trust, specifically the document Ancient Tree Guide 4: What are ancient, veteran, and other trees of special interest (Woodland Trust, 2008) and the species-specific guidance on the Ancient Tree Inventory website.
- 3.4.3 No Ancient or Veteran Trees were identified as part of the surveys undertaken.

#### **3.5 Tree survey results**

- 3.5.1 The full findings of the tree survey are presented in the Tree Survey Schedule (Annex A) and the Tree Constraints Plan (Annex B).

3.5.2 Table 3.1 summarises the total number of trees surveyed and their relative BS5837:2012 categories.

**Table 3.1 Summary of arboricultural features included in the survey**

BS5837:2012 Category	Trees	Tree Groups	Hedges	Woodland	Total
A	0	0	0	1	1
B	35	88	2	3	128
C	32	55	11	1	99
U	2	0	0	0	2
<b>Total</b>	<b>69</b>	<b>143</b>	<b>13</b>	<b>5</b>	<b>230</b>

3.5.3 Notes:

- 'A' grade trees are of high quality and value and should be retained.
- 'B' grade trees are of moderate quality and value and should be considered for retention where possible, although care should be taken to avoid misplaced retention. Any scheme should consider the retention and protection of trees, but also the tree's future growth.
- The 'C' grade trees are of low quality and value and should not place a constraint on the Scheme.
- From an arboricultural point of view, the 'U' grade trees cannot realistically be considered for retention as a living tree in the context of the current land use due to their low life expectancy of less than 10 years in their current poor condition.

3.5.4 In recognition of the important ecological and ecosystem services performed by trees the default position when designing any forthcoming scheme should be the retention of all items, as so far as is practicable, regardless of category grading. All trees provide positive environmental and ecological contributions, irrespective of current condition.

## 3.6 General tree observations

3.6.1 The trees directly adjacent to the M60/M62/M66 are considered typical of the planting associated with the motorway network, with native broadleaves dominating the species composition. Beyond the motorway planting, the urban areas are typified by standard street tree planting, with lime (*Tilia sp.*) and ash (*Fraxinus excelsior*) dominating. The tree stock within the rural areas and agricultural land comprises boundary features, a mix of managed and unmanaged hedgerows, and individual trees situated within fields, again native broadleaves dominate.

- 3.6.2 The dominant age class of the surveyed items is predominantly early mature, with occasional young, mature and over mature specimens, which are relatively well managed, the urban trees are showing signs of regular pruning and inspection, with individual tree tags present. Trees located in rural and motorway embankment planting show few signs of ongoing management, with dense planting and intense competition reducing individual tree vigour.
- 3.6.3 To the north of the M60, behind the properties of Oak Bank, the tree groups, G240 and G243 are tall, etiolated and overshadowing the neighbouring properties. Consideration should be given for the removal or reduction of these trees to reduce the impact these trees have on the enjoyment of these properties.
- 3.6.4 In general, the quality of individual trees is predominantly within B Category with most having a useful remaining lifespan and contribution to the local amenity. A number of trees are C category, being limited in their remaining lifespan and having such physiological or structural deficiencies that they could be easily replaced by new planting if this was suitably selected and maintained into maturity. A large number of the ash trees noted within the wider tree population have been recognised as having ADB. These trees will need to be monitored and are considered unlikely to be long lived.

## **4 Arboricultural impact assessment**

### **4.1 Introduction**

- 4.1.1 This AIA has been prepared following site-based observations, a desktop study and consideration of the Scheme design. In particular, it relates to the baseline arboricultural assessment and constraints information (as shown on the Tree Constraints Plan (Annex B)), which is overlaid onto the Scheme design. The resulting drawing, the Tree Removal Plan (Annex C), shows the impact on arboricultural features on the site.
- 4.1.2 Trees have a finite reserve of energy, made each year, throughout the spring/summer seasons, which is utilised for biological processes such as growth and defence against pests or diseases.
- 4.1.3 Any scheme in proximity to trees has the potential to cause harm to those trees unless control measures are identified and acted upon; as such it is essential to consider the relationship between the Scheme and the retained trees to identify what precautions are necessary and proportionate. The Scheme has the potential to impact upon the above ground (canopy, stems and branches) and below ground (rooting environment) parts of the trees.
- 4.1.4 Whilst some clear and obvious physical damage can occur to trees during the construction phase, such as to stems and branches, other impacts are not always so immediately evident, such as damage to the soil structure by compaction and/or changes in ground levels causing root damage, altering the water table and affecting moisture availability.
- 4.1.5 This AIA recognises that construction activities pose a real and significant threat to the subject trees and assesses the likely impacts of the Scheme on the tree stock and where appropriate, provides mitigation with the view of achieving a harmonious relationship between the trees and the built form.
- 4.1.6 Assessment of the impact of the Scheme has been determined following consideration of the constraints each surveyed item poses by virtue of its position, branch spread and designated RPA.
- 4.1.7 Consideration should be given to retaining all trees where possible; however, ultimately the removal of any tree is dependent on its proximity to the footprint of any scheme and associated landscaping.

### **4.2 Impact assessment**

#### **Trees requiring removal for reasons of sound arboricultural management**

- 4.2.1 The BS5837:2012 compliant survey identified a total of two U category items, the condition of which was considered to be impaired to such an extent that they cannot be realistically retained as living trees in the context of the current land use for longer than 10 years. These are detailed in the Tree Survey Schedule (Annex A).

## Tree, group and hedge impacts

- 4.2.2 Tables 4.1 to 4.4 summarise the impacts shown on the Tree Removal Plan (Annex C).
- 4.2.3 The 'Partial Removal' impact relates only to groups of trees and hedgerows requiring only some of the feature to be removed to facilitate the proposals.
- 4.2.4 The 'Encroached' impact relates to trees that can be retained during and after the implementation of the Scheme but may require protection/mitigation measures to be employed prior to the construction phase of the Scheme.
- 4.2.5 It is the view of arboriculturists, the competent expert for the AIA, that trees indicated as encroached are viable for retention (in most cases) if provided with adequate protection prior to and/or during construction. Commitment LV3 in the Register of Environmental Actions and Commitments (REAC), contained within the First Iteration Environmental Management Plan (EMP) (TR010064/APP/6.5)) states, '*Existing vegetation clearance within the temporary works areas will be minimised as far as practicable. Particular attention will be given to the retention of mature vegetation including individual trees, linear tree belts and woodlands.*' The commitment will be implemented through the preparation of an Arboricultural Method Statement (AMS), identifying measures for the protection of retained vegetation prior to the commencement of site clearance works.

**Table 4.1 Individually surveyed tree impacts**

BS5837:2012 Grades	Removals	Encroached	No Impacts	Total
A	0	0	0	0
B	5	0	30	35
C	13	0	19	32
U	0	0	2	2
<b>Total</b>	<b>18</b>	<b>0</b>	<b>51</b>	<b>69</b>

**Table 4.2 Surveyed tree group impacts**

BS5837:2012 Grades	Removals	Partial Removal	Encroached	No Impact	Total
A	0	0	0	0	0
B	17	27	0	44	88
C	19	11	0	25	55
U	0	0	0	0	0
<b>Total</b>	<b>36</b>	<b>38</b>	<b>0</b>	<b>69</b>	<b>143</b>

**Table 4.3 Surveyed hedge impacts**

BS5837:2012 Grades	Removals	Partial Removal	Encroached	No Impact	Total
A	0	0	0	0	0
B	0	0	0	2	2
C	2	1	0	8	11
U	0	0	0	0	0
<b>Total</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>10</b>	<b>13</b>

**Table 4.4 Surveyed woodland impacts**

BS5837:2012 Grades	Removals	Partial Removal	Encroached	No Impact	Total
A	0	0	0	1	1
B	0	1	0	2	3
C	0	1	0	0	1
U	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>5</b>

## 4.3 Discussion of removals

- 4.3.1 At this stage of the development process, it appears that removals are restricted to the removal of highways adjacent planting, with the exception of trees within the field parcels to the north east of M60 J18. To facilitate the construction, a 5m 'working width' has been assumed alongside any significant bank grading works, to allow for machinery access, drainage and provide a reasonable width between the Scheme design and retained trees. As the design progresses, this width may be reduced.
- 4.3.2 Removals are predominantly constrained to lower quality items, all A category items are retained in full, with no anticipated impacts from the Scheme.
- 4.3.3 A significant number of the removals are required to facilitate the temporary working compounds required to facilitate the construction. These areas would be returned to the baseline condition post-construction, or such other condition as may be agreed with the landowner (Article 30 of the draft Development Consent Order (TR010064/APP/3.1)) and replacement tree planting would be undertaken at an appropriate density and with suitable species to allow for long term benefits.

- 4.3.4 A number of trees were identified on land adjacent to Derwent Avenue (T136-T148). These ash trees are predominantly mature full canopied trees which are extending above and over neighbouring domestic properties. If clearance and embankment profiling works are to be undertaken on the highway embankment (G240) then it is recommended that these trees (T136-T148) should be removed. This is primarily due to the fact that there are significant structural roots extending into the highways embankments beneath the boundary fencing. Any excavation works required on the embankments are likely to result in the severing of these structural roots, which would result in the structural instability of these trees. Furthermore, any significant changes to the cohesive canopy around these items, due to the removal of any parts of G240 may result in increased wind exposure and result in structural failure. The removal of these items is not included in the tables above, since they are outside of the Order Limits and not within ownership of the Scheme.

## 4.4 Significance of effect

### Discussion and conclusion of significance

- 4.4.1 The significance of effect has been assessed as per the methodology outlined in Chapter 2.
- 4.4.2 The site is assessed as being of Medium sensitivity, owing to the high numbers of B and C category trees and the associated highways adjacent planting which is considered unlikely to mature into trees with good form, and high numbers of ash trees identified across the site which are unlikely to be retained long term considering the likely impact of ash dieback. The magnitude of change is considered to be High, owing to the extensive clearance required in certain areas of the Scheme.
- 4.4.3 The combination of Moderate sensitivity and High magnitude results in a Moderate significance of effect.
- 4.4.4 This can be mitigated for with robust replacement planting within the re-established roadside boundaries. Further reduction of impact is possible due to the partial removal of groups, reducing the 'depth' of groups but not opening up new views, thus lessening the amenity value of the tree stock. Retained trees will likely adapt quickly to the new conditions, exploiting access to additional light and producing significant lateral growth to exploit the additional space available.
- 4.4.5 Longer term impacts are likely to be reduced due to the removals required to facilitate the temporary working areas and the mitigation planting that will be undertaken to return these areas to the baseline, or better, condition post construction.
- 4.4.6 There would be **no significant residual effects** from the Scheme, taking into account the landscape commitments LV1 to LV9 in the REAC, contained within the First Iteration EMP (TR010064/APP/6.5).

## 5 Conclusion and recommendations

### 5.1 Conclusion

5.1.1 The Scheme would require the following:

- The removal of 18 individual trees consisting of five B category trees, and 13 C category trees
- The complete removal of 36 groups of trees, 17 B category groups and 19 C category groups
- The partial removal of 38 groups of trees, consisting of 27 B category partial groups and 11 C category partial groups
- The complete removal of two C category hedgerows
- The partial removal of one C category hedgerow
- The partial removal of two woodlands, consisting of one B category and one C category.

5.1.2 It is acknowledged that potential impacts are likely to change during detailed design and this AIA should be updated with this information when known. Opportunities to retain trees at later stages of design should be fully explored. Consideration should be given to established trees of mature (or above) age class together with trees offering screening.

5.1.3 In consideration of this AIA, the Tree Constraints Plan (Annex B) and Tree Removals Plan (Annex C), an AMS would be prepared (commitment LV3 in the REAC, contained within the First Iteration EMP (TR010064/APP/6.5)), to detail how existing trees would be protected within temporary working areas, as well as detailing the construction techniques to be used where construction activity is to occur within an RPA. The Principal Contractor should only remove trees that are absolutely necessary to facilitate the Scheme, as shown on the Tree Removals Plan (Annex C).

5.1.4 A competent arboriculturist should be present on site at suitable times to monitor the adoption of the AMS and ensure the appropriate protection of trees.

5.1.5 Additional visits are recommended post construction to identify any physiological and/or structural defect that may have been caused by the works. This should occur on a yearly basis for four years, with each visit being conducted during a different season.

### 5.2 Recommendations

5.2.1 Table 5.1 lists the standard elements, as referenced in BS 5837:2012 (BSI, 2012), recommended to satisfy planning concerns for this Scheme and to ensure appropriate tree protection is considered and applied throughout the duration of the works.

**Table 5.1 Follow up arboricultural input relating to the Scheme**

Recommended arboricultural input	Purpose	Timing
Re-assessment of impacts to trees during detailed design and once construction information is available	Technical advice provided during the detailed design phase to avoid tree impacts.	Following any major design changes or advance works design development.
AMS	Work information package designed to provide contractors with details on how specific operations need to be performed to protect trees including use of ground protection.	Following final design agreement and usually as a part of planning conditions. Produced by the contractor for review by the client and/or Local Planning Authority following agreement.
Tree Protection Plan	Provide schematic details of how protective fencing shall be installed and any other pre-planned targeted tree protection.	Following final design agreement in conjunction with the AMS.
AIA revisions	Further detail of impacts on key areas. OR Whenever a design change/addition is finalised or recommended.	Following any change in the design. The process could be either desktop based or require further site visits, depending on the scope of the original survey.
On site monitoring	To ensure protection measures and the method statement are being implemented correctly.	At agreed intervals before and during the construction phase of the Scheme.

- 5.2.2 It is recommended to maintain contact with the Scheme arboriculturist throughout the planning and design stage for the relevant additional input to be addressed at the appropriate point.
- 5.2.3 Impacts to the trees, as outlined within this AIA report, could alter with any changes to the current Scheme design. Tree impacts should therefore be reviewed as the design process progresses with all relevant parties informed of the changes, where appropriate.

## Acronyms and initialisms

Acronym or initialism	Term
ADB	Ash die back
AHC	Ash Health Class
AIA	Arboricultural Impact Assessment
AMS	Arboricultural Method Statement
BSI	British Standards Institute
CA	Conservation Area
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
MAGIC	Multi-Agency Geographical Information for the Countryside
GPS	Global Positioning System
REAC	Register of Environmental Actions and Commitments
RPA	Root Protection Area
TPO	Tree Preservation Order

## Glossary

Term	Definition
Ancient tree	An ancient tree is exceptionally valuable attributed with great age/size/cultural heritage/biodiversity value as a result of significant wood decay and the habitat created from the ageing process. All ancient trees are veteran trees with very few trees of any species reaching the ancient life-stage.
Bark	A term usually applied to all the tissues of a woody plant lying outside the vascular cambium.
Condition	An indication of the physiological vitality of the tree. Where the term 'condition' is used in a report, it should not be taken as an indication of the stability of the tree.
Conservation Area	A designated area that requires notice (currently six weeks) to be given to the local planning authority prior to the commencement of any tree works.
Construction exclusion zone	Area based on the Root Protection Area (in square metres) to be protected during development, by the use of barriers and/or ground protection.
Crown/Canopy	The main foliage bearing section of the tree.

Term	Definition
Deadwood	Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard.
Dieback	The death of parts of a woody plant, starting at shoot-tips or root-tips.
Diameter at Breast Height (DBH)	Stem diameter measured at a height of 1.5 metres (UK) or the nearest measurable point. Where measurement at a height of 1.5 metres is not possible, another height may be specified.
Habit	The overall growth characteristics, shape of the tree and branch structure.
Minor deadwood	Dead wood of a diameter less than 25mm and or unlikely to cause significant harm or damage upon impact with a target beneath the tree.
Notable	Notable trees are usually mature trees which may stand out in the local environment because they are large in comparison with other trees around them
Root protection area (RPA)	An area of ground surrounding a tree that contains sufficient rooting volume to ensure the tree's survival, calculated with reference to Table 2 of BS5837 (2005).
Stem/s	The main supporting structure/s, from ground level up to the first major division into branches.
Tree Preservation Order (TPO)	Is an order made by the local authority and placed upon individual trees, groups of trees or areas of trees. The local authority must usually grant permission prior to any works undertaken to affected trees.
Veteran tree	A loosely defined term for an old specimen that is of interest biologically, culturally or aesthetically because of its age, size or condition and which has usually lived longer than the typical upper age range for the species concerned.

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Annex A Tree Survey Schedule

This annex presents the results of the tree surveys undertaken for the Scheme in 2021 and 2023.

National Highways				Site:				M60/M62/M66 Interchange											
Date of Survey:		2021 and Jan 2023				Consultant				PS TC MS DC									
Tagged		N/A																	
Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Management Recommendations (Priority)	Estimated Remaining Contribution (Years)	Category Grading	Arboricultural Impact Assessment	Root Protection Radius (m)		
				North	East	South	West												
T1	Unknown	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Fair	Fair	Street tree - spotted from aerial and AVIS	No Work Recommended	10+	C1	No Impact	N/A		
T2	Unknown	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Fair	Fair	Street tree -spotted from aerial and AVIS	No Work Recommended	10+	C1	No Impact	N/A		
T3	Unknown	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Fair	Fair	Street tree spotted from aerial and AVIS	No Work Recommended	10+	C1	No Impact	N/A		
T4	Unknown	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Fair	Fair	Street tree spotted from aerial and AVIS	No Work Recommended	10+	C1	No Impact	N/A		
T5	Unknown	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Fair	Fair	Located in residential garden tree spotted from aerial and AVIS	No Work Recommended	10+	C1	No Impact	N/A		
T6	Ash	6	# 80	1	1	1	1	2	Young	Fair	Fair	AVIS surveyed only. Self-set ash located between HE railings.	No Work Recommended	10+	C1	No Impact	0.96		
T40	Hawthorn	6	# 250	3	3	3	3	N/A	Early Mature	Fair	Fair	Inaccessible scrub tree.	No Work Recommended	10+	C1	Complete Removal	3		
T41	Silver Birch	6	# 120	2	2	2	2	N/A	Young	Fair	Fair	No Significant Faults Observed	No Work Recommended	10+	C1	No Impact	1.44		
T42	Oak sp.	9	# 310	4	4	4	4	1	Semi Mature	Good	Good	In field. C. 1m from fence	No Work Recommended	20+	B2	No Impact	3.72		
T43	Hawthorn elder	6	# 350	3	3	3	3	N/A	Mature	Fair	Fair	Inaccessible stem. Contains two trees	No Work Recommended	20+	B3	Complete Removal	4.2		
T44	Hawthorn	4	# 200 140 180	2	3	2	2	2	Over Mature	Poor	Fair	Tristemmed boundary tree. Significant retrenching of canopy and livestock damage to stems. Includes some stem hollows.	No Work Recommended	10+	C3	Complete Removal	3.64		
T45	Oak sp.	8	# 80	1	1	1	1	N/A	Young	Fair	Fair	In field verge	No Work Recommended	10+	C1	No Impact	0.96		
T46	Silver Birch	7	# 150	3	2	2	2	N/A	Young	Fair	Fair	In school grounds. C. 3m set back from fence	No Work Recommended	10+	C1	No Impact	1.8		
T47	Cherry	6	# 120	2	2	2	2	N/A	Young	Fair	Fair	Unable to access. Scrub tree on HE land.	No Work Recommended	10+	C1	Complete Removal	1.44		
T48	Grey willow	8	# 260 220 160	4	4	4	4	1	Early Mature	Fair	Fair	Multistem willow. Tear out wounds and some livestock damage	No Work Recommended	10+	C2	No Impact	4.52		
T49	Hawthorn	2	250	0	5	0	0	N/A	Early Mature	Fair	Poor	Collapsed boundary tree. Lying horizontally and rooting still partly attached. Limited tip growth	No Work Recommended	10+	C3	Complete Removal	3		
T50	Hawthorn	6	# 300 300 100	3	3	3	3	N/A	Early Mature	Fair	Fair	Ivy clad multistem. Unable to access stem. Field boundary tree.	No Work Recommended	20+	B2	Complete Removal	5.23		
T51	Wild cherry	6	# 180 120 100 100	3	3	3	7	N/A	Semi Mature	Fair	Fair	West of gated entrance. Cut back from gate side	No Work Recommended	10+	C1	No Impact	3.1		
T52	Hawthorn holly	6	# 250	3	3	3	3	N/A	Semi Mature	Fair	Fair	Two trees on boundary.	No Work Recommended	10+	C2	Complete Removal	3		
T53	Hawthorn	5	# 235	3	3	3	3	N/A	Mature	Fair	Fair	On boundary line. Immediately adjacent to ditch and concrete structure. 3 x100mm and 4x80mm. 89mm DBH ave.	No Work Recommended	10+	C1	No Impact	2.82		
T54	Hawthorn	4	# 150	3	3	3	3	N/A	Semi Mature	Fair	Fair	Inaccessible scrub covered tree in boundary.	No Work Recommended	10+	C2	Complete Removal	1.8		
T56	Holly hawthorn	4	# 80	2	2	2	2	N/A	Over Mature	Poor	Poor	Inaccessible stems on boundary. 2 trees. Hawthorn is dominant tree but retrenching and covered in bramble	No Work Recommended	10+	C3	Complete Removal	0.96		
T57	Hawthorn	5	# 150	2	2	2	2	N/A	Semi Mature	Fair	Fair	Inaccessible scrub prevents stem access. On boundary line	No Work Recommended	10+	C1	No Impact	1.8		
T58	Lombardy poplar	30	# 800	4	4	4	4	4	Early Mature	Fair	Fair	In thick veg. Height estimated. Unable to survey crown due to understorey. 5m bifurcated.	No Work Recommended	20+	B2	No Impact	9.6		
T59	Beech	16	# 750	5	5	5	5	N/A	Mature	Fair	Fair	Legacy tree in thick veg. Canopy and dbh dimensions estimated. Fused multi stems	No Work Recommended	20+	B3	No Impact	9		
T60	Common oak	12	400	6	6	6	6	N/A	Early Mature	Good	Good	No Significant Faults Observed	No Work Recommended	20+	B2	No Impact	4.8		
T61	Field maple	16	# 400	5	5	5	5	2	Early Mature	Fair	Poor	Bifurcated included union @0.5m. Limited swelling below union and no crossed branches offering bracing. Crown lifted canopy away from lamppost but canopy (north) is weighted towards motorway with tree having attenuated habit and end loaded foliage.	No Work Recommended	<10	U	No Impact	4.8		
T62	Sycamore	24	280 600 750 150	6	9	8	8	1	Mature	Fair	Fair	Open habit woodland tree. Low multistem tree with included main union. Brick chamber in proximity to stem.	No Work Recommended	20+	B3	No Impact	12.14		
T63	Lombardy poplar	30	# 800	4	4	4	4	1	Early Mature	Fair	Fair	In thick veg. Canopy vertically within c.5-10m of overhead line. Height estimated. Stem covered in weeds.	No Work Recommended	20+	B2	No Impact	9.6		
T64	Goat willow	12	# 348	6	7	6	6	N/A	Over Mature	Fair	Fair	Multistemmed tree east of path. 110mm DBH ave. x 10.	No Work Recommended	20+	B3	Complete Removal	4.18		
T65	Common oak	12	360	6	6	6	6	N/A	Semi Mature	Good	Good	Has galls.	No Work Recommended	20+	B2	No Impact	4.32		
T66	Goat willow	13	# 539	6	6	6	6	2	Mature	Fair	Fair	Unable to access. C. 6 stems of 220mm ave. DBH. Some crown lifting observed on car park side	No Work Recommended	20+	B2	No Impact	6.47		
T67	Lombardy poplar	30	650	4	4	4	4	4	Early Mature	Fair	Fair	Height estimated. Unable to survey crown due to understorey. 7m bifurcated. Some slip flux.	No Work Recommended	20+	B2	No Impact	7.8		
T68	Lombardy poplar	30	# 710	4	4	4	4	4	Early Mature	Fair	Fair	In thick veg. Height estimated. Stem covered in weeds.	No Work Recommended	20+	B2	No Impact	8.52		
T99	Hawthorn	5	# 80 80 80 80	2	2	2	2	N/A	Early Mature	Fair	Fair	4 stems of size	No Work Recommended	20+	B2	No Impact	1.92		
T100	Common alder	11	# 100 220	3	3	3	3	N/A	Semi Mature	Fair	Fair	Twin stem in inaccessible scrub	No Work Recommended	10+	C1	Complete Removal	2.9		
T101	Hawthorn	6	# 220	3	3	3	3	N/A	Early Mature	Fair	Fair	Inaccessible multistem to east fence. 6 stems with ave of 90mm ave. DBH.	No Work Recommended	10+	C1	No Impact	2.64		
T102	Aspen	22	# 750	5	7	8	8	3	Early Mature	Fair	Fair	Immediately adjacent to track on south of track.	No Work Recommended	20+	B1	No Impact	9		
T103	Aspen	8	# 100	1	1	1	1	N/A	Young	Fair	Fair	Self set tree in thick veg	No Work Recommended	10+	C1	No Impact	1.2		
T104	Common oak	8	160	2	2	2	2	N/A	Young	Good	Good	No Significant Faults Observed	No Work Recommended	10+	C1	Complete Removal	1.92		
T105	Sweet chestnut	9	250	4	4	4	4	1	Semi Mature	Good	Good	No Significant Faults Observed	No Work Recommended	20+	B1	Complete Removal	3		
T106	Common alder	7	# 120	3	3	3	3	N/A	Young	Poor	Fair	In scrub. Top 2m has dieback.	No Work Recommended	10+	C1	Complete Removal	1.44		
T107	Hawthorn	6	# 80 80 80	2	2	2	2	N/A	Early Mature	Fair	Fair	On verge.	No Work Recommended	10+	C2	Complete Removal	1.66		

M60/M62/M66 Simister Island Interchange  
 ENVIRONMENTAL STATEMENT APPENDICES  
 APPENDIX 7.5 ARBORICULTURAL IMPACT ASSESSMENT

Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Management Recommendations (Priority)	Estimated Remaining Contribution (Years)	Category Grading	Arboricultural Impact Assessment	Root Protection Radius (m)
				North	East	South	West										
T108	Red oak	6	100	2	2	2	2	N/A	Young	Good	Good	In recently cleared area	No Work Recommended	10+	C1	Complete Removal	1.2
T109	Hawthorn	5	# 196	2	2	2	2	N/A	Early Mature	Fair	Fair	Multistem tree. Inaccessible with spoil dumped at base to south. Ave stem 80mm DBH x6	No Work Recommended	10+	C1	No Impact	2.35
T110	Ash	8	# 120 100 80	2	2	2	2	N/A	Young	Fair	Fair	Multistem ash	No Work Recommended	10+	C1	Complete Removal	2.11
T111	Common alder	11	# 120 350 80 250 280	4	5	6	3	N/A	Early Mature	Fair	Fair	Inaccessible multistems x5. Ranging between 120-350.	No Work Recommended	20+	B3	No Impact	6.4
T112	Horse chestnut	7	# 200 260 80	3	3	3	3	N/A	Semi Mature	Fair	Fair	Bacterial canker on stem with lesions.	No Work Recommended	10+	C1	No Impact	4.05
T114	White willow	17	# 310 310	6	6	6	6	N/A	Early Mature	Fair	Fair	In scrub.	No Work Recommended	20+	B1	No Impact	5.26
T115	Oak sp.	11	# 400	4	4	4	4	N/A	Semi Mature	Good	Good	Unable to access stem	No Work Recommended	20+	B1	No Impact	4.8
T117	Sycamore	12	# 150 150	2	2	2	2	1	Semi Mature	Fair	Fair	Narrow fork near base of trunk.	No Work Recommended	10+	C1	No Impact	2.55
T118	Sycamore	14	# 650	7	6	7	8	2.5	Early Mature	Fair	Fair	Branches cut back from motorway sign.	No Work Recommended	20+	B1	Complete Removal	7.8
T122	Weeping willow.	12	# 350	6	6	6	6	1	Semi Mature	Fair	Fair	Large almost fully occluded wound on trunk.	No Work Recommended	20+	B1	No Impact	4.2
T131	cherry plum	8	# 300	3	3	3	3	2	Mature	Fair	Fair	No Significant Faults Observed	No Work Recommended	20+	B2	No Impact	3.6
T132	lime	10	# 320	3	3	3	3	5	Mature	Fair	Fair	Street tree kerb side	No Work Recommended	20+	B2	No Impact	3.84
T133	whitebeam	8	# 300	3	3	3	3	3	Mature	Fair	Fair	leans south some basal damage	No Work Recommended	20+	B2	No Impact	3.6
T134	oak	12	# 610	4	4	4	4	2	Mature	Fair	Fair	larger oak set back from highways boundary	No Work Recommended	20+	B2	No Impact	7.32
T136	alder	14	# 450	4	4	4	4	2	Early Mature	Fair	Fair	in green open space	No Work Recommended	20+	B2	No Impact	5.4
T137	alder	14	# 450	4	4	4	4	2	Early Mature	Fair	Fair	in green open space	No Work Recommended	20+	B2	No Impact	5.4
T138	alder	14	# 450	4	4	4	4	2	Early Mature	Fair	Fair	in green open space	No Work Recommended	20+	B2	No Impact	5.4
T139	alder	14	# 450	4	4	4	4	2	Early Mature	Fair	Fair	in green open space basal cavity at base	No Work Recommended	20+	B2	No Impact	5.4
T140	alder	14	# 450	4	4	4	4	2	Early Mature	Fair	Fair	in green open space basal cavity at base	No Work Recommended	20+	B2	No Impact	5.4
T141	alder	14	# 400	4	4	4	4	2	Early Mature	Fair	Fair	in green open space basal cavity at base	No Work Recommended	20+	B2	No Impact	4.8
T142	alder	14	# 400	4	4	4	4	2	Early Mature	Fair	Fair	in green open space basal cavity at base	No Work Recommended	20+	B2	No Impact	4.8
T144	ash	19	# 800	7	7	7	7	7	Mature	Fair	Fair	ash die back fully overhangs residential property cat and health need assessing in leaf	No Work Recommended	20+	B2	No Impact	9.6
T145	ash	19	# 700	7	7	7	7	7	Mature	Fair	Fair	ash die back fully overhangs residential property cat and health need assessing in leaf extensive die back AHC 3	No Work Recommended	10+	C2	No Impact	8.4
T146	ash	17	# 610	7	7	7	7	6	Mature	Fair	Fair	ash die back dominates property needs assessing for health in leaf	No Work Recommended	20+	B2	No Impact	7.32
T147	ash	17	# 550	7	7	7	7	6	Mature	Fair	Fair	ash die back needs assessing for health in leaf	No Work Recommended	20+	B2	No Impact	6.6
T148	sycamore	15	# 600	6	6	6	6	2.5	Over Mature	Poor	Poor	significant basal damage and root damage high likelihood of windblown if exposed	No Work Recommended	<10	U	No Impact	7.2
Groups																	
G10	Ash Sycamore	10	# 200	2	2	2	2	N/A	Semi Mature	Fair	Fair	Inaccessible feature. Data collected has been part surveyed using AVIS. Some canopy dieback visible. Surveyed from interchange.	No Work Recommended	10+	C2	No Impact	2.4
G11	Unknown	16	# 0	N/A	N/A	N/A	N/A	N/A	Semi Mature	Fair	Fair	AVIS surveyed only. Located between 2 bridges on steep slope.	No Work Recommended	10+	C2	No Impact	N/A
G12	Unknown	15	# 0	4	4	4	4	N/A	Early Mature	Fair	Fair	AVIS surveyed only. Mixed broadleaf	No Work Recommended	20+	B2	No Impact	N/A
G16	Cherry silver birch field maple ash beech hawthorn sycamore rowan Scots pine Cypress	16	# 500	4	4	4	4	N/A	Early Mature	Fair	Fair	Group is largely made up of HE trees on slope but with some third party garden included to NW half of group. Max DBH reported. Unable to access eastern third of group	No Work Recommended	20+	B2	No Impact	6
G17	Acer sp.	8	# 200	2	2	2	2	2	Semi Mature	Fair	Fair	AVIS surveyed only. Two self set trees on vergeside. Visible margin species reported.	No Work Recommended	10+	C2	Complete Removal	2.4
G23	Goat willow field maple hawthorn	8	# 350	5	5	5	5	N/A	Early Mature	Fair	Fair	Vegetation in HE fencing unable to access. Ms gw = 120*6	No Work Recommended	10+	C2	Complete Removal	4.2

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APPENDIX 7.5 ARBORICULTURAL IMPACT ASSESSMENT

Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Management Recommendations (Priority)	Estimated Remaining Contribution (Years)	Category Grading	Arboricultural Impact Assessment	Root Protection Radius (m)
				North	East	South	West										
G24	Hawthorn field maple Hazel goat willow sycamore oak lime sp., rowan holly ash cherry	8	# 80 80 120 180	5	5	5	5	N/A	Early Mature	Fair	Fair	Linear feature located on bund between carriageway and field margin. Contains gaps of trees and shrub like viburnum and privet. Contains ms willow of 180.80.120.80.	No Work Recommended	10+	C2	Complete Removal	2.93
G25	Ash field maple hawthorn sycamore Scots pine	15	# 360	6	6	6	6	N/A	Semi Mature	Fair	Fair	Eastern vegetation in thick scrub. Western veg on highways banking. Trees in mixed ownership. Likely chalara ash dieback present.	No Work Recommended	10+	C2	Complete Removal	4.32
G26	Scots pine ash silver birch hawthorn, sycamore goat Willow beech	16	# 610	4	4	4	4	N/A	Early Mature	Fair	Fair	Vegetation located on bank behind wooden fencing. Contains some Himalayan balsam.	No Work Recommended	20+	B2	Partial Removal	7.32
G31	Silver birch ash hawthorn	12	# 300	4	4	4	4	N/A	Early Mature	Fair	Fair	On verge side. Inaccessible. Estimated from adjacent parcel.	No Work Recommended	10+	C2	Complete Removal	3.6
G32	Ash hawthorn willow sp. oak	6	# 100	2	2	2	2	N/A	Young	Fair	Fair	Avis surveyed only. Patchy scrub group. Ash predominantly has ash dieback symptoms.	No Work Recommended	10+	C3	Complete Removal	1.2
G36	Ash sycamore hawthorn silver birch	12	# 350	3	3	3	3	N/A	Semi Mature	Fair	Fair	Estimated from adjacent field	No Work Recommended	20+	B2	Complete Removal	4.2
G38	Ash hawthorn willow ssp.	7	# 150	2	2	2	2	N/A	Semi Mature	Fair	Fair	Inaccessible linear highways planting. Approx. 5-8m tall. Scrubby group located on verge. Contains some areas of open space and ash with dieback.	No Work Recommended	10+	C2	Complete Removal	1.8
G39	Ash hawthorn willow sp rowan sycamore spruce silver birch	12	# 300	4	4	4	4	N/A	Semi Mature	Fair	Fair	Inaccessible linear highways planting. Approx. 5-12m tall. Scrubby group located on verge. Contains some areas of open space and ash with dieback.	No Work Recommended	20+	B2	Complete Removal	3.6
G41	Unknown	0	# 0	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Avis surveyed only. Vergeside stems likely located between crash barrier and HE boundary. Partly located on sloped ground.	No Work Recommended	20+	B2	No Impact	N/A
G42	Unknown	0	# 100	1	1	1	1	N/A	Young	Fair	Fair	AVIS surveyed only. Patchy self-set scrub trees located on grass slope between HE fence/railing. Elevated above top of retaining wall.	No Work Recommended	10+	C2	No Impact	1.2
G43	Unknown	0	# 0	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	AVIS surveyed only	No Work Recommended	20+	B2	No Impact	N/A
G44	Unknown	0	# 0	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	AVIS surveyed only. Tree group partly located on elevated HE verge.	No Work Recommended	20+	B2	No Impact	N/A
G45	Unknown	0	# 0	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	AVIS surveyed only	No Work Recommended	20+	B2	No Impact	N/A
G46	Unknown	0	# 0	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	AVIS surveyed only	No Work Recommended	10+	C2	No Impact	N/A
G47	Sycamore hawthorn elder	8	# 200	2	2	2	2	N/A	Semi Mature	Fair	Fair	Includes some undersized stems	No Work Recommended	10+	C2	No Impact	2.4
G48	Ash willow sp silver birch cherry oak goat willow elder	15	# 450	4	4	4	4	N/A	Early Mature	Fair	Fair	Inaccessible linear planting. Approx. 5-15m tall. Stems located immediately north of boundary railings.	No Work Recommended	20+	B2	Partial Removal	5.4
G49	Silver birch	8	# 150	3	3	3	3	N/A	Semi Mature	Fair	Fair	Inaccessible patchy self-set trees located on verge.	No Work Recommended	10+	C2	Complete Removal	1.8
G50	Ash, hawthorn, silver birch Scots Pine sycamore willow sp grey alder common alder white willow field maple hawthorn Rowan	12	# 500	5	5	5	5	N/A	Early Mature	Fair	Fair	Linear highways belt surveyed from PROW. Approx. 5-12m tall. Scrubby group located east of HE boundary fence. Contains some areas of open space. North of PROW.	No Work Recommended	20+	B2	Complete Removal	6
G51	holly common alder silver birch goat willow Hazel cherry ash hawthorn	15	# 280	3	3	3	3	N/A	Semi Mature	Fair	Fair	Screening group located east of highways fencing. Provides screening between golf course and motorway. Recommend thinning feature.	No Work Recommended	20+	B2	Partial Removal	3.36

Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Management Recommendations (Priority)	Estimated Remaining Contribution (Years)	Category Grading	Arboricultural Impact Assessment	Root Protection Radius (m)
				North	East	South	West										
G52	Ash hawthorn silver birch willow sp hazel	10	# 300	3	3	3	3	N/A	Early Mature	Fair	Fair	Inaccessible linear highways belt. Scrubby broadleaf group located between verge and fencing. Contains some areas of open space. Visible margin species reported.	No Work Recommended	10+	C2	Partial Removal	3.6
G53	Ash hawthorn blackthorn silver birch willow sp cherry	14	# 300	4	4	4	4	N/A	Early Mature	Fair	Fair	Unable to access linear highways belt to north of golf course. Scrubby broadleaf group located between verge and fencing. Contains some areas of open space.	No Work Recommended	10+	C2	No Impact	3.6
G54	Ash hawthorn oak sycamore.	15	# 450	3	3	3	3	N/A	Early Mature	Fair	Fair	Avis surveyed only. Inaccessible highways belt. Linear broadleaf group located between verge and fencing. Contains some areas of open space. Visible margin species reported.	No Work Recommended	20+	B2	Partial Removal	5.4
G55	Willow sp. ash hawthorn sycamore	12	# 450	3	3	3	3	N/A	Early Mature	Fair	Fair	Avis surveyed only. Inaccessible linear highways belt. Approx. 5-12m. Thick scrubby group partly located on highways verge and slope. Intersected by boundary fencing. Contains some areas of open space. Visible margin species reported.	No Work Recommended	10+	C2	No Impact	5.4
G58	Oak hawthorn elder sycamore	12	# 400	3	3	3	3	N/A	Semi Mature	Fair	Fair	Avis surveyed only. Visible margin species reported. Inaccessible self-set scrub group (2-12m tall) on verge east of HE fence. Contains some areas of open space.	No Work Recommended	10+	C2	Complete Removal	4.8
G59	Ash hawthorn cherry sycamore	6	# 150	2	2	2	2	N/A	Young	Fair	Fair	Avis surveyed only. Inaccessible self-set scrub group (2-6m tall) on verge east of HE fence. Contains some areas of open space. Visible margin species reported.	No Work Recommended	10+	C2	Partial Removal	1.8
W60	Ash hawthorn sycamore poplar sp. lime	20	# 500	5	5	5	5	N/A	Early Mature	Fair	Fair	Avis surveyed only. Visible margin species reported. Woodland group located west of HE fencing. Inaccessible third party woodland group. Approx. 5-20m tall. Contains some areas of open space and predominated by white poplar.	No Work Recommended	20+	B2	No Impact	6
G117	Ash hawthorn oak rowan	12	# 300	4	4	4	4	N/A	Early Mature	Fair	Fair	Multistemmed linear margin group on east of ditch. Surveyed from adjacent parcel. Max stem reported.	No Work Recommended	20+	B2	No Impact	3.6
W118	White poplar cherry field maple beech hawthorn sycamore ash lime sp.	20	# 500	4	10	4	4	N/A	Early Mature	Fair	Fair	Appears to be used as informal woodland play area. Max dbh reported. Stems within 1m of fenced off boundary.	No Work Recommended	20+	B3	No Impact	6
G119	Ash hawthorn	12	# 250	4	4	4	4	N/A	Semi Mature	Fair	Fair	Inaccessible scrub group. 4 trees	No Work Recommended	10+	C2	Partial Removal	3
W120	Ash common alder silver birch sycamore goat willow oak crack willow	16	# 350	4	4	4	4	N/A	Early Mature	Fair	Fair	Patchy woodland group largely inaccessible due to thick high veg with open space areas. Average dbh reported. Intersected by various fence types and footpath. South of existing HE fence. Chalara ash dieback present.	No Work Recommended	10+	C2	Partial Removal	4.2
G121	Field maple oak	8	# 120	3	3	3	3	N/A	Semi Mature	Fair	Fair	On motorway verge	No Work Recommended	10+	C2	Complete Removal	1.44
G123	Hawthorn apple	10	# 500	5	5	5	5	N/A	Early Mature	Fair	Fair	Inaccessible stems in residential garden. Flanked by patchy hawthorn hedgerow. Max dbh reported. Feature matched to OS boundary	No Work Recommended	20+	B2	No Impact	6
G125	Hawthorn sorbus sp.	6	# 220	3	3	3	3	N/A	Early Mature	Fair	Fair	3 trees.	No Work Recommended	10+	C2	Partial Removal	2.64
G126	Cherry hawthorn lime silver birch field maple ash goat willow oak holly	8	# 250	4	4	4	4	N/A	Semi Mature	Fair	Fair	Trees located on fenced off slope.	No Work Recommended	10+	C2	Complete Removal	3
G127	Ash goat willow leylandii hawthorn sycamore willow sp. holly	19	# 600	7	7	7	7	2	Mature	Fair	Fair	Stems c. 1m from multiple fenced off residential garden boundaries. Contains some gaps in cover and potential symptoms of chalara ash dieback. High storey trees of between 400-600. Max dbh reported	No Work Recommended	20+	B3	No Impact	7.2
G129	Willow sp.	12	# 300	4	4	4	4	N/A	Early Mature	Fair	Fair	Unable to access group or see inner stems from adjacent parcel. Obscured by thick and tall veg	No Work Recommended	10+	C2	No Impact	3.6

Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Management Recommendations (Priority)	Estimated Remaining Contribution (Years)	Category Grading	Arboricultural Impact Assessment	Root Protection Radius (m)
				North	East	South	West										
G131	Beech x1 Scots pine oak x2 hawthorn	16	# 650	7	7	7	7	N/A	Mature	Fair	Fair	Max dbh reported. Stems range between 400-650	No Work Recommended	20+	B2	No Impact	7.8
G132	Grey alder cherry hawthorn silver birch common alder oak willow ssp.	15	# 390	4	4	4	4	N/A	Early Mature	Fair	Fair	Established screening belt. Intersected by boundary fence	No Work Recommended	20+	B2	Partial Removal	4.68
G133	Hawthorn common alder	10	# 220	4	4	4	4	N/A	Semi Mature	Fair	Fair	Two trees on boundary line in thick veg	No Work Recommended	10+	C2	Complete Removal	2.64
G134	Hawthorn	5	# 80 120 120	2	2	2	2	N/A	Early Mature	Fair	Fair	4 trees.	No Work Recommended	10+	C2	No Impact	2.25
G135	Hawthorn	6	# 180	3	3	3	3	N/A	Early Mature	Fair	Fair	Some gaps and better condition trees in linear feature.	No Work Recommended	10+	C2	No Impact	2.16
G136	Goat willow	12	# 539	6	6	6	6	N/A	Mature	Fair	Fair	Unable to fully see stems. 220mm ave. x6 stems.	No Work Recommended	20+	B3	Complete Removal	6.47
G137	Hawthorn elder holly	8	# 140 120 80 80	2	2	2	2	N/A	Early Mature	Fair	Fair	Linear group to south of access track. Some undersize features and natural gaps.	No Work Recommended	20+	B2	No Impact	2.6
G138	Hawthorn goat willow elder holly	12	# 245	3	3	3	3	N/A	Early Mature	Fair	Fair	Linear feature to north of access track. Max dbh reported. Numerous multi stems with some gaps and undersize tree stems. Boundary feature matched to existing OS.	No Work Recommended	20+	B2	Complete Removal	2.94
G139	Common alder hawthorn oak silver birch goat willow rowan blackthorn white willow	13	# 320	4	4	4	4	N/A	Early Mature	Fair	Fair	Estimated from field to south. Provides screening to golf course.	No Work Recommended	20+	B2	No Impact	3.84
G140	Aspen hawthorn	20	# 500	4	4	4	4	N/A	Semi Mature	Fair	Fair	Linear field boundary group including suckering aspen. Estimated from PROW	No Work Recommended	20+	B2	No Impact	6
G141	Hawthorn goat willow elder holly	8	# 230	3	3	3	3	N/A	Early Mature	Fair	Fair	Linear boundary feature to north of track. Contains some lapsed layered hedges dead/undersize trees and some patchy canopy cover to eastern half of feature	No Work Recommended	20+	B2	No Impact	2.76
G142	Hawthorn	8	# 80 120 80 120	2	2	2	2	N/A	Early Mature	Fair	Fair	Linear planting. Unable to access stems to southern half. Layered stems	No Work Recommended	20+	B2	No Impact	2.45
G143	Sycamore hawthorn willow ssp. cherry common alder rowan blackthorn grey willow rowan	12	# 270 420 290	5	5	5	5	N/A	Early Mature	Fair	Fair	Unable to access. Thick vegetation. Undergoing GI clearance.	No Work Recommended	20+	B3	Complete Removal	6.93
G144	Sycamore hawthorn common alder goat willow oak white willow	13	# 400	3	3	3	3	N/A	Early Mature	Fair	Fair	Single stems range from 80-400mm DBH. Max single stem reported on linear tree belt to south of access track. Recently canopy lifted for GI works	No Work Recommended	10+	C2	Complete Removal	4.8
G145	Hawthorn goat willow elder	12	# 291	4	4	4	4	N/A	Early Mature	Fair	Fair	Linear planting to south of access track. M5 goat willows 80-190mm range. 7 x stems @ 110mm ave	No Work Recommended	20+	B2	Complete Removal	3.49
G146	Common alder goat willow	12	# 250	3	3	3	3	N/A	Early Mature	Fair	Fair	Unable to access. Estimated from southern field. Located to northwest of pond/	No Work Recommended	20+	B2	No Impact	3
G147	Common alder	12	# 370	4	4	4	4	N/A	Early Mature	Fair	Fair	Linear planting of alder.	No Work Recommended	20+	B2	Complete Removal	4.44
G148	Silver birch cherry Blackthorn	13	# 280	3	3	3	3	N/A	Early Mature	Fair	Fair	North of ditch and stand-alone golf screening	No Work Recommended	20+	B2	No Impact	3.36
G149	grey alder common alder oak goat willow rowan holly ash elder	13	# 500	5	5	5	5	N/A	Early Mature	Fair	Fair	West of cleared entrance and north of PROW	No Work Recommended	20+	B2	Complete Removal	6
G150	Common alder cherry goat willow elder grey willow	14	# 410	5	5	5	5	N/A	Mature	Fair	Fair	Scrub group of multi stems riparian species	No Work Recommended	10+	C2	Complete Removal	4.92

Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Management Recommendations (Priority)	Estimated Remaining Contribution (Years)	Category Grading	Arboricultural Impact Assessment	Root Protection Radius (m)
				North	East	South	West										
G151	Hawthorn	5	# 80 120	2	2	2	2	N/A	Early Mature	Fair	Fair	Two trees	No Work Recommended	10+	C2	No Impact	1.73
G152	Hawthorn	4	# 80 80	2	2	2	2	N/A	Early Mature	Fair	Fair	2 multistem trees. Historically failed. Unable to access stem.	No Work Recommended	10+	C2	No Impact	1.36
G153	Common alder hawthorn	8	# 180	3	3	3	3	N/A	Semi Mature	Fair	Fair	Scrubby inaccessible group to south of pond.	No Work Recommended	20+	B2	No Impact	2.16
G154	Holly hawthorn grey willow goat willow	10	# 280	4	4	4	4	N/A	Early Mature	Fair	Fair	Linear boundary feature. Inaccessible stems . Max single stem reported. Some gaps between trees	No Work Recommended	10+	C2	No Impact	3.36
G155	Goat willow plum grey alder common alder cherry	12	# 250	4	4	4	4	N/A	Semi Mature	Fair	Fair	Thick veg.	No Work Recommended	10+	C2	Complete Removal	3
G156	Hawthorn goat willow	10	# 120 330 350 260	4	4	4	4	N/A	Early Mature	Fair	Fair	Linear planting to south of access track containing multistemmed trees. All boundary features matched to existing OS.	No Work Recommended	20+	B2	Complete Removal	6.72
G157	White willow common alder goat willow	11	# 180	3	3	3	3	N/A	Early Mature	Fair	Fair	Unable to access riparian group. Max single stem reported	No Work Recommended	20+	B2	No Impact	2.16
G158	Common alder goat willow white willow	8	# 250	2	2	2	2	N/A	Semi Mature	Fair	Fair	Inaccessible riparian species in thick vegetation	No Work Recommended	10+	C2	Complete Removal	3
G159	Horse chestnut oak	6	# 130	2	2	2	2	N/A	Young	Fair	Fair	Patchy scrub group adjacent to remnant boundary line.	No Work Recommended	10+	C2	No Impact	1.56
G160	Sycamore ash oak	8	# 150	3	3	3	3	N/A	Young	Fair	Fair	In thick scrub. Some canopy dieback	No Work Recommended	10+	C2	No Impact	1.8
G161	Sweet chestnut hawthorn beech oak ash elder sycamore goat willow common alder silver birch white willow white beam rowan	20	# 570	7	7	7	7	N/A	Mature	Fair	Fair	Max dbh reported. Large area of broadleaf woodland located immediately south of HE wooden fence. Contains trees in variable condition and quality but assessed as moderate quality. Contains area of open space and snags. High storey tree between 250-570.	No Work Recommended	20+	B2	Partial Removal	6.84
G162	Hawthorn sycamore cherry sp silver birch hornbeam	10	# 220	6	6	6	6	N/A	Semi Mature	Fair	Fair	Linear planting screening compound. Max dbh reported. Some chalara ash dieback present.	No Work Recommended	20+	B2	No Impact	2.64
G163	Ash cypress sp.	10	# 150	3	3	3	3	N/A	Semi Mature	Fair	Fair	Includes ash trees in Prestwich FC ground plus coniferous trees in residential garden.	No Work Recommended	10+	C2	No Impact	1.8
G164	Beech sycamore x1 oak x1	20	# 600	10	10	10	10	N/A	Mature	Fair	Fair	C. 20 high storey trees. Likely formally planted as group.	No Work Recommended	20+	B2	No Impact	7.2
G166	Goat willow x5	15	# 470	6	6	6	6	N/A	Early Mature	Fair	Fair	5 trees located in thick scrub. Max dbh reported.	No Work Recommended	20+	B2	Partial Removal	5.64
G167	Scots pine ash silver birch hawthorn,sycamore white willow Norway maple rowan goat willow field maple Hazel	15	# 600	6	6	6	6	N/A	Early Mature	Fair	Fair	Vegetation located on bank north of HE fencing. Likely contains ditch. Contains collapsing willow ssp and over clad stems.	No Work Recommended	20+	B2	Partial Removal	7.2
G168	Ash cherry laburnum hawthorn elder apple	15	# 260	6	6	6	6	N/A	Early Mature	Fair	Fair	Some chalara ash dieback present.	No Work Recommended	20+	B2	No Impact	3.12
G169	Beech x3	13	# 750	6	6	6	6	N/A	Mature	Fair	Fair	Margin trees subject to some damage from antisocial behaviour.	No Work Recommended	20+	B2	No Impact	9
G170	Cherry silver birch rowan common alder	11	# 280 300	4	4	4	4	N/A	Early Mature	Fair	Fair	Golf course planting. Matched to aerial photography	No Work Recommended	20+	B2	Partial Removal	4.92
G171	Common alder	11	# 300	3	3	3	3	N/A	Semi Mature	Fair	Fair	5 trees. Matched to aerial photography.	No Work Recommended	20+	B2	No Impact	3.6
H172	Hawthorn ash elder	2	# 80	1	1	1	1	N/A	Young	Fair	Fair	Failed hedge at roadside. Predominantly undersize stems	No Work Recommended	20+	B2	No Impact	0.96

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Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Management Recommendations (Priority)	Estimated Remaining Contribution (Years)	Category Grading	Arboricultural Impact Assessment	Root Protection Radius (m)
				North	East	South	West										
G173	Ash sycamore field maple common alder blackthorn	23	# 520	6	6	6	6	N/A	Mature	Fair	Fair	Max dbh reported. High storey ash trees have chalara ash dieback symptoms. Recommend pruning branches overhanging PRow.	No Work Recommended	20+	B2	Partial Removal	6.24
G174	Goat willow	6	# 200	3	3	3	3	N/A	Semi Mature	Fair	Fair	Two scrub trees. C. 3m east of PRow	No Work Recommended	10+	C2	No Impact	2.4
G175	Hawthorn	7	# 300	4	4	4	4	N/A	Early Mature	Fair	Fair	Linear planting of trees. Matched to aerial	No Work Recommended	20+	B2	No Impact	3.6
G176	Common alder grey willow hawthorn cherry Rowan	8	# 200	4	4	4	4	N/A	Young	Fair	Fair	Sporadic self set trees on highways verge	No Work Recommended	10+	C2	Partial Removal	2.4
G177	common alder grey willow goat willow cherry oak Hazel silver birch holly blackthorn elder	14	# 250	5	5	5	5	N/A	Semi Mature	Fair	Fair	Mixed broadleaf planting containing a pond. Canopy matched to boundary	No Work Recommended	20+	B2	No Impact	3
G178	Ash sycamore hawthorn	11	# 320	5	5	5	5	N/A	Early Mature	Fair	Fair	Chalara ash dieback located in group	No Work Recommended	10+	C2	Partial Removal	3.84
G179	Cherry ash hawthorn	6	# 80	2	2	2	2	N/A	Young	Fair	Fair	Patchy broadleaf group on inaccessible verge.	No Work Recommended	10+	C2	Complete Removal	0.96
G180	Ash x2 cherry x1	8	# 250	3	3	3	3	N/A	Young	Poor	Fair	Both ash have chalara ash dieback. On inaccessible verge	No Work Recommended	10+	C2	No Impact	3
G181	Goat willow white willow	20	# 420 360	7	7	7	7	N/A	Mature	Fair	Fair	2 trees on eastern margins. Historic tear out of co-dominant leader of white willow.	No Work Recommended	20+	B2	No Impact	6.64
H182	Hawthorn ash elder	2	# 80	1	1	1	1	N/A	Young	Fair	Fair	Flailed hedge at roadside verge. Predominantly undersize stems	No Work Recommended	20+	B2	No Impact	0.96
G183	Grey willow goat willow crack willow common alder silver birch	10	# 150	3	3	3	3	N/A	Semi Mature	Fair	Fair	Riparian group flanks south and east of waterbody/boggy area.	No Work Recommended	10+	C3	No Impact	1.8
G184	Silver birch cherry goat willow rowan downy birch oak	14	# 400	3	3	3	3	N/A	Semi Mature	Fair	Fair	In open golf course margins and north of linear alder planting.	No Work Recommended	20+	B2	Complete Removal	4.8
G185	Goat willow x2	16	# 300 150 300	4	4	4	4	N/A	Mature	Fair	Fair	On eastern margins of golf course	No Work Recommended	20+	B2	Complete Removal	5.4
G186	Cherry downy birch Hazel rowan oak ash blackthorn hornbeam holly crack willow Horse chestnut	14	# 580	5	5	5	5	N/A	Early Mature	Fair	Fair	Screening group located east of highways fencing. Provides screening between golf course and motorway. Easter margins are side flailed. Contains noise barrier and golf net. Max dbh reported	No Work Recommended	20+	B2	Partial Removal	6.96
G193	oak rowan sycamore hawthorn ash silver birch holly common alder cherry sweet chestnut goat willow	16	# 400	6	6	6	6	N/A	Early Mature	Fair	Fair	South of HE fencing and north of access track. Contains some area of open space.	No Work Recommended	20+	B2	Partial Removal	4.8
G194	Cherry goat willow white poplar holly Hazel silver birch ash hawthorn, conner beech	18	# 420	7	7	7	7	N/A	Early Mature	Fair	Fair	Verge feature partly elevated on retaining structure and intersected by access stairs. Includes 3 self set poplars in field. Unable to see stems immediately east of residential boundary (bbech)	No Work Recommended	20+	B2	Partial Removal	5.04

