

GREAT HATFIELD GLAMPING SITE

Ecological Impact Assessment

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1.0 Introduction

1.1 Background

SLR Consulting Limited was instructed by Bisaggio Limited to undertake an ecological survey and desk study of an approximately 0.97ha site in Great Hatfield, East Yorkshire, HU11 4UT (approximate central OS Grid Reference: TA 18289 42836).

The results have been used to prepare an Ecological Impact Assessment (EclA) to inform a planning application for a small glamping site development.

1.2 Site Description

The application site (herein referred to as the 'Site') comprises part of a hedgerow and tree lined field of modified grassland, located on the western side of the village of Great Hatfield. The field boundaries lie outside of the Site itself, apart from a short section in the south-western corner, where access shall be created into the Site from Hull Road, which currently only supports a wooden fence, without any associated hedgerows or trees.

The Site has a rural setting, being surrounded by arable fields to the west, on the other side of Hull Road, south and east. The small settlement of Great Hatfield lies to the north and north-east. The Site lies approximately 4km to the southwest of Hornsea, and 10km to the north-east of the city of Hull.

1.3 Details of the Proposed Development

The proposed development comprises six glamping pods with associated infrastructure, parking, reception building, communal decking area and a pond.

Onsite planting shall consist of a mixture of native and ornamental trees and shrubs, to provide privacy screening for the glamping pods. The species to be planted are detailed within the Landscape Plan (Appendix 1), and the Arboricultural Impact Assessment (Appendix 3).

Planting around the pods and pathways will consist chiefly of spindle (*Euonymus sp.*), dwarf mountain pine (*Pinus mugo*); Douglas fir (*Pseudotsuga menziesii*), white fir (*Abies concolor*), Austrian pine (*Pinus nigra*) and Himalyan cedar (*Deodar cedar*); along with doorenbos birch (*Betula utilis subsp. jacquemontii*), and weeping beech (*Purpurea pendula, Fagus sylvatica*).

1.4 Purpose of this Report

This report seeks to:

- Describe the baseline data collection and assessment methodologies used;
- Summarise the baseline ecological conditions and identified important ecological receptors, where relevant;
- Identify and describes all potentially significant ecological effects associated with the proposed development upon important receptors (or confirms that no potentially significant effects will occur);
- Set out the mitigation and compensation measures required to ensure compliance with nature conservation legislation and/ or to address any potentially significant ecological effects, where relevant;
- Provide an assessment of the significance of any residual effects to important receptors (where relevant), and the legal and policy implications; and
- Identify appropriate enhancement measures, where appropriate.

1.5 Evidence of Technical Competence and Experience

The fieldwork and the report was undertaken by Dr Daniel Alexander, Senior Ecologist with SLR Consulting, Dr Alexander is has four years professional experience within ecological consultancy, and is a Qualifying Member of the Chartered Institute of Ecology and Environmental Management (CIEEM). The report has been peer reviewed by Mr Gary Oliver, a Principal Ecologist at SLR and Full Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM), with over 26 years' relevant experience within ecological consultancy.

2.0 Relevant Legislation and Planning Policy

2.1 Relevant Legislation ¹

2.1.1 Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb ²wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time). From 1st January 2021, the 2017 Regulations are one of the pieces of domestic law that transposed the land and marine aspects of the Directive. Most of the changes involved transferring functions from the European Commission to the appropriate authorities in England and Wales, all other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

2.1.2 Wildlife & Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CRoW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure or take any wild bird or their eggs or nests (with certain exceptions) and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- Intentionally kill, injure or take any wild animal listed under Schedule 5 to the Act; • intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act;
- intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act; or
- Plant or cause to grow in the wild any plant species listed under Schedule 9 of the Act.

2.1.3 Protection of Badgers Act 1992

The Protection of Badgers Act 1992 makes it illegal to kill, injure or take a badger or to intentionally or recklessly interfere with a badger sett. Sett interference includes disturbing badgers whilst they are occupying a sett or obstructing access to it.

¹ Please note that the summary of relevant legislation provided here is intended for general guidance only. The original legislation should be consulted for definitive information

² Disturbance, as defined by the Conservation of Habitats and Species Regulations 2010, includes in particular any action which impairs the ability of animals to survive, breed, rear their young, hibernate or migrate (where relevant); or which affects significantly the local distribution or abundance of the species.

2.1.4 Natural Environment & Rural Communities (NERC) Act 2006

The NERC Act 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations. Section 41 of the Act requires the publication of a list of habitats and species publish which are of principal importance for the purpose of conserving biodiversity. The Section 41 list is used to guide authorities in implementing their duty to have regard to the conservation of biodiversity.

2.2 Relevant Planning Policy

2.2.1 National Planning Policy

The National Planning Policy Framework (NPPF, 2021)³ sets out guidance for local planning authorities and decision-makers on how to apply planning policies when drawing up plans and making decisions about planning applications. Along with Government Circular 06/05⁴, the broad policy objectives in relation to the protection of biodiversity and geological conservation in England through the planning system are set out.

Paragraph 174 d of the NPPF states that:

“Planning policies and decisions should contribute to and enhance the natural and local environment by:

- *Minimising impacts on, and providing net gains for, biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures.”*

Furthermore, Paragraph 175 states that plans should:

“.....take a strategic approach to minimising and enhancing networks of habitats and green infrastructure, and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries”.

Paragraph 179 states that:

“To protect and enhance biodiversity and geodiversity, plans should:

- a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*
- b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.”*

Paragraph 180 goes on to state:

“When determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*

³ Department for Communities and Local Government (July 2021) *National Planning Policy Framework*.

⁴ Office of the Deputy Prime Minister. 2005. Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System. ODPM Circular 06/2005.

- b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;*
- c) 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; and*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”*

2.2.2 Local Planning Policy

The East Riding of Yorkshire Council Local Plan was adopted in April 2016⁵, and sets out the Council’s policies and proposals to guide planning decisions and establishes the framework for the sustainable growth and development of the Borough up to 2029. Relevant passages from the Plan are as follows: -

Policy ENV4: Conserving and Enhancing Biodiversity and Geodiversity

“A. Proposals that are likely to have a significant effect on an International Site will be considered in the context of the statutory protection which is afforded to the site.

B. Proposals that are likely to have an adverse effect on a National Site (alone or in combination) will not normally be permitted, except where the benefits of development in that location clearly outweigh both the impact on the site and any broader impacts on the wider network of National Sites.

C. Development resulting in loss or significant harm to a Local Site, or habitats or species supported by Local Sites, whether directly or indirectly, will only be supported if it can be demonstrated there is a need for the development in that location and the benefit of the development outweighs the loss or harm.

D. Where loss or harm to a National or Local designated site, as set out in Table 9, cannot be prevented or adequately mitigated, as a last resort, compensation for the loss/harm must be agreed. Development will be refused if loss or significant harm cannot be prevented, adequately mitigated against or compensated for.

E. Proposals should further the aims of the East Riding of Yorkshire Biodiversity Action Plan (ERYBAP), designated Nature Improvement Areas (NIAs) and other landscape scale biodiversity initiatives. To optimise opportunities to enhance biodiversity, proposals should seek to achieve a net gain in biodiversity where possible and will be supported where they:

- 1. Conserve, restore, enhance or recreate biodiversity and geological interests including the Priority Habitats and Species (identified in the ERYBAP) and Local Sites (identified in the Local Sites in the East Riding of Yorkshire).*

2. Safeguard, enhance, create and connect habitat networks in order to:

- i. protect, strengthen and reduce fragmentation of habitats;*
- ii. create a coherent ecological network that is resilient to current and future pressures;*

⁵ East Riding of Yorkshire Council (April 2016). *East Riding Local Plan 2012-2029*.

- iii. *conserve and increase populations of species; and*
- iv. *promote and enhance green infrastructure.”*

Paragraph 8.57 states that:

“Development should contribute positively and further the aims of designated NIAs. This could be achieved by restoring and reconnecting nature on a wider scale and seeking ways to restore, enhance and recreate biodiversity and geological interests, particularly within Biodiversity Priority Areas. Figure 12 shows the area of the East Riding covered by the Humberhead Levels NIA.”

Paragraph 8.59 states that:

“Any development that would have an adverse impact on a designated site, an important habitat or species, and/or a habitat network, should be avoided as far as possible. If this cannot be achieved, the adverse impacts must be adequately mitigated, or, as a last resort, compensated for. It will not be possible to compensate for any proposals that would result in the loss of an irreplaceable habitat, including ancient woodland. Ancient woodland is of great importance for its wildlife, history and the contribution it makes to the landscape. Development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland, will only be supported if it can be demonstrated the need for, and benefits of, the development in that location would clearly outweigh the loss of habitat. The majority of areas of ancient woodland are also designated sites. The ERYBAP Woodland HAP (2011) aims to manage areas of semi-natural ancient woodland not covered by statutory designations.”

Paragraph 8.60 states that:

“In the case of European designated sites, a Habitats Regulations Appropriate Assessment is required for any proposal likely to have significant effects on the site. Any development that cannot demonstrate it would not adversely affect the integrity of such a site will be refused. Notwithstanding an adverse effect on the integrity of a European site, if there is no alternative solution and there are imperative reasons of overriding public interest for the project, the application will be referred to the Secretary of State. If the authority and/or the Secretary of State is minded to approve any proposals, notwithstanding their adverse effect described above, compensatory measures to protect the site must be put in place, in consultation with Natural England.”

Paragraph 8.64 goes on to state that:

- a) *“Development proposals will be considered under the statutory context afforded to them including the Habitats Regulations and SSSI legislation. This may require consideration of potential impacts from developments some distance away, which is based on the nature of the development and potential pathways for impact. This is a more effective approach than a line on a map which would not take these factors into account. At a local level, development should avoid harm and where appropriate enhance LWSs through buffering. The need for a management plan should be considered on a case by case basis and will depend on the development proposed and ownership of the LWS. The Council's Sustainable Development Team can provide advice on the circumstances where it may be appropriate to prepare a management plan.”*

3.0 Methodology

The baseline ecological data was collated by a combination of desk-based study and field survey consistent with all current standard methodologies and published good practice guidelines.

3.1 Desk Study

An ecological data search was requested from the North and East Yorkshire Ecological Data Centre (NEYEDC) to obtain records of protected and otherwise notable species, and non-statutory protected sites for the Site and land within a 2km radius of its centre. This data was supplied on the 9th August 2022.

An internet-based desk study was also undertaken, whereby the Multi-Agency Geographic Information for the Countryside (MAGIC) website (<http://magic.gov.uk>) was searched for statutory designated sites (such as Sites of Special Scientific Interest (SSSI)), both for the Site itself and land within a 5km radius.

3.2 Field Survey

3.2.1 Habitats

An ecological walkover of the Site and surrounding areas was undertaken by Dr Daniel Alexander, Senior Ecologist with SLR Consulting, on 5th July 2022.

The survey was carried out on a sunny, dry day, with a light breeze and an ambient temperature of 23 °C.

The Site was surveyed to identify the broad habitat types present in accordance with the UK Habitat Survey (UKHab) methodology⁶. The methodology was extended to include searches for features of interest, such as notable or protected species of flora and fauna, as well as habitats capable of supporting such species.

The UK Habitat Classification (UKHab) system comprises a principal hierarchy (the Primary Habitats) which involves the identification of broad habitats and Priority habitats, as well as the use of non-hierarchical Secondary codes.

In addition, plant species listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), such as Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*) were searched for.

3.2.2 Fauna

The ability of the Site to support protected or notable species, including hazel dormouse (*Muscardinus avellanarius*), reptiles, badger (*Meles meles*), bats, great crested newt (*Triturus cristatus*), water vole (*Arvicola amphibius*) and breeding birds, was assessed and field evidence of such species was searched for.

⁶ <https://ukhab.org>

3.3 Assessment Approach

The ecological evaluation and impact assessment approach used here is based on Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland (“CIEEM guidelines”) (CIEEM, 2018⁷).

3.3.1 Important Ecological Receptors

Ecological receptors can be important for a variety of reasons and the rationale used to identify them is explained here. Importance may relate, for example, to the quality or extent of the Site or habitats therein; habitat and/or species rarity; the extent to which such habitats and/or species are threatened throughout their range, or to their rate of decline.

Importance is considered within a defined geographical context; the following frame of reference has been used in this case, relying on known/ published accounts of distribution and rarity where available, and professional experience:

- International;
- National (i.e. UK/ England etc.);
- Regional (i.e. Yorkshire);
- County (i.e. East Yorkshire); and
- Local (i.e. within 2km).

The importance of the various habitats has been measured against published selection criteria where available and relevant. Examples of relevant criteria include: descriptions of habitats listed on Annex 1 of the Habitats Directive; descriptions of habitats of principal importance for biodiversity under Section 41 of Natural Environment and Rural Communities (NERC) Act 2006; Local Wildlife Site Selection Criteria; and Habitat Action Plans (HAPs) contained within Local Biodiversity Action Plans.

In assigning a level of importance to a species, it is necessary to consider their distribution and status, including a consideration of trends where relevant. Reference has therefore been made to published lists and criteria where appropriate. Examples of relevant lists and criteria include: species of European conservation importance (as listed on Annexes II, IV and V of the Habitats Directive or Annex 1 of the Birds Directive); species of principal importance for biodiversity under Section 41 of the NERC Act 2006 and Birds of Conservation Concern (BoCC)⁸.

For the purposes of this report ecological features of local importance or greater and/or subject to legal protection have been subject to detailed assessment. Effects on other ecological features are considered unlikely to be significant in legal or policy terms and have therefore been omitted from the assessment process.

3.3.2 Impact Assessment

The impact assessment process involves the following steps:

- identifying and characterising potential impacts;

⁷ Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland, September 2018.

⁸ Eaton, M.A., Aebischer, N.J., Brown, A., Hearn, R.D., Lock, L., Musgrove, A.J., Noble, D.G., Stroud, D.A., & Gregory, R.D. (2015). Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*, 108: 708-746.

- incorporating measures to avoid and mitigate these impacts;
- assessing the significance of any residual effects after mitigation;
- identifying appropriate compensation measures to offset significant residual effects (if required); and
- identifying opportunities for ecological enhancement.

When describing impacts, consideration has been given to the following, as appropriate:

- Positive or negative;
- Extent;
- Magnitude;
- Duration;
- Timing;
- Frequency; and
- Reversibility.

The impact assessment process considers both direct and indirect impacts: direct ecological impacts are changes that are directly attributable to a defined action, e.g. the physical loss of habitat occupied by a species during the construction process. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process or feature, e.g. the creation of roads which cause hydrological changes, which, in the absence of mitigation, could lead to the drying out of wet grassland.

Consideration of conservation status is important for evaluating the effects of impacts on individual habitats and species and assessing their significance:

- Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions, as well as its distribution and its typical species within a given geographical area; and
- Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

3.3.3 Significant Effects

The concept of ecological significance is addressed in paragraphs 5.24 through to 5.28 of the CIEEM guidelines (2018). Significance relates to the weight that should be attached to effects when decisions are made.

For the purpose of EclA a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/ local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local and the scale of significance of an effect may or may not be the same as the geographic context in which the feature is considered important.

3.4 Limitations

3.4.1 Desk Study

Desk study data is unlikely to be exhaustive, especially in respect of species, and is intended mainly to set a context for the study. It is therefore possible that protected species not identified during the data search do in fact occur within the vicinity of the Site. Interpretation of maps and aerial photography has been conducted in

good faith, using recent imagery, but it has not been possible to verify the accuracy of any statements relating to land use and habitat context outside of the field study area.

3.4.2 Accessibility and Survey Timing

The Site, and immediately surrounding areas, were fully accessible, and as such no access restrictions apply. Furthermore, the survey was undertaken at an optimal time of year, when most plant species are evident and readily identifiable. As such, no limitations applied.

4.0 Results

4.1 Statutory and Non-Statutory Protected Areas

4.1.1 Statutory Designated Sites

The Site itself does not contain any statutory designated areas, and no statutory sites were found within a 2km radius of the Site.

4.1.2 Non-Statutory Designated Sites

The Site itself does not contain any non-statutory designated areas; however, one sites occurs within a 2km radius of its centre. The Hull / Hornsea Disused Railway LWS and Sigglesthorne Station LNR both lie approximately 275 metres west of the Site.

The non-statutory sites lie a sufficient distance from the Site itself and are separated from it by agricultural land, furthermore the LNR/ LWS forms part of the Trans Pennine Trail, comprising a surfaced track, fringed mostly by scrubby woodland, used by dog walkers, pedestrians and cyclists and is able to accommodate modest levels of additional pedestrian and/or cycle use associated with the proposed development, such that no adverse impact upon it is predicted.

These non-statutory protected areas will, therefore, remain unaffected by the proposals, and are not discussed further.

4.2 Habitats

4.2.1 Modified Grassland

The majority of the Site is characterised by a single field of modified grassland (Plate 1). The grassland is dominated by Yorkshire fog (*Holcus lanatus*), though throughout the sward there are patches with a greater tall herb coverage (Plate 2 and 3, Drawing 1). Within the modified grassland, species coverage includes occasional cock's foot (*Dactylis glomerata*), false oat grass (*Arrhenatherum elatius*), and frequent spear thistle (*Cirsium vulgare*), ragwort (*Jacobaea vulgaris*), dandelion (*Taraxacum officinale*), occasional nettle (*Urtica dioica*), hogweed (*Heracleum sphondylium*), ribwort plantain (*Plantago lanceolata*) and hard rush (*Juncus inflexis*).

