

Preliminary Environmental Information Report

Volume 3: Technical Appendices Appendix 8.6: Arboricultural Impact Assessment



ARBORICULTURAL IMPACT ASSESSMENT

Helios Renewable Energy Project

September 2023

Barton Hyett Associates Arboricultural Consultants

	Summary table						
Site Name:	Helios Renewable Energy Project						
Project Reference:	4772						
Site Address:	Wren Hall Lane, Drax, Selby, North	Yorkshire					
Nearest Postcode:	YO8 8NG						
Central Grid reference:	<u>SE 66960 26933</u>						
Local Planning Authority:	North Yorkshire Council (Selby Area)					
Relevant Planning Policies:	-	ublication Version Consultation 2022, 105) and the Core Strategy Local Plan					
Statutory Controls: (Refer to Section 6)	Tree Preservation Order	Conservation Area					
	None	No					
Soil Type: (Source: BGS online soils	Superficial/Drift	Bedrock					
map © NERC 2022)	Breighton Sand Formation - Sand	Sherwood Sandstone Group - Sandstone					
Topographical Survey:	Drax_UAV-TOPO_Linework_OSGB3	36_ODN_Rev1_2022-05-06					
Proposed Site Layout:	DX-01-P02 Rev06 Parameter Plan						
Notes:	Woodland W4 - Ancient Re-Planted Woodland						
Report author:	Ian Howell BA (Hons), Cert Arb L4 (AB	C), TechArborA					
Checked by:	P Barton MSc, BSc (Hons), RCArborA						
Date of issue:	13th September 2023						

Arboricultural Technician Member



REPORT CONTENTS:

SECTION 1:	SUMMARY, SITE DETAILS & SURVEY FI
SECTION 2:	TREE SURVEY & CONSTRAINTS PLAN
SECTION 3:	PARAMETER PLAN
SECTION 4:	TREE SURVEY SCHEDULE
SECTION 5:	METHODOLOGY
SECTION 6:	DESIGN GUIDANCE AND GENERIC AI
SECTION 7:	PRINCIPLES FOR TREE PROTECTION

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FINDINGS

ADVICE

ON DEVELOPMENT SITES

INTRODUCTION 1.

- Barton Hyett Associates Ltd have been instructed by Enso Green Holdings D Limited (the Applicant) to 1.1. survey trees that could affect, or be affected by, the proposed development of a renewable energy generating project, consisting of ground-mounted solar photovoltaic ('PV') arrays, together with on-site energy storage, associated infrastructure and grid connection (the 'Proposed Development'), on land to the south-west of the village of Camblesforth and to the north of the village of Hirst Courtney in North Yorkshire (the 'Site'). The Site extends to 475.68 hectares.
- 1.2. The Applicant is seeking a Development Consent Order ('DCO') for the Proposed Development.
- 1.3. This report, in compliance with BS 5837:2012 'Trees in relation to design, demolition and construction recommendations'1, the Preliminary Environmental Information Report and Environmental Statement are to be submitted in support of the DCO application.
- 1.4. The scope of the instruction was to visit the Site and to survey relevant trees, hedges and woodlands in accordance with BS 5837:2012 and to prepare the following information:
 - Tree survey summary
 - Schedule of tree survey data
 - Tree survey plan: an updated topographical survey showing preliminary tree constraints
 - Advice on layout in order to limit arboricultural impacts
- 1.5. With reference to the above information and BS5837:2012, Barton Hyett Associates was also instructed to assess the impact of the Proposed Development on the arboricultural resource and to produce the following arboricultural impact assessment ('AIA').
- 1.6. This AIA has been carried out and written by Ian Howell, who has over 20 years of experience in the arboricultural industry. The past five years have been as an arboricultural consultant. Ian Howell has a Level 4 (Dip arb) qualification in arboriculture with supporting qualifications such as Professional Tree Inspection, has been involved with many similar solar development projects over the past five years, and has an extensive portfolio of work within this sector.

2. SITE DESCRIPTION

- 2.1. The Site comprises parcels of irregularly shaped agricultural fields that are located south-west of Camblesforth, which lies southeast of Selby, and to the west of Drax Power Station. The southern parts of the Site lie to the north of the village of Hirst Courtney. Part of the Site also extends to the east of Drax Power Station. There are some residential properties which are close to but located outside of, the central part of the Site.
- 2.2. The surrounding landscape is characterised by large, regular-shaped fields delineated by partially denuded hedgerows or drainage ditches. Occasional woodland blocks and tree belts are also present, but the landscape is primarily flat and open.
- 2.3. The Site is situated within the administrative area of North Yorkshire Council.
- 2.4. Access to the Site was gained via the existing Public Rights of Way ('ProW') that pass through the Site and via existing farm tracks and gateways. The ProW cross the Site and the wider landscape, often following farm tracks or rural lanes. The Trans Pennine Trail long-distance walking and cycling route extends south from Selby and in proximity to the western and southern parts of the Site boundary.

TREE SURVEY FINDINGS 3.

- 3.1. The survey recorded 920 arboricultural features. Some of the originally surveyed features are now located outside of redline boundary. Where this is this case, it has been noted within the on/off-Site column of the tree survey schedules.
- 3.2. The tree survey features are summarised in terms of quality in accordance with the recommendations of BS 5837 in Table 1 below and shown in more detail on the Tree Survey and Constraints Plan (Section 2) and within the Tree Survey Schedule (Section 4).

Table 1: arboricultural features by type and quality category.

	Total	A - High quality trees whose retention is most desirable.	B - Moderate quality trees whose retention is desirable.	C - Low quality trees which could be retained but should not significantly constrain the proposal.	U - Very poor quality trees that should be removed unless they have high conservation value.
Trees	478	63	318	93	4
Groups	214	4	172	37	1
Woodlands	19	16	3	-	-
Hedgerows	209	-	169	40	-
Total	920	83	662	170	5



¹ BSI Standards Publication Trees in relation to design, demolition and construction–Recommendations, Fourth (present) edition, April 2012

KEY ARBORICULTURAL FEATURES 4.

- 4.1. As can be seen from the summary table, the vast majority of the arboricultural resource is of high or moderate quality and therefore desirable for retention.
- 4.2. The Site has many mature English oak, common ash, willow and alder populating the field boundary hedgerows and woodland edges. This is fairly typical for agricultural land of this nature and in this location.
- 4.3. There are 55 high-quality (Category A) trees within the Site boundary, most of which are English oak (Quercus robur) with some common beech (fagus silvatica) and common ash (Fraxinus excelsior). There are also three high-quality tree groups and five high-quality woodlands within the Site boundary that are populated by many mature trees and have a good species diversity. These trees and tree features are considered to be particularly good examples of their species and are all of excellent form and condition. Many of these trees are prominent within the Site and the immediately surrounding landscape.
- 4.4. A search was carried out on the North Yorkshire Council website² for Tree Preservation Orders and none were found to be present within the bounds of the Site.
- No individual veteran or ancient trees were recorded during the surveying of the Site . 4.5.
- 4.6. Kerrick Spring Wood (W4) is designated as Ancient Re-planted Woodland ('ARW') within DEFRA's online mapping resource; Multi-Agency Geographic Information for the Countryside ('MAGIC'). The woodland has many mature broadleaf trees present at the woodland edge which surround a pine plantation.
- 4.7. Given the presence of the ARW it will be necessary to consider paragraph 180 of the National Planning Policy Framework 2021 ('NPPF') and the associated Standing Advice produced by the Forestry Commission and Natural England³.
- 4.8. The NPPF states in paragraph 180 that:

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

- 4.9. Potential detrimental impacts from development upon veteran and ancient trees and ancient woodland might include, but are not limited to, damage to roots and understorey fauna, damage to or compaction of soil around the tree roots, and changes to the water table or drainage within the trees rooting environment.
- 4.10. The Forestry Commission and Natural England standing advice within the Planning Policy Guidance (PPG) 'Ancient woodland, ancient trees and veteran trees: protecting them from development'⁴ is a material planning consideration. In reaching a planning decision, the potential impacts should be assessed, and the process of avoiding, mitigating or compensating for identified impacts adopted.
- 4.11. Paragraph 5.3.14 of the Overarching National Policy Statement for Energy (EN-1) (July 2011)⁵ should also be considered. It states that:

'Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Once lost it cannot be recreated. The IPC should not grant development consent for any development that would result in its loss or deterioration unless the benefits (including need) of the development, in that location outweigh the loss of the woodland habitat. Aged or 'veteran' trees found outside ancient woodland are also particularly valuable for biodiversity and their loss should be avoided. Where such trees would be affected by development proposals the applicant should set out proposals for their conservation or, where their loss is unavoidable, the reasons why.'

(March 2023)⁶ should also be considered. It states that:

'Irreplaceable habitats are habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity.'

'Ancient woodland is a valuable biodiversity resource both for its diversity of species and for its longevity as woodland. Ancient or veteran trees found outside ancient woodland are also particularly valuable. Other types of irreplaceable habitats include blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen.'



4.12. Paragraphs 5.4.14 and 5.4.15 of the Revised (Draft) Overarching National Policy Statement for Energy (EN-1)

² https://selby-dc.maps.arcgis.com/

³ Department for Levelling Up, Housing and Communities, National Planning Policy Framework 2021, Paragraph 180

⁴ Ancient woodland, ancient trees and veteran trees: advice for making planning decisions, Natural England & Forestry Commission, Jan 2022 / (https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees-protection-surveys-licences)

⁵ Department of Energy and Climate Change, Overarching National Policy Statement for Energy (EN-1), July 2011

⁶ Department For Energy Security & Net Zero, Overarching National Policy Statement for Energy (EN-1), March 2023

- 4.13. A key method of mitigation is the use of a 'buffer zone'. In accordance with the standing advice, a 15m buffer has been applied to Kerrick Spring Wood (W4) and shown as an orange dashed circle around the woodland on the tree survey and constraints plan, as well as being specified within the tree survey schedule.
- 4.14. Good Practice Point 6 from the Planning Inspectorate's Advice Note Fifteen: Drafting Development Consent Orders⁷ may also become a relevant consideration as it states that:

'Hedgerows affected by the Proposed Development should be identified in a Schedule to and on a plan accompanying the draft DCO. The Schedule and plan could also helpfully identify those hedgerows that are 'important' hedgerows (see Regulation 4 and Schedule 1 of The Hedgerows Regulations 1997 and section 97 of the Environment Act 1995). This would enable parties such as the relevant planning authority to make submissions on the appropriateness of including such provisions, and the ExA to consider these.'

PROPOSED DEVELOPMENT 5.

- 5.1. In summary, the Proposed Development will include the following key infrastructure:
 - Solar PV modules:
 - Mounting structures;
 - Field stations;
 - On-Site substation and energy storage compound;
 - Distribution cables;
 - Grid connection cables;
 - Fencing, security and ancillary infrastructure;
 - Access;
 - Landscape and ecological enhancements; and
 - Archaeological mitigation.

IMPACT ASSESSMENT 6.

6.1. The impact assessment considers the effects of any tree loss required to implement the Proposed Development as well as any reasonably foreseeable potentially damaging activities proposed in the vicinity of retained trees. This is undertaken with reference to BS 5837:2012 and considering the nature of the Proposed Development. Actual and potential impacts can include tree removal to facilitate the development, soil compaction in close proximity to trees, and direct impact damage to the canopy and roots of retained trees from construction activities. A summary of anticipated impacts resulting from the Proposed Development is provided below.

Trees to be removed

- 6.2. The Proposed Development will not require the complete removal of any individual trees, tree groups, woodlands or hedgerows. However, small breaks for new access tracks, security fencing and cable routing may be required.
- 6.3. It should be noted that where practical the routing of cables and the construction and maintenance tracks will be designed to utilise existing farm tracks, gateways and natural gaps in hedgerows in order to limit the requirement for hedgerow removal.
- 6.4. Should any section of hedgerow require removal for the installation of cables, the section will be replanted in the first planting season (November to March) following the completion of installation.

Summary

6.5. The Proposed Development will have a low direct impact on trees and if carefully implemented there would be only a very low potential for negative impacts upon the retained trees.

Impacts on retained trees

- 6.6. The Proposed Development is not anticipated to result in any further significant arboricultural impact on retained trees, tree groups or hedgerows.
- 6.7. The construction and operation tracks, positioning of solar arrays and associated equipment such as inverters/transformers, substation, energy storage systems, transformers, fencing, CCTV and temporary construction compounds can be located within the Solar Farm Zones within the Parameter Plan. The design of the Parameter Plan has responded accordingly to the arboricultural constraints that have been identified and keep the development sufficiently distant from the Sites's arboricultural resource and the associated Root Protection Areas ('RPAs').
- 6.8. For the installation of utilities and for cables linking the Solar Farm Zones, and also for the grid connection, it will be necessary to follow guidance set out in NJUG Volume 4 within Section 4 - How To Avoid Damage To Trees⁸ which details acceptable working methods relating to 'excavations or other works occurring within the Prohibited Zone or Precautionary Zone'.
- 6.9. The preferred approach is to avoid RPAs through the realignment of the proposed trench and cable. NJUG Volume 4 states: 'Whenever possible apparatus should always be diverted or re-aligned outside the Prohibited or Precautionary Zones. Under no circumstances can machinery be used to excavate open trenches within the Prohibited Zone'.

⁸ National Joint Utilities Group, NJUG Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees, Nov 2017



⁷ National Infrastructure Planning, Advice Note Fifteen: Drafting Development Consent Orders, Republished July 2018 (version 2)

- 6.10. NJUG Volume 4 also states that where necessary 'trenchless techniques should be used. The launch and receiver pits should be located outside the Prohibited or Precautionary Zones'; in this instance the RPAs. 'In order to avoid damage to roots by percussive boring techniques, it is recommended that the depth of run should be below 300mm. Techniques involving external lubrication of the equipment with materials other than water (e.g. oil, bentonite, etc.) must not be used when working within the Prohibited Zone. Lubricating materials other than water may be used within the Precautionary Zone following consultation and by agreement'.
- 6.11. In this instance, two methodologies for cable laying are to be used to make the necessary connections. These methods are firstly open trenching, which can be used within the highway, outside of RPAs, and under arboricultural supervision when encroaching upon RPAs. The second is the use of a trenchless installation, Horizontal Directional Drilling ('HDD') which is to be utilised to install cables under the railway to the south of Drax Power Station and the A645.

Summary

6.12. The Proposed Development would result in negligible impacts on arboriculture. Following the implementation of mitigation measures set out in an approved arboricultural method statement there would be only a low potential for indirect negative impacts on the retained trees, groups of trees and woodland.

7. TREE PROTECTION MEASURES

- 7.1. The proposed perimeter security fence (standard deer fence on timber posts) which is to be erected around the periphery of the main Solar Farm Zone will act as an effective tree protection barrier and should be erected before any installation works commence. This will mitigate the need to install temporary BS 5837:2012 fencing along the outer perimeters of the solar arrays. However, the perimeter fencing will only protect trees located around the periphery of the Solar Farm Zones. The trees, tree groups and hedgerows contained within the interior of the Site that could be impacted during the construction phase of the Proposed Development, will in some instances require protection barriers.
- 7.2. In order for the perimeter security fence to successfully operate as a tree protection barrier and protect the RPAs by creating Construction Exclusion Zone ('CEZ'), it will be necessary to avoid the tracking of plant, machinery and driving of site vehicles in-between the security fence and trees/hedgerows. The area beyond the perimeter security fence should be considered a CEZ.
- 7.3. Where more significant, high-value trees (of moderate or high guality) are located within the interior, robust temporary tree protection barriers will be required (as per the specification in BS 5837:2012 Figure 3.)
- 7.4. The location of the temporary tree protection fencing and the specification proposed will be shown on a combined Tree Retention/Removal and Protection Plan. This plan will be based on the final, approved layout that is to be implemented.

8. HEADS OF TERMS FOR AN ARBORICULTURAL METHOD STATEMENT (AMS)

- 8.1. BS 5837:2012 (Figure 1) recommends that detailed/technical design of tree protection and arboricultural methodologies should be resolved and finalised following on from the approval of the Proposed Development.
- 8.2. Annex B and Table B.1 of BS 5837:2012, an informative, advises that Arboricultural Method Statement heads of terms are a sufficient level of information in order to deliver tree-related information into the planning system. The table also advises that a detailed Arboricultural Method Statement might reasonably be required by DCO requirement.
- 8.3. A brief summary of the principles of tree protection on development sites is included in Section 7. A draft, 'heads of terms' for an Arboricultural Method Statement is set out below:
 - Project arboriculturist schedule of monitoring and supervision
 - Pre-commencement site meeting
 - Sectional hedgerow and tree group removal
 - Erection of perimeter security fence (phased if required)
 - Erection of temporary tree protection barriers (site interior)
 - Installation of construction and access/maintenance tracks
 - Main construction phase
 - Grid connection cable installation
 - Removal of temporary tree protection barriers
 - Final landscaping including tree and hedgerow planting.

CONCLUSIONS AND RECOMMENDATIONS 9.

- 9.1. The proposed Parameter Plan has been designed around the arboricultural constraints identified. Therefore, the proposals will not require the complete removal of any trees, groups or hedgerows.
- 9.2. The Proposed Development respects the ARW Buffer, RPAs and the retained trees and they can be adequately protected during the construction process in order to sustain their health and longevity. However, it will still be necessary to implement the works in an appropriate manner in order to prevent unacceptable damage to retained trees.
- 9.3. Installation of the Proposed Development's underground cable connection to the point of connection to the grid will be carried out as set out in this report and follow the relevant NJUG guidance.
- 9.4. An Arboricultural Method Statement and finalised Tree Protection Plan will be produced following development consent and secured as a DCO requirement.



9.5. The identified ARW can be retained and safeguarded throughout the construction process so that no loss or deterioration in the irreplaceable habit will occur. As such, the Proposed Development is compliant with paragraph 180 of the NPPF statement that:

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

9.6. On the basis that the construction process is carried out appropriately, the Proposed Development can be implemented without significant impact on the identified arboricultural resource. In conclusion, the Proposed Development is therefore acceptable from an arboricultural perspective, subject to the implementation of the advice and recommendations set out in this report.

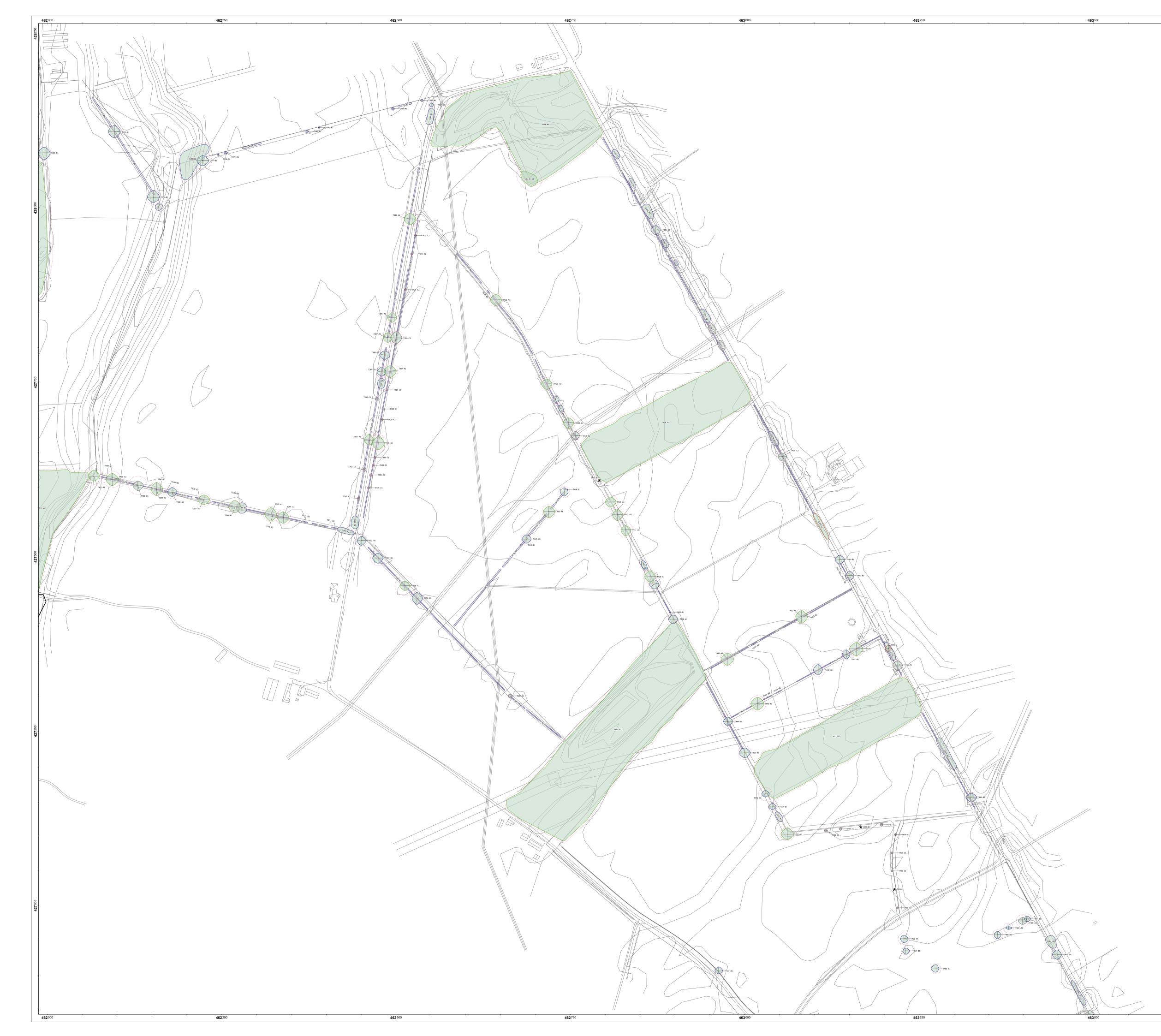
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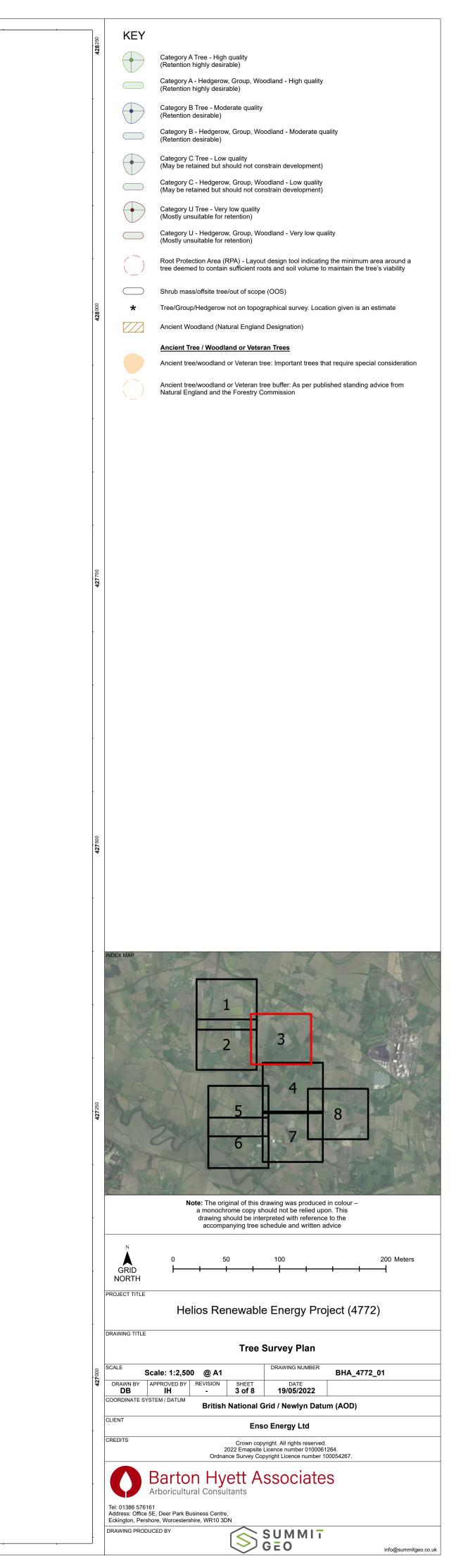
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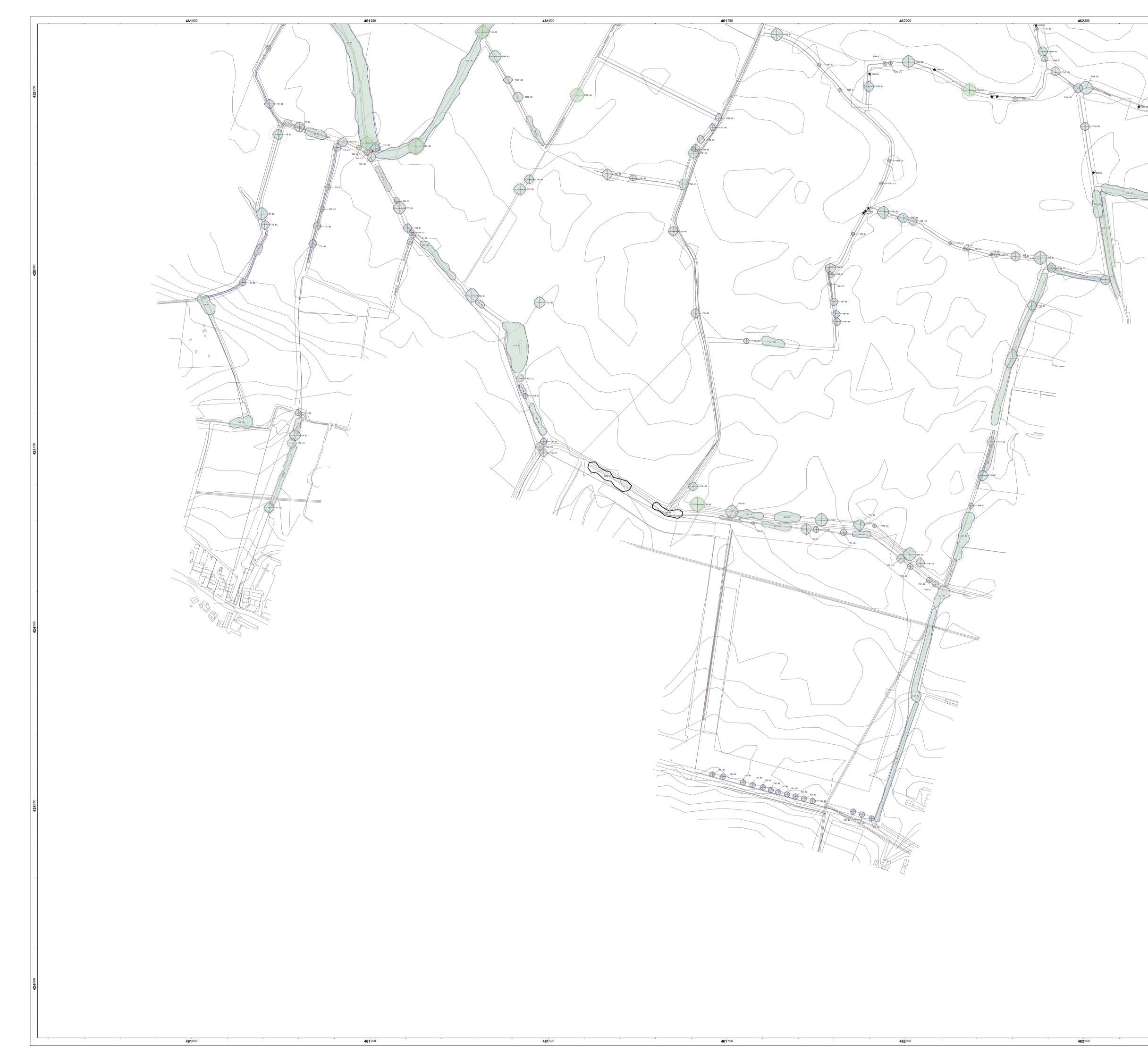


