



winvic

Demolition, Construction Traffic and Environmental Management Plan (England & Wales)

Mountpark Hinckley (Padge Hall Farm) / E23-037

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1.0	Document Creation	Daniel Urquhart/Amit Patel	18/01/2024
2.0	Include construction method statement and logistic plan	Amit Patel	02/02/24

This plan is to be reviewed at least every three months

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1. INTRODUCTION

This Construction Environmental Management Plan (CEMP) has been developed to identify and manage the environmental risks associated with Mountpark Hinkley (Padge Hall Farm) and is a fundamental requirement of the Winvic Construction Limited (WCL) environmental management system.

A copy of the WCL ISO 14001 certificate is provided in Appendix 1. The WCL Environment Policy Statement should be clearly displayed, as well as Mountpark Environmental Policy statement on site noticeboards. WCL recognises the environmental impacts associated with this project and is committed to continually improving its environmental performance. The WCL Policy sets out the aims of the CEMP for the construction of the proposed development with the various aims summarised below:

- To meet the requirements of all relevant environmental legislation, agreements, authorisations, and commitments.
- To ensure that all environmental undertakings and obligations of WCL are fulfilled.
- To adopt working practices that will achieve good environmental practice on site.
- To ensure that subcontractors and suppliers are aware of the environmental constraints and opportunities of the site and follow any necessary procedures in order to ensure good environmental practice.
- To identify the responsibilities of staff and contractors in achieving good environmental practice on site
- To mitigate the effects of the construction works on businesses, highway users and the general public.
- To assist in the development of the company environmental management system, not only for the requirements of this project but for future use.

All personnel are required to understand and implement the requirements of this CEMP.

Prior to issue, all environmental documentation on this Project, including this CEMP, has been reviewed and approved by Richard Bark, who is the Project Manager, as well as being reviewed by the Environmental Advisor. All amendments to this CEMP must be made by project management in consultation with the Senior Environmental Manager / Environmental Advisor or HSEQ Manager.

WCL will maintain records for all aspects of the work on Winvic's Intranet System (i.e., Union Square), namely:

- Environmental permits
- Environmental risk register and management systems, including instructions for methods of work and any pollution control plans
- All operating procedures
- Staff competence and training records
- Routine monitoring results such as water quality
- Monitoring and compliance checks, findings of investigation and actions taken
- Environmental incidents, non-conformance and near miss reports, findings of investigation and actions taken
- Complaints made, findings of investigation and actions taken
- Audits of management systems
- Management reviews and changes made to the management system.

Construction Method Statement

Introduction

This method statement is intended as a guide to our proposed method and sequence of work and will be developed and refined during the life cycle of the live project .

Detailed, working method statements for contractors will be prepared and issued for all relevant activities prior to works commencing on site in accordance with the Construction Design & Management Regulations 2015.

Description of the Works

The Works comprise of the construction of Unit 1 with the associated buildings, hardstanding, yards, parking areas, drainage and landscaping. With enabling works for the remainder of the site.

Construction Access and Site Set Up

Construction Access to the site area will initially be gained via the existing Padge Hall farm track to the site compound (see Logistic Map images), we will put in place suitable signage and traffic management measures at the site entrance and on the existing access roads to ensure the safety of the public and other road users. This will include an area for vehicles to pull into off the road and gatehouse will be positioned at this entry point and a dedicated gate person will register & control unauthorised access whilst the site is open. Out of hours a security guard will take over in this location instead. Personal will be required to park in the compound and access will be restricted via a Biometric system. We will secured the site with hoarding / fencing as appropriate.

Our site setup will include a welfare provision, site office, meeting room and a marketing suite.

During construction of the diverted Public Right of Way (PROW) (see Logistic Map images), we are proposing to temporarily divert the PROW, initially through the through the site with designated manned plant crossing points and then along the new farm track (note: diversion routes subject to consent from the relevant authority).

Existing Site Constraints

Winvic are experienced in operating on sites with a variety of existing constraints and we can successfully manage the work around these conditions.

The overhead power lines to the existing farm and the underground gas, 11KVA and water mains which run across and/or are within the site boundary. There are very strict safety protocols for working around and adjacent to high voltage equipment, and therefore we will engage with specialist consultants and the utility company as a matter of urgency to establish safe methods of working to ensure the safety of the workforce and protection of the equipment and to ensure the proposed scheme is able to be constructed in a safe manner.

Enabling Works

The existing building on the site will be demolished and prepared for the new Unit early with in the development programme and will be subject to application of a Section 80 notice and Asbestos Licences

Construction Sequence & Logistics

Part of the success of the Winvic Way, which has enabled us to become leaders in this market is our approach to making the construction process cleaner and therefore quicker, safer and ultimately cheaper.

The following section provides a general description of our proposed construction sequence, which is typical on any scheme of this type, with the only difference being the construction period which is dictated by the size of the building.

Earthworks and Earthworks strategy

We will commence the earthworks, to Unit 1 prioritising the Eastern Access Road and then progressing down the building footprint including the external works. This releases the external yard in a phased approach. As the plot is in predominate cut we will be cut and filling across the whole development, with the topsoil being placed into the bund that are to be formed around the perimeter.

External Concrete Yard

As part of the Winvic Way, we actively progress the external yard areas to the building perimeter at an early stage of the project to provide clean areas for the installation of the External Cladding. Additionally, we ensure sections are completed along with the drainage as early as possible to give clean, dry and safe areas for the Office and Welfare facilities.

Warehouse

As the office fitout on this type of building dictates the critical path, work will commence at the office end of the warehouse then progress down the build.

The warehouse will commence with pad foundations, and when the foundations are suitably progressed, the lift pit to the office will be installed before erection of the steel frame commences using mobile cranes sited within the building footprint. The frame will be followed by the gutters, drainage, and the roof cladding.

The office floors internal staircases and precast lift shaft will be installed in conjunction with the office steelwork, with wall cladding commencing around the offices and then down the length of the building. The precast docks will then be installed ahead of the cladding to each area, and will be followed by the Dock levellers and any level access/ personnel doors.

Once any high-level works are complete the installation of the concrete warehouse floor will take place. Cleaning and testing and commissioning of the building services will then take follow in order to complete the warehouse ready for tenant fitout.

Office Fitout

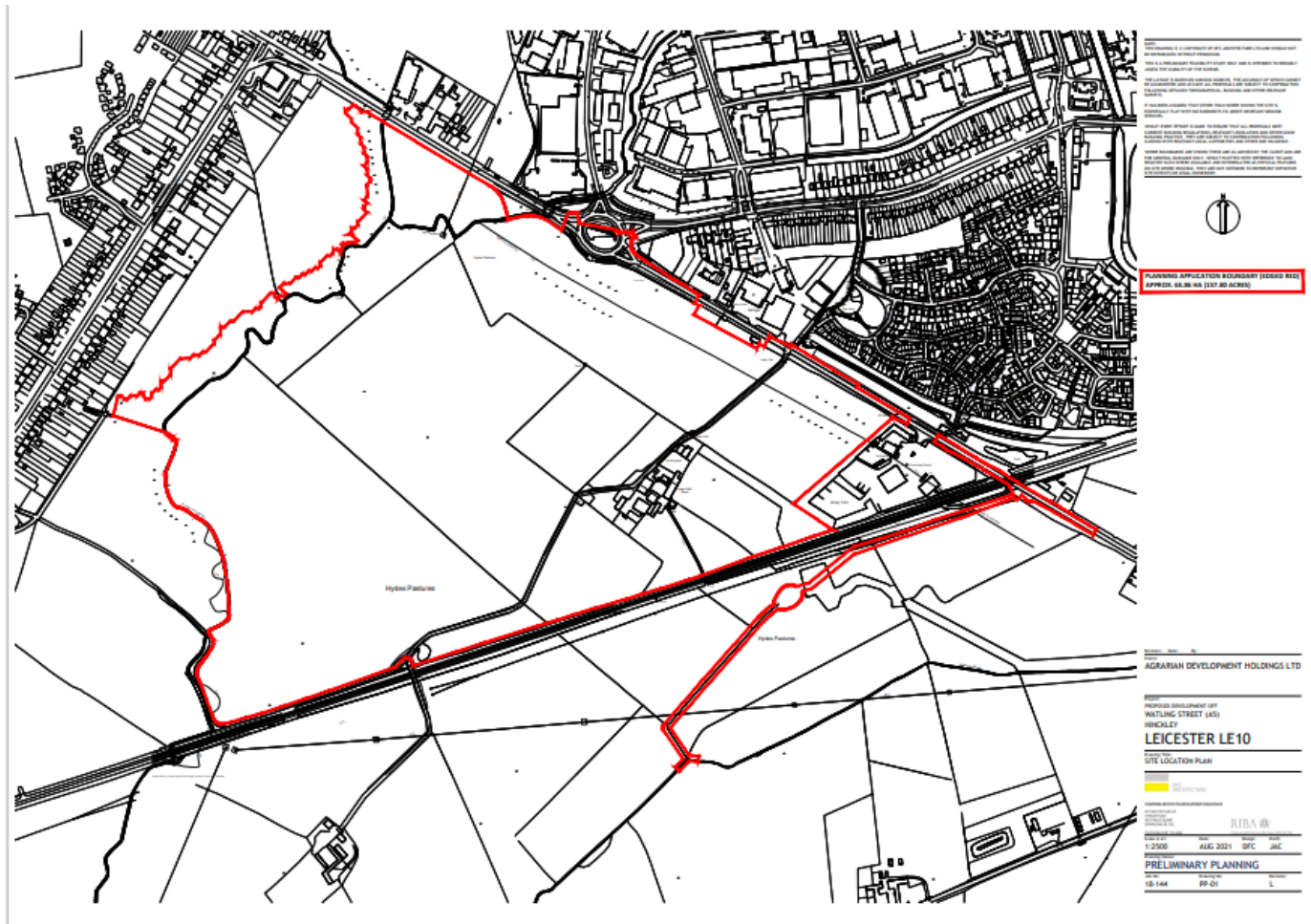
As soon as the roof works and cladding are progressed sufficiently to the office area, the windows and dividing wall to the warehouse will be installed. This will allow the office fitout to commence with the installation of the partition walls, etc.

External Works

Upon completion of the cladding to the office elevation, the final construction to the car park will commence with the installation of final drain connections followed by kerbs and edgings, making up of final levels, and Tarmac base course. Final surfacing will take place at the end of the contract.

2. ENVIRONMENTAL SETTING & REQUIREMENTS

The area of the proposed development covers approximately 63.84ha and the national grid reference number for the site is SP 40011 92746. The scope of the construction site is subject to a number of environmental sensitivities (as shown in the Environmental Constraints Map / site drainage plan) as summarised below.