To the north of the grassland, there is an area which is rabbit grazed, towards the northern boundary (Plate 4). Otherwise, the sward is homogenous throughout, other than the small patches dominated by nettle and hogweed.

The grassland is not homogenous; some areas have fewer than six species per m² whilst others have between 6-8 species per m²; no areas have greater than 8 species per m². Overall, the grassland is assessed as having 'fairly good' condition, based on the criteria within the Biodiversity Metric 3.1 Technical Supplement⁹.

⁹ Natural England, 2022. *Biodiversity metric 3.1: Auditing and accounting for biodiversity – user guide. Technical Supplement.*



Plate 1 – View of the main field, characterised as a modified grassland community.



Plate 2 – View of the western edge of the modified grassland, with tall herb species present.



Plate 3 – Tall herb / ruderal cover in the eastern portion of the Site.



Plate 4 – Rabbit grazed area of the modified grassland, in the northwest portion of the field.

4.2.2 Line of Trees and Hedgerows

The field within which the Site is located is bound on its eastern and southern lengths by a line of trees, which lie outside of the application site itself.

The southern field boundary is characterised by a mix of young and semi-mature trees, including balsam poplar (*Populus balsamifera*), goat willow (*Salix caprea*), ash (*Fraxinus excelsior*), horse chestnut (*Aesculus hippocastanum*), and a single corkscrew willow (*Salix matsudana*) (Plate 5). This line of trees is classed as having a low condition according to the relevant condition assessment table, meeting criteria 2 and 5, i.e., that tree cover is predominantly continuous, and at least 95% of the trees are in healthy condition.

The eastern treeline lies on the outside of the boundary fence of the field in which the Site sits and is characterised by wild cherry (*Prunus avium*), crack willow (*Salix fragilis*), pedunculate oak (*Quercus robur*), hawthorn (*Crataegus monogyna*), balsam poplar and goat willow (Plate 6). The eastern treeline is categorised as having moderate potential as it passes four of the five criteria within the condition assessment table (1, 2, 4 and 5).

The field in which the Site sits is bound on its northern and western lengths by hedgerow, with occasional trees throughout the length. The western boundary is a hawthorn hedgerow with occasional sycamore (*Acer pseudoplatanus*), crack willow, and balsam poplar (Plate 7). The northern boundary hedgerow is characterised by hawthorn and blackthorn (*Prunus spinosa*), with occasional young oak (Plate 8). The hedgerows are categorised as having moderate condition, as they pass all condition categories other than E1 and E2⁹ within the condition assessment table.

Within the Arboricultural Impact Assessment report (Appendix 3), it was recommended that for the establishment of the pond, a length of the trees of the southern boundary may need to be removed, involving the loss of goat willow and balsam poplar, otherwise the hedgerows and trees shall be unaffected by the proposals.

The short section of trees to be removed in order to facilitate the creation of the pond has been assessed as having local importance, and therefore been subject to further assessment.



Plate 5 – View of the line of trees on the southern field boundary.



Plate 6 – View of the line of trees on the eastern field boundary.



Plate 7 – View of the hedgerow on the western field boundary.



Plate 8 – View of the hedgerow with trees located on the northern field boundary.

4.3 Protected and Notable Species

4.3.1 Mammals

4.3.1.1 Bat

The North and East Yorkshire Ecological Data Centre (NEYEDC) returned one bat record within a 2km radius of the Site, namely common pipistrelle (*Pipistrellus pipistrellus*), dating from 1997.

The Site does not support buildings or mature trees, and therefore does not have potential for roosting bats.

The field boundaries, which constitute hedgerows with standard trees, are likely to support foraging bats; however these lie off-Site and shall be unaffected by the proposals.

The Site has therefore been assessed as having less than local importance for bats as no negative impact on these habitats is anticipated, and this group has been excluded from further assessment.

4.3.1.2 Badger

No records of badger within 2km of the Site were contained within the desk study data supplied by NEYEDC.

No evidence of badger was recorded within the Site, or close to its boundaries, during the ecological walkover survey, and therefore this species has been excluded from further assessment.

4.3.1.4 Water Vole

One record of water vole was provided for land within 2km of the Site, dating from 1984. This record relates to the fields north of Little Hatfield, approximately 1km northwest of the Site.

No ditches are present on Site, and as such there is no scope for this species to occur within the Site itself; water vole has therefore been excluded from further assessment.

4.3.1.4 Other Mammals

No other mammal records were returned in the desk study data supplied by NEYEDC, or recorded on Site during the ecological walkover.

4.3.2 Amphibians (including great crested newt)

The NEYEDC desk study data search returned 14 records of great crested newt (GCN), 13 of which date from 2016, with one record originating from November 2003. The records dating from 2016 all relate to Goxhill, which is located 1.7km to the north of the Site. The single record from 2003 relates to 'TA1940 Witherwick', which lies approximately 2.2km to the south-east of the Site.

One record of common frog (*Rana temporaria*) from 2010 was also returned by the desk study data, though no additional records of amphibian were found.

A newly formed waterbody lies approximately 270 metres to the south of the Site, from which it is separated by an arable field.

The Site itself does not contain any ponds, and there are not strong habitat links between it and off-Site ponds. Therefore the likelihood of amphibians, including GCN, being present on Site is low.

It should be noted that the Site will be substantially enhanced for amphibians, through the creation of a new pond, as illustrated in Appendix 1.

4.3.3 Reptiles

The desk study data revealed no records of reptile species for land within the 2km radius of the centre of the Site.

The Site is surrounded largely by arable land and the settlement of Great Hatfield, making it somewhat ‘isolated’ from areas of suitable reptile habitat within a landscape context.

Even though the grassland is tall, and superficially at least, appears to have potential to support small numbers of reptiles, the fact that it is isolated and that there is a lack of desk study records means that it is considered unlikely that reptiles currently occur on Site.

Reptiles have therefore been scoped out of further assessment.

4.3.4 Nesting Birds

No records of Schedule 1 bird species were provided by the NEYEDC within 2km of the Site.

No birds were recorded within the Site itself during the ecological walkover, though it is possible that small numbers of ground-nesting species may occur in certain years, for example skylark (*Alauda arvensis*).

A limited number of common urban-fringe bird species were present within hedgerows and tree lines which border the field in which the Site sits, but which do not form part of the Site per se, namely wren (*Troglodytes troglodytes*), chaffinch (*Fringilla coelebs*), robin (*Erithacus rubecula*), and wood pigeon (*Columba palumbus*). The majority of these species are likely to breed within these hedgerows and/ or scrub, though this would remain unaffected.

Overall, the Site is assessed as having less than local importance for nesting birds, however, given the legal protection afforded to birds and active bird nests, the potential impact of the scheme during construction, if carried out within the bird breeding season, has been subject to further assessment.

4.4 Summary of Important Ecological Receptors

Ecological receptors assessed as having local importance or greater, as well as legally protected species and/ or habitats, which could potentially be affected by an unmitigated scheme are summarised in Table 4.

Where a receptor has been omitted from detailed assessment (due to no potential impacts arising or it having less than local ecological importance), a rationale has been provided earlier within this report.

Table 4: Summary of Important Ecological Features Subject to Detailed Assessment

| Important Ecological Receptor | Scale at which Feature is Important | Comments on Legal Status and/ or Importance |
|-------------------------------|-------------------------------------|--|
| Line of Trees | Local | Line of trees with intrinsic value, likely to act as general wildlife corridors. |

| Important Ecological Receptor | Scale at which Feature is Important | Comments on Legal Status and/ or Importance |
|-------------------------------|-------------------------------------|---|
| Breeding birds | Less than Local | <p>Whilst the Site has potential to support a limited number of ground-nesting species, such as skylark, it does not have scope to support a nesting bird assemblage of importance.</p> <p>However, native birds, and the nests, eggs and young of native birds, are protected against killing and injury/ damage and destruction under the Wildlife and Countryside Act 1981 (as amended).</p> |

5.0 Assessment of Effects, including Mitigation Measures and Enhancements

Potential impacts are assessed below, based on the proposed Site layout and Landscape Plan (see Appendix 1).

5.1 Line of Trees

Approximately 30 metres of the southern line of trees, comprising balsam poplar and goat willow is due to be removed to facilitate the creation of a pond (which will bring significant ecological value to the Site).

In order to mitigate for this, a new 30 metre long native hedgerow with trees shall be planted in its place, as illustrated in the Outline Tree Planting Plan contained within Appendix E of the Arboricultural Impact Assessment (refer to Appendix 3 of this report). This planting shall comprise hawthorn, field maple (*Acer campestre*), plum (*Prunus domestica*), crab apple (*Malus sylvestris*), hazel (*Corylus avellana*), spindle (*Euonymus europaeus*), guelder rose (*Viburnum opulus*), and wild service tree (*Sorbus torminalis*).

In addition to this, and again, as illustrated in Appendix 3) the western hedgerow with trees will be gapped up and reinforced with field maple, crab apple, plum and wild service tree.

The overall net impact upon hedgerows shall therefore be positive and locally significant.

5.2 Species

5.2.1 Breeding Birds

The boundary hedgerows have potential to support a range of breeding birds, however, these linear features will not be affected. The open grassland forming the core of the Site also has potential to support ground-nesting species, including skylark, in certain years (though none were recorded during the survey).

Therefore, to avoid the potential killing/ injury of birds and damage/ destruction of their nests, installation work will either take place outside of the main bird breeding season (which broadly extends between March and August inclusive) or immediately following a search for active nests by a qualified ecologist.

The proposed reinforcement of existing hedgerows and new hedgerow planting shall enhance the Site for a range of nesting and wintering passerine birds.

5.3 Biodiversity Net Gain Assessment

Biodiversity Metric 3.1¹⁰ was used to calculate the existing baseline score for the Site and the post-development score of the scheme, considering the relevant biodiversity enhancements proposed.

The full results are provided in Appendix 4 (supplied separately) but in summary the Site was assessed as having a baseline value of 4.85 biodiversity units.

Following installation and taking into account the biodiversity enhancements illustrated in the Proposed Site Layout and Landscape Plan (Appendix 1), the Site is predicted to have a value of 6.02 biodiversity units, equating

¹⁰ The Biodiversity Metric 3.1, auditing and accounting for biodiversity, Technical Supplement, Beta Edition, Natural England Joint Publication JP029, Natural England.

to a 24.14% net increase.

Full details of the proposed enhancements are contained within Appendix 1, but in summary these shall involve the creation of a 0.02ha pond with margins sown with Emorsgate Seeds EP1 Pond Edge Wildflower Seed Mix, or similar, and substantial areas of enhanced grassland and wildflower planting using Emorsgate Seeds EM10F Tussocky Grassland Flowers and EM1F General Purpose Meadow Mix Flowers, or similar.

Only 0.06ha shall comprise developed land and 0.02ha unsealed surface, with the remainder supporting grassland, with mown paths.

In terms of the linear habitats, there will be an increase of 0.06 hedgerow units within the Site itself, from a baseline of zero (i.e. no such linear habitats occur within the Site, at present) to 0.06, due to the establishment of two lengths of coniferous screening.

In terms of linear habitats located off-Site, the planting of 30 metres of species rich native hedgerow with trees and the gapping up of 75 metres of hedgerow shall deliver an increase of 0.36 units, from a baseline of 0.88 biodiversity units, to 1.17 biodiversity units.

This is a significant net increase, both in terms of overall BNG, but also of linear habitats.

6.0 Summary of Ecological Effects

The overall net impact of the scheme upon receptors of ecological importance is illustrated in Table 5 below, along with the proposed biodiversity enhancements, and the precautions that will be taken to ensure legal compliance with respect to legally protected species.

Table 5: Net Impact Upon Important Ecological Features

| Important Ecological Receptor | Scale at which Feature is Important | Overall Net Impact |
|-------------------------------|-------------------------------------|--|
| Line of Trees | Local | No damage to boundary vegetation, including Root Protection Zones (RPZs), other than the removal of circa 30 metres of balsam poplar and goat willow, to facilitate the creation of a pond. Planting of 30 metres of native species-rich hedgerow with trees and reinforcing/ gapping-up of 75 metres of existing hedgerows. Positive (Significant) impact at the local level. |
| Breeding birds | Local | Killing or injuring birds/ damaging or destroying their nests will be avoided by clearing the Site outside of the main bird breeding season (i.e. September to February), or immediately following a search by an ecologist. Planting and reinforcement of hedgerows with fruit bearing species. Positive (Minor) impact at less than Local level. |

| Important Ecological Receptor | Scale at which Feature is Important | Overall Net Impact |
|-------------------------------|-------------------------------------|---|
| Biodiversity Net Gain | N/A | Predicted increase of 24.14 % in overall BNG value, and substantial increase in linear (hedgerow) habitats which is significant at the local level. |

DRAWING 1

UK Habitat Survey Results



LEGEND

- Application Site Boundary

Linear Habitat Features

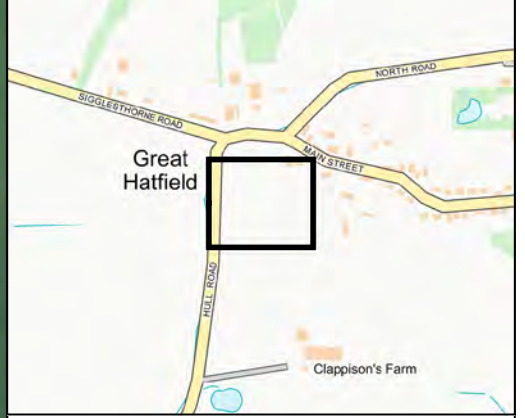
- h2 - Hedgerow
- u1e - Built Linear Feature
- w1g6 - Line of Trees

UK Habitat Survey Classification

- g4 - Modified Grassland

Secondary Habitats

- 10 - Scattered Scrub
- 16 - Tall Herb
- 17 - Ruderal/ Ephemeral
- 69 - Fence
- 190 - Hedgerow with Trees



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GREAT HATFIELD GLAMPING SITE
ECOLOGICAL IMPACT ASSESSMENT
UK HABITAT SURVEY

FIGURE 1

Scale 1:500 @ A3 Date SEPTEMBER 2022

424.064063.00001.0001.0 UK Habitat Survey

APPENDIX 1

Proposed Site Layout and Landscape Plan

Existing tree group to be managed as hedgerow. Enrichment planting as required to facilitate appropriate density.

Whips to be planted at 10m centres, to be managed as standard trees within the proposed hedgerow. to be formed of:

- Field maple
- Crab apple
- Plum
- Wild service tree

Indigenous shrubs are to be planted around the pods to create natural screening. These will be pruned when required to remain tidy.

Planting to use a mix of ornamental coniferous species for screening.

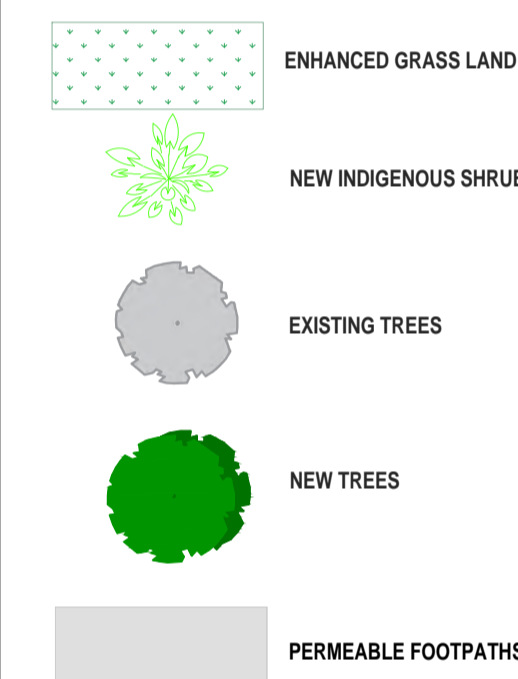


Grass Mix

- The existing grass area is to be carefully checked to ensure that the soil is appropriate and free from rubble, stones, weeds and other deleterious material. If not appropriate, it should be replaced with a suitable quality material.
- Where topsoil is to be added the subsoil should be fully broken up to ensure adequate drainage and a layer not less than 150mm deep applied.
- The topsoil should be cultivated to a fine, even tilth with no undulations or bumps.
- All grass areas are to be seeded in accordance with guide-lines set out in BS 4428: Code of Practice for general landscape operations: 1989.