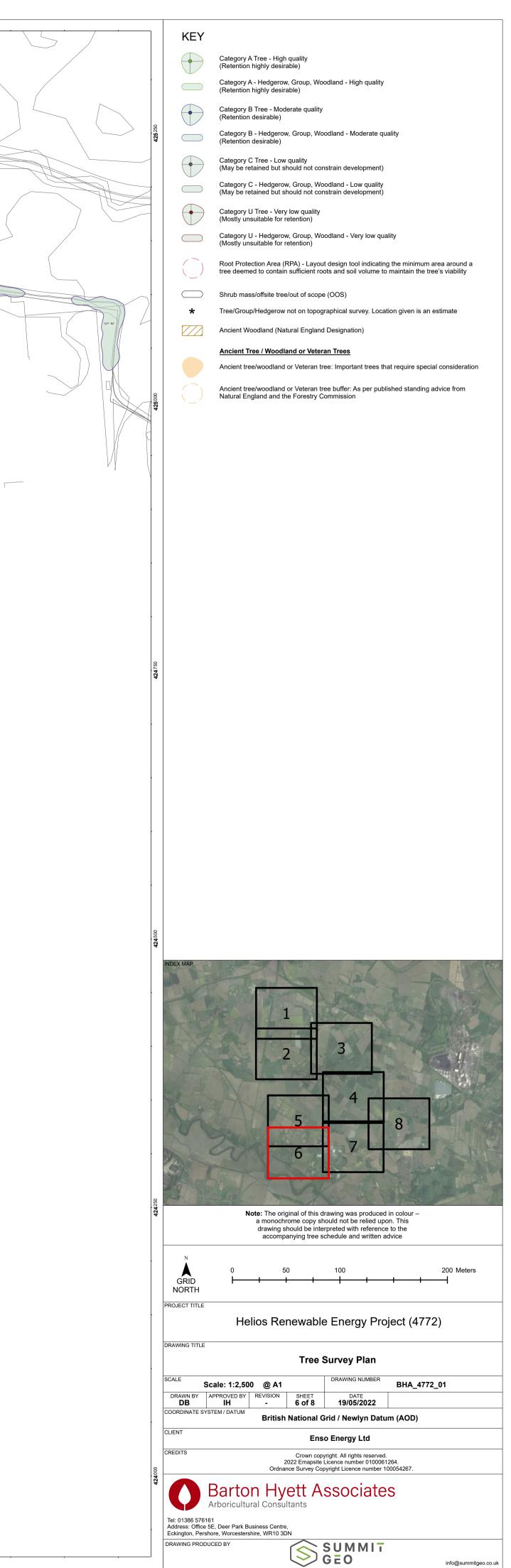


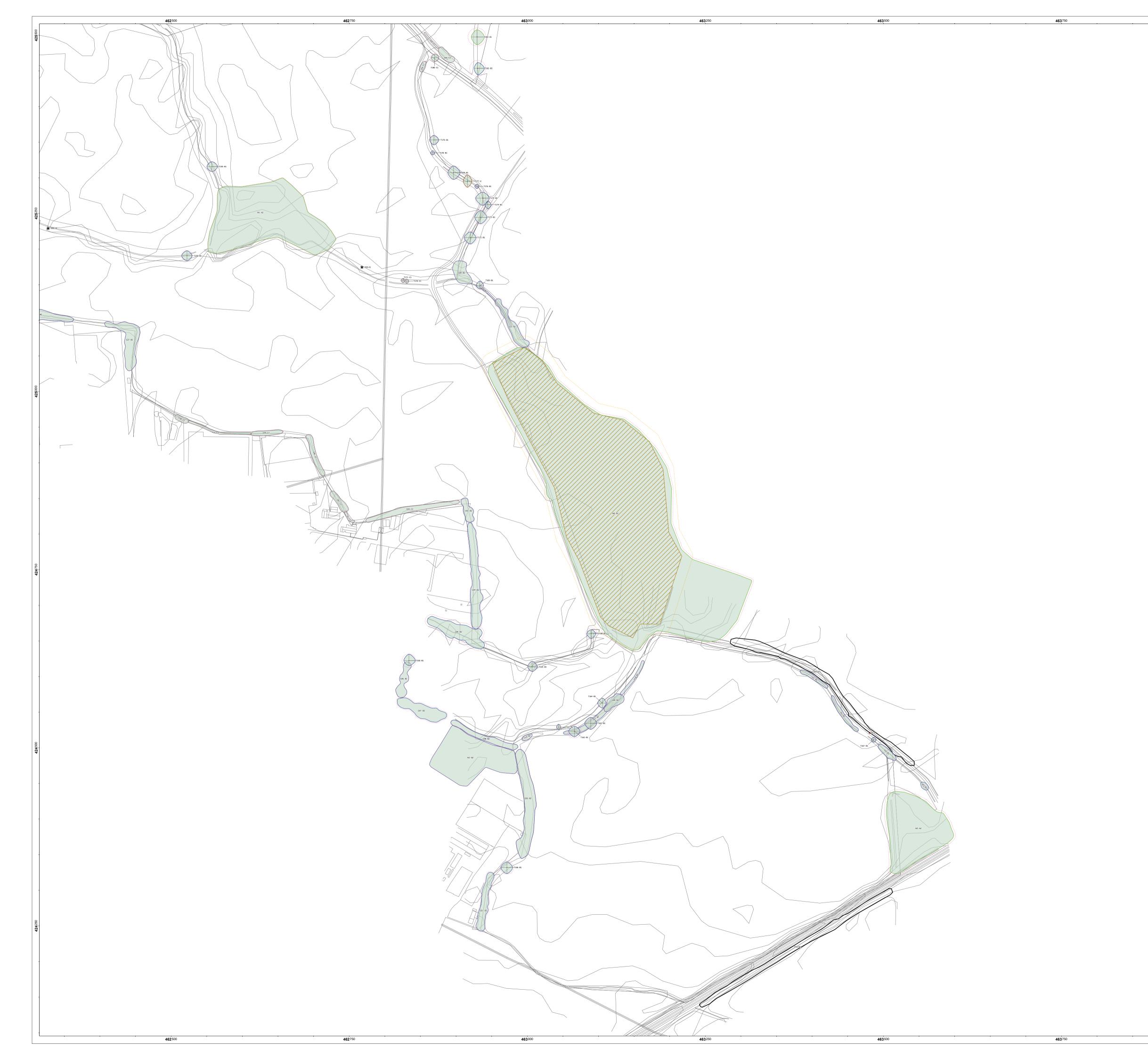


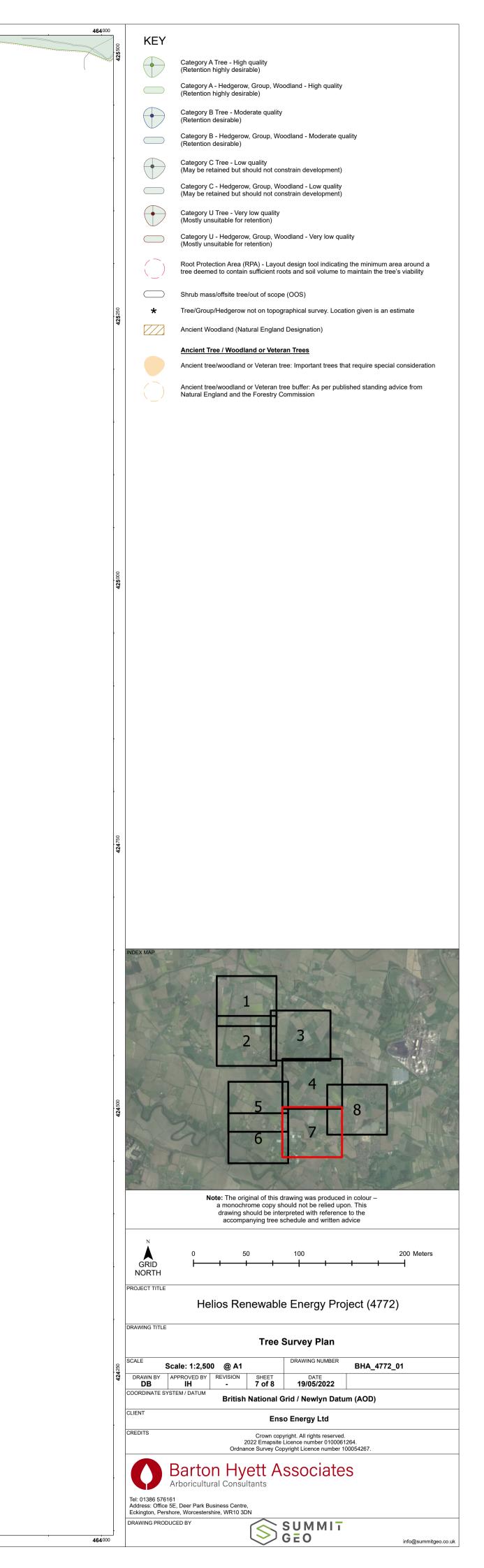














NNN	Tree Ref	Service .	Unight (m)	LifeStage	DDA Dadius (m)	DDA (2)	1	Tree Ref	Proving 1		LifeStage		DDA (2)	Tree Ref	Constant Inc.
11	T1	Oak (English)	15	EM	7.8	191		T159			EM	7	152	T317	
Norm										-	•	-			
SimpleSim					-										
N N		Oak (English)	10	м	12.6		H			16		-			
	T10	Oak (English)	14	EM	5.5	96		T168		13	м	7.8	191	Т326	-
	T12	Ash (Common)	16	SM	3.6	41	H	T170	Alder (Common)	7	Y	2.4	18	T328	Oak (English)
	T14	Oak (English)	16	EM	6.5	132		T172	Oak (English)	17	M	9.4	275	Т330	Ash (Common)
	T16	Willow (Crack)	17	EM	8	203		T174	Ash (Common)	10	м	7.2	163	T332	Oak (English)
	T18	Ash (Common)	14	EM	6.4	127		T176	Oak (English)	6	Y	2.3	16	T334	Oak (English)
2333 <td>T20</td> <td>Ash (Common)</td> <td>10</td> <td>SM</td> <td>3.3</td> <td>35</td> <td>H</td> <td>T178</td> <td>Oak (English)</td> <td>5</td> <td>Y</td> <td>2.4</td> <td>18</td> <td>Т336</td> <td>Oak (English)</td>	T20	Ash (Common)	10	SM	3.3	35	H	T178	Oak (English)	5	Y	2.4	18	Т336	Oak (English)
NNN <th< td=""><td>T22</td><td>Oak (English)</td><td>12</td><td>EM</td><td>4.7</td><td>69</td><td></td><td>T180</td><td>Ash (Common)</td><td>16</td><td>EM</td><td>6</td><td>113</td><td>Т338</td><td>Oak (English)</td></th<>	T22	Oak (English)	12	EM	4.7	69		T180	Ash (Common)	16	EM	6	113	Т338	Oak (English)
	T24	Oak (English)	9	Y		46		T182	Oak (English)	16	м	11.3	400	T340	Oak (English)
DDestructureDD <thd< th="">DDDD<</thd<>	T26	Willow (Goat)	6 15			-			Oak (English)	-					Sycamore
S)	T28	Oak (English)	16 7		7 1.7				Oak (English)	-	·			T344	Ash (Common)
NNN <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>															
NNormNNN<															
NN	Т35	Ash (Common)	17	м	8.4	222		T193		17	EM	6.1	-	T351	
	Т37	Oak (English)	13	SM	5.8	104	H	T195	Oak (English)	13	EM	7.2	163	T353	Oak (English)
	Т39	Ash (Common)	20	м	10.7	358		T197	Alder (Common)	18	м	9.6	290	T355	Oak (English)
NNN <th< td=""><td>T41</td><td>Ash (Common)</td><td>18</td><td>м</td><td>8.4</td><td>222</td><td></td><td>T199</td><td>Oak (English)</td><td>15</td><td>м</td><td>8.4</td><td>222</td><td>T357</td><td>Oak (English)</td></th<>	T41	Ash (Common)	18	м	8.4	222		T199	Oak (English)	15	м	8.4	222	T357	Oak (English)
	T43	Ash (Common)	8	M	9.6	290		T201	Oak (English)	14	EM	7.2	163	T359	Willow (Crack)
NN	T45	Oak (English)	17	M	11.8	434		T203	Alder (Common)	6	Y	3.1	31	T361	Hazel (Common)
NN <td>T47</td> <td>Oak (English)</td> <td>7</td> <td>SM</td> <td>4.2</td> <td>55</td> <td></td> <td>T205</td> <td>Ash (Common)</td> <td>19</td> <td>EM</td> <td>5.9</td> <td>109</td> <td>Т363</td> <td>Rowan</td>	T47	Oak (English)	7	SM	4.2	55		T205	Ash (Common)	19	EM	5.9	109	Т363	Rowan
NNN <t< td=""><td>T49</td><td>Alder (Common)</td><td>7</td><td>SM</td><td></td><td>55</td><td></td><td>T207</td><td>Oak (English)</td><td>16</td><td>EM</td><td>8.6</td><td>235</td><td>T365</td><td>Oak (English)</td></t<>	T49	Alder (Common)	7	SM		55		T207	Oak (English)	16	EM	8.6	235	T365	Oak (English)
NN <td>T51 T52</td> <td>Oak (English) Oak (English)</td> <td>10 9</td> <td>EM SM</td> <td>6.6</td> <td>137 72</td> <td></td> <td>T209</td> <td>Ash (Common)</td> <td>15 10</td> <td>SM</td> <td>4.3</td> <td>59</td> <td>T367</td> <td>Pine (Scots)</td>	T51 T52	Oak (English) Oak (English)	10 9	EM SM	6.6	137 72		T209	Ash (Common)	15 10	SM	4.3	59	T367	Pine (Scots)
1000<	T53 T54	Ash (Common) Holly	5	M M	9			T211	Ash (Common)	10 18	EM	5.8 7.7	104	T369	Beech (Common)
	T56	Sycamore	12	SM	2.4	18		T214	Oak (English)	17	м	10.8	366	T372	Oak (English)
	T58	Sycamore	12	SM	2.4	18		T216	Oak (English)	13	EM	7	152	T374	Oak (English)
DDD <thd< th="">DDDD<t< td=""><td>Т60</td><td>Sycamore</td><td>12</td><td>SM</td><td>2.4</td><td>18</td><td>H</td><td>T218</td><td>Ash (Common)</td><td>20</td><td>м</td><td>15</td><td>707</td><td>T376</td><td>Oak (English)</td></t<></thd<>	Т60	Sycamore	12	SM	2.4	18	H	T218	Ash (Common)	20	м	15	707	T376	Oak (English)
ND 	Т62	Sycamore	12	SM	2.4	18		T220	Alder (Common)	10	м	7	152	T378	Hawthorn
NImateImateNNN	T64	Ash (Common)	12	SM	2.4	18		T222	Ash (Common)	16	м	8.4	222	T380	Holly
Nnnn<	Т66	Ash (Common)	12	SM	2.4	18		T224	Willow (Crack)	14	LM	15	707	T382	Hawthorn
NNN<	Т68	Ash (Common)		SM	2.4	18		T226	Ash (Common)	16	EM	6.1	118	T384	Holly
NNomeNomeNN <th< td=""><td>T70</td><td>Oak (English)</td><td></td><td>м</td><td>11.4</td><td>408</td><td></td><td>T228</td><td>Ash (Common)</td><td>12</td><td>SM</td><td>3.5</td><td>38</td><td>T386</td><td>Oak (English)</td></th<>	T70	Oak (English)		м	11.4	408		T228	Ash (Common)	12	SM	3.5	38	T386	Oak (English)
NN	T72	Oak (English)	13		8.2	209		T230	Ash (Common)	14	SM	4.1	52	T388	Oak (English)
MA. JondyJ. J. J	T74	Ash (Common)			7 3.6			T232	Ash (Common)	22	м	8.9	248	Т390	Oak (English)
			5		•										
ShoreS			5												
Sector <td>T81</td> <td>Ash (Common)</td> <td>20</td> <td>м</td> <td>11.8</td> <td>434</td> <td></td> <td>T239</td> <td>Oak (English)</td> <td>18</td> <td>м</td> <td>8.4</td> <td>222</td> <td>T396 T397</td> <td>Oak (English) Oak (English)</td>	T81	Ash (Common)	20	м	11.8	434		T239	Oak (English)	18	м	8.4	222	T396 T397	Oak (English) Oak (English)
SectorSec	т83	Alder (Common)	7	SM	3	28		T241	Willow (Crack)	10	EM	6.6	137	Т399	Oak (English)
Sample </td <td>Т85</td> <td>Oak (English)</td> <td></td> <td>SM</td> <td>3.3</td> <td>35</td> <td></td> <td>T243</td> <td>Ash (Common)</td> <td>13</td> <td>SM</td> <td>4.5</td> <td>65</td> <td>T401</td> <td>Sycamore</td>	Т85	Oak (English)		SM	3.3	35		T243	Ash (Common)	13	SM	4.5	65	T401	Sycamore
120 <th< td=""><td>T87</td><td>Oak (English)</td><td></td><td>ЕМ</td><td>4.8</td><td>72</td><td>H</td><td>T245</td><td>Alder (Common)</td><td>9</td><td>SM</td><td>4.2</td><td>55</td><td>T403</td><td>Oak (English)</td></th<>	T87	Oak (English)		ЕМ	4.8	72	H	T245	Alder (Common)	9	SM	4.2	55	T403	Oak (English)
120050	Т89	Oak (English)	8	EM	4.8	72		T247	Willow (Crack)	15	SM	4.8	72	T405	Oak (English)
	T91	Oak (English)	12	EM	6	113		T249	Oak (English)	19	м	9.1	261	T407	Sycamore
IndMathematNo <td>Т93</td> <td>Ash (Common)</td> <td></td> <td>м</td> <td></td> <td>222</td> <td></td> <td>T251</td> <td>Ash (Common)</td> <td>10</td> <td>EM</td> <td>7</td> <td>152</td> <td>T409</td> <td>Hawthorn</td>	Т93	Ash (Common)		м		222		T251	Ash (Common)	10	EM	7	152	T409	Hawthorn
NetNomeNomeNomeNomeNomeNomeNo </td <td>T95</td> <td>Ash (Common)</td> <td></td> <td>м</td> <td></td> <td>297</td> <td>H</td> <td>T253</td> <td>Alder (Common)</td> <td>18</td> <td>EM</td> <td>6.6</td> <td>137</td> <td>T411</td> <td>Oak (English)</td>	T95	Ash (Common)		м		297	H	T253	Alder (Common)	18	EM	6.6	137	T411	Oak (English)
1000100	Т97	Oak (English)	18	м	10.2	327	Ħ	T255	Oak (English)	18	м	13.6	578	T413	Oak (English)
NameNam	Т99	Oak (English)	13	EM	6.6	137		T257	Oak (English)	18	м	8.4	222	T415	Oak (English)
NomeNoNome<	T101	Oak (English)	8	EM	3.8	46		T259	Alder (Common)	9	м	7.2	163	T417	Oak (English)
NimSolutionSolut	T103 T104	Ash (Common) Oak (English)	19 16	M EM	8.4 8.4	222 222		T261 T262	Ash (Common)	18 9		7.8 7.2	191	T419	Oak (English)
Numb <t< td=""><td>T106</td><td>Oak (English)</td><td></td><td>EM</td><td>7.2</td><td>163</td><td></td><td>T264</td><td>Ash (Common)</td><td>18</td><td>м</td><td>7</td><td>152</td><td>T422</td><td>Oak (English) Oak (English)</td></t<>	T106	Oak (English)		EM	7.2	163		T264	Ash (Common)	18	м	7	152	T422	Oak (English) Oak (English)
Nime Normal Norm	T107 T108	Oak (English) Oak (English)		EM	9	254		T266	Oak (English)	18	EM	8	203	T423 T424	Oak (English) Oak (English)
1111 1111	T110	Oak (English)	18	M	10.8	366		T268	Alder (Common)	12	м	7.2	163	T426	Ash (Common)
MinimMatrix	T112	Oak (English)	17	M	9	254		T270	Oak (English)	21	M	11.5	417	T428	Oak (English)
TMMMembra<	T114	Oak (English)	10	SM	4.2	55		T272	Ash (Common)	15	SM	2.6	22	T430	Oak (English)
111 111 </td <td>T116</td> <td>Oak (English)</td> <td>13</td> <td>EM</td> <td>7</td> <td>152</td> <td></td> <td>T274</td> <td>Sycamore</td> <td>17</td> <td>SM</td> <td>4.8</td> <td>72</td> <td>T432</td> <td>Oak (English)</td>	T116	Oak (English)	13	EM	7	152		T274	Sycamore	17	SM	4.8	72	T432	Oak (English)
1111 1111	T118	Oak (English)	10	EM	7.2	163	H-1	T276	Oak (English)	4	Y	2	12	T434	Oak (English)
Thirm Symbol Symbol <td>T120</td> <td>Oak (English)</td> <td>18</td> <td>M</td> <td>8</td> <td>203</td> <td></td> <td>T278</td> <td>Oak (English)</td> <td>21</td> <td>M</td> <td>15</td> <td>707</td> <td>T436</td> <td>Oak (English)</td>	T120	Oak (English)	18	M	8	203		T278	Oak (English)	21	M	15	707	T436	Oak (English)
Third Symbol Symbol <td>T122</td> <td>Oak (English)</td> <td>19</td> <td>м</td> <td>10.8</td> <td>366</td> <td></td> <td>T280</td> <td>Oak (English)</td> <td>15</td> <td>м</td> <td>10.6</td> <td>350</td> <td>T438</td> <td>Ash (Common)</td>	T122	Oak (English)	19	м	10.8	366		T280	Oak (English)	15	м	10.6	350	T438	Ash (Common)
TMMMarkMarkMarkMax <t< td=""><td>T124</td><td>Oak (English)</td><td>17</td><td>м</td><td>8</td><td>203</td><td></td><td>T282</td><td>Alder (Common)</td><td>5</td><td>Y</td><td>2</td><td>12</td><td>T440</td><td>Ash (Common)</td></t<>	T124	Oak (English)	17	м	8	203		T282	Alder (Common)	5	Y	2	12	T440	Ash (Common)
TailMathef and matrix and mat	T126	Oak (English)	6	SM	6	113		T284	Alder (Common)	5	·	2	12	T442	Oak (English)
ThirdMath	T128	Oak (English)	•	EM	7.8	191	Ħ	T286	Oak (English)	17	M	10.8	366	T444	Oak (English)
Y12 Ab Commond 6 M 6 M 6 M 6 M 6 M 6 M	T130	Oak (English)		м	11.4	408		T288	Oak (English)	17	M	9	254	T446	Oak (English)
Y140Ørefinition	T132	Ash (Common)	6	м	6	113		T290	Oak (English)	4	·	2.2	15	T448	Oak (English)
1312141	T134 T135	Oak (English) Oak (English)	18	M M	8.4 10.8	222 366		T292 T293	Oak (English)	7	м	8.4 2	222 12	T450	Ash (Common)
YandMinoreMath	T137	Oak (English)	8	EM	9.4	275		T295	Alder (Common)	6	Y Y	2	13	T452 T453	Sycamore Alder (Common)
1141Milon (Ander)18 </td <td>T139</td> <td>Willow (Crack)</td> <td>18</td> <td>EM</td> <td></td> <td>152</td> <td></td> <td>T297</td> <td>Oak (English)</td> <td>5</td> <td>·</td> <td>2</td> <td>13</td> <td>T455</td> <td>Oak (English)</td>	T139	Willow (Crack)	18	EM		152		T297	Oak (English)	5	·	2	13	T455	Oak (English)
Ti44Ox (Englah)12End6.204040414MM6.422Tá7404040414 <td>T141</td> <td>Willow (Crack)</td> <td>18</td> <td>EM</td> <td></td> <td>168</td> <td></td> <td>T299</td> <td>Oak (English)</td> <td>5</td> <td>Y</td> <td>2.4</td> <td>18</td> <td>T457</td> <td>Oak (English)</td>	T141	Willow (Crack)	18	EM		168		T299	Oak (English)	5	Y	2.4	18	T457	Oak (English)
Ti44Milor (Anc)frM. <td>T143</td> <td>Oak (English)</td> <td>12</td> <td>EM</td> <td>8.2</td> <td>209</td> <td>H</td> <td>T301</td> <td>Oak (English)</td> <td>14</td> <td>м</td> <td>8.4</td> <td>222</td> <td>T459</td> <td>Oak (English)</td>	T143	Oak (English)	12	EM	8.2	209	H	T301	Oak (English)	14	м	8.4	222	T459	Oak (English)
T474Aidomond9M7.21313131314 <th< td=""><td>T145</td><td>Willow (Crack)</td><td>17</td><td>м</td><td>10.8</td><td>366</td><td></td><td>T303</td><td>Oak (English)</td><td>5</td><td>Y</td><td>1.8</td><td>10</td><td>T461</td><td>Oak (English)</td></th<>	T145	Willow (Crack)	17	м	10.8	366		T303	Oak (English)	5	Y	1.8	10	T461	Oak (English)
Tand Tand A formanNN <td>T147</td> <td>Ash (Common)</td> <td>19</td> <td>м</td> <td>7.2</td> <td>163</td> <td>H</td> <td>T305</td> <td>Oak (English)</td> <td>18</td> <td>M</td> <td>12.6</td> <td>499</td> <td>T463</td> <td>Oak (English)</td>	T147	Ash (Common)	19	м	7.2	163	H	T305	Oak (English)	18	M	12.6	499	T463	Oak (English)
ThisAs CommonS. S.M.7.2163TopOal (English)G.Y.2.62.4TopAdd (English)T152Aler Common6.Y.2.215.10.4 (English)0.45.4	T149	Oak (English)	19	м	9.4	275		T307	Oak (English)	6	Y	2.6	22	T465	Oak (English)
This Aler Common 6 Y 2.2 15 T15 Aler Common 6 Y 2.2 15 5 5 5 5 5 4 5 4 5 <	T151	Ash (Common)	8.5	м	7.2	163		T309	Oak (English)	6	Y	2.6	22	T467	Oak (English)
T155 Oak (English) 19 EM 8.2 0.9 T31 Ash (Common) 15 M 14 383 T156 Oak (English) 18 M 1.6 350 T314 Oak (English) 15 M 12 452 T47 Oak (English) T157 Oak (English) 13 M M M M 9.6 9.0 T47 Oak (English)	T153	Alder (Common)	6	Y	2.2	15		T311	Oak (English)	8	SM	5.4	92	T469	Oak (English)
T157 Oak (English) 13 EM 7.2 163 T315 Oak (English) 14 M 9.6 290 T473 Oak (English)	T155	Oak (English)	19	EM	8.2	209		T313	Ash (Common)	15	м	11	383	T471	Lime (Common)
	T157	Oak (English)	13	EM	7.2	163		T315	Oak (English)	14	м	9.6	290		
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 Height (m) 10	LifeStage EM	RPA Radiu	s (m) RPA (m2) 290
 7 12	EM EM	6 7.2	113 163
 13 14 12	EM EM	9.6	290 290 290
12 15 14	EM EM EM	9.6 8.4 5.9	290 222 109
7 12	SM EM	3.3 8.4	35 222
12 14 12	EM EM EM	6.6 8.4	137 222
 12 15	EM EM	7.8	191 222
 16 15	M EM	9.6	290 222
 15 14	EM EM	7.2	163 163
 14 13	EM EM	7.2	163 163
 5 14	EM EM	3.1 7.2	31 163
 12 9	EM EM	9.6 5.5	290 96
15 8	M SM	12.2 3.3	471 35
 8 10	SM EM	3.9 7.2	49 163
14	M EM	10.8 10	366 312
8 14	EM	6.4 7.2	127 163
10 8	SM SM	3.6 4.2	41 55
12 14	EM SM	7.2	163 163
15 14	M EM	7.2 5.4	163 92
16 15 12	M M M	10.8 9.7	366 297 290
12 15 12	M M	9.6	290 366 290
 12 14	M M EM	9.6	290 290 35
 5 13 8	EM EM	3.3 7.2 3.2	35 163 33
 8 14 15	EM M	3.2 9.2	33 268 254
15 8 16	M SM	9 4.1	254 52 132
16 20	EM M	6.5 15	132 707
18 8 14	M SM	14 3.3	619 35
14 14 15	EM M	7.8	191 241
 15 15 16	M M	10.2 10.2	327 327
16 16	M M	8.6	235 327
14 3.5	M SM	13.2 1.6	547 8 20
4.5	EM EM	2.5	20 26
3.5	EM	1.7 2.8	9 24 10
 3 9 16	EM EM	4.4	10 62 452
 16 14	M M	9.6	452 290
 15 14	M M	9.6	290 222
 13 7	M SM	8.4 2.8	222 24
17 7	M SM	12 3.6	452 41
 7 16	SM M	2.2	15 366
 18 16	M	10.8 8.5	366 228
 17 15	M	9.6 9	290 254
16 15	M	9.6 13.2	290 547
 18 16	M	12 11.8	452 434
 13 14	M	8.5 10.8	228 366
15 15	M	14.4 9	651 254
 9 14	SM EM	3 6.6	28 137
 2 15	SM M	1.7 9.6	9 290
 15 15 16	M M	10.8 8.5	366 228
 16 4.5	M SM	10.8	366 10
14	EM M	7.2	163 297
14	M M SM	7.9	197 5
 4.5	EM M	6.6	137 290
 13 13 14	M M	9.6	290 290
5	SM SM	1.8	10 10
4	SM SM M	1.8	10 10 327
18 15 5	M M SM	10.2	327 366 10
 5 5 5	SM SM SM	2.4	18 18 18
 5 17 5	M SM	12 1.8	452 10
5 5 6	SM SM SM	1.8	10 10 18
 5 13	SM SM M	2.4 1.8 6.4	18 10 127
 13 6 22	м Ү М	6.4 2.6 9.6	22 290
 12 14	M M EM	8.4 6.6	290 222 137
 14 12 18	SM M	6 10.9	1137 113 375
 18 18 13	M M M	10.9 10 9.6	375 312 290
 13 16 15	M M M	9.6 11.6 9.6	290 426 290
 15 12 18	M M M	9.6 7.2 10.8	290 163 366
 18 16 14	EM EM	6 6.6	113 137
14 13 16	M EM	9.6	290 290
14	EM	6	113
18 5 5	M SM SM	9.6	290 18 18
5 5 14	SM SM	2.4	18 18 137
 14 5	EM SM	6.6 1.8	137 10
 5 5	SM SM	1.8 1.8	10 10
 5 14	SM M	1.8 8.4	10 222
 12 12	EM M	5.8 7.2	104 163
 13 12	M	7.2	163 163
 18 14	M	9 7.2	254 163
 14 12	EM EM	8.2 6	209 113
 4.5	EM	6	113

	Group Ref	Species	Height Range (m)	LifeStage	RPA Radius (m)	RPA (m2)		Group Ref	Species	Height Range (m)											
	G1	Leyland Cypress	12-15	EM	4.2	55		G86	Common alder	10-12											
	G2	Crack willow	14-16	EM	9	254		G87	English oak; holly	5-18											
		Common ash; crack willow; English oak	12-16			163	_	G88	English oak; sycamore; alder												
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mommommommommommommommommommommomGamskadiformanam6401601	G18	English oak	8-12	EM	7.2	163	1	G104		5											
mode	G19	Common ash; crack willow	8-18	м	9	254	1	G105	Crack willow; goat willow; alder; sycamore; horse	4 - 13											
<table-row></table-row> <table-row></table-row> <table-row></table-row>	G20	Holly; hazel; sycamore	4-6	SM	3	28	1	G106	Scot's pine; elder	2 - 10											
	G21	Wild cherry; cypress	3-6	SM	2.4	18	1	G107	Birch; alder; hybrid black poplar; hazel; hawthorn	8 - 10											
< <tbod> 3</tbod>	G22	Leyland Cypress; common alder	8-14	EM	3.6	41	7	G108	Oak	14											
matrixmatrixmatrixmatrixmatrixmatrixmatrixmatrixmatrix0Gydnacensen640 <td>G23</td> <td>English oak; common ash</td> <td>16-20</td> <td>м</td> <td>9.6</td> <td>290</td> <td></td> <td>G109</td> <td>Oak; ash</td> <td>6 - 14</td>	G23	English oak; common ash	16-20	м	9.6	290		G109	Oak; ash	6 - 14											
SoleDig <th< td=""><td>G24</td><td>Leyland Cypress</td><td>12-15</td><td>EM</td><td>3.6</td><td>41</td><td></td><td>G110</td><td>Ash</td><td>15</td></th<>	G24	Leyland Cypress	12-15	EM	3.6	41		G110	Ash	15											
Image <th< td=""><td>G25</td><td>Leyland Cypress</td><td>12-15</td><td>EM</td><td>3.6</td><td>41</td><td></td><td>G111</td><td>Oak</td><td>16</td></th<>	G25	Leyland Cypress	12-15	EM	3.6	41		G111	Oak	16											
Dem		English oak; common ash							Holm oak												
modeIndexMatherMat	G27	English oak; common ash	16-20			290		G113	Oak; elder; goat willow; hawthorn	2 - 15											
SomeS		Common alder; English oak; hawthorn					_		Crack willow												
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G62Millow English oak; anh619SM6.49.2G63Gradishow, calor5-12SM3.641G64Gat Wilow5-12SM3.641G65Gradis Wilow, English oak5-17BM7.0191G66Orack Wilow, English oak15-17SM4.255G77English oak, common adier17-20SM4.255G78English oak, common adier17-30EM9.224G68Sileh oak, common adier17-90EM9.224G68English oak, common adier17-90EM9.224G68English oak, common adier17-90EM9.224G68English oak, common adier17-90EM9.224G68English oak, common adier17-90EM9.224G69English oak, common adier15-17EM7.219.2G63English oak, common adier16-14SM6113G64English oak, common adier16-14SM6113G65English oak, common adier16-14SM6113G66English oak, sommon adier, rown16-14SM1616-14G77English oak, sommon adier, rown16-14SM1616-14G78English oak, sommon adier, rown16-14SM1616-14G77English oak, sommon adier, rown16-141616 <td></td> <td></td> <td></td> <td></td> <td></td> <td>163</td> <td>-</td> <td></td> <td></td> <td></td>						163	-														
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GS5Cack wilker, English oak, common alder, hazel15-17EM7.8191GS6Common alder10-12SM4.255G14Oak, ader, sycamore, holy8-13GS7English oak, common alder, hazel4-7EM9254G14Sycamore, ash18GS8Byne heck, English oak, common alder, hazel4-7EM4.872G14Oak, ader, sycamore, holy8-13GS6English oak, common alder, hazel17-19EM8.4222G14Oak, ach02-14G61English oak, common ald17-19SM6113G14Oak02-14G62English oak, common ald15-17EM72163G144Oak02-14G63English oak, common alder, rowan16-14SM6113G15Line2-14G64English oak, common alder, rowan6-14SM6113G15Adv. Inter10-12G65English oak, super, troh6-14SM6.7102G15Adv. Inter10-12G66English oak, super, troh6-14SM6.7102G15Adv. Inter10-12G70English oak, super, troh6-14SM6.7102G15Adv. Inter10-13G71English oak, super, troh6-14SM6.420G15Adv. Inter11-13G71English oak, super, troh6-14SM6.4	G53		5-12	SM	3.6	41	-	G140		15											
G56Common alder10-12SM4.256G57Englian coit, common alder, mazel17-20EM92.24G58Silves irbit, Engliah coit, common alder, mazel17-19EM4.872G69Engliah coit, common alder, mazel17-19EM92.24G61Engliah coit, common alder, mazel17-19EM4.42.22G61Engliah coit, common alder, common alder, mazel17-19SM6113G62Engliah coit, common alder,	G54	Goat willow	5-6	SM	3.6	41	1	G141	Oak	14											
GS7English oak; common alder; hazel17-20EM9254G68Shevi civi; fingih oak; common alder; hazel6-17EM4.87.2G69English oak; common alder; hazel17-19EM9.4222G61English oak; common alder; maxel17-19EM6.422G62English oak; common ald15-18EM7.2183GakGakGak12-17G63English oak; common alder15-17EM7.2183Gif4GakGak12-17G64English oak; common alder10-14SM613Gif4GakGak12-17G65English oak; common alder; rowan8-16M613Gif5Lime12-17G66English oak; common alder; rowan8-16M6.613Gif5Lime12-17G76English oak; sepin: birth; rowan8-18M6.613Gif5Ash10-12G76English oak; sepin: cirth, rowan8-18M6.613Gif5Ash12-17G77English oak; sepin: cirth, rowan8-18M7.8191Gif5Ash12-17G77English oak; sepin: cirth, rowan8-16M2.90Gif5Aspen12-12G77English oak; sepin: cirth, rowan8-16M2.90Gif5Aspen12-12G77English oak; sepin: cirth, rowan8-16M2.90Gif5Aspe	G55	Crack willow; English oak	15-17	EM	7.8	191	1	G142	Oak	16											
Silver birch: English oak; common alder; hazel 6-17 EM 4.8 72 G59 English oak 17.19 EM 6.4 224 G61 English oak; common alser, thazel 17.19 EM 6.4 224 G61 English oak; common alser, common al	G56	Common alder	10-12	SM	4.2	55		G143	Oak; alder; sycamore; holly	8 - 13											
G69 Englah oak 17.19 EM 9 254 G60 Englah oak 17.19 EM 8.4 222 G61 Englah oak; common ash 17.19 SM 6 113 G62 Englah oak; common ash 15.18 EM 7.2 163 G63 Englah oak; common ash 15.17 EM 7.2 163 G64 Englah oak; common ash 10.14 SM 6 113 G65 Englah oak; common ash 10.14 SM 6 113 G66 Englah oak; common alser; rowan 5.14 SM 5.7 102 G67 Englah oak; silver birch 7.14 EM 5.7 102 G70 Englah oak; silver birch 7.14 EM 5.4 92 G72 Englah oak; sycamore; rowan; birch 8.18 EM 7.2 15.3 G73 Englah oak; sycamore; birch; willow; copresa 15.47 EM 9.62 200 G74 Englah oak	G57	English oak; common alder	17-20	EM	9	254		G144	Sycamore; ash	18											
GéôdEnglish oak17.19EM8.4222Gé1English oak17.19SM6113Gé2English oak; common ash15-18EM7.2163Gé3English oak; common ash15-17EM7.2163Gé4English oak; common ash10-14SM6113Gé5English oak; nommon ash10-14SM6113Gé6English oak; nommon ash10-14SM613Gé6English oak; nommon ash10-14SM613Gé6English oak; sinwer birch; rowan5-14SM5.7102Gé6English oak; sinwer birch; rowan5-14SM5.7102Gé6English oak; sinwer birch7.4EM5.7102Gé7English oak; sinwer birch8-18EM7.8191G71English oak; sigarmore; rowar; birch8-185.410G72English oak; sigarmore; birch; willow; coymes15-17EM9.620G73English oak; sigarmore; birch; willow; coymes15-17EM2.0613Ader; oakG74English oak; sigarmore; birch; willow; coymes15-17EM9.620616Ader; oak11-14G75English oak; sigarmore; birch; willow; coymes15-17EM9.620616161616161616G76Common adar15-17EM9.62061616161616 <t< td=""><td>G58</td><td>Silver birch; English oak; common alder; hazel</td><td>6-17</td><td>EM</td><td>4.8</td><td>72</td><td></td><td>G145</td><td>Oak; ash</td><td>17</td></t<>	G58	Silver birch; English oak; common alder; hazel	6-17	EM	4.8	72		G145	Oak; ash	17											
Ge1Englah oak; common ah17.19SM6113G62Englah oak; common ah15-17EM7.21631640ak2.17G63Englah oak; common ah10-14SM61131650Line2.17G64Englah oak; common ah10-14SM611316121610Line12G65Englah oak; common ah10-14SM6.611316121612Aah0.12G66Englah oak; common ahder; rowan8.18M0.62001613Line0.13G67Englah oak; siver brich; rowan5.14SM5.71021616Aspen0.13G70Englah oak; siver brich; rowan8.18EM7.819141615Aspen0.13G71Englah oak; siver one; rowan, bich8.18EM7.819141615Aspen1.14G72Englah oak; sogname; rowan, bich8.18SM5.4201515Aspen1.14G73Englah oak; sogname; rowan, bich8.18M9.6201516Line: ah9.14G74Englah oak; sogname; bich; willow; copres10.18SM5.6201616Line: ah4.12G74Englah oak; sogname; bich; willow; copres15.6SM4.871614Oak16.1416.14G75Englah oak; sogname; bich; willow; copres15.6SM6.62016.1416.14 </td <td>G59</td> <td>English oak</td> <td>17-19</td> <td>EM</td> <td>9</td> <td>254</td> <td></td> <td>G146</td> <td>Oak; ash</td> <td>12 - 14</td>	G59	English oak	17-19	EM	9	254		G146	Oak; ash	12 - 14											
Gé2English ask; common ash15-18EM7.2163G63English ask; common ash15-17EM7.2163G150Lme22G64English ask; common ash10-14SM6113G150Lme10-1221G65English ask; common alder; rowan0-14SM613G152Ash0-120-13G66English ask; silver birdr; rowan5-14SM5.7102G150Lme0-130-13G76English ask; silver birdr7-14EM7.8191G156Ash0-120-13G70English ask; silver birdr6-8SM5.492G150Aspen120-13G71English ask; silver birdr15-17EM9.6200G159Aspen120-13G72English ask; silver birdr, wilzer, common siltr15-17EM9.6200G159Alder; ask11-14G73English ask; silver birdr, wilzer, common siltr15-17EM9.6200G159Alder; ask11-14G74English ask; silver birdr, wilzer, pilser, silver, wilzer, pilser, silver, wilzer, pilser, silver, wilzer, pilser, pilse	G60	English oak	17-19			222															
G63English oak; common ash16-17EM7.2163615Lime12G64English oak; common ash10-14SM611315151612G66English oak; common aider; rowan8-18M9.6290165Ash615Lime8-10613G67English oak; solver birch; rowan5-14SM5.7102156Aspen10-13615Ash615Ash615163.110-13615Aspen615Aspen10-13615163.110-13615163.110-13615Aspen61510-13615Aspen61510-1361510-13615Aspen10-1361510-13615Aspen61510-1361510-13615Aspen61510-1361510-1361510-1361510-1361510-1361510-13615615Aspen61510-13615615Aspen61510-13615615Aspen61561510-13615615Aspen61510-13615615616 <td></td> <td>English oak</td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td>-</td>		English oak					1			-											
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G68 English cak: common ash 10-14 SM 6 113 G66 English cak: common alder, rowan 8-18 M 9.6 290 615 Line 8-10 G67 English cak: silver birch; rowan 5.14 SM 5.7 102 615 Ash 10-13 G68 English cak: silver birch; rowan 8-18 EM 7.8 191 615 Ash 10-13 G70 English cak: silver birch; rowan 8-18 EM 7.8 191 615 Aspen 8-12 G71 English cak: sycamore; rowan; birch 8-18 EM 7.8 191 6156 Aspen 8-12 G72 English cak: sycamore; birch; willow; cypress 16-17 EM 9.6 290 6158 Line; ash 9.14 G74 English cak: sycamore; birch; willow; cypress 10-18 EM 9.6 290 6169 Adder; cak 9.14 G75 English cak: sycamore; birch; willow; cypress 15-16 M 9.6		English oak; common ash					_														
Gé6 English oak; common alder; rowan 8-18 M 9.6 290 6153 Lime 8-10 G67 English oak; silver birch; rowan 5-14 SM 5.7 102 6154 Ash 10-13 G68 English oak; silver birch; rowan, birch 8-18 EM 5.7 102 6156 Ash; lime 01-13 G70 English oak; syeamore; rowan; birch 8-18 EM 7.8 191 6156 Aspen 12 G71 English oak; syeamore; rowan; birch 8-8 SM 5.4 92 6157 Aspen 12 G72 English oak; syeamore; birch; willow; coyres 15-17 EM 9.6 290 6159 Alzer; oak 11-14 G74 English oak; syeamore; birch; willow; coyress 10-18 EM 7.2 163 1616 Lime; ash 6163 Lime; ash 6163 14-12 G75 English oak; syeamore; birch; willow; coyress 15-16 SM 4.8 72 163 1616 Lime; a		-					_														
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	Height Range (m)	LifeStage	RPA Radius (m)	RPA (m2)
	10-12 5-18	M EM	8.4 7.8	222 191
	12-16	EM	7.8	163
	12-16	EM	7.2	163
_	12-16	SM	3.6	41
	10-12	SM	2.2	15
_	10-18	EM	6.6	137
	12-18	EM	7.2	163
_	5-12	EM	7.2	163
	18-20	M	10.8	366
	12-15	EM	6.6	137
_	12-18	EM	7.8	191
_	12-18 15-18	EM	7.8	191
_	10-16	EM	8.4	222
	5	EM	3.6	41
_	5	EM	3.3	35
-	5	EM	3.6	41
	5	EM	5.8	104
	4 - 13	EM	4.8	72
	2 - 10	SM	4.3	59
	8 - 10	SM	3.3	35
	14	EM	8.4	222
	6 - 14	EM	5.4	92
	15	EM	5.4	92
	16	м	10.8	366
	1 - 3	Y	1.8	10
	2 - 15	EM	7.8	191
	15	м	6	113
	8 - 10	EM	3.6	41
_	8 - 10	EM	3.6	41
_	8 - 12	EM	4.8	72
_	6 - 12	EM	4.3	59
_	6 - 16	EM	7.9	197
_	6 - 8	EM	4.1	52
_	5 - 15	EM	6.1	118
_	14	EM	4.9	76
	8	SM SM	3.3	35 62
_	8	SM	3.5	38
	8 14	EM	6.6	137
_	15	M	8.4	222
	8 - 14	EM	7.2	163
	12 - 18	EM	7	152
	12 - 18	EM	6.2	122
	5 - 12	EM	4.7	69
	12 - 18	EM	7.6	180
	8 - 10	м	7.2	163
	8 - 10	SM	3.7	43
	4 - 15	EM	7.2	163
	14 - 18	м	11.2	391
	6 - 18	EM	10.8	366
	8	SM	1.7	9
	4 - 15	EM	6	113
	15	EM	6	113
	14	м	9.8	304
	16	M	9.6	290
	8 - 13	EM	6.6	137
_	18	M	6	113
	17	M	8.4	222
	12 - 14	EM	7.2	163
	10 - 12 6 - 14	EM	7.8	191 191
	6 - 14 12 - 17	M	14.4	651
	12 - 17	EM	7.2	163
	12	EM	6	113
	10 - 12	EM	6.6	137
	8 - 10	EM	4.2	55
	10 - 13	EM	6	113
	10 - 13	EM	7.2	163
	12	SM	2.2	15
	8 - 12	SM	2.2	15
	12	EM	5.4	92
	11 - 14	EM	6	113
	14	EM	6	113
	9 - 14	EM	6.6	137
	8 - 14	EM	6	113
	7	SM	1.8	10
	4 - 12	EM	6	113
	5	SM	1.3	5
_	10	SM	6	113
_	12	EM	6	113
_	14	EM	6	113
_	8 - 12	SM	6	113
	15	EM	5.4	92

	(Retention highly desirable)
(\bullet)	Category B Tree - Moderate quality (Retention desirable)
	Category B - Hedgerow, Group, Woodland - Moderate quality
	(Retention desirable)
\bullet	Category C Tree - Low quality (May be retained but should not constrain development)
	Category C - Hedgerow, Group, Woodland - Low quality (May be retained but should not constrain development)
(\bullet)	Category U Tree - Very low quality (Mostly unsuitable for retention)
	Category U - Hedgerow, Group, Woodland - Very low quality
	(Mostly unsuitable for retention)
	Root Protection Area (RPA) - Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and soil volume to maintain the tree's viability
\bigcirc	Shrub mass/offsite tree/out of scope (OOS)
*	Tree/Group/Hedgerow not on topographical survey. Location given is an estimate
	Note: The original of this drawing was produced in colour –
	a monochrome copy should not be relied upon. This drawing should be interpreted with reference to the accompanying tree schedule and written advice
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grid North	
JECT TITLE	
	Helios Renewable Energy Project (4772)
WING TITLE	
	Tree Survey Plan
	cale: 1:2,500 @ A1 DRAWING NUMBER BHA_4772_01
DB	APPROVED BY REVISION SHEET DATE IH - Tables 19/05/2022 TEM / DATUM
	British National Grid / Newlyn Datum (AOD)
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Barton Hyett Associates

