

BS 5837:2012

Preliminary Arboricultural Impact Assessment

Moto Leigh Delamere
Phase 3



Produced for:

GRIDSERVE Sustainable Energy Ltd

MH10237

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	Name	Title	Signature	Date
Authors:	James Jeffery	Arboricultural Consultant		30.07.2025
Reviewer:	Kurt Langley	Senior Arboricultural Consultant		30.07.2025
Authorisation:	Luke Allwright	Principal Arboricultural Consultant		30.07.2025

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1. Introduction

1.1 Terms of Reference

Maydencroft Limited was commissioned by GRIDSERVE Sustainable Energy Ltd to produce a **BS 5837 Preliminary Arboricultural Report** in support of the proposed installation of EV charging bays and associated electrical infrastructure at Moto Leigh Delamere, M4 Westbound, Chippenham, Wiltshire, SN14 6JZ.

The report has been produced in accordance with British Standard 5837:2012 *Trees in relation to Design, Demolition and Construction – Recommendations* and is intended to inform the planning stages of the proposed works. The report provides information on the location, quality and condition of trees on site in order to ensure that the proposed scheme complies with the requirements of BS 5837:2012 with regard to minimising or, where possible, avoiding impact on the above and below ground parts of any retained trees, in particular any with existing statutory protection. It is also the aim of the report to give pragmatic advice about the removal of trees or particular remedial works deemed necessary to the successful delivery of the scheme.

The content of this report extends to the baseline *Tree Survey*, *Tree Constraints Plan* and *Preliminary Arboricultural Impact Assessment* but at this stage does not constitute a full BS 5837 Arboricultural Report.

Following completion of the final site layout plan a full *Arboricultural Impact Assessment* (AIA) and *Tree Protection Plan* (TPP) will be produced. An *Arboricultural Method Statement* (AMS) will also be created once any required planning permission has been granted, and a site meeting has occurred with the appointed contractor. This is to ensure the AMS is accurate and can account for the required tools, plant and machinery that the contractor will use to complete the project.

1.2 Scope of Works

A survey of all trees within the designated area for the proposed installation of EV charging bays and associated electrical infrastructure at Moto Leigh Delamere M4 Westbound, was undertaken on Tuesday 1st July 2025. The extent of the survey was established via plans provided by GRIDSERVE Sustainable Energy Ltd. (**Drawing No.: 003_84997.1.47_F01**) and was completed using industry best practice to the standards laid out in BS 5837:2012.

The survey was undertaken by the following Arboricultural Consultant who is a permanent employee of Maydencroft Limited.

Name	Position	Qualifications
James Jeffery	Arboricultural Consultant	Lantra Professional Tree Inspection Level 3 Advanced Diploma in Arboriculture and Forestry Level 4 Diploma in Arboriculture Technician Member of the Arboricultural Association

All trees on and adjacent to the proposed development site were inspected using the Visual Tree Assessment (VTA) methodology, detailed in “The Body Language of Trees” (Mattheck & Breloer, HMSO, 1994). This level of inspection is ground based only and does not involve any climbing. Each individual tree was inspected separately and an assessment made of its condition. Where appropriate trees were assessed and recorded

as groups. Any problems with individual trees were noted and remedial work is recommended here only where it is deemed necessary.

All trees and groups were plotted using a Samsung Galaxy Tab Active2 GPS device with an accuracy of between 1-3 m.

Details of all trees are listed in the attached *Tree Schedule* (Appendix B) with quantitative and qualitative information as required by BS 5837:2012 sections 4.4 to 4.6. The information has been used to create a *Tree Survey and Constraints Plan* (Appendix C) showing the location of the trees, their crown spread and their BS 5837 categorisation and indicates the Root Protection Areas (RPAs) for each of the trees and other constraints which may impact the works, and a *Preliminary Arboricultural Impact Assessment Plan* (Appendix D) highlighting potential impact to any trees affected by the proposed project.