M60/M62/M66 Simister Island Interchange  
 ENVIRONMENTAL STATEMENT APPENDICES  
 APPENDIX 7.5 ARBORICULTURAL IMPACT ASSESSMENT

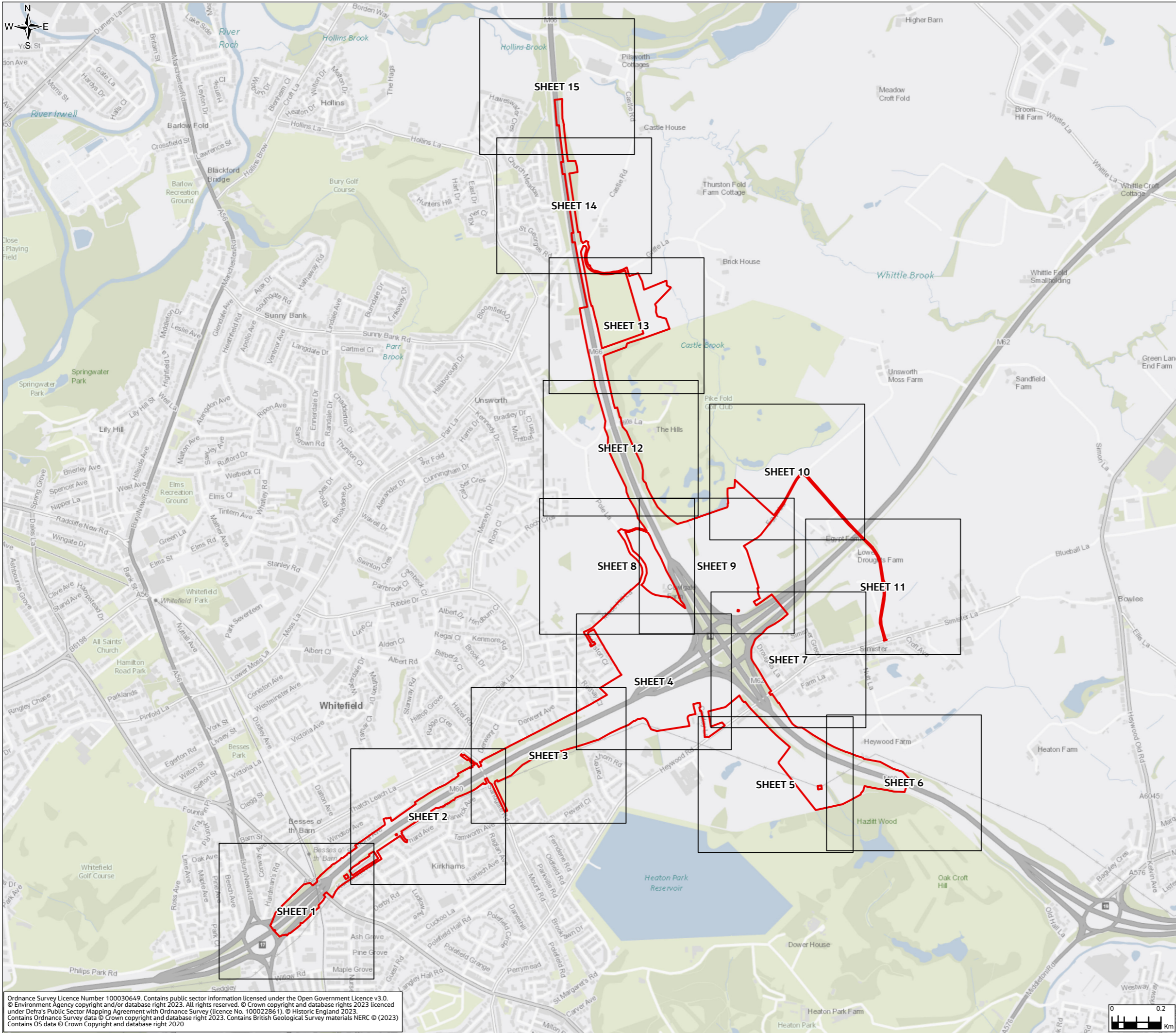
Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Management Recommendations (Priority)	Estimated Remaining Contribution (Years)	Category Grading	Arboricultural Impact Assessment	Root Protection Radius (m)
				North	East	South	West										
H195	Cherry Hawthorn Oak	2	# 100	N/A	N/A	N/A	N/A	N/A	Semi Mature	Fair	Fair	Regularly flailed hedgerow with gaps.	No Work Recommended	10+	C2	No Impact	1.2
G196	Hawthorn	3	# 150	N/A	N/A	N/A	N/A	1	Semi Mature	Fair	Fair	3 individual trees on embankment	No Work Recommended	10+	C2	No Impact	1.8
H197	Hawthorn cherry	3	# 100	N/A	N/A	N/A	N/A	N/A	Semi Mature	Fair	Fair	Hedgerow flailed on the sides. Top of hedge left uncut.	No Work Recommended	10+	C2	No Impact	1.2
G198	Cherry oak hawthorn	14	# 250	N/A	N/A	N/A	N/A	1	Early Mature	Fair	Fair	Growing on embankment. Screening value for farm.	No Work Recommended	20+	B2	No Impact	3
G199	Cherry	14	# 150	N/A	N/A	N/A	N/A	2	Semi Mature	Fair	Fair	Etiolated trees due to mutual suppression.	No Work Recommended	20+	B2	No Impact	1.8
H200	Hawthorn willow	2	# 100	N/A	N/A	N/A	N/A	N/A	Semi Mature	Fair	Fair	Not recently cut.	No Work Recommended	10+	C2	No Impact	1.2
H201	Hawthorn oak	7	# 200	N/A	N/A	N/A	N/A	N/A	Semi Mature	Fair	Fair	Escaped hedgerow with gaps.	No Work Recommended	10+	C2	No Impact	2.4
G202	Hawthorn goat willow	10	# 250	N/A	N/A	N/A	N/A	1.5	Semi Mature	Fair	Fair	Embankment planting.	No Work Recommended	20+	B2	No Impact	3
H203	Cherry dogwood elder Hawthorn	0	# 100	N/A	N/A	N/A	N/A	N/A	Semi Mature	Fair	Fair	Regularly maintained hedgerow with some gaps.	No Work Recommended	10+	C2	No Impact	1.2
G204	Dogwood field maple goat willow holly	14	# 250	N/A	N/A	N/A	N/A	2	Semi Mature	Fair	Fair	Landscape planting with tree shelters still present. Mutual suppression.	No Work Recommended	20+	B2	No Impact	3
G205	Cherry Lawson's cypress Scots pine.	16	# 350	N/A	N/A	N/A	N/A	2	Early Mature	Fair	Fair	One tree with storm damage and has lost its main leader. Group growing on embankment. Screening to farm yard.	No Work Recommended	20+	B2	No Impact	4.2
G206	Ash beech sycamore.	18	# 200	N/A	N/A	N/A	N/A	3	Semi Mature	Fair	Fair	Line of trees along edge of footpath. Partially suppressed by trees in Heaton Park.	No Work Recommended	20+	B2	No Impact	2.4
H207	Ash elder hawthorn sycamore	2	# 150	N/A	N/A	N/A	N/A	1	Early Mature	Fair	Fair	Hedgerow with gaps. Possibly an old layered hedge. Flailed with occasional escapes.	No Work Recommended	10+	C2	No Impact	1.8
W208	Beech holly lime oak sycamore.	22	# 1200	N/A	N/A	N/A	N/A	1	Mature	Fair	Fair	Parkland trees. Mutual suppression. Regeneration occurring.	No Work Recommended	40+	A3	No Impact	14.4
G209	Beech hawthorn oak silver birch sycamore willow.	18	# 500	N/A	N/A	N/A	N/A	2	Early Mature	Fair	Fair	Associated with watercourse. Mutual suppression. Occasional dead specimen.	No Work Recommended	20+	B2	No Impact	6
H210	Hawthorn.	1	# 150	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Regularly maintained hedge. Signs of layering.	No Work Recommended	10+	C2	No Impact	1.8
G211	Elder horse chestnut oak willow.	18	# 700	N/A	N/A	N/A	N/A	1	Mature	Fair	Fair	Line of trees on northern side of footpath with gaps. On a slight embankment.	No Work Recommended	20+	B2	No Impact	8.4
G212	Ash beech cherry field maple hawthorn oak poplar Scots pine silver birch willow	20	# 500	N/A	N/A	N/A	N/A	1	Early Mature	Fair	Fair	Motorway embankment planting. Screening value. Ash die-back observed.	No Work Recommended	20+	B2	Partial Removal	6
G213	Cherry hawthorn oak willow.	8	# 150	N/A	N/A	N/A	N/A	1	Semi Mature	Fair	Fair	Area sparsely populated with a few individual trees. Majority of the area covered by bramble and perennial weeds.	No Work Recommended	10+	C2	Partial Removal	1.8
G214	Ash field maple hawthorn holly larch oak silver birch willow	18	# 200	N/A	N/A	N/A	N/A	1	Semi Mature	Fair	Fair	Highway boundary planting. Ash die-back observed.	No Work Recommended	20+	B2	Partial Removal	2.4
G215	Blackthorn cherry elder hawthorn hazel Leyland cypress sycamore willow	18	# 400	N/A	N/A	N/A	N/A	1	Early Mature	Fair	Fair	Dense thicket. One cherry has suffered windthrow.	No Work Recommended	10+	C2	No Impact	4.8
H216	Hawthorn	8	# 200	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Not regularly maintained.	No Work Recommended	10+	C2	No Impact	2.4

Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Management Recommendations (Priority)	Estimated Remaining Contribution (Years)	Category Grading	Arboricultural Impact Assessment	Root Protection Radius (m)
				North	East	South	West										
G217	Ash Leyland cypress oak Scots pine silver birch sycamore willow.	16	# 300	N/A	N/A	N/A	N/A	1	Early Mature	Fair	Fair	Viewed from opposite side of motorway with binoculars. Landscape boundary planting. Screening value.	No Work Recommended	20+	B2	Partial Removal	3.6
G218	Ash field maple hazel Lawsons cypress oak silver birch whitebeam white poplar.	16	# 300	N/A	N/A	N/A	N/A	1	Semi Mature	Fair	Fair	Landscape planting on motorway embankment. Screening motorway from housing. Ash die-back observed.	No Work Recommended	20+	B2	Partial Removal	3.6
G219	Ash hawthorn holly rowan silver birch white poplar.	18	# 300	N/A	N/A	N/A	N/A	1	Early Mature	Fair	Fair	Landscape planting on motorway embankment. Screening motorway from housing. Ash die-back observed.	No Work Recommended	20+	B2	No Impact	3.6
G220	Ash dogwood hazel silver birch.	16	# 250	N/A	N/A	N/A	N/A	1	Early Mature	Fair	Fair	Viewed from bridge with binoculars. Slip road landscape planting.	No Work Recommended	20+	B2	Complete Removal	3
G221	Ash elder hawthorn grey/goat willow oak.	8	# 200	N/A	N/A	N/A	N/A	1	Semi Mature	Fair	Fair	Individual trees growing among bramble pink snowberries and raspberries.	No Work Recommended	10+	C2	No Impact	2.4
G222	Beech elm field maple hawthorn hazel oak silver birch sycamore willow.	20	# 400	N/A	N/A	N/A	N/A	6	Early Mature	Fair	Fair	Highway boundary planting screening motorway from housing. Etiolated specimens. Areas of new planting adjacent to new gantries. Crown lifted where necessary to allow for traffic camera visibility.	No Work Recommended	20+	B2	Partial Removal	4.8
G223	Ash field maple holly sycamore.	18	# 400	N/A	N/A	N/A	N/A	5	Early Mature	Fair	Fair	Growing on embankment behind 3m high retaining wall.	No Work Recommended	20+	B2	No Impact	4.8
G224	Grey/goat willow silver birch	14	# 350	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Self set group.	No Work Recommended	10+	C2	Partial Removal	4.2
G225	Grey/goat willow alder	14	# 300	N/A	N/A	N/A	N/A	2	Early Mature	Fair	Fair	No Significant Faults Observed	No Work Recommended	10+	C2	No Impact	3.6
G226	Ash elder hawthorn holly oak.	16	# 300	N/A	N/A	N/A	N/A	2	Early Mature	Fair	Fair	Boundary vegetation. Mixed condition. Bark loss to trees due to brousing by horses.	No Work Recommended	20+	B2	Partial Removal	3.6
G227	Hawthorn	8	# 350	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Scattered individual trees. Probably self set.	No Work Recommended	10+	C2	Complete Removal	4.2
G228	Hawthorn poplar silver birch	14	# 200	N/A	N/A	N/A	N/A	2	Semi Mature	Fair	Fair	Poplars growing on embankment. Screening value for adjacent dwelling.	No Work Recommended	20+	B2	Partial Removal	2.4
G229	Cherry elder hawthorn oak sycamore.	12	# 250	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Scattered individual trees. Some self set others possibly part of remnant hedgerow. predominantly hawthorn. At the northern end of the group there is a clump of Japanese knotweed.	No Work Recommended	20+	B2	Complete Removal	3
G230	Birch sycamore.	16	# 250	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Mutual suppression. Viewed from other side of the carriageway.	No Work Recommended	20+	B2	Complete Removal	3
G231	Hawthorn Scots pine sycamore willow.	16	# 250	N/A	N/A	N/A	N/A	16	Early Mature	Fair	Fair	Etiolated specimens. Growing on embankment.	No Work Recommended	20+	B2	Complete Removal	3
G232	Sycamore	18	# 600	N/A	N/A	N/A	N/A	1.5	Early Mature	Fair	Fair	4 individual trees location approximate. One with large partially occluded wound with decay on trunk.	No Work Recommended	20+	B2	Complete Removal	7.2
G233	Ash cherry hawthorn silver birch sycamore willow	16	# 500	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Viewed from other side of carriageway. Dense planting creates softening affect for roundabout. Ash die back observed.	No Work Recommended	20+	B2	Partial Removal	6
G234	Ash hawthorn rowan.	8	# 180	N/A	N/A	N/A	N/A	N/A	Semi Mature	Fair	Fair	Individual trees along edge of field/highway boundary. Ash die back observed.	No Work Recommended	10+	C2	Complete Removal	2.16
H235	Hawthorn.	8	# 250	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Escaped hedgerow.	No Work Recommended	10+	C2	Partial Removal	3

Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Management Recommendations (Priority)	Estimated Remaining Contribution (Years)	Category Grading	Arboricultural Impact Assessment	Root Protection Radius (m)
				North	East	South	West										
G236	Ash grey willow hawthorn oak sycamore.	14	# 200	N/A	N/A	N/A	N/A	1	Semi Mature	Fair	Fair	Scattered self set individual trees. predominantly hawthorn. Ash die back observed.	No Work Recommended	20+	B2	Partial Removal	2.4
G237	Goat willow.	12	# 500	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Mutual suppression. Narrow forks.	No Work Recommended	10+	C2	No Impact	6
G238	Cherry elder field maple oak silver birch sycamore willow	18	# 350	N/A	N/A	N/A	N/A	N/A	Mature	Fair	Fair	Cherry is suckering. Self set individuals forming dense thicket.	No Work Recommended	20+	B2	No Impact	4.2
G239	Ash cherry field maple grey willow hawthorn oak silver birch.	18	# 500	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Highway boundary planting. Important motorway screen. Mutual suppression.	No Work Recommended	20+	B2	Partial Removal	6
G240	Ash hazel oak rowan willow.	20	# 300	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Boundary planting on embankment. Important screen. Etiolated.	No Work Recommended	20+	B2	Partial Removal	3.6
G241	Elder hawthorn.	7	# 350	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Self set individual trees.	No Work Recommended	10+	C2	Partial Removal	4.2
G242	Ash beech field maple holly oak.	16	# 500	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Embankment vegetation. Ash die back observed.	No Work Recommended	20+	B2	Partial Removal	6
G243	Cotoneaster field maple hazel silver birch oak.	18	# 250	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Growing on motorway embankment. Important screen. Mutual suppression.	No Work Recommended	20+	B2	Partial Removal	3
G244	Ash cherry field maple Leyland cypress sycamore.	16	# 300	N/A	N/A	N/A	N/A	1	Early Mature	Fair	Fair	Narrow strip between motorway and Prestfield Court boundary. Important screen.	No Work Recommended	20+	B2	No Impact	3.6
G245	Ash goat willow rowan sycamore.	12	# 150	N/A	N/A	N/A	N/A	1	Semi Mature	Fair	Fair	Very narrow strip. Planting stakes still present. Cut back on road side. Ash die back observed.	No Work Recommended	10+	C2	No Impact	1.8
G246	Fastigate hornbeam willow x 1	18	# 400	N/A	N/A	N/A	N/A	4	Mature	Fair	Fair	One tree has a large tear out wound. Cut back on road side. Under-storey of young self sown ash.	No Work Recommended	20+	B2	No Impact	4.8
G247	Ash cherry elm field maple sycamore willow.	18	# 400	N/A	N/A	N/A	N/A	1	Early Mature	Fair	Fair	Boundary planting on embankment. Screening value. Mutual suppression. Ash die back observed.	No Work Recommended	20+	B2	No Impact	4.8
G248	Ash field maple hawthorn holly willow.	16	# 300	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	Boundary vegetation growing on embankment. Screening value. Mutual suppression. Ash die back observed.	No Work Recommended	20+	B2	No Impact	3.6
G255	Ash hawthorn.	9	# 100	N/A	N/A	N/A	N/A	N/A	Young	Fair	Fair	Sporadic individuals on highway boundary.Dense under storey of brambles. Ash die back observed.	No Work Recommended	10+	C2	Partial Removal	1.2
G256	Alder ash cherry hawthorn oak silver birch.	16	# 300	N/A	N/A	N/A	N/A	N/A	Early Mature	Fair	Fair	On motorway embankment. Open grass areas within group. Ash die back observed.	No Work Recommended	20+	B2	Partial Removal	3.6
G259	ash sycamore beech	15	# 700	5	5	5	5	5.5	Mature	Fair	Fair	Road side trees on street lined trees ash all have ash die back and require assessment when in leaf trees have 5.5m clearance over road	No Work Recommended	20+	B2	No Impact	8.4
G260	ash sycamore beech	15	# 700	5	5	5	5	5.5	Mature	Fair	Fair	Road side trees on street lined trees ash all have ash die back and require assessment when in leaf trees have 5.5m clearance over road	No Work Recommended	20+	B2	No Impact	8.4
G261	leylandii	15	# 500	3	3	3	3	N/A	Mature	Fair	Fair	rear garden trees unmanaged no access	No Work Recommended	20+	B2	Partial Removal	6
G262	sycamore ash leylandii oak	10	# 250	3	3	3	3	3	Early Mature	Fair	Fair	roadside group restricted access to bases	No Work Recommended	10+	C2	Partial Removal	3

Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Management Recommendations (Priority)	Estimated Remaining Contribution (Years)	Category Grading	Arboricultural Impact Assessment	Root Protection Radius (m)
				North	East	South	West										
H266	hawthorn	4	# 200	2	2	2	2	1	Mature	Fair	Fair	former hedgerow now discontinuous large previously laid stools growing as small trees heavily grazed below	No Work Recommended	10+	C2	Complete Removal	2.4
H267	hawthorn	4	# 200	2	2	2	2	1	Mature	Fair	Fair	former hedgerow now discontinuous large previously laid stools growing as small trees heavily grazed below	No Work Recommended	10+	C2	Complete Removal	2.4

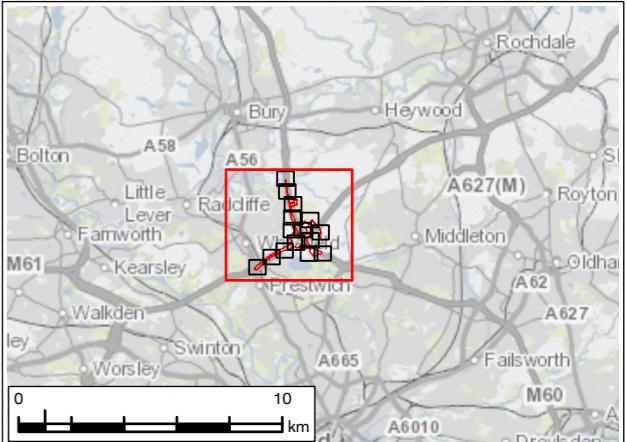
# Annex B Tree Constraints Plan



Environmental Statement  
Appendix 7.5 Figure 7.5.1

**Legend**

Order Limits



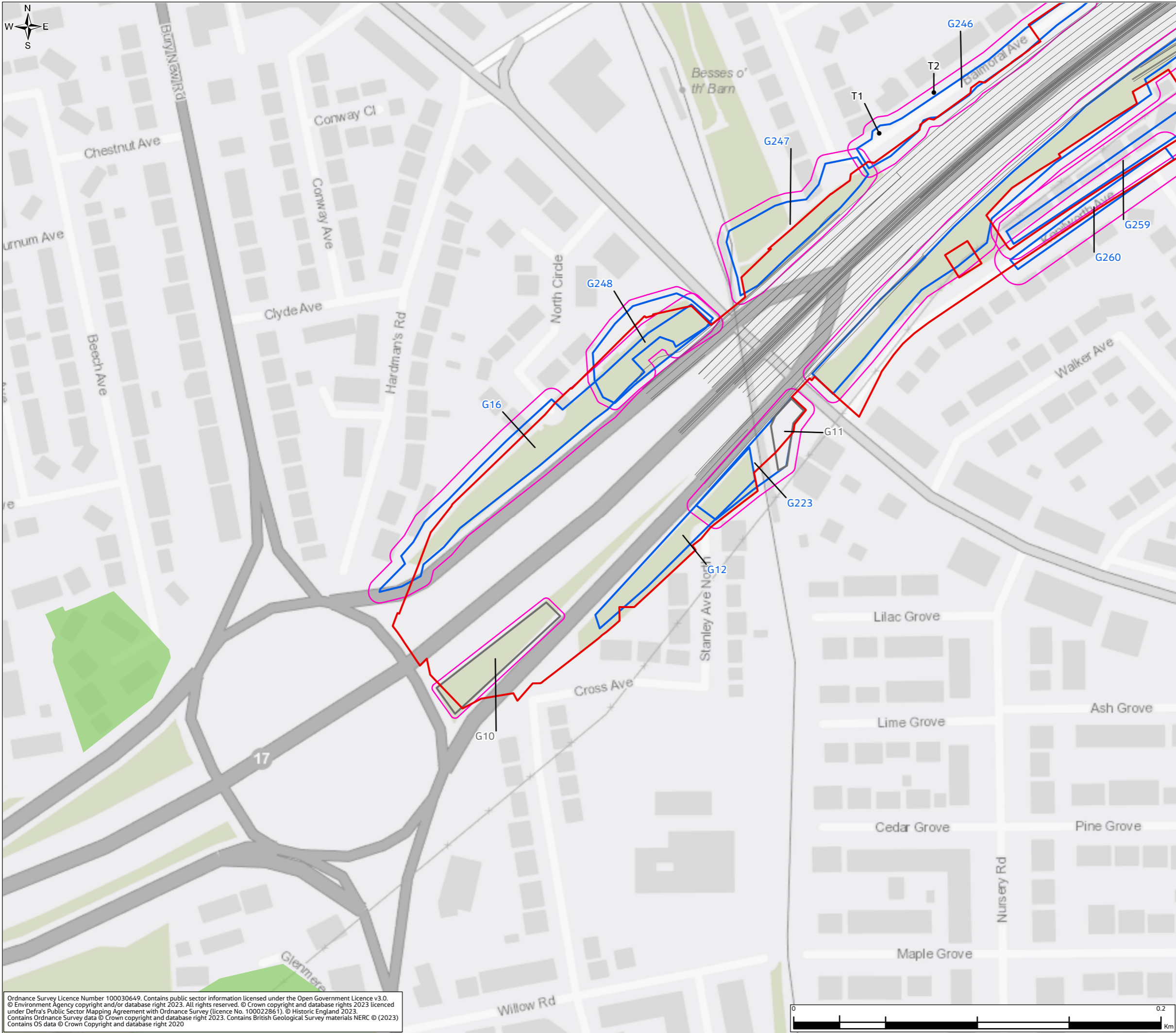
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Project							
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Drawing Title							
TREE CONSTRAINTS PLAN SHEET OVERVIEW							
Drawing Status							
S4 – SUITABLE FOR STAGED APPROVAL							
Scale @ A3		1:15,000		DO NOT SCALE			
Jacobs No.		B36601F0					
Client No.		HE548642					
Drawing Number				Rev P01			
HE548642-JAC-LDC-SII_MLT-SK-L-0001							

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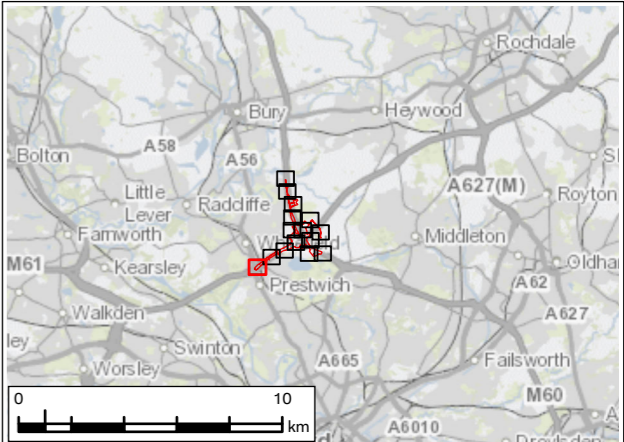
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# Environmental Statement Appendix 7.5 Figure 7.5.1

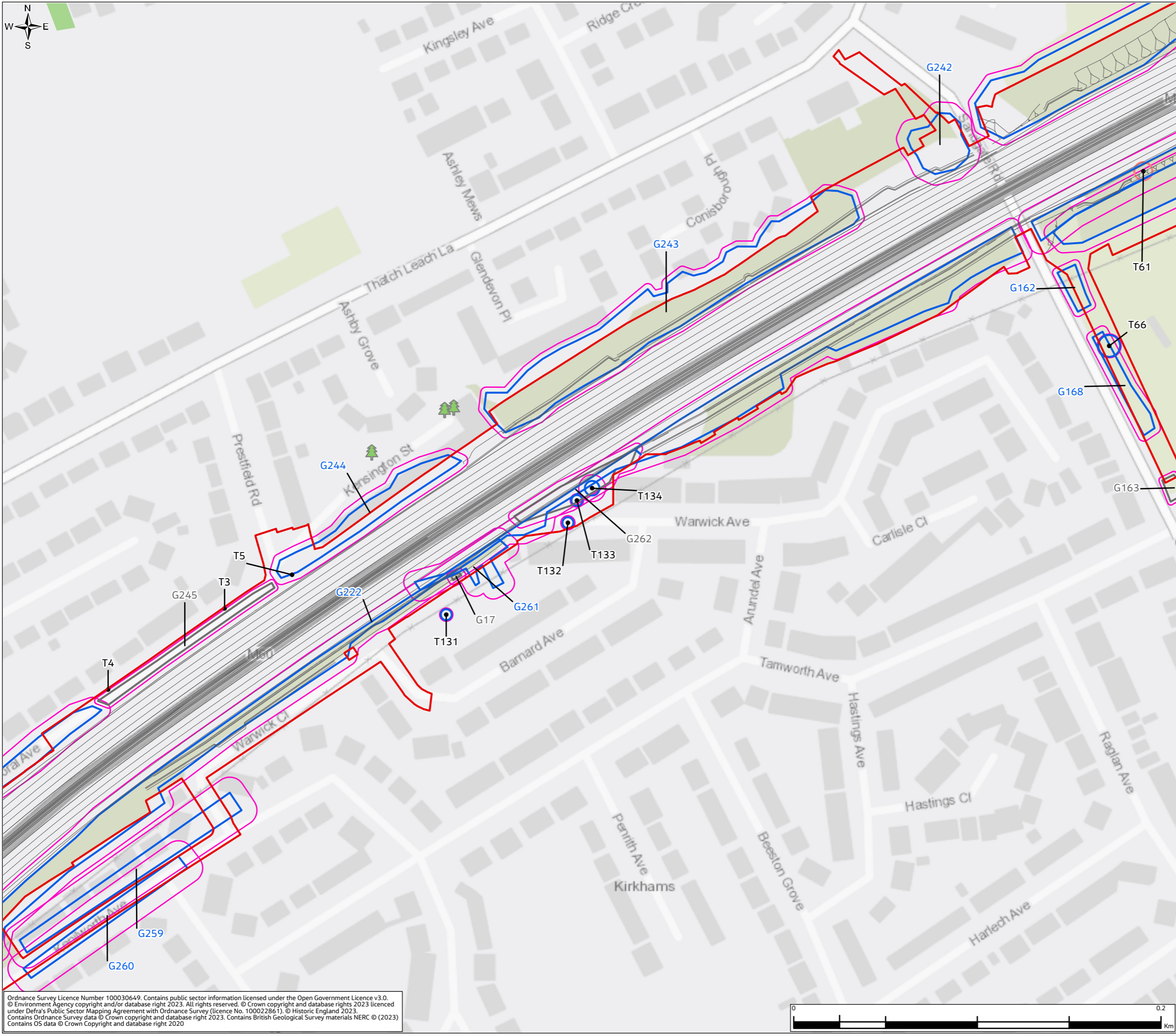
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- Order Limits
  - Scheme highway design
  - Individual Tree Stem**
    - Tree Stem Location
  - Tree/Group Canopy**
    - B Category
    - C Category
  - Tree/Group Root Protection Area**
    - Root Protection Area
  - Tree Preservation Orders (TPO's)**
    - Group/ Area/ Woodland