2.1 Geology and Hydrogeology

The site is within an area of Superficial deposits typically of Thrussington Member – Diamicton, brown to reddish brown with stone mixture of upper carboniferous and Triassic rocks with subordinate sand, gravel, stoneless clay, and silt. Red pebbly and silty clay with rock fragments. Underlying bedrock of Mercia Mudstone, siltstone, sandstone, and gypsum.

The underlying Mercia Mudstone formation is classified as a Secondary B Aquifer. Overlying superficial deposits are classified as either Unproductive or Secondary A/ Secondary undifferentiated aquifers. The site is not underlain by a Source Protection Zone.

No ground water abstraction licences within 1000m of the site.

There are no potable water abstraction licences located within 1000m of the site. The nearest is located 528m to the south associated with 'Severn Trent Water Limited' from a groundwater source.

2.2 Hydrology

The site is located in an area covered by the joint Warwickshire Strategic Flood Risk Assessment (SFRA), updated in September 2013.

The Site is located adjacent to Harrow Brook classified as a main river by the EA and is a tributary of the River Anker. The Harrow Brook flows into the Sketchley Brook which runs south of the main development site and is located south of the railway line.

The Site is identified as falling within Flood Zone 1. Some areas of sit on the north and western boundaries of site are identified as Flood Zones 2 and 3 due to proximity to Harrow Brook. These areas are not proposed for development and instead are to be used for landscaping and habitat creation.

There are nine records of Licensed Discharge Consents within 500m of the site. The nearest is located 128m to the northeast associated with 'sewage discharges – Pumping station' into 'Harrow Brook'.

There are two surface water abstraction licenses located within 1000m of the site. The nearest is 593m to the northeast, for 'dust suppression' from Ashby Canal.

2. 3 Ecology (flora / fauna)

The site was dominated by intensively managed arable land considered to be of intrinsically low conservation value, given its cultivated nature and restricted botanical and structural diversity. The development will lead to the loss of arable and improved grassland fields and small areas of ruderal vegetation, bare ground, and hardstanding. No adverse effects on the nature conservation value of the local area are expected from the loss of these habitats and they are not considered to be a constraint to the development of the site.

Scrub habitat at field boundaries where remnant hedgerows are present provides additional, limited diversity to habitats present within site. Any loss is not considered to be a statutory ecological constraint to the development within the wider context of continued availability in the area.

Habitats of greater ecological value are present within and adjacent to the site. This includes trees, native hedgerows, and the adjacent watercourse. Hedgerows and treelines provide connectivity to the wider area and as such are likely to be of value to faunal species including bats and birds. All hedgerows are deemed of moderate ecological value and were species-poor with poor structural diversity due to the intensive management regime. Hedgerows are to be retained where possible.

Several records of protected or notable species were identified within 1km of the site including five species of bat, four species of amphibian, a small number of bird records, riparian species associated with Ashby Canal and Harrow Brook including water vole and otter as well as hedgehog.

The mature trees present across site are predominantly associated with boundary hedgerows and Harrow Brook. 15 trees were categorised as having moderate bat roost suitability and 26 with low roost suitability. The majority of trees are to be retained and buffered within the green corridors across site. Should roosting bats be present they will be buffered from works and are unlikely to be adversely impacted by development proposals. Should arboricultural works to moderate risk trees along the Harrow Brook corridor, or within retained hedgerows be unavoidable, an aerial (climbed) inspection and/or appropriate nocturnal surveys should be completed by a licenced bat worker to fully inform the works. Similarly, if the proposed highway works cannot be undertaken without risk of impacts to adjacent trees, these should be inspected via aerial access or otherwise be subject to nocturnal survey. IF the presence of a roost is confirmed, a licence from Natural England will be obtained if appropriate prior to tree works commencing. No other trees present within the boundary were considered to offer any roosting opportunities for bats as they lacked suitable features.

The initial 2021 Environmental Statement identified Building B2 on site as containing a small non-maternity common pipistrelle roost. All other buildings were considered as having negligible value for local bat populations. An updated inspection of exteriors and interiors of buildings located at Page Hall Farm was complete 28th February 2022 during which a detailed assessment was made of the potential of each building to support roosting bats and nesting birds. SURVEYS...

Buildings B1 and B4a were categorised as having moderate potential to support roosting bats. Two nocturnal

surveys are to be carried out.

Buildings B3a, B3b, B3c, B3d and B4b were considered to have low potential to support roosting bats. Buildings B5, B6, B7, B8, B9a, B9b and B9 were considered to provide negligible potential for roosting bats.

Should updated bat surveys confirm the continued presence of a bat roost in building B2, then the appropriate licence from Natural England will be required to facilitate the proposed development. This process will require the production of a method statement detailing agreed mitigation and compensation strategies to ensure that the conservation status of local bat populations will not be impacted as a result of proposed operations.

No badger setts were identified within the development boundary or within 30m of the development site boundary where accessible. No badger records were identified during the desk study within 1km of the site.

GCN are not considered to pose a statutory constraint to the site.

No evidence of reptiles was recorded during surveys. The majority of the site is determined to be unsuitable for reptile species. Reptile surveys are not considered appropriate given the overall limited nature of suitable habitat with the core of the site and the relative isolation and retention of the suitable reptile habitat along the brook.

Initial breeding bird surveys were carried out in 2019. The boundary hedgerows and associated trees and tree belt along Harrow Brook provide suitable nesting and foraging habitat for a range of bird species potentially present in the local area and 40 species recorded during breeding bird surveys. This includes 17 notable species of medium-high conservation concern. Three species were confirmed as breeding on site (including starling, a notable species) and nine were considered probable breeders (including notable skylark, dunnock, house sparrow and yellowhammer). The remaining 28 were considered possible or non-breeders on site. An updated survey was carried out 24th March 2022 confirming that on-site bird assemblage had not undergone significant changes since 2019. Habitats on site were considered to be of local nature conservation value for the farmland bird assemblage. Development of the site will result in inevitable adverse impacts to some farmland specialist species including skylark and yellowhammer.

No direct impacts to otter or water vole are anticipated as a result of the development proposals.

The majority of tree cover observed on site was recorded as low arboricultural quality (category C). Tree cover of moderate quality tree cover (category B) was mainly present along the Harrowbrook. Four individual trees were deemed to be high in quality and category A. All four specimens were English oak and mature in proportions, being situated within the northern portion of the site.

2. 4 Cultural Heritage (archaeology / SAMS / listed buildings)

The Environmental statement section 15 – cultural heritage has confirmed there are no designated archaeological heritage assets within the study site. With implementation of appropriate mitigation measures, the development will result in no significant residual effects on archaeological or built heritage receptors (within 2km of the site).

2. 5 Existing Site and Surrounding Land Use (neighbours / protected areas)

Proposed development site is currently utilised for agricultural use. The site is bordered by the A5 trunk road to the northeast and the Birmingham – Leicester railway line to the south. The Harrow brook extends through the site and forms the boundary to the west and north.

No national or international level statutory sites of nature conservation interest within or adjacent to the development. Site located 4.8km to the north-east of Ensor's Pool SAC and SSI. The environmental statement produced in 2021 determined that there is no direct hydrological connection to the site. Furthermore, no direct adverse impacts are anticipated from the proposed development.

No sites with statutory protection at a national level within 2km of the development.

Eight non-statutory sites identified within a 1km radius of the Proposed Development, two of which lie adjacent to the site boundaries.

A section of the River Anker Ecosite at Harrow Brook is located along the western boundary of the site and will be retained within the proposals. In the absence of mitigation this non-statutory designated site and important wildlife corridor will be susceptible to damage or disturbance from construction activities.

The Harrow Brook historic LWS is connected to the River Anker Ecosite and lies 180m upstream of the development.

A green corridor a minimum of 15m has been incorporated along the Harrow Brook corridor and River Anker Ecosite. New hedgerow and structural planting is proposed along the south-western boundary to buffer the Railway Embankment Ecosite (Leicester to Birmingham) adjacent to the southern boundary of the site.

Ashby de la Zouch Ecosite and pLWS, Brodrick Road Flood Retention area nLWS AND Lime Kiln Meadow Ecosite and pLWS are located between 880m to the north-east and south-east. These are isolated from the development and located within an urban environment setting.

There is one COMAH / NHHS site within 500m of the site. This is 285m to the north associated with 'Abbey Metal Finishing Co Limited' and is a 'COMAH Upper Tier Operator'

2. 6 Contamination (soils / geology / water)

There are twelve records of Environment Agency Recorded Pollution Incidents occurring within 500m of the site. The nearest is recorded on site involving the pollutant 'general biodegradable materials and wastes' with a minor impact to land and air quality.

There are no sites determined as contaminated under the Environmental Protection Act 1990 within 500m

The ground investigation has determined the following:

- The risk of ground gas generation and migration from potential made ground materials and off-site sources.
- Low risk of heavy metal and PAH contamination based on previous site use and made ground soils encountered. Concentrations were below relevant threshold limits or below detectable limits. Concentrations were recorded at levels below detectable limits.
- Low risk in view of made ground soils encountered (no hydrocarbon impacted fuels recorded) from potential fuel/ oil leaks from agricultural vehicles used on site. Concentrations were recorded below detectable limits.
- Low risk of asbestos fibres and ACMs in view of the nature of made ground soils encountered on site.

3. ENVIRONMENTAL CONSENTS / PERMITS / LICENCES & OTHER REQUIREMENTS

The need for any environmental consents, permits and / or licences and exemptions relating to work associated with Mountpark Hinckley (Padge Hall Farm) has been identified during the environmental risk assessment process. Consequently, the necessary environmental permissions for this project are listed within the Environmental Risk Register (E02).

The applicable other environmental requirements to be delivered by the project, in addition to WCL targets, are summarised below, and may include contractual requirements, as well as any conditions required by the Local Authority with respect to Planning or nuisance mitigation for the local community.

Reference should be made to pre-construction information and the Pre-Start Environmental Checklist (E01).