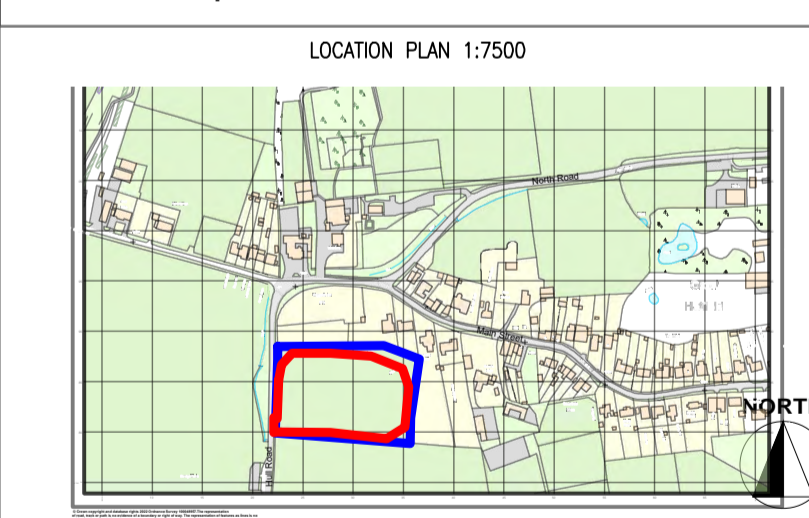
Enhanced grassland

- The areas for seeding are to be cleared of invasive weeds by hand, mechanical or chemical means. Herbicide pre-treatment with approved Glyphosate only.
- Areas to be free from rubble, stones and other deleterious material. Subsoil is to be broken up to ensure adequate drainage, with surface then prepared by raking or harrowing.
- Seed to be sown to supplier recommendations.
- Areas to be gently harrowed or rolled after sowing
- Tussock Wild Flowers EM10F - Emorsgate Seeds will be used for the enhanced grassland.
- Basic General purpose Wild Flowers EM1F - Emorsgate seeds are to be used for the wildflower targeted areas.
- A strip of Pond Edge Mixture EP1 - Emorsgate Seeds will be planted around the pond.



| Date | Description | Rev | By |
|------|-------------|-----|----|
| | | | |

Revision Description



Project: Proposed Glamping Site - For Adam Bisaggio
LAND NORTH EAST OF WASTE WATER TREATMENT WORKS, HULL ROAD, HU11 4US

Drawing Title: LANDSCAPING PLAN

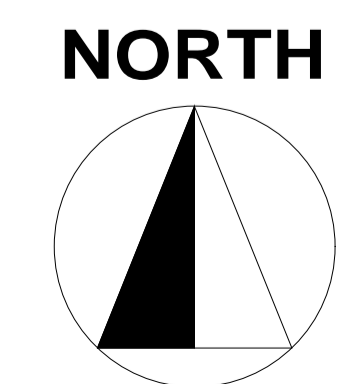
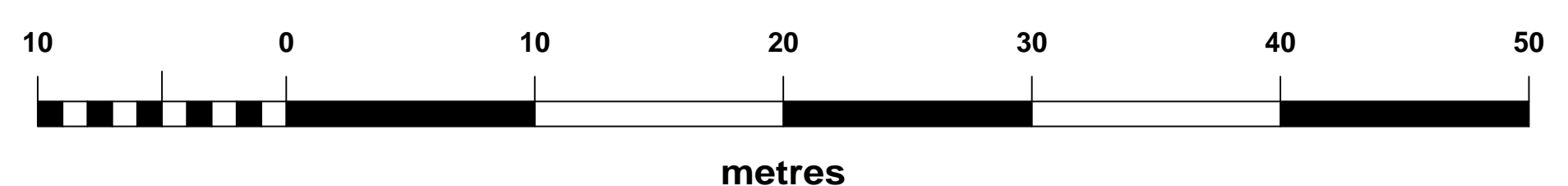
Drawing Number: 220624-01-10

| | |
|------------------|------------|
| Revision: | |
| Date: | 30.06.2022 |
| Scale: | 1:250 @ A1 |
| Drawn By: | TA |
| CAD Dwg File: | - |
| Checked By: | EC |

Issue Status: Full Planning Application

OWNERSHIP BOUNDARY
AREA = 12,270m²

SITE BOUNDARY
SITE AREA = 9,716 m²



APPENDIX 2

Desk Study Data from the North and East Yorkshire Ecological Data Centre (NEYEDC)



Our Ref: E06663
 Your Ref: Great Hatfield 424.064063.00001
 On behalf of: SLR Consulting Ltd
 Date: 08/08/2022
 Search area: 2km from TA1828842843

NEYEDC Site Data Search

Internationally Designated Sites

The following internationally designated site boundaries were searched:

- Ramsar sites published May 2017, revised October 2020
- Special Areas of Conservation published July 2017, revised May 2021
- Special Protection Areas published March 2016, revised July 2019

There are no internationally designated sites in or partly within the search area.

Nationally Designated Sites

The following nationally designated site boundaries were searched:

- Areas of Outstanding Natural Beauty published January 2017, revised August 2020
- National Nature Reserves published April 2017, revised June 2021
- National Parks published August 2016, revised February 2019
- Sites of Special Scientific Interest published January 2019, revised June 2021

There are no nationally designated sites in or partly within the search area.

Locally Designated Sites

The following locally designated site boundaries were searched:

Local Nature Reserves

published April 2017, revised June 2021

The following Local Nature Reserves are in or partly within the search area, and are shown on the accompanying map.

| Name or location of site | Grid reference |
|--------------------------|----------------|
| Sigglethorpe Station | TA181432 |

East Yorkshire LWS (Local Wildlife Site)

Version: East Yorkshire LWS v8.2, February 2022

The following East Yorkshire LWS are in or partly within the search area, and are shown on the accompanying map.

| Site Name | Site Ref | Grid Reference | Status |
|-------------------------------------|-----------|------------------------|----------------|
| Goxhill Road | TA1540-01 | TA178446 – TA183445 | Deleted LWS |
| Hull – Hornsea Disused Railway Line | TA1035-10 | TA126342 – TA210465 | Designated LWS |



Our Ref: E06663
 Your Ref: Great Hatfield 424.064063.00001
 On behalf of: SLR Consulting Ltd
 Date: 08/08/2022
 Search area: 2km from TA1828842843

| Site Name | Site Ref | Grid Reference | Status |
|----------------------------------|-----------|----------------|-------------|
| Westlands Farm, Withernwick | TA1540-07 | TA182409 | Deleted LWS |
| Westland Plantation, Withernwick | TA1540-06 | TA181409 | Deleted LWS |
| Whitedale Station South | TA1540-05 | TA173411 | Deleted LWS |

Candidate LWS

These sites have either not been surveyed, or no East Riding of Yorkshire LWS Panel decision has been reached on their status. This designation is only be applied where there is evidence to support the site having substantive ecological value and includes, but is not limited to; anecdotal species records, aerial photography, historic maps and application of the Radcliff criteria, especially with regard to size and position within an ecological unit.

Historic LWS

Historic LWS have not been surveyed under the current local wildlife sites system (i.e. since 2007), but unlike a Candidate LWS these sites lack evidence that the site is of any substantive value, but equally lack compelling evidence to support their deletion. These sites will stay at this status until such a time that a survey can be completed.

Deleted LWS

The decision to delete LWS by the East Riding of Yorkshire LWS Panel is made based on one of the following situations;

- The site overlaps with a statutory designated site;
- The site overlaps with another LWS, or has been merged with another;
- The site no longer exists e.g. through changes in land use or management; or
- The site has been surveyed and does not meet the robust LWS Guidelines for designation on habitat grounds.

In many cases just because a site has not met the high criteria for designation as a LWS it does not mean that it has no added value for wildlife. The LWS assessment is usually based on a botanical survey of the habitat and does rarely includes surveys for other taxa, including protected species, which the site may support. It may also be important for connectivity or as part of a wider habitat network. It may be possible to enhance the value of the site for wildlife with certain types of management, which could bring the site up to the standard required for designation as a LWS.

Citations

Citations, where available, are at an additional cost of £25 per site and include a habitat map, site description, botanical species list and scores/evaluation against the LWS criteria. The additional cost for citations is passed back to and used by the East Riding of Yorkshire LWS Panel to maintain the LWS system, including the survey and re-survey



Our Ref: E06663
Your Ref: Great Hatfield 424.064063.00001
On behalf of: SLR Consulting Ltd
Date: 08/08/2022
Search area: 2km from TA1828842843

of sites. If citations are required, please email info@neyedc.co.uk and list the sites using the reference and name listed above.

Yorkshire Wildlife Trust Reserves published January 2019

There are no Yorkshire Wildlife Trust Reserves in or partly within the search area.

Priority Habitats

The following site-based habitat boundaries were searched:

Ancient Woodland Inventory published July 2013, revised January 2020

There are no woodlands identified on the Ancient Woodland Inventory in or partly within the search area.

Priority Habitat Inventory published August 2017

The following areas of priority habitat are in or partly within the search area and are shown on the accompanying map

| Habitat type | Location description |
|--------------------------------------|--|
| Good quality semi-improved grassland | Three polygons located close together at TA194417. |
| Deciduous woodland | Three very small polygons within the search area, two located at Great Hatfield and one at TA172412. |
| Traditional orchard | Two polygons, one near North End at TA194413, and one at Manor Farm, TA192441. |
| Lowland meadows | One polygon at central Great Hatfield, TA184430. |



Our Ref: E06663
Your Ref: Great Hatfield 424.064063.00001
On behalf of: SLR Consulting Ltd
Date: 08/08/2022
Search area: 2km from TA1828842843

NEYEDC Species Data Search

Enclosed is a spreadsheet of species records found within the search area. For protected, priority and invasive species an abbreviation of the relevant designation(s) is **listed in the 'Species Records' worksheet, with the full designation title on the second worksheet 'Designations'**.

Please note that NEYEDC is not a definitive resource of species records; a lack of survey information for any particular area or lack of species records for a taxonomic group does not necessarily mean that there is no nature conservation interest present. It is always recommended that a site survey is carried out in order to assess any ecological interest that might be present before proceeding with any development.

By default, the species search returns data for the past 50 years, but if older records are required these may be obtained from NEYEDC upon request.

Priority Habitats

Client: SLR Consulting Ltd

Client ref: Great Hatfield 424.064063.00001

Our ref: E06663






Search area: 2Km from
518288,442843

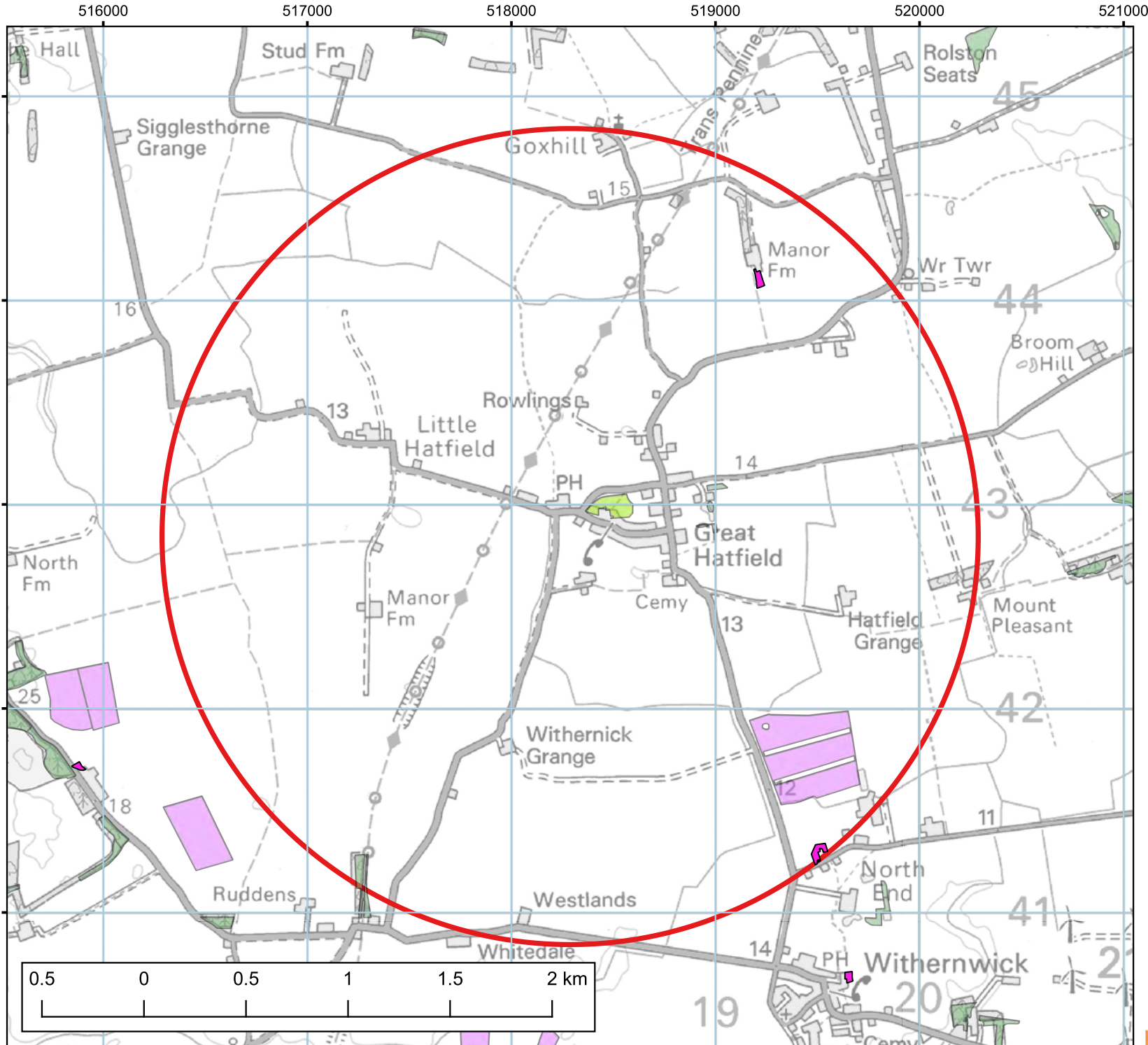
Map created on: 2022-08-08

Legend

Habitats

PHI

-  Deciduous woodland
-  Good quality semi-improved grassland
-  Lowland meadows
-  Traditional orchards
-  Search Area



Local Sites

Client: SLR Consulting Ltd




Client ref: Great Hatfield
424.064063.00001

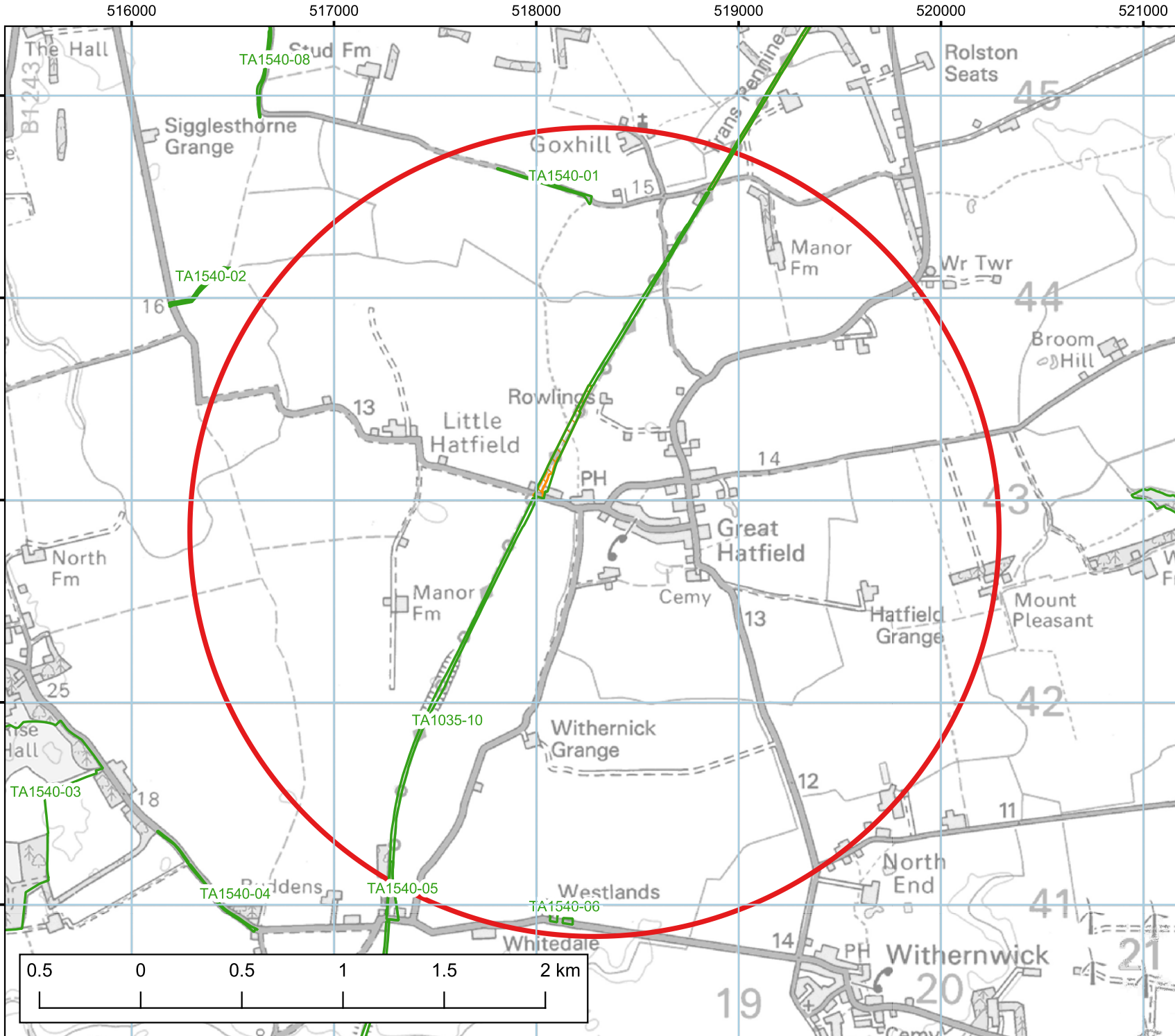
Our ref: E06663

Search area: 2Km from
518288,442843

Map created on: 2022-08-08

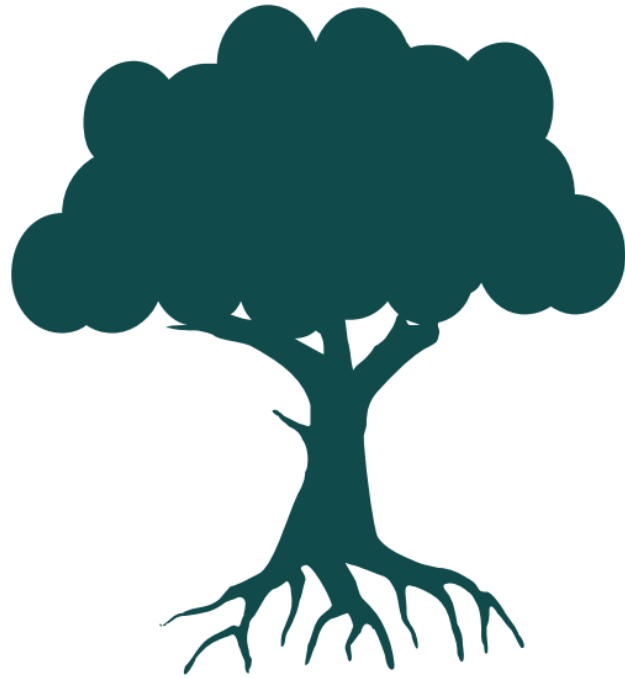
Legend

-  LNR
-  East Yorkshire LWS
-  Search Area



APPENDIX 3

Arborcultural Impact Assessment



L O N G L E A F
TREE AND WOODLAND CONSULTANCY

Arboricultural Impact Assessment

| | |
|-------------------------|-------------------------------------|
| Project | Great Hatfield Glamping Site |
| Client | Mr Adam Bisaggio |
| Report Reference | AIA-GH-0722 |
| Date of Issue | 14 th August 2022 |

Report Completed by:

Gregory Adamson, Dip Arb L6 (ABC), MArborA,

Arboricultural Consultant

Longleaf Tree and Woodland Consultancy Ltd

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| Report Version | Issue Date | Update Details |
|----------------|------------|---|
| 01 | 29/07/2022 | N/A |
| 02 | 14/08/2022 | Update to tree removals/retention and replanting. |

1 Introduction

1.1 Instructions

- 1.1.1 Longleaf Tree and Woodland Consultancy Ltd have been instructed by Mr Adam Bisaggio (herein referred to as 'the Client'), with regards to a planning application at land east of Hull Road, Great Hatfield, Hull (herein referred to as 'the Site').
- 1.1.2 The production of an Arboricultural Impact Assessment is requested in accordance with *BS5837:2012 Trees in Relation to design, demolition and construction – recommendations*, to include the following:
1. Tree Survey;
 2. Baseline Tree Survey Report;
 3. Tree Constraints Plan;
 4. Arboricultural Impact Assessment; and
 5. Tree Protection Plan.