P01	JAN 24	For DCO application		LT	MS	JR	BB
Rev.	Rev. Date	Purpose of revision		Drawn	Check'd	Rev'd	Appr'd
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Client							
							
Project							
REGIONAL DELIVERY PARTNERSHIP M60/M62/M66 SIMISTER ISLAND INTERCHANGE							
Drawing Title							
TREE CONSTRAINTS PLAN SHEET 1 OF 15							
Drawing Status							
S4 – SUITABLE FOR STAGED APPROVAL							
Scale @ A3		1:2,000			DO NOT SCALE		
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Drawing Number		Rev P01					
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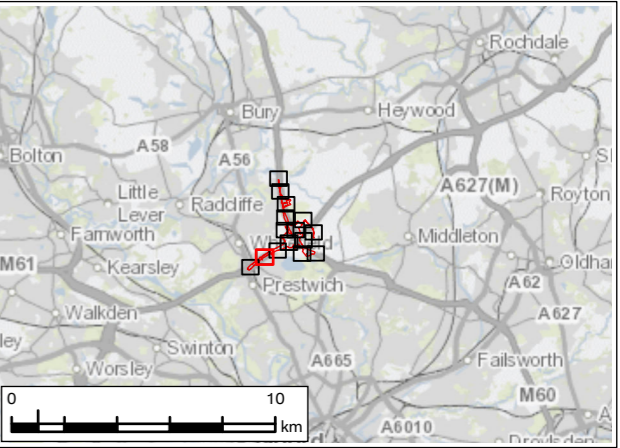
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# Environmental Statement Appendix 7.5 Figure 7.5.1

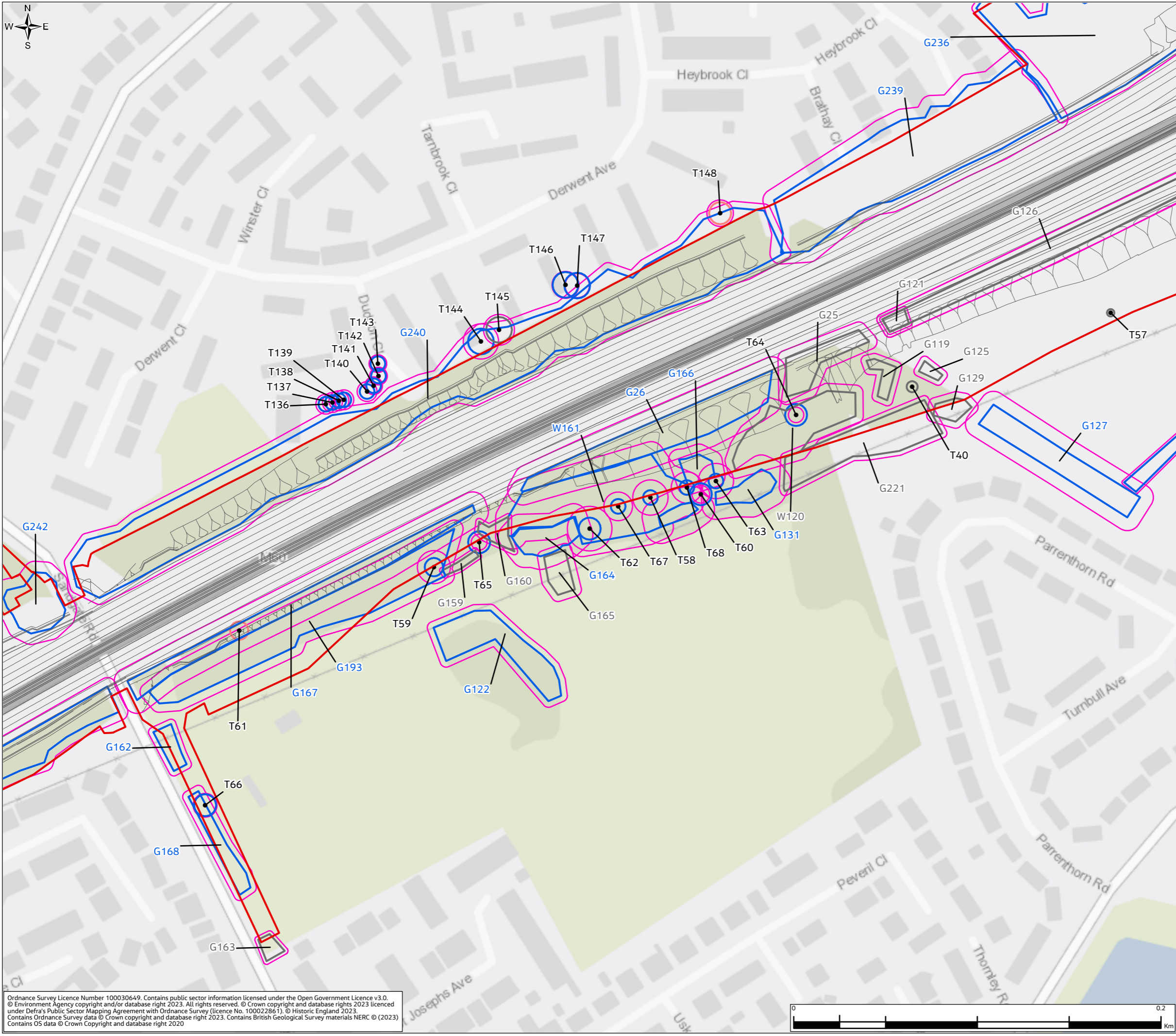
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- Order Limits
  - Scheme highway design
  - Individual Tree Stem**
    - Tree Stem Location
  - Tree/Group Canopy**
    - B Category
    - C Category
  - Tree/Group Root Protection Area**
    - Root Protection Area
  - Tree Preservation Orders (TPO's)**
    - Group/ Area/ Woodland
    - Individual Tree



Project		JAN 24		For DCO application		LT		MS		JR		BB			
Rev.		Rev. Date		Purpose of revision				Drawn		Check'd		Rev'd		Appr'd	
development Consent Order Number: TR010064								Development Consent Order Drawing Number: 6.3							
Client															
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Project															
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Drawing Title															
TREE CONSTRAINTS PLAN SHEET 2 OF 15															
Drawing Status															
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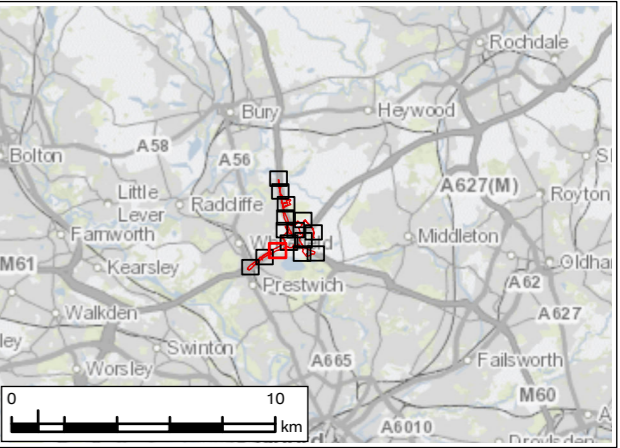
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# Environmental Statement Appendix 7.5 Figure 7.5.1

- Legend**
- Order Limits
  - Scheme highway design
  - Individual Tree Stem**
    - Tree Stem Location
  - Tree/Group Canopy**
    - B Category
    - C Category
  - Tree/Group Root Protection Area**
    - Root Protection Area

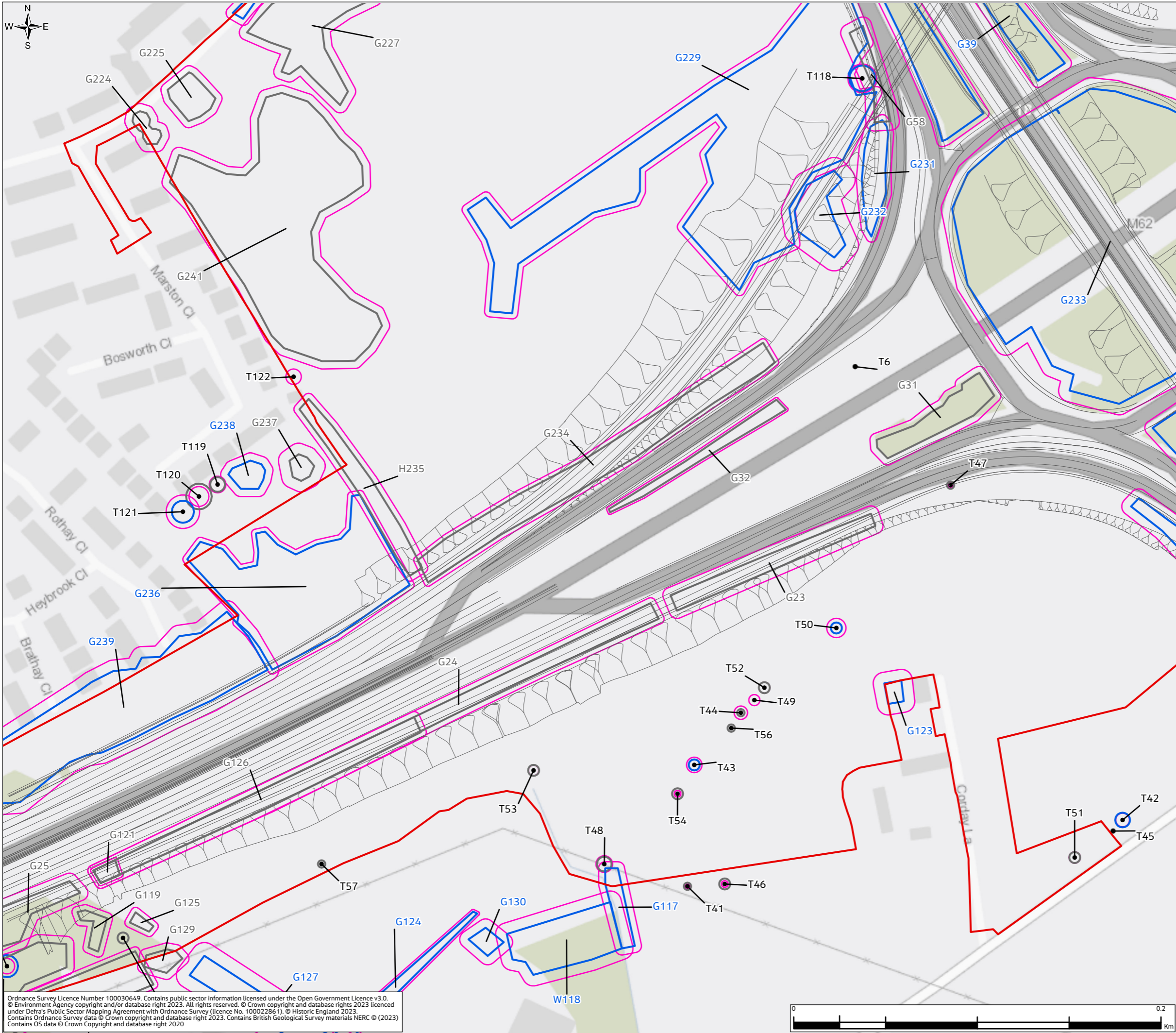


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TREE CONSTRAINTS PLAN SHEET 3 OF 15						
Drawing Status						
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Client No.	HE548642					
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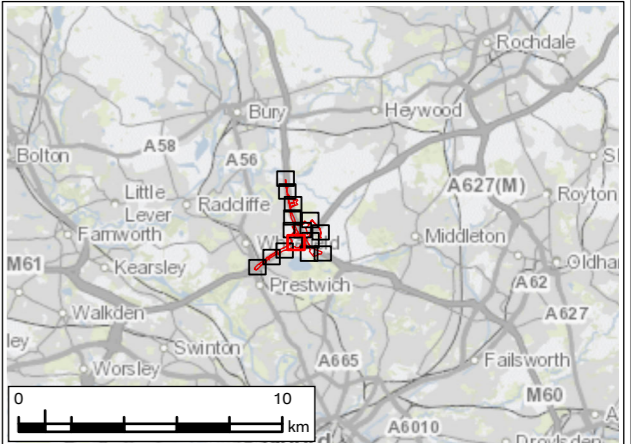
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# Environmental Statement Appendix 7.5 Figure 7.5.1

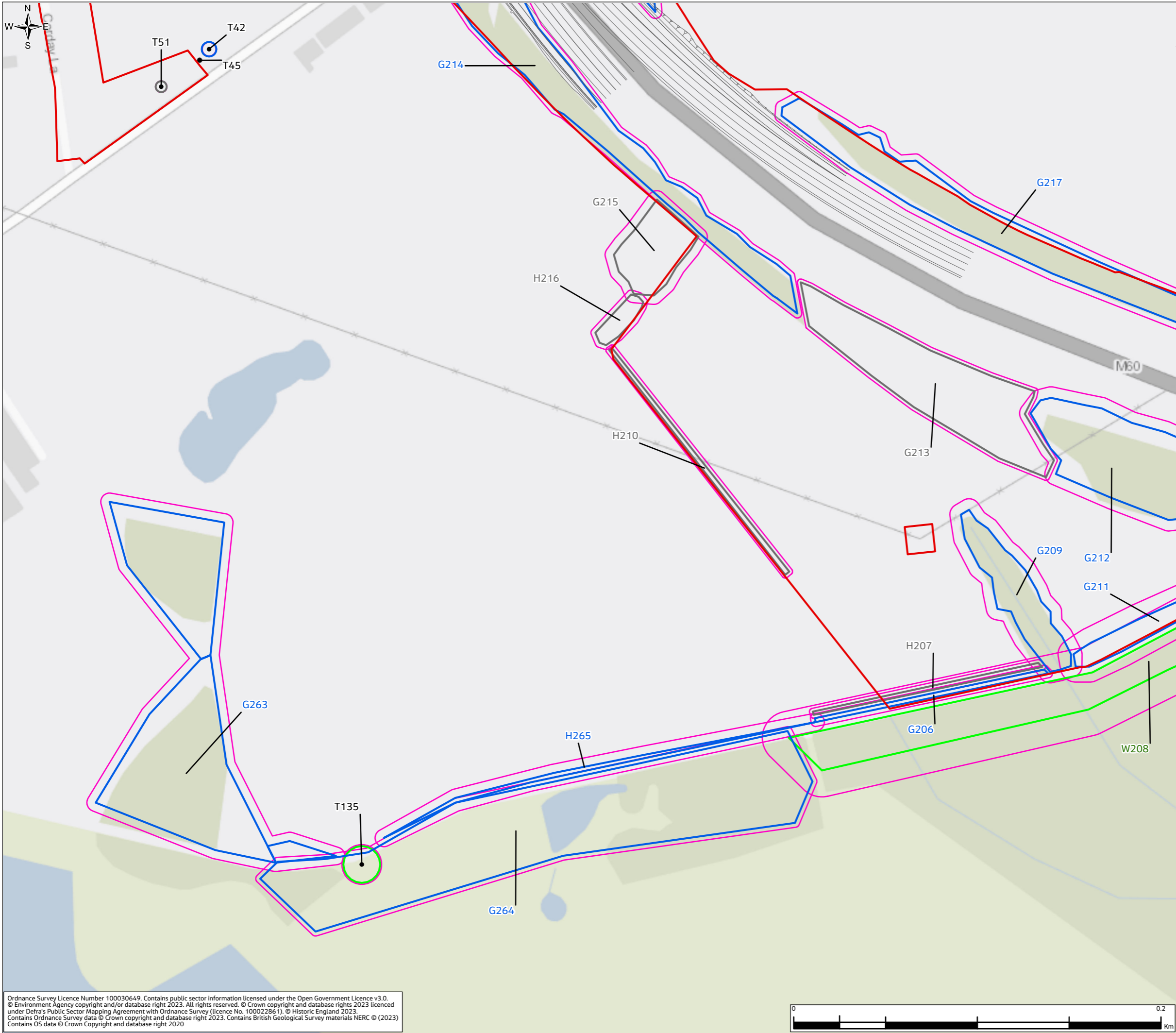
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  - Scheme highway design
  - Individual Tree Stem**
    - Tree Stem Location
  - Tree/Group Canopy**
    - B Category
    - C Category
  - Tree/Group Root Protection Area**
    - Root Protection Area



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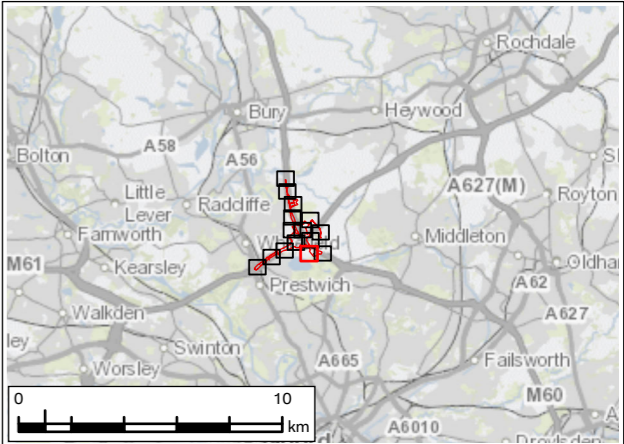
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# Environmental Statement Appendix 7.5 Figure 7.5.1

- Legend
- Order Limits
  - Scheme highway design
  - Individual Tree Stem
    - Tree Stem Location
  - Tree/Group Canopy
    - A Category
    - B Category
    - C Category
  - Tree/Group Root Protection Area
    - Root Protection Area



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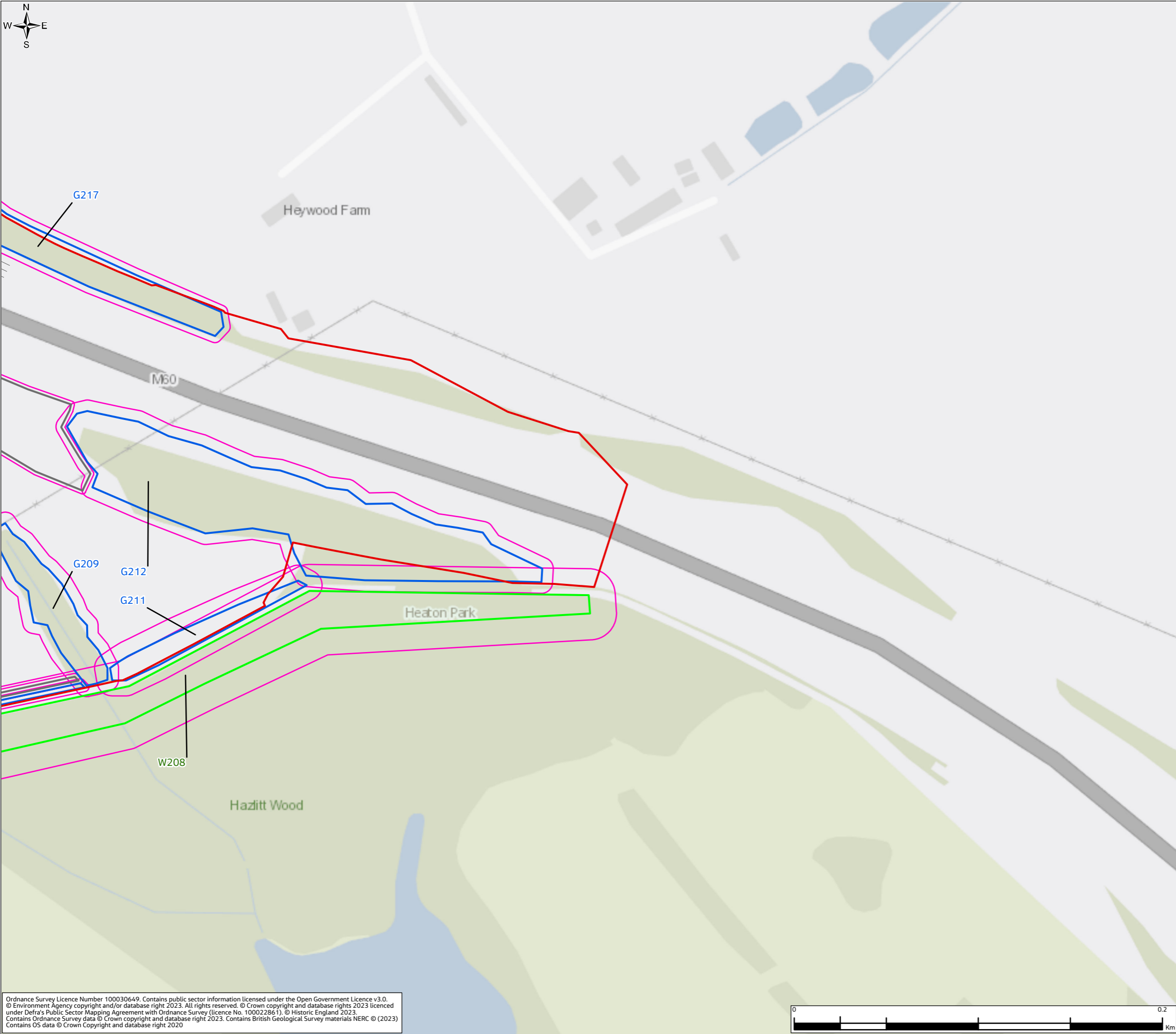
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SHEET 5 OF 15

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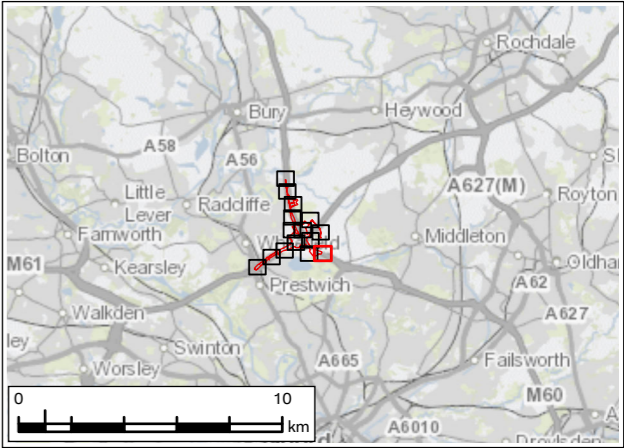
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# Environmental Statement Appendix 7.5 Figure 7.5.1

## Legend

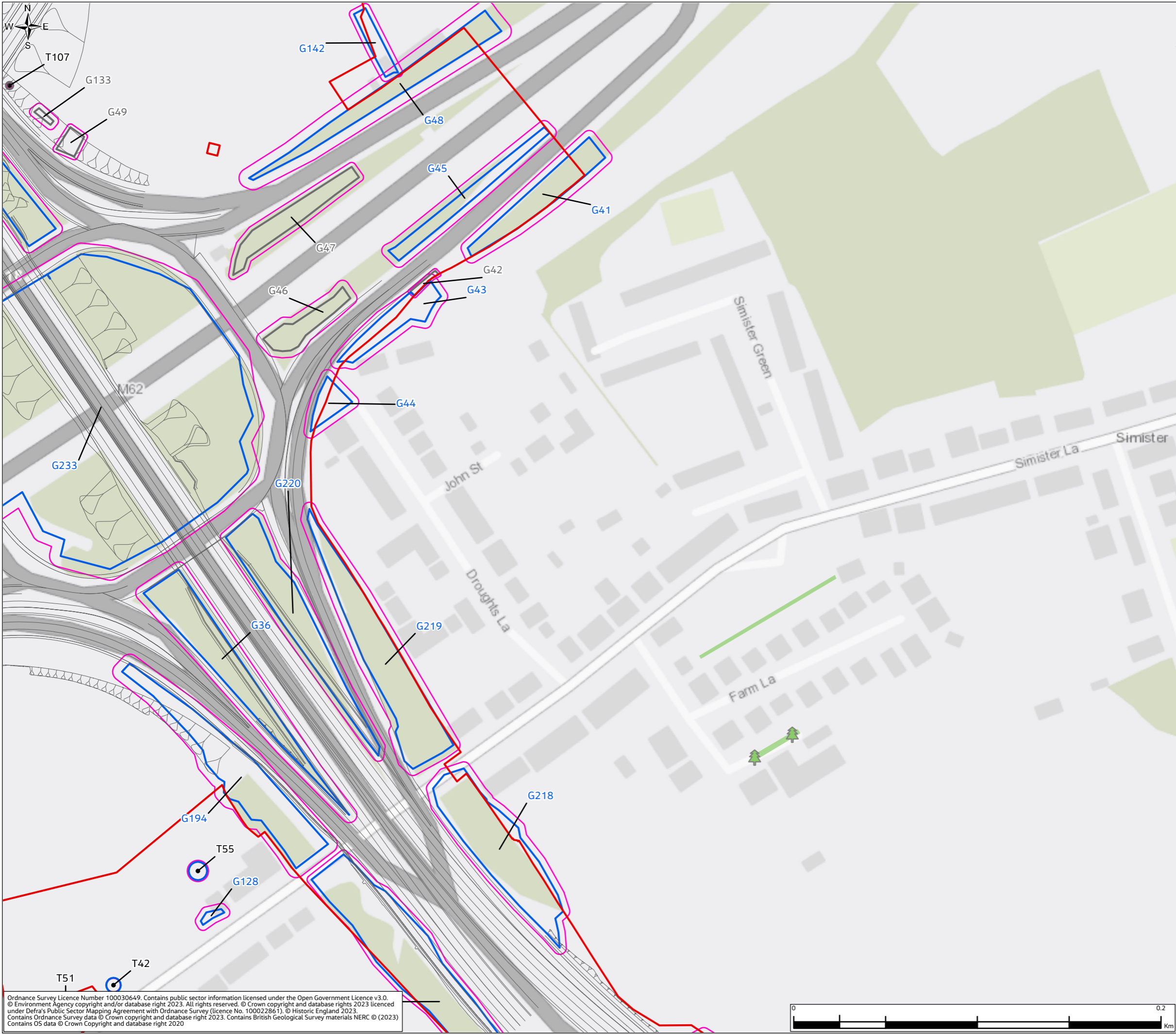
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- Scheme highway design
- Tree/Group Canopy**
  - A Category
  - B Category
  - C Category
- Tree/Group Root Protection Area**
  - Root Protection Area



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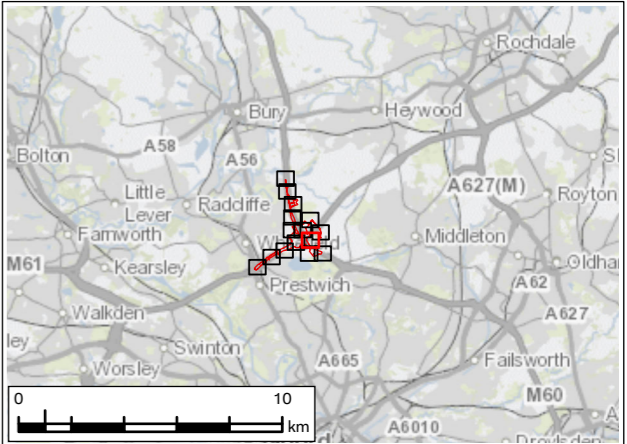
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# Environmental Statement Appendix 7.5 Figure 7.5.1