PROJECT SPECIFIC ENVIRONMENTAL REQUIREMENTS	
External (client / enforcing	- See appendix 4 for summary of environmental related planning conditions

authority) requirements	- CCS 40		
BREEAM / LEED / Passivhaus	Target rating	Excellent	
	Construction Waste Volume Target (by m ³ volume or tonnage)	TBC	
	Waste Diversion from Landfill Target	Demolition	80%
		Construction	95%
		Excavation	100%
Watercourses/drainage/dewatering	- Dewatering in line with <u>EA Regulatory Position Statement</u> - Bespoke Environmental Permit. - Drain protection required - Harrow Brook - A 225mm diameter foul water sewer runs along the boundary adjacent to the A5 north of the development site.		
Waste (significant waste streams that will be generated)	Soils / Aggregates / Timber / Packaging / Insulation		
Contaminated Ground	N/A		
Cultural Heritage & archaeology	N/A		
Materials & Design	BREAAAM / Timber CoC (chain of custody) / Responsible sourcing of materials		
Sensitive Neighbours	- Receptors to dust within 20m of site is a van/car show room. - Residential dwellings off A47 The Long Shoot, A5 Watling Street and Applebees Meadow (20-100m from site). - Residential dwellings off A47 The Long Shoot, A5 Watling Street and Applebees Meadow to the B4666 Coventry Road (100-350m from site). - Farmhouse at Hydes Pastures		
Ecology & Biodiversity	- Retained trees and hedgerows should be suitably protected throughout construction works. Working methods will adhere to standard best practice guidance including BS5847 Trees in Relation to Construction – Recommendations: 2012 for trees and hedgerows. Existing boundary features should be enhanced through gapping up where appropriate. - Removal of trees should take place following best practice. Trees should be felled in sections, lowered to the ground, and left in situ for 24 hours prior to removal from site. In the event that trees are to be lost or adversely impacted by proposals, appropriate assessment will be undertaken prior to works to confirm the presence/ likely absence of bat roost. - A licence from Natural England will be secured as required prior to the removal of any tree containing a bat roost. A licence will also be acquired prior to the demolition of any building identified as supporting an active bat roost. - To minimise potential effects to the local bat population, artificial lighting should be carefully designed adjacent to existing and new potential bat foraging areas including tree groups, hedgerows, and commuting lines. Where artificial lighting cannot be avoided, the lighting scheme will be designed with reference to the Bat Conservation Trust and Institute of Lighting Professionals guidance and will be designed to reduce spill and be downwardly directional. - Clearance of arable field margins and sections of hedgerow should follow best practice methods prior to clearance to displace any		

	<i>reptiles which may be present. Areas should be directionally strimmed from the centre of the site towards retained habitats once to 200mm and then to 50mm several hours later on days when temperatures are over 10 degrees Celsius during the active reptile season (late March to November).</i> • <i>All wild bird species are protected while nesting by the Wildlife and Countryside Act 1981 (as amended). This legislation protects wild birds and their eggs from intentional harm and makes it illegal to intentionally take, damage or destroy a wild bird nest while it is in use or being built. Any removal of woody vegetation including hedgerow sections and trees should occur outside of the bird breeding season. If this is not possible, vegetation should be checked prior to removal prior to removal by a suitably experienced ecologist to confirm the presence/absence of active nests. If active nests are found, vegetation must be left undisturbed and suitably buffered from works until all birds have fledged. Specific advice should be sought prior to undertaking clearance.</i>
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4. ENVIRONMENTAL RISK ASSESSMENT

The Pre-Construction Manager and Project Manager, in collaboration with the Senior Environmental Manager and Environmental Advisor, have completed an environmental risk assessment, which is shown in the Environmental Risk Register (E02) that encompasses the pre-construction, construction and commissioning phases of the project.

Throughout the duration of this project, the environmental risk assessment will be reviewed and updated on a monthly basis during the '4-week planning meeting' (S01) that is held between the Project Manager and the HSEQ Manager. The purpose of this review is to ensure that the risk assessment remains suitable, adequate, and effective in identifying and managing environmental risks.

Further details concerning the methodology employed to assess project environmental risks are detailed within the WCL Project Environmental Management Working Instruction (WI 01).

Subcontractors whose specific construction work packages pose a risk to the environment will develop and implement a RAMS to mitigate those risks, which will be reviewed and approved by WCL (via completion of the Method Statement Review Sheet (S05)).

Subcontractors must manage all risks associated with their work activity / package in accordance with this CEMP. Where a subcontractor identifies additional environmental risk(s), the subcontractor must inform the WCL Project Manager and request that the Environmental Risk Register (E02) is amended.

5. ENVIRONMENTAL CONTROL MEASURES

In addition to the project-specific environmental control measures detailed within the Environmental Risk Register (refer to E02) the mandatory control measures described below also apply to this project:

5.1 Waste Management

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Register (E02).

Any Client specific environmental and / or sustainability requirements / targets / KPIs related to waste management required by any certification schemes (e.g., BREEAM / CEEQUAL / Well Standard) should be retained. This may include confirmation of the specific format and content of information, and evidence to satisfy the applicable scheme.

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Waste storage, handling and segregation	• Store wastes in areas away from surface / foul drains and watercourses • Segregate all construction wastes, at a minimum, into hazardous and non-hazardous waste streams • Segregate construction wastes into dry recyclables • Cover waste containers if there is a risk that wastes may be blown out or the wastes contained therein are water sensitive e.g., plasterboard wastes • Use waste signage i.e., labels that specify waste contents • Secure waste containers (<i>Note: On insecure sites or in areas where theft and vandalism may occur, skips should be lockable</i>).	Yes
Off-site disposal of site waste streams	• Develop, implement and maintain a Site Waste Management Plan (E04) throughout the duration of the project • Ensure the removal of inert / non-hazardous wastes is recorded on Waste Transfer Notes (WTNs). Season tickets may also be used for multiple transfers over a 12-month period • Use consignment notes for the off-site disposal of all hazardous wastes • Retain all WTNs for at least three years • Only use licensed waste carriers to transport wastes from site and obtain documentation to demonstrate registration • Obtain full copies of the Environmental Permits or Exemptions for the disposal locations of site waste streams • Periodically follow a waste vehicle to its destination (refer to EG06) where: – The condition of the waste contractor's vehicle is poor, or – The waste contractor's waste paperwork is weak, or – A waste contractor uses a lower tier waste haulage company, or – A higher risk waste is being transported e.g., asbestos or oily wastes – There is a suspicion that wastes may be taken to a non-licensed site • Contact the HSEQ Manager immediately if site wastes are not taken to a licensed waste disposal / recycling facility.	Yes
Reporting	Report project waste performance on a monthly basis (WI 10).	Yes

5.2 Water Management

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk

Register (E02).

Any Client specific environmental and / or sustainability requirements / targets / KPIs related to water pollution management required by any certification schemes (e.g., BREEAM / CEEQUAL / Well Standard) should be retained. This may include confirmation of the specific format and content of information, and evidence to satisfy the applicable scheme.

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Abstraction, impounding & dewatering	• Obtain an abstraction licence from the EA for the abstraction of more than 20m³ of water / day from any controlled water (refer to EG05) • Obtain an Environmental Permit from the EA if clean uncontaminated temporary dewatering effluent is being discharged to surface watercourses for longer than three consecutive months • Obtain an abstraction licence if waters from dewatering activities are to be used e.g., for dust suppression • Obtain an Impounding Licence from the EA prior to any impounding works commencing • Ensure that the WCL Permit-to-Pump (E12) system is used for all effluent pumping activities (refer to EG05) • Ensure that a pump head rose is used to reduce the risk of harm to aquatic life • Ensure conformance to requirements of obtained licences / authorisations.	Yes
Discharges to surface water or groundwater	• Consult with the EA as to the need for an Environmental Permit for the discharge of effluent to surface waters prior to the discharge proceeding • Obtain an Environmental Permit for the discharge of effluent to surface waters if chemical dosing agents are to be used (e.g., coagulants and / or flocculants) as a means of treating silt laden effluent • Ensure that the WCL Permit-to-Pump (E12) system is used for all effluent pumping activities (refer to EG05) • Obtain permission to discharge silt laden waters to land from the landowner and consult with the EA prior to discharge • Ensure all effluent discharges from site cabins are directed into sewers (with permission from the local water company) or holding tanks • Ensure conformance to requirements of obtained permits / authorisations.	Yes
Discharges to sewer	• Obtain a trade effluent discharge consent from the local water company or written permission from the sewer owner prior to the discharge of any trade effluent into a foul sewer • Ensure that the WCL Permit-to-Pump (E12) system is used for all effluent pumping activities (refer to EG05) • Ensure conformance to requirements of any obtained consent.	Yes
Works in, near or over water	• Obtain an Environmental Permit / Exemption from the EA for the construction of any structure in, over or under a main river (refer to EG05) when: – Within 8m of the bank of a main river, or 16m if it is a tidal main river – Within 8m of any flood defence structure or culvert on a main river, or 16m on a tidal river, or where it is a sea defence structure • Obtain a Land Drainage / Ordinary Watercourse Consent from the Lead Local Flood Authority (LLFA) for the construction of any structure in, over or under an ordinary watercourse, including the construction of dams, weirs, mills, channel diversions and culverts (refer to EG05). • Give the EA at least seven working days' notice of any intention to temporarily or permanently divert the flow of a main river, carry out works over or within a main river channel, commence operations in a main river channel or work on or near foul sewers • Give LLFAs at least seven working days' notice of any intention to temporarily or permanently divert the flow of an ordinary watercourse, carry out works over or within an ordinary watercourse or commence operations in an ordinary watercourse channel • Develop, communicate and implement a suitable, adequate and effective method	Yes

	statement, where any watercourse diversion is to be undertaken • Consult with the EA as to the need for an abstraction licence where overpumping operations are to be undertaken • Obtain formal approval from the EA prior to the use of any herbicide in or near a watercourse (i.e., within 10m of a watercourse) • Plant and equipment entering or working alongside watercourses should be well maintained, clean and free from oil leaks • Prevent liquid / solid debris falling into a watercourse or onto an embankment during construction activities. • Ensure conformance to requirements of any obtained consent / approval.	
Works in tidal waters	Consult with the Marine Management Organisation / EA before any construction works commence in, near, under or over tidal waters to ensure that all appropriate consents are obtained.	No
Site Drainage	• Develop and display a site drainage plan that identifies surface and foul water drainage systems and nearby controlled waters • Implement and maintain control measures to ensure site drainage does not contaminate drains or watercourses e.g., cut-off ditches / silt fences • Provide toolbox talks to relevant personnel and contractors that effluent must not be poured down surface / foul water drains without permission.	Yes
Washing Activities	• Conduct all washing and cleaning operations (including the washing of vehicles and / or plant) in a designated area, which should be isolated from the surface water drainage systems and within hardstanding areas • Ensure no detergent contaminated wash down effluent is allowed to enter controlled waters unless permitted by the EA • Direct detergent contaminated wash down effluent via the foul sewer, after having gained permission from the Water Company, or ensure that it is contained for off-site disposal • Establish an impermeable concrete / mortar washout area at least 10m away from drains, surface waters or trees.	Yes
Monitoring	Monitor the quality of watercourses potentially affected by site activities at agreed locations whilst construction operations are in progress, which may involve visual monitoring and / or physical (e.g., pH, suspended solids, total organic carbon) sampling.	Yes

5.3 Ecological Management

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Register (E02). We will ensure that a pre-survey is undertaken prior to works commencing to ensure there are no risk in relation to ecology.

Any Client specific ecological and / or biodiversity requirements stipulated by the Client and / or any certification schemes (e.g., BREEAM / CEEQUAL / Well Standard) should be retained. This may include identifying requirements and responsibilities for providing and interpreting site investigations, environmental reports, surveys and consents, and confirmation of the specific format and content of information, and evidence to satisfy the applicable scheme.