The following documents were provided:

| Document Name | Reference Number | Date Received |
|--------------------|------------------|---------------|
| Proposed Site Plan | 220624-01-02 | 13.07.2022 |

1.2 Background

- 1.2.1 This report assesses the direct and indirect impacts of the Proposed Development to existing trees on Site and where necessary proposes suitable mitigation.

1.3 Tree Survey Methodology

- 1.3.1 The tree survey has been undertaken in accordance with *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations*, from ground level only, to identify the quality, characteristics and constraints posed by trees on and immediately adjacent to the Site. Trees have been assigned a category based on their intrinsic non-fiscal qualities (either high quality/category A, moderate quality/category B, low quality/category C and unsuitable for retention /category U), and provided with a sub category (either arboricultural (1), landscape (2) or cultural values (3)). Trees may have more than one sub-categorisation.
- 1.3.2 The categorisation of trees on Site enables the quality and value (in a non-fiscal sense) of the trees to be identified. This information then informs decisions concerning which trees should be retained, removed and which impacts should be mitigated, regarding any new development.
- 1.3.3 The assigned category and associated constraints of each tree are shown on the Tree Constraints Plan (included as Appendix C).
- 1.3.4 The tree survey was undertaken on 5th July 2022. The survey extent has been based on the field parcel boundary.

2 Planning Policy

2.1 Background

- 2.1.1 Local Planning Authorities (LPAs) in England have a statutory duty to consider both the protection and planting of trees when considering planning applications. The potential impact of development on all trees is therefore a material consideration.
- 2.1.2 The National Planning Policy Framework (NPPF) seeks to ensure that new development is sustainable and underlines the importance of green infrastructure, of which trees form an

integral part. This encompasses a recognition of the importance of trees in relation to the management of air, soil and water quality along with other associated ecosystem services and climate change adaptation. The NPPF also seeks to achieve the protection and enhancement of landscapes and a net gain in biodiversity.

2.2 Local Planning Policy Context

- 2.2.1 The Site is within the planning authority of East Riding of Yorkshire Council.
- 2.2.2 A desktop review of East Riding of Yorkshire Council's planning policies specifically relating to trees and new developments was undertaken on 13th July 2022. The East Riding Local Plan 2012 – 2029, Strategy Document (adopted April 2016)¹ outlines East Riding of Yorkshire Council's requirements for new developments and trees. The following excerpts identify the importance of tree retention, protection and where this is not feasible, mitigation for tree loss in relation to new developments.
- 2.2.3 Policy ENV2: Promoting a high quality landscape states "*A. Development proposals should be sensitively integrated into the existing landscape, demonstrate an understanding of the intrinsic qualities of the landscape setting and, where possible, seek to make the most of the opportunities to protect and enhance landscape characteristics and features. To achieve this, development should:*
- ...3. Ensure important hedgerows and trees are retained unless their removal can be justified in the wider public interest. Where important hedgerows and trees are lost replacements will usually be required.*
- ...4. Maintain or enhance the character and management of woodland where appropriate.*"
- 2.2.4 Policy 8.26 identifies that mitigation for tree loss may be feasible off-Site, stating "*Where important hedgerows and trees are lost, replacements, which may be provided off-site in some instances, will be required.*"

2.3 Statutory Designations

- 2.3.1 East Riding of Yorkshire Council's online GIS statutory protection mapping² was accessed on 13th July 2022.
- 2.3.2 One Conservation Area is identified east of the Site (shown below as Figure 1) by circa 340m. Based on the desktop review, it is considered likely that no trees on Site are subject to Tree Preservation Order or Conservation Area designations.
- 2.3.3 Outside of obtaining full planning permission, a felling licence will be required where tree removals exceed 5 cubic metres (5m³) in any calendar quarter, unless the trees are less than 80mm in diameter measured at 1.3m above ground level.
- 2.3.4 Full planning permission is an exception to apply to undertake works to trees subject to Tree Preservation Orders, an exception to give notice to undertake works to trees within a Conservation Area and an exemption to apply for a Felling Licence from the Forestry Commission.

¹ <https://www.eastriding.gov.uk/planning-permission-and-building-control/planning-policy-and-the-local-plan/east-riding-local-plan/>

² <https://www.eastriding.gov.uk/planning-permission-and-building-control/applications-for-planning-and-building-control/planning-constraints-map/planning-constraints-map-tool/>

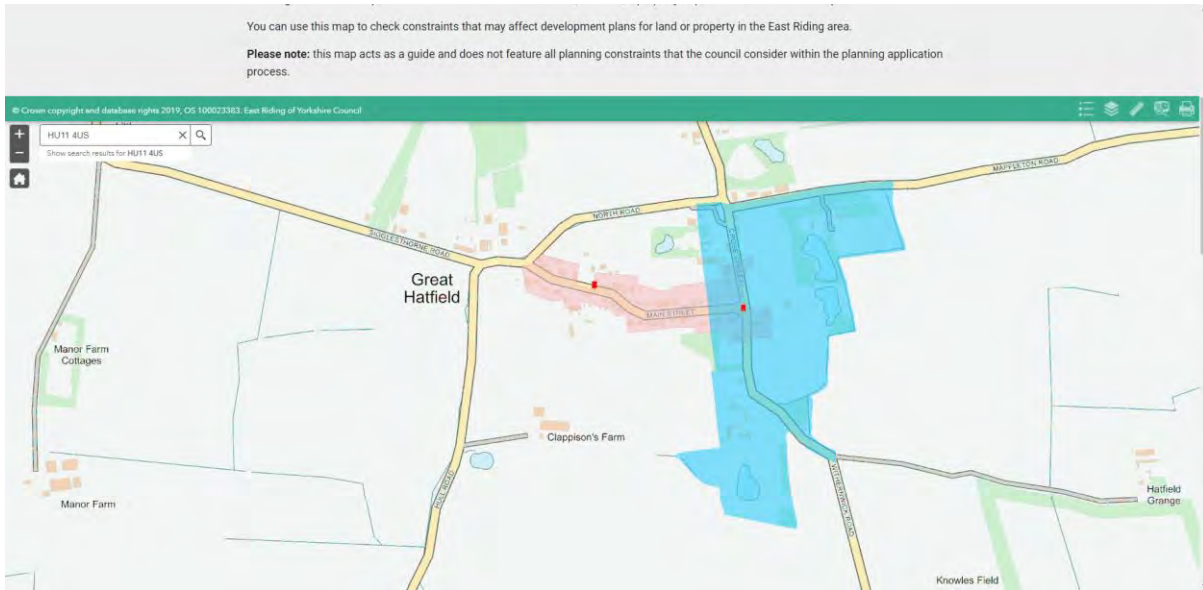


Figure 1. Excerpt from East Riding of Yorkshire Council's online statutory protection mapping, showing Conservation Area as shaded in shaded blue to the east of the Site.

2.4 Non-statutory Designations

2.4.1 Following a review of Defra's Magic Map³ on 13th July 2022, no registered ancient semi-natural woodland, replanted ancient woodland or Priority Habitat – Deciduous Woodland (England) designations are identified on or immediately adjacent to the Site (shown in the figure below).



Figure 2. Excerpt from Defra's Magic Map.

³ <https://magic.defra.gov.uk/magicmap.aspx>

2.4.2 Following a review of the Woodland Trust's Ancient Tree Inventory⁴, no recorded ancient, veteran or notable trees are identified within or immediately adjacent to the Site (shown below as Figure 3).

2.4.3 No ancient, veteran or notable trees were identified during the fieldwork.

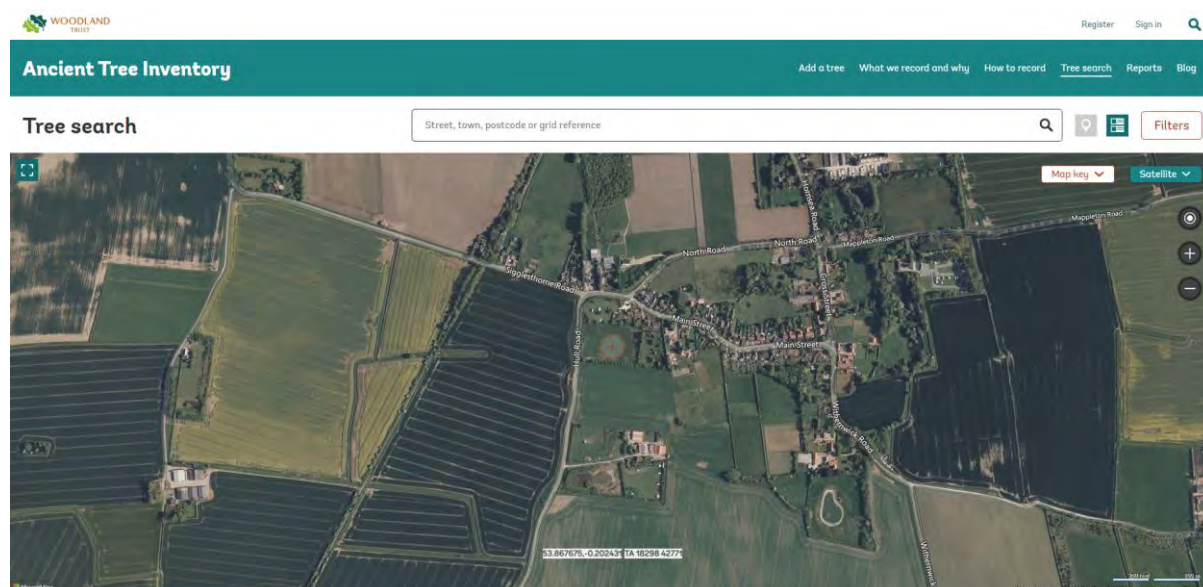


Figure 3. Excerpt from the Woodland Trust's Ancient Tree Inventory.

3 The Site

3.1 Existing Land Use and Topography

3.1.1 The existing Site use is grassland. Topography on Site has a minor descent west with no dominant aspect.

3.2 Soils

3.2.1 A Site-specific soil survey was undertaken on 5th July 2022, during which, a trial hole was dug by hand central to the study area, to a depth of 400mm and width/length of 500mm.

3.2.2 No significant O horizon is identified. The A horizon is likely present to circa 300mm, with a sandy texture. The B horizon is likely from circa 300mm. A cemented layer is present at 400mm preventing further excavation. This layer is likely sufficient to limit and potentially prevent deeper rooting unless broken manually.

3.2.3 However, this hardpan is not appearing to limit tree growth, as noted anecdotally by the rate of poplar growth on Site. This may be either due to roots penetrating this layer or from cultivation prior to planting.

⁴<https://ati.woodlandtrust.org.uk/treesearch/?v=1939157&ml=map&z=13&nwLat=53.417309955663455&nwLng=-1.6348799218750365&seLat=53.34491727525588&seLng=-1.3052900781250365>



Figure 4. Showing clear A and B horizon separation.



Figure 5. Showing base of soil pit with significant cementing of hardpan, likely preventing rooting beyond this depth (400mm).

- 3.2.4 Following assessment utilising the *identification of soils for forest management* (Forestry Commission 2012), the soil type is considered to be a shallow basic brown earth, with a cemented horizon at 400mm.
- 3.2.5 Prior to any tree planting, it is recommended that the cemented horizon is broken to facilitate rooting to greater depths.
- 3.2.6 The proceeding information has been identified as part of a desk-based study undertaken on 13th July 2022 to inform the design.
- 3.2.7 Following a review of the Geology of Britain Viewer⁵, Site bedrock is identified as Rowe Chalk Formation - Chalk. Superficial deposits are recorded as Glaciofluvial Deposits, Devensian - Sand and Gravel, and Till, Devensian - Diamicton.
- 3.2.8 Cranfield University's Soilscales viewer⁶ was accessed. Site soils are described as naturally wet, very acid, sandy and loamy soils, and slowly permeable, seasonally wet, slightly acid but base-rich loamy and clayey soils with impeded drainage.

3.3 Indirect Damage to Structures by Trees

- 3.3.1 Shrinkable clay soils may change volume as moisture content fluctuates seasonally. The amount of movement is determined by the changes in moisture content and the properties of the clay soil itself. These moisture content fluctuations cause dimensional changes to the soil.

⁵http://mapapps.bgs.ac.uk/geologyofbritain/home.html?&_ga=2.20537912.1685966552.1609328227-1381849347.1609328227

⁶<http://www.landis.org.uk/soilscales/>

The resulting shrinkage or swelling, if occurring below the level of foundations, can cause subsidence or heave damage to structures, foundations and services.

- 3.3.2 Trees may significantly affect shrinkable clay soils. Specifically, trees on shrinkable clay soils can lead to seasonal differential movement of structures as moisture is removed from the soil during the growing season.
- 3.3.3 Tree removals have the potential to cause indirect damage to structures on shrinkable clay soils as a result of heave, where soil moisture levels increase following tree removal. This is typically not considered an issue where structures predate the trees and/or vegetation growing within influencing distance.
- 3.3.4 Specific advice in relation to this issue is beyond the scope of this report.

3.4 Site Impacts on Root Protection Areas (RPAs)

- 3.4.1 Root protection areas (RPAs) are defined by BS5837:2012 as “*a design tool to indicate the minimum area around a tree deemed to contain sufficient rooting volume to maintain a tree’s viability, where the protection of roots and soil structure within the notional area are treated as a priority*”.
- 3.4.2 Rooting environment conditions in proximity to building foundations, heavily engineered surfaces and similar developments within the built environment are likely to hinder normal root development and distribution directly and indirectly through the alteration of soil properties.
- 3.4.3 These limiting factors for root growth within soil are summarised by Crow (2005) as: mechanical resistance, aeration, fertility and moisture. These factors are likely to be affected not only by human intervention, but also by the innate properties of the soil itself.
- 3.4.4 BS5837:2012 identifies that roots typically develop within the top 600mm of the soil horizon. This is considered to be where the majority of organic material, soil moisture, aeration and lower soil bulk densities (lower mechanical resistance) are present.
- 3.4.5 Tree roots may only grow where conditions allow. Therefore, the depth of rooting on Site may be greater than 600mm where conditions allow; conditions may also be present which limit or prevent rooting to this depth.
- 3.4.6 Tree roots typically taper rapidly after approximately 2-3m from the bases of trees (Dobson 1995). This is termed the ‘zone of rapid taper’.
- 3.4.7 Root systems with a greater depth of potential rooting environment will have a higher potential rooting volume than an equivalent tree subject to shallower rooting conditions. Therefore, the potential maximum rooting depth defines the potential volume of the root zone. The shallower the root zone, the more likely extended lateral rooting is required to achieve a similar root system volume to maintain a tree’s ‘viability’. The total volume of the root zone may also be influenced by species-specific root architecture.
- 3.4.8 It is not considered feasible to accurately predict the distribution and volume of an individual tree’s root system based on a visual assessment alone. It is considered highly unlikely that a tree’s root-system will form a perfect notional circle. Roots will develop where conditions allow, opportunistically, in preference to less favourable areas.
- 3.4.9 The RPA for each individual tree feature has been provided as per BS5837:2012, as shown on the Tree Constraints and Protection Plans. No RPAs have been offset at this time.