- Legend
- Order Limits
  - Scheme highway design
  - Individual Tree Stem
    - Tree Stem Location
  - Tree/Group Canopy
    - B Category
    - C Category
  - Tree/Group Root Protection Area
    - Root Protection Area
  - Tree Preservation Orders (TPO's)
    - Group/ Area/ Woodland
    - Individual Tree



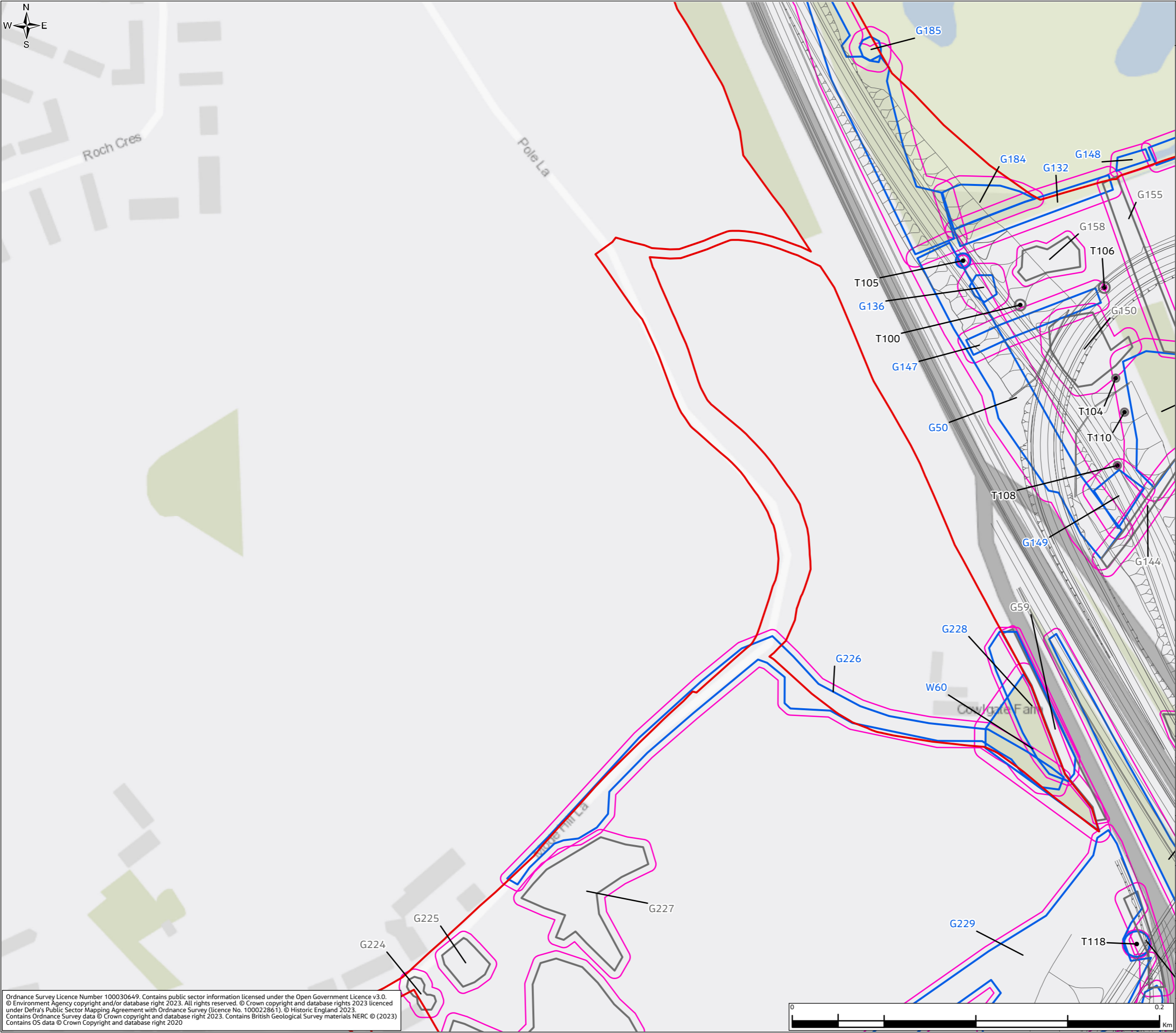
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# Environmental Statement Appendix 7.5 Figure 7.5.1

## Legend

- Order Limits
- Scheme highway design

## Individual Tree Stem

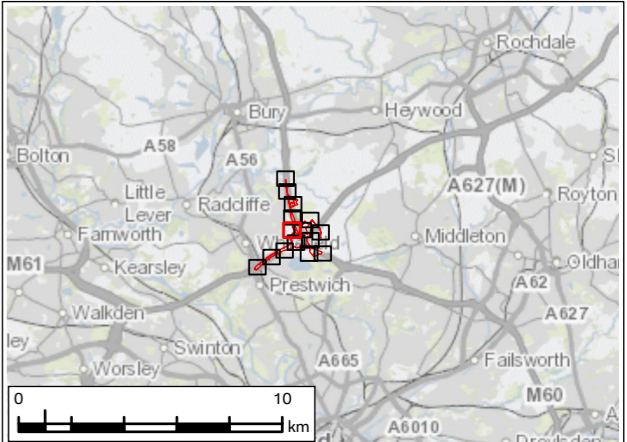
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## Tree/Group Canopy

- B Category
- C Category

## Tree/Group Root Protection Area

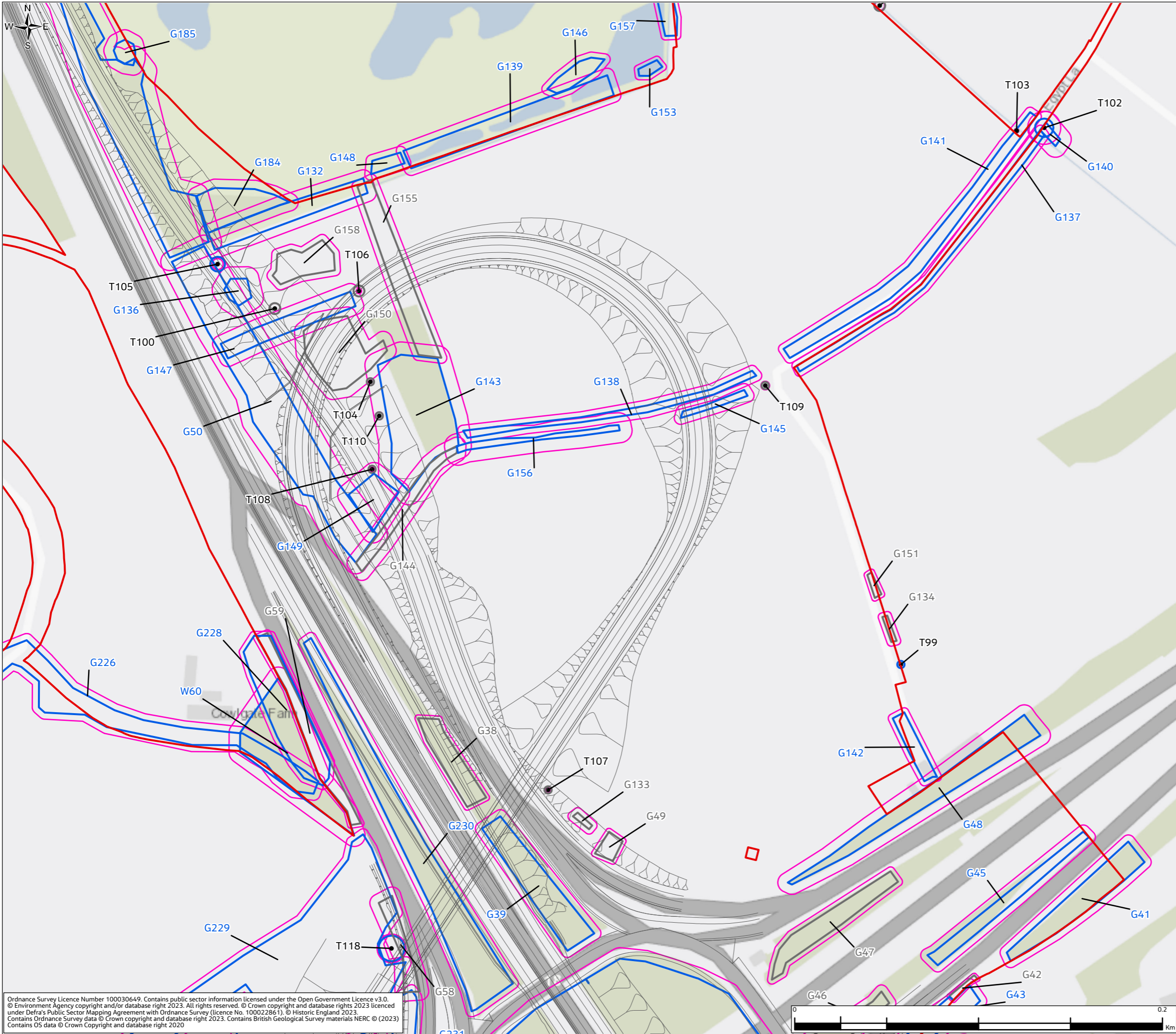
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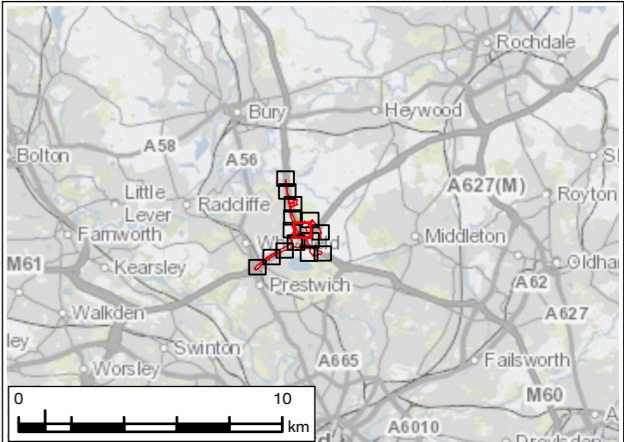
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# Environmental Statement Appendix 7.5 Figure 7.5.1

- Legend**
- Order Limits
  - Scheme highway design
  - Individual Tree Stem**
    - Tree Stem Location
  - Tree/Group Canopy**
    - B Category
    - C Category
  - Tree/Group Root Protection Area**
    - Root Protection Area



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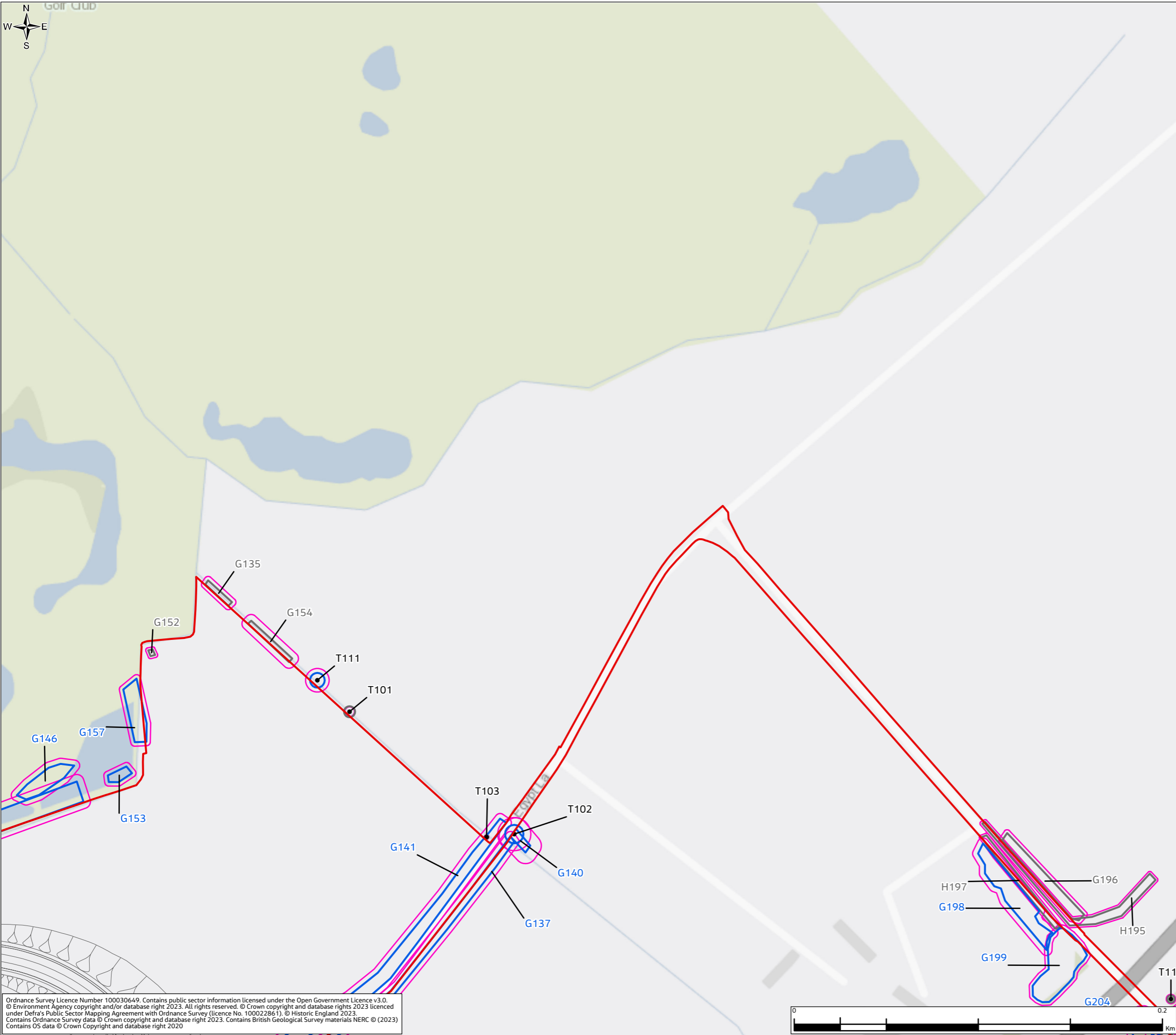
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SHEET 9 OF 15

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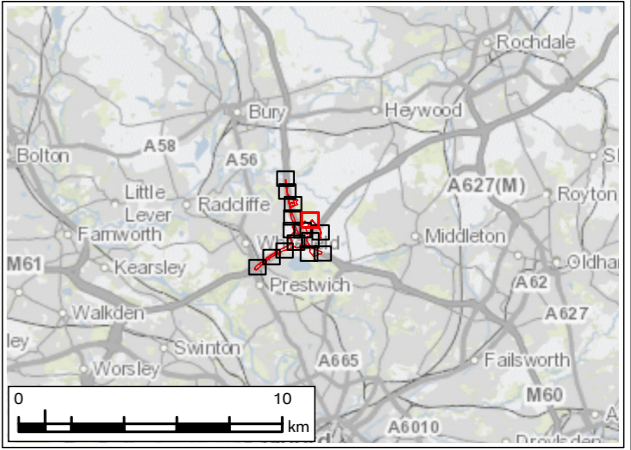
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Environmental Statement  
Appendix 7.5 Figure 7.5.1

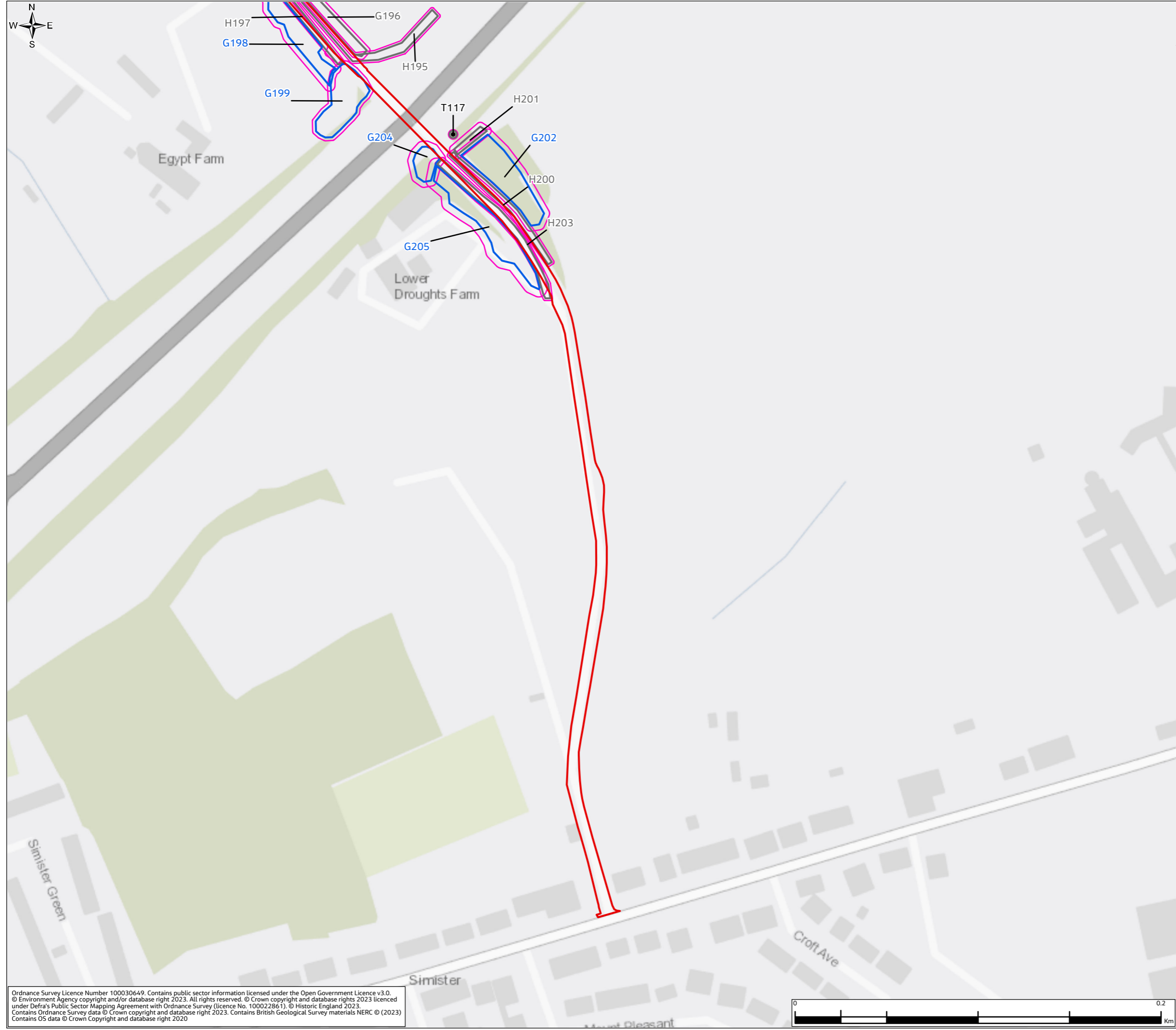
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- Tree/Group Canopy
- B Category
  - C Category
- Tree/Group Root Protection Area
- Root Protection Area



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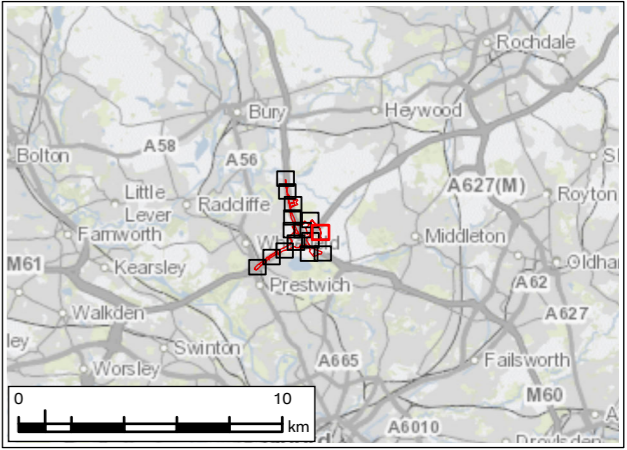
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Environmental Statement  
Appendix 7.5 Figure 7.5.1

- Legend
- Order Limits
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- Tree Stem Location
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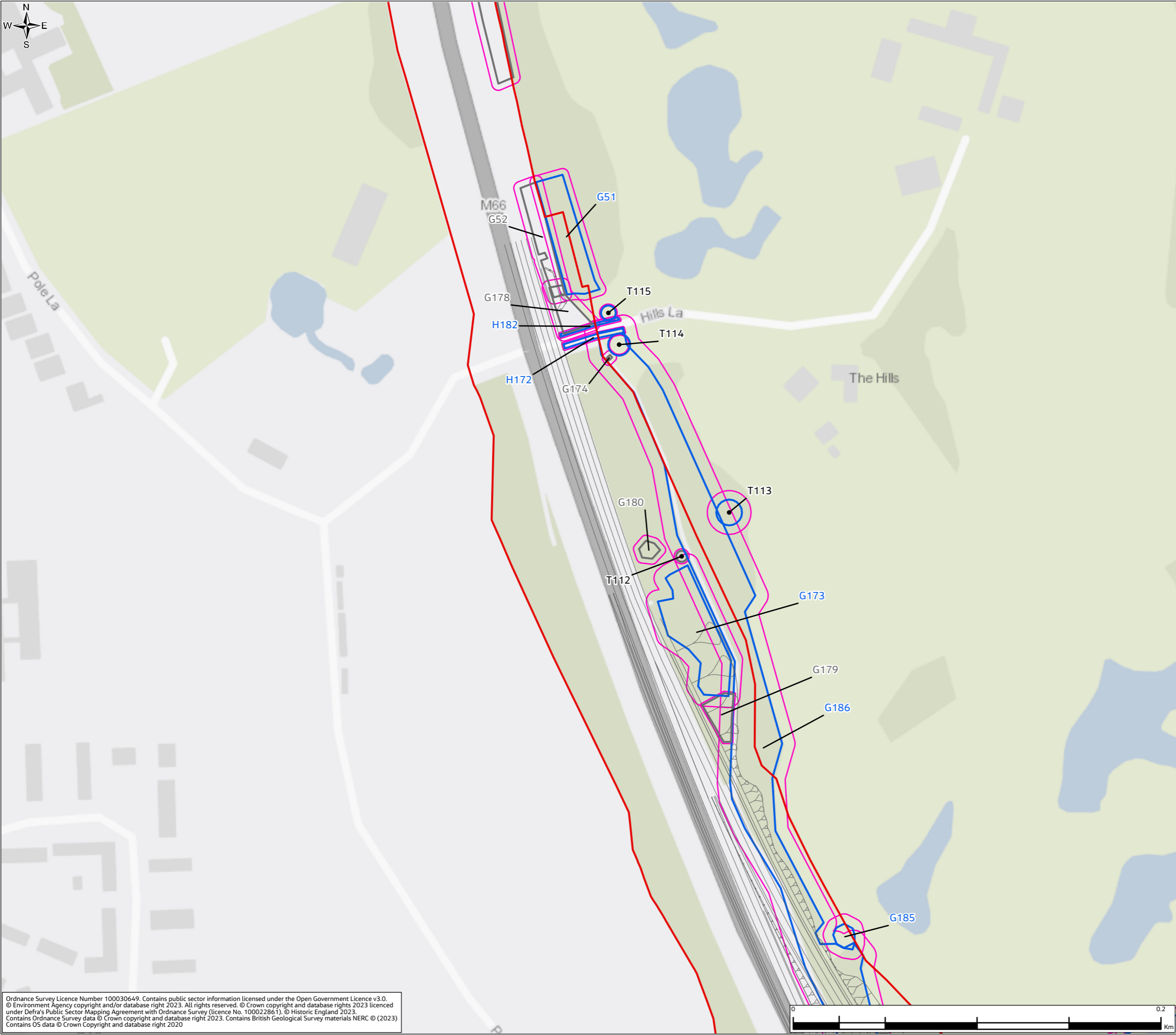


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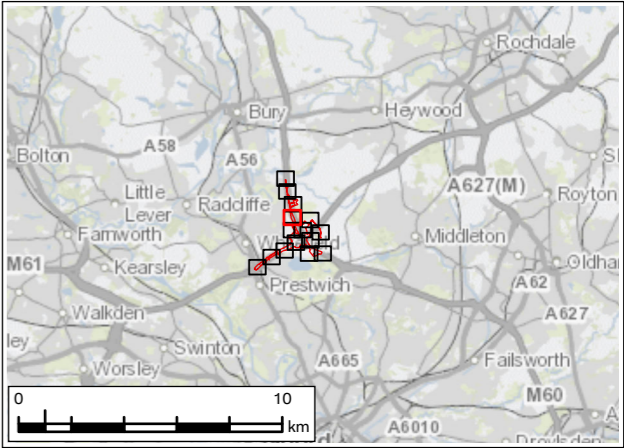
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# Environmental Statement Appendix 7.5 Figure 7.5.1

## Legend

- Order Limits
- Scheme highway design
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- Tree/Group Canopy
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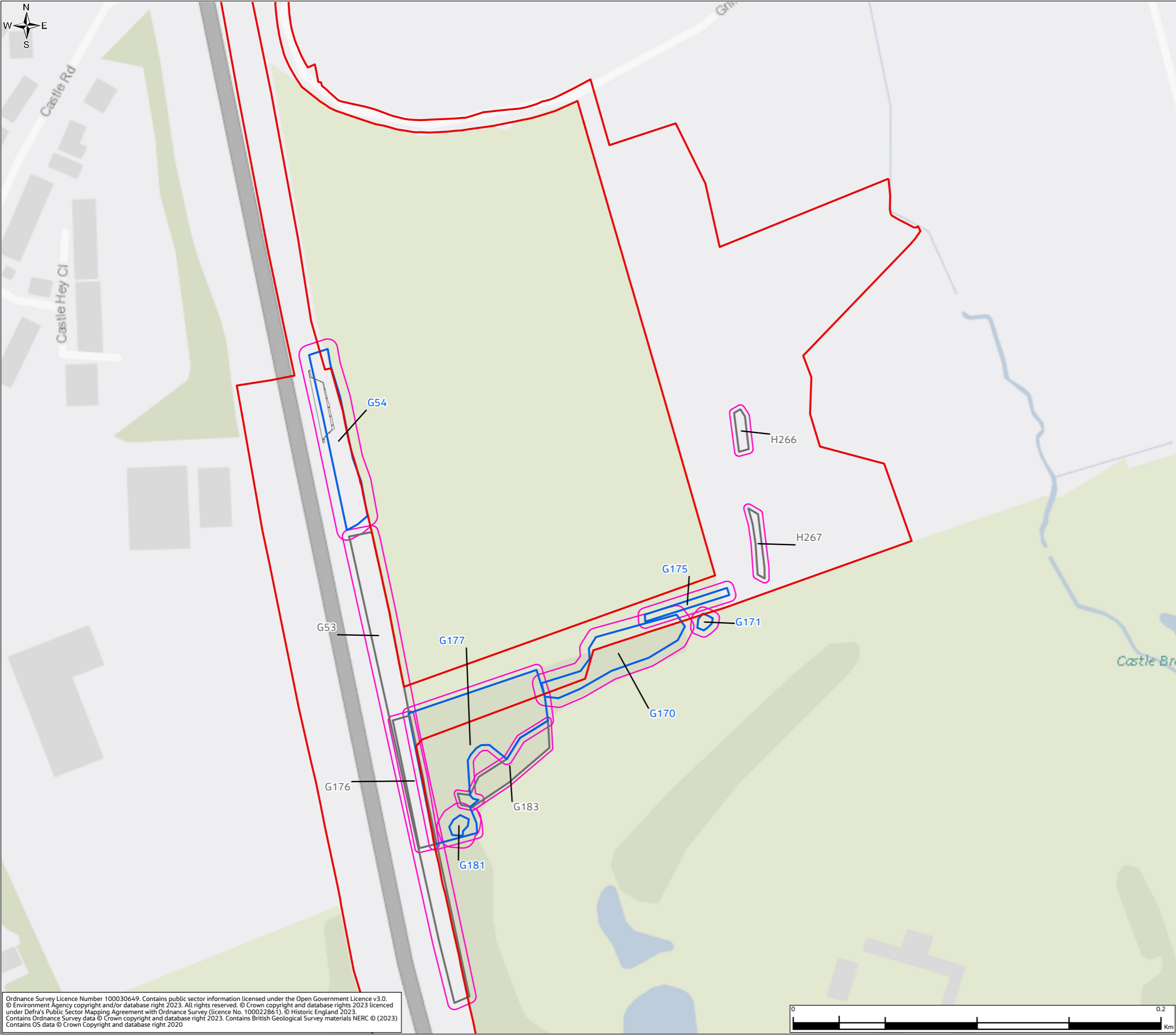
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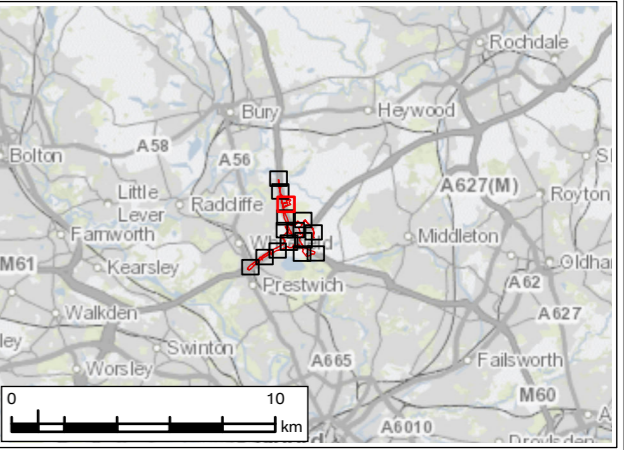
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Environmental Statement  
Appendix 7.5 Figure 7.5.1