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Works in protected areas	• Consult with Natural England and / or the local Planning Authority before works commence within a conservation area e.g., Ramsar site, SAC, SPA, AONB, SSSI, NNR, ESA, NHA or a local conservation designation • Develop and submit a method statement to NE • Ensure a Phase 1 Habitat Survey has been conducted by a competent person (e.g., qualified ecologist and / or arboriculturist), where necessary	No

	• Communicate control measures defined within the Habitat Survey to all staff and relevant subcontractors • Provide information (e.g., site induction / toolbox talks) to site personnel.	
Protected species	• Ensure a Phase 1 Habitat Survey has been conducted by a competent person (e.g., qualified ecologist) where the presence of protected ecological resources is known / suspected • Ensure an extended Phase 2 Habitat Survey is conducted by a competent person to assess the potential presence of protected fauna and / or flora, if required as a result of a Phase 1 Habitat Survey • Ensure protected faunal species surveys (e.g., bat surveys) are conducted where their presence have been identified • Develop and implement a method statement, (that should be agreed with NE), for the management of protected species that includes all relevant recommendations made within ecological surveys • Obtain and fully implement the conditions of a European Protected Species Licence i.e., Development Licence, if required • Phase all construction activities to ensure that proposed construction works avoid disturbance and / or damage to local ecological constraints • All site clearance works would be undertaken outside bird nesting season (March to August inclusive); however, if works cannot be avoided during the nesting season an ecologist should supervise clearance works • Create a physical separation between construction operations and ecologically sensitive areas e.g., fencing • Staff and subcontractors to report any protected flora / fauna discovered during construction to site management. Suspend all works within that area until authorised by an ecologist and site management • Provide information (e.g., site induction / toolbox talks) to site personnel.	Yes
Tree & hedgerow protection	• Consult with the local planning authority to determine whether there are any TPOs in effect or whether trees are within a conservation area • Consult with the local planning authority to determine whether hedgerows are designated as an 'important' hedgerow • Ensure permission (i.e., section 211 Notice / Tree Felling Licence) is obtained from the local planning authority / Forestry Commission for works to protected trees e.g., tree surgery / felling and / or uprooting • Ensure a Tree Felling Licence is obtained from the Forestry Commission for the felling of more than 5m³ of non-protected trees • Ensure a Hedgerow Removal Notice is formally submitted to the local planning authority if the full or part removal of a hedgerow is required • Ensure a Phase 1 Habitat Survey has been conducted by a competent person (e.g., qualified arboriculturist) where the presence of Tree Preservation Orders (TPOs) / important hedgerows is known / suspected • Create a physical separation between construction operations and ecologically sensitive areas e.g., fencing • Erect tree fencing to protect tree roots from construction activities e.g., vehicle and / or plant use, installation of underground services and / or hard or soft surfaces • Provide information (e.g., site induction / toolbox talks) to site personnel. • Refer to Appendix 5 for Tree method statement	Yes
Invasive species	• Ensure a Phase 1 Habitat Survey has been conducted by a competent person where the presence of invasive species is known / suspected • Develop and implement a method statement for the management of invasive species as well as the disposal of invasive species wastes • Segregate invasive plant species locations from construction activities using durable fencing • Prevent the spread of invasive species through use of exclusion zones, boot wash facilities, wheel wash facilities etc. • Provide information (e.g., site induction / toolbox talks) to site personnel.	No
Biodiversity Net Gain	Where there is a contractual requirement to achieve Biodiversity Net Gain (BNG) all recommendations stipulated within the biodiversity enhancement plan, developed by the	Yes

	Pre-construction / Design team, should be implemented.	
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Additionally, WCL recognises our role in maintaining and enhancing, where possible, resilient ecological habitats. Consequently, WCL will implement this project specific Biodiversity Action Plan (BAP), which will be completed during Pre-construction and Construction phases of our works.

Actions	Mitigation	Enhancement	Eradication	Requirement by Planning / Ecologist / BREEAM / WCL	Pre-Construction Status (Programme date, whether in progress or completed, who's responsible for collating evidence)	Construction Status (Programme date, whether in progress or completed, who's responsible for collating evidence)
Retain existing trees in line with TPP	✓			Planning		
Retention and enhancement of the Harrow Brook corridor		✓		Planning		
SUDS system				Planning		
Offsite receptor to be secured	✓			Ecologist		
Enhancement of two grassland field compartments		✓		Ecologist		
Twenty new hedgerows with trees (within soft landscaping scheme)		✓		Planning		

5.4 Land Use Management

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Register (E02).

Any existing site surveys, investigations and other environmental requirements, including responsibilities for providing any additional site surveys and investigations along with interpretation of reports, should be retained as part of the design development and compliance.

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Earthworks	- Develop an earthworks method statement where more than 50m³ of spoil is to be excavated, refer to WI 09 - Avoid stripping soil following periods of heavy rainfall (i.e., 5mm or more in a 24-hour period), when practicable - Keep areas of exposed ground to a practicable minimum - Segregate top and subsoil stockpiles - Handle soils carefully to minimise potential soil structure damage - Keep temporary stockpile heights as low as possible given space restrictions e.g., 3m for topsoil and 4m for subsoil - Minimise run-off from stockpiles by light compaction and at an angle of no more than 45°, use of trenches and locating stockpiles away from drainage systems and watercourses - Protect stockpiles to minimise erosion losses and weed infestation if storage is to be longer than 6 months (e.g., seeding or light compaction) - Protect stockpiles (e.g., using berms) from flooding to avoid soil losses - Keep traffic off soil stockpiles, as much as possible, throughout the period of soil storage	Yes

	• Display clear and unambiguous signage to notify site personnel of the presence of different types of soil stockpiles • Avoid reinstating soils following periods of heavy rainfall (i.e., 5mm or more in a 24-hour period), when practicable • Reinstatement subsoil to maintain natural drainage patterns and avoid settlement • Reinstatement topsoil by rendering into a loose and workable condition, as well as contouring to maintain the profile with the adjacent undisturbed area • Implement effective temporary and / or permanent soil erosion control measures, where necessary • Implement and maintain suitable, adequate and effective control measures to prevent run-off from stockpiles contaminating surface waters.	
Contaminated Land	• Cordon off areas of contamination from those that are uncontaminated • Develop and implement a remediation and / or disposal strategy for the management of contaminated land • Use competent contractors to implement any defined remediation and / or disposal strategy • Ensure all appropriate environmental permissions have been obtained where remediation, reuse and / or disposal of contaminated soils is to be undertaken e.g., a Mobile Plant Licence or an Environmental Permit or Exemption, Waste Acceptance Criteria Testing has been undertaken on treated and / or untreated soils when disposing to landfill • Store contaminated soils in areas effectively demarcated from construction works and access / egress routes • Place soils on impermeable surfaces to prevent contamination of the underlying ground • Cover stockpiles to prevent windblown dust or the ingress of rainwater, where practicable • Implement controls for containing surface water run-off from contaminated stockpiles to prevent the uncontrolled discharge of contaminated effluent • Display clear and unambiguous signage to notify site personnel of the presence of contaminated soils.	No

5.5 Nuisance Management

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Register (E02).

In accordance with HBBC planning condition 5 and RBC planning condition 11, subsection a, construction noise and vibration will be managed using best practicable means i.e., the use of all reasonably practicable measures to minimise construction noise and vibration. This will follow the principles of the guidance within BS 5228:2009+A1:2014 Parts 1 and 2. See noise and vibration control measures in the table below. As detailed in Environmental Statement 2021, section 9.0 Noise and Vibration, for most construction activities the noise levels would be such that no adverse effects would be expected to occur. Atypical construction noise levels and durations will be mitigated and minimised in accordance with BPM. Furthermore, noise traffic associated with the construction of the site will result in temporary negligible impact at all receptors.

In accordance with HBBC planning condition 5 and RBC planning condition 11 subsection b the following section also takes into account chapter 8.6 Air Quality Mitigation from the Environmental Statement September 2021. IAQM (2016) guidance mitigation measures will be adopted and implemented through this D-CEMP in order to minimise impacts from dusts and fine particles.

Any Client specific environmental and / or sustainability requirements / targets / KPIs to minimise the risks of nuisance from vibration, light and noise pollution required by any certification schemes (e.g., BREEAM / CEEQUAL / Well Standard) should be retained. This may include confirmation of the specific format and content of information, and evidence to satisfy the applicable scheme.

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Noise and vibration controls	• Limit operation times to agreed working hours • Comply with Section 61 Agreements, (agreement with Local Authority to limit noise), if applicable • Notify and consult with all potentially affected parties that may be adversely affected from construction site noise either via verbal face to face communications or letter drops • Provide the local authority with advance notice of any works scheduled to take place outside agreed working hours • Assess (e.g., via structural surveys) any and all structures that may be adversely impacted by vibration from vehicles or site activities • Select inherently quiet plant, where appropriate • Ensure all major compressors are 'sound reduced' models fitted with properly lined and sealed acoustic covers, where appropriate, that are kept closed whenever the machines are in use • Ensure all ancillary pneumatic percussive tools are fitted with mufflers or silencers of the type recommended by the manufacturers • Position ancillary plant (e.g., crushers, screeners, generators, compressors, pumps) to reduce noise disturbance i.e., furthest from receptors or behind noise barriers • Ensure subcontractors properly maintain and operate all plant according to manufacturer's recommendations so as to avoid causing excessive noise • Place vibrating equipment or plant on a base separate to that on which any sensitive structure is located, to reduce vibration impacts • Programme deliveries to arrive during daytime hours only • Take care when unloading vehicles to minimise noise • Route delivery vehicles so as to minimise any noise disturbance to local residents as well as reducing potential vibration impacts upon structures • Do not leave plant engines unnecessarily idling • Erect site hoarding, screens or barriers, as necessary and practicable, to shield noisy activities • Regularly monitor both on and off site to ensure minimal noise and vibration impacts upon local neighbours and wildlife.	Yes
Dust & Odour Controls	• Finished ground / road surfaces will be set down as early as is feasible to seal the ground to ensure that the generation of dust is kept to a minimum • Surfaced and unsurfaced access roads will be kept clean and will be watered as necessary using a water bowser, which will be monitored on a daily basis during dry weather • A means of wheel washing will be utilised, as required • No burning of any materials is permitted on site • All vehicles carrying dusty materials will be securely covered • Ensure all construction traffic follows specifically designated routes: – Implement speed limits for all vehicular movements – Cover all vehicles carrying loose materials – Dampen down haul roads, as necessary, to reduce dust emissions • Cutting, grinding, and sawing will not be conducted on-site and pre-fabricates material and modules will be brought in where possible. ○ Where cutting, grinding, and sawing takes place, water suppression will be used to reduce the amount of dust generated • Adopt dust suppression techniques (e.g., water suppression) to reduce dust emissions from crushing and screening activities • Delivery areas, stockpiles and particularly dusty items of construction plant will be kept as far away from neighbouring properties as possible. • Following earthworks, exposed areas and soil stockpiles will be re-vegetated to stabilise surfaces, or otherwise covered with hessian mulches. • Stockpiles will be stored in enclosed or bunded containers or silos. Any exposed soil or material stockpiles will be damped, if necessary, using sprinklers and hoses. A windsock	Yes