4 The Trees

4.1 Overview

- 4.1.1 In total, 40 tree features were identified during the survey, formed of 33 individual trees, five tree groups and two hedgerows.

4.1.2 The distribution of trees as per their BS5837:2012 non-fiscal quality is shown in the graph below.

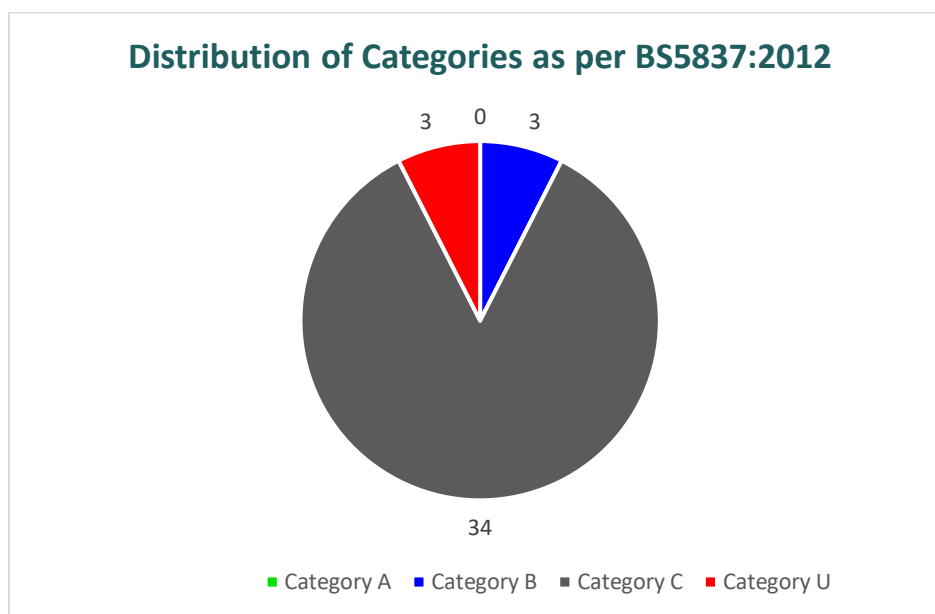


Figure 6. Distribution of categories as per BS5837:2012.

4.1.3 Species and genera identified on Site are provided in the table below.

| Common Name (<i>Scientific Name</i>) |
|--|
| balsam poplar (<i>Populus balsamifera</i>) |
| blackthorn (<i>Prunus spinosa</i>) |
| buddleia (<i>Buddleia sp.</i>) |
| cherry laurel (<i>Prunus laurocerasus</i>) |
| cherry plum (<i>Prunus cerasifera</i>) |
| common ash (<i>Fraxinus excelsior</i>) |
| common beech (<i>Fagus sylvatica</i>) |
| common hawthorn (<i>Crataegus monogyna</i>) |
| common holly (<i>Ilex aquifolium</i>) |
| crack willow (<i>Salix fragilis</i>) |
| damson (<i>Prunus domestica</i>) |
| goat willow (<i>Salix caprea</i>) |
| grey alder (<i>Alnus incana</i>) |
| hazel (<i>Corylus avellana</i>) |
| hornbeam (<i>Carpinus betulus</i>) |
| horse chestnut (<i>Aesculus hippocastanum</i>) |
| mannan ash (<i>Fraxinus ornus</i>) |

| Common Name (<i>Scientific Name</i>) |
|--|
| New Zealand broadleaf (<i>Griselinia littoralis</i>) |
| pedunculate oak (<i>Quercus robur</i>) |
| sessile oak (<i>Quercus patraea</i>) |
| sycamore (<i>Acer pseudoplatanus</i>) |
| white willow (<i>Salix alba</i>) |
| wild cherry (<i>Prunus avium</i>) |

Table 1. Tree genus and species identified on Site.

4.1.4 Trees on Site are identified as predominantly within the age ranges of young to semi mature. Age range distribution is shown within the figure below.

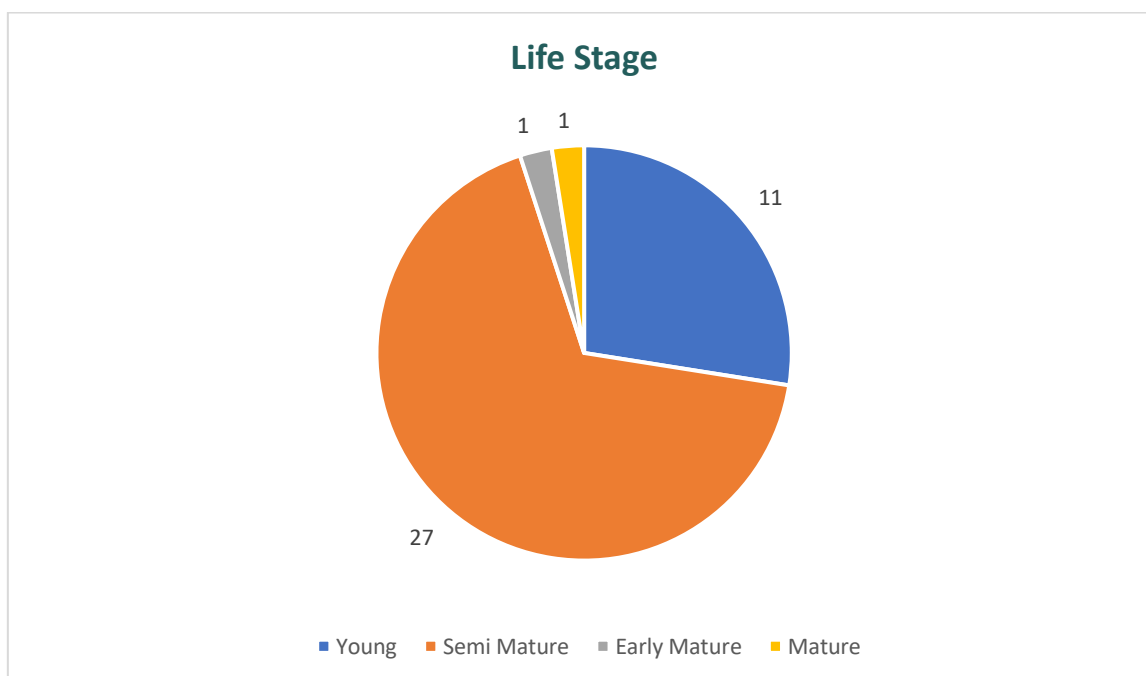


Figure 7. Age range distribution of trees on and adjacent to the Site.

- 4.1.5 The Site is likely to increase significantly in canopy cover in the future, considering the age, species and management of trees at present.
- 4.1.6 Most notably, the balsam poplars to the south and east of the Site are likely to significantly increase in size both vertically and horizontally, with a potential future vertical height development of around 28m.
- 4.1.7 These poplars are considered to have been planted around 12 years ago, as demonstrated by publicly available Google Street photography shown in the figures below. These figures demonstrate the trees' significant growth rate. Subsequently, despite the current stem diameter and heights of these trees, these features have been assigned low quality (category C) due to their replicability with like for like planting within a short timeframe (considered less than ten years).



Figure 8. Google Street View 2008, no poplars present.



Figure 9. Google Street View winter 2010, likely feathered or standard poplars newly planted.



Figure 10. Google Street View young poplars in summer of 2010.



Figure 11. Google Street View, poplars in 2021.

4.2 Third Party Trees

- 4.2.1 Trees identified immediately adjacent to the Site boundary are highly likely to be owned by a third party. This likely applies to trees to the north and east of the Site and includes: G030, T031, H032, T033, G034, T035, T036, T037 and H038.
- 4.2.2 Works to third party trees, subject to planning permission or a tree works application to the local planning authority, may only be undertaken as established under common law. The person(s) undertaking the works have a legal duty of care to take reasonable care, and may be liable if the trees are damaged or become unstable. All arisings must be offered back to the tree owner prior to disposal.
- 4.2.3 Third party trees may not be removed to facilitate any development unless explicitly agreed (preferably in writing) by the tree owner prior to the submission for planning consent. On this basis, it is the default position that all third-party trees are to be retained and protected.

4.3 Tree Condition Overview

- 4.3.1 Trees on Site are identified predominantly in a good structural and good physiological condition.
- 4.3.2 Full details of tree condition including any work recommendations can be found in the Tree Survey Schedule included as Appendix A.

5 Arboricultural Impact Assessment

5.1 Proposed Development

- 5.1.1 The proposal is for the “*development of a glamping Site with associated infrastructure including hard standing, structures and utilities*” (the ‘Proposed Development’) as shown on the Tree Protection Plan (included as Appendix D).

5.2 Summary of Impacts

- 5.2.1 A summary of identified impacts to existing trees to facilitate the Proposed Development are given below.

| Impacts | Categorisation as per BS5837:2012 | | | |
|----------------------------|-----------------------------------|-------------------------------|---|---------------------------------------|
| | Category A / High Quality | Category B / Moderate Quality | Category C / Low Quality | Category U / Unsuitable for Retention |
| Tree Removals | NA | 0 | T001, T002, T004, T005, G016 (part) and T040. | T003. |
| Total | NA | 0 | 5 Individual Trees and Part of One Tree Group. | One Individual Tree. |
| Facilitation Pruning | NA | 0 | G039. | 0 |
| Total | NA | 0 | One Tree Group. | 0 |
| Development within RPAs | NA | 0 | 0 | 0 |
| Total | NA | 0 | 0 | 0 |
| RPA or Crown Spread Access | NA | 0 | 0 | 0 |
| Total | NA | 0 | 0 | 0 |

Table 2. Summary of Impacts.

5.3 Tree Removals to Facilitate the Proposed Development

- 5.3.1 No category A or B trees are required for removal to facilitate the Proposed Development.
- 5.3.2 5 individual trees (T001, T002, T004, T005 and T040) and part of one tree group (G016) of low quality (category C) and one tree identified as unsuitable for retention (T003) in the context of the current land use (category U) are considered necessary for removal to prevent significant direct and indirect conflicts with the proposed future land use.
- 5.3.3 These trees are predominantly balsam poplars (*Populus balsamifera*), a species typically planted as windbreaks and shelterbelts for farmland due to their significant growth rate. These trees, established predominantly to the south of the Site, are likely to cast significant shade, as shown by the current and future shading arcs on the Tree Constraints Plan (Appendix C). The extent of shade cast by the trees is likely to reduce the ability to under and enrichment plant. This limits the ability to establish a variety of tree species to increase the Site's biodiversity and sustainability, whilst contributing to landscape character, amenity and conservation.
- 5.3.4 Further, balsam poplars are likely to establish a high crown/canopy line in maturity, providing limited screening at ground level in the future.
- 5.3.5 It is considered that by the removal of a selection of these boundary poplars, a high-quality tree planting programme may be undertaken, as shown on the Outline Tree Planting Plan (Appendix E).

| Impact | Categorisation as per BS5837:2012 | | | |
|--------------------------------|-----------------------------------|-------------------------------|--|---------------------------------------|
| | Category A / High Quality | Category B / Moderate Quality | Category C / Low Quality | Category U / Unsuitable for Retention |
| Removals | NA | 0 | 5 Individual Trees and Part of One Tree Group. | One Individual Tree. |
| Total % of Categories Retained | NA | 100% | 84% | 67% |
| Total % of Categories Removed | NA | 0% | 16% | 33% |

Table 3. Summary of tree removals to facilitate the Proposed Development.

5.4 Assessment on Amenity of Tree Removals

- 5.4.1 The proposed removal of 5 individual trees (T001, T002, T004, T005 and T040) and part of one tree group (G016) of low quality (category C) and one tree identified as unsuitable for retention (T003) will have an initial significant negative impact on local amenity and landscape character.
- 5.4.2 However, the proposed new tree planting is considered to have a significant future potential and will likely contribute highly to landscape character. Where established, the proposed new tree planting will in future likely provide greater contribution to landscape character and amenity.

5.5 Development within RPAs

- 5.5.1 No RPA incursion of retained trees are required to facilitate the Proposed Development.

| Impact | Categorisation as per BS5837:2012 | | | |
|-------------------------|-----------------------------------|-------------------------------|--------------------------|---------------------------------------|
| | Category A / High Quality | Category B / Moderate Quality | Category C / Low Quality | Category U / Unsuitable for Retention |
| Development within RPAs | NA | 0 | 0 | 0 |
| Total | NA | 0 | 0 | 0 |

Table 4. Summary of development RPA incursions.

5.6 Access Facilitation Pruning

- 5.6.1 Contact wounding to stem and branch structures of retained trees is likely to lead to structural instability, a reduction in vitality and a potential ingress for pests and pathogens, including wood decay fungi. This is likely to result in premature limb failure and may lead to premature tree loss.
- 5.6.2 One tree group of low quality (G039) requires pruning back from the Proposed Development to provide construction facilitation access and to create a framework for future canopy maintenance. It is recommended that G039 is managed as a hedgerow with cyclical pruning. These pruning works are likely to improve the canopy density of G039, providing screening of the highway from the proposed reception area whilst contributing to wildlife habitat and forage.
- 5.6.3 All pruning will be undertaken in accordance with *BS 3998: 2010 Tree Work – Recommendations*. Pruning points will be made back to the nearest branch or branch collar

with wounds not exceeding 50mm in diameter. Where required, trees will be lain, as per traditional hedgerow management techniques. Enrichment planting will be undertaken as required to improve the stand density.

| Impact | Categorisation as per BS5837:2012 | | | |
|----------------------|-----------------------------------|-------------------------------|--------------------------|---------------------------------------|
| | Category A / High Quality | Category B / Moderate Quality | Category C / Low Quality | Category U / Unsuitable for Retention |
| Facilitation Pruning | NA | 0 | G039 | 0 |
| Total | NA | 0 | One Tree Group. | 0 |

Table 5. Summary of facilitation pruning.

5.7 RPA or Crown-Spread Access

- 5.7.1 No RPA or crown spread access is required to facilitate the Proposed Development.
- 5.7.2 Plant and personnel access within RPAs is highly likely to significantly compact soils, causing a significant increase in soil bulk density, a reduction in the normal exchange of gases (causing anaerobic soil conditions) and a negative impact on soil water availability. This impact is highly likely to lead to premature tree loss. This impact may take many years to show symptoms prior to rapid tree loss. Typically, soils subject to compaction impacts will not recover without intervention.
- 5.7.3 Construction access, materials storage and/or similar activities will be excluded from the RPAs of retained trees. Where required, access within RPAs will utilise appropriate ground protection (outlined in Appendix F).
- 5.7.4 Where plant is operating in proximity to retained trees, a banksman will be required.

| Impact | Categorisation as per BS5837:2012 | | | |
|----------------------------|-----------------------------------|-------------------------------|--------------------------|---------------------------------------|
| | Category A / High Quality | Category B / Moderate Quality | Category C / Low Quality | Category U / Unsuitable for Retention |
| RPA or Crown Spread Access | NA | 0 | 0 | 0 |
| Total | NA | 0 | 0 | 0 |

Table 6. Summary of construction access within RPAs.

5.8 Installation of Utilities

- 5.8.1 No utilities are identified within the RPAs of retained trees at present.
- 5.8.2 An indicative services run is shown on the Tree Protection Plan.

5.9 Soft landscaping

- 5.9.1 No soft landscaping works are proposed within the RPAs of retained trees.

6 Future Impact of Retained Trees on the Proposed Development

- 6.1.1 The future impact of retained trees on the Proposed Development and the surrounding land has been fully considered.

6.2 Future Growth

- 6.2.1 The impact of future growth has been assessed in relation to future growth potentials published by the NHBC (2022).
- 6.2.2 Removal of boundary poplar trees to the south of the Site is recommended due to likely conflicts with the proposed future land use.

6.3 Shade

- 6.3.1 Shade is not considered a significant negative impact to development. In the context of future climate forecasts, the effect of shade by trees to structures and living spaces is considered a positive, enhancing environment habitat.

6.4 Leaf and Fruit-fall

- 6.4.1 No crowns or canopies are likely to overhang structures meaning any potential nuisance caused by detritus (such as by winged seeds and leaves) is unlikely.

6.5 Future Land Use and Tree Management

- 6.5.1 The future land use has been fully considered in relation to the retained trees on and immediately adjacent to the Site. Tree management is not considered to be a significant constraint to developing the Site.
- 6.5.2 The real risk from trees is extremely low. The Centre for Decision Analysis and Risk Management (DARM) has identified the risk to the public from falling trees as one in 10 million per annum chance of an individual being killed by a falling tree (or part of a tree) per year. This figure is defined by the HSE as “*broadly acceptable*”.
- 6.5.3 Despite this extremely low risk, landowners are required to act as prudent and reasonable to ensure that where reasonably foreseeable, trees which pose unacceptable risks are identified. Landowners must identify trees which pose the greatest risk and implement reasonable controls to keep the risk as low as is reasonably practicable, without diminishing the inherent benefits of trees.
- 6.5.4 The requirement is defined in an HSE SIM (2007) which highlights that “*Doing all that is reasonably practicably does not mean that all trees have to be individually examined on a regular basis. A decision has to be taken on what is reasonable in the circumstances and this will include consideration of the risks to which people may be exposed.*”
- 6.5.5 Considering the proposed future land use of the Site, the tree population on and immediately adjacent to the Site and the likely Site occupancy, formal inspections of the trees are likely to be sufficient.
- 6.5.6 Formal inspections are those undertaken with the specific purpose of inspecting the trees. Where a tree’s health or structural condition is in decline, this will trigger a further inspection and/or the implementation of works where suitable.
- 6.5.7 During the construction cycle, all staff operating on the Site are to be made aware of the need to look out for obvious signs of tree defects and to report them.