- Legend
- Order Limits
  - Scheme highway design
  - Tree/Group Canopy
    - B Category
    - C Category
  - Tree/Group Root Protection Area
    - Root Protection Area

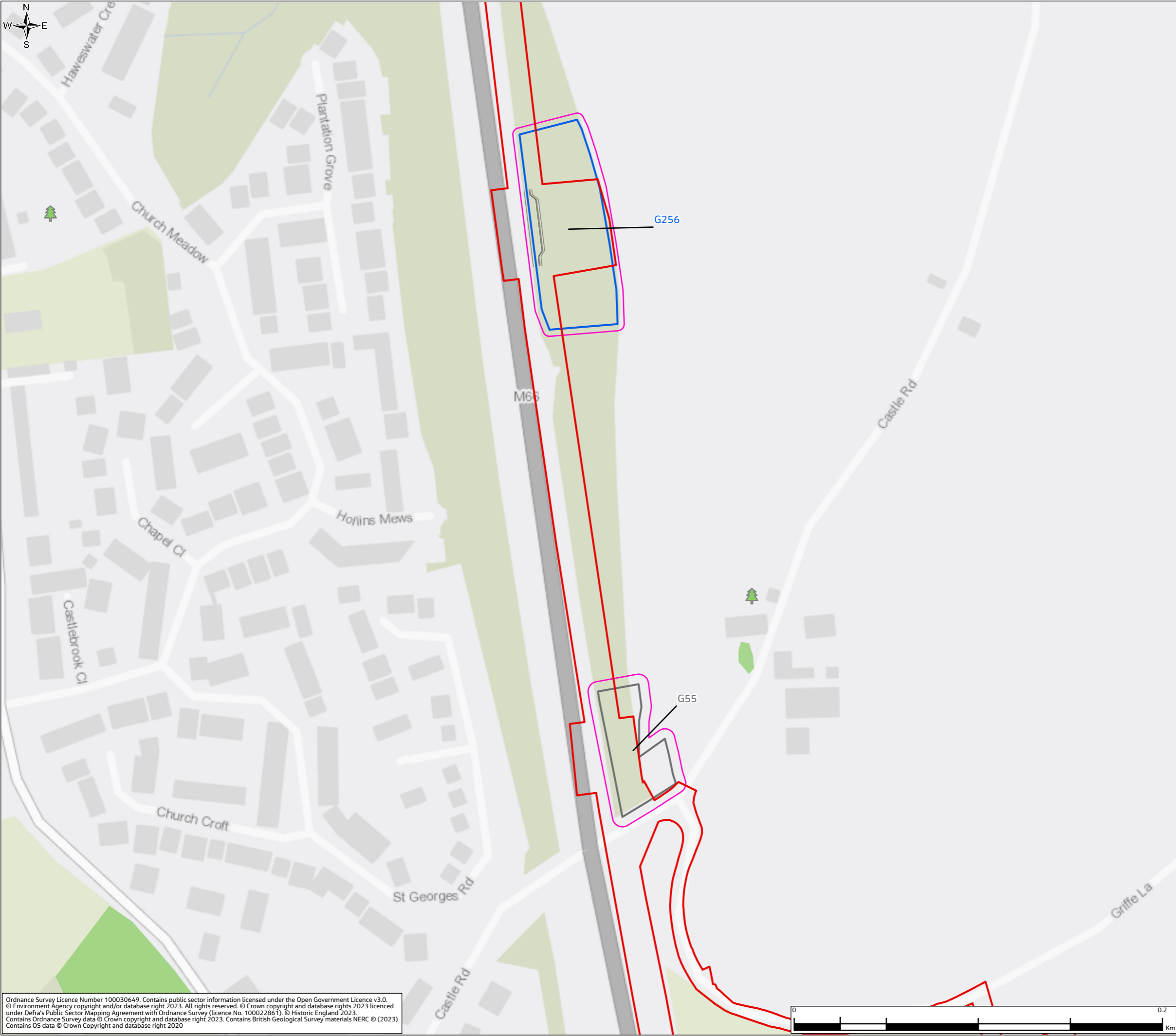


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Project						
REGIONAL DELIVERY PARTNERSHIP M60/M62/M66 SIMISTER ISLAND INTERCHANGE						
Drawing Title						
TREE CONSTRAINTS PLAN SHEET 13 OF 15						
Drawing Status						
S4 – SUITABLE FOR STAGED APPROVAL						
Scale @ A3	1:2,000				DO NOT SCALE	
Jacobs No.	B36601F0				Rev P01	
Client No.	HE548642					
Drawing Number						
HE548642-JAC-LDC-SII_MLT-SK-L-0001						

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# Environmental Statement Appendix 7.5 Figure 7.5.1

## Legend

- Order Limits
- Scheme highway design

## Tree/Group Canopy

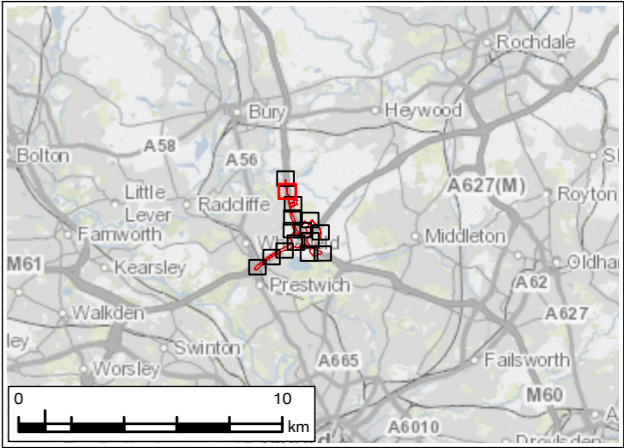
- B Category
- C Category

## Tree/Group Root Protection Area

- Root Protection Area

## Tree Preservation Orders (TPO's)

- Group/ Area/ Woodland
- Individual Tree



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Drawing Title

TREE CONSTRAINTS PLAN  
SHEET 14 OF 15

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Drawing Number	HE548642-JAC-LDC-SII_MLT-SK-L-0001				

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# Environmental Statement Appendix 7.5 Figure 7.5.1

## Legend

- Order Limits
- Scheme highway design

## Tree/Group Canopy

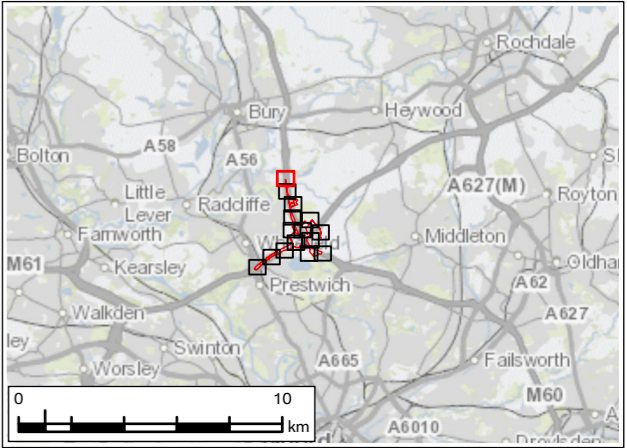
- B Category
- C Category

## Tree/Group Root Protection Area

- Root Protection Area

## Tree Preservation Orders (TPO's)

- Group/ Area/ Woodland
- Individual Tree



P01	JAN 24	For DCO application	LT	MS	JR	BB
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Drawing Title

TREE CONSTRAINTS PLAN  
SHEET 15 OF 15

Drawing Status

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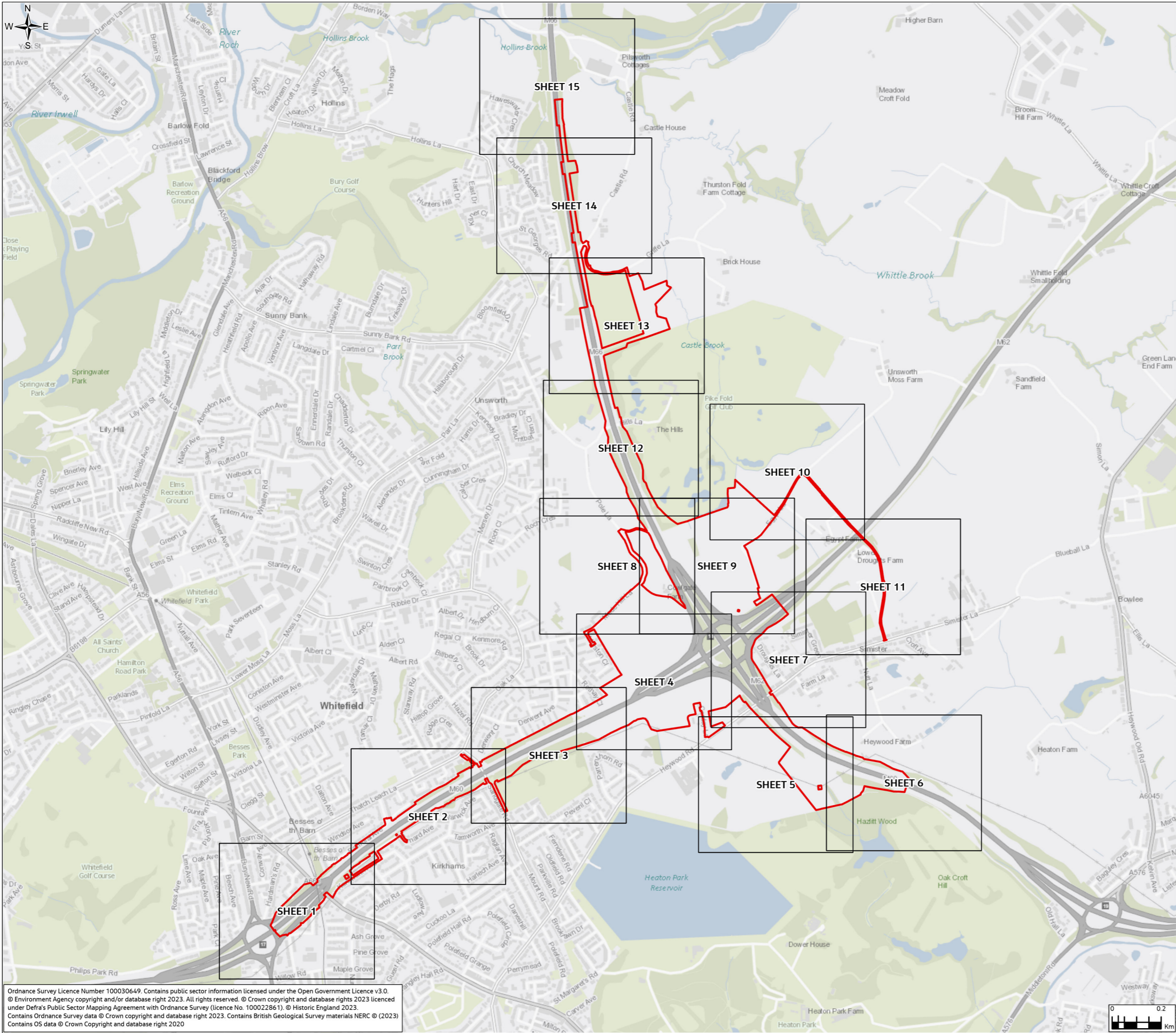
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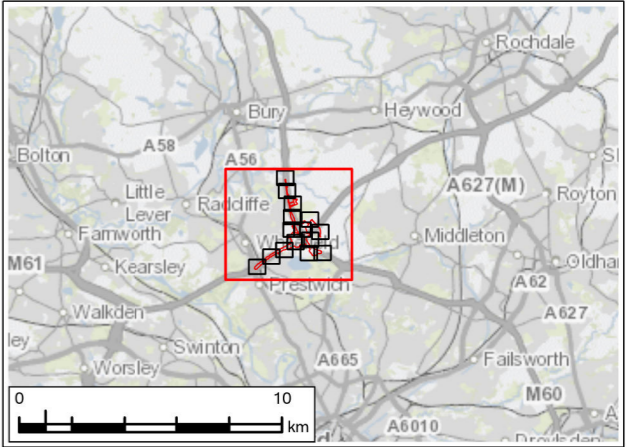


# Environmental Statement

## Appendix 7.5 Figure 7.5.2

Legend

Order Limits



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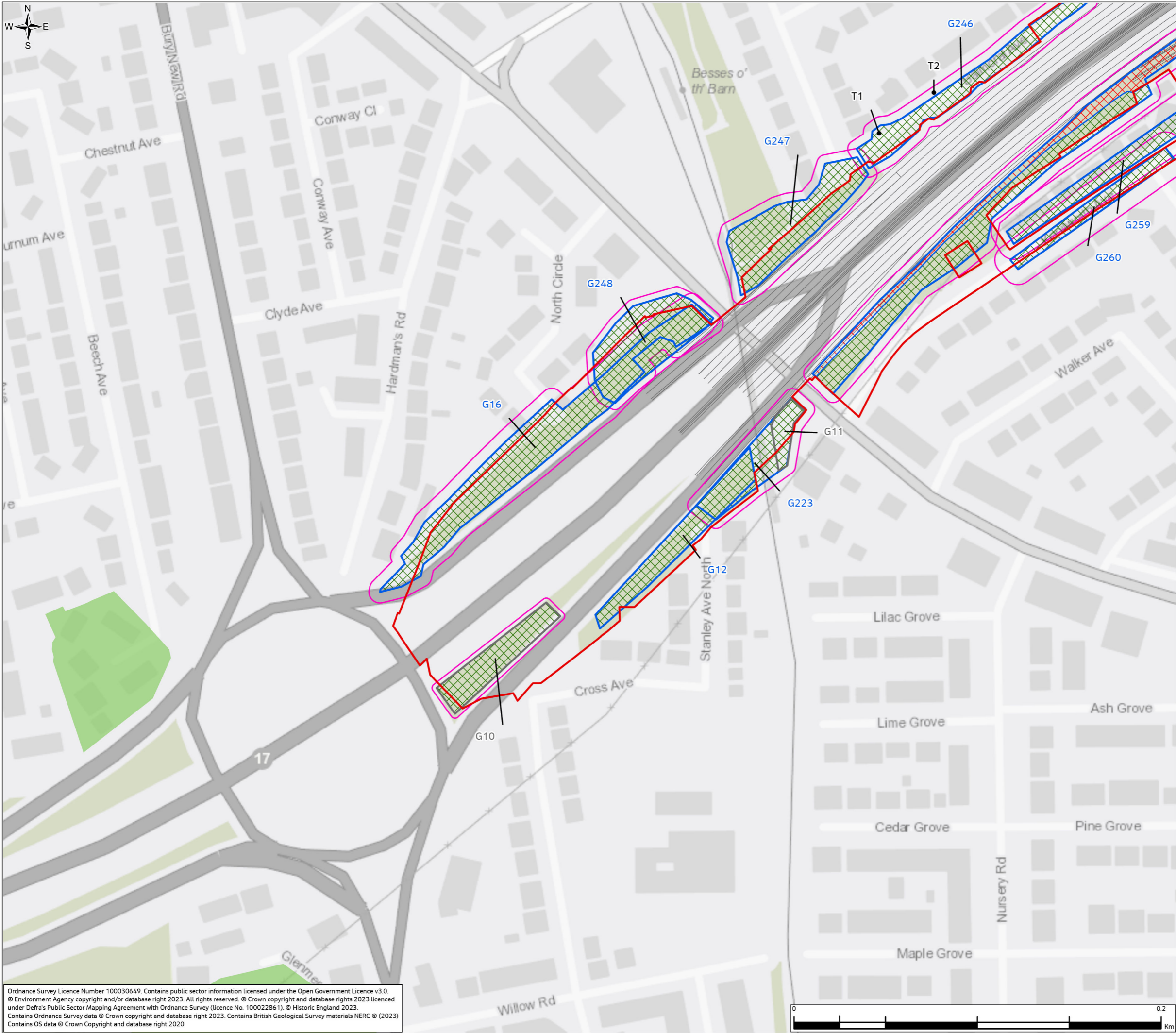
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TREE REMOVAL PLAN  
SHEET OVERVIEW

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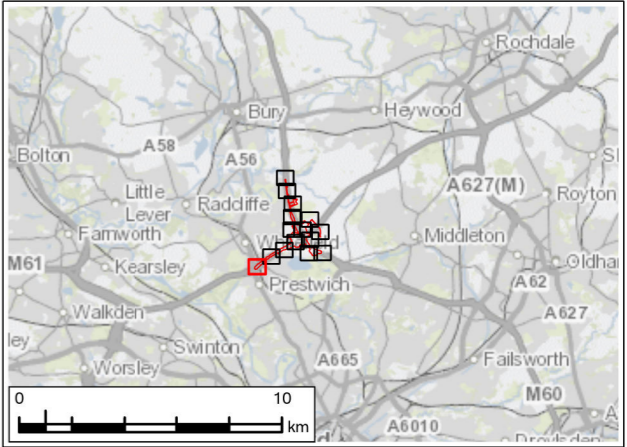
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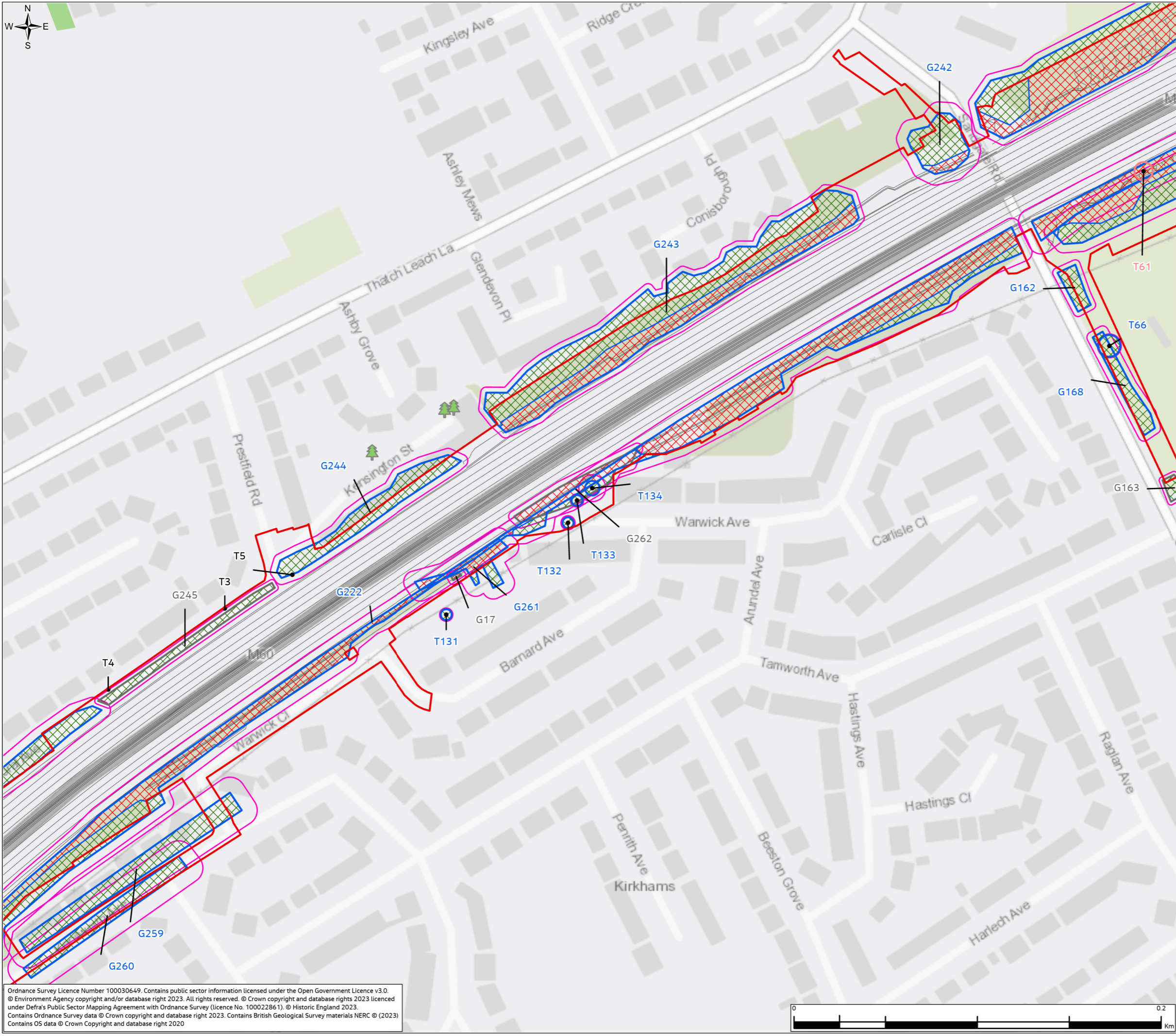
Environmental Statement  
Appendix 7.5 Figure 7.5.2

- Legend
- Order Limits
  - Scheme highway design
- Individual Tree Stem
- Tree Stem Location
- Tree/Group Canopy
- B Category
  - C Category
- Tree/Group Root Protection Area
- Root Protection Area
- Tree/ Group Retention/ Removal
- Remove
  - Retain
- Tree Preservation Orders (TPO's)
- Group/ Area/ Woodland



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P01	JAN 24	For DCO application	LT	MS	JR	BB
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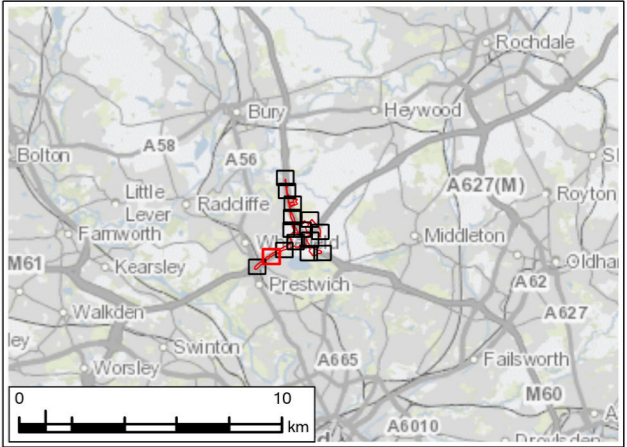
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# Environmental Statement

## Appendix 7.5 Figure 7.5.2

- Legend**
- Order Limits
  - Scheme highway design
  - Individual Tree Stem**
    - Tree Stem Location
  - Tree/Group Canopy**
    - B Category
    - C Category
  - Tree/Group Root Protection Area**
    - Root Protection Area
  - Tree/ Group Retention/ Removal**
    - Remove
    - Retain
  - Tree Preservation Orders (TPO's)**
    - Group/ Area/ Woodland
    - Individual Tree



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P01	JAN 24	For DCO application	LT	MS	JR	BB
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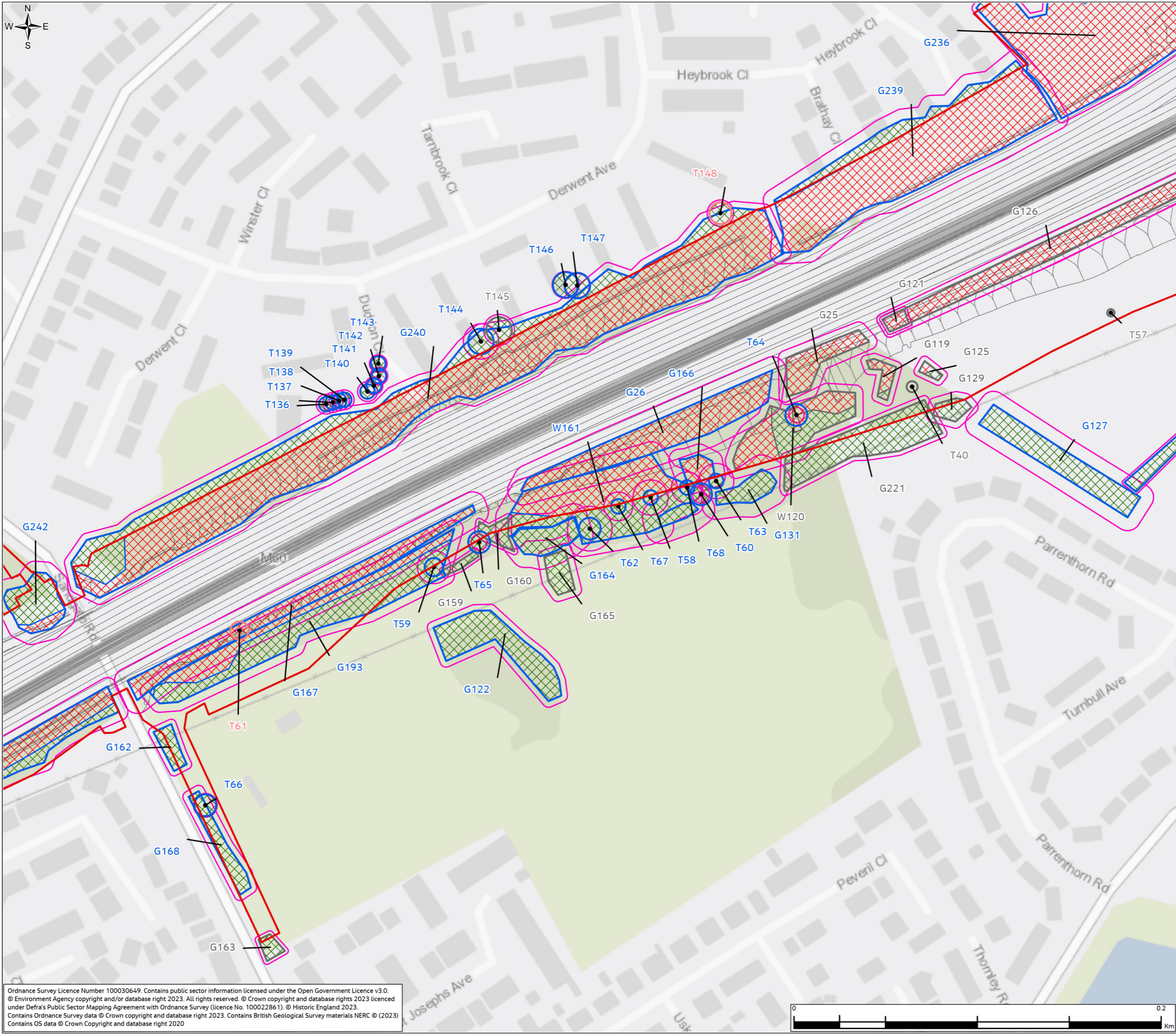
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TREE REMOVAL PLAN  
SHEET 2 OF 15

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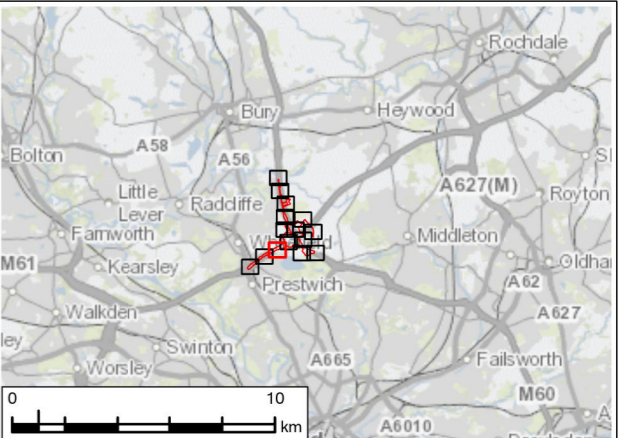
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# Environmental Statement Appendix 7.5 Figure 7.5.2