	- will be located on the site and where this indicates a prevailing wind toward sensitive receptors, particular attention will be given to the damping of exposed soil and material stockpiles - All areas of completed earthworks that are not subject to subsequent works such as drainage will be covered with topsoil and vegetated, as soon as is practicable - Skips, chutes, and conveyors will be completely covered and, if necessary, enclosed to ensure that dust does not escape - Any excess material will be reused or recycled on site where practicable in accordance with the appropriate legislation	
Visual impact & Light controls	- Erect site hoarding, screens or barriers, as necessary, to screen site activities - Choose and assemble site lighting to reduce light nuisance impacts to local neighbours and wildlife - Position lighting properly and direct light downwards to minimise impacts of light pollution on neighbours and wildlife - Switch off site lighting or minimise its use during periods of site inactivity - Lighting will be directed downwards to illuminate the target area to reduce spill light - Specifically designed lighting equipment will be installed to minimise the spread of light near to or above the horizontal - To keep glare to a minimum, the main beam angle of all lights directed towards any potential observer will be kept below 70° - Keep site boundaries clean and tidy at all times - Maintain hoarding and / or fencing to be free of graffiti and non-project specific posters - Repair damaged or unsightly hoarding and / or fencing, as soon as possible.	Yes
Noise & Vibration Monitoring	To establish the noise emission levels, a noise monitoring programme will be carried out to determine the noise levels at the closest receptors	No
Dust Monitoring	Visual dust monitoring will be conducted around the site perimeter during dry periods to check for dust deposition on vegetation, cars, and other objects	Yes

5.6 Resource Management

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Register (E02).

Any Client specific environmental and / or sustainability requirements / targets / KPIs related to the efficient use of materials required by any certification schemes (e.g., BREEAM / CEEQUAL / Well Standard) should be retained. This may include confirmation of the specific format and content of information and evidence to satisfy the applicable scheme.

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Energy conservation	- When possible, procure electricity supplies through WCL preferred suppliers - Ensure time controls and thermostats are set to take account of unoccupied periods so that heaters are off when there is no one around - Ensure WCL and subcontractors use ECO-rated site accommodation - Ensure windows / doors are closed when the heating systems are on - Ensure light sensors and timers are correctly set - Make sure generator(s) are correctly sized for their proposed use - Ensure generators or other diesel plant are not left unnecessarily idling - Ensure generator(s) are regularly maintained by the owner / supplier - Ensure construction plant are well maintained to maximise fuel efficiency - Ensure compressors are correctly sized for their proposed use	Yes

	• Ensure compressors are turned off to avoid being left unnecessarily idling • Make sure compressor(s) are regularly maintained by the owner / supplier • Ensure unused office equipment (e.g., printers, fans, coffeemakers, radios), that drain energy when not in use, are turned off and / or unplugged • Ensure power management features are enabled (i.e., sleep mode) on all office equipment (e.g., photocopiers, printers and computers) • Ensure office equipment (e.g., computers, monitors, photocopiers) are turned off at the end of the workday • Ensure photocopiers / printers are set to default by printing on both sides • Ensure electrical appliances (e.g., fridges) have an Energy Rating of A or B • Provide employees / subcontractors with awareness training regarding conserving energy and hence reducing costs • Encourage employees / subcontractors to suggest energy saving ideas.	
Water Conservation	• Turn off hose pipes when not in use • Switch off taps when not in use • Ensure there are no water leaks • Within site accommodation, use water boilers rather than kettles to encourage water savings • Where possible, install water efficiency measures e.g., low water flush toilet cisterns • Where feasible, implement rainwater harvesting on site • Provide employees / subcontractors with awareness training regarding water conservation • Encourage employees / subcontractors to suggest ideas for saving water.	Yes
Material reuse	• Records of material reuse will be retained to demonstrate actions taken to avoid waste • Records will summarise materials provided to exchange / reuse networks, charitable and community groups, and reuse with other WCL projects.	Yes

5.6.1 Sustainable Procurement

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Register (E02).

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Supplier assessment	Ensure procurement teams undertake a supplier pre-qualification assessment that focuses on business management including environmental and social issues (Q25 / Q65).	Yes
Material ordering	• Avoid over-ordering of construction materials i.e., material waste allowance rates should be kept $\leq 5\%$ • Encourage suppliers and subcontractors to provide take-back construction / product wastes e.g., pallets, packaging.	Yes
Timber Procurement	• Ensure all timber / timber products purchased for either temporary or permanent works are certified as legally and sustainably sourced, as defined by the UK Government Central Point of Expertise on Timber • Periodically conduct checks upon the delivery of timber / timber products to site: – Verify that FSC / PEFC Chain of Custody (CoC) certificate(s) are valid and genuine – Check the CoC certificate number matches the delivery note – Check that the relevant claim to each product supplied (e.g., Mix 70%, 100%, Recycled Credit) is specified on the delivery note.	Yes
Aggregates procurement	• Maximise the use of cement replacement products in concrete mixes • Maximise the use of Recycled Concrete Aggregate (RCA).	Yes
Reduce packaging waste	• Minimise packaging waste on products supplied • Work with suppliers to implement packaging take back schemes.	Yes

Local suppliers	Where possible, use local suppliers to reduce transportation costs and maintain a low carbon footprint.	Yes
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5.6.2 Hazardous Materials Management

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Register (E02).

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Hazardous materials storage	• Develop a Spill Response Plan (E11) • Store hazardous materials more than 10m from a watercourse or surface water and / or foul water drainage gullies • Undertake COSHH assessment for hazardous materials (S73) • Segregate COSHH raw material stores and COSHH waste stores • Develop a COSHH Register for materials stored and handling requirements (S74) • Store hazardous material containers on secondary containment systems that will contain 110% of the contents of the largest container or 25% of the total, whichever is greater • Protect hazardous material containers so as to minimise the ingress of rainwater and secure them against accidental damage • Maintain and inspect hazardous material bunds and spill kits • Monitor hazardous material storage areas for leaks and signs of spillage • Provide site spill kits with instructions in areas of high risk (refer to EG04) • Undertake spill response exercises / drills at a frequency as defined within the Spill Response Plan (E11) • Train staff in the use of spill kits and the correct disposal of used material.	Yes
Refuelling	• Undertake all plant refuelling on hardstanding or within defined areas that utilise drip trays / plant nappies • Provide secure valves and nozzles on fuel storage tanks / bowsers • Conduct refuelling activities at least 10m away from watercourses or surface / foul water drainage gullies • Locate spill kits in all appropriate locations, with instructions for use • Ensure training has been provided to those that conduct refuelling activities on correct refuelling procedures.	Yes

5.6.3 Raw Material Storage

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Register (E02).

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Storage of raw materials	• Store and handle all construction related materials so as to prevent: – Damage & degradation of material quality characteristics – Contamination of the material and / or the external environment – Excessively long on-site storage periods – Loss through theft and vandalism • Conduct site inspections to review construction related material handling and storage practices to ensure that material integrity and quality are being maintained and that their handling and storage is not contributing to an adverse environmental impact.	Yes

5.6.4 Aggregates

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Import of recycled aggregates	• Include the wording provided in EG07 in all purchase orders for recycled aggregates • Ensure that recycled aggregates have been produced in conformance with the Aggregates Quality Protocol: Production of Aggregates from Inert Wastes if more than 5,000 tonnes (over a 3-year period) are to be imported. Retain documentation, as detailed within EG07, to verify conformance to the Aggregates Quality Protocol (Note: grading certificates should be no longer than 3 months old) • Obtain a U1 Environmental Permit Exemption for the import of less than 5,000 tonnes (over a 3-year period) of recycled aggregates that does not conform to the Aggregates Quality Protocol • Ensure that an Environmental Permit is obtained if more than 5,000 tonnes (over a 3-year period) of recycled aggregates that do not conform to the Aggregates Quality Protocol are planned to be imported to site • Reject all loads of delivered recycled aggregates that does not appear to meet the defined material specification e.g., 6F2, 6F5, Type 1, Type 2 • Reject all loads of delivered recycled aggregates that contain more than 1% by mass of Class X materials i.e., wood, plastic and / or metal • Reject all loads of delivered recycled aggregates that contain any asbestos materials or smells of hydrocarbons e.g., oils / diesels.	Yes
Crushing inert aggregates	• Ensure that subcontractors' crushing plant has been issued with a PPC Permit issued by a Local Authority. Retain a copy of the issued PPC Permit within site documentation • Obtain and retain confirmation from the subcontractor operating the crushing plant that a Deployment Notice has been submitted to the local authority where the crusher is registered, if the crusher is operating outside the registered local authority • Ensure that recycled aggregates are produced in conformance with the Aggregates Quality Protocol if more than 5,000 tonnes (over a 3-year period) are to be produced. Retain documentation, as detailed within EG07 to verify conformance to the Aggregates Quality Protocol • Obtain an Environmental Permit if more than 5,000 tonnes (over a 3-year period) of aggregates / soils are to be screened on-site • Obtain a T5 Environmental Permit Exemption if less than 5,000 tonnes (over a 3-year period) of aggregates / soils are to be screened on-site • Obtain a U1 Environmental Permit Exemption for the use of less than 5,000 tonnes (over a 3-year period) of crushed recycled aggregates that does not conform to the Aggregates Quality Protocol • Develop (via the Geotechnical Services Manager) and / or obtain a Materials Management Plan (compliant with the CL:AIRE Code of Practice) or an Environmental Permit for the use of more than 5,000 tonnes (over a 3-year period) of recycled aggregates that does not conform to the Aggregates Quality Protocol.	Yes

The following opportunities for materials reuse have been identified during Pre-Construction. These include the generation of materials on site and / or the import of processed materials from donor sites, as well as use of purchased recycled materials that are imported. *Note: If none of the below apply, please insert "NA".*

SITE WON MATERIALS				
Material Prediction	Volume to be Generated	Volume to be Reused On-site	Volume to be Exported Off-site	Control(s) Allowing Reuse
Aggregates	TBC	TBC	TBC	Choose an item.
				Choose an item.
IMPORTED MATERIALS				
Material Prediction	Volume to be Generated	Volume to be Reused On-site	Volume to be Exported Off-site	Control(s) Allowing Reuse
Aggregates	TBC	TBC	TBC	Choose an item.

				Choose an item.
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5.6.5 Soils

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Register (E02).