7 New Tree Planting

7.1 Aims

- 7.1.1 The aims for the new tree planting are to provide screening of the glamping Site, contribute to local and wider landscape character, and to contribute to the provision of forage and habitat for wildlife.

7.2 Site Assessment

- 7.2.1 The Site soil type is considered to be a shallow basic brown earth, with a cemented horizon at 400mm. Prior to any tree planting, it is recommended that the cemented horizon is broken to facilitate rooting to greater depths.
- 7.2.2 The Site has no dominant aspect and no significant slopes.
- 7.2.3 Species selection has been undertaken with reference to the Ecological Site Classification (included as Appendix G), with climate models set to “*Medium-High 2080 (A1b/3q0) AWC method*”, as a means for long-term prediction of Site performance against future climate forecasts of the proposed tree planting.

7.3 New Tree Planting Proposal

- 7.3.1 An outline tree planting plan for the glamping site grounds is provided as Appendix E.
- 7.3.2 Sizes are identified as per *British Standard - Nursery stock — Part 1: Specification for trees and shrubs (BS 3936-1:1992)*.
- 7.3.3 Plant procurement, planting and aftercare is to be undertaken as per *British Standard Trees: from nursery to independence in the landscape –Recommendations (BS8545:2014)*.
- 7.3.4 Standard trees are to be of a minimum size of whips.
- 7.3.5 Hedgerow plants to be formed of seedlings.

7.4 Planting

- 7.4.1 Planting areas will be excluded from construction activities during the construction cycle to prevent ground compaction, as shown on the Tree Protection Plan.
- 7.4.2 Planting will be undertaken during plant dormancy and will avoid any periods of significant frost. Upon delivery, plants will be inspected for quality against the specification. Roots will be wetted and protected from exposure until planted (preferably on the day of the delivery).
- 7.4.3 Prior to planting, the cemented hardpan will be broken.
- 7.4.4 Trees will be planted to the correct depth, at the stem/root transition, taking care not to bury the stem.
- 7.4.5 New trees will be planted within spiral guards as protection from small mammal grazing.
- 7.4.6 A 100mm layer of bark mulch will be applied at standard tree bases to the drip-line, taking care not to pile mulch on tree stems.

7.5 Post Planting Maintenance

- 7.5.1 Vigorous growth of the field layer will be managed by hand-tool removal in the growing season at tree bases twice per year.

- 7.5.2 During any period of drought from the date of planting to establishment (likely up to three years post planting), plants will be watered where required.
- 7.5.3 Plants will be inspected in summer for performance; dead young trees will be replaced. Where plant death exceeds 10%, species choice and planting methodology will be reviewed. Dead trees will be replaced where death occurs prior to establishment.
- 7.5.4 Spiral guards will be collected and removed where redundant.

8 Feasibility Conclusion

- 8.1.1 The Proposed Development is considered feasible in relation to the existing trees on Site. The Proposed Development has been designed to reduce impacts to retained trees of significant value, to reduce the future impacts of existing trees on the proposals and to create harmony between the development trees.
- 8.1.2 No category A or B trees are required for removal to facilitate the Proposed Development.
- 8.1.3 5 individual trees (T001, T002, T004, T005 and T040) and part of one tree group (G016) of low quality (category C), and one tree identified as unsuitable for retention (T003) in the context of the current land use (category U) are considered necessary for removal to prevent significant direct and indirect conflicts with the proposed future land use.
- 8.1.4 New tree planting is recommended to mitigate proposed tree removals. New tree planting will increase biodiversity whilst contributing to Site and wider landscape character.

8.2 Tree Protection

- 8.2.1 All retained trees on Site will require adequate protection to ensure that no damage, both direct and indirect, occurs during the development cycle. Areas for tree protection are identified on the Tree Protection Plan.
- 8.2.2 Tree Protection Fencing will require installation prior to the commencement of Site works.

8.3 Issues to be Addressed by an Arboricultural Method Statement

- 8.3.1 Arboricultural Method Statements detail the methodology for the implementation of any aspect of development that is within a root protection area or has the potential to result in loss of or damage to a retained tree. As per Section 5.4.3 (h) of BS5837:2012, the following issues may be addressed by an Arboricultural Method Statement:
- Tree Protection Fencing and installation;
 - Organisation of Site huts, parking, plant, people and materials.

9 References

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British Standard Trees: from nursery to independence in the landscape – Recommendations (BS8545:2014).

The British Standards Institution (BSI). (2012). Trees in relation to design, demolition and construction -Recommendations (BS5837:2012).

Appendix A Tree Survey Schedule

| Ref. | Common Name | Scientific Name | Height (m) | Ult. Height (m) | Stem Diam (mm) | Multiple Stem diam (mm) | RPA | Crown Spread | | | | Crown Clearance (m) | Lowest Branch (m) | Lowest Branch Dir | Life Stage | Phys Cond | Struct Cond | General Observations | Rem. Contrib. | Retention Category | Preliminary Management Recommendations | Retained (RET) / Removed (REM) for the Development | Impact |
|------|---------------|----------------------------|------------|-----------------|----------------|-------------------------|--|--------------|------|-------|------|---------------------|-------------------|-------------------|-------------|-----------|-------------|--|---------------|--------------------|--|--|---|
| | | | | | | | | North | East | South | West | | | | | | | | | | | | |
| T001 | Balsam Poplar | <i>Populus balsamifera</i> | 13 | 28 | 420 | - | Radius: 5.0m. Area: 79 sq m. | 4 | 4 | 4 | 4 | 0.5 | 1 | E | Semi Mature | Good | Fair | Locally dominant within low quality group. Stem apices with leaning sweep northeast, likely due to prevailing wind from southwest. | 10+ Years | C1,2 | - | REM | Future conflict with proposed land use. |
| T002 | Balsam Poplar | <i>Populus balsamifera</i> | 12 | 28 | 400 | - | Radius: 4.8m. Area: 72 sq m. | 4 | 4 | 4 | 2 | 1 | 1 | N | Semi Mature | Good | Good | Locally dominant. Dense epicormic growth from circa 1m to 2m, unknown cause. Leaf density and branching pattern normal. | 10+ Years | C1,2 | - | REM | Future conflict with proposed land use. |
| T003 | Balsam Poplar | <i>Populus balsamifera</i> | 11 | 28 | | 260, 310 | None - due to Retention Category of U. | 4 | 4 | 3 | 2 | 0.5 | 1 | S | Semi Mature | Good | Poor | Codominant from ground level, acute angle, upright form, highly likely to form significant bark inclusion in future. Species propensity to form weak unions. | <10 years | U | Fell tree (when funds allow). | REM | Future conflict with proposed land use. |
| T004 | Balsam Poplar | <i>Populus balsamifera</i> | 12 | 28 | 380 | - | Radius: 4.6m. Area: 66 sq m. | 4 | 4 | 4 | 4 | 1 | 1 | W | Semi Mature | Good | Good | Locally dominant. High future potential as a significant tree. | 10+ Years | C1,2 | - | REM | Future conflict with proposed land use. |
| T005 | Balsam Poplar | <i>Populus balsamifera</i> | 12 | 28 | 410 | - | Radius: 4.9m. Area: 75 sq m. | 4 | 4 | 4 | 4 | 1 | 2 | W | Semi Mature | Good | Good | Locally dominant. Significant future potential. | 10+ Years | C1,2 | - | REM | Future conflict with proposed land use. |
| T006 | Balsam Poplar | <i>Populus balsamifera</i> | 12 | 28 | 360 | - | Radius: 4.3m. Area: 58 sq m. | 4 | 4 | 4 | 4 | 1.5 | 1.5 | S | Semi Mature | Good | Good | Locally dominant. Significant future potential. | 10+ Years | C1,2 | - | RET | - |
| T007 | Balsam Poplar | <i>Populus balsamifera</i> | 12 | 28 | 350 | - | Radius: 4.2m. Area: 55 sq m. | 4 | 4 | 4 | 4 | 1 | 2 | E | Semi Mature | Good | Fair | Significant future potential. Multiple apical leaders. Potential to form high aspect ratio limbs and/or codominant | 10+ Years | C1,2 | - | RET | - |

| Ref. | Common Name | Scientific Name | Height (m) | Ult. Height (m) | Stem Diam (mm) | Multiple Stem diam (mm) | RPA | Crown Spread | | | | Crown Clearance (m) | Lowest Branch (m) | Lowest Branch Dir | Life Stage | Phys Cond | Struct Cond | General Observations | Rem. Contrib. | Retention Category | Preliminary Management Recommendations | Retained (RET) / Removed (REM) for the Development | Impact |
|------|---------------|----------------------------|------------|-----------------|----------------|-------------------------|------------------------------|--------------|------|-------|------|---------------------|-------------------|-------------------|-------------|-----------|-----------------------|--|---------------|--------------------|--|--|--------|
| | | | | | | | | North | East | South | West | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | included bark unions. | | | | | | |
| T008 | Balsam Poplar | <i>Populus balsamifera</i> | 12 | 28 | 420 | - | Radius: 5.0m. Area: 79 sq m. | 4 | 4 | 4 | 4 | 0.5 | 1 | S | Semi Mature | Good | Fair | Significant future potential. Multiple apical leaders. Potential to form high aspect ratio limbs and/or codominant included bark unions. | 10+ Years | C1,2 | - | RET | - |
| T009 | Balsam Poplar | <i>Populus balsamifera</i> | 15 | 28 | 370 | - | Radius: 4.4m. Area: 61 sq m. | 4 | 4 | 4 | 4 | 1 | 2 | N | Semi Mature | Good | Fair | Significant future potential. Multiple apical leaders. Potential to form high aspect ratio limbs and/or codominant included bark unions. | 10+ Years | C1,2 | - | RET | - |
| T010 | Balsam Poplar | <i>Populus balsamifera</i> | 14 | 28 | 350 | - | Radius: 4.2m. Area: 55 sq m. | 4 | 4 | 4 | 4 | 0.5 | 1 | E | Semi Mature | Good | Good | Significant future potential. Multiple apical leaders. Potential to form high aspect ratio limbs and/or codominant included bark unions. | 10+ Years | C1,2 | - | RET | - |
| T011 | Balsam Poplar | <i>Populus balsamifera</i> | 13 | 28 | 350 | - | Radius: 4.2m. Area: 55 sq m. | 4 | 4 | 4 | 4 | 1 | 2 | E | Semi Mature | Good | Fair | Significant future potential. Multiple apical leaders. Potential to form high aspect ratio limbs and/or codominant included bark unions. | 10+ Years | C1,2 | - | RET | - |
| T012 | Balsam Poplar | <i>Populus balsamifera</i> | 12 | 28 | 420 | - | Radius: 5.0m. Area: 79 sq m. | 4 | 4 | 3 | 3 | 0.5 | 1 | N | Semi Mature | Good | Fair | Significant future potential. Multiple apical leaders. Potential to form high aspect ratio limbs and/or codominant included bark unions. | 10+ Years | C1,2 | - | RET | - |

| Ref. | Common Name | Scientific Name | Height (m) | Ult. Height (m) | Stem Diam (mm) | Multiple Stem diam (mm) | RPA | Crown Spread | | | | Crown Clearance (m) | Lowest Branch (m) | Lowest Branch Dir | Life Stage | Phys Cond | Struct Cond | General Observations | Rem. Contrib. | Retention Category | Preliminary Management Recommendations | Retained (RET) / Removed (REM) for the Development | Impact |
|------|--|--|------------|-----------------|----------------|-------------------------|------------------------------|--------------------|------|-------|------|---------------------|-------------------|-------------------|-------------|-----------|-------------|--|---------------|--------------------|--|--|---------------|
| | | | | | | | | North | East | South | West | | | | | | | | | | | | |
| T013 | Horse Chestnut | <i>Aesculus hippocastanum</i> | 4 | 20 | - | 50, 50, 50 | Radius: 1.0m. Area: 3 sq m. | 2 | 2 | 2 | 2 | 1 | 0.5 | W | Young | Good | Fair | Mass of second order stems from circa 500mm. Leaf minor present, typical of species. | 10+ Years | C2 | Select one stem for retention, formative prune (when funds allow). | RET | - |
| T014 | Balsam Poplar | <i>Populus balsamifera</i> | 8 | 28 | 180 | - | Radius: 2.2m. Area: 15 sq m. | 3 | 3 | 3 | 3 | 2 | 1.5 | W | Semi Mature | Good | Good | Significant future potential. Considered replaceable within a short time-frame. | 10+ Years | C1,2 | - | RET | - |
| T015 | Horse Chestnut | <i>Aesculus hippocastanum</i> | 5 | 20 | 150 | - | Radius: 1.8m. Area: 10 sq m. | 4 | 4 | 4 | 1 | 0.5 | 1.5 | N | Young | Good | Fair | Sub dominant to poplar west. | 10+ Years | C1,2 | - | RET | - |
| G016 | Goat Willow, Balsam Poplar, Crack Willow | <i>Salix caprea</i> , <i>Populus balsamifera</i> , <i>Salix fragilis</i> | 10 | 28 | <200 | - | As shown on plans. | As shown on plans. | | | | 0.5 | - | - | Semi Mature | Good | Fair | Understory to dominant trees. Dominant young poplar, occasional willow. Both species with poor shade tolerance. Likely suppressed. | 10+ Years | C2 | - | Part RET / Part REM | Part removal. |
| T017 | Crack Willow | <i>Salix fragilis</i> | 4 | 24 | 50# | - | Radius: 0.6m. Area: 1 sq m. | 0.5 | 0.5 | 0.5 | 0.5 | 1.5 | - | E | Young | Good | Good | No access, within dense field layer. Likely self-set. | 10+ Years | C2 | - | RET | - |
| T018 | Balsam Poplar | <i>Populus balsamifera</i> | 8 | 28 | 170 | - | Radius: 2.0m. Area: 13 sq m. | 3 | 3 | 3 | 3 | 1 | 1.5 | W | Semi Mature | Good | Good | At Site boundary east. Significant future potential. Considered replaceable within a short time-frame. | 10+ Years | C1,2 | - | RET | - |
| T019 | Balsam Poplar | <i>Populus balsamifera</i> | 6 | 28 | 80 | - | Radius: 1.0m. Area: 3 sq m. | 1 | 1 | 1 | 1 | 0.5 | 0.5 | W | Young | Good | Good | Established at Site boundary. Significant future potential. | 10+ Years | C1,2 | - | RET | - |
| T020 | White Willow | <i>Salix alba</i> | 6 | 24 | 100 | - | Radius: 1.2m. Area: 5 sq m. | 2 | 2 | 2 | 2 | 0.5 | 0.5 | N | Young | Good | Good | Established at Site boundary. | 10+ Years | C2 | - | RET | - |
| T021 | Sycamore | <i>Acer pseudoplatanus</i> | 5.5 | 22 | 80 | - | Radius: 1.0m. Area: 3 sq m. | 1 | 1 | 1 | 1 | 1 | 1 | W | Young | Good | Good | Established at Site boundary. Likely self-sown. | 10+ Years | C1,2 | - | RET | - |

| Ref. | Common Name | Scientific Name | Height (m) | Ult. Height (m) | Stem Diam (mm) | Multiple Stem diam (mm) | RPA | Crown Spread | | | | Crown Clearance (m) | Lowest Branch (m) | Lowest Branch Dir | Life Stage | Phys Cond | Struct Cond | General Observations | Rem. Contrib. | Retention Category | Preliminary Management Recommendations | Retained (RET) / Removed (REM) for the Development | Impact |
|------|---------------|----------------------------|------------|-----------------|----------------|-------------------------|--|--------------------|------|-------|------|---------------------|-------------------|-------------------|-------------|-----------|-------------|--|---------------|--------------------|--|--|--------|
| | | | | | | | | North | East | South | West | | | | | | | | | | | | |
| T022 | Balsam Poplar | <i>Populus balsamifera</i> | 9 | 28 | 190 | - | Radius: 2.3m. Area: 17 sq m. | 3 | 3 | 3 | 3 | 2 | 2 | W | Semi Mature | Good | Fair | Significant future potential. Multiple apical leaders. Potential to form high aspect ratio limbs and/or codominant included bark unions. Canker visible on main stem at circa 4m west. Considered minor. | 10+ Years | C1,2 | - | RET | - |
| T023 | Balsam Poplar | <i>Populus balsamifera</i> | 10 | 28 | 250 | - | Radius: 3.0m. Area: 28 sq m. | 3 | 3 | 3 | 3 | 1.5 | 1 | W | Semi Mature | Good | Good | Established at Site boundary. Significant future potential. Multiple apical leaders. Potential to form high aspect ratio limbs and/or codominant included bark unions. Minor cankering to main stem visible. | 10+ Years | C1,2 | - | RET | - |
| G024 | Grey Alder | <i>Alnus incana</i> | 6 | 18 | <90 | - | None - due to Retention Category of U. | As Shown on plans. | | | | - | - | - | Young | Good | Poor | Mass of suckering establishing on Site from third party tree east. | <10 years | U | Fell tree (when funds allow). | RET | - |
| T025 | White Willow | <i>Salix alba</i> | 5 | 24 | 80 | - | None - due to Retention Category of U. | 1 | 0.5 | 2 | 2 | 0.5 | 0 | N | Young | Good | Fair | Established on Site boundary, growing with lean west, likely due to structural suppression. Likely to damage boundary fence through radial expansion. | <10 years | U | Fell tree (when funds allow). | RET | - |
| T026 | Balsam Poplar | <i>Populus balsamifera</i> | 16 | 28 | 250 | - | Radius: 3.0m. Area: 28 sq m. | 3 | 4 | 4 | 4 | 1 | 0.5 | S | Semi Mature | Good | Good | Established at Site boundary. Significant future potential. Stem in contact with boundary fence east. Species with significant | 10+ Years | C1,2 | - | RET | - |