- Legend**
- Order Limits
  - Scheme highway design
  - Individual Tree Stem**
    - Tree Stem Location
  - Tree/Group Canopy**
    - B Category
    - C Category
  - Tree/Group Root Protection Area**
    - Root Protection Area
  - Tree/ Group Retention/ Removal**
    - Remove
    - Retain



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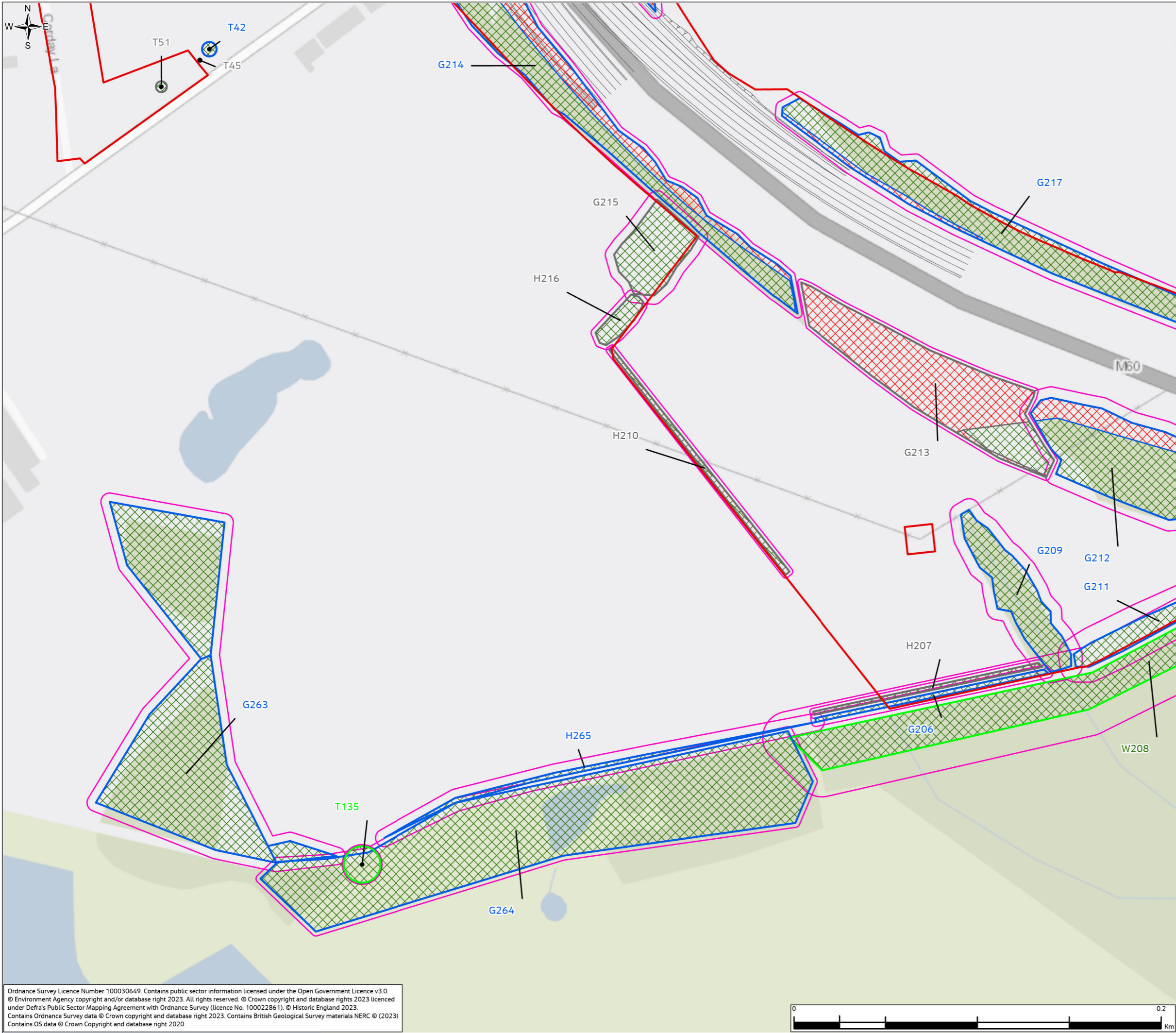
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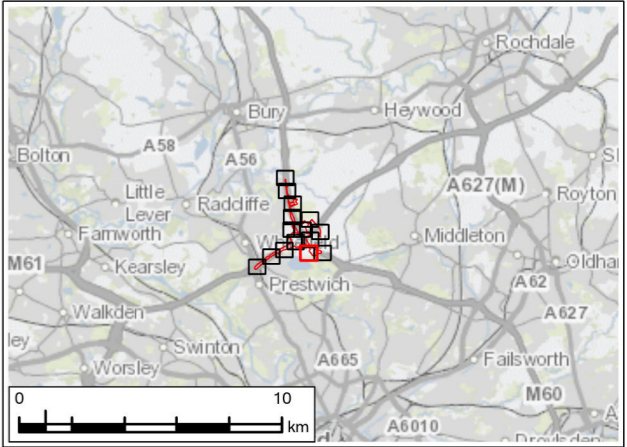
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Environmental Statement  
Appendix 7.5 Figure 7.5.2

- Legend
- Order Limits
  - Scheme highway design
  - Individual Tree Stem
    - Tree Stem Location
  - Tree/Group Canopy
    - A Category
    - B Category
    - C Category
  - Tree/Group Root Protection Area
    - Root Protection Area
  - Tree/ Group Retention/ Removal
    - Remove
    - Retain



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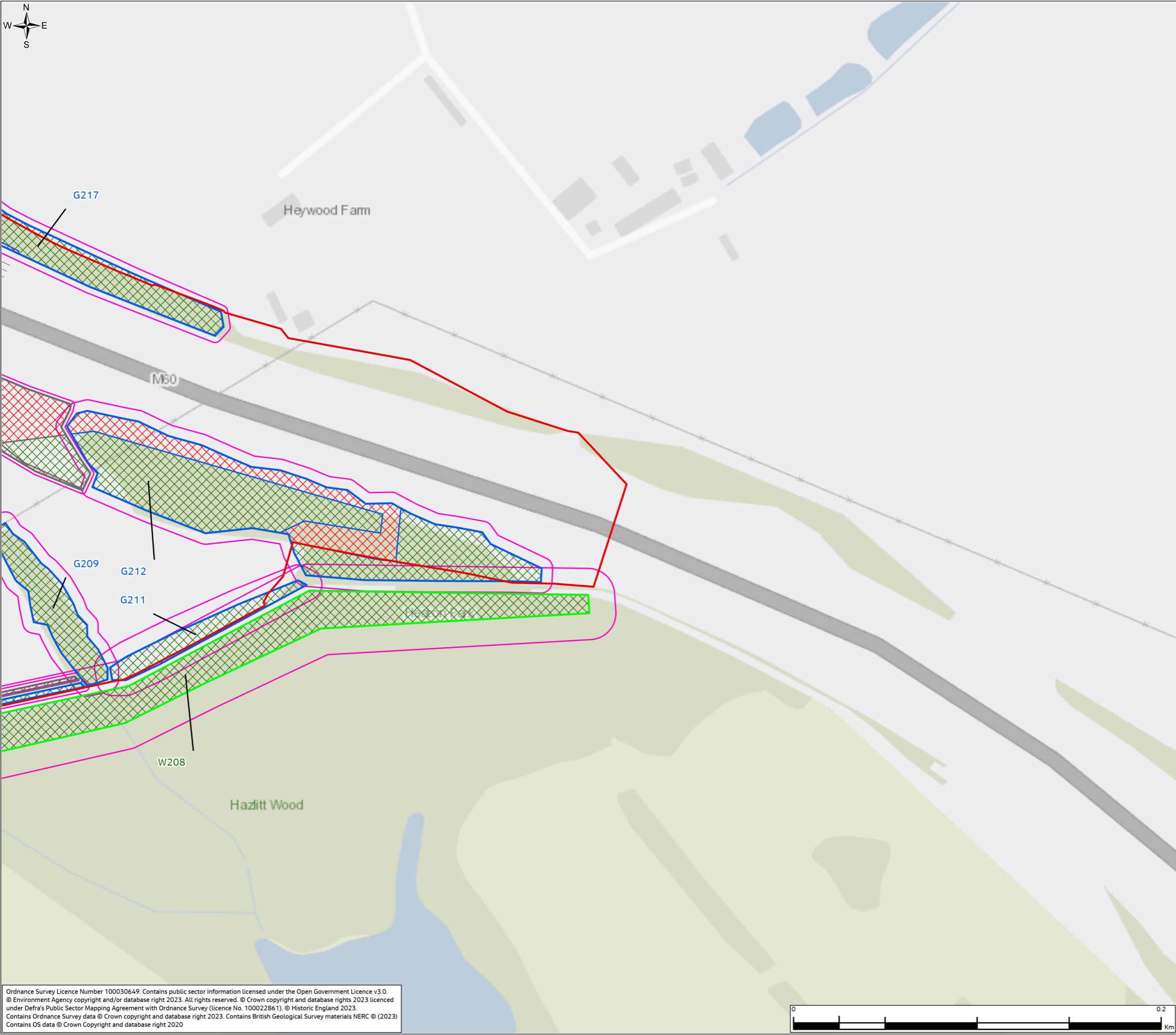
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# Environmental Statement

## Appendix 7.5 Figure 7.5.2

### Legend

- Order Limits
- Scheme highway design

### Tree/Group Canopy

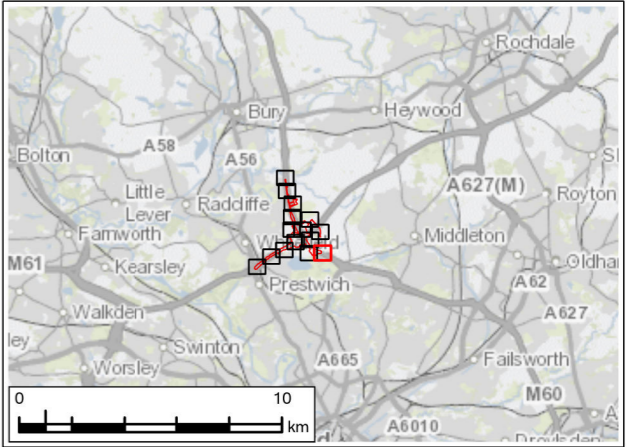
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- C Category

### Tree/Group Root Protection Area

- Root Protection Area

### Tree/ Group Retention/ Removal

- Remove
- Retain



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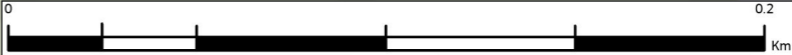
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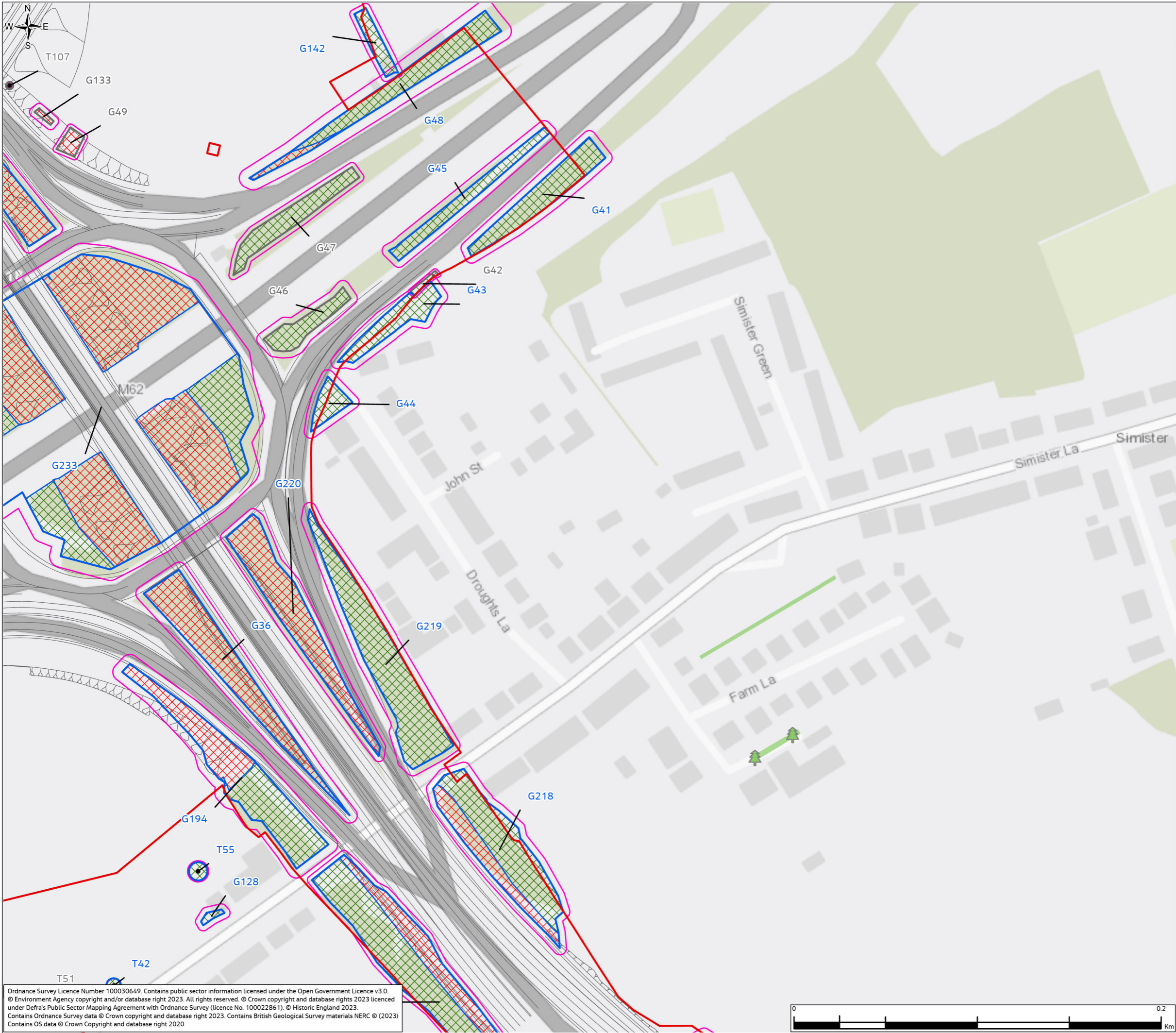
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SHEET 6 OF 15

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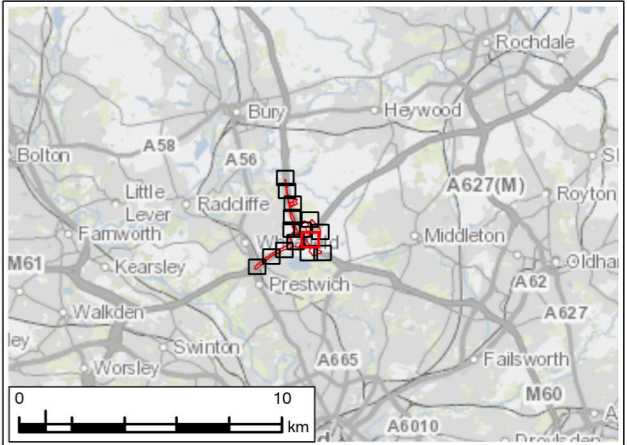
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Environmental Statement  
Appendix 7.5 Figure 7.5.2

- Legend
- Order Limits
  - Scheme highway design
  - Individual Tree Stem
    - Tree Stem Location
  - Tree/Group Canopy
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    - Remove
    - Retain
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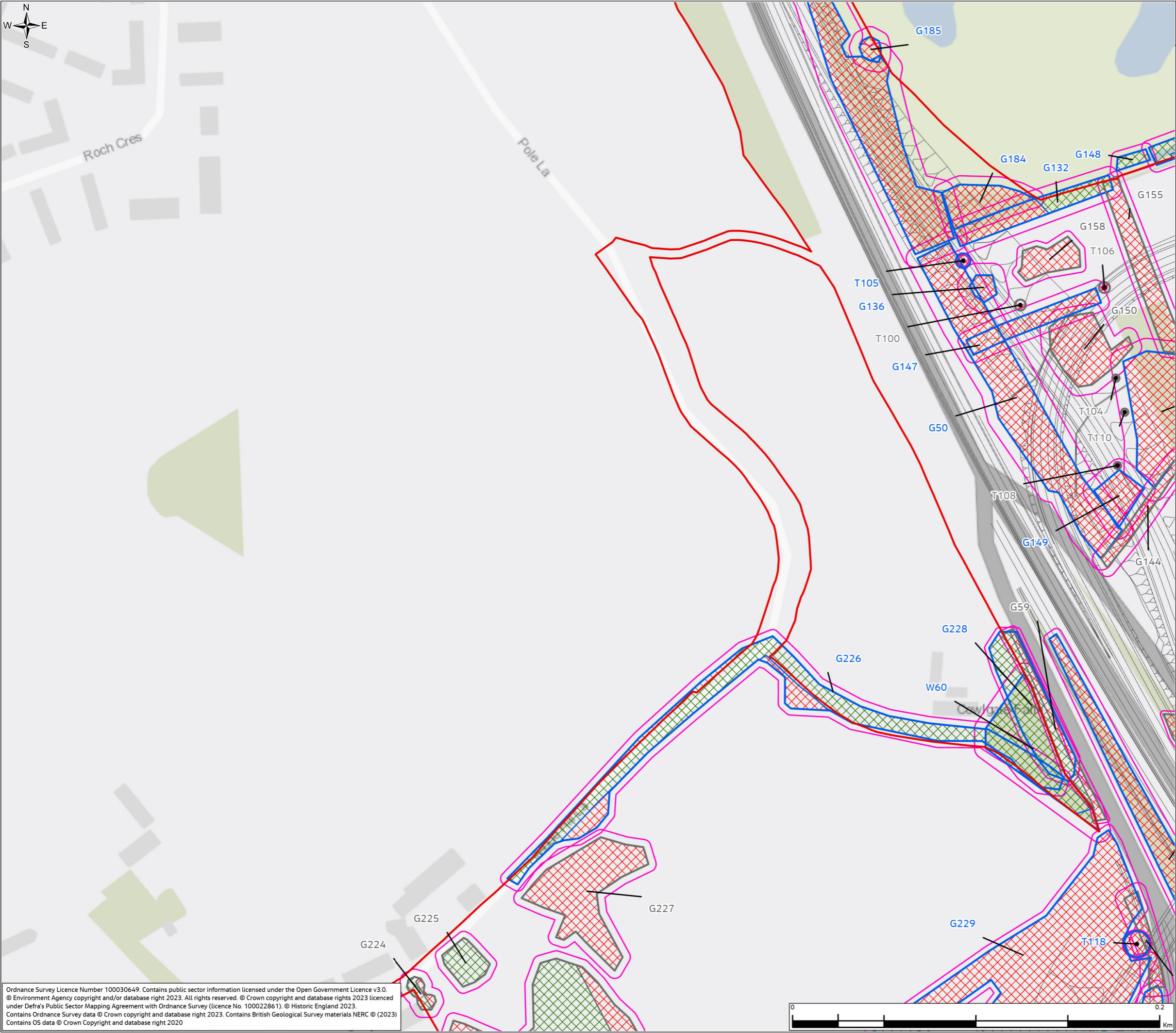
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SHEET 7 OF 15

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# Environmental Statement

## Appendix 7.5 Figure 7.5.2

### Legend

- Order Limits
- Scheme highway design

### Individual Tree Stem

- Tree Stem Location

### Tree/Group Canopy

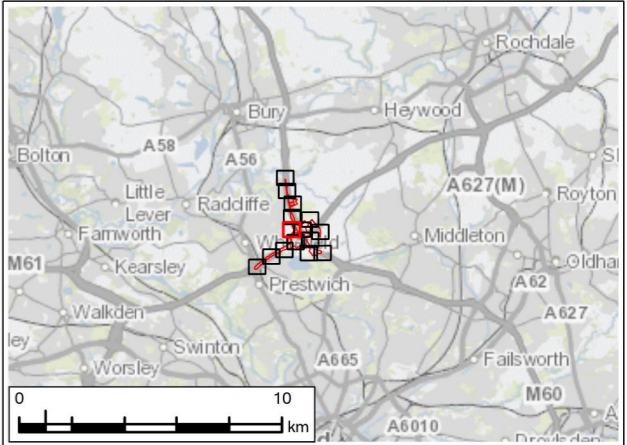
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### Tree/Group Root Protection Area

- Root Protection Area

### Tree/ Group Retention/ Removal

- Remove
- Retain



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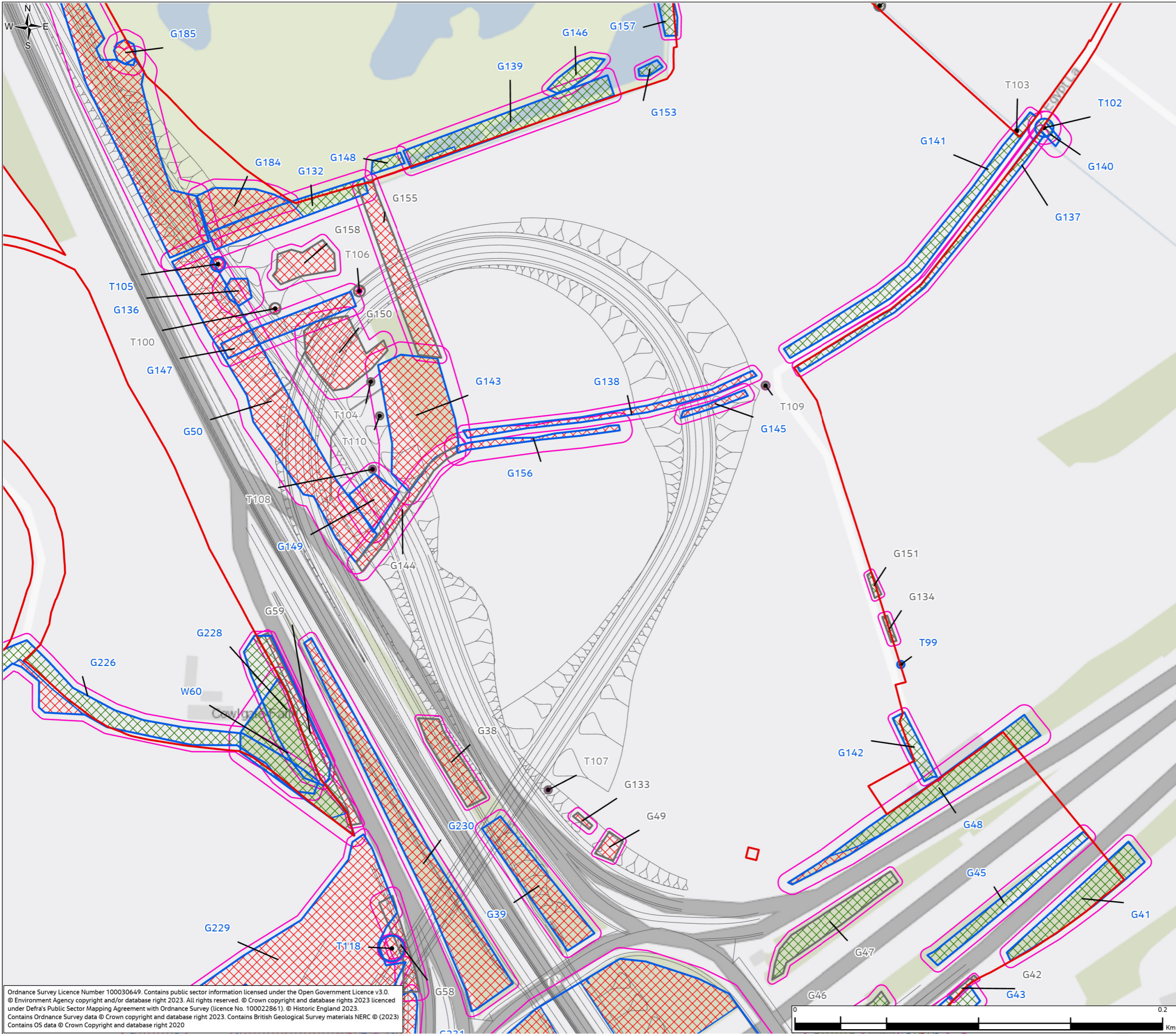
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TREE REMOVAL PLAN  
SHEET 8 OF 15

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Jacobs No.	B36601F0		
Client No.	HE548642	Rev	P02
Drawing Number		HE548642-JAC-LDC-SII_MLT-SK-L-0002	

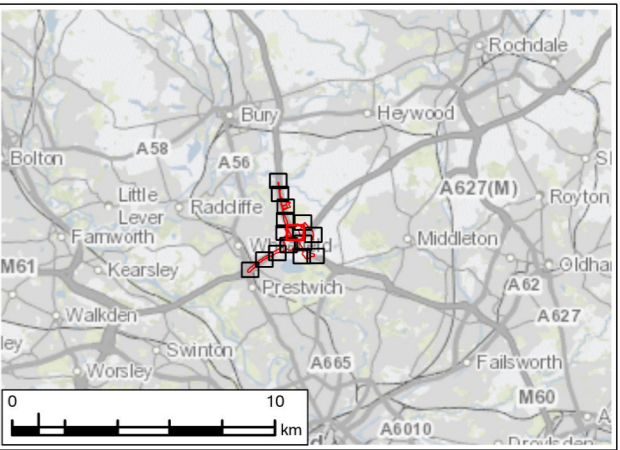
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Environmental Statement  
Appendix 7.5 Figure 7.5.2

- Legend
- Order Limits
  - Scheme highway design
  - Individual Tree Stem
    - Tree Stem Location
  - Tree/Group Canopy
    - B Category
    - C Category
  - Tree/Group Root Protection Area
    - Root Protection Area
  - Tree/ Group Retention/ Removal
    - Remove
    - Retain



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P01	JAN 24	For DCO application	LT	MS	JR	BB
Rev.	Rev. Date	Purpose of revision	Drawn	Check'd	Rev'd	Appr'd
Development Consent Order Number: TR010064			Development Consent Order Drawing Number: 6.2			

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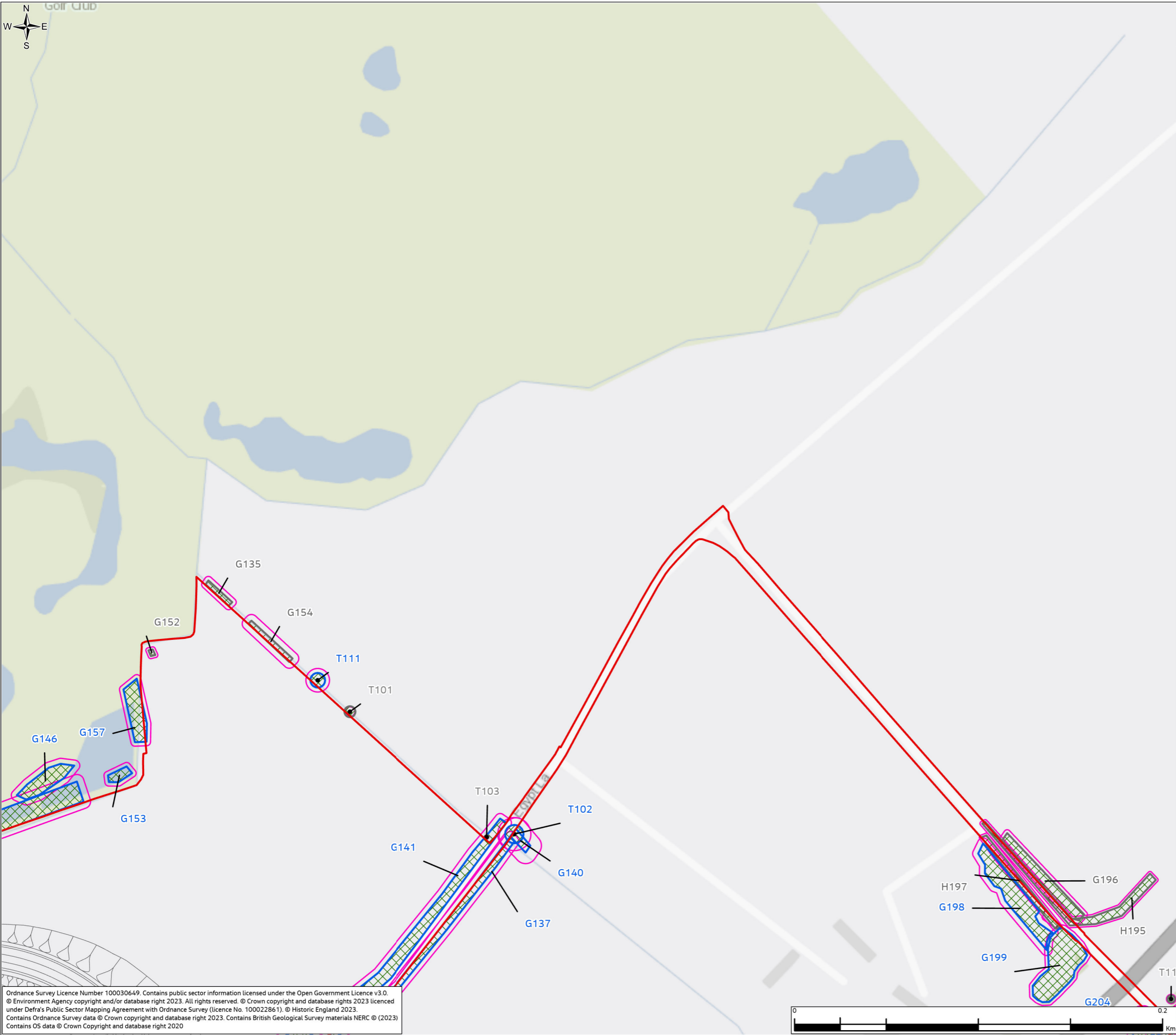
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TREE REMOVAL PLAN  
SHEET 9 OF 15