1.3 Site Description

Moto Leigh Delamere M4 Westbound Services is located 5.9 km northwest of the town of Chippenham and 30 km northeast of the City of Bristol, it is situated to the south of the M4 and accessed from junction 17 and 18. The service station is bordered by a mainly narrow tree belt which widens to the east. Some small groups of trees feature within the landscaped areas of the site between the main building and the surrounding parking areas. Moto Leigh Delamere Eastbound Services sits to the north of the M4 opposing the Moto Leigh Delamere Westbound Services which adjoins an area of Ancient Woodland to the west. Both service stations are surrounded by a vast patchwork of agricultural land bisected by hedgerows with trees and woodland, sparsely populated with villages and hamlets across the landscape.



Figure 1: Proposed Development area at Moto Leigh Delamere outlined in red
(Source: Google Earth©)

1.4 Soils

The Soilsmap of the United Kingdom (developed and hosted by Cranfield University) shows that the site is located within **Soilscape 18** which is described as being slowly permeable, seasonally wet, slightly acidic but base-rich loamy and clayey soils. It should be noted that a site-based soil assessment was not carried out as a part of this survey.

2. Tree Survey

2.1 Designations

Review of the Wiltshire Council's Planning explorer online interactive map confirms that no trees within and adjacent to the site are currently protected by a Tree Preservation Order, nor is the site currently situated within, nor adjoining to any existing designated Conservation Area, as shown in *Figure 2* below.

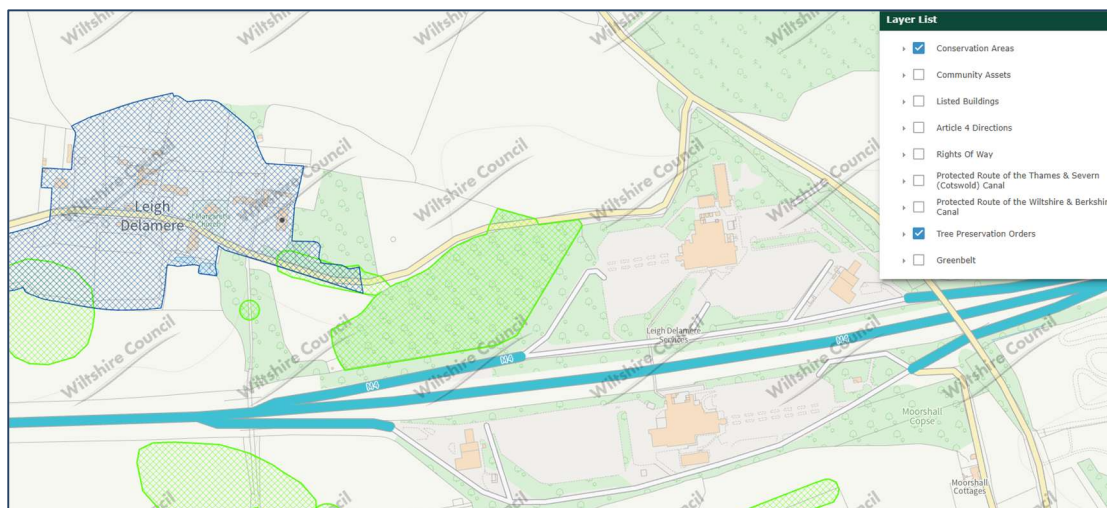


Figure 2: Interactive map indicating the location of existing CA and TPO to be off-site.
(Source: Wiltshire Council)

2.2 Tree Categories

All trees on and in close proximity to the site have been assessed and categorised in accordance with the guidelines in BS 5837:2012. The following table includes a brief summary of the categories:

Trees to be considered for retention	
Category A	Trees of high quality with an estimated remaining life expectancy of at least 40 years.
Category B	Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
Category C	Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
Trees unsuitable for retention	
Category U	Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.