SUMMIT GEO

info@summitgeo.co.uk

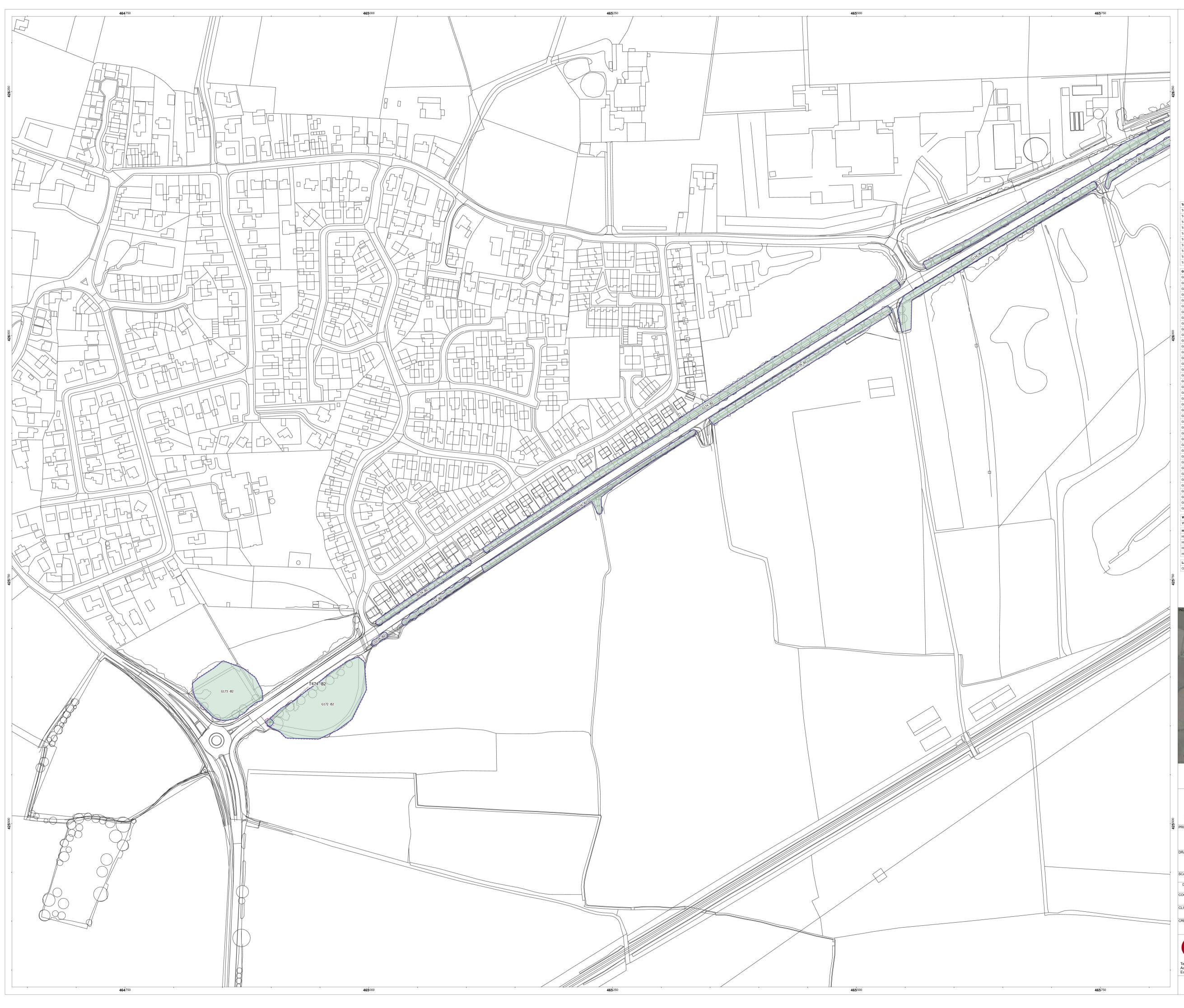
Tel: 01386 576161 Address: Office 5E, Deer Park Business Centre, Eckington, Pershore, Worcestershire, WR10 3DN

DRAWING PRODUCED BY

KEY

Category A Tree - High quality (Retention highly desirable)

Category A - Hedgerow, Group, Woodland - High quality (Retention highly desirable)



*	Tree/Group/Hedgerow not on topogr	aphical survey. L	ocation give	en is an estimate	
ree Ref	Species	Height (m)	LifeStage	RPA Radius (m)	RPA (m2)
474	Oak (English)	14	EM	8.2	209
175	Ash (Common)	16	EM	4.8	72
76	Oak (English)	16	EM	5.4	92
77	Oak (English)	14	EM	6.6	137
78	Oak (English)	16	EM	6.6	137
79	Oak (English)	16	EM	5.4	92
80	Oak (English)	16	EM	6	113
81	Oak (English)	13	M	10.8	366
82	Oak (English)	17	M	10.8 5	366 80
03	Ash (Common)	8	514	5	80
oup Ref	Species	Height Range (m)	LifeStage	RPA Radius (m)	RPA (m2)
72	Scots pine; common beech; English oak	10-15	SM	6	113
73	Scots pine; common beech; English oak	10-15	SM	6	113
74	Common lime	10-12	SM	3.3	35
74	Common lime	10-12	SM	3.3	35
74	Common lime	10-12	SM	3.3	35
74	Common lime	10-12	SM	3.3	35
74	Common lime	10-12	SM	3.3	35
74	Common lime	10-12	SM	3.3	35
74	Common lime	10-12	SM	3.3	35
74 74	Common lime Common lime	10-12	SM SM	3.3	35 35
174	Common lime	10-12 10-12	SM	3.3	35
174	Common lime	10-12	SM	3.3	35
174	Common lime	10-12	SM	3.3	35
174	Common lime	10-12	SM	3.3	35
175	Crack willow; common alder	10-17	SM	6	113
176	Hybrid black poplar; common alder	5-13	SM	4.8	72
177	Hybrid black poplar; common alder	15-20	SM	6	113
178	Crack willow; common alder; Scots pine	10-20	SM	6	113
179	Hybrid black poplar; common alde; common ash	15-25	SM	6	113
180	Scots pine; common ash	5-8	SM	3	28
181	Scots pine; silver birch; Norway maple	6-15	SM	3.6	41
182	Scots pine; English oak; cherry; rowan; poplar; willow	6-20	SM	4.8	72
183	Crack willow; hawthorn; English elm	5-20	EM	7.2	163
184	Norway maple; field maple; common alder; silver birch;	10-15	EM	5.4	92
185	Goat willow; crack willow; common ash	5-15	SM	3.6	41
186	Wild cherry	6-8	SM	3.6	41
187	Common alder; silver birch; crack willow	5-15	SM	4.2	55
188	Common beech	8-10	SM	3.9	48
189	Common alder; silver birch; crack willow; common ash	5-15	SM	4.2	55
190	Whitebeam; cherry; common beech	5-14	SM	3.3	35
191	Wild cherry; common ash	5-12	SM	3.6	41
192	Norway maple	10-15	SM	3.6	41
193	Norway maple	10-15	SM	3.6	41
194	Sycamore; Scots pine; common ash	12-18	EM	4.8	72
95	Common ash; common alder; hawthorn; English oak	5-15	SM	4.2	55
196	Common alder; hazel	4-10	SM	3	28
197	Common ash	14-17	EM	7.2	163
198	English oak; common ash	10-12	EM	4.2	55
199 200	English oak; crack willow; hawthorn Crack willow; alder; hawthorn	5-15 5-15	EM	5.7 7.8	102 191
oodland Ref	Species	Height Range (m)	LifeStage	RPA Radius (m)	RPA (m2)
19	Silver birch; crack willow; common ash; English oak;	5-23	SM	4.8	72
edge Ref	Species	Avg. Height (m)	Life Stage	RPA Radius (m)	RPA (m2)
73	Hawthorn	4	SM	1.3	5
74	Leyland Cypress	6	SM	2.4	18
175	Hawthorn ; blackthorn	3	SM	0.8	2
76	Hawthorn	3	SM	0.8	2
bel	Description				
OS1	Willow tree stumps with re-growth (x3)				

KEY

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Category A Tree - High quality (Retention highly desirable)

Category B Tree - Moderate quality (Retention desirable)

Category U Tree - Very low quality (Mostly unsuitable for retention)

Category A - Hedgerow, Group, Woodland - High quality (Retention highly desirable)

Category B - Hedgerow, Group, Woodland - Moderate quality (Retention desirable)

Category C Tree - Low quality (May be retained but should not constrain development)

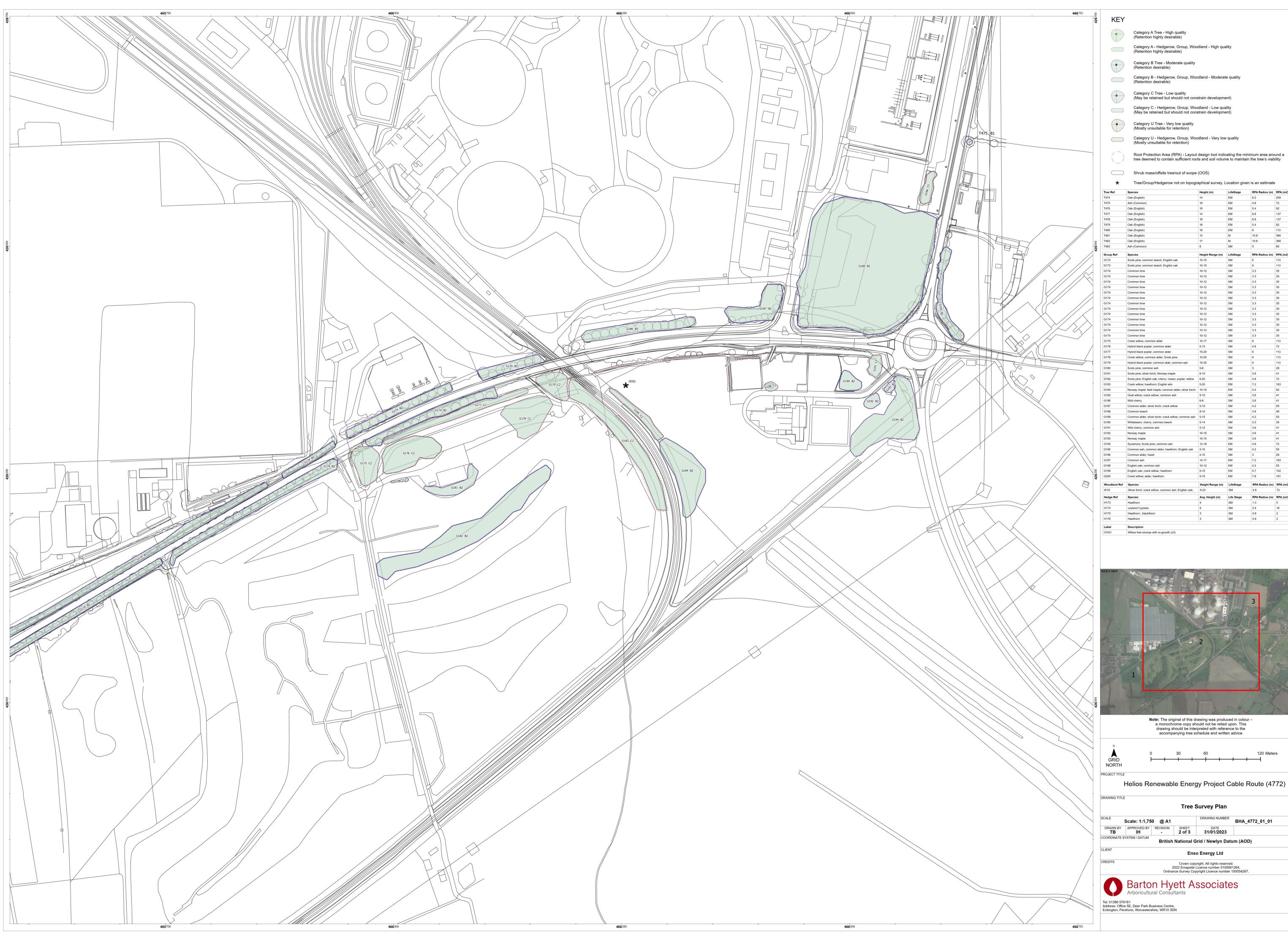
Category C - Hedgerow, Group, Woodland - Low quality (May be retained but should not constrain development)

Category U - Hedgerow, Group, Woodland - Very low quality (Mostly unsuitable for retention)

Root Protection Area (RPA) - Layout design tool indicating the minimum area around a

Note: The original of this drawing was produced in colour – a monochrome copy should not be relied upon. This drawing should be interpreted with reference to the accompanying tree schedule and written advice 120 Meters 30 60 GRID NORTH PROJECT TITLE Helios Renewable Energy Project Cable Route (4772) DRAWING TITLE Tree Survey Plan DRAWING NUMBER BHA_4772_01_01 SCALE Scale: 1:1,750 @ A1 DRAWN BY APPROVED BY REVISION
TB IH -N SHEET DATE 1 of 3 31/01/2023 COORDINATE SYSTEM / DATUM British National Grid / Newlyn Datum (AOD) Enso Energy Ltd Crown copyright. All rights reserved. 2022 Emapsite Licence number 0100061264. Ordnance Survey Copyright Licence number 100054267. Barton Hyett Associates

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	Common alder; silver birch; crack willow	5-15 8-10	SM SM	4.2 3.9	55
187	Common alder, silver birch, crack willow	8 10	SM	3.9	40
188	Common beech	8-10			48
189	Common alder; silver birch; crack willow; common ash	5-15	SM	4.2	55
190	Whitebeam; cherry; common beech	5-14	SM	3.3	35
191	Wild cherry; common ash	5-12	SM	3.6	41
192	Norway maple	10-15	SM	3.6	41
					-
193	Norway maple	10-15	SM	3.6	41
194	Sycamore; Scots pine; common ash	12-18	EM	4.8	72
195	Common ash; common alder; hawthorn; English oak	5-15	SM	4.2	55
196	Common alder; hazel	4-10	SM	3	28
197	Common ash	14-17	EM	7.2	163
198	English oak; common ash	10-12	EM	4.2	55
199	English oak; crack willow; hawthorn	5-15	EM	5.7	102
200	Crack willow; alder; hawthorn	5-15	EM	7.8	191
		0.10		110	101
oodland Ref	Species	Height Range (m)	LifeStage	RPA Radius (m)	RPA (m2)
19	Silver birch; crack willow; common ash; English oak;	5-23	SM	4.8	72
			1	-	1
edge Ref	Species	Avg. Height (m)	Life Stage	RPA Radius (m)	RPA (m2)
73	Hawthorn	4	SM	1.3	5
74	Leyland Cypress	6	SM	2.4	18
75	Hawthorn ; blackthorn	3	SM	0.8	2
76	Hawthorn	3	SM	0.8	2
bel	Description				
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Height (m)

10-15

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10-12

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10-12

10-12

10-12

10-12

10-17

10-20

15-25

5-20

5-15

6-8

LifeStage

Height Range (m) LifeStage

SN

EM

EM

SN

RPA Radius (m) RPA (m2)

RPA Radius (m) RPA (m2)

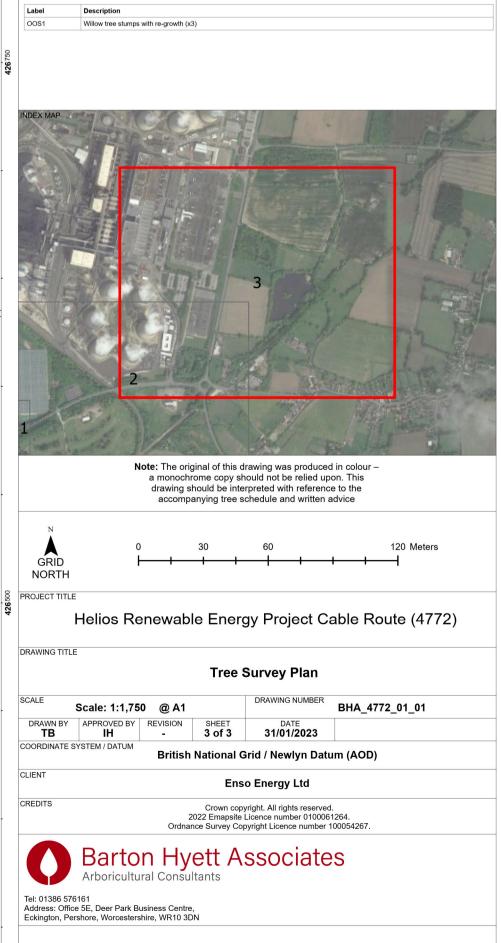
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DRAWING TITLE					
			Tree	Survey Plan	
SCALE	Scale: 1:1,75	50 @ A1		DRAWING NUMBER	BHA_4772_01_01
DRAWN BY	APPROVED BY	REVISION	SHEET 2 of 3	DATE 31/01/2023	
COORDINATE S	YSTEM / DATUM	British	National C	Brid / Newlyn Dati	um (AOD)
CLIENT			Ens	o Energy Ltd	
CREDITS			022 Emapsite	yright. All rights reserved Licence number 010006 pyright Licence number	1264.



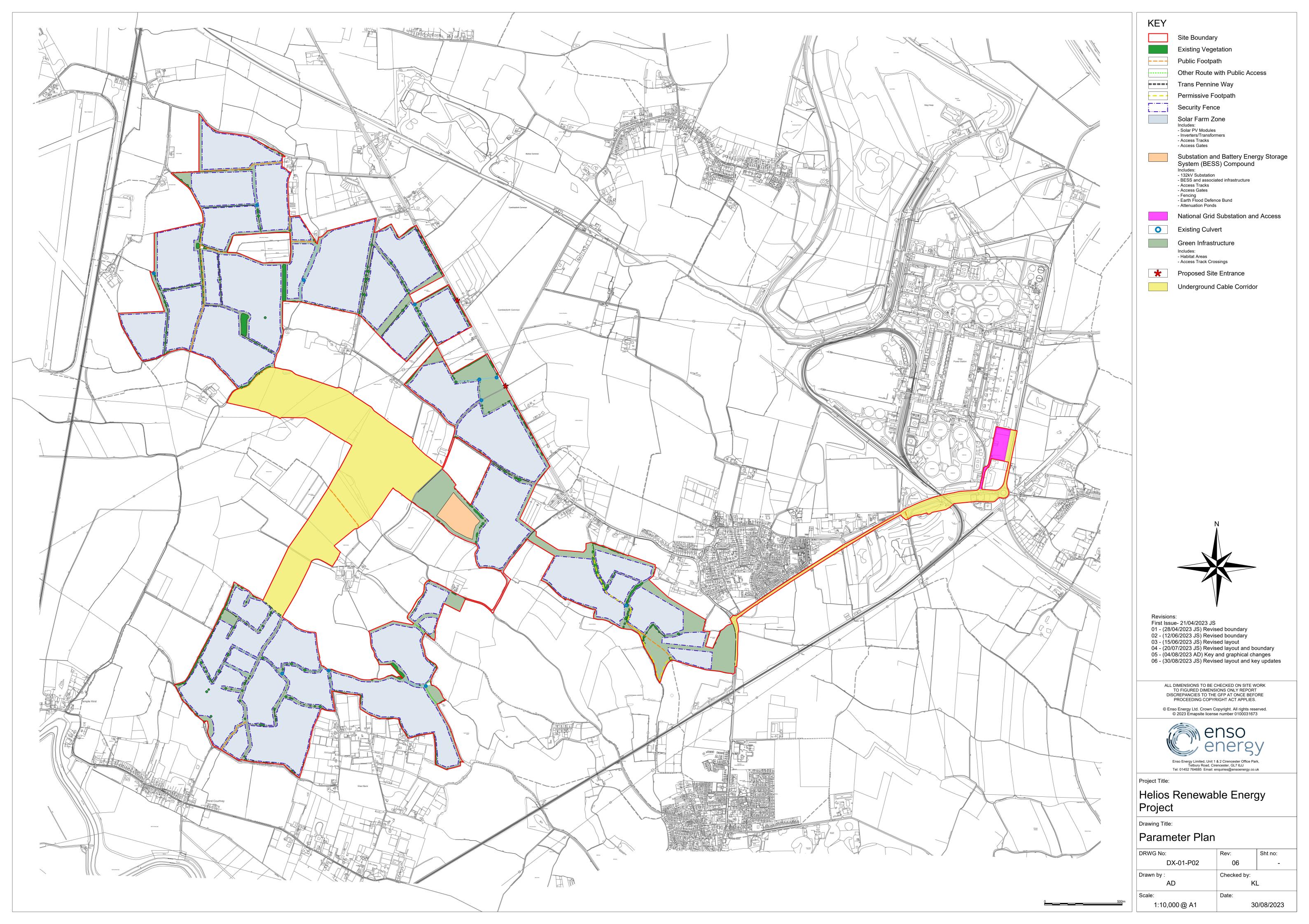


D-/	P ercelar	Helmha (m.)	116-04		DD4 (
Tree Ref	Species	Height (m)	LifeStage	RPA Radius (m)	RPA (m2)
474	Oak (English)	14	EM	8.2	209 72
475	Ash (Common)	16	EM	4.8	
476	Oak (English)	16	EM	5.4 6.6	92 137
477	Oak (English)	14	EM	6.6	137
478	Oak (English) Oak (English)	16	EM	5.4	92
479	Oak (English)	16	EM	6	113
481	Oak (English)	13	M	10.8	366
482	Oak (English)	17	M	10.8	366
483	Ash (Common)	8	SM	5	80
Broup Ref	Species Scots pine; common beech; English oak	Height Range (m)	LifeStage SM	RPA Radius (m)	RPA (m2)
3172 3173		10-15	SM	6	113
	Scots pine; common beech; English oak				35
6174	Common lime	10-12	SM	3.3	
6174 6174	Common lime Common lime	10-12 10-12	SM SM	3.3	35 35
6174	Common lime	10-12	SM	3.3	35
6174 6174	Common lime	10-12	SM	3.3	35
6174	Common lime	10-12	SM	3.3	35
6174	Common lime	10-12	SM	3.3	35
6174	Common lime	10-12	SM	3.3	35
6174	Common lime	10-12	SM	3.3	35
6174	Common lime	10-12	SM	3.3	35
6174	Common lime	10-12	SM	3.3	35
6174	Common lime	10-12	SM	3.3	35
6174	Common lime	10-12	SM	3.3	35
6175	Crack willow; common alder	10-17	SM	6	113
6176	Hybrid black poplar; common alder	5-13	SM	4.8	72
6177	Hybrid black poplar; common alder	15-20	SM	6	113
6178	Crack willow; common alder; Scots pine	10-20	SM	6	113
6179	Hybrid black poplar; common alde; common ash	15-25	SM	6	113
6180	Scots pine; common ash	5-8	SM	3	28
6181	Scots pine; silver birch; Norway maple	6-15	SM	3.6	41
6182	Scots pine; English oak; cherry; rowan; poplar; willow	6-20	SM	4.8	72
6183	Crack willow; hawthorn; English elm	5-20	EM	7.2	163
6184	Norway maple; field maple; common alder; silver birch;	10-15	EM	5.4	92
6185	Goat willow; crack willow; common ash	5-15	SM	3.6	41
6186	Wild cherry	6-8	SM	3.6	41
6187	Common alder; silver birch; crack willow	5-15	SM	4.2	55
3188	Common beech	8-10	SM	3.9	48
6189	Common alder; silver birch; crack willow; common ash	5-15	SM	4.2	55
6190	Whitebeam; cherry; common beech	5-14	SM	3.3	35
6191	Wild cherry; common ash	5-12	SM	3.6	41
6192	Norway maple	10-15	SM	3.6	41
3193	Norway maple	10-15	SM	3.6	41
6194	Sycamore; Scots pine; common ash	12-18	EM	4.8	72
6195	Common ash; common alder; hawthorn; English oak	5-15	SM	4.2	55
6196	Common alder; hazel	4-10	SM	3	28
6197	Common ash	14-17	EM	7.2	163
6198	English oak; common ash	10-12	EM	4.2	55
6199	English oak; crack willow; hawthorn	5-15	EM	5.7	102
3200	Crack willow; alder; hawthorn	5-15	EM	7.8	191
Noodland Ref	Species	Height Range (m)	LifeStage	RPA Radius (m)	RPA (m2)
W19	Silver birch; crack willow; common ash; English oak;	5-23	SM	4.8	72
ledge Ref	Species	Avg. Height (m)	Life Stage	RPA Radius (m)	RPA (m2)
1173	Hawthorn	4	SM	1.3	5
1174	Leyland Cypress	6	SM	2.4	18
1175	Hawthorn ; blackthorn	3	SM	0.8	2
1176	Hawthorn	3	SM	0.8	2

Root Protection Area (RPA) - Layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and soil volume to maintain the tree's viability

(Category A Tree - High quality (Retention highly desirable) Category A - Hedgerow, Group, Woodland - High quality (Retention highly desirable) \bigcirc (\bullet) Category B Tree - Moderate quality (Retention desirable) Category B - Hedgerow, Group, Woodland - Moderate quality (Retention desirable) \bigcirc Category C Tree - Low quality (May be retained but should not constrain development) (\bullet) Category C - Hedgerow, Group, Woodland - Low quality (May be retained but should not constrain development) \bigcirc Category U Tree - Very low quality (Mostly unsuitable for retention) Category U - Hedgerow, Group, Woodland - Very low quality (Mostly unsuitable for retention) \bigcirc

KEY



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

SURVEY MONTH: MAY 2022

INDIVIDUAL TREES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T1	Oak (English)	Off	15	1	Yes	650	7.0-7.0-7.0-7.0	4.0	5.0	S	EM	None	Off site tree of good form and condition	Good	Good	40+	B1	7.8	191
T2	Willow (Crack)	On	17	1	None	750	7.0-6.0-7.0-7.0	2.0	1.0	S	EM	None	Off site tree located east of an existing compacted earth track	Good	Fair	40+	C1	9.0	254
Т3	Oak (English)	Off	17	1	Yes	650	8.0-8.0-7.0-7.5	2.0	3.0	W	М	None	Off site tree of good form and condition	Good	Good	40+	B1	7.8	191
T4	Alder (Common)	On	12	1	None	380	5.0-4.0-4.0-5.0	2.0	2.0	W	SM	None	Located adjacent to a small agricultural pond and east of the existing compacted earth track	Good	Good	40+	B1	4.5	65
Т5	Birch (Silver)	Off	15	1	Yes	420	5.5-5.0-5.0-5.0	3.0	2.0	SE	EM	None	Located within the hedgerow; tree of good form and condition	Good	Good	40+	B1	5.0	80
Т6	Ash (Common)	Off	12	1	Yes	850	6.0-7.0-7.0-5.0	2.0	2.0	S	М	None	Stem lean to the north; cavities in main stem offer some niche habitat potential	Good	Fair	40+	B3	10.2	327
Τ7	Willow (Crack)	Off	17	5	Yes	800	9.0-8.5-8.0-8.0	2.0	0.5	None	Μ	None	Lapsed coppice/low pollard located adjacent to an agricultural pond. Split in southern stem overhanging	Good	Fair	40+	B2	9.6	290
Т8	Oak (English)	Off	10	1	Yes	1050	7.0-6.0-7.0-8.5	3.0	3.0	W	Μ	None	Mature oak; stem lean to the east; historically cut back from . Located west of a drainage ditch	Good	Fair	40+	B1	12.6	499
Т9	Oak (English)	Off	14	1	Yes	620	7.0-7.0-7.0-8.0	4.0	3.0	N	EM	None	Oak of good form and condition located within the hedgerow. Ditch to the north	Good	Good	40+	B1	7.4	174
T10	Oak (English)	On	14	2	Yes	460	6.5-7.0-6.5-7.0	4.0	3.0	None	EM	None	Oak of good form and condition located within the hedgerow.	Good	Good	40+	B1	5.5	96
T11	Ash (Common)	On	13	1	Yes	300	4.0-3.5-4.0-4.0	4.0	3.0	None	SM	None	Establishing ash located within the hedgerow.	Good	Good	40+	C1	3.6	41
T12	Ash (Common)	On	16	1	Yes	300	4.0-3.5-4.0-4.0	5.0	4.0	W	SM	None	Establishing ash located within the hedgerow.	Good	Good	40+	C1	3.6	41



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T13	Ash (Common)	On	13	1	Yes	300	5.0-5.0-4.5-4.0	4.0	3.0	None	SM	None	Establishing ash located within the hedgerow.	Good	Good	40+	C1	3.6	41
T14	Oak (English)	On	16	2	Yes	540	7.0-7.0-7.5-7.0	4.0	3.0	None	EM	None	Oak of good form and condition located within the hedgerow.	Good	Good	40+	B1	6.5	132
T15	Oak (English)	On	17	1	Yes	980	9.0-9.0-9.5-9.5	5.0	4.0	Ν	Μ	None	Oak of excellent good and condition located within a belt of scrub. Partially collapsed; but now stable limb low in crown. Existing compacted earth track to the east	Good	Good	40+	A1	11.8	434
T16	Willow (Crack)	On	17	6	Yes	670	7.5-6.5-3.0-6.5	5.0	0.5	N	EM	None	Lapsed coppice; ditch then existing compacted earth track to the east	Good	Fair	40+	B2	8.0	203
T17	Oak (English)	Off	12	1	Yes	700	6.0-6.5-7.0-7.5	4.0	4.0	None	EM	None	Mature oak; stem lean to the north. Located south of a drainage ditch	Good	Good	40+	B1	8.4	222
T18	Ash (Common)	Off	14	7	Yes	530	5.5-6.0-5.5-5.0	4.0	0.5	None	EM	None	Lapsed hedgerow coppice tree; ditch to the west	Good	Fair	40+	C2	6.4	127
T19	Ash (Common)	Off	10	2	Yes	320	4.0-3.5-4.0-4.0	4.0	3.0	W	SM	None	Establishing ash located within the hedgerow.	Good	Fair	40+	C1	3.8	46
T20	Ash (Common)	Off	10.0	2	Yes	280.0	4.0-3.0-4.0-3.5	4.0	3.0	None	SM	None	Establishing ash located within the hedgerow.	Good	Fair	40+	C1	3.3	35.0
T21	Oak (English)	Off	12.0	2	Yes	360.0	6.0-5.5-6.0-5.5	3.0	3.0	None	EM	None	Establishing oak located within the hedgerow. Ditch to the east	Good	Good	40+	B1	4.3	59.0
T22	Oak (English)	Off	12.0	2	Yes	390.0	6.0-6.0-6.0-5.5	3.0	3.0	None	EM	None	Establishing oak located within the hedgerow. Ditch to the east	Good	Good	40+	B1	4.7	69.0
T23	Oak (English)	On	9.0	1	Yes	250.0	3.0-4.0-4.0-4.5	4.0	2.0	SW	Y	None	Establishing oak; ditch to the south; existing compacted earth track to the north	Good	Good	40+	C2	3.0	28.0
T24	Oak (English)	On	9.0	2	Yes	320.0	3.0-4.0-5.0-5.0	4.0	2.0	SW	Y	None	Establishing oak; ditch to the south; existing compacted earth track to the north	Good	Good	40+	C2	3.8	46.0
T25	Oak (English)	On	15.0	2	Yes	480.0	6.5-6.5-7.0-6.0	4.0	2.0	W	EM	None	Establishing oak. Existing compacted earth track to the north; ditch to the south	Good	Good	40+	B1	5.8	104.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T26	Willow (Goat)	On	6.0	3	Yes	320.0	6.0-6.0-3.0-2.0	2.0	1.0	E	SM	None	Ditch to the north; tree of poor structural condition	Fair	Fair	10+	C1	3.8	46.0
T27	Oak (English)	On	15.0	1	Yes	580.0	10.0-9.0-8.0-8. 5	4.0	3.5	S	EM	None	Establishing oak of good form and condition; ditch to the north	Good	Good	40+	B1	7.0	152.0
T28	Oak (English)	On	16.0	1	Yes	580.0	6.0-6.0-6.0-6.0	4.0	3.5	S	EM	None	Establishing oak of good form and condition; ditch to the north	Good	Good	40+	B1	7.0	152.0
T29	Willow (Goat)	On	7.0	8	Yes	140.0	4.5-4.0-4.0-3.0	2.0	1.0	None	SM	None	Ditch to the north; tree of coppice form	Good	Fair	10+	C1	1.7	9.0
Т30	Ash (Common)	On	10.0	1	Yes	200.0	4.0-3.5-4.0-4.0	4.0	3.0	None	SM	None	Establishing ash. Ditch to the north	Good	Good	40+	C1	2.4	18.0
T31	Oak (English)	On	18.0	1	Yes	680.0	11.0-9.5-9.0-8. 5	6.0	5.0	None	М	None	Mature oak of good form and condition; ditch to the north	Good	Good	40+	B1	8.2	209.0
Т32	Oak (English)	On	18.0	1	Yes	690.0	8.0-8.5-8.0-7.0	7.0	4.0	None	Μ	None	Mature oak of good form and condition; located within the field interior	Good	Good	40+	B1	8.3	215.0
Т33	Willow (Crack)	On	14.0	4	Yes	380.0	6.5-6.0-5.0-5.0	3.0	1.0	None	SM	None	Establishing tree; multi stemmed from ground level	Good	Fair	40+	C1	4.5	65.0
T34	Ash (Common)	On	10.0	1	Yes	200.0	4.0-3.5-4.0-4.0	4.0	3.0	None	SM	None	Establishing ash. Ditch to the south	Good	Good	40+	C1	2.4	18.0
T35	Ash (Common)	On	17.0	1	Yes	700.0	6.5-7.0-5.0-5.5	7.0	6.0	NE	Μ	None	Reduced vitality; deadwood in upper crown and decay pockets in structural limbs and main stem. Some habitat value despite condition	Fair	Fair	40+	C3	8.4	222.0
T36	Ash (Common)	On	18.0	1	Yes	600.0	6.0-6.0-5.0-5.5	7.0	6.0	N	М	None	Reduced vitality; deadwood in upper crown; ivy throughout crown	Fair	Fair	40+	C1	7.2	163.0
Т37	Oak (English)	On	13.0	1	Yes	480.0	5.0-4.0-4.0-5.0	6.0	3.5	None	SM	None	Establishing oak of good form and condition; ditch to the east	Good	Good	40+	B1	5.8	104.0
Т38	Oak (English)	Off	12.0	1	Yes	650.0	6.0-6.0-6.0-6.5	6.0	4.0	N	Μ	None	Prominent tree of good form and condition; existing hard surfaced track to the east	Good	Good	40+	B1	7.8	191.0



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Т39	Ash (Common)	Off	20.0	1	None	890.0	10.5-11.0-10.0 -11.0	8.0	5.0	N	М	None	Prominent tree of excellent form and condition; existing hard surfaced track 6m to the south	Good	Good	40+	A1	10.7	358.0
T40	Ash (Common)	On	18.0	1	None	700.0	9.5-9.0-8.5-9.0	8.0	4.0	S	М	None	Prominent tree of good form and condition; existing hard surfaced track 4m to the south	Good	Good	40+	B1	8.4	222.0
T41	Ash (Common)	On	18.0	1	None	700.0	10.0-9.0-8.5-9. 0	7.0	4.0	SW	М	None	Prominent tree; some storm damage; existing hard surfaced track 4m to the south	Good	Fair	40+	B1	8.4	222.0
T42	Ash (Common)	On	21.0	1	None	800.0	6.0-6.0-9.0-9.5	7.0	4.0	SW	М	None	Prominent tree; large diameter tear out low in crown; existing hard surfaced track 5m to the south	Good	Fair	40+	B3	9.6	290.0
T43	Ash (Common)	On	8.0	1	None	800.0	3.0-3.0-3.0-3.0	3.0	4.0	S	М	None	Significantly storm damaged. large diameter tear out low in crown; existing hard surfaced track 9m to the south	Fair	Fair	40+	C3	9.6	290.0
T44	Ash (Common)	On	20.0	1	None	900.0	10.0-9.0-8.5-9. 5	7.0	4.0	SW	М	None	Prominent tree; some storm damage; existing hard surfaced track 3m to the south	Good	Fair	40+	B1	10.8	366.0
T45	Oak (English)	On	17.0	1	Yes	980.0	9.0-10.0-9.5-1 0.0	4.5	4.0	N	М	None	Oak of excellent form and condition located within a belt of scrub at the field boundary	Good	Good	40+	A1	11.8	434.0
T46	Willow (Crack)	On	15.0	1	Yes	460.0	8.5-6.0-5.0-6.0	5.0	3.0	S	SM	None	Establishing tree; existing hard surface track 3m to the south	Good	Fair	40+	C1	5.5	96.0
T47	Oak (English)	On	7.0	1	Yes	350.0	4.5-4.5-3.5-4.0	3.0	1.5	None	SM	None	Establishing tree; ditch to the north	Good	Good	40+	B1	4.2	55.0
T48	Ash (Common)	On	12.0	1	Yes	420.0	4.5-4.5-4.0-4.5	3.0	3.5	None	EM	None	Establishing tree; reduced vitality; ditch to the north	Fair	Fair	10+	C1	5.0	80.0
T49	Alder (Common)	On	7.0	1	Yes	350.0	4.5-4.5-4.5-4.5	3.0	3.0	W	SM	None	Establishing tree; ditch to the north	Good	Good	40+	B1	4.2	55.0
T50	Willow (Crack)	On	17.0	1	Yes	460.0	6.5-6.0-6.5-6.0	5.0	4.0	S	EM	None	Basal wound with associated hollowing; ditch to the north	Good	Fair	10+	C1	5.5	96.0
T51	Oak (English)	On	10.0	1	Yes	550.0	5.0-4.5-4.5-5.0	5.0	5.0	N	EM	None	Establishing tree; ditch to the north	Good	Good	40+	B1	6.6	137.0



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T52	Oak (English)	On	9.0	1	Yes	400.0	4.0-3.5-5.0-4.5	5.0	5.0	Ν	SM	None	Establishing tree; ditch to the north	Good	Good	40+	B1	4.8	72.0
Т53	Ash (Common)	On	18.0	1	None	750.0	7.5-7.0-8.0-7.5	6.0	4.0	W	Μ	None	Reduced vitality; some storm damage and decay in main stem. Ditch to the north. Some habitat potential despite condition	Fair	Fair	40+	C3	9.0	254.0
T54	Holly	On	5.0	10	Yes	130.0	2.0-3.0-2.0-3.5	0.2	0.2	None	М	None	Remnant hedgerow tree	Good	Fair	40+	C1	1.6	8.0
T55	Sycamore	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
T56	Sycamore	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
T57	Sycamore	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
T58	Sycamore	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
T59	Sycamore	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0



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T60	Sycamore	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
T61	Sycamore	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
T62	Sycamore	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
Т63	Ash (Common)	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
T64	Ash (Common)	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
T65	Ash (Common)	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
T66	Ash (Common)	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0



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T67	Ash (Common)	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
Т68	Ash (Common)	Off	12.0	1	Yes	200.0	4.0-4.0-4.0-4.0	5.0	5.0	None	SM	None	Establishing tree; part of a linear tree feature at the Site boundary. Highway to the south; ditch to the north. Significant future growth potential	Good	Good	40+	B2	2.4	18.0
T69	Sycamore	On	8.0	1	Yes	200.0	4.0-4.0-4.0-3.0	2.0	1.0	E	SM	None	Establishing tree with significant future growth potential	Good	Good	40+	C1	2.4	18.0
T70	Oak (English)	On	11.0	1	Yes	950.0	7.5-8.5-7.5-6.0	3.0	1.0	E	М	None	Mature oak of stunted form located within the hedgerow	Good	Good	40+	B1	11.4	408.0
T71	Ash (Common)	On	18.0	1	None	700.0	6.0-5.0-5.0-6.0	6.0	4.0	E	М	None	Reduced vitality; some storm damage and decay in main stem. Some habitat potential despite condition	Fair	Poor	40+	C3	8.4	222.0
T72	Oak (English)	On	13.0	1	Yes	680.0	7.5-7.0-6.0-6.0	5.0	1.0	E	М	None	Mature oak of good form and condition located at the Site boundary	Good	Good	40+	B1	8.2	209.0
T73	Ash (Common)	On	20.0	1	None	780.0	9.5-9.0-9.0-9.5	7.0	6.0	None	М	None	Prominent tree of good form and condition	Good	Good	40+	B1	9.4	275.0
T74	Ash (Common)	On	18.0	1	None	580.0	6.5-6.0-7.0-7.0	5.0	3.0	SE	SM	None	Establishing oak tree of good form and condition; smaller tree adjacent to the west	Good	Good	40+	B1	7.0	152.0
T75	Ash (Common)	On	15.0	2	None	300.0	4.0-5.0-4.0-3.0	5.0	5.0	None	SM	None	Establishing ash; ivy on stems	Good	Fair	40+	C1	3.6	41.0
T76	Hawthorn	On	5.0	1	None	250.0	2.5-1.5-1.5-3.0	1.0	1.0	W	М	None	Mature hawthorn; stem lean to the west	Good	Fair	40+	B1	3.0	28.0
T77	Alder (Common)	On	5.0	1	None	200.0	2.5-2.5-1.5-2.0	1.0	1.0	None	Y	None	Establishing tree; ditch to the north	Good	Good	40+	C1	2.4	18.0
T78	Oak (English)	On	5.0	1	None	200.0	2.5-2.5-2.5-2.5	1.0	1.0	None	Y	None	Establishing tree; ditch to the north	Good	Good	40+	C1	2.4	18.0
T79	Alder (Common)	On	5.0	1	None	200.0	2.5-2.5-2.5-2.5	1.0	1.0	None	Y	None	Establishing tree; ditch to the north	Good	Good	40+	C1	2.4	18.0