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Import of Soils	- Obtain documentation from the supplier, irrespective of whether the topsoil is premium, general purpose or economy grade, to verify that the topsoil satisfies the requirements of BS 3882 and other test certificates to demonstrate the soil is fit for purpose for the specified end use criteria - Obtain a U1 Environmental Permit Exemption for the use of less than 1,000 tonnes (over a 3-year period) of waste soils - Develop (via the Geotechnical Services Manager) or obtain a Materials Management Plan (compliant with the CL:AIRE Code of Practice) or an Environmental Permit for the import and use of more than 1,000 tonnes (over a 3-year period) of waste soils.	?
Export of Soils	- Ensure that a Materials Management Plan (compliant with the CL:AIRE Code of Practice) is developed (via the Geotechnical Services Manager) or an Environmental Permit is obtained for the export and use of more than 1,000 tonnes (over a 3-year period) of waste soils; this could be developed by WCL or the receiving site – discuss with the Senior Environmental Manager / Environmental Advisor - Ensure all other waste Duty of Care legal requirements are complied with in relation to the transport and disposal of waste soils.	?

The following opportunities for materials reuse have been identified during Pre-Construction. These include the generation of materials on site and / or the import of processed materials from donor sites, as well as use of purchased recycled materials that are imported. *Note: If none of the below apply, please insert "NA".*

SITE WON MATERIALS				
Material Prediction	Volume to be Generated	Volume to be Reused On-site	Volume to be Exported Off-site	Control(s) Allowing Reuse
Topsoil	TBC	TBC	TBC	Choose an item.
Subsoil	TBC	TBC	TBC	Choose an item.
Made Ground	TBC	TBC	TBC	Choose an item.

IMPORTED MATERIALS				
Material Prediction	Volume to be Generated	Volume to be Reused On-site	Volume to be Exported Off-site	Control(s) Allowing Reuse
Topsoil	TBC	TBC	TBC	Choose an item.
Subsoil	TBC	TBC	TBC	Choose an item.
Made Ground	TBC	TBC	TBC	Choose an item.

5.7 Cultural Heritage Management

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Register (E02).

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Earthworks	- Consult with the local planning authority and / or Historic England (HE) / Cadw (Welsh Historic Monuments), where relevant, before works commence in areas of known or suspected cultural heritage assets e.g., archaeology, listed buildings - Develop and submit a method statement to HE / Cadw for works that may impact known or suspected cultural heritage assets - Install effective segregation around known or suspected cultural heritage assets from construction activities - Erect signage to notify project personnel of the presence of known or suspected cultural heritage assets - Ensure an archaeological Watching Brief monitors construction activities (e.g., topsoil stripping, excavations) in areas of known or suspected cultural heritage assets - Use toothless buckets, when a Watching Brief is present, to remove topsoil in areas of known or suspected cultural heritage assets - Suspend all construction related works, in the immediate vicinity, if a suspected cultural heritage asset is identified - Report the identification of any cultural heritage asset to the local planning authority - Report and record any damage cultural heritage assets - Provide information (e.g., site induction / toolbox talks) to site personnel.	No
Works on or near Cultural Heritage Assets	- Consult with the local planning authority prior to any demolition works within a conservation area - Obtain Listed Buildings Consent from the local planning authority for any works to a Listed Building - Ensure construction designs are sensitive to the presence of known cultural heritage assets - Conduct structural surveys before construction activities commence to ensure any vibration impacts do not damage known cultural assets - Report and record any damage cultural heritage assets - Provide information (e.g., site induction / toolbox talks) to site personnel.	No

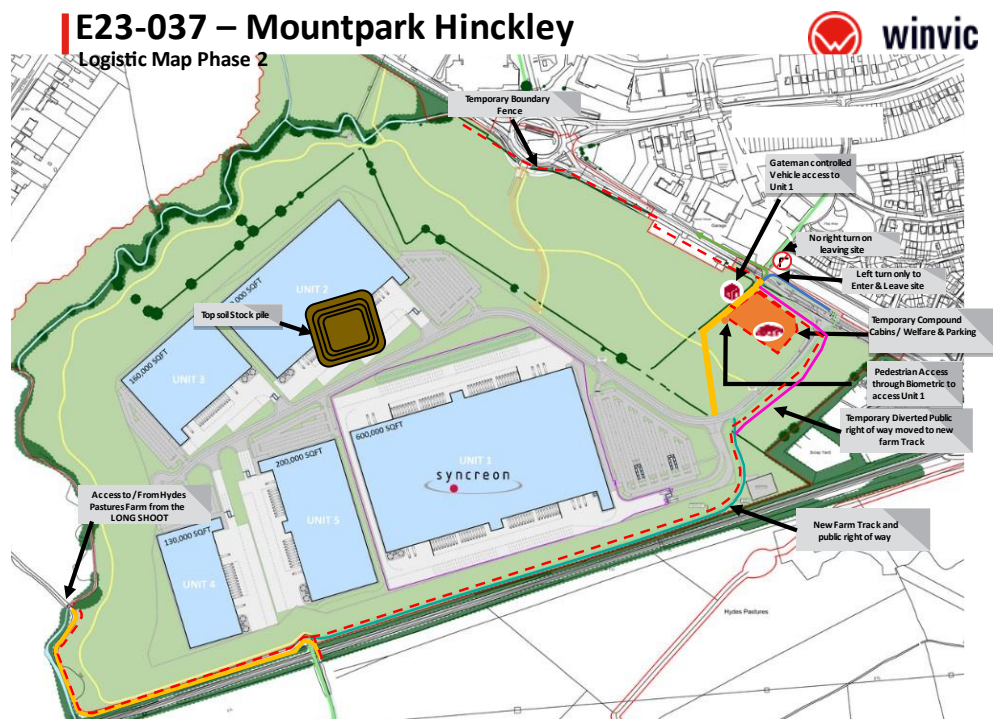
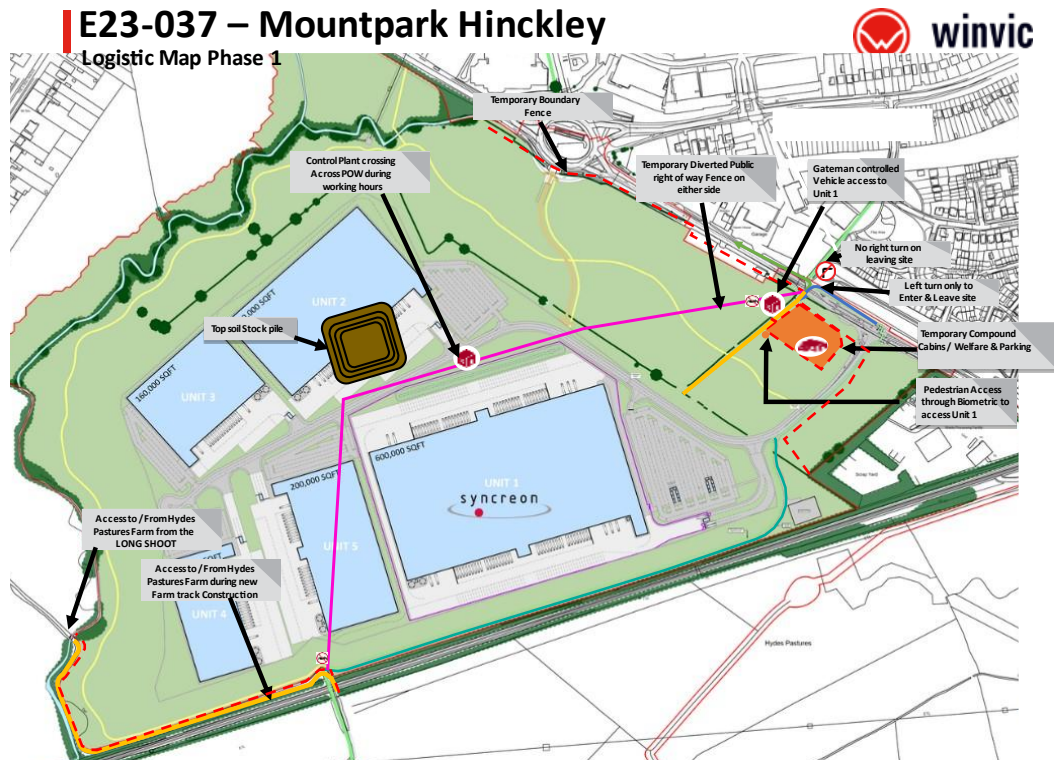
5.8 Traffic Management

The environmental control measures defined below apply to all personnel including WCL staff, subcontractors, suppliers and third parties, and all activities and operations associated with the project. These environmental control measures are in addition to the project specific control measures defined with the Environmental Risk Register (E02).

Risk	Environmental Control Measure(s)	Project Applicable (Yes / No)
Use of public, temporary & permanent haul roads	- Develop and implement a Traffic Management Plan - Identify local receptors that may be adversely impacted by traffic related nuisance complaints (e.g., noise, congestion and visual) - Establish and maintain contact with local residents and other potentially affected parties prior to the commencement of, and during, construction works in order to avoid any potential traffic nuisance related complaints - Ensure all construction related traffic uses agreed access points, as defined within the Traffic Management Plan - Ensure subcontractor HGVs are in good working order and hold a valid MOT certificate - Ensure all vehicles carrying loose material are covered - Obtain permission from the owner of street furniture (e.g., local authority or Local Highway Authority) prior to attaching directional signage - Site deliveries will be onto a stone capping layer or hard surfacing to reduce the risks of mud and / or debris being deposited on the Public Highway. Site access and surrounding	Yes

- | |
|--|
| <p>roads will be monitored at all times and if necessary, road sweeping plant be used</p> <ul style="list-style-type: none"> • Use wheel wash facilities / road sweepers, where appropriate, to keep public roads clear of dust and mud • Ensure all material suppliers adhere to agreed working hours in relation to material deliveries. |
|--|

Below is the logistic plan for the site. Note that this will change as works progresses.



6. PROJECT ENVIRONMENTAL OBJECTIVES / TARGETS AND KPIS

The Project Manager, or their nominated representative, and the HSEQ Manager will review progress in achieving the objectives defined below on a monthly basis during the '4-week planning meeting' (S01). The Project Manager will also ensure the following information is recorded:

- Waste generated
- Electricity consumed
- Fuel consumed
- Water consumed.

Meter readings (e.g., electricity, water) must be entered monthly and waste information recorded on InfoTracker each month. Reported data is to be reviewed on a monthly basis and any data outliers are to be validated to ensure readings are correct and data provided correct; discuss variance to targets with the Environmental Advisor to note reasons or review options for improvement.

7. ROLES AND RESPONSIBILITIES

Key project roles and responsibilities are provided in Appendix 3. The designated WCL staff that will be involved with the construction works throughout the project are identified below.