2.3 Root Protection Areas (RPAs)

The RPAs for the trees recorded by the tree survey have been calculated in accordance with the guidance in chapter 4.6 of BS 5837:2012. For single stem trees, the RPA is equivalent to a circle with radius 12 times the stem diameter capped at a maximum of 15 m.

For trees with between two to five stems, the combined stem diameter is calculated by finding the square root of the sum of the stem diameters². For trees with more than five

stems, the combined stem diameter is calculated by finding the square root of the sum of the mean stem diameter² multiplied by the number of stems.

2.4 Measurements

Heights and radial spread measurements were wherever possible taken using a TruPulse Laser Measurement tool. Stem diameters were measured at 1.5 m height with a diameter tape. Wound sizes and cavity depths were measured in millimetres (mm) with a ruler, tape measure or probe to allow for future monitoring.

2.5 Limitations

2.5.1 Timing of surveys

The tree survey was undertaken in summer when all deciduous trees have fully flushed their leaves. The expanded foliage can obscure the view to allow full inspection of the structural condition of the crown but can highlight possible health issues evident via foliage condition. Fungal pathogens and their fruiting bodies that are not woody and persistent are unlikely to be present during summer; therefore, it is possible for some trees which have been colonised by fungal pathogens to be undetected, this has the potential for trees to be perceived to be in better health and therefore assigned a more positive categorisation than is truly representative.

3. Proposed Development

3.1 Outline Demolition/Construction Proposal

The proposed development at Moto Leigh Delamere will see the construction and installation of 6 new EV charging bays with an associated substation and electrical infrastructure, to be located at the north eastern end of the main services car park.



Figure 3: Proposed EV charging bays and associated infrastructure (Drawing No: 003_84997.1.47_F01)
(Source: GRIDSERVE)

3.2 Site Access

Vehicle access to the proposed development site is gained via the existing road network within the service station after exiting the M4 from the slip road at junction 18 or 17 if driving eastbound.

4. Preliminary Arboricultural Impact Assessment

4.1 Introduction

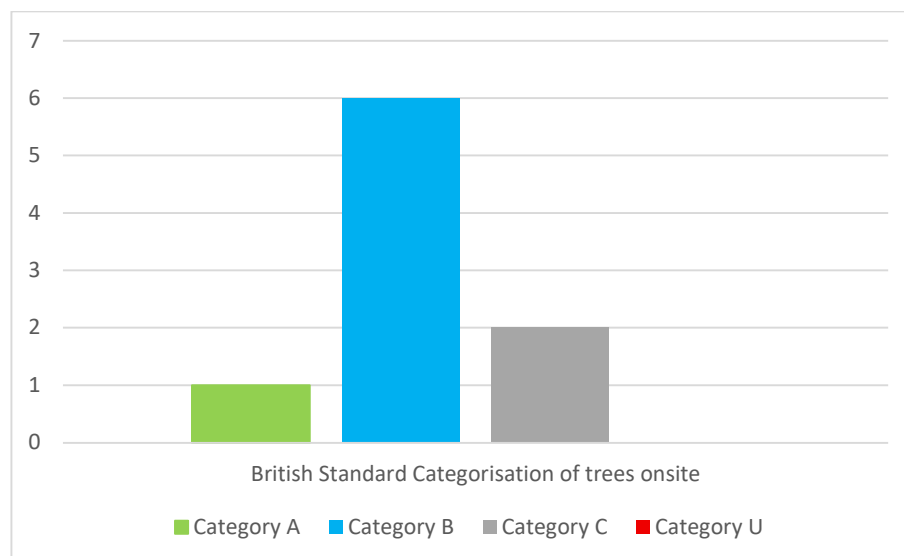
The following *Preliminary Arboricultural Impact Assessment* (PAIA) reviews the existing condition, quality and location of trees in context with the proposal for the installation of EV charging bays and associated electrical infrastructure at Moto Leigh Delamere, M4 Westbound, Chippenham, Wiltshire. It identifies locations where it is felt highly likely that trees and tree groups will need to be removed to facilitate construction and installation of new infrastructure, and where retained trees have the potential to be affected by the development proposal and how these are to be either avoided or protected.