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Т80	Ash (Common)	On	17.0	1	None	550.0	5.0-5.0-7.0-6.0	7.0	6.0	None	Μ	None	Decay at base; Inonotus Hispidus brackets on structural limbs. The tree has some habitat potential despite condition. Ditch to the north	Good	Poor	10+	C3	6.6	137.0
T81	Ash (Common)	On	20.0	1	None	980.0	7.0-6.0-7.0-9.0	9.0	0.5	W	М	None	Decay in stems; Inonotus Hispidus brackets on structural limbs. The tree has some habitat potential despite condition. Ditch to the north	Good	Fair	20+	В3	11.8	434.0
T82	Ash (Common)	On	20.0	1	None	880.0	7.0-6.0-10.0-1 0.0	7.0	7.0	S	М	None	Asymmetric crown due to storm damage/tear out of secondary stem. Ditch to the south	Good	Fair	40+	В3	10.6	350.0
Т83	Alder (Common)	On	7.0	1	None	250.0	3.0-3.0-2.0-2.0	2.5	2.0	None	SM	None	Establishing tree; ditch to the east	Good	Good	40+	B1	3.0	28.0
Т84	Ash (Common)	On	18.0	1	None	700.0	5.0-9.0-10.0-6. 0	7.0	6.0	S	М	None	Slightly reduced vitality but tree is generally in good condition. Ditch to the south	Good	Fair	20+	B1	8.4	222.0
T85	Oak (English)	On	12.0	1	Yes	280.0	4.0-5.0-5.0-3.0	4.0	3.0	E	SM	None	Establishing hedgerow oak of good form and condition	Good	Good	40+	B1	3.3	35.0
T86	Oak (English)	On	6.0	1	None	220.0	2.5-2.5-2.5-2.5	2.0	1.0	None	Y	None	Establishing hedgerow tree	Good	Good	40+	C1	2.6	22.0
Т87	Oak (English)	On	10.0	1	Yes	400.0	5.0-6.5-6.0-5.0	5.0	3.0	E	EM	None	Establishing oak of good form and condition. Ditch to the east	Good	Good	40+	B1	4.8	72.0
Т88	Oak (English)	On	10.0	1	Yes	400.0	5.0-6.5-6.0-4.0	5.0	3.0	None	EM	None	Establishing oak of good form and condition. Ditch to the east	Good	Good	40+	B1	4.8	72.0
Т89	Oak (English)	On	8.0	1	Yes	400.0	5.5-6.5-6.0-4.0	5.0	3.0	None	EM	None	Establishing oak of good form and condition. Ditch to the east	Good	Good	40+	B1	4.8	72.0
Т90	Alder (Common)	On	9.0	3	Yes	340.0	4.0-4.0-3.5-4.0	4.0	3.5	None	SM	None	Establishing tree	Good	Good	40+	B1	4.1	52.0
T91	Oak (English)	On	12.0	1	Yes	500.0	6.5-6.5-7.0-6.5	6.0	5.0	None	EM	None	Establishing oak of good form and condition. Existing hard surface track to the east	Good	Good	40+	B1	6.0	113.0
T92	Oak (English)	On	13.0	1	Yes	550.0	7.0-6.5-6.0-7.0	6.0	5.0	W	EM	None	Establishing oak of good form and condition. Existing hard surface track to the east	Good	Good	40+	B1	6.6	137.0



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SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
Т93	Ash (Common)	On	18.0	1	None	700.0	7.0-8.5-8.0-5.0	7.0	6.0	None	М	None	Reduced vitality; mechanical wound and decay at base. Ditch to the south	Fair	Poor	20+	C1	8.4	222.0
T94	Oak (English)	On	8.0	1	Yes	500.0	5.0-6.5-3.0-4.0	4.0	2.0	None	EM	None	Establishing oak of good form and condition. Ditch to the north	Good	Good	40+	B1	6.0	113.0
T95	Ash (Common)	On	21.0	3	Yes	810.0	7.0-7.0-8.0-7.5	10.0	10.0	None	М	None	Multi stemmed ash. Ditch to the north	Good	Good	40+	B1	9.7	297.0
Т96	Oak (English)	On	13.0	1	Yes	650.0	7.0-6.5-6.0-7.0	6.0	5.0	None	EM	None	Establishing oak of good form and condition.	Good	Good	40+	B1	7.8	191.0
Т97	Oak (English)	On	18.0	1	Yes	850.0	8.0-8.0-8.0-9.0	6.0	5.0	None	М	None	Mature oak of good form and condition.	Good	Good	40+	B1	10.2	327.0
T98	Ash (Common)	On	20.0	1	None	800.0	8.0-7.5-7.5-7.0	7.0	6.0	None	М	None	Reduced vitality; sunken cankering and decay associated with Inonotus Hispidus. The tree still has good vitality and retains habitat potential despite its condition	Good	Poor	20+	C3	9.6	290.0
T99	Oak (English)	On	13.0	1	Yes	550.0	8.0-6.5-3.0-6.0	6.0	5.0	None	EM	None	Establishing oak of good form and condition. Existing hard surface track to the east	Good	Good	40+	B1	6.6	137.0
T100	Oak (English)	On	12.0	1	Yes	450.0	7.0-6.5-4.5-3.5	6.0	3.0	Ν	EM	None	Establishing oak of good form and condition. Existing hard surface track to the east	Good	Good	40+	B1	5.4	92.0
T101	Oak (English)	On	8.0	1	Yes	320.0	6.0-4.0-4.5-3.5	5.0	3.0	Ν	EM	None	Establishing oak of good form and condition. Existing hard surface track to the east	Good	Good	40+	B1	3.8	46.0
T102	Oak (English)	On	12.0	1	Yes	450.0	7.0-4.0-4.5-5.0	5.0	3.0	None	EM	None	Establishing oak of good form and condition. Existing hard surface track to the east	Good	Good	40+	B1	5.4	92.0
T103	Ash (Common)	On	19.0	1	None	700.0	9.0-9.0-9.0-8.0	7.0	5.0	SE	М	None	Tree of good form and condition. Ditch to the north	Good	Good	40+	B1	8.4	222.0
T104	Oak (English)	On	16.0	1	Yes	700.0	8.0-7.5-10.0-8. 5	5.0	3.0	S	EM	None	Oak of good form and condition located within the hedgerow	Good	Good	40+	B1	8.4	222.0
T105	Oak (English)	Off	18.0	1	Yes	800.0	10.0-10.0-10.0 -10.0	6.0	5.0	NE	М	None	Oak of excellent form and condition. Prominent tree on the landscape	Good	Good	40+	A1	9.6	290.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T106	Oak (English)	Off	10.0	1	Yes	600.0	7.0-7.5-7.0-7.0	4.0	3.0	S	EM	None	Oak of good form and condition. Ditch to the south	Good	Good	40+	B1	7.2	163.0
T107	Oak (English)	Off	8.0	3	Yes	360.0	5.0-6.0-5.0-7.0	4.0	2.0	S	SM	None	Oak of good form and condition. Ditch to the south	Good	Good	40+	B1	4.3	59.0
T108	Oak (English)	On	15.0	1	Yes	750.0	8.5-9.0-8.0-8.0	4.0	4.0	E	EM	None	Oak of good form and condition. Ditch to the south	Good	Good	40+	B1	9.0	254.0
T109	Oak (English)	On	18.0	1	None	1010.0	11.0-12.0-12.0 -11.0	5.0	3.0	None	М	None	Mature and prominent tree within the linear tree feature. Of excellent form and condition	Good	Good	40+	A3	12.1	461.0
T110	Oak (English)	On	18.0	1	None	900.0	9.5-9.5-9.0-10. 0	5.0	3.0	N	М	None	Mature and prominent tree within the linear tree feature. Of excellent form and condition	Good	Good	40+	A2	10.8	366.0
T111	Oak (English)	On	17.0	1	None	990.0	10.0-10.0-9.0- 10.0	5.0	2.0	None	М	None	Mature and prominent tree within the linear tree feature. Of excellent form and condition	Good	Good	40+	A2	11.9	443.0
T112	Oak (English)	On	17.0	1	None	750.0	8.5-9.0-8.5-9.0	5.0	3.0	None	М	None	Mature and prominent tree within the linear tree feature. Of excellent form and condition	Good	Good	40+	A2	9.0	254.0
T113	Ash (Common)	On	21.0	1	None	780.0	10.5-9.5-10.0- 9.5	6.0	5.0	W	М	None	Mature ash of good form and condition. Ditch to the north	Good	Good	40+	B1	9.4	275.0
T114	Oak (English)	Off	10.0	1	Yes	350.0	6.0-5.0-5.0-5.0	4.0	3.0	S	SM	None	Oak of good form and condition located within the hedgerow. Ditch to the north	Good	Good	40+	B1	4.2	55.0
T115	Oak (English)	Off	10.0	1	Yes	550.0	6.0-6.0-7.0-6.0	4.0	3.0	NE	EM	None	Oak of good form and condition located within the hedgerow. Ditch to the north	Good	Good	40+	B1	6.6	137.0
T116	Oak (English)	Off	13.0	1	Yes	580.0	8.0-8.0-7.0-7.0	4.0	4.0	N	EM	None	Oak of good form and condition. Ditch and existing compacted earth track to the south	Good	Good	40+	B1	7.0	152.0
T117	Ash (Common)	Off	13.0	2	Yes	360.0	6.0-6.0-3.0-4.0	6.0	5.0	N	SM	None	Dead tree; existing compacted earth track to the north	Poor	Poor	None	U	4.3	59.0
T118	Oak (English)	Off	10.0	1	Yes	600.0	7.0-7.0-7.0-7.0	4.0	3.0	N	EM	None	Oak of good form and condition. Located within the hedgerow. Ditch to the east	Good	Good	40+	B1	7.2	163.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T119	Oak (English)	Off	18.0	1	Yes	1000.0	9.5-12.5-10.0- 10.0	5.0	5.0	None	Μ	None	Mature and prominent tree within the linear tree feature. Of excellent form and condition. Ditch to the east	Good	Good	40+	A2	12.0	452.0
T120	Oak (English)	Off	18.0	1	Yes	670.0	9.0-9.0-9.5-9.5	4.0	2.0	S	М	None	Oak of good form and condition. Located within the hedgerow. Ditch to the east	Good	Good	40+	B1	8.0	203.0
T121	Oak (English)	Off	12.0	1	Yes	550.0	6.5-6.0-7.0-6.0	4.0	1.0	S	EM	None	Oak of good form and condition located within the hedgerow. Ditch to the east	Good	Good	40+	B1	6.6	137.0
T122	Oak (English)	Off	19.0	1	Yes	900.0	12.0-11.0-11.0 -11.0	5.0	5.0	S	М	None	Mature and prominent tree with a broadly spreading crown. Of excellent form and condition. Ditch to the east	Good	Good	40+	A1	10.8	366.0
T123	Poplar (Lombardy)	Off	25.0	1	Yes	850.0	7.0-7.5-5.5-5.0	4.0	2.0	E	М	None	Mature and prominent tree of good form and condition	Good	Good	40+	B1	10.2	327.0
T124	Oak (English)	Off	17.0	1	Yes	670.0	9.0-10.5-9.5-9. 5	4.0	2.0	E	М	None	Oak of good form and condition	Good	Good	40+	B1	8.0	203.0
T125	Poplar (Lombardy)	On	25.0	1	Yes	1050.0	8.5-8.0-6.0-5.0	4.0	2.0	None	М	None	Mature and prominent tree of good form and condition	Good	Good	40+	B1	12.6	499.0
T126	Oak (English)	On	6.0	1	Yes	500.0	5.0-5.0-2.5-5.0	3.0	1.0	None	SM	None	located just south of the hedgerow. Ditch to the north	Good	Good	40+	B1	6.0	113.0
T127	Oak (English)	On	7.0	1	Yes	550.0	5.0-5.0-5.0-5.0	3.0	3.0	None	SM	None	located just south of the hedgerow. Ditch to the north	Good	Good	40+	B1	6.6	137.0
T128	Oak (English)	On	13.0	1	Yes	650.0	8.0-8.0-8.0-8.0	4.0	3.0	None	EM	None	Establishing hedgerow oak of good form and condition	Good	Good	40+	B1	7.8	191.0
T129	Ash (Common)	On	7.0	6	Yes	220.0	4.5-3.0-4.0-3.0	3.0	3.0	S	SM	None	Hedgerow coppice	Good	Fair	40+	C1	2.6	22.0
T130	Oak (English)	On	17.0	1	None	950.0	8.5-9.0-8.5-9.0	5.0	3.0	None	М	None	Mature and prominent tree within the linear tree feature. Of excellent form and condition	Good	Good	40+	A2	11.4	408.0
T131	Oak (English)	On	10.0	3	Yes	440.0	5.0-5.0-5.5-5.5	4.0	0.5	S	SM	None	Multi stemmed from ground level. Ditch to the west	Good	Good	40+	B1	5.3	88.0
T132	Ash (Common)	Off	6.0	1	Yes	500.0	1.0-1.0-1.0-1.0	3.0	3.0	None	М	None	Standing habitat stem with some re-growth. Some habitat value despite condition	Poor	Poor	<10	C3	6.0	113.0



HELIOS RENEWABLE ENERGY PROJECT

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T133	Ash (Common)	On	17.0	1	Yes	650.0	7.0-8.0-8.0-8.0	5.0	5.0	SW	М	None	Located at the Site boundary	Good	Good	40+	B1	7.8	191.0
T134	Oak (English)	On	17.0	1	Yes	700.0	10.0-11.0-11.0 -10.0	5.0	3.5	E	М	None	Oak of good form and condition	Good	Good	40+	B1	8.4	222.0
T135	Oak (English)	On	18.0	1	Yes	900.0	10.0-10.0-11.0 -10.0	5.0	5.0	None	Μ	None	Mature and prominent tree with a broadly spreading crown. Of excellent form and condition. Ditch to the north	Good	Good	40+	A1	10.8	366.0
T136	Oak (English)	On	18.0	1	Yes	900.0	10.0-10.0-10.0 -10.0	5.0	2.0	W	Μ	None	Mature and prominent tree with a broadly spreading crown. Of excellent form and condition. Ditch to the north	Good	Good	40+	A1	10.8	366.0
T137	Oak (English)	On	8.0	1	Yes	780.0	4.5-5.0-4.5-6.0	3.0	2.0	N	EM	None	Oak of stunted form . Ditch to the east	Good	Good	40+	B2	9.4	275.0
T138	Willow (Crack)	On	18.0	3	Yes	610.0	7.0-7.0-5.0-5.0	5.0	0.5	None	EM	None	1 of 4 trees of same form and condition. Ditch to the east	Good	Fair	40+	B2	7.3	168.0
T139	Willow (Crack)	On	18.0	4	Yes	580.0	7.0-7.0-5.0-5.0	5.0	0.5	None	EM	None	1 of 4 trees of same form and condition. Ditch to the east	Good	Fair	40+	B2	7.0	152.0
T140	Willow (Crack)	On	18.0	1	Yes	500.0	7.0-7.0-5.0-5.0	5.0	0.5	None	EM	None	1 of 4 trees of same form and condition. Ditch to the east	Good	Fair	40+	B2	6.0	113.0
T141	Willow (Crack)	On	18.0	3	Yes	610.0	7.0-7.0-5.0-5.0	5.0	0.5	None	EM	None	1 of 4 trees of same form and condition. Ditch to the east	Good	Fair	40+	B2	7.3	168.0
T142	Ash (Common)	On	9.0	1	Yes	480.0	4.0-7.0-4.0-4.0	4.0	0.5	W	EM	None	Located at boundary. Ditch to the north	Good	Fair	40+	B1	5.8	104.0
T143	Oak (English)	On	12.0	1	Yes	680.0	5.0-7.0-4.0-6.0	4.0	0.5	Е	EM	None	Ow branching tree located at boundary. Ditch to the north	Good	Good	40+	B1	8.2	209.0
T144	Alder (Common)	On	5.5	1	None	250.0	3.0-3.0-2.0-2.0	1.0	1.0	S	SM	None	Establishing tree; ditch to the east	Good	Good	40+	B1	3.0	28.0
T145	Willow (Crack)	On	17.0	1	Yes	900.0	7.0-7.0-6.0-7.0	5.0	0.5	None	М	None	A lapsed low pollard. Ditch to the north	Good	Fair	40+	B1	10.8	366.0
T146	Willow (Crack)	On	15.0	1	Yes	900.0	7.0-3.0-2.0-6.0	5.0	2.0	N	М	None	Tear out of secondary stem at 2m. Ditch to the north	Good	Poor	40+	C1	10.8	366.0
T147	Ash (Common)	On	19.0	1	Yes	600.0	8.0-7.0-5.0-6.0	6.0	5.0	NE	М	None	Reduced vitality in upper crown. Still of reasonable form and condition	Fair	Good	20+	B1	7.2	163.0



HELIOS RENEWABLE ENERGY PROJECT

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T148	Ash (Common)	On	20.0	1	Yes	600.0	6.0-7.0-7.0-6.0	6.0	5.0	None	М	None	Ivy on main stem and throughout lower crown. Ditch to the north	Fair	Good	20+	B1	7.2	163.0
T149	Oak (English)	On	19.0	1	Yes	780.0	9.5-10.0-9.0-9. 5	5.0	5.0	None	М	None	Oak of good form and condition. Ditch to the east	Good	Good	40+	B1	9.4	275.0
T150	Ash (Common)	On	16.0	1	Yes	400.0	6.0-6.0-6.0-7.0	5.0	5.0	N	EM	None	Establishing ash located at boundary	Good	Good	40+	B1	4.8	72.0
T151	Ash (Common)	On	8.5	1	Yes	600.0	3.0-4.5-4.5-3.0	4.0	3.0	N	Μ	None	Storm damaged tree of poor condition. Good habitat value despite condition. Ditch to the north	Fair	Poor	20+	C3	7.2	163.0
T152	Oak (English)	On	19.0	1	Yes	750.0	9.5-9.0-7.5-8.5	5.0	4.0	None	М	None	Prominent oak of good form and condition. Ditch to the north	Good	Good	40+	B1	9.0	254.0
T153	Alder (Common)	On	6.0	1	Yes	180.0	3.0-3.0-3.0-3.0	2.0	2.0	None	Y	None	Establishing tree. Ditch to the north	Good	Good	40+	C1	2.2	15.0
T154	Alder (Common)	On	6.0	1	Yes	180.0	3.0-3.0-3.0-3.0	2.0	2.0	None	Y	None	Establishing tree. Ditch to the north	Good	Good	40+	C1	2.2	15.0
T155	Oak (English)	On	19.0	1	Yes	680.0	7.0-7.0-7.5-6.5	5.0	4.0	S	EM	None	Ditch to the west	Good	Good	40+	B1	8.2	209.0
T156	Oak (English)	On	18.0	1	Yes	880.0	9.5-9.5-8.5-9.5	5.0	4.0	None	М	None	Prominent oak of excellent form and condition. Ditch to the north	Good	Good	40+	A1	10.6	350.0
T157	Oak (English)	On	13.0	1	Yes	600.0	6.5-6.5-7.0-7.5	4.0	3.0	W	EM	None	Establishing oak located at boundary	Good	Good	40+	B1	7.2	163.0
T158	Ash (Common)	On	18.0	2	Yes	620.0	7.0-7.0-7.0-7.5	5.0	6.0	None	М	None	Located at boundary. Ditch to the north	Good	Good	40+	B1	7.4	174.0
T159	Oak (English)	On	14.0	1	Yes	580.0	7.0-8.0-7.0-7.0	6.0	5.0	None	EM	None	Oak of good form and condition. Ditch to the west	Good	Good	40+	B1	7.0	152.0
T160	Willow (Crack)	Off	18.0	1	Yes	800.0	9.0-9.0-7.0-7.0	3.0	0.5	N	М	None	Lapsed willow coppice located at boundary	Good	Fair	40+	B1	9.6	290.0
T161	Oak (English)	Off	5.0	2	Yes	250.0	4.0-3.0-3.5-3.0	0.5	0.5	None	Y	None	Establishing oak of good form and condition. Ditch to the south	Good	Good	40+	B1	3.0	28.0



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Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T162	Willow (Crack)	Off	17.0	1	Yes	800.0	7.0-8.0-8.0-8.0	3.0	0.5	None	Μ	None	Lapsed willow coppice located within an outgrown hedgerow. Existing compacted earth track to the west	Good	Fair	40+	B1	9.6	290.0
T163	Oak (English)	Off	13.0	1	Yes	580.0	8.5-8.5-8.5-8.5	1.0	2.0	S	EM	None	Establishing oak of good form and condition. Existing compacted earth track to the west	Good	Good	40+	B1	7.0	152.0
T164	Oak (English)	Off	14.0	1	Yes	550.0	7.0-5.0-7.0-7.0	5.0	4.5	None	EM	None	Establishing oak of good form and condition. Existing compacted earth track and ditch to the east	Good	Good	40+	B1	6.6	137.0
T165	Willow (Crack)	On	20.0	2	Yes	500.0	8.0-7.5-6.5-6.0	4.0	4.0	W	EM	None	Willow at the field boundary. Ditch to the north	Good	Fair	40+	B1	6.0	113.0
T166	Oak (English)	Off	16.0	1	Yes	780.0	8.0-8.0-8.5-8.5	3.0	3.0	N	EM	None	Oak of good form and condition located at boundary	Good	Good	40+	B1	9.4	275.0
T167	Oak (English)	Off	5.0	1	Yes	200.0	3.5-3.5-3.5-3.5	0.5	0.5	None	Y	None	Establishing oak of good form and condition. Ditch to the west. Compacted earth track to the east	Good	Good	40+	B1	2.4	18.0
T168	Alder (Common)	On	13.0	1	Yes	650.0	5.5-6.0-7.0-6.5	3.0	0.5	None	М	None	Mature alder. Ditch to the north	Good	Good	40+	B1	7.8	191.0
T169	Oak (English)	On	12.0	1	Yes	450.0	6.5-5.5-4.5-5.0	4.0	1.0	N	SM	None	Establishing hedgerow oak	Good	Good	40+	B1	5.4	92.0
T170	Alder (Common)	On	7.0	1	Yes	200.0	3.0-3.0-3.0-3.0	2.0	2.0	S	Y	None	Establishing tree at the field edge	Good	Good	40+	C1	2.4	18.0
T171	Oak (English)	On	5.5	1	Yes	200.0	3.0-3.0-3.0-3.0	2.0	2.0	S	Y	None	Establishing tree at the field edge	Good	Good	40+	C1	2.4	18.0
T172	Oak (English)	On	17.0	1	Yes	780.0	8.0-8.0-9.0-8.5	5.0	4.0	E	М	None	Mature oak of good form and condition. Existing compacted earth track to the west	Good	Good	40+	B1	9.4	275.0
T173	Ash (Common)	On	20.0	2	Yes	820.0	9.5-9.0-9.0-8.0	5.0	4.0	S	М	None	Mature ash of good form and condition. Existing compacted earth track to the west	Good	Good	40+	B1	9.8	304.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T174	Ash (Common)	On	10.0	1	Yes	600.0	5.0-5.0-6.0-3.0	3.0	0.5	None	Μ	None	Storm damaged tree with decay in main stem. 7m re-growth. Good habitat value despite condition. Existing compacted earth track to the west	Good	Good	40+	B1	7.2	163.0
T175	Oak (English)	On	18.0	1	Yes	900.0	8.5-9.0-10.0-1 0.0	5.0	5.0	None	Μ	None	Mature oak of good form and condition. Some storm damage in lower crown. Existing compacted earth track to the east	Good	Good	40+	B1	10.8	366.0
T176	Oak (English)	On	6.0	1	Yes	190.0	3.0-3.0-3.0-3.0	4.0	3.0	None	Y	None	Establishing hedgerow oak. Existing compacted earth track to the north	Good	Good	40+	B1	2.3	16.0
T177	Ash (Common)	On	19.0	1	Yes	600.0	9.0-6.0-8.5-6.0	5.0	0.5	None	Μ	None	Mature ash; significant decay at stem base (likely failure point) Existing compacted earth track to the north	Good	Good	40+	U	7.2	163.0
T178	Oak (English)	On	5.0	1	Yes	200.0	3.0-3.0-3.0-3.0	0.5	0.5	None	Y	None	Establishing oak. Existing compacted earth track to the east	Good	Good	40+	B1	2.4	18.0
T179	Ash (Common)	On	16.0	2	Yes	460.0	6.5-7.0-7.0-6.0	5.0	4.0	S	SM	None	Establishing ash of good form and condition. Existing compacted earth track and ditch to the west	Good	Good	40+	B1	5.5	96.0
T180	Ash (Common)	On	16.0	1	Yes	500.0	5.0-6.0-5.5-5.0	5.0	0.5	E	EM	None	Reduced vitality. Existing compacted earth track and ditch to the north	Good	Good	40+	C1	6.0	113.0
T181	Ash (Common)	On	12.0	3	Yes	300.0	5.0-4.0-5.5-5.0	3.0	0.5	None	SM	None	Hedgerow coppice tree	Good	Fair	40+	C1	3.6	41.0
T182	Oak (English)	On	16.0	1	None	940.0	8.0-9.5-9.0-5.0	5.0	5.0	SE	М	None	Mature oak; some storm damage in crown; large diameter branch tear out.	Good	Fair	40+	В3	11.3	400.0
T183	Oak (English)	On	19.0	1	None	1050.0	10.0-10.5-11.0 -8.0	5.0	4.0	Ν	М	None	Mature oak of excellent form and condition	Good	Good	40+	A1	12.6	499.0
T184	Oak (English)	On	15.0	1	Yes	600.0	6.0-7.0-6.0-5.0	4.0	3.0	E	EM	None	Establishing oak of good form and condition	Good	Good	40+	B1	7.2	163.0



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T185	Oak (English)	On	13.0	1	Yes	520.0	6.0-6.0-5.0-4.5	4.0	4.0	E	SM	None	Establishing oak with some premature stags head forming in upper crown	Fair	Fair	20+	B1	6.2	122.0
T186	Oak (English)	On	5.0	1	Yes	200.0	3.5-3.0-3.0-3.0	2.0	2.0	Ν	Y	None	Establishing hedgerow oak.	Good	Good	40+	B1	2.4	18.0
T187	Ash (Common)	On	14.0	7	Yes	600.0	6.0-3.5-5.0-3.0	3.0	0.5	None	SM	None	Hedgerow coppice; reduced vitality	Poor	Fair	<10	C1	7.2	163.0
T188	Ash (Common)	On	14.0	7	Yes	600.0	6.0-6.0-5.0-5.0	3.0	0.5	None	SM	None	Hedgerow coppice	Poor	Fair	40+	B1	7.2	163.0
T189	Poplar (Lombardy)	On	25.0	1	Yes	750.0	4.0-4.0-4.0-4.0	3.0	3.0	None	EM	None	Tree of good form and condition. Existing hard surfaced track to the north	Good	Good	40+	B1	9.0	254.0
T190	Oak (English)	Off	20.0	1	None	1200.0	11.0-11.0-10.0 -10.0	5.0	2.0	N	Μ	None	Mature oak with a significantly large stem diameter. Ivy on main stem and throughout lower crown. Hard surfaced track to the north	Good	Good	40+	A3	14.4	651.0
T191	Oak (English)	On	18.0	1	Yes	900.0	7.0-6.0-8.0-8.0	6.0	5.0	W	Μ	None	Oak of good form and condition. Existing hard surfaced track to the west and compacted earth track to the north	Good	Good	40+	B1	10.8	366.0
T192	Oak (English)	On	18.0	1	Yes	650.0	7.5-7.5-7.0-7.5	6.0	3.0	NW	EM	None	Oak of good form and condition. Surrounding fields have been deep ploughed up to 1m of the base	Good	Good	40+	B1	7.8	191.0
T193	Oak (English)	On	17.0	1	Yes	510.0	7.5-7.0-7.0-6.5	6.0	3.0	N	EM	None	Oak of good form and condition. Surrounding fields have been deep ploughed up to 1m of the base	Good	Good	40+	B1	6.1	118.0
T194	Oak (English)	On	17.0	1	Yes	600.0	8.0-7.0-8.0-7.5	6.0	4.0	S	EM	None	Oak of good form and condition. Surrounding fields have been deep ploughed up to 1m of the base	Good	Good	40+	B1	7.2	163.0
T195	Oak (English)	On	13.0	1	Yes	600.0	5.0-7.0-7.0-7.0	4.0	1.0	S	EM	None	Oak of good form and condition. Surrounding fields to the north have been deep ploughed up to 2m of the base	Good	Good	40+	B1	7.2	163.0



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T196	Oak (English)	On	18.0	1	Yes	900.0	5.0-9.0-9.5-9.5	5.0	3.0	S	Μ	None	Oak of good form and condition. fields to the north have been deep ploughed up to 2m of the base	Good	Good	40+	B1	10.8	366.0
T197	Alder (Common)	On	18.0	1	Yes	800.0	3.0-6.0-6.0-5.0	1.0	0.5	S	Μ	None	Mature alder with a storm damaged crown and hollowed stem. fields to the north have been deep ploughed up to 2m of the base	Good	Good	40+	В3	9.6	290.0
T198	Oak (English)	On	16.0	1	Yes	950.0	5.0-8.0-8.5-7.0	1.0	2.0	S	Μ	None	Cut back from the field edge. fields to the north have been deep ploughed up to 2m of the base	Good	Good	40+	B1	11.4	408.0
T199	Oak (English)	On	15.0	1	Yes	700.0	9.0-7.5-8.5-8.0	1.0	2.0	W	Μ	None	Set back from the field edge. fields to the east have been deep ploughed up to 5m of the base	Good	Good	40+	B1	8.4	222.0
T200	Oak (English)	On	13.0	1	Yes	650.0	6.0-6.0-7.0-6.5	4.0	2.0	None	EM	None	Set back from the field edge within an area of scrub. The fields to the west have been deep ploughed up to 5m of the base. Reduced vitality	Good	Good	40+	B1	7.8	191.0
T201	Oak (English)	On	14.0	1	Yes	600.0	6.0-6.0-7.0-6.5	4.0	3.0	None	EM	None	Located on the eastern bank of a deep ditch	Good	Good	40+	B1	7.2	163.0
T202	Oak (English)	On	20.0	1	Yes	1000.0	10.0-10.0-9.5- 9.5	4.0	4.0	S	Μ	None	Mature oak of excellent form and condition; existing compacted earth track to the west	Good	Good	40+	A1	12.0	452.0
T203	Alder (Common)	Off	6.0	3	Yes	260.0	3.0-3.0-3.0-3.0	1.0	0.5	None	Y	None	Establishing tree	Good	Fair	40+	C1	3.1	31.0
T204	Oak (English)	Off	13.0	1	Yes	550.0	7.0-7.0-7.5-7.5	3.0	2.0	None	SM	None	Establishing oak at the field boundary	Good	Good	40+	B1	6.6	137.0
T205	Ash (Common)	On	19.0	2	Yes	490.0	7.0-7.0-6.0-6.0	6.0	6.0	E	EM	None	Twin stemmed from ground level. Ditch to the west. Compacted earth track to the east	Good	Good	40+	B1	5.9	109.0
T206	Oak (English)	On	14.0	1	Yes	400.0	5.0-5.5-6.0-6.0	5.0	4.0	W	EM	None	Establishing oak of good form and condition. Compacted earth track to the west	Good	Good	40+	B1	4.8	72.0



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T207	Oak (English)	On	16.0	1	Yes	720.0	5.5-7.0-6.5-6.5	5.0	5.0	None	EM	None	Establishing oak of good form and condition. Compacted earth track to the west	Good	Good	40+	B1	8.6	235.0
T208	Oak (English)	On	16.0	1	Yes	600.0	6.5-7.5-6.0-6.5	4.0	4.0	Ν	EM	None	Significant decay at stem base. Likely failure point. Compacted earth track to the west	Good	Poor	<10	U	7.2	163.0
T209	Ash (Common)	On	15.0	1	Yes	360.0	5.0-5.0-6.0-5.0	5.0	4.0	Ν	SM	None	Establishing hedgerow ash of good form and condition. Ditch to the north	Good	Good	40+	B1	4.3	59.0
T210	Ash (Common)	On	10.0	6	Yes	310.0	5.0-5.0-6.0-5.0	3.0	0.5	None	SM	None	Hedgerow coppice. Ditch to the east	Good	Good	40+	B1	3.7	43.0
T211	Ash (Common)	On	10.0	7	Yes	480.0	5.0-6.0-6.0-5.0	3.0	0.5	None	EM	None	Hedgerow coppice. Ditch to the north	Good	Good	40+	B1	5.8	104.0
T212	Ash (Common)	On	18.0	2	Yes	640.0	8.0-8.0-8.5-9.0	4.0	4.0	Ν	EM	None	Multi stemmed from ground level; less significant stem to the west. Ditch to the north	Good	Good	40+	B1	7.7	185.0
T213	Ash (Common)	On	21.0	3	Yes	780.0	10.0-10.0-9.0- 9.0	5.0	5.0	E	Μ	None	Historically laid/coppiced tree. Now a prominent multi stemmed tree. Compacted earth track to the south	Good	Good	40+	B1	9.4	275.0
T214	Oak (English)	On	17.0	1	Yes	900.0	8.0-9.0-8.0-7.0	3.0	2.0	S	Μ	None	Prominent tree within the linear tree feature. Ditch to the east. Field ploughed to the west within 1m of base	Good	Good	40+	B1	10.8	366.0
T215	Rowan	On	4.0	1	Yes	160.0	3.0-2.0-2.0-2.0	0.5	0.5	None	Y	None	Rowan and elder sharing the same location	Good	Fair	20+	C1	2.0	12.0
T216	Oak (English)	Off	13.0	1	Yes	580.0	6.5-7.0-7.0-6.5	5.0	4.5	E	EM	None	Oak of good form and located within the hedgerow. Existing compacted earth track to the west	Good	Good	40+	B1	7.0	152.0
T217	Poplar (Hybrid black)	Off	25.0	1	Yes	850.0	12.0-12.0-12.0 -11.0	10.0	10.0	S	М	None	Off-site tree located north of the ditch.	Good	Good	40+	B1	10.2	327.0
T218	Ash (Common)	On	20.0	1	Yes	2000.0	7.0-9.0-10.0-9. 0	3.0	0.5	None	Μ	None	Mature lapsed coppice/low pollard with a significantly large stem diameter; located west of a wire fence. Field ploughed to the east	Good	Good	40+	Α3	15.0	707.0



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T219	Poplar (Lombardy)	Off	20.0	1	Yes	350.0	3.0-3.0-3.0-3.0	2.0	2.0	None	SM	None	Tree located within neighbouring property. Significant future growth potential	Good	Good	40+	C1	4.2	55.0
T220	Alder (Common)	On	10.0	1	Yes	580.0	5.0-6.0-5.0-4.0	4.0	0.5	E	М	None	Tree of low pollard form; ditch to the east; field ploughed to the west	Good	Good	40+	B1	7.0	152.0
T221	Ash (Common)	On	12.0	1	Yes	280.0	4.0-5.0-4.0-3.0	4.0	4.0	NE	SM	None	Establishing hedgerow tree	Good	Good	40+	B1	3.3	35.0
T222	Ash (Common)	On	16.0	1	Yes	700.0	4.0-4.0-6.0-5.0	5.0	3.0	S	Μ	None	Storm damaged tree; failure at main stem 5m; failed section is in situ. Tree has some habitat potential despite condition	Fair	Poor	40+	C3	8.4	222.0
T223	Ash (Common)	On	16.0	1	Yes	400.0	6.0-7.0-6.0-5.0	4.0	4.0	Е	EM	None	Hedgerow tree of good form and condition	Good	Good	40+	B1	4.8	72.0
T224	Willow (Crack)	On	14.0	1	Yes	1300.0	7.0-8.0-9.0-6.0	2.0	0.5	None	LM	None	Decaying willow pollard; collapsed and layering within the hedgerow/scrub	Good	Fair	40+	B3	15.0	707.0
T225	Oak (English)	On	16.0	1	Yes	650.0	7.0-8.0-7.0-7.0	5.0	4.0	Е	EM	None	Hedgerow tree of good form and condition. Ditch to the east	Good	Good	40+	B1	7.8	191.0
T226	Ash (Common)	On	16.0	3	Yes	510.0	7.0-7.0-6.0-5.0	5.0	4.0	E	EM	None	Hedgerow tree; reduced vitality. Ditch to the east	Good	Good	<10	C1	6.1	118.0
T227	Oak (English)	On	12.0	1	Yes	350.0	5.0-4.5-3.0-3.0	4.0	4.0	E	SM	None	Hedgerow tree of good form and condition	Good	Good	40+	B1	4.2	55.0
T228	Ash (Common)	On	12.0	1	Yes	290.0	5.0-5.0-4.0-4.0	4.0	4.0	None	SM	None	Hedgerow tree of good form and condition	Good	Good	40+	B1	3.5	38.0
T229	Oak (English)	On	12.0	1	Yes	350.0	3.0-5.0-4.0-5.0	4.0	4.0	None	SM	None	Hedgerow tree of good form and condition	Good	Good	40+	B1	4.2	55.0
T230	Ash (Common)	On	14.0	2	Yes	340.0	4.0-4.0-4.0-4.0	5.0	4.0	None	SM	None	Hedgerow tree; reduced vitality. Ditch to the east	Good	Good	<10	C1	4.1	52.0
T231	Oak (English)	On	12.0	1	Yes	550.0	5.5-6.0-6.0-5.0	4.0	4.0	None	EM	None	Hedgerow tree of good form and condition. Ditch to the east; field access track to the south	Good	Good	40+	B1	6.6	137.0
T232	Ash (Common)	On	22.0	1	None	740.0	7.0-9.0-8.0-8.0	6.0	6.0	S	Μ	None	Mature and prominent tree of good form and condition. Existing compacted earth track to the south	Good	Good	40+	B1	8.9	248.0