| Ref. | Common Name | Scientific Name | Height (m) | Ult. Height (m) | Stem Diam (mm) | Multiple Stem diam (mm) | RPA | Crown Spread | | | | Crown Clearance (m) | Lowest Branch (m) | Lowest Branch Dir | Life Stage | Phys Cond | Struct Cond | General Observations | Rem. Contrib. | Retention Category | Preliminary Management Recommendations | Retained (RET) / Removed (REM) for the Development | Impact |
|------|---------------|----------------------------|------------|-----------------|----------------|-------------------------|------------------------------|--------------|------|-------|------|---------------------|-------------------|-------------------|-------------|-----------|--|---|---------------|--------------------|--|--|--------|
| | | | | | | | | North | East | South | West | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | growth rate. Considered replaceable within a short time frame. | | | | | | |
| T027 | Balsam Poplar | <i>Populus balsamifera</i> | 16 | 28 | 260 | - | Radius: 3.1m. Area: 30 sq m. | 3 | 3 | 3 | 3 | 1 | 0.5 | W | Semi Mature | Good | Good | Established at Site boundary. Significant future potential. Stem in contact with boundary fence east. Species with significant growth rate. Considered replaceable within a short time frame. | 10+ Years | C1,2 | - | RET | - |
| T028 | Balsam Poplar | <i>Populus balsamifera</i> | 16 | 28 | 330 | - | Radius: 4.0m. Area: 50 sq m. | 3 | 3 | 3 | 3 | 1 | 0.5 | W | Semi Mature | Good | Good | Established at Site boundary. Significant future potential. Stem in contact with boundary fence east. Species with significant growth rate. Considered replaceable within a short time frame. | 10+ Years | C1,2 | - | RET | - |
| T029 | Balsam Poplar | <i>Populus balsamifera</i> | 16 | 28 | 310 | - | Radius: 3.7m. Area: 43 sq m. | 3 | 3 | 3 | 3 | 1 | 0.5 | W | Semi Mature | Good | Good | Established at Site boundary. Significant future potential. Stem in contact with boundary fence east. Species with significant growth rate. Considered replaceable within a short time frame. | 10+ Years | C1,2 | - | RET | - |

| Ref. | Common Name | Scientific Name | Height (m) | Ult. Height (m) | Stem Diam (mm) | Multiple Stem diam (mm) | RPA | Crown Spread | | | | Crown Clearance (m) | Lowest Branch (m) | Lowest Branch Dir | Life Stage | Phys Cond | Struct Cond | General Observations | Rem. Contrib. | Retention Category | Preliminary Management Recommendations | Retained (RET) / Removed (REM) for the Development | Impact |
|------|--|---|------------|-----------------|----------------|-------------------------|------------------------------|--------------------|------|-------|------|---------------------|-------------------|-------------------|--------------|-----------|-------------|--|---------------|--------------------|--|--|--------|
| | | | | | | | | North | East | South | West | | | | | | | | | | | | |
| G030 | Buddleia, Grey Alder, Manna Ash, Common Hawthorn, Norway Maple, Wild Cherry, Sycamore, Goat Willow, Lilac, Hornbeam, Hazel | <i>Buddleia sp.</i> , <i>Alnus incana</i> , <i>Fraxinus ornus</i> , <i>Crataegus monogyna</i> , <i>Acer platanoides</i> , <i>Prunus avium</i> , <i>Acer pseudoplatanus</i> , <i>Salix caprea</i> , <i>Syringa sp.</i> , <i>Carpinus betulus</i> , <i>Corylus avellana</i> | 6 | 18 | <200# | - | As shown on plans. | As shown on plans. | | | | 0.5 | - | - | Semi Mature | Good | Good | Third party boundary group. Multiple ornamental species present. Good screening value to third party land. | 10+ Years | C1,2 | - | RET | - |
| T031 | Goat Willow | <i>Salix caprea</i> | 8 | 24 | - | 300, 290# | Radius: 5.0m. Area: 79 sq m. | 5 | 5 | 0.5 | 5 | 1 | 1.5 | NW | Early Mature | Good | Fair | Third party tree, no access. Established on Site boundary. Within cherry laurel hedgerow. | 20+ Years | B2 | - | RET | - |
| H032 | Laurel Cherry | <i>Prunus laurocerasus</i> | 2 | 8 | <80# | - | As shown on plans. | As shown on plans. | | | | 0 | - | - | Young | Good | Good | Third party laurel hedge, managed. | 10+ Years | C2 | - | RET | - |
| T033 | Cherry Plum | <i>Prunus cerasifera</i> | 7 | 10 | - | 100, 100, 100, 100# | Radius: 2.4m. Area: 18 sq m. | 4 | 4 | 4 | 5 | 0 | 1 | S | Semi Mature | Good | Fair | Third party tree. No access. Broad crown form, encroaches south into Site by circa 3m. Young apple at drip line west, structurally suppressed, leaning west | 10+ Years | C1,2 | - | RET | - |
| G034 | Damson, Common Hawthorn, Laurel Cherry, Lilac, Sessile Oak, Lawson Cypress, New Zealand Broadleaf | <i>Prunus domestica</i> , ssp. <i>insititia</i> <i>Crataegus monogyna</i> , <i>Prunus laurocerasus</i> , <i>Syringa sp.</i> , <i>Quercus petraea</i> , <i>Chamaecyparis lawsoniana</i> , <i>Griselinia littoralis</i> | 10 | 20 | <250# | - | As shown on plans. | As shown on plans. | | | | - | - | - | - | Good | Good | Oak likely sessile hybrid, petiole considered of length to justify sessile species. Boundary scrub with establishing trees. Unmanaged. No access. Likely of third party ownership. | 10+ Years | C1,2 | - | RET | - |
| T035 | Pedunculate Oak | <i>Quercus robur</i> | 6 | 20 | 250# | - | Radius: 3.0m. Area: 28 sq m. | 4 | 4 | 4 | 4 | 1 | 1 | S | Semi Mature | Good | Good | No access. Third party tree. Established within hedgerow, circa 1m immediately north of Site | 20+ Years | B2 | - | RET | - |

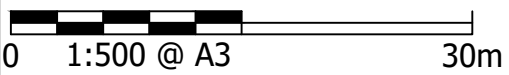
| Ref. | Common Name | Scientific Name | Height (m) | Ult. Height (m) | Stem Diam (mm) | Multiple Stem diam (mm) | RPA | Crown Spread | | | | Crown Clearance (m) | Lowest Branch (m) | Lowest Branch Dir | Life Stage | Phys Cond | Struct Cond | General Observations | Rem. Contrib. | Retention Category | Preliminary Management Recommendations | Retained (RET) / Removed (REM) for the Development | Impact |
|------|--|--|------------|-----------------|----------------|-------------------------|------------------------------|--------------------|------|-------|------|---------------------|-------------------|-------------------|-------------|-----------|---|--|---------------|--------------------|--|--|---|
| | | | | | | | | North | East | South | West | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | boundary. Significant future potential. | | | | | | |
| T036 | Pedunculate Oak | <i>Quercus robur</i> | 6 | 20 | 250# | - | Radius: 3.0m. Area: 28 sq m. | 4 | 4 | 4 | 4 | 1 | 1 | S | Semi Mature | Good | Good | No access. Third party tree. Established within hedgerow, circa 1m immediately north of Site boundary. Significant future potential. | 20+ Years | B2 | - | RET | - |
| T037 | Pedunculate Oak | <i>Quercus robur</i> | 5 | 20 | 170# | - | Radius: 2.0m. Area: 13 sq m. | 3 | 3 | 3 | 3 | 1 | 1 | S | Semi Mature | Good | Good | No access. Third party tree. Established within hedgerow, circa 1m immediately north of Site boundary. Significant future potential. | 10+ Years | C1,2 | - | RET | - |
| H038 | Common Hawthorn, Blackthorn | <i>Crataegus monogyna</i> , <i>Prunus spinosa</i> | 2 | 10 | <30# | - | As shown on plans. | As shown on plans. | | | | 0 | - | - | Young | Good | Good | Third party, young managed hedgerow. Clump of blackthorn west. Beginning to sucker into Site. | 10+ Years | C1,2 | - | RET | - |
| G039 | Balsam Poplar, Common Hawthorn, Crack Willow, Sycamore | <i>Populus balsamifera</i> , <i>Crataegus monogyna</i> , <i>Salix fragilis</i> , <i>Acer pseudoplatanus</i> | 8 | 28 | <200# | - | As shown on plans. | As shown on plans. | | | | 0 | - | - | Young | Good | Fair | Dense scrub forming screen. Potential to be laid, managed as hedgerow with standard trees throughout. | 10+ Years | C2 | - | RET | Prune to manage as hedgerow. Likely to require laying and enrichment planting of seedlings and whips. See Tree Planting Plan for details. |
| T040 | Balsam Poplar | <i>Populus balsamifera</i> | 8 | 28 | 160# | - | Radius: 1.9m. Area: 11 sq m. | 2 | 2 | 2 | 2 | 0.5 | 1 | W | Semi Mature | Good | Good | No access due to highway and understory scrub. High future potential. Considered replaceable within a short timeframe. | 10+ Years | C1,2 | - | REM | Future conflict with proposed land use. |

Appendix B Tree Survey Key

| Key | Description | |
|--|---|--|
| Tree No on plan | Identification number indicating individual tree (T), group (G), woodland (W) or hedge (H) on the plan. | |
| # | Indicates estimated dimensions for inaccessible trees, such as trees positioned outside of the site. | |
| Species | Species shown as common name first, followed by the scientific name. | |
| Ht | Height of tree, measured from ground level, given in metres (m). Recorded to the nearest half metre for dimensions up to 10m and the nearest whole metre over 10m. | |
| Crown Spread (M) | Crown spread of tree, measured from ground level, given in metres for cardinal points north, south, east and west. Rounded up to the nearest metre. | |
| Stem Dia @1.5m (mm) | Diameter of stem measured at 1.5m above ground level, given in milometers (mm), rounded to the nearest 10mm. | |
| RPA Radius (M) | Radius of root protection area, as defined by BS5837:2012 as twelve times the diameter of the stem(s) measured at 1.5m above ground level. | |
| RPA Circle Area (M²) | Area of the root protection circle, given as metres squared. | |
| Ht of lowest branch (m) & direction of growth | Height of lowest branch measured from ground level, given in metres and the direction of the branch given as a cardinal point (e.g. northeast). Recorded to the nearest half metre for dimensions up to 10m and the nearest whole metre over 10m. | |
| Life Stage | Young | Tree(s) in the young growth phase for the species. |
| | Semi-mature | Tree(s) in semi-mature growth phase for the species. |
| | Mature | Tree(s) at maturity for species. |
| | Over-Mature | Tree(s) at over-maturity for species. |
| | Ancient/Veteran | Tree(s) considered to be either Ancient or Veteran. |
| Estimated Remaining Contribution in Years | Estimation of the tree's remaining contribution given in years, as either less than 10 years (<10), at least 10 years (10+), at least 20 years (20+) and at least 40 years (40+). | |
| General Observation | Physiological (Phys) | Good – Of normal physiological health for the species. |
| | | Fair – Of identifiable physiological decline for the species from the considered normal. |
| | | Poor – Of identifiable significant decline from the physiological normal of the species, likely requires management works unless indicated. |
| | | Dead – Tree(s) dead. May still provide ecological value, such as standing deadwood or similar habitat. |
| | Structural (Struct) | Good - Of normal structural health for the species. |
| | | Fair – Of identifiable deviation from the normal structural formation from the expected species growth habit. |
| | | Poor – of identifiable significant deviation from the expected normal species structural condition. Likely requires management works unless indicated. |
| | | Dead - Tree(s) dead. May still provide ecological value, such as standing deadwood or similar habitat. |
| Preliminary Management Recommendations | Further works as identified by the Site survey, to be actioned as per the indicated timescale. | |
| Category of Retention | Category A - High Quality | |
| | Category B - Medium Quality | |

| Key | Description |
|---------------------|---|
| | Category C - Low Quality |
| | Category U - Unsuitable for retention (in the context of the current land use) |
| Sub Category | 1 - Mainly Arboricultural Qualities |
| | 2 - Mainly Landscape Qualities |
| | 3 - Mainly Cultural Values |

Appendix C Tree Constraints Plan



Boundary tree group with good provision of screening. Individuals of overall poor structural form, typical of dense groups, pioneer species etc. Group likely to provide greater value in the long term as rain-hedgerow, maintaining thick canopy for screening whilst contributing to habitat and forage provision.










Third party boundary tree groups with significant future growth potentials.

Balsam poplars at Site boundary. Based on previous publicly available aerial and ground imagery, poplars were planted around 12 years prior. Subsequently, despite the vertical and radial growth of the trees, a category downgrade has been applied due to the species fast growth rate and thereby the feasibility for replacement of the trees within a short time frame (< 10 years).

Tree Constraints Plan

Great Hatfield Glamping Site

Drawing Key

-  A category/high quality trees, groups or woodlands.
-  B category/moderate quality trees, groups or woodlands.
-  C category/low quality trees, groups or woodlands.
-  U category/low quality trees, groups or woodlands.
-  Root Protection Area (RPA) as defined by BS5837:2012
-  Approximate Shading Arc
-  Future Shading Arc (as defined by NHBC 2022)
-  Approximate ownership boundary (ref: 220624-01-02)
-  Approximate Site boundary (ref: 220624-01-02)

General Notes

- Tree Categorisation as per BS5837:2012.
- No topographical data is available. As such, trees must be considered as indicative only. It is recommended prior to commencement of Site works that all trees positions are verified.
- The original of this drawing was produced in colour. A monochrome copy should not be relied upon.
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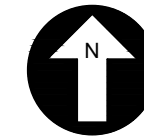
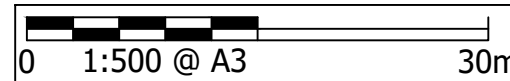
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| 01 | Issue | 14.07.2022 |
| No. | Revision/Issue | Date |

Longleaf
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Land East of Hull Road, Great Hatfield, Hull Road, Hull, HU11 4UY.










| | | | |
|---------|-------------------------|-------|--------------|
| Project | Great Hatfield Glamping | Sheet | 01/01 |
| Date | July 2022 | | |
| Scale | 1:500 @ A3 | | |



Tree Constraints Plan Development Overlay

Great Hatfield Glamping Site

Drawing Key

-  A category/high quality trees, groups or woodlands.
-  B category/moderate quality trees, groups or woodlands.
-  C category/low quality trees, groups or woodlands.
-  U category/low quality trees, groups or woodlands.
-  Root Protection Area (RPA) as defined by BS5837:2012
-  Approximate Shading Arc
-  Future Shading Arc (as defined by NHBC 2022)
-  Approximate ownership boundary (ref: 220624-01-02)
-  Approximate Site boundary (ref: 220624-01-02)

General Notes

- Tree Categorisation as per BS5837:2012.
- No topographical data is available. As such, trees must be considered as indicative only. It is recommended prior to commencement of Site works that all trees positions are verified.
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Land East of Hull Road, Great Hatfield, Hull Road, Hull, HU11 4UY.

| | | | |
|---------|-------------------------|-------|--------------|
| Project | Great Hatfield Glamping | Sheet | 01/01 |
| Date | July 2022 | | |
| Scale | 1:500 @ A3 | | |



Management of boundary group required to facilitate development. Potential for significant future growth of trees within group. Recommendation to manage as a hedgerow with standard trees planted within for screening.

Removal of T040 recommended to prevent future direct and indirect conflict with parking and reception area.

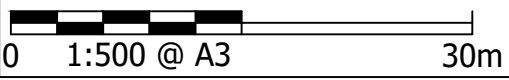
Removal of T002 and part of G016 likely to be required for pond installation.

Crown development over pond and decking area highly likely through future vertical and horizontal growth of poplar trees at boundary.

Potential for significant future shading of P2 glamping area as indicated.

Shade and detritus from boundary trees likely to be detrimental to pond environment. The removal of trees adjacent to the pond with the planting of a hedgerow is likely to be appropriate.









Appendix D Tree Protection Plan



Tree Protection Plan

Great Hatfield Glamping Site

Drawing Key

-  Root Protection Area (RPA) as defined by BS5837:2012
-  RPA Incursion - Development Works.
-  RPA Incursion - Construction Access.
-  Pruning Works.
-  Retained tree, group, and hedge: Construction Exclusion Zone (CEZ).
-  Removed category A, B or C tree feature.
-  Category U.
-  Tree Protection Fencing.