ROLE	DESIGNATED PERSON	CONTACT NUMBER
Construction Director	James Mandley	01604 678960
Operations Manager	Peter Maguire	01604 678960
Project Manager	Andrew Ward	01604 678960
Site Manager / Agent	TBC	TBC
Head of HSEQ	Martin Law	01604 678960
Senior Environmental Manager	Amit Patel	01604 678960
Environmental Advisor	Laila Yasar	TBC
HSEQ Manager	TBC	TBC

8. SUBCONTRACTOR MANAGEMENT

The project will engage various subcontractors to carry out project construction related activities. These subcontractors are responsible for performing all work in conformance with:

- Relevant environmental legislation and other environmental requirements e.g., Pollution Prevention Guidelines
- The requirements of this CEMP and WCL Working Instructions
- Contractual environmental requirements e.g., WCL Subcontractor Minimum Standards (G100).

Subcontractors are required to develop suitable, adequate and effective method statements that explicitly define the measures to be taken to manage significant environmental risks associated with their scope of works. No works should be permitted to commence until such method statements have been developed and approved by site management and, where necessary, the Environmental Advisor / HSEQ Manager. Additionally, subcontractors are required to provide sufficient and competent resources to monitor conformance with their own defined method statements.

The HSEQ Manager will conduct monthly General Inspections (GIs), that will assess subcontractor conformance to approved method statements, relevant environmental legislation and WCL Working Instructions.

9. COMMUNICATION & LIAISON

The communication of project related environmental information to key stakeholders is a vital element in maximising project environmental performance. Hence, the Project Manager, with the assistance of the HSEQ Manager, will ensure proactive communication of pertinent environmental information, as detailed below.

9.1 Communication with Client Representatives

N/A

9.2 Communication with Suppliers and Subcontractors

Suppliers and subcontractors will be made aware of the specific environmental requirements for working on site and for identifying and dealing with specific environmental issues associated with their work packages through:

- Issuance of the WCL Subcontractor Minimum Standards (G100)
- Attendance at the Health, Safety and Environment Planning Meeting (S01)
- Attendance on WCL and project specific induction processes.

Additionally, this CEMP and other relevant environmental management documentation (e.g., Spill Response Plan and Environmental Risk Register) will be made available on-site notice boards.

9.3 Communication with the public

The Project Manager, or their nominated representative, will liaise with the local community throughout the duration of the project on an as needed basis. However, all potentially affected parties that may be subject to disruption and / or disturbance as a result of project activities will be consulted and / or notified either via verbal face to face communications or letter drops. Additionally, site specific activities will be planned to minimise disturbance and disruption to local communities, schools, colleges, and local businesses. Furthermore, specific local community events (e.g., presentations, open days, site tours) will be held, as required, to foster a strong and open relationship with the members of the local community.

9.4 Communication with external parties

Proactive environmental communications will be conducted, as required, with the following:

- Environment Agency (EA)
- Environmental Health Officer (EHO) from Hinckley and Bosworth Borough Council and Rugby Borough Council
- Severn Trent Water

The purpose of maintaining a proactive and open dialogue with external parties (including regulators) is to ensure compliance with statutory and project environmental requirements is maintained.

If the project receives a reactive environmentally related communication (e.g., telephone call / email / site visit) from an enforcement authority (e.g., Environment Agency or Local Authority), the HSEQ Manager will record the communication on the Notification of Authority Enforcement Contact form (S30b) along with corresponding actions. Actions required following the visit will be closed out, as soon as practicable. In the event of any communications from regulatory bodies regarding possible enforcement action, the Senior Environmental Manager / Environmental Advisor should be contacted immediately, who can offer support and guidance, as needed.

9.5 Considerate Constructors Scheme (CCS)

The Project will be registered with CCS. All works will be carried out with positive consideration towards our neighbours and the environment. Works that are likely to cause an impact to our neighbours will be advertised through a mechanism to be agreed with the local authority. This mechanism may be door to door leafleting of nearby properties, advertising in a local paper, posters in prominent locations and will address issues relating to programme, activities and likely effects, duration and points of contact.

10. MANAGING COMPLAINTS & COMPLIMENTS

The Project Manager / HSEQ Manager will ensure that all environmentally related complaints are recorded within InfoTracker. Thereafter, each substantiated complaint will be managed in accordance with the WCL Environmental Incident Reporting & Investigation Working Instruction (WI 02) that requires each complainant to be contacted within two (2) working days of the complaint being received and the complaint being thoroughly investigated and closed out in a timescale agreed with the complainant. The HSEQ Manager will also ensure that environmentally related complaints are effectively closed out within InfoTracker.

11. ENVIRONMENTAL INCIDENTS & EMERGENCY RESPONSE

All environmental incidents should be reported to the Project Manager (who should report to Clients, when required) who should ensure WCL management are contacted, as defined below, and relevant enforcement

authorities. The Project Manager / HSEQ Manager should ensure that all environmental incidents should be recorded within InfoTracker.

WCL ENVIRONMENTAL INCIDENT CATEGORISATION	LEVEL 4	LEVEL 3	LEVEL 2	LEVEL 1
	Substantiated incident with no impact on the environment, people / property and / or reputation (WCL OBSERVATION)	Minor impact on the environment, people / property and / or reputation	Significant impact on the environment, people / property and / or reputation	Major impact on the environment, people / property and / or reputation
<i>Example incidents (Categorisation to be confirmed with the Winvic Construction Limited (WCL) Environmental Team)</i>				
NOTIFICATION	All WCL staff via InfoTracker	- HSEQ Manager - Operations Manager - Environmental Advisor - Senior HSEQ Manager - Sector Head of HSEQ - Construction Director	- HSEQ Manager - Operations Manager - Senior Environmental Manager - Senior HSEQ Manager - Sector Head of HSEQ - Construction Director	- Operations Manager - Head of Environment - Senior Environmental Manager - HSEQ Director - Sector Head of HSEQ - Construction Director

For Level 1 and Level 2 incidents, the Project Manager should contact the Senior Environmental Manager by telephone who will then further escalate the WCL response, if required.

Guidance on environmental incident categorisation is detailed within the WCL Environmental Incident Reporting & Investigation Working Instruction (WI 02; Appendix 1); however, the Senior Environmental Manager / Environmental Advisor will be consulted to agree final environmental incident categorisation.

The Project Manager / HSEQ Manager will ensure that the dedicated HSEQ telephone number is used in the event of an environmental incident occurring outside of normal working hours i.e., the 'HSEQ Team – Out of Hours On-Call Number' is called in the event of out of hour's environmental incidents, which should be used between the following hours:

- **Midweek** – after 1700hrs in the evening to 0700hrs the next day
- **Weekends** – after 1700hrs Friday to 0700hrs Monday
- **During normal working hours** – 0700hrs to 1700hrs Monday to Friday (*ensure contact is made with the HSEQ Manager direct in the first instance*).

The Project Manager will, when necessary, report environmental incidents to:	
WCL Management (Out of Hours On-Call Number)	0330 320 2185
Environment Agency Local Area Office	0370 850 6506
Environment Agency 24-hour Emergency Hotline	0800 80 70 60

The On-Call Manager will provide advice and guidance in relation to the environmental incident as well as assistance in completing InfoTracker. If project personnel identify a suspected cultural heritage asset (e.g., archaeological artefact) all construction related works in the immediate vicinity should be stopped. Thereafter, the find should be reported to the Project Manager and the Environmental Advisor who should take all necessary and appropriate action(s), as defined in WCL Working Instruction (WI 05, Cultural Heritage Management).

Furthermore, if project personnel identify suspected rare or invasive plant species and / or rare fauna (e.g., Great Crested Newts, Water Voles, Bats, Barn Owls, Badgers and breeding birds) all construction related works in the immediate vicinity should be stopped. Thereafter, the find should be reported to the Project Manager and the Environmental Advisor who should take all necessary and appropriate action(s), as defined in WCL Working Instruction (WI 04, Ecological Management).

The WCL Working Instruction entitled Environmental Emergency Preparedness & Response (WI 03) describes the actions required to plan for the effective management of potential environmental emergency incidents so as to minimise any potential detrimental environmental impacts. As a result of implementing this Working Instruction, a Spill Response Plan (SRP) (E11) has been developed and made available to all site personnel.

Additionally, the Project Manager will ensure that this SRP is tested at least once and that site personnel are adequately trained in its requirements. The Project Manager should ensure that environmental emergency

equipment (e.g., spill kits) appropriate to the significance of the spill risk and the sensitivity of the surrounding environment, are appropriately located and maintained on site.

In the event of a major hazardous material spill incident (i.e., incidents which cannot be dealt with using equipment available on site or spills / pollution which have, or are likely to, enter(ed) a watercourse / drain) site personnel should call the following 24-hour national spill response hotline:

AMBIPAR RESPONSE	
Response Time: Within 4 – 6 hours	01202 653558
Information to be provided when an emergency response call is made:	• Name of person reporting the incident • Quote Winvic Construction Limited • Telephone Number of person reporting the incident • Purchase Order Number • Incident details i.e., what has been spilled / location of spill / site contact details.

12. ENVIRONMENTAL TRAINING

Courses are run by WCL covering various environmental issues, as defined in the WCL Training Matrix. For site personnel, the site induction will be used to promote overall environmental awareness as well as employee and subcontractor environment management responsibilities. The site induction will be further enhanced through the delivery of a series of toolbox talks that should be delivered to relevant site personnel on an ongoing basis.

The environmental toolbox talks that should be delivered on this project are:

WCL ENVIRONMENTAL TOOLBOX TALKS	
TBTENV02	Tree Protection
TBTENV06	Bats
TBTENV10	Water Voles
TBTENV11	Birds
TBTENV13	Otters
TBTENV20	Spill Control
TBTENV21	Petrol, Diesel and Oils
TBTENV22	Re-Useable Soil Resources on-site
TBTENV23	Soil Planning and Management
TBTENV24	Stripping Topsoil
TBTENV25	Stripping Sub-soil
TBTENV26	Stockpiling Soil
TBTENV27	Spreading Soil
TBTENV28	Sourcing Topsoil
TBTENV29	Manufacturing Topsoil
TBTENV30	Soil Aftercare
TBTENV31	Use of Surplus Soil
TBTENV34	Dust and Air Quality
TBTENV35	Noise and Vibration
TBTENV36	Be a Good Neighbour
TBTENV37	Materials Management and Housekeeping
TBTENV38	Energy Conservation – Construction Site Good Practice
TBTENV39	Timber Procurement
TBTENV40	Waste Management
TBTENV41	Storage of Waste
TBTENV42	Waste Segregation
TBTENV43	Water Pollution Prevention
TBTENV44	Water Pollution – Silt
TBTENV45	Water Pollution – Cement and Concrete

TBTENV46	Pumping and Overpumping
TBTENV47	Washing Down Plant and Machinery
TBTENV49	Climate Change
TBTENV50	Construction Carbon Reduction
TBTENV51	Road Sweepers

The delivery of these environmental toolbox talks will be planned during the '4-week planning meeting' (S01) that is held between the Project Manager and the HSEQ Manager. Evidence of delivery of any relevant training and / or TBTs will be recorded on the Training Attendance Register (S43).