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T233	Ash (Common)	On	19.0	1	None	840.0	9.0-7.0-5.0-9.0	6.0	6.0	S	М	None	Mature and prominent tree of good form and condition	Good	Good	40+	B1	10.1	319.0
T234	Oak (English)	On	19.0	1	None	1060.0	10.0-10.0-9.5- 9.0	5.0	4.0	S	М	None	Mature and prominent open grown oak	Good	Good	40+	A1	12.7	508.0
T235	Alder (Common)	Off	8.0	1	Yes	280.0	3.0-4.0-3.5-3.0	3.0	2.0	W	SM	None	Establishing tree	Good	Good	40+	B1	3.3	35.0
T236	Oak (English)	Off	16.0	2	Yes	730.0	7.0-7.5-7.0-7.0	4.0	2.0	S	EM	None	Oak of good form and condition. Ditch to the south	Good	Good	40+	B1	8.8	241.0
T237	Oak (English)	Off	17.0	1	Yes	650.0	8.0-7.5-8.5-8.0	4.0	4.0	S	EM	None	Oak of good form and condition. Ditch to the south	Good	Good	40+	B1	7.8	191.0
T238	Ash (Common)	Off	18.0	4	Yes	570.0	8.0-6.0-7.0-7.5	5.0	5.0	None	EM	None	Multi stemmed from ground level; slightly reduced vitality. Ditch to the south	Good	Good	20+	B1	6.8	147.0
T239	Oak (English)	Off	18.0	1	Yes	700.0	8.0-8.0-8.5-9.5	6.0	6.0	W	М	None	Oak of good form and condition	Good	Good	40+	B1	8.4	222.0
T240	Ash (Common)	Off	21.0	1	Yes	780.0	8.0-8.0-8.0-8.0	4.0	4.0	S	М	None	Mature ash located west of the ditch	Good	Good	40+	B1	9.4	275.0
T241	Willow (Crack)	Off	10.0	1	Yes	550.0	4.0-5.0-4.0-4.0	3.0	3.0	None	EM	None	Partially collapsed willow pollard. Ditch to the north	Good	Poor	20+	C1	6.6	137.0
T242	Ash (Common)	Off	13.0	3	Yes	380.0	4.0-4.0-4.0-4.0	4.0	3.0	None	SM	None	Establishing ash. Ditch to the north	Good	Fair	40+	B1	4.5	65.0
T243	Ash (Common)	Off	13.0	3	Yes	380.0	4.0-4.0-4.0-4.0	4.0	3.0	None	SM	None	Establishing ash. Ditch to the north	Good	Fair	40+	B1	4.5	65.0
T244	Ash (Common)	Off	12.0	1	Yes	350.0	4.0-5.0-5.0-5.0	4.0	3.0	None	SM	None	Establishing ash at boundary	Good	Good	40+	B1	4.2	55.0
T245	Alder (Common)	Off	9.0	1	Yes	350.0	4.0-4.0-4.0-4.0	3.0	3.0	None	SM	None	Establishing alder at boundary	Good	Good	40+	B1	4.2	55.0
T246	Willow (Weeping)	Off	17.0	1	Yes	1000.0	9.0-8.0-7.0-10. 0	2.0	3.0	None	М	None	Mature and prominent tree of good form and condition	Good	Good	40+	A1	12.0	452.0
T247	Willow (Crack)	Off	15.0	1	Yes	400.0	7.0-4.0-5.0-6.0	3.0	4.0	W	SM	None	Establishing willow at boundary	Good	Good	40+	B1	4.8	72.0
T248	Ash (Common)	Off	13.0	1	Yes	300.0	4.0-4.0-5.0-5.0	3.0	4.0	W	SM	None	Establishing ash at boundary	Good	Good	40+	B1	3.6	41.0
T249	Oak (English)	On	19.0	1	None	760.0	9.0-9.0-9.0-9.5	5.0	5.0	S	М	None	Mature and prominent open grown oak	Good	Good	40+	A1	9.1	261.0



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T250	Ash (Common)	On	15.0	2	Yes	390.0	6.0-5.5-5.0-5.0	4.0	4.0	None	SM	None	Establishing ash at boundary	Good	Good	40+	B1	4.7	69.0
T251	Ash (Common)	On	10.0	4	Yes	580.0	6.0-5.5-5.0-5.0	4.0	4.0	None	EM	None	Alder stems at boundary	Good	Good	40+	B1	7.0	152.0
T252	Oak (English)	On	17.0	1	Yes	1100.0	9.0-9.0-9.0-8.0	4.0	2.5	None	М	None	Mature and prominent oak with a large stem diameter	Good	Good	40+	A1	13.2	547.0
T253	Alder (Common)	On	18.0	3	Yes	550.0	5.0-6.0-6.0-5.0	4.0	2.0	S	EM	None	Field ploughed to the north. Ditch to the south	Good	Good	40+	B1	6.6	137.0
T254	Alder (Common)	On	15.0	4	Yes	400.0	4.0-5.0-4.0-4.0	4.0	2.0	None	SM	None	Field ploughed to the north. Ditch to the south	Good	Good	40+	B1	4.8	72.0
T255	Oak (English)	On	18.0	1	None	1130.0	10.0-10.0-11.0 -11.0	6.0	3.0	None	М	None	Prominent mature oak of excellent form and condition. Very large stem diameter makes this a borderline ancient tree. Hard surfaced track to the south	Good	Good	40+	A1	13.6	578.0
T256	Oak (English)	On	11.0	1	Yes	550.0	5.0-5.0-6.0-6.0	4.0	4.0	S	SM	None	Establishing oak at boundary. 2 stems at same location	Good	Good	40+	B2	6.6	137.0
T257	Oak (English)	Off	18.0	1	Yes	700.0	9.0-9.0-9.0-9.0	5.0	4.0	W	М	None	Located south of the ditch. Off- site tree. Large mechanical wound and associated hollowing at stem base	Good	Fair	40+	B1	8.4	222.0
T258	Sycamore	On	12.0	1	Yes	300.0	4.0-5.0-3.0-3.0	0.5	1.0	None	SM	None	Bridge over ditch located to the north	Good	Fair	40+	C1	3.6	41.0
T259	Alder (Common)	On	9.0	1	Yes	600.0	5.0-6.0-4.0-5.0	0.5	0.5	None	М	None	Ditch to the north. Mature tree of low pollard form	Good	Good	40+	B1	7.2	163.0
T260	Alder (Common)	On	13.0	1	Yes	750.0	5.0-5.0-4.0-3.0	3.0	2.0	S	М	None	Ditch to the north. Mature tree with a storm damaged crown. Dense ivy throughout crown	Good	Fair	40+	B3	9.0	254.0
T261	Ash (Common)	On	18.0	1	Yes	650.0	7.5-7.5-6.0-8.0	5.0	5.0	Ν	М	None	Ditch to the north	Good	Good	40+	B1	7.8	191.0
T262	Alder (Common)	On	9.0	1	Yes	600.0	5.0-6.0-4.0-5.0	0.5	0.5	None	М	None	Ditch to the north. Mature tree of low pollard form	Good	Good	40+	B1	7.2	163.0
T263	Ash (Common)	On	18.0	1	Yes	600.0	7.5-7.5-6.0-6.0	5.0	5.0	N	М	None	Ditch to the north	Good	Good	40+	B1	7.2	163.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T264	Ash (Common)	On	18.0	1	Yes	580.0	7.0-7.5-6.0-5.0	5.0	5.0	SW	М	None	Ditch to the north	Good	Good	40+	B1	7.0	152.0
T265	Alder (Common)	On	12.0	1	Yes	400.0	5.0-5.0-5.0-4.0	3.0	3.0	S	SM	None	Ditch to the north	Good	Good	40+	B1	4.8	72.0
T266	Oak (English)	On	18.0	2	Yes	670.0	8.0-8.5-9.0-9.0	4.0	4.0	S	EM	None	Ditch to the east	Good	Good	40+	B1	8.0	203.0
T267	Oak (English)	On	16.0	1	Yes	650.0	6.0-7.0-7.5-6.0	4.0	2.0	S	EM	None	Ditch to the east	Good	Good	40+	B1	7.8	191.0
T268	Alder (Common)	On	12.0	1	Yes	600.0	5.0-4.0-5.0-5.0	3.0	3.0	None	М	None	Ditch to the east	Good	Good	40+	B1	7.2	163.0
T269	Oak (English)	On	21.0	1	None	1020.0	10.5-12.0-11.0 -11.0	7.0	7.0	None	М	None	Prominent mature oak of excellent form and condition	Good	Good	40+	A1	12.2	471.0
T270	Oak (English)	On	21.0	1	None	960.0	10.0-10.0-10.0 -9.0	7.0	5.0	Ν	М	None	Prominent mature oak of excellent form and condition	Good	Good	40+	A1	11.5	417.0
T271	Sycamore	On	15.0	1	Yes	300.0	5.0-4.0-5.0-5.0	2.0	0.5	Ν	SM	None	Establishing hedgerow tree	Good	Good	40+	B1	3.6	41.0
T272	Ash (Common)	On	15.0	1	Yes	220.0	4.0-3.0-3.0-3.0	3.0	1.0	None	SM	None	Establishing hedgerow tree	Good	Good	40+	B1	2.6	22.0
T273	Oak (English)	On	15.0	1	Yes	600.0	7.0-7.5-8.0-6.5	5.0	5.0	S	EM	None	Establishing hedgerow oak; ivy throughout crown	Good	Good	40+	B1	7.2	163.0
T274	Sycamore	On	17.0	1	Yes	400.0	5.0-5.0-4.0-5.0	3.0	2.0	None	SM	None	Establishing hedgerow tree	Good	Good	40+	B1	4.8	72.0
T275	Oak (English)	On	13.0	1	Yes	530.0	7.0-5.0-4.0-4.5	5.0	5.0	Ν	EM	None	Oak of stunted form but in good condition	Good	Good	40+	B1	6.4	127.0
T276	Oak (English)	On	4.0	1	Yes	160.0	2.0-2.0-2.0-2.0	2.0	2.0	None	Y	None	Establishing oak at the field boundary	Good	Good	40+	B1	2.0	12.0
T277	Oak (English)	On	4.0	1	Yes	160.0	2.0-2.0-2.0-2.0	2.0	2.0	None	Y	None	Establishing oak at the field boundary	Good	Good	40+	B1	2.0	12.0
T278	Oak (English)	On	21.0	1	None	1300.0	12.0-12.0-11.0 -12.0	8.0	5.0	None	М	None	Prominent mature oak of excellent form and condition. Very large stem diameter makes this a borderline ancient tree. Ditch and hard surfaced track to the north	Good	Good	40+	A1	15.0	707.0
T279	Oak (English)	On	12.0	1	Yes	500.0	5.0-5.0-5.0-5.0	6.0	5.0	None	EM	None	Storm damaged tree. Good habitat value. Ditch and hard surfaced track to the north	Good	Fair	20+	В3	6.0	113.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T280	Oak (English)	On	15.0	1	Yes	880.0	8.0-7.0-8.0-9.0	6.0	5.0	None	М	None	Oak of good form and condition . Ditch and hard surfaced track to the north	Good	Good	40+	B1	10.6	350.0
T281	Oak (English)	On	4.0	1	Yes	160.0	2.0-2.0-2.0-2.0	2.0	2.0	None	Y	None	Establishing oak at the field boundary	Good	Good	40+	B1	2.0	12.0
T282	Alder (Common)	On	5.0	1	Yes	160.0	2.0-2.0-2.0-2.0	2.0	2.0	SW	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	2.0	12.0
T283	Alder (Common)	On	5.0	1	Yes	160.0	2.0-2.0-2.0-2.0	2.0	2.0	SW	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	2.0	12.0
T284	Alder (Common)	On	5.0	1	Yes	160.0	2.0-2.0-2.0-2.0	2.0	2.0	SW	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	2.0	12.0
T285	Alder (Common)	On	8.0	2	Yes	230.0	4.0-4.0-3.0-3.0	2.0	3.0	None	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	2.8	24.0
T286	Oak (English)	On	17.0	1	Yes	900.0	6.0-7.0-6.0-5.0	6.0	5.0	None	М	None	Storm damaged crown. Ditch and hard surfaced track to the north	Good	Good	40+	B3	10.8	366.0
T287	Oak (English)	On	17.0	1	Yes	750.0	6.0-7.0-7.0-7.0	6.0	6.0	None	М	None	Oak of good form and condition. Ditch and hard surfaced track to the north	Good	Good	40+	B1	9.0	254.0
T288	Oak (English)	On	17.0	1	Yes	750.0	6.0-7.0-7.0-6.0	6.0	6.0	None	М	None	Oak of good form and condition. Ditch and hard surfaced track to the north	Good	Good	40+	B1	9.0	254.0
T289	Oak (English)	On	17.0	1	Yes	700.0	5.0-8.0-8.5-7.0	6.0	4.0	N	М	None	Storm damaged crown. Ditch and hard surfaced track to the north	Good	Good	40+	В3	8.4	222.0
T290	Oak (English)	On	4.0	1	Yes	180.0	2.0-4.0-3.0-2.0	2.0	2.0	None	Y	None	Establishing oak at the field boundary	Good	Good	40+	B1	2.2	15.0
T291	Oak (English)	On	7.0	1	Yes	220.0	4.0-4.0-4.0-4.0	2.0	2.0	None	SM	None	Establishing oak at the field boundary	Good	Good	40+	B1	2.6	22.0
T292	Oak (English)	On	12.0	1	Yes	700.0	7.0-5.0-5.0-5.0	5.0	3.0	SW	М	None	Oak of stunted form but in good condition	Good	Good	40+	B1	8.4	222.0
T293	Alder (Common)	On	7.0	1	Yes	160.0	2.5-2.5-2.5-2.5	4.0	4.0	S	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	2.0	12.0
T294	Alder (Common)	On	5.0	1	Yes	160.0	2.5-2.5-2.5-2.5	4.0	3.0	S	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	2.0	12.0



HELIOS RENEWABLE ENERGY PROJECT

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T295	Alder (Common)	On	6.0	1	Yes	170.0	2.5-2.5-2.5-2.5	4.0	3.0	None	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	2.0	13.0
T296	Oak (English)	On	4.0	1	Yes	150.0	2.5-2.5-2.5-2.5	4.0	3.0	None	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	1.8	10.0
T297	Oak (English)	On	5.0	1	Yes	170.0	2.5-2.5-2.5-2.5	4.0	3.0	None	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	2.0	13.0
T298	Alder (Common)	On	8.0	1	Yes	200.0	3.0-3.0-3.0-3.0	4.0	4.0	S	SM	None	Establishing tree at the field edge	Good	Good	40+	B1	2.4	18.0
T299	Oak (English)	On	5.0	1	Yes	200.0	3.0-3.0-3.0-3.0	4.0	3.0	None	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	2.4	18.0
Т300	Oak (English)	On	14.0	1	Yes	750.0	7.0-6.0-6.5-6.5	5.0	4.0	None	М	None	Oak of stunted form but in good condition	Good	Good	40+	B1	9.0	254.0
T301	Oak (English)	On	14.0	1	Yes	700.0	4.0-6.0-5.0-5.0	5.0	4.0	None	Μ	None	Oak of stunted form but in good condition; dense ivy throughout crown	Good	Good	40+	B1	8.4	222.0
T302	Oak (English)	On	5.0	1	Yes	150.0	3.0-3.0-3.0-3.0	3.0	1.0	None	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	1.8	10.0
Т303	Oak (English)	On	5.0	1	Yes	150.0	3.0-3.0-3.0-3.0	3.0	1.0	None	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	1.8	10.0
T304	Alder (Common)	On	5.0	1	Yes	190.0	3.0-3.0-3.0-3.0	4.0	4.0	None	Y	None	Establishing tree at the field edge	Good	Good	40+	B1	2.3	16.0
Т305	Oak (English)	On	18.0	1	Yes	1050.0	10.0-11.0-11.0 -10.0	8.0	9.0	Е	М	None	Prominent oak with a large stem diameter. Mechanical wound and hollowing at base. Bees nesting in cavity. Hard surfaced track to the north and west. Existing field access to the south	Good	Good	40+	В3	12.6	499.0
T306	Plane (London)	On	16.0	1	Yes	500.0	7.5-7.0-6.0-6.0	5.0	1.0	None	SM	None	Establishing offsite tree of good form and condition located south of the ditch	Good	Good	40+	B1	6.0	113.0
Т307	Oak (English)	On	6.0	1	None	220.0	2.5-2.5-2.5-2.5	2.0	1.0	None	Y	None	Establishing tree; ditch to the east	Good	Good	40+	C1	2.6	22.0
Т308	Oak (English)	On	5.0	1	None	200.0	2.0-2.0-2.0-2.0	2.0	1.0	None	Y	None	Establishing tree; ditch to the east	Good	Good	40+	C1	2.4	18.0



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T309	Oak (English)	On	6.0	1	None	220.0	2.5-2.5-2.5-2.5	2.0	1.0	None	Y	None	Establishing tree; ditch to the east	Good	Good	40+	C1	2.6	22.0
T310	Oak (English)	Off	10.0	1	Yes	350.0	6.0-6.0-5.0-6.0	3.0	2.5	E	SM	None	Typical for age & species	Good	Fair	20+	B1	4.2	55.0
T311	Oak (English)	On	8.0	1	None	450.0	6.0-6.0-6.0-5.0	1.5	1.5	Ν	SM	None	Pruned back for clearance over site & railway lines	Good	Fair	20+	B1	5.4	92.0
T312	Oak (English)	On	5.0	1	Yes	300.0	1.0-2.0-3.0-2.0	0.5	0.5	Ν	SM	None	Heavily pruned for site & railway clearance	Fair	Fair	10+	C1	3.6	41.0
T313	Ash (Common)	Off	15.0	2	Yes	920.0	9.5-10.0-8.5-1 0.0	3.5	1.0	S	Μ	None	Co-dominant form; drainage ditch to north of stem; main stem & scaffold limbs heavily swathed in ivy; good vigour throughout crown	Good	Fair	20+	B1	11.0	383.0
T314	Oak (English)	Off	15.0	1	Yes	1000.0	11.0-9.0-10.0- 10.0	3.0	2.5	SE	М	None	Good vigour throughout crown; main stem forks @3m into 4x large scaffold limbs; drainage ditch to north of stem; main stem swathed in ivy	Good	Good	40+	A1	12.0	452.0
T315	Oak (English)	Off	14.0	1	Yes	800.0	7.0-7.0-7.0-6.5	2.5	2.5	E	М	None	Good vigour throughout crown; main stem forks @3m into 2x large scaffold limbs; decay pocket & limb damage to south of crown @5m; drainage ditch to north of stem; main stem swathed in ivy	Good	Fair	40+	A1	9.6	290.0
T316	Alder (Common)	Off	10.0	6	None	590.0	6.0-6.0-5.0-3.5	0.0	0.0	None	EM	None	Multi-stemmed form; drainage ditch to west of stems	Good	Fair	20+	B1	7.1	157.0
T317	Oak (English)	Off	10.0	1	Yes	800.0	7.5-7.0-6.0-7.0	3.0	2.0	S	EM	None	Good vigour throughout crown; bark damage to north of root- collar; old pruning wound to west of main stem @1.5m; drainage ditch to south of stem; low spreading form	Good	Fair	40+	B1	9.6	290.0
T318	Oak (English)	Off	7.0	1	Yes	500.0	3.0-5.0-4.0-3.0	3.0	3.0	E	EM	None	Extensive dieback throughout crown; loose bark to main stem; drainage ditch to south of stem; good habitat tree suitable for mid to long-term retention	Poor	Poor	10+	C1	6.0	113.0



HELIOS RENEWABLE ENERGY PROJECT

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T319	Oak (English)	Off	12.0	1	Yes	600.0	7.0-7.0-7.0-7.5	3.0	2.5	E	EM	None	Good vigour throughout crown; drainage ditch to south of stem; low spreading form	Good	Fair	40+	B1	7.2	163.0
T320	Oak (English)	Off	13.0	1	Yes	800.0	7.0-8.0-7.0-7.0	3.0	4.5	NE	EM	None	Good vigour throughout crown; drainage ditch to south of stem; low spreading form	Good	Fair	40+	B1	9.6	290.0
T321	Oak (English)	On	14.0	1	Yes	800.0	8.0-7.0-7.0-6.0	3.0	3.0	Ν	EM	None	Good vigour throughout crown; drainage ditch to south of stem; low spreading form	Good	Fair	40+	B1	9.6	290.0
T322	Oak (English)	On	12.0	1	Yes	800.0	7.0-7.0-6.0-8.0	3.0	3.0	E	EM	None	Good vigour throughout crown; drainage ditch to south of stem; low spreading form; lower stem & scaffold limbs swathed in ivy	Good	Fair	40+	B1	9.6	290.0
Т323	Oak (English)	On	15.0	1	Yes	700.0	6.0-6.0-8.0-7.0	3.0	3.5	S	EM	None	Good vigour throughout crown; damage to 1st significant limb with decayed tear-out wounds; drainage ditch to south of stem; low spreading form; lower stem & scaffold limbs swathed in ivy	Good	Fair	40+	B1	8.4	222.0
T324	Ash (Common)	On	14.0	2	Yes	490.0	4.0-5.0-5.0-3.0	2.5	0.0	None	EM	None	Loss of vigour throughout crown; minor dieback	Fair	Fair	10+	C1	5.9	109.0
T325	Sycamore	On	7.0	1	None	280.0	1.5-3.0-2.0-3.0	0.0	0.0	W	SM	None	Typical for age & species	Good	Fair	10+	C1	3.3	35.0
T326	Oak (English)	On	12.0	1	Yes	700.0	6.0-6.0-6.0-7.0	3.0	2.0	W	EM	None	Good vigour throughout crown; drainage ditch to south of stem; low spreading form	Good	Fair	40+	B1	8.4	222.0
T327	Willow (Crack)	Off	14.0	1	Yes	550.0	5.0-4.0-3.0-5.0	2.0	2.0	S	EM	None	Minor twiggy dieback; horse- hoof fungal fruiting bodies to north of stem @0.5m & @8m; not suitable for retention in the long-term	Fair	Fair	10+	C1	6.6	137.0
T328	Oak (English)	On	12.0	1	Yes	700.0	6.0-6.0-6.0-7.0	3.0	3.0	E	EM	None	Good vigour throughout crown; drainage ditch to north of stem; low spreading form	Good	Fair	40+	B1	8.4	222.0
T329	Oak (English)	On	12.0	1	Yes	650.0	6.0-6.0-6.0-6.5	3.0	3.0	E	EM	None	Good vigour throughout crown; drainage ditch to north of stem; low spreading form	Good	Fair	40+	B1	7.8	191.0



HELIOS RENEWABLE ENERGY PROJECT

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T330	Ash (Common)	On	15.0	1	Yes	700.0	6.0-7.0-6.0-6.5	4.0	5.0	W	EM	None	Good vigour throughout crown; drainage ditch to north of stem; main stem & scaffold limbs swathed in ivy; minor twiggy dieback & moderate deadwood to upper crown	Fair	Fair	20+	B1	8.4	222.0
T331	Oak (English)	Off	16.0	1	Yes	800.0	9.0-8.0-9.0-8.0	3.0	3.5	NE	М	None	Good vigour throughout crown; main stem forks @7m into 2x large scaffold limbs; drainage ditch to north of stem	Good	Good	40+	A1	9.6	290.0
Т332	Oak (English)	Off	15.0	1	Yes	700.0	8.0-8.0-9.0-8.0	3.0	3.0	NE	EM	None	Good vigour throughout crown; main stem & scaffold limbs swathed in ivy; drainage ditch to north-west of stem	Good	Fair	40+	B1	8.4	222.0
Т333	Oak (English)	Off	15.0	1	Yes	600.0	7.0-7.0-7.0-7.0	3.0	3.0	S	EM	None	Good vigour throughout crown; drainage ditch to north-west of stem	Good	Fair	40+	B1	7.2	163.0
T334	Oak (English)	Off	14.0	1	Yes	600.0	7.0-7.0-6.0-7.0	3.0	3.0	S	EM	None	Good vigour throughout crown; drainage ditch to north-west of stem	Good	Fair	40+	B1	7.2	163.0
T335	Ash (Common)	Off	14.0	1	Yes	600.0	7.0-6.0-8.0-7.0	3.0	5.0	E	EM	None	Historic storm damage to north of crown @6m; drainage ditch to north-west of stem	Fair	Fair	20+	B1	7.2	163.0
T336	Oak (English)	Off	13.0	1	Yes	600.0	7.0-7.0-7.0-6.0	3.0	2.5	S	EM	None	Good vigour throughout crown; drainage ditch to north of stem	Good	Fair	40+	B1	7.2	163.0
Т337	Hawthorn	On	5.0	7	Yes	260.0	3.0-2.5-2.5-1.0	0.0	0.0	None	EM	None	Good vigour throughout crown; sides flailed for field access	Good	Fair	40+	B1	3.1	31.0
Т338	Oak (English)	Off	14.0	1	Yes	600.0	7.0-7.0-7.0-6.0	0.0	1.5	Ν	EM	None	Good vigour throughout crown; drainage ditch to west of stem	Good	Fair	40+	B1	7.2	163.0
Т339	Willow (Crack)	Off	12.0	1	Yes	800.0	2.0-4.0-8.0-6.0	1.0	2.0	Ν	EM	None	Non-progressive lean to south; historic storm damage with tear- out wound to lower crown	Fair	Fair	20+	B1	9.6	290.0
T340	Oak (English)	On	9.0	1	None	460.0	3.0-3.0-2.0-2.0	2.5	2.0	E	EM	None	Historic storm damage with decayed pockets to scaffold limbs; twiggy dieback throughout crown; good habitat tree suitable for mid to long- term retention	Fair	Poor	10+	C1	5.5	96.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T341	Oak (English)	On	15.0	1	None	1020.0	8.0-8.0-8.0-8.0	0.5	3.0	NW	Μ	None	In-field tree; dia. recorded @0.5m; dense basal shoots; broad bole with several burrs which splits into 3x scaffold limbs; has appearance of old pollard; notable tree	Good	Fair	40+	A1	12.2	471.0
T342	Sycamore	On	8.0	2	None	280.0	4.0-4.5-3.0-3.5	0.0	0.0	None	SM	None	Typical for age & species	Fair	Fair	20+	C1	3.3	35.0
T343	Sycamore	On	8.0	1	None	330.0	4.0-3.5-3.0-4.0	0.5	0.5	SW	SM	None	Typical for age & species	Fair	Fair	20+	C1	3.9	49.0
T344	Ash (Common)	On	10.0	1	Yes	600.0	7.0-7.0-6.5-6.0	3.0	2.0	S	EM	None	Good vigour throughout crown; historic storm damage to main leader	Good	Fair	40+	B1	7.2	163.0
T345	Oak (English)	Off	14.0	1	Yes	900.0	8.0-8.0-7.0-7.0	3.0	3.0	SE	Μ	None	Good vigour throughout crown; main stem forks @3m into 5x scaffold limbs with appearance of old pollard; decay pocket to south-west of crown @3m with visible woodpecker activity; drainage ditch to north of stem; main stem & scaffold limbs swathed in ivy	Good	Fair	40+	A1	10.8	366.0
T346	Ash (Common)	On	12.0	5	Yes	830.0	6.0-7.5-6.5-5.5	3.0	0.0	None	EM	None	Minor twiggy dieback throughout crown; historic limb damage to south	Fair	Fair	20+	B1	10.0	312.0
T347	Hawthorn	On	8.0	4	Yes	530.0	4.0-3.0-2.0-2.0	0.0	0.0	None	EM	None	Typical for age & species	Good	Fair	40+	B1	6.4	127.0
T348	Willow (Crack)	On	14.0	1	Yes	600.0	3.0-5.0-6.0-6.0	5.5	7.0	S	EM	None	Minor twiggy dieback; failed stem to east (originally co- dominant); drainage ditch to west of stem	Fair	Fair	20+	B1	7.2	163.0
T349	Ash (Common)	On	10.0	1	Yes	300.0	5.0-4.0-4.0-3.0	1.5	3.0	Ν	SM	None	Typical for age & species	Good	Fair	20+	B1	3.6	41.0
Т350	Ash (Common)	On	8.0	3	Yes	350.0	4.0-6.5-3.0-1.0	2.0	0.0	None	SM	None	Minor twiggy dieback throughout crown; limb damage to west of crown	Fair	Fair	10+	C1	4.2	55.0
T351	Oak (English)	On	12.0	1	Yes	600.0	7.0-7.0-8.0-6.0	3.0	3.0	S	EM	None	Good vigour throughout crown; drainage ditch to west of stem	Good	Fair	40+	B1	7.2	163.0
T352	Ash (Common)	On	14.0	1	Yes	600.0	6.0-7.0-7.0-6.5	3.0	3.0	S	SM	None	Typical for age & species	Good	Fair	20+	B1	7.2	163.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
Т353	Oak (English)	On	15.0	1	Yes	600.0	7.0-8.0-8.0-8.0	3.5	2.5	W	Μ	None	Good vigour throughout crown; main stem & scaffold limbs swathed in ivy	Good	Fair	40+	A1	7.2	163.0
T354	Ash (Common)	On	14.0	1	Yes	450.0	7.0-6.0-5.0-6.0	3.0	5.0	S	EM	None	Typical for age & species	Good	Fair	20+	B1	5.4	92.0
T355	Oak (English)	On	16.0	1	Yes	900.0	7.0-8.0-8.0-8.0	3.5	5.0	SW	Μ	None	Good vigour throughout crown; large pruning wounds to south- east of main stem @4.5m	Good	Fair	40+	A1	10.8	366.0
T356	Oak (English)	On	15.0	1	None	810.0	8.0-9.0-10.0-8. 0	3.5	3.0	Ν	Μ	None	Good vigour throughout crown; evidence of historic storm damage with decayed limbs & fracture to main stem	Good	Fair	40+	B1	9.7	297.0
T357	Oak (English)	On	12.0	1	Yes	800.0	7.0-7.0-7.0-7.0	3.5	2.5	N	Μ	None	Good vigour throughout crown; main stem & scaffold limbs swathed in ivy	Good	Fair	40+	B1	9.6	290.0
T358	Ash (Common)	On	15.0	1	Yes	900.0	8.0-9.0-10.0-8. 0	3.5	4.5	S	Μ	None	Good vigour throughout crown; main stem & scaffold limbs swathed in ivy; good occlusion around pruning wounds; old shaggy bracket fungus on ground to south of crown	Good	Fair	40+	A1	10.8	366.0
Т359	Willow (Crack)	On	12.0	1	Yes	800.0	10.0-8.0-7.0-6. 0	3.0	0.5	S	М	None	Non-progressive lean to north; decayed stump to south (was originally co-dominant)	Fair	Fair	20+	B1	9.6	290.0
T360	Oak (English)	On	14.0	1	Yes	800.0	8.0-8.0-9.0-6.0	3.5	1.0	S	Μ	None	Good vigour throughout crown; large pruning wound to west of crown @3m; crossing limb to main stem which has decayed leaving pocket of decay	Good	Fair	40+	B1	9.6	290.0
T361	Hazel (Common)	On	5.0	10	None	280.0	3.0-1.0-3.0-1.0	0.0	0.0	None	EM	None	Good vigour throughout crown; sides flailed for field access	Good	Fair	40+	B1	3.3	35.0
T362	Oak (English)	On	13.0	1	Yes	600.0	6.0-6.0-6.0-6.0	3.0	3.0	Ν	EM	None	Good vigour throughout crown; main stem & scaffold limbs swathed in ivy	Good	Fair	40+	B1	7.2	163.0
Т363	Rowan	On	8.0	1	None	270.0	3.0-3.0-3.0-2.0	1.0	1.0	S	EM	None	Good vigour throughout crown; sides flailed for field access; dia. recorded @0.5m	Good	Fair	20+	B1	3.2	33.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T364	Oak (English)	On	14.0	1	None	770.0	7.0-7.0-9.0-7.0	3.5	3.0	NW	М	None	Good vigour throughout crown; historic damage with extensive cavitation to main stem	Good	Fair	20+	B1	9.2	268.0
T365	Oak (English)	On	15.0	1	Yes	750.0	8.0-8.0-9.5-8.0	3.5	2.0	Ν	Μ	None	Good vigour throughout crown; non-progressive lean to south- east; main stem splits @2m into 3x scaffold limbs; animal burrows within root-plate	Good	Fair	40+	A1	9.0	254.0
T366	Lime (Common)	Off	8.0	1	None	340.0	3.0-3.0-4.0-3.0	1.0	1.0	S	SM	None	Good vigour throughout crown	Good	Fair	20+	B1	4.1	52.0
T367	Pine (Scots)	Off	16.0	1	None	540.0	5.0-5.0-5.0-6.0	0.5	1.5	S	EM	None	Typical for age & species	Good	Fair	20+	B1	6.5	132.0
T368	Beech (Common)	On	20.0	1	None	1480.0	9.0-11.0-10.0- 7.0	5.0	5.0	S	Μ	None	Minor twiggy dieback throughout crown; damaged & decayed limb @5m within south-east of crown; old Ganoderma bracket to north of root-plate; bark damage to western buttress	Good	Fair	40+	A1	15.0	707.0
T369	Beech (Common)	On	18.0	1	None	1170.0	9.0-8.0-11.0-9. 0	5.0	3.0	Ν	Μ	None	Minor twiggy at extremities of crown; main stem splits @ approximately 5m; bark damage to eastern buttress	Good	Fair	40+	A1	14.0	619.0
T370	Beech (Common)	On	8.0	1	None	280.0	4.0-4.0-4.0-3.5	0.5	1.0	Ν	SM	None	Good vigour throughout crown	Good	Fair	20+	B1	3.3	35.0
T371	Oak (English)	On	14.0	1	None	650.0	8.0-8.0-7.0-6.5	2.5	2.5	SE	EM	None	Good vigour throughout crown; large tear-out wound to north- east of main stem @3.5m; evidence of bird nest in cavity; good reactionary growth around wound	Good	Fair	40+	B1	7.8	191.0
T372	Oak (English)	On	14.0	1	None	730.0	6.0-7.0-7.0-6.0	3.0	2.5	SE	Μ	None	Low vigour throughout crown when compared with other oak in the area; large partially occluded tear-out wound to north-east of main stem @3.5m; moderate deadwood to north- east of crown	Fair	Fair	20+	B1	8.8	241.0
Т373	Oak (English)	On	15.0	1	Yes	850.0	9.0-8.5-9.0-8.0	0.0	0.0	W	М	None	Good vigour throughout crown; dense shoots around lower stem	Good	Fair	40+	A1	10.2	327.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T374	Oak (English)	On	15.0	1	Yes	850.0	9.0-8.0-6.5-7.0	0.0	0.5	W	Μ	None	Good vigour throughout crown; dense shoots around lower stem	Good	Fair	40+	A1	10.2	327.0
Т375	Ash (Common)	On	16.0	1	None	720.0	9.0-8.0-9.0-9.0	3.5	3.0	S	Μ	None	Only just flushing into leaf - later than other ash in area (early-May); historic storm damage to scaffold limb in south of crown @5m	Fair	Fair	20+	B1	8.6	235.0
Т376	Oak (English)	On	16.0	1	Yes	850.0	10.0-8.5-7.5-9. 0	2.5	2.5	Ν	Μ	None	Recent scaffold limb tear-out leaving exposed heartwood; good vigour throughout crown; localised pruning to south of crown @4.5m to facilitate high- seat	Good	Fair	40+	B1	10.2	327.0
Т377	Willow (Crack)	On	14.0	1	Yes	1100.0	7.0-9.0-7.5-8.0	0.0	0.0	None	Μ	None	Dia. estimated @ 0.5m; decayed bole with 2x scaffold limbs forming cohesive crown; historic storm damage to south of crown @2m with associated decay	Fair	Fair	20+	B1	13.2	547.0
T378	Hawthorn	On	3.5	1	None	130.0	1.0-1.0-1.0-1.0	0.5	0.5	N	SM	None	Typical for age & species; smaller stem to east within root- plate	Fair	Fair	20+	B1	1.6	8.0
T379	Hawthorn	On	4.0	3	None	210.0	1.5-3.0-1.5-2.5	0.5	0.0	None	EM	None	Typical for age & species	Fair	Fair	20+	B1	2.5	20.0
T380	Holly	On	4.5	6	None	240.0	1.5-2.0-1.5-2.0	0.0	0.0	None	EM	None	Typical for age & species; smaller hawthorn to east within root-plate	Fair	Fair	20+	B1	2.9	26.0
T381	Hawthorn	On	3.5	2	None	140.0	1.0-1.0-1.0-1.0	0.5	0.0	None	SM	None	Typical for age & species; smaller stem to west within root-plate	Fair	Fair	20+	B1	1.7	9.0
T382	Hawthorn	On	3.0	3	None	230.0	2.0-2.0-2.0-2.0	0.0	0.0	None	EM	None	Typical for age & species	Good	Fair	20+	B1	2.8	24.0
Т383	Hawthorn	On	3.0	1	None	150.0	2.0-2.0-2.0-2.0	0.0	0.0	None	EM	None	Typical for age & species	Good	Fair	20+	B1	1.8	10.0
T384	Holly	On	9.0	6	Yes	370.0	3.0-3.0-3.0-3.0	0.0	0.0	None	EM	None	Typical for age & species	Good	Fair	20+	B1	4.4	62.0
T385	Oak (English)	On	16.0	1	Yes	1000.0	8.0-9.0-8.5-8.0	3.0	2.5	S	Μ	None	Good vigour throughout crown; main stem & scaffold limbs swathed in ivy	Good	Fair	40+	A1	12.0	452.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T386	Oak (English)	On	14.0	1	Yes	800.0	7.0-7.0-7.0-6.5	3.0	3.0	S	Μ	None	Good vigour throughout crown; main stem & scaffold limbs swathed in ivy; 1st significant limb showing damage with bark loss minor decay	Good	Fair	40+	A1	9.6	290.0
T387	Oak (English)	On	15.0	1	Yes	800.0	7.0-6.0-7.0-6.5	3.5	5.0	NW	М	None	Good vigour throughout crown; lower main stem swathed in ivy	Good	Fair	40+	A1	9.6	290.0
T388	Oak (English)	On	14.0	1	Yes	700.0	6.0-8.0-6.5-7.0	3.5	5.0	NE	Μ	None	Good vigour throughout crown; 1st significant limb & upper main stem showing historic storm damage with bark loss & associated decay	Fair	Fair	20+	B1	8.4	222.0
T389	Oak (English)	On	13.0	1	Yes	700.0	7.0-5.5-6.0-7.0	3.0	4.0	Ν	М	None	Good vigour throughout crown; lower main stem swathed in ivy; suppressed by adjacent tree	Fair	Fair	20+	B1	8.4	222.0
Т390	Oak (English)	On	7.0	1	None	230.0	2.5-3.0-3.0-2.5	2.5	2.5	SE	SM	None	Good vigour throughout crown	Fair	Fair	20+	C1	2.8	24.0
T391	Oak (English)	On	17.0	1	Yes	1000.0	8.5-6.0-7.0-7.0	3.0	5.0	SE	М	None	Good vigour throughout crown; main stem & scaffold limbs swathed in ivy	Good	Fair	40+	A1	12.0	452.0
T392	Oak (English)	On	7.0	1	Yes	300.0	3.0-2.5-2.5-2.5	3.0	2.0	N	SM	None	Good vigour throughout crown	Fair	Fair	20+	C1	3.6	41.0
T393	Sycamore	On	7.0	1	None	180.0	2.0-2.0-3.5-2.0	3.0	2.5	S	SM	None	Good vigour throughout crown	Fair	Fair	20+	C1	2.2	15.0
T394	Oak (English)	On	16.0	1	Yes	900.0	8.0-8.0-8.5-9.0	3.0	3.5	N	Μ	None	Good vigour throughout crown; old wound to north of main stem @2m with associated decay; main stem splits @2.5m into 2x scaffold limbs	Good	Fair	40+	A1	10.8	366.0
T395	Oak (English)	On	18.0	1	Yes	900.0	9.5-8.0-10.0-9. 0	4.0	4.5	NW	Μ	None	Good vigour throughout crown; main stem splits @5m into 5x scaffold limbs	Good	Fair	40+	A1	10.8	366.0
T396	Oak (English)	On	16.0	1	None	710.0	9.0-8.0-9.0-9.5	5.0	5.0	Ν	М	None	Good vigour throughout crown; high crown lift above ground levels	Good	Fair	40+	A1	8.5	228.0
T397	Oak (English)	On	17.0	1	None	800.0	7.0-8.0-7.0-9.0	5.0	6.0	Ν	М	None	Good vigour throughout crown; main stem splits & 4m into 2x scaffold limbs	Good	Fair	40+	A1	9.6	290.0