The chapter does not constitute a full *Arboricultural Impact Assessment* but instead seeks to highlight the principal considerations for tree retention across the site, and ensures that these are appropriately considered throughout all detailed design stages.

The chapter should be read alongside the *Tree Schedule* and *Tree Constraints Plan* in Appendices B and C.

4.2 BS 5837 Categorisation

The following chart highlights the BS 5837 categorisation assigned to existing single trees and those making up the hedgerows and groups on and adjacent to site that have the potential to be impacted by the proposed works.



4.3 Trees to be removed

A final site layout plan will be required to confirm the total number of trees requiring removal to facilitate this project. The layout plan must show the proposed location for the EV charging bays and electrical infrastructure equipment, along with locations for parking, storage and welfare areas.

Details of the trees identified as requiring removal will be found in Appendix D – *Arboricultural Impact Assessment Plan* which can be produced when a final layout and design plan has been confirmed, and the report updated to a Full BS 5837 Arboricultural Report.

The current plan provided by GRIDSERVE Sustainable Energy Ltd. (**Drawing No.: 003_84997.1.47_F01**) indicates that nine single Category C crack willow trees from G4 will require removal to allow for the completion of the desired project. Some minor pruning of trees within G2 may be required to facilitate the installation of the proposed electrical substation.

4.4 Trees to be retained

A final site layout plan is required for the project to accurately determine which trees and tree groups on site will be retained, with removal only required where deemed necessary.

4.5 Information required for final AIA

In order for a full Arboricultural Impact Assessment to be produced, it will be necessary to have the following information finalised and confirmed:

- A **Construction Plan** showing the dimensions, specifications and location of site access, excavations and required work zones and location of storage areas, site parking, welfare, access routes and all ancillary facilities.
- A final **Site Plan** showing the layout and routing of the proposed EV charging bays and affiliated electrical infrastructure.

4.6 Subjects for Arboricultural Method Statement

The following areas should be covered by an *Arboricultural Method Statement*, and illustrated on a *Tree Protection Plan*. It should be noted that this list is not exhaustive and other subjects may need to be included as the designs develop.

- Clear roles and responsibilities;
- Timing and order of operations;
- Schedule and specification for preparatory tree works;
- Setting out barriers and Construction Exclusion Zones;
- Details of ground protection (if required);
- Construction methodology, prohibited activities & incident procedure;
- Schedule of arboricultural monitoring & supervision;
- Contact details for all key consultants and contractors.

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July 2025

Appendix A

TREE SCHEDULE TERMS

Tree Ref.	Code used to identify each tree on the Tree Survey Plan
Species	The common name for each tree.
Height	The height of the tree in metres.
Age Class	The age of the tree recorded as follows:
Young	Recently planted or establishing tree;
Semi-mature	Established tree which has yet to reach its full growing height;
Mature	A tree which has reached its likely maximum size;
Over-mature	A mature tree which has ceased to grow or is in decline;
Veteran	An over-mature tree of high value due to age, size and other factors.
Stems	Number of stems present (i.e. is the tree a multi-stemmed specimen).
Stem ø mm	Diameter of tree stem in millimetres, recorded at 1.5m above ground level; this figure is used to calculate the RPA.
RPA (m)	The radius of the tree's Root Protection Area in metres.
Crown Spread	The extent of the tree's crown to the north, south, east and west, in metres.
Crown Height	The height of the crown as measured from the ground to the north, south, east and west, in metres.
Condition	A general assessment of the tree's structural or physiological condition as either good, fair, poor or dead.
BS Cat	The BS 5837:2012 Category for the tree, in accordance with the table in paragraph 2.3 of this report and Appendix D.
PAIA	Preliminary Arboricultural Impact Assessment.