General Notes

- Tree Categorisation as per BS5837:2012.
- No topographical data is available. As such, trees must be considered as indicative only. It is recommended prior to commencement of Site works that all trees positions are verified.
- The original of this drawing was produced in colour. A monochrome copy should not be relied upon.
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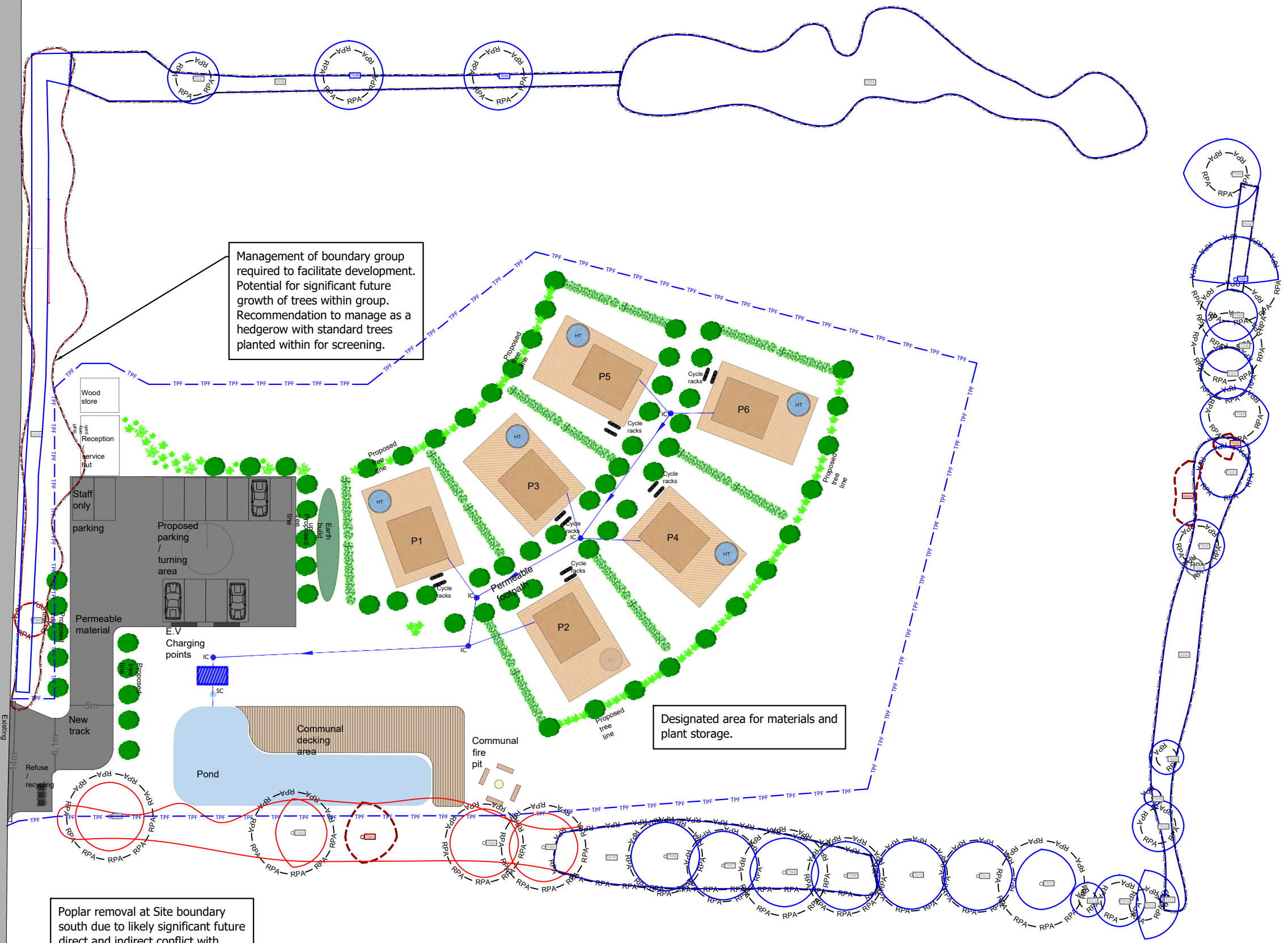
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|-----|--------------------------------------|------------|
| 01 | Issue | 29.07.2022 |
| No. | Revision/Issue | Date |

Longleaf
Tree and Woodland Consultancy

6a Mill Field Road, Cottingley Business Park, Bingley, West Yorkshire, BD16 1PY.

Land East of Hull Road, Great Hatfield, Hull Road, Hull, HU11 4UY.

| | | | |
|---------|-------------------------|-------|--------------|
| Project | Great Hatfield Glamping | Sheet | 01/01 |
| Date | July 2022 | | |
| Scale | 1:500 @ A3 | | |

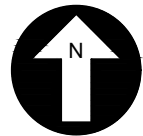
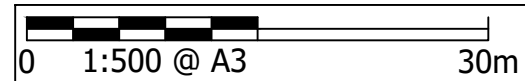


Management of boundary group required to facilitate development. Potential for significant future growth of trees within group. Recommendation to manage as a hedgerow with standard trees planted within for screening.

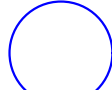


Designated area for materials and plant storage.

Poplar removal at Site boundary south due to likely significant future direct and indirect conflict with proposed land use. Furthermore, new tree planting is considered to significantly increase value to Site's landscape character and amenity, seasonal interest and conservation.

Appendix E Tree Planting Plan



Outline Tree Planting Plan
Great Hatfield Glamping Site
Drawing Key

-  Existing Tree or Tree Group.
-  Proposed New Tree.
-  Proposed Hedgerow.

General Notes

- Tree Categorisation as per BS5837:2012.
- No topographical data is available. As such, trees must be considered as indicative only. It is recommended prior to commencement of Site works that all tree positions are verified.
- The original of this drawing was produced in colour. A monochrome copy should not be relied upon.
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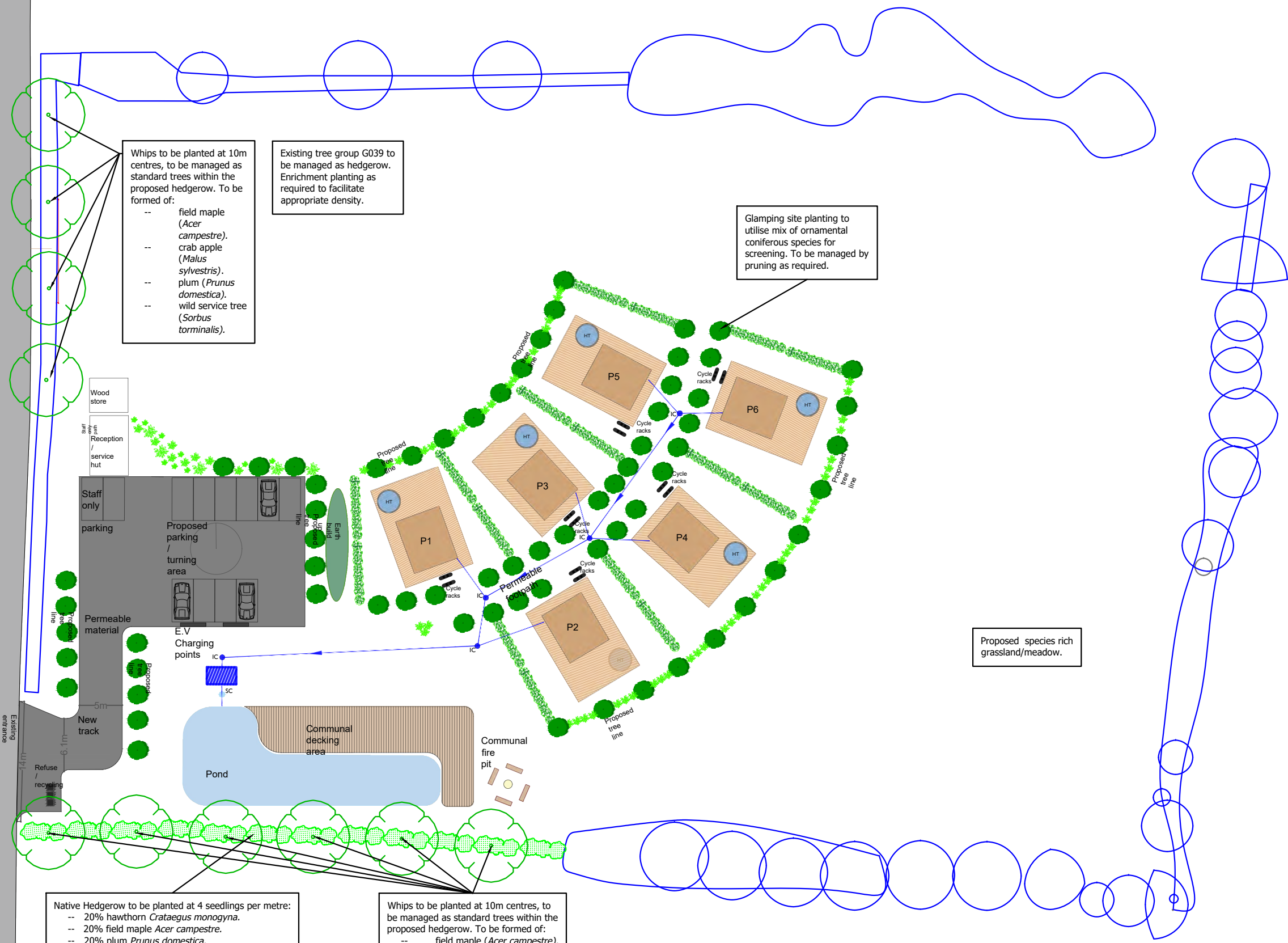
| 01 | Revision to tree removals/retention. | 14.08.2022 |
|-----|--------------------------------------|------------|
| 01 | Issue | 29.07.2022 |
| No. | Revision/Issue | Date |

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| | | | |
|---------|-------------------------|-------|--------------|
| Project | Great Hatfield Glamping | Sheet | 01/01 |
| Date | July 2022 | | |
| Scale | 1:500 @ A3 | | |



Whips to be planted at 10m centres, to be managed as standard trees within the proposed hedgerow. To be formed of:

- field maple (*Acer campestre*).
- crab apple (*Malus sylvestris*).
- plum (*Prunus domestica*).
- wild service tree (*Sorbus torminalis*).

Existing tree group G039 to be managed as hedgerow. Enrichment planting as required to facilitate appropriate density.

Glamping site planting to utilise mix of ornamental coniferous species for screening. To be managed by pruning as required.

Proposed species rich grassland/meadow.

Native Hedgerow to be planted at 4 seedlings per metre:

- 20% hawthorn *Crataegus monogyna*.
- 20% field maple *Acer campestre*.
- 20% plum *Prunus domestica*.
- 10% crab apple *Malus sylvestris*.
- 10% hazel *Corylus avellana*.
- 10% spindle *Euonymus europaeus*.
- 10% guelder rose *Viburnum opulus*.

Whips to be planted at 10m centres, to be managed as standard trees within the proposed hedgerow. To be formed of:

- field maple (*Acer campestre*).
- crab apple (*Malus sylvestris*).
- plum (*Prunus domestica*).
- wild service tree (*Sorbus torminalis*).

Appendix F Tree Protection (General)

Retained trees on Site form a constraint to development works. Where trees are retained, adequate protection must be maintained at all times, to avoid tree damage and premature tree death. Damage to retained trees may result in a breach of planning conditions, which may lead to works being halted, a fine of up to £20,000 in a Magistrates Court and an unlimited fine in a Crown Court. Consideration must therefore be made for the use of barriers and ground protection, detailed below. Locations for Tree Protection Fencing and ground protection are shown on the Tree Protection Plan.

F1 Barriers

Fit for purpose barriers, to exclude construction activities from RPAs of retained trees will be required on Site, installed prior to the commencement of works and dismantled upon Site completion.

The default specification is shown below (Figure 2., of BS5837:2012).

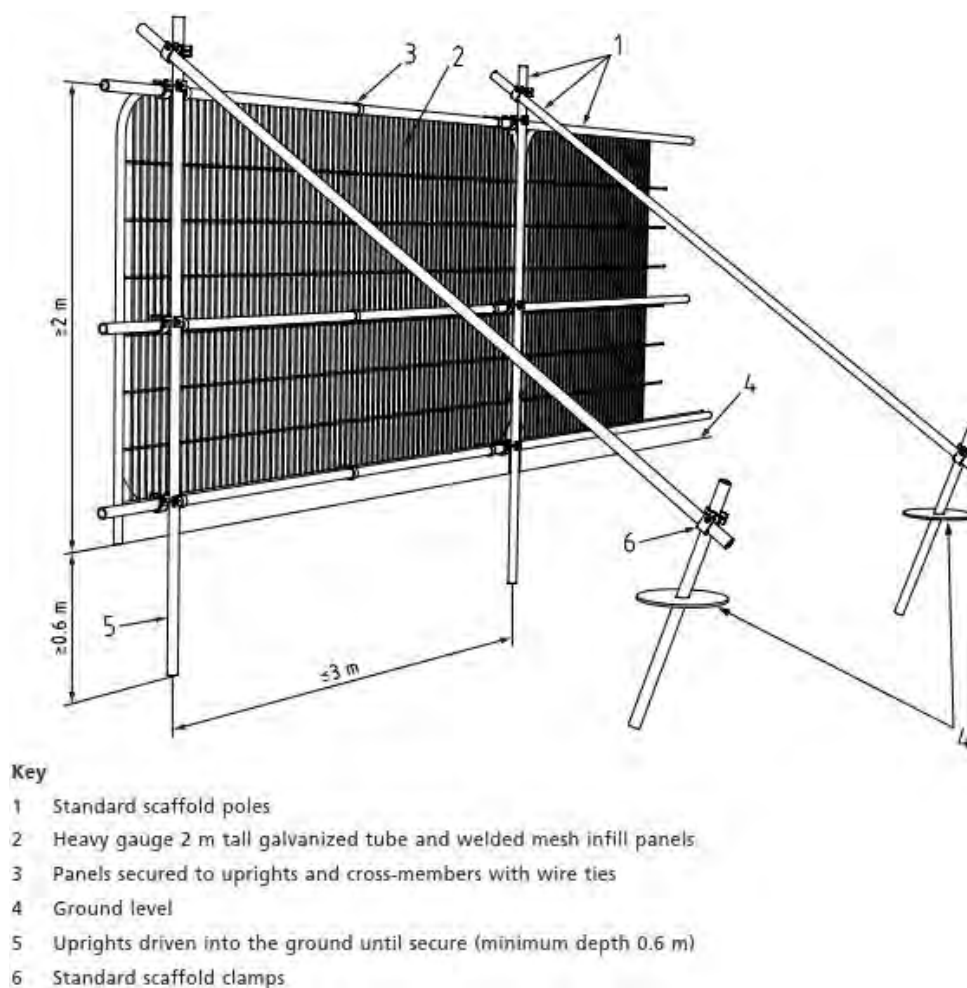


Figure 12. Default barrier specification (Figure 2., of BS5837:2012).

F2 Ground Protection

Within RPAs and other identified areas, soils must be protected from construction activities. Temporary ground protection will be required where access into any construction exclusion zone is required, by pedestrians and plant. As a guideline, the following is applicable:

- For pedestrian use: a single thickness of scaffold board, placed on top of either a suspended walkway (such as single scaffold frame) or on a compressive resistant layer (such as 100mm depth of woodchip) laid onto a geotextile membrane.

- For pedestrian operated plant up to gross 2 tonne weight: proprietary inter-linked ground protection boards placed on top of a compression resistant layer (such as 150mm depth of woodchip, laid on a geotextile membrane).
- For traffic exceeding 2 tonnes gross weight: a proprietary system (such as cellular rafts or pre-cast concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, designed to dissipate the expected loading.

F3 New Services

Standard installation practises for the installation of underground services (such as open face excavations or mechanical trenching) are likely to sever significant roots, cause tree instability and premature death where undertaken within any RPAs of retained trees on Site.

The default position is that all services be located outside of any RPAs.

















































































Where installing new services within RPAs, the use of two predominant techniques are suggested. These are:

- 1) The use of either trenchless techniques (such as impact moling) to cross underneath any RPA, with entry and retrieval pits sited outside of the RPAs; or
- 2) Hand dig excavation methodologies, utilising compressed air and a soil vacuum, or the use of hand tools, to carefully excavate within an RPA, retaining and protecting any roots encountered. (N.B. This technique is not applicable for services that lack flexibility and cannot be installed around any significant roots encountered, e.g., precast concrete).

Where possible, consideration for the bundling of services should be made to avoid multiple excavations.

Appendix G Ecological Site Classification

Ecological Site Classification Report

| | | | | | | | | | | | | |
|------------------------------|-----|---|---|----|------|---|---|---|---|---|---|------|
| Common walnut | JRE |  |  | 5 | SNR |  |  |  |  |  |  | 3(B) |
| Hornbeam | HBM |  |  | 10 | DAMS |  |  |  |  |  |  | 3(A) |
| Small-leaved lime | SLI |  |  | 4 | SMR |  |  |  |  |  |  | 3(A) |
| Wych elm | WEM |  |  | 4 | MD |  |  |  |  |  |  | 3(A) |
| Wild cherry | WCH |  |  | 5 | SMR |  |  |  |  |  |  | 3(A) |
| Sweet chestnut | SC |  |  | 9 | MD |  |  |  |  |  |  | 3(A) |
| White willow | WWL |  |  | 2 | MD |  |  |  |  |  |  | 3(C) |
| Holly | HOL |  |  | 2 | MD |  |  |  |  |  |  | 3(C) |
| Willow (SRC) | SRC |  |  | 10 | MD |  |  |  |  |  |  | 3(C) |
| Eucalyptus glaucescens (SRF) | SRF |  |  | 21 | DAMS |  |  |  |  |  |  | 3(C) |

Appendix H Site Photography



Figure 13. Codominant stem of T003, significant future bark inclusion highly likely.



Figure 14. Balsam poplars at southern boundary, looking southwest.



Figure 15. Eastern Site boundary



Figure 16. G039, looking west.

APPENDIX 4

Results of Metric 3.1 Biodiversity Net Gain Calculations (Supplied Separately in Excel spreadsheet)

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