HELIOS RENEWABLE ENERGY PROJECT

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Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T398	Oak (English)	On	15.0	1	None	750.0	7.0-7.0-6.0-6.5	3.0	3.0	E	М	None	Good vigour throughout crown; historic storm damage to east of main stem @3m with cavity & associated decay	Good	Fair	40+	B1	9.0	254.0
T399	Oak (English)	On	16.0	1	None	800.0	9.0-9.0-9.5-8.0	5.0	4.5	E	М	None	Good vigour throughout crown; burrs to lower stem with prolific water-shoots	Good	Fair	40+	A1	9.6	290.0
T400	Willow (Crack)	On	15.0	1	Yes	1100.0	6.0-8.0-7.5-7.0	0.5	0.0	W	М	None	Basal cavity visible from east; horse hoof fungal fruiting bodies to main stem & scaffold limbs; historic storm damage to south-west of crown @7m; not suitable for long-term retention	Fair	Fair	20+	C1	13.2	547.0
T401	Sycamore	On	18.0	1	None	1000.0	8.5-9.0-9.0-9.0	4.5	4.5	S	М	None	Good vigour throughout crown; main stem splits @4.5m into 3x scaffold limbs - stem & limbs heavily swathed in ivy	Good	Fair	40+	A1	12.0	452.0
T402	Oak (English)	On	16.0	1	None	980.0	9.0-8.0-7.0-7.5	3.0	3.0	W	М	None	Good vigour throughout crown; main stem splits @2m forming 1x dominant & 1x sub-dominant scaffold limb which form cohesive crown; large tear-out wound to north of main stem @ 1m with associated decay & cavity; drainage ditch to west of stem	Good	Fair	40+	A1	11.8	434.0
T403	Oak (English)	On	13.0	1	None	710.0	6.0-7.0-7.0-6.0	4.5	5.5	E	М	None	Good vigour throughout crown; old pruning wounds with associated decay	Good	Fair	40+	B1	8.5	228.0
T404	Oak (English)	On	14.0	1	Yes	900.0	7.0-7.0-7.5-8.0	3.5	2.0	E	М	None	Good vigour throughout crown; crossing scaffold limbs; main stem splits @2.5m into 4x scaffold limbs - stem & limbs swathed in ivy	Good	Fair	40+	B1	10.8	366.0
T405	Oak (English)	On	15.0	1	None	1200.0	6.5-7.0-7.0-7.0	6.0	5.0	E	М	None	Good vigour throughout crown; main stem splits & 5m into 3x scaffold limbs; prolific water- shoots to lower stem & main union; large Dia. with no obvious veteran characteristics - notable tree	Good	Fair	40+	A1	14.4	651.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T406	Oak (English)	On	15.0	1	Yes	750.0	8.0-8.0-9.0-7.0	3.5	2.0	N	Μ	None	Good vigour throughout crown; main stem splits @2m into 3x scaffold limbs; main stem heavily burred; recent pruning wounds to lower crown	Good	Fair	40+	B1	9.0	254.0
T407	Sycamore	On	9.0	1	Yes	250.0	2.5-3.0-3.0-2.5	2.0	1.5	N	SM	None	Typical for age & species	Fair	Fair	20+	C1	3.0	28.0
T408	Sycamore	On	14.0	1	Yes	550.0	6.0-7.0-6.5-6.5	3.0	0.0	Ν	EM	None	Typical for age & species	Good	Fair	20+	B1	6.6	137.0
T409	Hawthorn	On	2.0	2	None	140.0	1.0-1.0-1.0-1.0	0.5	0.0	None	SM	None	Typical for age & species	Fair	Fair	20+	B1	1.7	9.0
T410	Oak (English)	On	15.0	1	Yes	800.0	8.5-8.0-8.0-7.5	3.0	1.5	N	М	None	Good vigour throughout crown; old wound to east of main stem @2m with associated decay	Good	Fair	40+	A1	9.6	290.0
T411	Oak (English)	On	15.0	1	Yes	900.0	6.0-8.0-9.0-6.0	3.0	4.5	S	Μ	None	Good vigour throughout crown; localised pruning to south-east of lower crown @5m; main stem swathed in ivy	Good	Fair	40+	A1	10.8	366.0
T412	Oak (English)	On	16.0	1	None	710.0	7.0-8.0-9.0-7.0	3.0	6.0	W	М	None	Good vigour throughout crown; main stem splits @5.5m into 2x scaffold limbs	Good	Fair	40+	A1	8.5	228.0
T413	Oak (English)	On	16.0	1	Yes	900.0	7.0-9.0-7.5-6.5	3.0	2.5	S	М	None	Good vigour throughout crown; localised pruning to south of lower crown @2.5m	Good	Fair	40+	A1	10.8	366.0
T414	Holly	On	4.5	1	None	150.0	1.5-1.5-1.5-1.5	0.0	2.0	Ν	SM	None	Typical for age & species	Fair	Fair	20+	B1	1.8	10.0
T415	Oak (English)	On	14.0	1	Yes	600.0	6.0-7.0-6.0-6.0	3.5	5.0	SW	EM	None	Decayed tear-out wounds to main stem @2.5m; moderate deadwood in upper crown creating stag's horn effect	Fair	Fair	20+	B1	7.2	163.0
T416	Oak (English)	On	15.0	1	None	810.0	7.0-9.0-9.0-8.0	5.5	6.0	S	М	None	Decayed tear-out wound to east of main stem @1m; smaller pruning wounds to main stem from 1m to first union	Good	Fair	40+	A1	9.7	297.0
T417	Oak (English)	On	14.0	1	None	660.0	6.0-5.5-6.0-6.0	5.0	6.0	SW	М	None	Decayed tear-out wound to 1st significant limb & to north of main stem @2.5m	Good	Fair	40+	B1	7.9	197.0
T418	Hawthorn	On	3.0	1	None	100.0	1.0-2.0-1.0-2.0	0.25	0.0	None	SM	None	Typical for age & species	Fair	Fair	20+	B1	1.3	5.0
T419	Oak (English)	On	4.5	1	Yes	550.0	6.0-5.5-6.0-6.0	2.5	2.0	W	EM	None	Topped @4.5m for utilities clearance	Fair	Fair	20+	C1	6.6	137.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T420	Oak (English)	On	15.0	1	None	800.0	7.0-7.5-8.5-8.0	5.0	3.5	S	М	None	Non-progressive lean to south; recent crown lift	Good	Fair	40+	A1	9.6	290.0
T421	Oak (English)	On	13.0	1	None	800.0	7.0-7.0-8.5-8.0	5.0	3.0	S	М	None	Historic storm damage to south of lower crown @3.5m; ivy has been severed; pruning wounds & small pockets of decay to lower stem @1.5m	Good	Fair	40+	A1	9.6	290.0
T422	Oak (English)	On	14.0	1	Yes	800.0	8.0-8.0-8.5-8.0	5.0	3.5	N	М	None	Good vigour throughout crown; minor pruning wounds around lower stem	Good	Fair	40+	A1	9.6	290.0
T423	Oak (English)	On	5.0	1	Yes	150.0	1.5-1.5-1.5-1.5	3.0	3.0	Ν	SM	None	Good vigour throughout crown	Good	Fair	20+	C1	1.8	10.0
T424	Oak (English)	On	5.0	1	Yes	150.0	1.5-1.5-1.5-1.5	3.0	3.0	N	SM	None	Reasonable vigour throughout crown	Fair	Fair	20+	C1	1.8	10.0
T425	Oak (English)	On	4.0	1	Yes	150.0	1.5-1.5-1.5-1.5	3.0	3.0	N	SM	None	Good vigour throughout crown	Good	Fair	20+	C1	1.8	10.0
T426	Ash (Common)	On	18.0	1	Yes	850.0	9.0-8.0-8.5-8.0	5.0	4.5	S	М	None	Main stem splits @4.5m; large cavity within main union visible from ground level when viewing from south-west; decay to eastern scaffold limb @5.5m (possibly forming decay column to union); tree not suitable for long-term retention. Reduce to monolith	Fair	Fair	20+	C1	10.2	327.0
T427	Oak (English)	On	15.0	1	Yes	900.0	8.0-9.0-9.0-8.5	5.0	2.5	NW	Μ	None	Good vigour throughout crown; main stem splits @2.5m into 2x scaffold limbs - stem & limbs are swathed in ivy;	Good	Fair	40+	A1	10.8	366.0
T428	Oak (English)	On	5.0	1	Yes	150.0	1.5-1.5-1.5-1.5	3.0	3.0	NW	SM	None	Reasonable vigour throughout crown	Fair	Fair	20+	C1	1.8	10.0
T429	Alder (Common)	On	5.0	1	Yes	200.0	1.5-2.5-1.5-1.5	3.0	3.0	E	SM	None	Reasonable vigour throughout crown	Fair	Fair	20+	C1	2.4	18.0
T430	Oak (English)	On	5.0	1	Yes	200.0	2.0-2.0-2.5-2.0	3.0	3.5	N	SM	None	Good vigour throughout crown	Good	Fair	20+	C1	2.4	18.0



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SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m²
T431	Oak (English)	On	17.0	1	Yes	1000.0	8.5-9.0-10.0-8. 5	3.5	4.5	S	Μ	None	Good vigour throughout crown; recent crown lift leaving large wounds & pruning pegs to lower stem	Good	Fair	40+	A1	12.0	452.0
T432	Oak (English)	On	5.0	1	Yes	150.0	1.5-1.5-1.5-1.5	3.0	2.0	W	SM	None	Reasonable vigour throughout crown	Fair	Fair	20+	C1	1.8	10.0
T433	Oak (English)	On	5.0	1	Yes	150.0	1.5-1.5-1.5-1.5	3.0	2.5	E	SM	None	Good vigour throughout crown	Good	Fair	20+	C1	1.8	10.0
T434	Oak (English)	On	6.0	1	Yes	200.0	2.0-2.0-2.0-2.0	4.0	4.5	S	SM	None	Good vigour throughout crown	Good	Fair	20+	C1	2.4	18.0
T435	Oak (English)	On	5.0	1	Yes	150.0	2.0-1.5-2.0-1.5	3.0	2.5	Ν	SM	None	Good vigour throughout crown	Good	Fair	20+	C1	1.8	10.0
T436	Oak (English)	Off	13.0	1	None	530.0	6.0-6.5-7.0-7.0	0.5	1.5	E	Μ	None	Good vigour throughout crown; minor pruning around lower stem; chicken 'o' the woods fruiting body on pruning peg to south-west of main union @3m	Good	Fair	20+	B1	6.4	127.0
T437	Oak (English)	On	6.0	1	None	220.0	2.5-2.5-2.5-2.5	2.0	1.0	None	Y	None	Establishing tree; ditch to the east	Good	Good	40+	C1	2.6	22.0
T438	Ash (Common)	On	22.0	1	Yes	800.0	9.5-9.0-9.5-8.0	5.0	5.0	S	Μ	None	Mature ash of good form and condition. Existing compacted earth track and ditch to the north	Good	Good	40+	B1	9.6	290.0
T439	Ash (Common)	Off	12.0	1	Yes	700.0	5.0-7.0-6.5-6.0	3.0	3.0	E	М	None	Non-progressive lean toward east; historic storm damage to 1st significant limb; moderate dieback with canker to lateral limbs; old pruning wound with decay to west of main stem @3.5m; not suitable for long- term retention. Recommend reduce to monolith	Fair	Fair	10+	C3	8.4	222.0
T440	Ash (Common)	Off	14.0	1	Yes	550.0	6.0-7.0-6.5-6.5	0.5	0.0	S	EM	None	Roadside tree; small sub- dominant limb to south	Good	Fair	20+	B1	6.6	137.0
T441	Ash (Common)	Off	12.0	1	Yes	500.0	6.0-6.0-7.0-6.5	1.0	1.5	SW	SM	None	Roadside tree	Good	Fair	20+	B1	6.0	113.0



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Ref	Species	On/off Site	Height (m)	No. of Stems	Est diam?	Calc. / Actual Stem Dia. (mm)	Crown radii (m) N-E-S-W	Avg. Canopy Height (m)	1st branch ht (m)	1st branch dir.	Life Stage	Special importance	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)	RPA m ²
T442	Oak (English)	On	18.0	1	None	910.0	9.0-8.5-9.0-8.5	5.0	5.0	S	М	None	Good vigour throughout crown; localised pruning to lower stem with minor pockets of decay	Good	Fair	40+	A1	10.9	375.0
T443	Oak (English)	On	18.0	1	None	830.0	8.5-9.0-9.0-9.0	5.0	5.0	S	М	None	Good vigour throughout crown; old occluded wound to northern most scaffold limb	Good	Fair	40+	A1	10.0	312.0
T444	Oak (English)	On	13.0	1	Yes	800.0	6.5-7.0-6.0-6.0	4.0	2.0	S	М	None	Good vigour throughout crown; main stem swathed in ivy; drainage ditch to east of stem; low spreading form	Good	Fair	40+	B1	9.6	290.0
T445	Oak (English)	Off	16.0	1	None	970.0	9.5-9.0-9.0-10. 0	5.0	2.5	SW	М	None	Good vigour throughout crown; old occluded wounds to east of main stem @4.5m; minor damage to south-east root buttress	Good	Fair	40+	A1	11.6	426.0
T446	Oak (English)	Off	15.0	1	Yes	800.0	8.0-6.0-7.0-7.0	5.0	5.0	S	М	None	Good vigour throughout crown; old pruning pegs to east of main stem @4 - 4.5m; bark ruptures above main union @5m which reveal inner cambium	Good	Fair	40+	B1	9.6	290.0
T447	Oak (English)	Off	12.0	1	Yes	600.0	6.0-4.5-7.0-6.5	4.5	2.5	SW	М	None	Heavily crown reduced to east; bark canker to lower stem	Good	Fair	20+	B1	7.2	163.0
T448	Oak (English)	Off	18.0	1	Yes	900.0	9.0-9.0-10.0-1 0.0	5.0	5.0	N	М	None	Good vigour throughout crown; historic storm damage to eastern most scaffold limb @4.5m with good occlusion; localised pruning to east of stem with old pruning pegs	Good	Fair	40+	A1	10.8	366.0
T449	Ash (Common)	Off	16.0	1	None	500.0	4.0-4.0-5.0-5.0	3.0	2.5	NE	EM	None	Dead-standing tree. Notify landowner of condition; within instruction to fell at the earliest convenience	Poor	Poor	<10	U	6.0	113.0
T450	Ash (Common)	Off	14.0	1	Yes	550.0	6.0-7.0-8.0-7.0	3.5	2.5	W	EM	None	Roadside tree; sparse crown with minor twiggy dieback. Recommend that landowner be notified of condition	Fair	Fair	10+	C1	6.6	137.0



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T451	Oak (English)	On	13.0	1	Yes	800.0	7.0-8.0-7.0-8.0	3.5	2.0	SE	Μ	None	Good vigour throughout crown; main stem swathed in ivy; drainage ditch to east of stem; low spreading form	Good	Fair	40+	B1	9.6	290.0
T452	Sycamore	On	16.0	4	Yes	800.0	5.0-6.0-4.5-5.0	0.0	0.0	None	EM	None	Typical for age & species	Good	Fair	20+	B1	9.6	290.0
T453	Alder (Common)	On	14.0	1	Yes	500.0	5.0-5.0-4.0-6.0	0.0	0.0	None	EM	None	Typical for age & species	Good	Fair	20+	B1	6.0	113.0
T454	Oak (English)	On	18.0	1	None	800.0	9.0-9.0-8.0-9.0	1.5	2.0	N	М	None	Good vigour throughout crown; damage to main leader in upper crown	Good	Fair	40+	A1	9.6	290.0
T455	Oak (English)	On	5.0	1	Yes	200.0	2.0-2.0-2.0-2.0	2.0	2.0	Ν	SM	None	Good vigour throughout crown	Good	Fair	20+	C1	2.4	18.0
T456	Oak (English)	On	5.0	1	Yes	200.0	2.0-2.0-2.0-2.0	2.0	2.0	N	SM	None	Good vigour throughout crown	Good	Fair	20+	C1	2.4	18.0
T457	Oak (English)	On	5.0	1	Yes	200.0	2.0-2.0-2.0-2.0	2.0	2.0	N	SM	None	Good vigour throughout crown	Good	Fair	20+	C1	2.4	18.0
T458	Ash (Common)	Off	14.0	1	Yes	550.0	5.5-8.5-7.0-6.5	2.5	2.5	SE	EM	None	Roadside tree; lower stem swathed in ivy	Good	Fair	20+	B1	6.6	137.0
T459	Oak (English)	On	5.0	1	Yes	150.0	1.5-1.5-1.5-1.5	1.0	1.0	NW	SM	None	Reasonable vigour throughout crown.	Fair	Fair	20+	C1	1.8	10.0
T460	Oak (English)	On	5.0	1	Yes	150.0	1.5-1.5-1.5-1.5	2.0	2.0	NW	SM	None	Reasonable vigour throughout crown	Fair	Fair	20+	C1	1.8	10.0
T461	Oak (English)	On	5.0	1	Yes	150.0	1.5-1.5-1.5-1.5	2.0	2.0	NW	SM	None	Good vigour throughout crown	Good	Fair	20+	C1	1.8	10.0
T462	Oak (English)	On	5.0	1	Yes	150.0	1.5-1.5-1.5-1.5	2.0	2.0	NW	SM	None	Good vigour throughout crown	Good	Fair	20+	C1	1.8	10.0
T463	Oak (English)	On	14.0	1	Yes	700.0	5.0-6.0-6.0-5.0	0.0	0.0	None	М	None	Dense basal shoots	Fair	Fair	20+	B1	8.4	222.0
T464	Oak (English)	On	12.0	1	None	480.0	4.0-5.5-5.0-4.0	0.5	6.0	S	EM	None	Sparse crown & water-shoots to main stem & scaffold limbs	Fair	Fair	20+	B1	5.8	104.0
T465	Oak (English)	On	12.0	1	None	600.0	6.0-4.0-5.0-7.0	5.0	5.5	SW	М	None	Typical for age & species	Good	Fair	40+	B1	7.2	163.0
T466	Oak (English)	On	13.0	1	None	600.0	5.0-5.0-6.0-5.0	6.0	7.0	W	М	None	Bark damage to north of root- collar with good occlusion	Good	Fair	40+	B1	7.2	163.0



HELIOS RENEWABLE ENERGY PROJECT

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T467	Oak (English)	On	12.0	1	None	600.0	2.0-5.0-2.0-4.0	6.0	5.0	W	Μ	None	Large pruning wound to south- west of main stem @3m with pocket of decay; hazard beams in upper canopy; sparse crown	Fair	Fair	20+	B1	7.2	163.0
T468	Ash (Common)	On	18.0	1	None	750.0	5.0-7.0-5.0-6.0	7.0	7.0	E	Μ	None	Large pruning wounds to north & south of main stem @6m; moderate deadwood & bark canker to upper crown; not suitable for long-term retention. Recommend tree is reduced to habitat monolith	Fair	Fair	20+	C3	9.0	254.0
T469	Oak (English)	On	14.0	1	None	600.0	4.0-6.0-4.0-3.0	6.0	0.0	None	Μ	None	Large wound to west of main stem with visible cavity; asymmetric crown shape; large pruning wounds to east of main stem @3m	Fair	Fair	20+	B1	7.2	163.0
T470	Ash (Common)	Off	14.0	2	Yes	680.0	6.5-6.0-7.0-7.0	0.0	0.0	Ν	EM	None	Roadside tree; sub-dominant stem to north	Good	Fair	20+	B1	8.2	209.0
T471	Lime (Common)	Off	12.0	1	Yes	500.0	4.0-5.0-6.0-5.0	0.0	0.0	N	EM	None	Roadside tree; side pruned for utilities clearance	Good	Fair	20+	B1	6.0	113.0
T472	Oak (English)	On	4.5	1	Yes	500.0	6.0-5.0-7.0-4.0	0.0	0.5	S	EM	None	Topped @4.5m for utilities clearance	Fair	Fair	20+	C1	6.0	113.0
T473	Oak (English)	On	11.0	1	None	520.0	6.0-6.0-4.0-5.0	6.0	6.0	NE	Μ	None	Large wound to south of main stem with visible cavity @ 7m; large pruning wounds around lower stem from crown lift	Fair	Fair	20+	B1	6.2	122.0
T474	Oak (English)	On	14	1	Yes	680	6.0-6.0-7.0-7.0	2.0	2.0	W	EM	None	Woodland edge tree; set back from highway edge by approx 9m	Good	Good	40+	B2	8.2	209
T475	Ash (Common)	On	16	1	Yes	400	6.0-6.0-6.0-6.0	4.0	3.0	None	EM	None	Hedgerow ash. Set back from the edge of the highway by approx 4-5m	Good	Good	40+	B1	4.8	72
T476	Oak (English)	On	16	1	Yes	450	6.0-6.0-6.0-6.0	4.0	3.0	None	EM	None	Hedgerow oak. Significant drop in levels from highway edge to the tree	Good	Good	40+	B1	5.4	92
T477	Oak (English)	On	14	1	Yes	550	5.0-5.0-5.0-5.0	4.0	3.0	None	EM	None	Hedgerow oak; set back from edge of highway by approx 4m; ivy throughout crown	Good	Fair	40+	B1	6.6	137



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T478	Oak (English)	On	16	1	Yes	550	7.0-7.0-7.0-7.0	4.0	3.0	None	EM	None	Hedgerow oak; set back from edge of tarmac by approx 4m; ivy throughout crown	Good	Fair	40+	B1	6.6	137
T479	Oak (English)	On	16	1	Yes	450	5.0-6.0-6.0-6.0	4.0	3.0	None	EM	None	Hedgerow ash; set back from edge of tarmac by approx 4m	Good	Fair	40+	B1	5.4	92
T480	Oak (English)	On	16	1	Yes	500	6.0-6.0-6.0-6.0	4.0	3.0	None	EM	None	Hedgerow oak; set back from edge of tarmac by approx 4m	Good	Fair	40+	B1	6.0	113
T481	Oak (English)	On	13	1	Yes	900	6.0-7.0-7.0-7.0	3.0	3.0	None	Μ	None	Hedgerow oak of excellent form and condition; slight drop in levels from edge of tarmac to the stem base	Good	Good	40+	A1	10.8	366
T482	Oak (English)	On	17	1	Yes	900	6.0-7.0-8.0-9.0	3.0	3.0	W	Μ	None	Hedgerow ash; slight drop in levels from edge of tarmac to the stem base. Storm damage in crown; Inonotus Hispidus brackets present	Good	Fair	40+	В3	10.8	366
T483	Ash (Common)	On	8	6	Yes	420	3.0-5.0-3.0-3.5	4.0	0.5	None	SM	None	Hedgerow coppice	Good	Fair	20+	C1	5.0	80



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

SURVEY MONTH: MAY 2022

GROUPS OF TREES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G1	Leyland Cypress	Off	12-15	40	Yes	350	3	0.5	EM	Outgrown evergreen screening trees	Good	Fair	20+	C2	4.2
G2	Crack willow	Off	14-16	3	Yes	750	8	2.0	EM	Off-site group of willow stems located to the east of the compacted earth track	Good	Fair	40+	C2	9.0
G3	Common ash; crack willow; English oak	On	12-16	8	Yes	600	5	1.0	EM	Mixed species broadleaf trees just beyond the Site boundary	Good	Fair	40+	B2	7.2
G4	Crack willow; silver birch	Off	13-15	4	Yes	650	7	3.0	EM	Group consists of 2 willow to the south and 2 birch to the north. Trees forming a cohesive canopy	Good	Good	40+	B2	7.8
G5	Silver birch	Off	12-15	2	Yes	350	5	3.0	SM	Located within the hedgerow; trees of good form and condition forming a cohesive canopy	Good	Good	40+	B2	4.2
G6	Common ash	Off	10-16	5	Yes	450	5	4.0	SM	Establishing trees forming a cohesive canopy located within the hedgerow. Ditch to the north	Good	Fair	40+	B2	5.4
G7	Common ash crack willow	Off	8-10	2	Yes	500	6	4.0	SM	Willow located within the hedgerow	Good	Fair	40+	C2	6.0
G8	Hawthorn; English oak; blackthorn; common ash; crack willow	On	6-18	800	Yes	650	7	0.5	EM	Linear tree feature. Thorn scrub with predominantly Earl mature oak establishing within. Occasionaly ash and willow	Good	Good	40+	B2	7.8
G9	Goat willow; common ash; English oak	On	5-10	10	Yes	250	5	3.0	SM	Establishing trees. Ditch to the north	Good	Fair	40+	C2	3.0
G10	English oak	Off	12-15	2	Yes	450	6	4.0	EM	Establishing oak located within the hedgerow	Good	Good	40+	B2	5.4
G11	Crack willow; English oak	On	12-18	8	Yes	600	7	3.0	М	Linear tree feature; predominantly willow. Ditch to the north	Good	Good	40+	B2	7.2
G12	English oak	On	10-15	2	Yes	450	6	3.0	SM	2 trees forming a cohesive canopy. Ditch to the north	Good	Good	40+	B2	5.4
G13	Crack willow; common alder; English oak	On	12-18	20	Yes	600	7	1.0	EM	Linear tree feature; predominantly willow and alder. Dried out agricultural pond at its centre	Good	Fair	40+	B2	7.2



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)		Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G14	Wild cherry	On	5-8	8	Yes	400	4	0.5	EM	Early mature cherry trees with younger stems (likely sucker re- gen) establishing along the field boundary	Good	Fair	40+	B2	4.8
G14	Wild cherry	On	5-8	8	Yes	400	4	0.5	EM	Early mature cherry trees with younger stems (likely sucker re- gen) establishing along the field boundary	Good	Fair	40+	B2	4.8
G15	Goat willow; crack willow; common ash	On	13-17	3	Yes	600	7	5.0	EM	Linear tree feature at boundary; existing hard surface track 4m to south	Good	Fair	40+	B2	7.2
G16	English oak; common ash	On	13-17	3	Yes	600	7	5.0	EM	Linear tree feature at boundary; existing hard surface track 5m to south	Good	Fair	40+	B2	7.2
G17	Crack willow; common ash	Off	16-19	6	Yes	600	6	5.0	EM	Predominantly willow; ditch and existing hard surfaced track to the north	Good	Fair	40+	B2	7.2
G18	English oak	On	8-12	3	Yes	600	7	5.0	EM	Linear tree feature at boundary; ditch to the north	Good	Good	40+	B2	7.2
G19	Common ash; crack willow	On	8-18	4	Yes	750	7	5.0	Μ	Linear tree feature at boundary; ditch to the north; all trees are storm damaged with associated decay. Good niche habitat features despite general poor condition	Fair	Poor	20+	C3	9.0
G20	Holly; hazel; sycamore	On	4-6	5	Yes	250	3	0.5	SM	Remnant outgrown hedgerow trees	Good	Fair	20+	C2	3.0
G21	Wild cherry; cypress	Off	3-6	50	Yes	200	3	0.5	SM	Linear feature/screening trees; row of cherry with a cypress hedgerow beyond that is currently maintained at 3m	Good	Fair	40+	B2	2.4
G22	Leyland Cypress; common alder	Off	8-14	50	Yes	300	3	0.5	EM	Linear feature/screening trees; row of alternate alder and cypress forming a dense screen	Good	Fair	40+	B2	3.6
G23	English oak; common ash	On	16-20	6	Yes	800	7	5.0	М	Mature trees located at boundary and forming a largely cohesive canopy	Good	Good	40+	B2	9.6
G24	Leyland Cypress	On	12-15	50	Yes	300	3	0.5	EM	Evergreen screening trees; unmaintaned	Good	Fair	20+	C2	3.6



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)		Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G25	Leyland Cypress	On	12-15	200	Yes	300	3	0.5	EM	Evergreen screening trees; unmaintaned	Good	Fair	20+	C2	3.6
G26	English oak; common ash	On	16-18	3	Yes	800	7	5.0	М	Mature trees located at boundary and forming a largely cohesive canopy	Good	Good	40+	B2	9.6
G27	English oak; common ash	On	16-20	3	Yes	800	8	5.0	М	Mature trees forming a largely cohesive canopy	Good	Good	40+	B2	9.6
G28	Common alder; English oak; hawthorn	On	5-10	5	Yes	500	6	3.0	SM	Outgrown hedgerow trees with oak establishing within	Good	Good	40+	B2	6.0
G29	English oak; common ash	Off	14-18	4	Yes	450	6	5.0	SM	Hedgerow trees forming a largely cohesive canopy. Mature oak at centre of group plotted as individual tree	Good	Good	40+	B2	5.4
G30	Hawthorn; goat willow; elder	On	4-6	5	Yes	225	3	0.3	EM	Short section of outgrown hedgerow trees	Good	Fair	40+	C2	2.7
G31	English oak; common ash; hawthorn; field maple	On	5-20	500	Yes	700	8	4.0	EM	EM to M oak and ash with an understorey of hawthorn. Prominent linear tree feature with a significant number of Cat A individual trees plotted along its length. Bluebells and deadwood at ground level. Important tree feature for .	Good	Good	40+	В2	8.4
G31	English oak; common ash; hawthorn; field maple	On	5-20	500	Yes	700	8	4.0	EM	EM to M oak and ash with an understorey of hawthorn. Prominent linear tree feature with a significant number of Cat A individual trees plotted along its length. Bluebells and deadwood at ground level. Important tree feature for .	Good	Good	40+	В2	8.4
G32	English oak; hawthorn	On	6-12	5	Yes	500	6	5.0	SM	Establishing oak forming a cohesive canopy	Good	Good	40+	B2	6.0
G33	Sycamore; alder	On	6-12	10	Yes	500	5	3.0	SM	Trees establishing within the hedgerow. Ditch to the west	Good	Good	40+	B2	6.0
G34	English oak	On	18-20	3	Yes	850	8	5.0	М	Three mature oak of uniform age and condition located at boundary	Good	Good	40+	B2	10.2
G35	Leyland Cypress	On	5	100	Yes	400	3	0.5	EM	Screening trees topped at 4-5m	Good	Fair	40+	C2	4.8



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G36	Willow; English oak; hawthorn; cypress	On	5-20	14	Yes	550	7	1.0	EM	Mixed species screening trees at theSite boundary	Good	Good	40+	B2	6.6
G37	Willow; English oak; hawthorn	On	5-16	14	Yes	600	7	1.0	EM	Mixed broadleaf species screening trees at the Site boundary	Good	Good	40+	B2	7.2
G38	Crack willow	On	8-11	2	Yes	250	4.5	0.5	SM	Coppice willow at the Site boundary	Good	Fair	40+	C2	3.0
G39	Leyland Cypress	On	12-15	25	Yes	300	3	0.5	EM	Evergreen screening trees; unmaintaned	Good	Fair	20+	C2	3.6
G40	Leyland Cypress	On	15-17	50	Yes	300	3	0.5	EM	Evergreen screening trees; unmaintaned	Good	Fair	20+	C2	3.6
G41	Goat willow	On	6-10	10	Yes	250	4	0.5	SM	Group of willow at the Site boundary	Good	Fair	40+	C2	3.0
G42	English oak	On	13-16	3	Yes	600	8	5.0	EM	Prominent trees within the lower quality linear tree feature at boundary	Good	Good	40+	B2	7.2
G43	Common alder; hawthorn	On	6-15	35	Yes	300	4	0.5	SM	Group of alder at the Site boundary. Many have been unsympatheticallypruned or topped in the past.	Fair	Fair	40+	C2	3.6
G44	English oak; sycamore; Common alder; hawthorn	On	6-15	50	Yes	575	6	0.5	EM	A continuation of G43 but with a broader species diversity and a greater number of establishing trees of good form and condition	Good	Good	40+	B2	6.9
G45	English oak; crack willow; hazel	Off	6-17	10	Yes	900	8	2.0	М	Mature oak and willow with an understorey of hazel located at boundary	Good	Good	40+	B2	10.8
G46	Sycamore; hawthorn	Off	5-18	5	Yes	600	7	3.0	EM	Linear group of sycamore with an understorey of hawthorn located at boundary	Good	Good	40+	B2	7.2
G47	Sycamore; English oak; common ash; crack willow	Off	12-20	15	Yes	775	8	3.0	М	Linear group of mature broadleaf trees located at the Site boundary. Compacted earth track and ditch to the north	Good	Good	40+	B2	9.3
G48	Sycamore; birch; hawthorn	Off	6-15	25	Yes	300	4	2.0	SM	Establishing broadleaf trees at the northern edge of the plantation. Existing compacted earth track to the north	Good	Good	40+	B2	3.6



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

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G49	English oak; common ash	Off	15-17	5	Yes	600	7	3.0	EM	Oak and ash forming a cohesive canopy; located within the outgrown hedgerow. Existing compacted earth track to the west	Good	Good	40+	B2	7.2
G50	Alder; common ash; hawthorn	Off	6-15	25	Yes	300	4	2.0	SM	Establishing broadleaf trees at the northern edge of the plantation and extending south along boundary. Majority of trees are located west of the ditch	Good	Good	40+	B2	3.6
G51	Crack willow; English oak; holly; hawthorn	On	6-16	10	Yes	600	6	2.0	EM	Establishing broadleaf trees at the Site boundary	Good	Good	40+	B2	7.2
G52	Willow; English oak; ash	Off	816	3	Yes	450	6	1.0	SM	Establishing broadleaf trees at the Site boundary. Compacted earth track to the east	Good	Fair	40+	B2	5.4
G53	English oak; ash	Off	5-12	2	Yes	300	6	1.0	SM	Establishing broadleaf trees at the Site boundary. Compacted earth track to the east	Good	Fair	40+	B2	3.6
G54	Goat willow	On	5-6	3	Yes	300	3	0.5	SM	Goat willow stems; canopy hard pruned to the east	Fair	Fair	20+	C2	3.6
G55	Crack willow; English oak	On	15-17	3	Yes	650	8	3.0	EM	Storm damage and structural defects/weaknesses in all trees. Existing compacted earth track to the north	Good	Poor	20+	C2	7.8
G56	Common alder	On	10-12	3	Yes	350	4	4.0	SM	Alder stems growing within a short section of remnant hedgerow	Good	Fair	20+	C2	4.2
G57	English oak; common alder	On	17-20	4	Yes	750	8	6.0	EM	Group of oak and one alder forming a largely cohesive canopy. Existing compacted earth track to the north	Good	Good	40+	B2	9.0
G58	Silver birch; English oak; common alder; hazel	On	6-17	25	Yes	400	6	0.5	EM	Linear tree feature at the Site boundary	Good	Good	40+	B2	4.8
G59	English oak	On	17-19	2	Yes	750	7	2.0	EM	2 EM oak forming a cohesive canopy; deep ditch to the east. Field has been deep ploughed to the west	Good	Good	40+	B2	9.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

SURVEY MONTH: MAY 2022

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G60	English oak	On	17-19	4	Yes	700	7	3.0	EM	4 EM oak forming a cohesive canopy; deep ditch and existing compacted earth track to the west. Field has been deep ploughed to the east	Good	Good	40+	B2	8.4
G61	English oak	On	17-19	3	Yes	500	5	3.0	SM	3 SM oak forming a cohesive canopy; deep ditch to the east. Field has been deep ploughed to the west	Good	Good	40+	B2	6.0
G62	English oak; common ash	Off	15-18	10	Yes	600	7	4.0	EM	SM to EM oak and ash forming a linear tree feature at the field boundary	Good	Fair	40+	B2	7.2
G63	English oak; common ash	On	15-17	3	Yes	600	7	4.0	EM	SM to EM oak and ash forming a cohesive canopy. Ditch to the north	Good	Fair	40+	B2	7.2
G64	English oak; common ash	On	10-14	4	Yes	500	5	4.0	SM	SM trees establishing within the hedgerow. Ditch to the north. Existing field access to the east	Good	Fair	40+	B2	6.0
G65	English oak; common ash	On	10-14	4	Yes	500	5	4.0	SM	SM trees establishing within the hedgerow. Ditch to the east. Existing field access to the north	Good	Fair	40+	B2	6.0
G66	English oak; common alder; rowan	On	8-18	30	Yes	800	6	3.0	М	Prominent linear tree feature dominated by EM to M English oak. Ditch to the east. Field ploughed to the west	Good	Good	40+	B2	9.6
G67	English oak; silver birch; rowan	On	5-14	4	Yes	475	6	3.0	SM	Establishing row of broadleaf trees. Field ploughed to the east; west and north	Good	Good	40+	B2	5.7
G68	English oak; silver birch	On	7-14	43	Yes	475	6	3.0	EM	Establishing row of broadleaf trees. Field ploughed to the east; west and north	Good	Good	40+	B2	5.7
G69	English oak; aspen; birch	On	8-18	30	Yes	650	6	3.0	EM	Prominent linear tree feature. SM to EM oak interspersed with aspen and birch. Field ploughed to the east; existing compacted earth track to the west	Good	Good	40+	B2	7.8
G70	English oak; sycamore; rowan; birch	On	8-18	50	Yes	650	6	3.0	EM	Prominent linear tree feature. SM to EM oak interspersed with rowan and birch. Field ploughed to the east and west. Compacted earth track runs through its centre	Good	Good	40+	B2	7.8