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# Environmental Statement

## Appendix 7.5 Figure 7.5.2

### Legend

- Order Limits
- Scheme highway design

### Individual Tree Stem

- Tree Stem Location

### Tree/Group Canopy

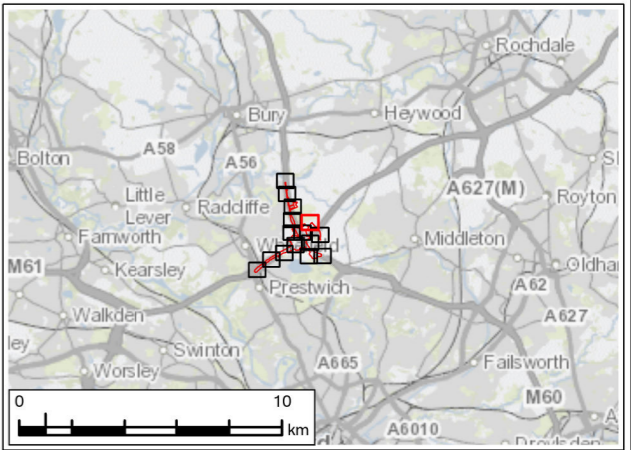
- B Category
- C Category

### Tree/Group Root Protection Area

- Root Protection Area

### Tree/ Group Retention/ Removal

- Remove
- Retain



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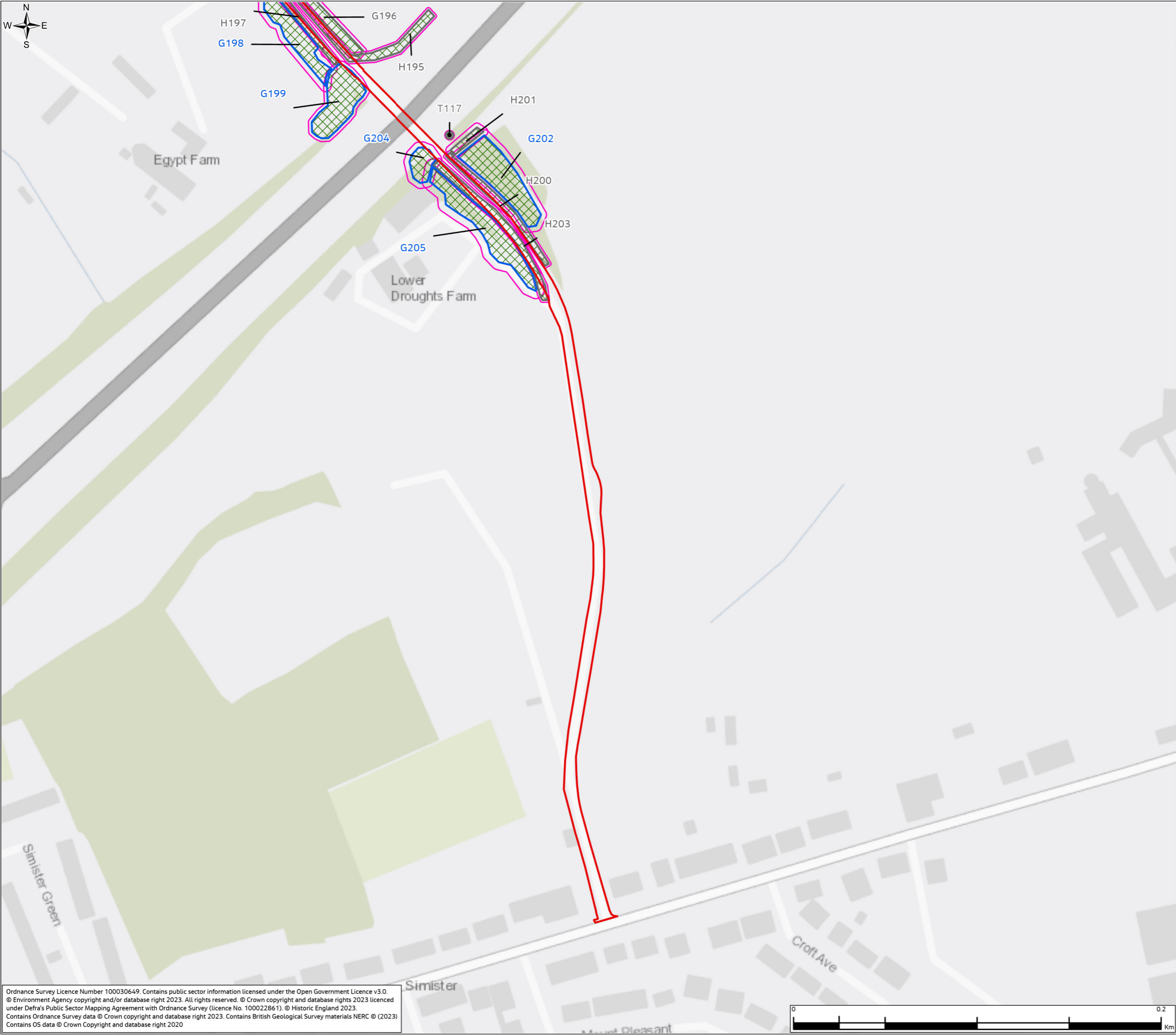
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TREE REMOVAL PLAN  
SHEET 10 OF 15

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## Environmental Statement Appendix 7.5 Figure 7.5.2

### Legend

Order Limits

### Individual Tree Stem

- Tree Stem Location

### Tree/Group Canopy

B Category

C Category

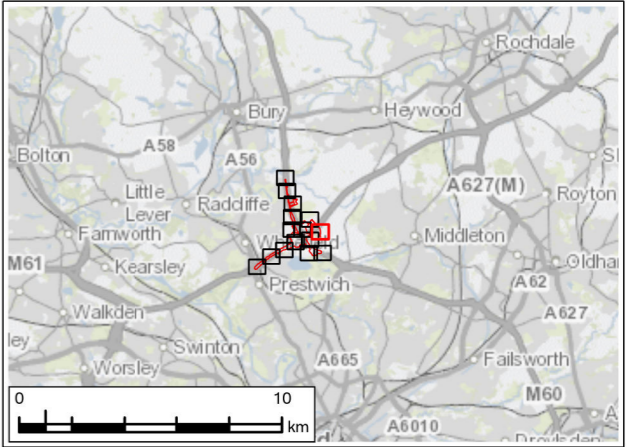
### Tree/Group Root Protection Area

Root Protection Area

### Tree/ Group Retention/ Removal

Remove

Retain



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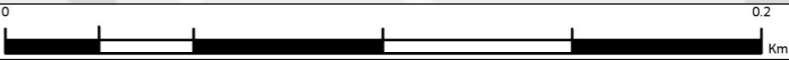
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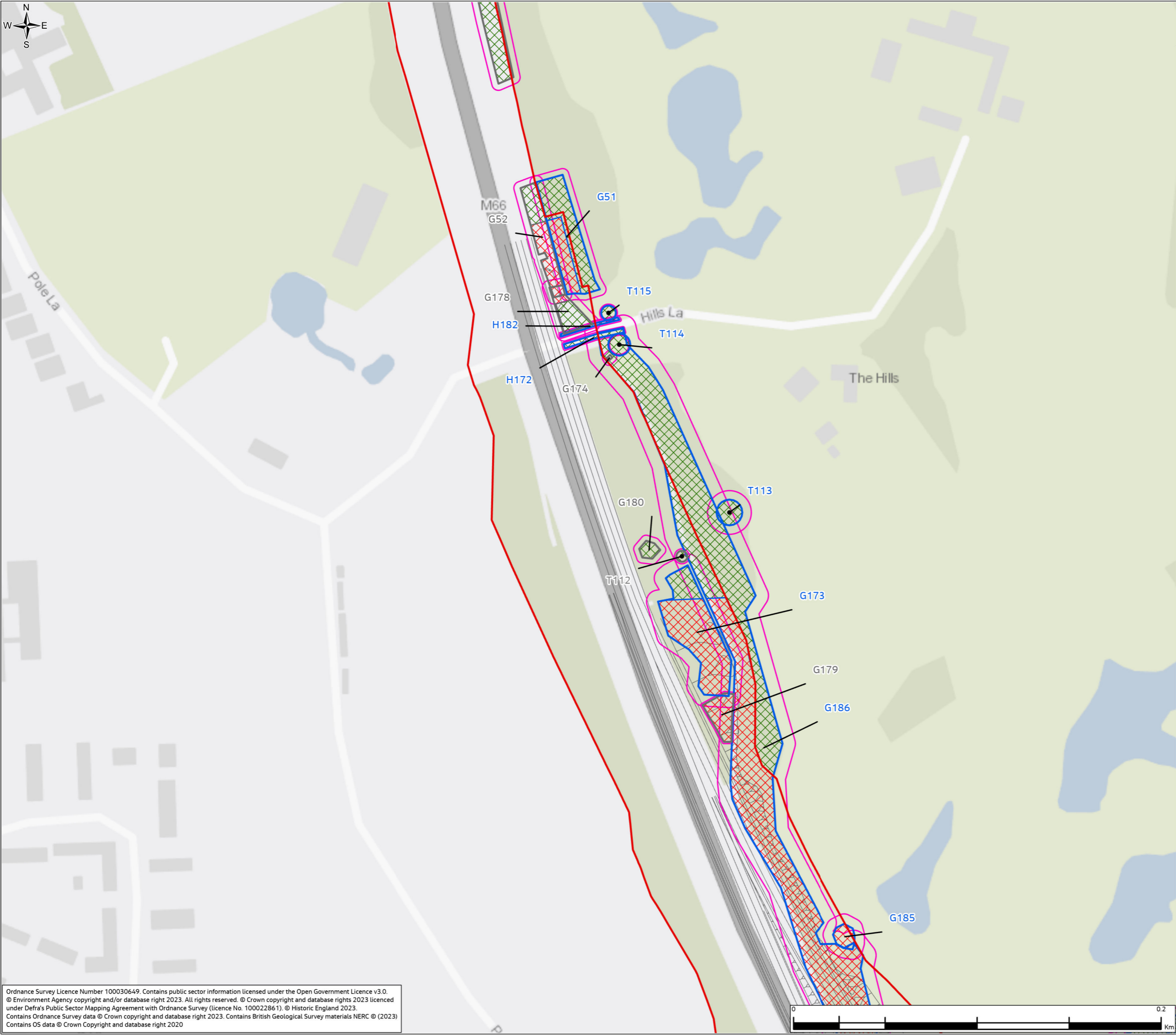
TREE REMOVAL PLAN  
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# Environmental Statement

## Appendix 7.5 Figure 7.5.2

### Legend

- Order Limits
- Scheme highway design

### Individual Tree Stem

- Tree Stem Location

### Tree/Group Canopy

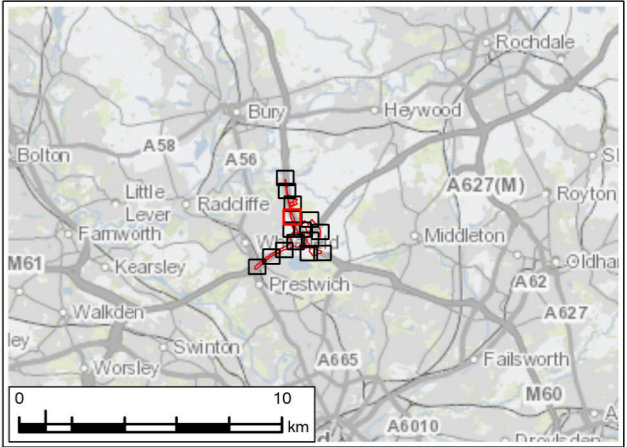
- B Category
- C Category

### Tree/Group Root Protection Area

- Root Protection Area

### Tree/ Group Retention/ Removal

- Remove
- Retain



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Drawing Title

TREE REMOVAL PLAN  
SHEET 12 OF 15

Drawing Status

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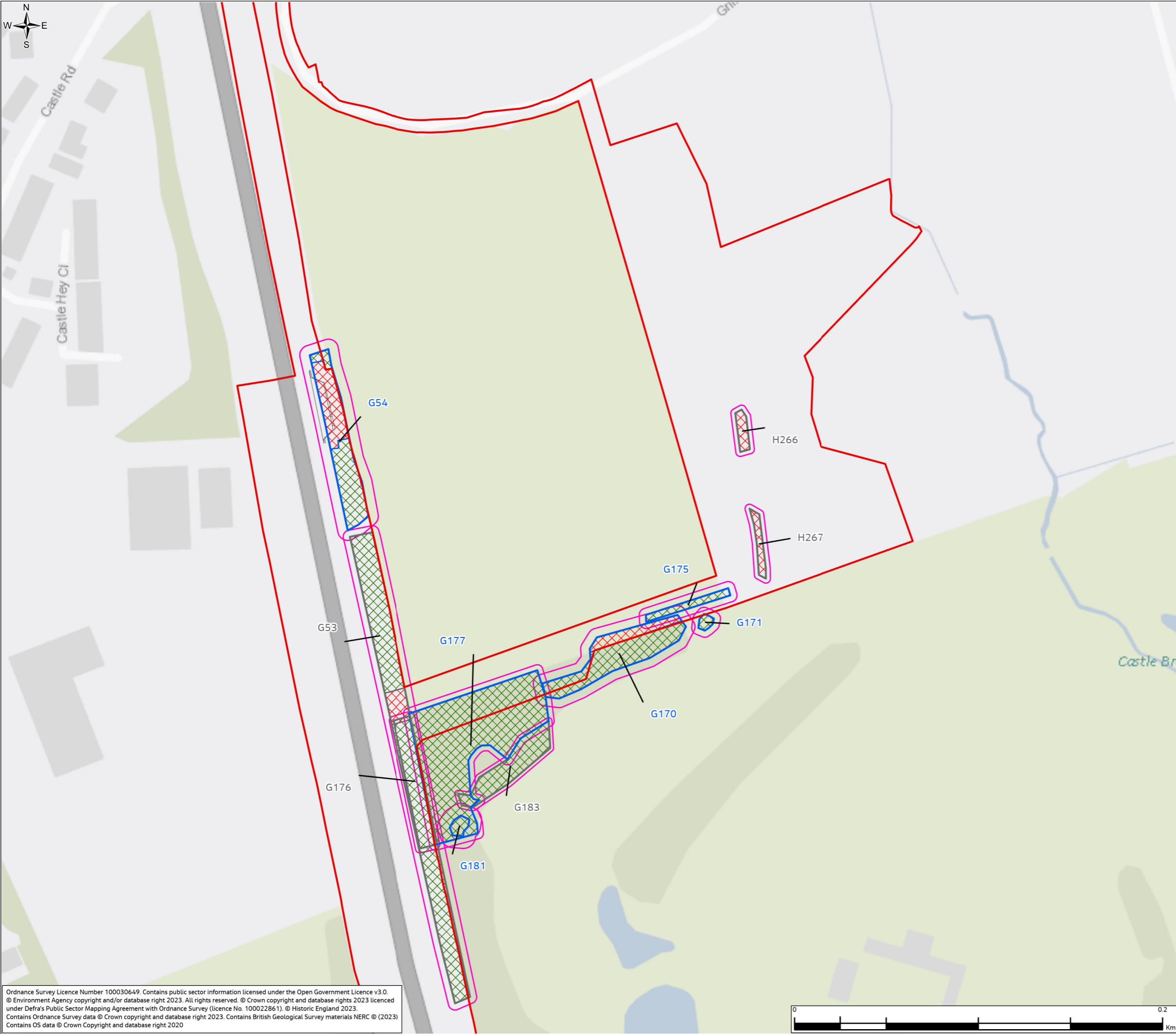
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# Environmental Statement

## Appendix 7.5 Figure 7.5.2

### Legend

- Order Limits
- Scheme highway design

### Tree/Group Canopy

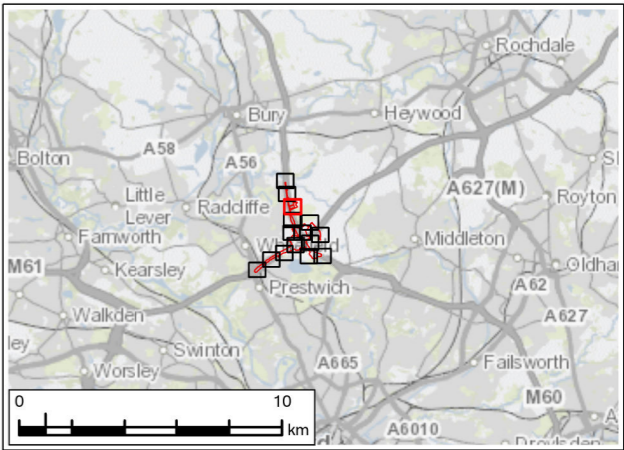
- B Category
- C Category

### Tree/Group Root Protection Area

- Root Protection Area

### Tree/ Group Retention/ Removal

- Remove
- Retain



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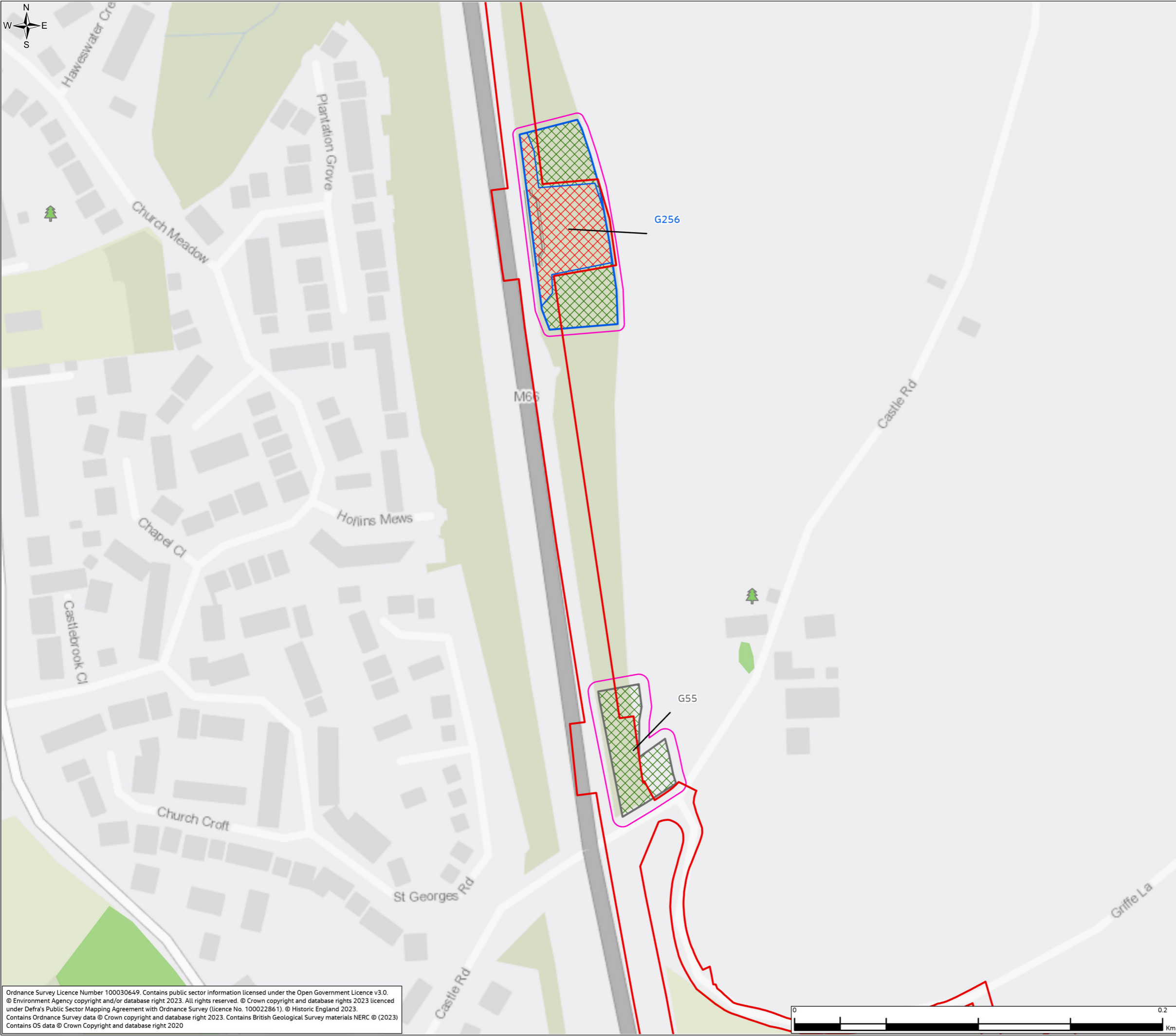
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TREE REMOVAL PLAN  
SHEET 13 OF 15

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# Environmental Statement

## Appendix 7.5 Figure 7.5.2

### Legend

- Order Limits
- Scheme highway design

### Tree/Group Canopy

- B Category
- C Category

### Tree/Group Root Protection Area

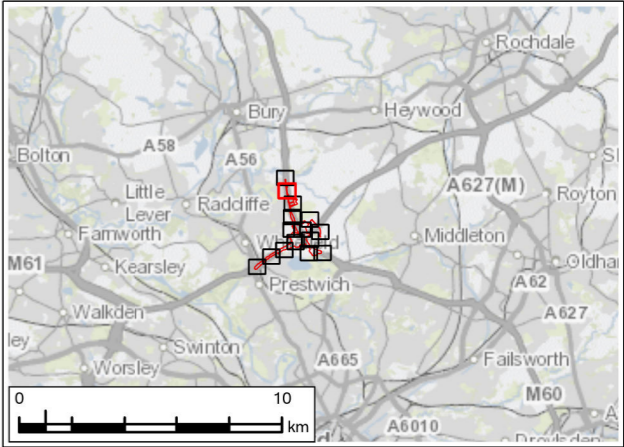
- Root Protection Area

### Tree/ Group Retention/ Removal

- Remove
- Retain

### Tree Preservation Orders (TPO's)

- Group/ Area/ Woodland
- Individual Tree



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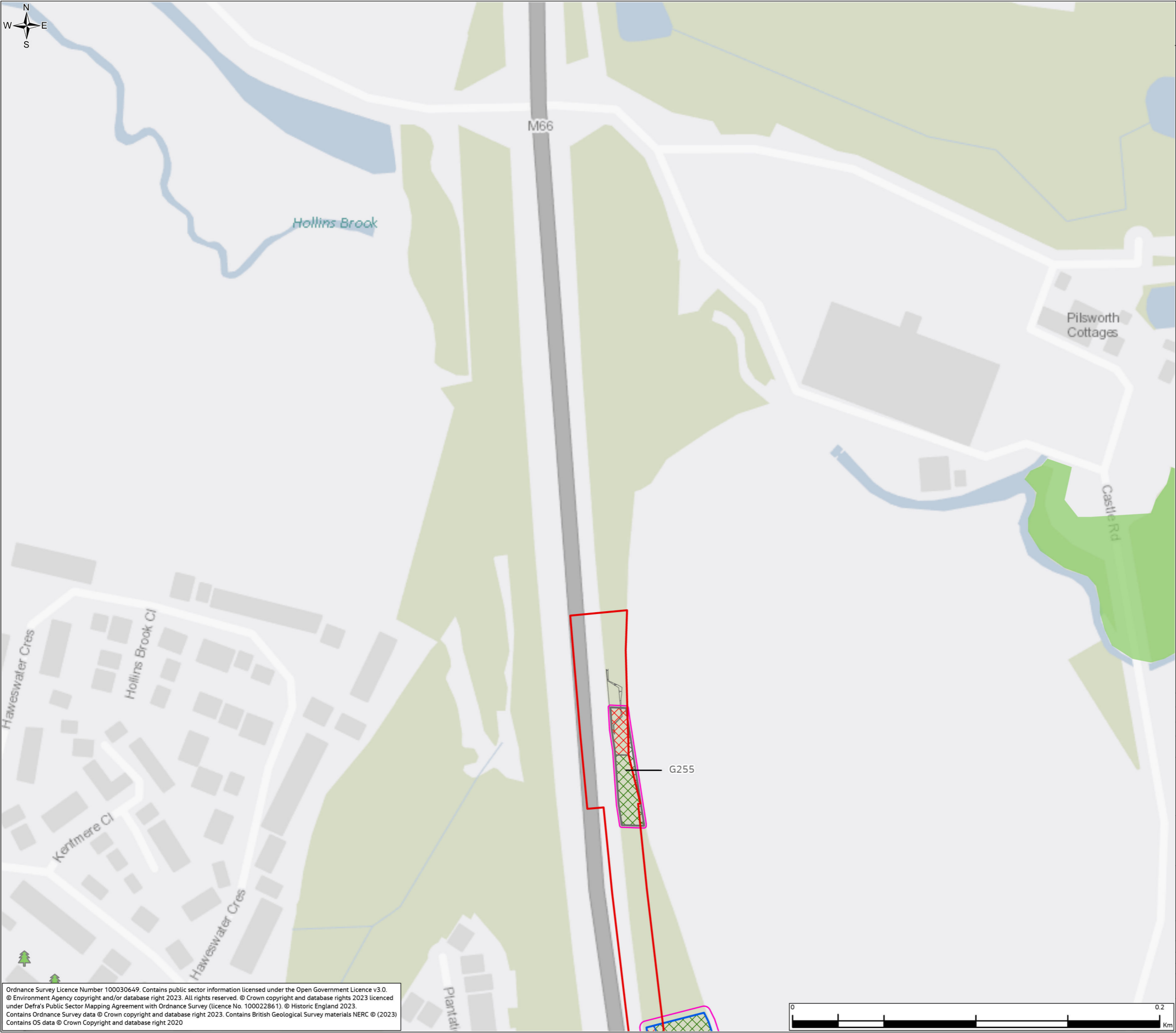
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TREE REMOVAL PLAN  
SHEET 14 OF 15

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## Environmental Statement Appendix 7.5 Figure 7.5.2

### Legend

- Order Limits
- Scheme highway design

### Tree/Group Canopy

- B Category
- C Category

### Tree/Group Root Protection Area

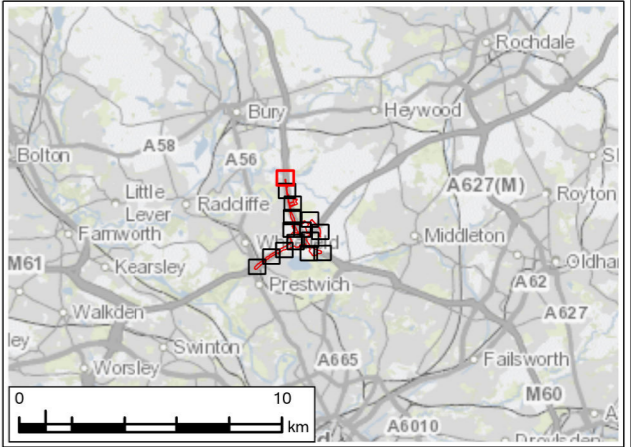
- Root Protection Area

### Tree/ Group Retention/ Removal

- Remove
- Retain

### Tree Preservation Orders (TPO's)

- Group/ Area/ Woodland
- Individual Tree



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