SECTION 4



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G71	English oak	On	6-8	3	Yes	450	5	1.0	SM	Establishing oak adjacent to the compacted earth track	Good	Good	40+	B2	5.4
G72	English oak	Off	15-17	6	Yes	800	6	4.0	EM	Oak of uniform age and condition adjacent to the compacted earth track and ditch to the east	Good	Good	40+	B2	9.6
G73	English oak; sycamore	Off	15-17	8	Yes	800	6	4.0	EM	Located at the boundary to a neighbouring property; trees forming a cohesive canopy	Good	Good	40+	B2	9.6
G74	English oak; sycamore ; birch; willow; cypress	Off	10-18	10	Yes	600	6	4.0	EM	Located at the boundary to a neighbouring property; trees forming a largely cohesive canopy	Good	Good	40+	B2	7.2
G75	English oak	Off	15-17	4	Yes	800	6	4.0	EM	Oak of uniform age and condition adjacent to the compacted earth track and ditch to the east	Good	Good	40+	B2	9.6
G76	Common alder; English oak; hawthorn	Off	6-16	150	Yes	800	7	4.0	EM	EM oak and M alder forming a linear tree feature. Trees off-site and separated from by a ditch	Good	Good	40+	B2	9.6
G77	Leyland Cypress	Off	15-16	15	Yes	400	3	0.5	SM	Evergreen screening trees	Fair	Fair	20+	C2	4.8
G78	English oak	On	13-15	2	Yes	800	7	3.0	EM	2 trees forming a cohesive canopy; ditch to the east and field ploughed to the west	Good	Good	40+	B2	9.6
G79	Goat willow; common ash; hawthorn	On	10-14	10	Yes	400	6	0.5	EM	Dense scrub with establishing willow and ash forming a linear tree feature at the field boundary. Ditch to the east	Good	Fair	40+	B2	4.8
G80	English oak; common ash	Off	13-15	3	Yes	500	6	4.0	SM	Establishing trees; ditch to the east	Good	Good	40+	B2	6.0
G81	English oak	Off	10-15	2	Yes	550	6	4.0	EM	SM and EM oak forming a cohesive canopy; ditch to the east	Good	Good	40+	B2	6.6
G82	English oak; alder; common ash	Off	10-17	3	Yes	550	6	4.0	EM	Trees forming a cohesive canopy; ditch to the south	Good	Good	40+	B2	6.6
G83	English oak; alder; common ash	Off	15-18	4	Yes	650	7	4.0	EM	Trees forming a largely cohesive canopy at the Site boundary	Good	Good	40+	B2	7.8
G84	English oak; alder; common ash; crack willow	Off	15-18	4	Yes	650	7	4.0	EM	Trees forming a largely cohesive canopy at the Site boundary	Good	Good	40+	B2	7.8



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

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G85	English oak; common ash; silver birch; field maple; cherry	Off	6-15	50	Yes	500	5	1.0	EM	Mixed broadleaf species trees occupying a strip of land between and the railway tracks	Good	Good	40+	B2	6.0
G86	Common alder	Off	10-12	12	Yes	700	5	2.0	Μ	Mature alder forming a prominent linear tree feature. Located offsite with an existing compacted earth track to the west. Cavities in stems; of stunted form	Good	Good	40+	A3	8.4
G87	English oak; holly	On	5-18	8	Yes	650	7	5.0	EM	SM to EM oak with an understorey of holly forming a linear tree feature. Field deep ploughed to the north. Ditch to the south	Good	Good	40+	B2	7.8
G88	English oak; sycamore; alder	On	12-16	7	Yes	600	6	5.0	EM	SM to EM trees forming a linear tree feature. Field deep ploughed to the north. Ditch to the south	Good	Good	40+	B2	7.2
G89	Sycamore	Off	12-16	13	Yes	600	6	5.0	EM	Offsite trees forming a linear tree feature. Ditch to the north	Good	Good	40+	B2	7.2
G90	Sycamore	Off	12-16	4	Yes	300	6	5.0	SM	Sycamore trees forming a linear tree feature. Ditch to the west	Good	Good	40+	B2	3.6
G91	Sycamore	On	10-12	3	Yes	180	4	5.0	SM	Sycamore trees forming a linear tree feature. Ditch to the west	Good	Good	40+	B2	2.2
G92	Sycamore; English oak	On	10-18	7	Yes	550	6	5.0	EM	SM Sycamore trees and an EM oak forming a linear tree feature. Ditch to the west	Good	Good	40+	B2	6.6
G93	Sycamore; English oak	Off	12-18	6	Yes	600	6	5.0	EM	Offsite trees forming a linear tree feature. Ditch to the north	Good	Good	40+	B2	7.2
G94	English oak	Off	5-12	6	Yes	600	6	5.0	EM	Offsite trees forming a linear tree feature. Ditch to the north	Good	Good	40+	B2	7.2
G95	English oak	Off	18-20	2	Yes	900	9	5.0	Μ	2 mature oak forming a cohesive canopy. Ditch to the north	Good	Good	40+	B2	10.8
G96	English oak	On	12-15	2	Yes	550	7	5.0	EM	EM and SM oak forming a cohesive canopy. Ditch to the north	Good	Good	40+	B2	6.6
G97	English oak	On	12-18	9	Yes	650	7	5.0	EM	EM and SM oak forming a cohesive canopy. Ditch to the north	Good	Good	40+	B2	7.8
G98	English oak	On	12-18	15	Yes	650	7	5.0	EM	EM and SM oak forming a cohesive canopy. Ditch to the north	Good	Good	40+	B2	7.8



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

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G99	English oak; common ash	On	15-18	3	Yes	650	8	3.0	EM	Ash and oak trees forming a cohesive canopy. Ditch to the south	Good	Good	40+	B2	7.8
G100	English oak	On	10-16	10	Yes	700	7	2.0	EM	Linear tree feature at boundary. Dominated by SM to EM oak. Field has been deep ploughed to the north	Good	Good	40+	B2	8.4
G101	Oak; alder; rowan; crack willow; goat willow	Off	5	20	None	300	3	0.3	EM	Boundary group; lower sides flailed for access; topped @2.5m for utilities clearance	Good	Fair	20+	B2	3.6
G102	Birch; alder; rowan	Off	5	5	None	280	2	0.0	EM	Boundary group; lower sides flailed for access; topped @2.5m for utilities clearance	Good	Fair	20+	B2	3.3
G103	Oak; alder; rowan; birch; ash; holly	Off	5	20	None	300	3	0.0	EM	Boundary group; lower sides flailed for access; topped @2.5m for utilities clearance	Good	Fair	20+	B2	3.6
G104	Ash; oak; hawthorn; blackthorn; hazel; crab apple; holly; goat willow;	Off	5	40	None	480	3	0.0	EM	Boundary group; predominantly ash & oak with thorn; hazel & apple occurring as understorey; lower sides flailed for access	Good	Fair	20+	B2	5.8
G105	Crack willow; goat willow; alder; sycamore; horse chestnut; beech; birch; field maple; hazel; hawthorn; dogwood; cypress	Off	4 - 13	30	Yes	400	4.5	0.0	EM	Mixed boundary group offsite; drainage ditch to north of group	Good	Fair	40+	B2	4.8
G106	Scot's pine; elder	On	2 - 10	30	None	360	2.8	0.0	SM	Lower crowns to east flailed for access; stems to east topped @3m for utilities clearance	Fair	Fair	20+	B2	4.3
G107	Birch; alder; hybrid black poplar; hazel; hawthorn	Off	8 - 10	20	None	280	2.5	0.5	SM	Mixed boundary group offsite; sporadic hawthorn to west of group	Good	Fair	20+	B2	3.3
G108	Oak	On	14	3	Yes	700	6	3.0	EM	3x oak forming cohesive crown; drainage ditch to south of stems; elevated/undermined root-plate to central tree; main stem & scaffold limb of tree to west swathed in ivy	Good	Fair	20+	B2	8.4



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G109	Oak; ash	On	6 - 14	2	Yes	450	6	3.0	EM	Single-stemmed oak & multi- stemmed ash forming cohesive crown; ash showing loss of vigour/ twiggy dieback throughout crown; drainage ditch to south of stems; ash dominates plot	Good	Fair	20+	B2	5.4
G110	Ash	On	15	2	None	450	7	3.0	EM	1x co-dominant & 1x multi- stemmed to field edge; lower sides flailed for access	Good	Fair	20+	B2	5.4
G111	Oak	On	16	3	Yes	900	7	3.0	М	3x oak forming cohesive crown; drainage ditch to south of stems; central tree suppressed by outer trees	Good	Fair	40+	A2	10.8
G112	Holm oak	On	1 - 3	4	None	150	2.5	0.0	Y	4x widely spaced young oak; drainage ditch to south of stems	Good	Fair	10+	C2	1.8
G113	Oak; elder; goat willow; hawthorn	Off	2 - 15	5	Yes	650	6	3.0	EM	3x oak forming cohesive crown; other species occur as understorey; drainage ditch to north of stems	Good	Fair	20+	B2	7.8
G114	Crack willow	Off	15	4	Yes	500	5	0.5	М	Stand of 4x willow pollards within hedge; decayed boles with crowns formed by re-gen; horse hoof fungal fruiting bodies present on 2x outer boles	Fair	Fair	20+	B2	6.0
G115	Sycamore; oak; hazel; hawthorn; blackthorn	Off	8 - 10	40	Yes	300	4	0.0	EM	Mixed outgrown hedge with occasional oak establishing as hedgerow trees; lower crowns flailed; drainage ditch to north of stems	Good	Fair	20+	B2	3.6
G116	Hawthorn; hazel; holly; oak	Off	8 - 10	40	Yes	300	4	0.0	EM	Mixed outgrown hedge with occasional oak establishing as hedgerow trees; lower crowns flailed; drainage ditch to north of stems	Good	Fair	20+	B2	3.6
G117	Sycamore; alder; hawthorn	Off	8 - 12	5	Yes	400	6	0.0	EM	Offsite group; lower crowns flailed; drainage ditch to west of stems	Good	Fair	20+	B2	4.8
G118	Sycamore; hawthorn	On	6 - 12	3	Yes	360	6	0.0	EM	Lower crowns flailed; drainage ditch to east of stems	Good	Fair	20+	B2	4.3



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G119	Sycamore; birch; elm; alder; ash; hybrid black poplar; oak; rowan; hawthorn	On	6 - 16	100	None	660	6	0.0	EM	Predominantly sycamore & birch with other species occurring as understory; trackway runs through group; maintained thorn hedges to east & west boundaries; brambles colonising plot to west of trackway	Good	Fair	40+	A2	7.9
G120	Blackthorn; alder; bullace; elder	On	6 - 8	6	None	340	3	0.0	EM	Outgrown hedge; sides flailed for access	Fair	Fair	20+	B2	4.1
G121	Blackthorn; alder; crack willow; goat willow; hybrid black poplar; elder	On	5 - 15	8	None	510	6	0.0	EM	Typical for age & species	Good	Fair	20+	B2	6.1
G122	Sycamore	On	14	2	None	410	7	3.0	EM	1x co-dominant & 1x multi- stemmed to field boundary	Good	Fair	20+	B2	4.9
G123	Sycamore; ash	On	8	3	None	280	3	3.0	SM	2x sycamore & 1x ash to field boundary	Fair	Fair	20+	C2	3.3
G124	Sycamore; oak	On	8	3	None	370	3	3.0	SM	4x sycamore & 1x oak to field boundary	Fair	Fair	20+	C2	4.4
G125	Sycamore; lime	On	8	3	None	290	3	3.0	SM	2x sycamore & 1x lime to field boundary	Fair	Fair	20+	C2	3.5
G126	Ash	On	14	2	Yes	550	5	3.0	EM	2x ash forming cohesive crown; drainage ditch to west of stems; main stem & scaffold limb of tree to north swathed in ivy	Good	Fair	20+	B2	6.6
G127	Oak	On	15	2	Yes	700	7	3.0	М	2x oak (1x semi-mature & 1x mature) forming cohesive crown; drainage ditch to west of stems	Good	Fair	40+	B2	8.4
G128	Oak; crack willow	On	8 - 14	3	Yes	600	5	3.0	EM	2x oak & 1x willow forming cohesive crown; drainage ditch to west of stems	Good	Fair	40+	B2	7.2
G129	Lombardy poplar; cypress	On	12 - 18	79	None	580	4	0.0	EM	Stand of cypress with poplar established to west forming windbreak to west of trackway; occasional small dead poplar stem to south; small horse hoof fungal fruiting body to 2nd poplar stem from north	Good	Fair	40+	B2	7.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G130	Lombardy poplar; cypress	On	12 - 18	168	None	520	4	0.0	EM	Stand of cypress with poplar established to west forming windbreak to west of trackway; occasional small dead poplar stems	Good	Fair	40+	B2	6.2
G131	Alder; crack willow; elder	On	5 - 12	40	None	390	6	0.0	EM	Predominantly alder with elder occurring as understory	Good	Fair	40+	B2	4.7
G132	Lombardy poplar; cypress	On	12 - 18	78	None	630	4	0.0	EM	Stand of cypress with poplar established to west forming windbreak to west of trackway; occasional small dead poplar stems	Good	Fair	40+	В2	7.6
G133	Oak; birch; goat willow	Off	8 - 10	3	Yes	600	4	0.0	Μ	Offsite trees; cursory inspection from boundary; dia. estimated @0.5m	Good	Fair	40+	B2	7.2
G134	Birch; oak; cherry; Corsican pine; Norway maple; oak; blackthorn	Off	8 - 10	35	None	310	3	0.0	SM	Predominantly pine; oak & birch; thorn occurs as understory	Good	Fair	40+	B2	3.7
G135	Scot's pine; hawthorn; hazel	Off	4 - 15	15	None	600	4.5	0.0	EM	Stand of pine; thorn & hazel occurs as derelict hedge to eastern boundary	Good	Fair	40+	B2	7.2
G136	Hybrid black poplar; oak	On	14 - 18	14	None	930	8	0.0	М	A stand of predominantly poplar	Good	Fair	40+	B2	11.2
G137	Oak; hybrid black poplar; hawthorn	On	6 - 18	4	Yes	900	6.5	0.0	EM	Stand of trees to field boundary	Good	Fair	40+	B2	10.8
G138	Crack willow	On	8	7	None	140	2.5	0.5	SM	Stand of trees at field boundary; horse hoof fungal fruiting body present on 1x stem to north-west	Fair	Fair	20+	B2	1.7
G139	Crack willow; birch; hawthorn; elder	On	4 - 15	15	Yes	500	4	0.5	EM	Stand of trees at field boundary; thorn & elder occur as understory	Fair	Fair	20+	B2	6.0
G140	Oak	On	15	3	Yes	500	6.5	3.0	EM	3x oak flanking trackway which form cohesive crowns; drainage ditch to west of stems	Good	Fair	20+	B2	6.0
G141	Oak	On	14	2	None	820	7	3.0	Μ	2x oak flanking trackway which form cohesive crowns; tree to south dominates plot suppressing northern-most tree; tree to south has historic storm damage around main union with old tear-out wound & associated decay	Good	Fair	20+	B2	9.8



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G142	Oak	On	16	2	Yes	800	7	3.0	М	2x oak flanking trackway which form cohesive crowns; main stem of tree to north swathed in ivy	Good	Fair	20+	B2	9.6
G143	Oak; alder; sycamore; holly	On	8 - 13	5	Yes	550	6	2.0	EM	Offsite trees; cursory inspection from boundary	Good	Fair	20+	B2	6.6
G144	Sycamore; ash	On	18	2	Yes	500	6	3.0	М	2x hedgerow trees forming cohesive crowns	Good	Fair	20+	B2	6.0
G145	Oak; ash	On	17	2	Yes	700	6.5	4.0	М	2x trees forming cohesive crown; oak is suppressed by ash	Good	Fair	40+	B2	8.4
G146	Oak; ash	On	12 - 14	3	Yes	600	5	4.0	EM	3x trees forming cohesive crown; all stems swathed in ivy; ash to north of group is showing sporadic leaf-flush & twiggy dieback	Good	Fair	20+	B2	7.2
G147	Oak	On	10 - 12	3	Yes	650	6	5.0	EM	Middle & southern most tree form a cohesive crown; all stems swathed in ivy; oak to middle of plot suppresses smaller trees; tree to north is 5m monolith with limited leaf-flush forming small crown	Good	Fair	20+	В2	7.8
G148	Oak	On	6 - 14	2	Yes	650	6	5.0	EM	2x trees forming cohesive crown; both stems swathed in ivy; oak to north of plot suppresses smaller tree to south which is 5m monolith with limited leaf-flush forming small crown	Good	Fair	20+	В2	7.8
G149	Oak	On	12 - 17	3	Yes	1200	8	1.5	М	3x mature oak at woodland edge; bark damage to main stem with minor decay to eastern-most stem	Good	Fair	40+	A2	14.4
G150	Lime	Off	12	3	Yes	600	6.5	0.5	EM	3x roadside trees	Good	Fair	20+	B2	7.2
G151	Lime	Off	12	3	Yes	500	6	0.0	EM	3x roadside multi-stemmed roadside trees	Good	Fair	20+	B2	6.0
G152	Ash	Off	10 - 12	3	Yes	550	7	0.5	EM	3x roadside trees	Good	Fair	20+	B2	6.6
G153	Lime	Off	8 - 10	2	Yes	350	5	0.0	EM	2x roadside multi-stemmed roadside trees	Good	Fair	20+	B2	4.2
G154	Ash	Off	10 - 13	2	Yes	500	5	0.5	EM	2x roadside trees	Good	Fair	20+	B2	6.0
G155	Ash; lime	Off	10 - 13	2	Yes	600	6	0.0	EM	2x roadside trees	Good	Fair	20+	B2	7.2



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)		Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G156	Aspen	Off	12	25	Yes	180	3	0.0	SM	Stand of roadside trees	Good	Fair	20+	C2	2.2
G157	Aspen	Off	8 - 12	25	Yes	180	3	0.0	SM	Stand of roadside trees	Good	Fair	20+	C2	2.2
G158	Lime	Off	12	5	Yes	450	6	0.5	EM	5x roadside trees	Good	Fair	20+	B2	5.4
G159	Alder; oak	On	11 - 14	2	Yes	500	6.5	0.5	EM	2x trees forming cohesive crown	Fair	Fair	20+	B2	6.0
G160	Ash; bullace	Off	14	3	Yes	500	5	0.0	EM	3x ash within dense thicket of bullace; all ash show loss of vigour & extensive dieback throughout crowns with only a small sparse crown in the upper canopy which is typical of ash dieback. Recommend notification be issued to landowner to fell the 3x ash	Poor	Poor	<10	U2	6.0
G161	Lime; ash	Off	9 - 14	10	Yes	550	6.5	0.5	EM	Roadside trees; ash showing decline in canopy. Recommend landowner be notified of condition	Fair	Fair	20+	B2	6.6
G162	Lime; ash	Off	8 - 14	4	Yes	500	6	0.5	EM	Roadside trees; northern most ash showing decline in canopy. Recommend landowner be notified of condition	Fair	Fair	20+	B2	6.0
G163	Hawthorn; oak	Off	7	6	Yes	150	2.5	0.0	SM	Roadside trees; widely spaced group of even age & size	Good	Fair	20+	B2	1.8
G164	Oak; ash	Off	4 - 12	6	Yes	500	5	1.0	EM	Roadside trees; 3x oak which have been topped for utilities clearance @4m; 3x ash showing decline in canopy. Recommend landowner be notified of condition	Fair	Fair	20+	C2	6.0
G165	Goat willow	Off	5	4	Yes	100	2	0.0	SM	Roadside trees; multi-stemmed	Good	Fair	20+	B2	1.3
G166	Lime	Off	10	3	Yes	500	4	0.0	SM	3x roadside trees	Good	Fair	20+	B2	6.0
G167	Ash	Off	12	3	Yes	500	6	2.0	EM	Roadside trees; side pruned for utilities clearance; southern most tree showing decline in canopy. Recommend landowner be notified of condition	Fair	Fair	20+	B2	6.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)		Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G168	Ash	Off	14	5	Yes	500	4	0.0	EM	5x roadside trees; heavily side pruned for utilities clearance; ivy cover to 3x stems to south; loss of vigour throughout crowns with minor twiggy dieback. Recommend landowner be notified of condition	Fair	Fair	20+	В2	6.0
G169	Lime	Off	8 - 12	4	Yes	500	4	0.0	SM	4x roadside trees; side pruned for utilities clearance	Good	Fair	20+	B2	6.0
G170	Ash	Off	15	2	None	450	7	3.0	EM	1x co-dominant & 1x multi- stemmed to field edge; lower sides flailed for access	Good	Fair	20+	B2	5.4
G171	Lime; ash	Off	12 - 14	6	Yes	500	6.5	0.5	EM	3x ash & 3x lime roadside trees; northern most ash dead-standing (recorded individually as category U); 2x ash showing decline in canopy	Fair	Fair	20+	B2	6.0
G172	Scots pine; common beech; English oak	On	10-15	80	Yes	500	5	2.0	SM	Establishing copse of native mixed species trees set back from the highway edge by approx 10m	Good	Fair	40+	B2	6.0
G173	Scots pine; common beech; English oak	On	10-15	80	Yes	500	5	2.0	SM	Establishing copse of native mixed species trees set back from the highway edge by approx 6m	Good	Fair	40+	B2	6.0
G174	Common lime	On	10-12	2	Yes	280	4	4.0	SM	Roadside verge tree planting. Part of a linear tree feature/avenue. Set back from the highway edge by 4-5m	Good	Fair	40+	B2	3.3
G175	Crack willow; common alder	On	10-17	25	Yes	500	6	2.0	SM	SM to EM copse of trees. Predominantly willow	Fair	Fair	20+	C2	6.0
G176	Hybrid black poplar; common alder	On	5-13	20	Yes	400	4	6.0	SM	Trees have recently been heavily topped	Fair	Fair	20+	C2	4.8
G177	Hybrid black poplar; common alder	On	15-20	30	Yes	500	6	2.0	SM	SM to EM linear tree feature. All trees previously topped. Green keeper mentioned some works were due to be carried out (topping or felling); existing access track to the south of the group	Fair	Fair	20+	C2	6.0
G178	Crack willow; common alder; Scots pine	On	10-20	25	Yes	500	6	2.0	SM	SM to EM copse of trees. Predominantly willow	Fair	Fair	20+	C2	6.0



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)		Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G179	Hybrid black poplar; common alde; common ash	On	15-25	20	Yes	500	6	2.0	SM	SM to EM copse of trees. All poplar trees previously topped. Green keeper mentioned some works were due to be carried out (topping or felling); existing pedestrian access track to the west and south of the group	Good	Fair	40+	C2	6.0
G180	Scots pine; common ash	On	5-8	3	Yes	250	4	1.0	SM	SM trees within the golf course. Parallel to an existing access track	Good	Fair	40+	C2	3.0
G181	Scots pine; silver birch; Norway maple	On	6-15	20	Yes	300	4	1.0	SM	SM to EM group of mixed species native trees within the golf course surrounding the yard area	Good	Good	40+	B2	3.6
G182	Scots pine; English oak; cherry; rowan; poplar; willow	On	6-20	50	Yes	400	4	1.0	SM	SM to EM group of mixed species native trees within the golf course	Good	Good	40+	B2	4.8
G183	Crack willow; hawthorn; English elm	On	5-20	50	Yes	600	5	0.5	EM	Linear tree feature; railway embankment trees. Predominantly willow with an understorey of thorn and elm. Many of the willow have been topped	Fair	Fair	20+	C2	7.2
G184	Norway maple; field maple; common alder; silver birch; English oak	On	10-15	25	Yes	450	6	1.0	EM	Establishing copse of native broadleaf trees	Good	Fair	40+	B2	5.4
G185	Goat willow; crack willow; common ash	On	5-15	20	Yes	300	5	0.5	SM	Linear tree feature; railway embankment trees. Predominantly willow	Good	Fair	20+	C2	3.6
G186	Wild cherry	On	6-8	14	Yes	300	4	2.0	SM	Linear tree feature; exclusively cherry; set back from highway edge by approx 10m	Good	Fair	40+	B2	3.6
G187	Common alder; silver birch; crack willow	On	5-15	45	Yes	350	5	2.0	SM	Establishing broadleaf trees; set back from highway edge by approx 10m	Good	Fair	40+	B2	4.2
G188	Common beech	On	8-10	4	Yes	325	4	3.0	SM	Group of beech trees; reduced vitality	Fair	Fair	10+	C2	3.9
G189	Common alder; silver birch; crack willow; common ash	On	5-15	200	Yes	350	5	2.0	SM	Establishing broadleaf trees; set back from highway edge by approx 8-12mdrop in levels from highway edge to trees	Good	Fair	40+	B2	4.2
G190	Whitebeam; cherry; common beech	On	5-14	16	Yes	280	4	2.0	SM	Establishing broadleaf trees	Good	Good	40+	B2	3.3
G191	Wild cherry; common ash	On	5-12	10	Yes	300	4	2.0	SM	Predominantly cherry; self sewn ash establishing at group edge	Good	Fair	20+	C2	3.6



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
G192	Norway maple	On	10-15	8	Yes	300	4	2.0	SM	Group of establishing maple trees	Good	Fair	20+	B2	3.6
G193	Norway maple	On	10-15	7	Yes	300	4	2.0	SM	Group of establishing maple trees	Good	Fair	20+	B2	3.6
G194	Sycamore; Scots pine; common ash	On	12-18	35	Yes	400	5	1.0	EM	SM to EM copse of native broadleaf trees	Good	Fair	40+	B2	4.8
G195	Common ash; common alder; hawthorn; English oak	On	5-15	15	Yes	350	5	2.0	SM	SM to EM trees located along a field boundary; set back from highway edge by approx 5-6m. Drop in levels from highway edge to trees	Good	Fair	40+	B2	4.2
G196	Common alder; hazel	On	4-10	5	Yes	250	4	2.0	SM	Small copse of establishing trees	Good	Fair	40+	C2	3.0
G197	Common ash	Off	14-17	6	Yes	600	6	4.0	EM	Hedgerow ash of lapsed coppice/ low pollard form. Set back from edge of tarmac by approx 4m. Ditch to the south between trees and road	Good	Fair	40+	B2	7.2
G198	English oak; common ash	Off	10-12	2	Yes	350	5	4.0	EM	Establishing hedgerow trees. Drop in levels from edge of tarmac to trees	Good	Fair	40+	B2	4.2
G199	English oak; crack willow; hawthorn	Off	5-15	30	Yes	475	6	3.0	EM	Establishing oak and willow with an understorey of thorn trees. Footpath runs from north to south through group	Good	Good	40+	B2	5.7
G200	Crack willow; alder; hawthorn	Off	5-15	35	Yes	650	6	5.0	EM	Linear tree feature on the banks of a lake at the field edge. Many partially collapsed and layering willow trees within group	Good	Fair	40+	B3	7.8



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

SURVEY MONTH: MAY 2022

HEDGES

Ref	Species	On/off site	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.
H1	Hawthorn; blackthorn	Off	2.0	1.75	100	0.2	EM	Dense and well maintained hedgerow	Good	Fair
H2	Hazel	On	3.0	1.75	70	0.2	SM	Understorey trees forming an informal hedgerow. Ditch to the north	Good	Fair
H3	Hawthorn; hazel; blackthorn	On	2.0	1.75	80	0.2	EM	Dense and well maintained hedgerow	Good	Good
H4	Hawthorn; blackthorn; hazel	Off	3.0	2.0	80	0.2	EM	Dense and generally well maintained hedgerow; more outgrown in its northern 15m	Good	Good
Н5	Hawthorn; hazel	Off	2.0	1.75	80	0.2	SM	Maintained hedgerow; gaps along its length	Good	Fair
H6	Hawthorn	Off	1.5	0.75	100	0.2	EM	Maintained low level hedgerow; some gaps along its length	Good	Fair
H7	Leyland Cypress	On	5.0	4.0	250	0.5	EM	Recently topped evergreen screening trees	Fair	Fair
H8	Hawthorn	On	3.0	3.0	100	0.5	SM	Establishing line of hawthorn at boundary	Good	Good
H9	Hawthorn; blackthorn; hazel	On	2.0	1.75	80	0.1	EM	Short section of maintained hedgerow	Good	Fair
H10	Hawthorn	Off	5.0	5.0	150	0.2	EM	Unmaintaned hedgerow located south of a ditch	Good	Fair
H11	Hawthorn; blackthorn; hazel	On	2.0	1.75	80	0.1	EM	Maintained hedgerow with significant gaps along its length	Good	Fair
H12	Hawthorn; blackthorn	On	4.0	2.5	100	0.2	М	Varies in height from 2-5.5m. Dense and well maintained hedgerow	Good	Good
H13	Hazel	On	2.0	0.75	60	0.1	SM	Short section of SM hedgerow; maintained	Good	Good
H14	Hawthorn	On	4.5	4.0	150	0.2	М	Mature remnant hedgerow trees. No longer a formal hedgerow	Good	Fair
H15	Hawthorn	On	1.0	0.75	60	0.1	SM	Short section of low level hedgerow	Good	Good
H16	Leyland Cypress	Off	3.0	3.0	150	0.5	SM	Evergreen screening trees	Good	Fair



Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
40+	B2	1.3
40+	C2	0.8
40+	B2	1.0
40+	B2	1.0
40+	C2	1.0
40+	C2	1.3
20+	C2	3.0
40+	B2	1.3
40+	C2	1.0
40+	B2	1.8
40+	C2	1.0
40+	B2	1.3
40+	C2	0.8
40+	B2	1.8
40+	C2	0.8
40+	C2	1.8

HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

HI7	Leyland			(m)	(mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.
H18 H	Cypress	On	4.0	3.0	150	0.5	SM	Evergreen screening trees topped at 3m	Good	Fair
	Hawthorn	Off	4.0	4.0	150	0.2	EM	Dense hedgerow; unmaintaned	Good	Good
H19 Fo	For us; hazel	Off	4.0	4.0	150	0.1	М	Mature for us and hazel; outgrown hedgerow trees	Good	Good
	Blackthorn; hawthorn	On	2.0	2.0	80	0.2	EM	Dense and well maintained hedgerow	Good	Good
H21 rov	Hawthorn; owan; cherry; blackthorn; hazel	Off	5.0	6.0	150	0.2	EM	Outgrown hedgerow feature with more mature trees along its length	Good	Good
H22 co	Hazel; common ash	Off	5.0	5.0	150	0.2	EM	Hazel coppice hedgerow with some young ash and oak establishing along its length. Compacted earth track to the east	Good	Good
H23 B	Blackthorn	On	2.5	2.5	80	0.2	SM	Dense hedgerow/scrub	Good	Fair
	Hawthorn; blackthorn	On	2.0	2.0	80	0.2	EM	Well maintained hedgerow; some small gaps beginning to form along its length	Good	Good
H /5	Hawthorn; blackthorn	On	1.5	1.5	80	0.2	SM	Low level maintained hedgerow; some small gaps beginning to form along its length	Good	Good
H /6	Hawthorn; blackthorn	On	1.5	1.5	80	0.2	SM	Dense and well maintained hedgerow; gap at its centre (5-6m)	Good	Good
H /6	Hawthorn; blackthorn	Off	1.5	1.5	80	0.2	SM	Dense and well maintained hedgerow; gap at its centre (5-6m)	Good	Good
H//	Hawthorn; blackthorn	Off	2.5	2.0	80	0.2	EM	Dense and well maintained hedgerow	Good	Good
	Hawthorn; hazel; elder	On	5.0	5.0	150	0.2	EM	Outgrown hedgerow; some gaps along its length	Good	Fair
H29 B	Blackthorn	On	0.5	0.5	60	0.1	SM	Low level hedgerow	Good	Fair
H30 hav	Hazel; awthorn; oak	On	3.0	2.5	180	0.2	EM	Dense and well maintained hedgerow	Good	Good
H31 H	Hawthorn	Off	1.5	1.0	80	0.2	SM	Low level hedgerow; gaps along its length	Fair	Fair
H32	Hazel; hawthorn	Off	5.0	4.0	180	0.2	EM	Dense and unmaintained hedgerow	Good	Good
H33 H	Hawthorn	On	1.0	0.75	80	0.2	SM	Low level hedgerow becoming choked by vegetation	Fair	Poor



Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
40+	C2	1.8
40+	B2	1.8
40+	B2	1.8
40+	B2	1.0
40+	B2	1.8
40+	B2	1.8
40+	C2	1.0
40+	B2	1.0
40+	C2	1.0
40+	B2	1.8
20+	C2	0.8
40+	B2	2.2
20+	C2	1.0
40+	B2	2.2
<10	C2	1.0

HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.
H34	Hawthorn	On	3.0	3.0	100	0.1	EM	Dense and well maintained hedgerow	Good	Good
H35	Hawthorn; blackthorn	On	1.5	1.0	150	0.2	М	Mature low level hedgerow; maintained	Good	Fair
H36	Hawthorn; blackthorn	Off	1.5	1.0	150	0.2	М	Mature low level hedgerow; maintained	Good	Fair
H37	Hazel	Off	3.0	4.0	80	0.2	М	Hazel coppice forming a hedgerow; topped at 2m	Good	Fair
H38	Hawthorn; blackthorn	On	1.5	1.0	80	0.1	SM	Low level hedgerow with many gaps along its length	Good	Poor
H38	Hawthorn; blackthorn	On	1.5	1.0	80	0.1	SM	Low level hedgerow with many gaps along its length	Good	Poor
H39	Hawthorn	On	2.0	1.5	80	0.2	EM	Dense and well maintained hedgerow	Good	Good
H40	Hawthorn	On	1.75	1.0	80	0.1	EM	Dense and well maintained hedgerow	Good	Good
H41	Hawthorn	On	1.0	1.0	80	0.1	EM	Low level hedgerow; becoming choked with vegetation; gaps along its length	Good	Good
H42	Hawthorn	On	4.0	3.5	200	0.2	М	Remnant hedgerow trees; unmaintaned	Good	Fair
H43	Hawthorn	On	3.0	3.0	100	0.2	EM	Dense and well maintained hedgerow	Good	Good
H44	Hawthorn	On	1.75	1.5	80	0.2	SM	Dense and well maintained hedgerow	Good	Good
H45	Hawthorn	On	1.75	1.5	80	0.2	SM	Dense and well maintained hedgerow	Good	Good
H46	Hawthorn; field maple	Off	2.5	2.0	80	0.0	EM	Maintained by flail	Good	Good
H47	Hawthorn; blackthorn; field maple; sycamore; holly	Off	2.5	2.0	80	0.0	EM	Maintained by flail	Good	Good
H48	Hawthorn; blackthorn	Off	2.0	1.5	70	0.0	EM	Maintained by flail	Good	Good
H49	Hawthorn; elder	Off	2.5	1.5	80	0.0	EM	Maintained by flail; predominantly elder; partially choked by brambles	Fair	Fair
H50	Hawthorn; holly	Off	2.0	1.5	80	0.0	EM	Maintained by flail	Good	Good
H51	Hawthorn; elder	Off	3.5	3.0	80	0.0	EM	Predominantly thorn; has not been cut back for 12 - 18 months	Good	Good



Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
40+	B2	1.3
40+	B2	1.8
40+	B2	1.8
40+	C2	1.0
20+	C2	1.0
20+	C2	1.0
40+	B2	1.0
40+	B2	1.0
10+	C2	1.0
40+	B2	2.4
40+	B2	1.3
40+	B2	1.0
40+	B2	0.8
20+	C2	1.0
40+	B2	1.0
40+	B2	1.0

HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.
H52	Cypress	Off	9.0	3.5	230	0.0	EM	Lower sides flailed to south for field access	Good	Fair
H53	Hawthorn; hazel	Off	4.0	2.5	90	0.0	EM	Predominantly hazel; lower sides flailed for field access; top growth left unchecked	Good	Fair
H54	Blackthorn; hazel	Off	2.0	1.5	70	0.0	EM	Maintained by flail	Good	Fair
H55	Hazel	Off	1.5	1.0	70	0.0	EM	Maintained by flail; remnant section of hedge	Good	Fair
H56	Hazel; holly	Off	4.0	2.0	80	0.0	EM	Predominantly hazel; lower sides flailed for field access; top growth left unchecked	Good	Fair
H57	Hawthorn; blackthorn; hazel	Off	2.0	1.5	80	0.0	EM	Maintained by flail	Good	Good
H58	Hawthorn; blackthorn; hazel; rowan	Off	2.0	1.5	80	0.0	EM	Maintained by flail	Good	Good
H59	Hazel; hawthorn; blackthorn; oak; holly	On	2.0	1.5	80	0.0	EM	Maintained by flail	Good	Good
H60	Hawthorn; hazel; ash	On	5.0	2.5	210	0.0	EM	Predominantly hazel; lower sides flailed; top growth left unchecked; ash showing low vigour	Good	Fair
H61	Hawthorn	On	1.5	1.0	70	0.0	EM	Maintained by flail; remnant section of hedge	Good	Fair
H62	Hawthorn	On	2.5	2.0	70	0.0	EM	Maintained by flail	Good	Good
H63	Hawthorn; elder; willow	On	2.5	2.0	220	0.0	EM	Maintained by flail; remnant section of hedge	Good	Good
H64	Hawthorn; hazel	On	5.0	2.5	80	0.0	EM	Predominantly hazel; lower sides flailed; top growth left unchecked	Good	Fair
H65	Hawthorn; blackthorn; elm; hazel	On	5.0	2.5	80	0.0	EM	Predominantly thorn; lower sides flailed; top growth left unchecked	Good	Fair
H66	Hazel	On	1.5	1.0	60	0.0	EM	Maintained by flail; remnant section of hedge	Good	Fair
H66	Hazel; oak; beech; holly	On	1.5	1.0	70	0.0	EM	Maintained by flail; remnant section of hedge; small beech established to west of hedge	Good	Fair
H67	Blackthorn; hazel; elder; beech	On	1.5	1.0	70	0.0	EM	Maintained by flail; predominantly thorn; small beech established to east of hedge	Good	Fair



Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
20+	B2	2.8
20+	B2	1.1
20+	B2	0.8
20+	B2	0.8
20+	B2	1.0
40+	B2	1.0
40+	B2	1.0
40+	B2	1.0
20+	B2	2.5
20+	B2	0.8
40+	B2	0.8
20+	B2	2.6
20+	B2	1.0
20+	B2	1.0
20+	B2	0.8
20+	B2	0.8
20+	B2	0.8

HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.
H68	Hawthorn; field maple; elder; sycamore	On	2.5	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H69	Hawthorn	On	2.5	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H70	Hawthorn	On	2.5	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H71	Hawthorn	On	2.5	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H72	Hawthorn; elder	On	2.5	2.0	80	0.0	EM	Maintained by flail; predominantly thorn; remnant section of hedge	Good	Fair
H73	Hawthorn	On	2.5	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H74	Hawthorn; oak	On	2.5	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H75	Hawthorn; ash; elder	On	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H76	Hawthorn; oak	On	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H77	Hawthorn; blackthorn; hazel; oak	On	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H78	Hawthorn; rowan	On	2.0	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H79	Hawthorn	Off	1.5	1.5	80	0.0	EM	Maintained by flail	Good	Fair
H80	Hawthorn; hazel; oak	Off	1.5	1.5	80	0.0	EM	Maintained by flail; predominantly thorn; re- planted gap	Good	Fair
H81	Hawthorn; hazel; holly	Off	1.5	1.5	80	0.0	EM	Maintained by flail; small gaps between thorn & hazel	Good	Fair
H82	Hawthorn; hazel; holly	Off	1.5	1.5	80	0.0	EM	Maintained by flail; small gaps between thorn & hazel	Good	Fair
H83	Hawthorn; blackthorn; hazel	On	1.5	1.5	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H84	Hawthorn; blackthorn; hazel; oak	On	1.5	1.5	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair



Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
40+	B2	1.0

HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.
H85	Hawthorn; hazel	On	4.5	1.5	90	0.0	EM	Maintained by flail; predominantly thorn; sides brushed & top growth left unchecked; small length to south has been topped @1.5m	Good	Fair
H86	Hawthorn	On	5.0	1.5	90	0.0	EM	Maintained by flail; sides brushed & top growth left unchecked	Good	Fair
H87	Hawthorn; hazel; holly	On	5.0	1.5	90	0.0	EM	Maintained by flail; predominantly thorn; sides brushed & top growth left unchecked	Good	Fair
H88	Hawthorn; hazel	On	2.0	1.5	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H89	Holly	On	4.5	2.5	100	0.0	EM	Maintained by flail; lower sides flailed & top growth left unchecked	Good	Fair
H90	Hawthorn; elder	On	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn; new planting in small gaps	Good	Fair
H91	Hawthorn; ash	On	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H92	Hawthorn	On	2.0	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H93	Hawthorn; hazel; elder	On	1.5	1.5	80	0.0	EM	Maintained by flail; 1x gap approx 1m	Good	Fair
H94	Goat willow; hazel	On	1.5	1.5	80	0.0	EM	Maintained by flail; 2x gaps approx 1m	Good	Fair
H95	Sycamore; hazel	On	1.5	1.5	80	0.0	EM	Maintained by flail	Good	Fair
H96	Hawthorn; elder; oak	On	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn; 1x small oak stem (4.5m height) @approximate centre of hedge	Good	Fair
H97	Hawthorn; hazel	On	2.0	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H98	Blackthorn; hawthorn; hazel	On	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H99	Ash; hazel	On	2.0	2.0	100	0.0	EM	Maintained by flail	Good	Fair
H100	Oak	On	2.0	2.0	90	0.0	EM	Maintained by flail	Good	Fair
H101	Hawthorn	On	2.0	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H102	Hawthorn; elder	On	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair



Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
40+	B2	1.1
40+	B2	1.1
40+	B2	1.1
40+	B2	1.0
20+	B2	1.3
40+	B2	1.0
40+	B2	1.3
40+	B2	1.1
40+	B2	1.0
40+	B2	1.0

HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.
H103	Hawthorn; elder	On	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn; short section to north measures 4.5m in height - top growth uncut due to old ash stem within hedge	Good	Fair
H104	Hawthorn; cherry; Norway maple	On	8.0	3.5	350	0.0	EM	2x maple & 1x cherry within outgrown thorn hedge; lower sides flailed for field access; top growth left unchecked	Good	Fair
H105	Blackthorn; hawthorn; hazel; oak	Off	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H106	Hawthorn	Off	2.0	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H107	Hawthorn	Off	2.0	2.0	80	0.0	EM	Maintained by flail; level to front of property drops to 1.5m height	Good	Fair
H108	Hawthorn	Off	3.5	2.0	80	0.0	EM	Maintained by flail; sides brushed & top growth left unchecked	Good	Fair
H109	Hawthorn; elder	Off	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H110	Hawthorn	Off	2.0	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H111	Hawthorn; hazel	Off	4.5	2.0	80	0.0	EM	Maintained by flail; predominantly hazel; sides brushed & top growth left unchecked	Good	Fair
H112	Hawthorn	Off	2.0	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H113	Hawthorn	Off	2.0	2.0	80	0.0	EM	Maintained by flail	Good	Fair
H114	Hawthorn; holly	Off	2.0	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H115	Goat willow; hazel	Off	1.5	1.5	80	0.0	EM	Maintained by flail; 1x gap approx 1m	Good	Fair
H116	Goat willow; hazel	Off	1.5	1.5	80	0.0	EM	Maintained by flail; 1x gap approx 1m	Good	Fair
H117	Goat willow; hazel	Off	1.5	1.5	80	0.0	EM	Maintained by flail	Good	Fair
H118	Hazel	On	2.0	2.0	60	0.0	EM	Maintained by flail	Good	Fair
H119	Holly	On	4.5	2.0	80	0.0	EM	Maintained by flail; sides brushed & top growth left unchecked	Good	Fair
H120	Hawthorn; hazel; elder	On	2.5	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Good
								SECTION 4		



Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
40+	B2	1.0
20+	B2	4.2
40+	B2	1.0
20+	B2	1.0
40+	B2	1.0
20+	B2	0.8
20+	B2	1.0
40+	B2	1.0

HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.
H121	Hawthorn	On	0.5	0.5	50	0.0	SM	Maintained by flail	Good	Good
H122	Hawthorn; elder	On	2.5	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H123	Hawthorn; elder	On	2.5	2.0	80	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H124	Hawthorn; oak	On	2.5	2.5	80	0.0	EM	Predominantly thorn; small gaps around oak	Good	Fair
H125	Hawthorn	On	2.5	2.5	80	0.0	EM	Small gap to west due to failed stem	Good	Fair
H126	Hawthorn	On	1.5	1.5	70	0.0	EM	Maintained by flail	Good	Fair
H127	Hawthorn	On	2.0	1.5	70	0.0	EM	Maintained by flail	Good	Fair
H128	Hawthorn	On	2.0	1.5	70	0.0	EM	Maintained by flail	Good	Fair
H129	Hawthorn	On	2.0	1.5	70	0.0	EM	Maintained by flail	Good	Fair
H130	Hawthorn	On	2.0	1.5	70	0.0	EM	Maintained by flail	Good	Fair
H131	Hawthorn; sycamore	On	2.0	1.5	70	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H132	Hawthorn	On	1.5	1.0	70	0.0	EM	Maintained by flail	Good	Fair
H133	Hawthorn	On	1.5	1.0	70	0.0	EM	Maintained by flail	Good	Fair
H134	Hawthorn	On	1.5	1.0	70	0.0	EM	Maintained by flail	Good	Fair
H135	Hawthorn; sycamore	On	1.5	1.0	70	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H136	Hawthorn; sycamore	On	1.5	1.0	70	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H137	Hawthorn	On	1.5	1.0	70	0.0	EM	Maintained by flail	Good	Fair
H138	Hawthorn; sycamore	On	1.5	1.0	70	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H139	Hawthorn; sycamore	On	1.5	1.0	70	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H140	Hawthorn	On	1.5	1.0	70	0.0	EM	Maintained by flail	Good	Fair
H141	Hawthorn; sycamore	On	1.5	1.0	70	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H142	Hawthorn; sycamore	On	1.5	1.0	70	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair



Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
20+	B2	0.6
40+	B2	1.0
40+	B2	1.0
20+	B2	1.0
20+	B2	1.0
40+	B2	0.8

HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.
H143	Hawthorn; sycamore	On	1.5	1.0	70	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H144	Hawthorn	On	1.5	1.0	70	0.0	EM	Maintained by flail	Good	Fair
H145	Hawthorn; oak	On	1.5	1.0	70	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H146	Hawthorn; sycamore; oak; ash; elder	On	1.5	1.0	70	0.0	EM	Maintained by flail; predominantly thorn	Good	Fair
H147	Hawthorn	On	1.5	1.0	70	0.0	EM	Maintained by flail	Good	Fair
H148	Hawthorn; sycamore; goat willow	On	1.5	1.0	70	0.0	EM	Maintained by flail; predominantly thorn; occasional small gaps	Good	Fair
H149	Hawthorn	On	2.5	2.0	70	0.0	EM	Maintained by flail; not cut recently (12 - 18 months)	Good	Fair
H150	Hawthorn	On	2.5	2.0	70	0.0	EM	Maintained by flail; not cut recently (12 - 18 months)	Good	Fair
H151	Hawthorn	On	2.5	2.0	70	0.0	EM	Maintained by flail; not cut recently (12 - 18 months)	Good	Fair
H152	Hawthorn	On	2.5	2.0	70	0.0	EM	Maintained by flail; not cut recently (12 - 18 months)	Good	Fair
H153	Hawthorn	On	1.5	1.0	50	0.0	SM	Maintained by flail	Good	Fair
H154	Hawthorn; blackthorn	On	1.5	1.0	50	0.0	SM	Maintained by flail	Good	Fair
H156	Hawthorn	On	1.5	1.0	50	0.0	SM	Maintained by flail	Good	Fair
H157	Hawthorn; oak	On	1.5	1.0	50	0.0	SM	Maintained by flail; predominantly thorn	Good	Fair
H158	Hawthorn; blackthorn; oak; goat willow	On	1.5	1.0	50	0.0	SM	Maintained by flail; predominantly thorn	Good	Fair
H159	Hawthorn; oak; gorse	On	1.5	1.0	50	0.0	SM	Maintained by flail; predominantly thorn	Good	Fair
H160	Hawthorn; blackthorn; oak; hazel; elder	On	1.5	1.0	50	0.0	SM	Maintained by flail; predominantly thorn; occasional small gaps	Good	Fair



Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
40+	B2	0.8
40+	B2	0.6

HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Av. Height (m)	Av. width (m)	Av. Stem diam (mm)	Avg. Canopy Height (m)	Life Stage	General Observations	Health & vitality	Struct. cond.
H161	Hawthorn; sycamore; oak; alder	On	1.5	1.0	50	0.0	SM	Maintained by flail; predominantly thorn; occasional small gaps	Good	Fair
H162	Hawthorn	On	1.5	1.0	50	0.0	SM	Maintained by flail	Good	Fair
H163	Hawthorn	On	1.5	1.0	50	0.0	SM	Maintained by flail	Good	Fair
H164	Hawthorn; holly	On	1.5	1.0	50	0.0	SM	Maintained by flail; occasional small gaps; predominantly thorn; 4x small holly stems to east allowed to grow to 4.5m in height	Good	Fair
H165	Hawthorn; sycamore	On	1.5	1.0	50	0.0	SM	Maintained by flail; predominantly thorn	Good	Fair
H166	Hawthorn; blackthorn	Off	1.5	1.0	50	0.0	SM	Maintained by flail	Good	Fair
H167	Hawthorn; sycamore	Off	1.5	1.0	50	0.0	SM	Maintained by flail; predominantly thorn	Good	Fair
H168	Hawthorn	Off	1.5	1.0	50	0.0	SM	Maintained by flail; brambles starting to colonise plot	Good	Fair
H169	Hawthorn; ash; sycamore; elder; oak	Off	1.5	1.0	50	0.0	SM	Maintained by flail; predominantly thorn; 4x small sycamore @ 1x small oak stems to east allowed to grow to 4.5m in height	Good	Fair
H170	Hawthorn; oak; sycamore; lime	Off	1.5	1.0	50	0.0	SM	Maintained by flail; predominantly thorn	Good	Fair
H171	Hawthorn; sycamore	Off	1.5	1.0	50	0.0	SM	Maintained by flail; predominantly thorn	Good	Fair
H172	Hawthorn; blackthorn; oak; sycamore	On	1.5	1.0	50	0.0	SM	Maintained by flail; predominantly thorn	Good	Fair
H173	Hawthorn	On	4.0	3.0	100	0.2	SM	Outgrown thorn hedgerow	Good	Fair
H174	Leyland Cypress	On	6.0	3.0	200	0.1	SM	Evergreen screening hedge	Good	Fair
H175	Hawthorn ; blackthorn	Off	3.0	2.0	60	0.2	SM	Unmaintaned hedgerow; some gaps along its length	Good	Fair
H176	Hawthorn	Off	3.0	1.5	60	0.2	SM	Establishing hawthorn hedgerow	Good	Fair



Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
40+	B2	0.6
20+	C2	1.3
20+	C2	2.4
40+	C2	0.8
40+	C2	0.8

HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

SURVEY MONTH: MAY 2022

WOODLAND

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. low crown height (m)	Life Stage	Special importance	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
W1	English oak; sycamore; Scots pine; poplar; holly; hawthorn	Off	5-25	500	Yes	700	8.0	3.0	EM	-	Off-site woodland with good species diversity and a thick carpet of bluebells on the woodland floor. Ditch to the west and south	Good	Good	40+	A2	8.4
W2	Norway spruce	Off	15	500	Yes	250	3.0	0.5	SM	-	Off-site conifer plantation	Good	Fair	40+	B2	3.0
W3	English oak; common ash; hazel; holly; hawthorn; horse chestnut	On	6-20	550	Yes	800	7.0	1.0	EM	-	Mature woodland with good species diversity. Ditch to the north and west. Thick carpet of bluebells on the woodland floor	Good	Good	40+	A2	9.6
W4	Scots pine; English oak; birch; cherry; hawthorn; holly; hazel	Off	6-20	2000	Yes	700	6.0	1.0	EM	ARW	Plantation of pine with broadleaf trees at the woodland edge and interspersed throughout. Good species diversity. Thick carpet of bluebells on the woodland floor. Existing compacted earth track to the west	Good	Good	40+	A2	8.4
W5	Silver birch; rowan; English oak; hawthorn; holly; common ash; hazel	Off	5-20	700	Yes	650	7.0	1.0	EM	-	Offsite woodland; good species diversity; thick carpet of bluebells on woodland floor. Ditch to the north	Good	Good	40+	A2	7.8
W6	English oak; willow; alder; hawthorn; holly; sycamore; spruce	On	6-18	500	Yes	800	7.0	2.0	EM	-	Area of woodland with good species diversity and a large a pond to the south.	Good	Good	40+	A2	9.6
W7	English oak; silver birch; willow; hazel; hawthorn; Lombardy poplar; hybrid black poplar; rowan; horse chestnut	Off	10-25	2500	Yes	800	7.0	1.0	EM	-	Off-site woodland with private gardens; dwellings and driveway. Poplar trees with a significant amount of future growth potential are planted along the woodland edge	Good	Good	40+	A2	9.6
W8	Silver birch; English oak; common ash; elder; rowan	Off	5-20	500	Yes	600	6.0	2.0	EM	-	Dominated by birch but an attractive mature stand of woodland with a thick carpet of bluebells on the woodland floor	Good	Good	40+	A2	7.2
W9	English oak; common ash; silver birch; holly; hazel; rowan; aspen	On	6-20	2000	Yes	800	7.0	1.0	EM	-	Established broadleaf woodland; good species diversity; bluebells on woodland floor. Ditch separates woodland edge from to the north. Existing compacted earth track to the north of the ditch	Good	Good	40+	A2	9.6
W10	Oak; ash; aspen; hybrid black poplar; birch; Norway spruce; larch; alder; goat willow; rowan; hazel; hawthorn; elder	Off	2 - 18	200	None	920	7.0	1.0	Μ	-	Webster Wood. Predominantly ash oak & poplar; pond to north-east corner; drainage ditch to east of plot; thorn; hazel & elder occur as well- developed understory	Good	Good	40+	A2	11.0
W11	Sycamore; birch; alder; ash; rowan; hawthorn; hazel; holly; elm; elder	Off	2 - 18	250	None	660	6.0	2.0	Μ	-	Mackies Belt. Predominantly sycamore & birch; all other species occur as understory; maintained thorn hedge to western boundary	Good	Good	40+	A2	7.9



HELIOS RENEWABLE ENERGY PROJECT

SURVEYOR: IAN HOWELL/DAVID HOLMES

Ref	Species	On/off site	Height range (m)	No. of trees	Est diam?	Max stem diam (mm)	Av. Crown radius (m)	Avg. low crown height (m)	Life Stage	Special importance	General Observations	Health & vitality	Structural condition	Estimated Remaining Contribution (Years)	BS5837 Category	RPA Radius (m)
W12	Oak; birch; aspen; Scot's pine; goat willow; elm; hybrid black poplar; rowan; ash; holly; apple; alder; hazel; larch	Off	2 - 18	600	None	1100	6.0	2.0	М	None	Bales Wood Plantation. Predominantly oak; sycamore & birch with sporadic groups of aspen & poplar; all other species occur as understory	Good	Good	40+	A2	13.2
W13	Hybrid black poplar; oak; ash; hazel; beech; field maple; alder; sweet chestnut; Scot's pine; Norway spruce; bird cherry; elder	On	2 - 16	200	None	900	5.0	1.5	Μ	None	Good mixture of species with well-developed understory; beehives at approximate centre of plot;	Good	Good	40+	A2	10.8
W14	Oak (English & pin); birch; beech; ash; crack willow; goat willow; aspen; rowan Norway spruce; hawthorn; elder	Off	2 - 18	400	None	690	6.0	2.0	Μ	None	Cat Babbleton. Predominantly oak; sycamore & birch with sporadic groups of aspen & poplar; all other species occur as understory; utilities clearance work beneath power lines to west & south of plot; car parking area to north-east corner	Good	Good	40+	A2	8.3
W15	Oak; sycamore; birch; beech; rowan; holly; hawthorn; rhododendron	Off	2 - 18	250	None	690	6.0	2.0	Μ	None	Weddalls Plantation. Utilities wayleave clearance to south of plot; mature beech & oak to plot boundary with stands of early-mature sycamore & birch within plot; all other species occur as understory of which rhododendron dominates	Good	Fair	40+	A2	8.3
W16	Oak; sycamore; holly; hawthorn; rowan; Scot's pine; holly	On	2 - 18	300	None	660	6.0	2.0	Μ	None	New Close Plantation. Predominantly mature oak with stands of early-mature sycamore within plot; all other species occur as understory	Good	Fair	40+	A2	7.9
W17	Oak; sycamore; birch; goat willow; rowan; hazel; holly; hawthorn; elder	Off	2 - 18	300	None	720	7.0	2.0	Μ	None	Barff's Close Plantation. Predominantly mature oak with with stands of early-mature sycamore within plot; trackway runs through western end of plot; utilities clearance wayleave to north of plot; all other species occur as understory	Good	Fair	40+	A2	8.6
W18	Scot's pine; birch; sycamore; oak; holly; elder	Off	2 - 18	200	None	520	6.0	3.0	Μ	None	Crossley Wood. Predominantly Scot's pine; birch & sycamore within plot; utilities clearance felling to north-east of plot; all other species occur as limited understory	Good	Fair	40+	B2	6.2
W19	Silver birch; crack willow; common ash; English oak; hawthorn; Scots pine	Off	5-23	1500	Yes	400	4.0	2.0	SM	None	Establishing plantation of predominantly broadleaf trees. Existing road to the north trees set back from the highway edge by approx 3m to the north and 5m to the west. Occasional mature oak set back from the edge of the road by 8m or more	Good	Fair	40+	B2	4.8



- The tree survey was carried out with reference to the methodology set out in BS5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.
- Trees were surveyed individually or as groups where it was considered that they had grown together to form cohesive arboricultural features either aerodynamically (trees that provide companion shelter), visually (e.g. avenues or screens) or culturally (including for biodiversity). However, where it was considered that there was an arboricultural need to differentiate between attributes trees within groups and / or woodlands were also surveyed as individuals.
- The full tree survey findings are recorded in the following tree survey schedule.
- Within the tree survey schedule, each surveyed TREE (T), GROUP (G), HEDGEROW (H), WOODLAND (W) or SHRUB MASS on or adjacent to is given a reference number which refers to its position on the tree survey and constraints plan.
- TREE SPECIES are listed by common name.

The **DIMENSIONS** taken are:

- STEM-No. Indicates the number of main stems (i.e. whether the trunk divides at or below 1.5m; (Used in the calculation of RPA.) "m-s" = Multi-stemmed.
- STEM DIAMETER (measured in millimetres), obtained from the girth measured at approx. 1.5m. For trees with 2 to 5 sub-stems a notional figure is derived from the sum of their cross-sectional areas. For multi-stemmed trees, the notional diameter may be estimated on the basis of the average stem size x the number of stems. (A notional diameter may be estimated where measurement is not possible.)
- HEIGHT (measured in metres), recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- The CROWN SPREAD, taken at the four cardinal points to derive an accurate representation of the tree crown, recorded up to the nearest half metre for dimensions up to 10m and to up the nearest whole metre for dimensions over 10m.
- CROWN CLEARANCES are expressed both as existing height above ground level of first significant branch along with its direction of growth (e.g. 2.5m-N), and also in terms of the overall crown e.g. the average height of the crown above ground level. Measurements are recorded to the nearest half metre for dimensions up to 10m and to the nearest whole metre for dimensions over 10m.
- ESTIMATES. Where any measurement has had to be estimated, due to inaccessibility for example, this is indicated by a "#" suffix to the measurement as shown in the tree survey schedule.

LIFE STAGE is defined as follows:

- Young: Normally stake dependent, establishing trees. Should be growing fast, usually primarily increasing in Υ height more than spread but as yet making limited impact upon the landscape.
- Semi-mature: Established young trees, normally of good vigour and still increasing in height but beginning SM to spread laterally. Beginning to make an impact upon the local landscape and environment. Semi-Mature (still capable of being transplanted without preparation, up to 30cm girth and not yet sexually mature).

- EM Early-mature: Not yet having reached 75% of expected mature size. Established young trees, normally of good vigour and still increasing in height but beginning to spread laterally. Beginning to make an impact upon the local landscape and environment.
- M Bark may be beginning to crack and fissure. In the middle half of their safe, useful life expectancies.
- LM Late-Mature: In full maturity but possibly beyond mature and in a state of natural decline). Still retaining some vigour but any growth is slowing.
- Ancient: A tree that has passed beyond maturity and is old/aged compared with other trees of the same А species. Typically having a very wide trunk and a small canopy.

PHYSIOLOGICAL CONDITION (HEALTH & VITALITY):

Essentially a snapshot of the general health of the tree based upon its general appearance, it's apparent vigour and the presence or absence of symptoms associated with poor health, physiological stress etc. (Fungal infections may be recorded here but decay giving rise to structural weakness would be recorded under 'Structural Condition' - see next parameter):

Good:	No significant health issues.
Fair:	Indications of slight stress or minor disease (e.
	epicormic shoot growth).
Poor:	Significant stress or disease noted; larger areas of
Dead:	(or Moribund).

STRUCTURAL CONDITION:

Defects affecting the structural stability of the tree including decay, significant dead wood, root-plate instability or significant damage to structural roots, weak forks (e.g. those where bark is included between the members) etc. Classified as:

Good:	No obvious structural defects: basically sound.
Fair:	Minor, potential or incipient defects.
Poor:	Significant defect(s) likely to lead to actual failure
Dead:	(or Moribund).

ESTIMATED REMAINING CONTRIBUTION:

An estimate of the length of time in years that a tree might be expected to continue to make a useful contribution to the locality at an acceptable level of risk (based on an assumption of continued routine maintenance):

- Less than 10 years
- 10+ years
- 20+ years
- 40+ years

SPECIAL IMPORTANCE:

Trees that are particularly notable as high value trees such as ancient trees/woodland or veteran trees. Such trees may be regarded as the principal arboricultural features of a site and pose a significant constraint to potential development.



Mature: Well-established trees, still growing with some vigour but tending to fill out and increase spread.

.g. the presence of minor dieback/deadwood or of

f dieback than above.

in the medium to long-term.

An ancient tree is one that has passed beyond maturity and is very old compared with other trees of the same species. Very few trees reach the ancient life-stage.

Veteran trees are often very old but not necessarily so; they may be regarded as 'survivors' that have developed some of the characteristic features of an ancient tree but have not necessarily lived as long. All ancient trees are veterans but not all veteran trees are ancient.

An ancient woodland is an area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland (ASNW), plantations on ancient woodland sites (PAWS) and ancient replanted woodland (ARW)

QUALITY CATEGORY:

Trees are classed as category U, A, B or C, based on criteria given in BS5837:2012; summary definitions as follows (see BS5837 for further details). Categories A, B and C are further characterised by the use of sub-categories, which attempt to identify what aspect of the tree is the main source of its perceived value, These are:

- (1) arboricultural qualities
- (2) landscape qualities, and
- (3) cultural, historic or ecological/conservation qualities.

Examples of these qualities for each of the three categories are given below, although these are indicative only. Note: This is NOT a health and safety classification; the classification does not take into account any requirement for remedial tree care or ongoing maintenance apart from that which may affect the trees' general suitability for retention.

CATEGORY A: HIGH QUALITY:

Trees or groups whose retention should be given a particularly high priority within the design process. Normally with an expected useful life expectancy of at least 40 years.

- A1: Notably fine specimens; rare or unusual specimens; essential component trees within groups, semi-formal or formal plantings (e.g. dominant trees within an avenue etc.).
- A2: Trees, groups or woodlands of particular visual importance as landscape features.
- Trees, groups or woodlands of particular significance by virtue of their conservation, historical, A3: commemorative or other value (e.g. veteran trees or wood pasture.)

CATEGORY B: MODERATE QUALITY:

Trees or groups of some importance with a likely useful life expectancy in excess of 20 years. Their retention would be desirable; selective removal of certain individuals may be acceptable but only after full consideration of all alternative courses of action.

- B1: Fair quality but not exceptional; good specimens showing some impairment (e.g. remediable defects, minor storm damage or poor past management.)
- B2: Acceptable trees situated such as to have little visual impact within the wider locality. Also numbers of trees, perhaps in groups or woodlands, whose value as landscape features is greater collectively than would

warrant as individuals (such that the selective removal of an individual would not impact greatly upon the trees' overall, collective value).

Trees, groups or woodlands with clearly identifiable conservation or other cultural benefits. B3:

CATEGORY C: LOW QUALITY:

Trees or groups of rather low quality, although potentially capable of retention for at least approx. 10 years. Also small trees with stems below 15cm diameter.

Potentially retainable, but not of sufficient value to be regarded as a significant planning constraint.

- C1: Unremarkable trees of very limited merit or of significantly impaired condition.
- C2: Trees offering only low or short-term landscape benefits; also secondary specimens within groups or woodlands whose loss would not significantly diminish their landscape value.
- C3: Trees with extremely limited conservation or other cultural benefit.

CATEGORY U:

Trees likely to prove to be unsuitable for retention for longer than 10 years should any significant increase in site usage arise as a result of development.

E.g. dead or moribund trees; those at risk of collapse or in terminal decline; trees that will be left unstable by other essential works such as the removal of nearby category U trees; trees infected by pathogens that could materially affect other trees; low quality trees that are suppressing better specimens. (Category U trees may have conservation values that it might be desirable to preserve. This category may also include trees that should be removed irrespective of any development proposals.)

ROOT PROTECTION AREA (RPA):

These are normally represented as a circle centred on the base of each tree stem with a radius of 12 times stem diameter, measured at 1.5m above ground level. The shape of the RPA may be altered where site conditions dictate that there are sound reasons to do so.

VETERAN OR ANCIENT TREE BUFFER (VTB/ATB)

In line with the Standing Advice produced by the Forestry Commission and Natural England this is a buffer zone (in metres) around an ancient or veteran tree that should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's stem diameter.

ANCIENT WOODLAND BUFFER (FOR ASNW, PAWS OR ARW)

In line with the Standing Advice produced by the Forestry Commission and Natural England this is a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, a larger buffer zone may be required.



THE IMPORTANCE OF TREES

Wider benefits:

There is a growing body of evidence that trees bring a wide range of benefits to the places people live.

Some *Economic* benefits of trees include:

- Trees can increase property values
- As trees grow larger, the lift they give to property values grows proportionately
- They can improve the environmental performance of buildings by reducing heating and cooling costs, thereby cutting bills
- Mature landscapes with trees can be worth more as development sites
- Trees create a positive perception of a place for potential property buyers
- Urban trees improve the health of local populations, reducing healthcare costs

Some Social benefits of trees include:

- Trees help create a sense of place and local identity
- They benefit communities by increasing pride in the local area
- They can create focal points and landmarks
- They have a positive impact on people's physical and mental health
- They can have a positive impact on crime reduction

Some Environmental benefits of trees include:

- Urban trees reduce the 'urban heat island effect' of localised temperature extremes
- They provide shade, making streets and buildings cooler in summer
- They help remove dust and particulates from the air
- They help to reduce traffic noise by absorbing and deflecting sound
- They help to reduce wind speeds
- By providing food and shelter for wildlife they help increase biodiversity
- They can reduce the effects of flash flooding by slowing the rate at which rainfall reaches the ground
- They can help remediate contaminated soil

On new development sites:

Trees bring many benefits to new development. Where retained successfully they can form important and sustainable elements of green infrastructure, contribute to urban cooling and reduce energy demands in buildings. Their importance is acknowledged in relation to adaptation to the effects of climate change. Other benefits brought by trees include:

- increasing property values;
- visual amenity
- softening, complementing and adding maturity to built form
- displaying seasonal change
- increasing wildlife opportunities in built-up areas
- contributing to screening and shade
- reducing wind speed and turbulence

STATUTORY CONTROLS

Statutory tree protection

Works to trees which are covered by Tree Preservation Orders (TPOs) or are within a Conservation Area (CA) require permission or consent from the Local Planning Authority. Where information is available on any Statutory designations such as this they are identified within the summary table in Section 1 and on the Tree Survey and Constraints Plan at Section 2.

Notwithstanding specific exceptions and in general terms, a TPO prevents the cutting down, uprooting, topping, lopping, wilful damage or wilful destruction of protected trees or woodlands without the prior written consent of the LPA.

Penalties for contravention of a TPO tend to reflect the extent of damage caused but can, in the event of a tree being destroyed, result in a fine of up to £20,000 if convicted in a Magistrates' Court, or an unlimited fine is the matter is determined by the Crown Court.

Similarly, and again notwithstanding specific exceptions, it is an offence to carry out any works to a tree in a Conservation Area with a trunk diameter greater than 75mm diameter at 1.5 height without having first provided the LPA with 6 weeks written notification of intent to carry out the works.

On many non-residential sites (excluding specific exemptions) there is also a statutory restriction relating to tree felling that relates to quantities of timber that can be removed within set time periods. In basic



terms, it is an offence to remove more than 5 cubic metres of timber in any one calendar quarter without having first obtained a felling licence from the Forestry Commission.

Any proposed tree works that are planned to be carried out on site must be carried out in accordance with the statutory controls outlined. Therefore, we recommend that a further check is made with the LPA before any tree works are carried out.

Statutory Wildlife Protection

Although preliminary visual checks from ground level of likely wildlife habitats are made at the time of surveying, detailed ecological assessments of wildlife habitats are not made by the arboriculturist and fall outside of the scope for this report.

Trees which contain holes, splits, cracks and cavities could potentially provide a habitat for protected species such as bats in addition to birds and small mammals. It is advised that in some instances specialist ecological advice may be required. This may result in tree works being carried out following a detailed climbing inspection to the tree to ensure that protected species or their nests/roosts are not disturbed. If any are found, manager, site owner or consulting arboriculturist should be informed and appropriate action taken as recommended by the appointed Ecologist or the relevant Statutory Nature Conservation Organisation (SNCO): Natural England, Scottish Natural Heritage or Natural Resources Wales.

It is advised that tree/hedgerow works are carried out with the understanding that birds will generally nest in trees, hedges and shrubs between March and August. This time period only provides an indication of likely nesting times and as such diligence is required when undertaking tree works at all times.

Irrespective of the time of year and other than any actions approved under General Licence, it is an offence to intentionally kill, injure or take any wild bird or to intentionally take, damage or destroy the nest or eggs of any wild bird. Ideally, tree operations should be avoided during the likely bird nesting period. However, any tree works should always only be carried out following a preliminary visual check of the vegetation.

For information, the Wildlife and Countryside Act 1981 (as amended), The Countryside and Rights of Way Act 2000 (as amended) and the Conservation of Habitat and Species Regulations 2010, form the basis of the statutory legislation for flora and fauna in England and Wales. A different legislative framework applies in Scotland and Northern Ireland.

Any proposed tree works that are planned to be carried out on site must be carried out in accordance with any relevant statutory controls, outlined above.

DESIGN GUIDANCE

Approach

The approach adopts the guidelines set out in the British Standard BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations. The process is broken down to coordinate with the key elements within both the RIBA Plan of Work (2013) and British Standard 5837:2012 as set out in the table below:

Information Stage	RIBA Stage	BS5837:2012
Stage A – Tree Survey	2: Concept	4: Feasibility
Stage B – Arboricultural Impact Assessment	3: Developed design	5: Proposals
Stage C – Arboricultural Method Statement	4: Technical design	6: Technical Design
Stage D – Arboricultural Site Supervision	5: Construction	7: Demolition and construction

A hierarchical approach is adopted in order to achieve optimum use of and location of built structures. This is set out below:

<u>Avoid</u>

The starting point of Site layout design should be to avoid the RPA of retained trees and provide suitable clearance from above ground constraints [tree canopies]. Where possible building lines should be at least 2m outside the RPA to provide working space for construction. However, protection measures can be taken if such clearance is not achievable.

Mitigate

Where intrusion within the RPA is unavoidable then its impact on the tree can be mitigated by specialist measures:

Foundations that avoid trenching e.g. screw piles, suspended floor slabs or casting at ground level for lightweight structures such as bin and cycle stores.



Limited use may be made for parking, drives or hard surfaces within the root protection areas, subject to advice from a qualified arboriculturist. Cellular confinement systems that enable hard surfaces to be built above existing soil levels are acceptable methods subject to site-specific soil conditions.

Service runs that cannot be routed outside the RPA(s) can be installed by, for example, thrust boring, directional drilling, air excavation or hand digging. These operations often require supervision by the project arboriculturist.

<u>Compensate</u>

Replacement planting can ensure the continuity of tree cover where tree removal is unavoidable or desirable. Off-site provision may be considered in some circumstances but this will require negotiation with the local planning authority.

Considerations:

For proposed residential developments, consideration must be given to numerous factors future tree growth and orientation.

Tree constraints

Root Protection Areas:

With reference to BS5837:2012, a root protection area (RPA) is defined as "a layout design tool indicating the minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure should be treated as a priority". "The default position [when considering design layout in relation to RPAs] should be that structures are located outside the RPAs of trees to be retained".

BS5837:2012 states (4.6.2) that, "where pre-existing site conditions or other factors indicate that rooting has occurred asymmetrically, a polygon of equivalent area should be produced." The BS goes on to state that, "modifications to the shape of the RPA should reflect a soundly based arboricultural assessment of likely root distribution," and that any deviation from the original circular plot should take into account:

- Morphology and disposition of roots;
- topography and drainage;
- soil type and structure;
- the likely tolerance of the tree to root damage/disturbance.

Additional buffer zones beyond the RPA:

The following text is taken from the Standing Advice produced by the Forestry Commission and Natural England as included in the National Planning Policy Guidance:

'A buffer zone's purpose is to protect ancient woodland and individual ancient or veteran trees. The size and type of buffer zone should vary depending on the scale, type and impact of the development'.

Ancient woodland buffer:

'For ancient woodlands, you should have a buffer zone of at least 15 metres to avoid root damage. Where assessment shows other impacts are likely to extend beyond this distance, you're likely to need a larger buffer zone. For example, the effect of air pollution from development that results in a significant increase in traffic'.

Ancient and veteran tree buffer:

'A buffer zone around an ancient or veteran tree should be at least 15 times larger than the diameter of the tree. The buffer zone should be 5m from the edge of the tree's canopy if that area is larger than 15 times the tree's diameter'.

Above ground:

Above ground constraints posed by trees describe the capacity for trees to have an overbearing or dominating effect on new developments; usually post occupancy. Typical above ground constraints include a number or combination of inconveniences including shading, branch spread, movement of trees during strong winds and so on. If not adequately considered, above ground constraints can lead to repeated requests to fell or heavily prune retained and protected trees.

Shade:

Adverse shading and blocked views from windows raise concerns for incoming residents, which may lead to pressure to fell or remove trees in the future. Wherever possible it is advisable to arrange fenestration away from tree canopies to lessen the conflict, or increase window size to accommodate ambient light. Conversely, appropriate designed development can use existing or new trees to create necessary and welcome shade and screening.

As part of the adopted approach the above considerations and constraints are assessed cumulatively in order to provide clear and site-specific advice on the areas of a site most suitable for the location of development.

Dependent on and nature of the proposed development, the Tree Survey and Constraints Plans may show the following:



Recommended Developable area - an advisory area defined in order to minimise arboricultural impacts using standard approaches to construction. Restricting proposed development to this area will limit the risk of harm to retained trees and of the Local Planning Authority objecting to the proposed development. It may be possible to propose development outside of this area but specific 'low impact' construction techniques may be needed recommended.

Recommended Buffer to development - similar to the Recommend Developable Area but defined as a line marking a suitable buffer to retained trees. More commonly used on large sites or sites where the presence of trees is localised.

Tree Opportunities

Depending on the scale of developments existing trees can often provide opportunities to enhance the existing arboricultural resource of a site by bringing it into good management or by putting in place remedial measures e.g. soil amelioration.

Appropriately designed new tree planting is extremely important in maintaining healthy and sustainable tree populations. For the reasons highlighted, new trees can bring many benefits to new developments. It is critical to the establishment of new tree planting that the locations, species and specification of new trees is appropriate. Subsequently the sourcing of high-quality stock, suitable planting and the provision of post planting maintenance are essential to allow new trees to establish and to allow them to mature.



HOW TREE DAMAGE CAN OCCUR

Above the ground

Damage can occur as a result of knocks and scuffs, breakages of branches and/or tree trunks. This is often but not always associated with machine operations, groundworks excavations, tele handlers, high sided vehicles and crane use. Other forms of above ground damage include fixings to trunk and unauthorised cutting back of branches. Wounds will harm a tree's health and shorten its life by letting in disease-causing organisms.

Below the ground

It is often not appreciated that the majority of most tree roots are generally located within the top 600mm of the ground. On this basis it needs to be understood that damage to roots can occur in three ways:

- Root severance can occur as a result of, for example, soil stripping during site clearance or excavations.
- Root dieback and death can result from compaction of the soil. Compaction can occur as a result of vehicle weight, weight of stored materials or increased pedestrian access. Compaction crushes out soil pore space and prevents tree respiration from occurring (respiration requires gas exchange between the ground and the atmosphere). Compacted soil is denser and therefore inhibits/prevents any further new root growth.
- Pollution of the soil with chemicals such as oil or cement washings can destroy the soil environment, making it inhospitable for the tree cause causing it stress.

The effects of these impacts can be disfiguring to a tree's appearance and also weaken a tree making it more liable to attack by pest and diseases. In addition, root damage or death results in corresponding decline above the ground with dieback occurring within the tree crown.

The effects of damage to trees generally take some time to become fully apparent. In many cases, damaged trees decline slowly after the completion of a new development, until they eventually need to be removed due to ill health.

Tree protection barriers and load distributing 'no-dig' paths are specified in order to prevent soil compaction from taking place.

GENERAL SITE RULES FOR TREE PROTECTION

Do not independently carry out any activity that is at odds with scheme of tree protection. This is contained within an approved Arboricultural Method Statement (AMS) and accompanying Tree Protection Plan.

In simple terms: do not carry out any work within any Construction Exclusion Zone (CEZ) without prior liaison with the Project Arboriculturist and written authorisation from the Local Planning Authority.

Within the CEZ:

- No mixing of cement
- No soil/turf stripping, raising/lowering of ground levels (unless advised), deposit or excavation of soil or rubble
- No excavations for services or installation of services
- No storage of materials, machinery fuel, chemicals or other materials of any other description
- No parking/use of tracked or wheeled machinery
- No siting of temporary structures including hard standing areas, portaloos, site huts
- No lighting of fires or disposal of liquids
- heat could damage foliage or branches. Fires must be a minimum of 20m from the trunk of any retained tree or the centre line of any hedgerow to be retained
- No signs, cables, fixtures or fittings of any other description shall be attached to any part of a retained tree



• Fires on site should be avoided if possible. Where they are unavoidable, they must not be lit in a position where