13. ENVIRONMENTAL AUDITS & INSPECTIONS

Continuous monitoring of environmental performance will take place via monthly General Inspections (GIs), which establishes subcontractors' compliance to the requirements of the WCL EMS, this CEMP, method statements and the Client and statutory obligations.

GIs will be conducted by the HSEQ Manager with any findings recorded within InfoTracker. Thereafter, appropriate corrective and remedial action(s) will be taken in a timely manner. Environmental information from GIs is collated by the HSEQ Department and analysed for any arising trends. From this analysis, preventative action is taken to prevent recurrence e.g., re-briefings, toolbox talks. Project environmental audits will be conducted by the Senior Environmental Manager / Environmental Advisor to ISO14001 standards, to ensure compliance with the WCL EMS. HSEQ Managers will also include environmental observations and corrective actions as part of their site visit reports.

14. PROJECT CLOSE OUT

The Project Manager must ensure the following are completed upon conclusion of site-based project activities.

ITEM	ACTIONS	YES; NO; N/A
DoWCoP / MMP / Verification Report	Has all documentation / records been completed for the reuse of excavated material?	
	Has the required information been returned to the appropriate consultants? Has CL:AIRE been notified?	
U1 Exemption	Have record logs been completed for the reuse of excavated material (demonstrating <1,000t used)?	
	Are all waste transfer notes retained?	
Aggregates Quality Protocol	Has appropriate information been provided demonstrating compliance with the Aggregates Quality Protocol?	
Environmental permits, consents, licences and / or approvals	Have all environmental regulatory permissions (e.g., discharge permits / abstraction licences / waste permits) been surrendered to the appropriate regulatory body?	
BIG Challenge	If relevant, has the WCL Environmental Advisor been contacted to develop a project BIG Challenge case study to highlight biodiversity enhancement initiatives undertaken?	
Project Case Study	If relevant, has the Marketing & BD Department been contacted produce a HS&E / Sustainability Case Study to highlight HS&E / Sustainability achievements made during project delivery?	
Awards	If relevant, has the WCL Environmental Advisor been contacted to develop a submission for an environmental award (e.g., Green Apple Award) to recognise significant environmental achievements?	
Environmental Performance (KPIs)	Have all WTNs / HWCNs been added to InfoTracker?	
	Has the Waste Management Service Provider diversion from landfill figures provided / accurate? Has the final project C/D/E performance data been received from each provider?	
	Has all diesel / water usage been recorded?	
	Has the final electric meter reading(s) been entered onto InfoTracker?	
Incidents & Communication	Have all environmental incidents, Enforcement Authority visits been recorded and closed out?	
	No. of L1 incidents ??	
	No. of L2 incidents ??	
	No. of L3 incidents ??	
	No. of L4 observations ??	
	No. of environmentally related complaints ??	

**British
Assessment
Bureau**

Certification is conditional on maintaining the required performance standards throughout the certified period of registration
The British Assessment Bureau, 30 Tower View, Kings Hill, Kent, ME19 4UY

The management system of Certificate Number 2032456
Winvic Construction Limited
Brampton House, 19 Tenter Road, Moulton Park, Northampton, NN3 6PZ

has been assessed and certified as meeting the requirements of

ISO 14001:2015
for the following activities

The design and project management of construction projects for the private sector and commercial clients throughout the United Kingdom. For the purpose ofSSIP this Organisation has been assessed against a Principal Contractor and Principal Designer; CDM role.

Further clarifications regarding the scope of this certificate and the applicability of requirements may be obtained by consulting the certifier.



UKAS
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8289

Valid from
Initial Certification: 17 September 2009
Latest Issue: 06 July 2021
Expiry Date: 17 September 2024
subject to annual assessments

Authorised by

Mike Tims
Chief Executive
Officer

www.british-assessment.co.uk
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APPENDIX 2: PROJECT ENVIRONMENTAL RISK REGISTER



E02

Environmental Management

Environmental Risk Register

Project Name:

Project Number:

Regional Environmental Manager:

Prepared By:

Position:

Date Prepared:

Date Last Reviewed:

Construction Activity		Nuisance						Discharges & Emissions				Land & Resources				General		
Ref	Description	Noise	Odour	Dust	Traffic	Visual Impact	Vibration / Light	Surface Water	Ground Water	Solid Waste(s)	Liquid Waste(s)	Cultural Heritage	Land Use Management	Materials, Energy & Water Conservation	Ecological Management	Environmental Incident	Other	Environmental Legal Permissions
	Select Activities																	
1	Abstraction of Water																	
2	Boring and Bored Tunneling																	
3	Brick / Blockwork																	
4	Building Refurbishment																	
5	Concrete Batching																	
6	Concrete Pours & Washout																	
7	Crushing, Screening & Material Reuse																	
8	Demolition Works																	
9	Dewatering / Overpumping																	
10	Dredging																	
11	Earthworks																	
12	Erection of Site Fencing																	
13	Excavation																	
14	Exposed Structural Element Repair																	
15	Grouting																	
16	Internal & External Fit-out																	
17	MBE Work																	
18	Microtunnelling																	
19	Office Maintenance																	
20	Permanent Office Set-Up & Operation																	
21	Piling																	
22	Pipeline Testing & Commissioning																	
23	Planning Conditions																	
24	Plant & Vehicle Maintenance																	
25	Procurement of Materials & Services																	
26	Roadworks																	
27	Site Access / Egress																	
28	Site Clearance																	
29	Site Drainage																	
30	Site Office Set-Up & Operation																	
31	Steelwork Erection																	
32	Storage / Use of Hazardous Materials																	
33	Temporary Works																	
34	Transportation - materials / wastes																	
35	Use of Plant & Vehicles																	
36	Vegetation Clearance																	
37	Washdown Activities																	
38	Working in Tidal Waters																	
39	Working in, near or over Water																	
40	Working with Groundwater																	
41	User Defined Risk 1 - double click																	
42	User Defined Risk 2 - double click																	
43	User Defined Risk 3 - double click																	

APPENDIX 3: PROJECT ROLES & RESPONSIBILITIES

NAME / POSITION	KEY ENVIRONMENTAL RESPONSIBILITIES	MOBILE NUMBER
Andrew Ward Project Manager	• Overall management of the environmental component of the project. • Secure environmental permits in collaboration with the Senior Environmental Manager / Environmental Advisor • Support and check that environmental plans, associated guidance, and processes are being followed with support from the Environmental Advisor. • Highlight new areas of work that may present environmental risk and ensure these are proactively managed.	
TBC Site Manager/ Agent	• Highlight new areas of work that may present environmental risk. • Lead on developing new ways of working to avoid, reduce and mitigate pollution, obtain support from the HSEQ Manager / Environmental Advisor. • Communicate and where necessary supervise the delivery of the agreed work and any additional actions. • Act in the event of pollution incidents. • Delivery of environmental training (induction and toolbox talks) for site personnel and subcontractors.	TBC
Laila Yasar Environmental Advisor	• Support day to day activities to ensure significant environmental effects are avoided. • Review and update the site Construction Environmental Management Plan, where necessary. • To act as the main point of contact between the regulatory authorities (EA / local authority) and the project on environmental issues. • Liaison with the acoustic, air, lighting and ecological consultant(s) to the project. • To act as the main point of contact between neighbours and the project. • Ensure best practice is promoted at all times. • Assisting with the implementation of emergency response procedures after environmental incidents. • Assisting in the management of the monitoring programme, including dust, noise, smoke, light and land contamination.	TBC
Amit Patel Senior Environmental Manager	• Provide support to evaluate environmental risk and advise on developing new ways of working to avoid, reduce and mitigate pollution. • Monitor, review and update environmental plans; include site-specific protection measures, discuss any actions with Environmental Advisor and HSEQ manager; agree responsible persons and timeframe for delivering on actions. • Support the development of new guidance and processes in line with the ISO14001 EMS. • Provide advice in the event of pollution incidents. • Provide environmental training to all staff.	07519 328045
TBC HSEQ Manager	• Lead on proposals to address strategic environmental risk and present these to the business. • Chair '4 weekly' meetings on site to evaluate environmental monitoring, incidents, non-conformances, complaints and change or variation in the working method. • Ensure the project Environmental Risk Register is formally reviewed monthly during '4 .weekly' meetings • Support development and sign off method statements for high-risk activities. • Environmental incident monitoring and reporting.	TBC

NAME / POSITION	KEY ENVIRONMENTAL RESPONSIBILITIES	MOBILE NUMBER
Earthwork, Groundwork and Water Management Support	- Follow processes communicated with respect to environmental protection and specific methods of work. - Implement environmental plans and any site-specific measures. - Report to senior engineer any pollution and near miss incidents. - Act in the event of pollution incidents.	TBC
Spill Responder(s)	- Ensure spill response equipment is available and well maintained - Respond to any spill incident that occurs if it is safe to do so - Ensure incident details are entered within InfoTracker following any spill incident.	TBC
Site Staff	- Follow processes communicated with respect to environmental protection and specific methods of work. - Report to their immediate supervisor any pollution and near miss incidents observed. - Act in the event of pollution incidents.	N/A

APPENDIX 4: TABLE OF ENVIRONMENTAL RELATED CONDITIONS 21/01191/HYB & R21/0985

Planning condition	Information
HBBC – 3 RBC – 4	No development shall take place in each phase until: a) Where relevant to the phase, the programme of archaeological

	evaluative fieldwork and associated post-excavation analysis and report production detailed within the WSI approved by Leicestershire/Warwickshire County Council in April 2023 has been undertaken. A report detailing the results of this fieldwork, and confirmation of the arrangements for the deposition of the archaeological archive, has been submitted to the planning authority. b) An archaeological mitigation strategy document (including a Written Scheme of Investigation for any archaeological fieldwork proposed) has been submitted to and approved in writing by the Local Planning Authority. This should detail a strategy to mitigate the archaeological impact of the proposed development in the phase should be unformed by the results of the archaeological evaluation. The development and any archaeological fieldwork, post excavation analysis, publication of results and archive deposited detailed in the approved documents, shall be undertaken in accordance with those documents.
HBBC – 4	No compound or any other construction related activities are to be carried out with the ‘no build zone’ (A5 safeguard area) within HBBCs administrative area as shown on the approved A5 safeguard land and county ownership plan.
HBBC – 5 RBC – 11	Prior to the commencement of any works in any phase, a Demolition and Construction Environmental Management Plan relating to those works shall be approved by the Local Planning Authority. This shall take account of the ‘Environmental Statement September 2021’ Chapter 8.6 Mitigation. It shall include details relating to: a) The control of noise and vibration emissions from demolition and construction activities including groundworks and the formation of infrastructure including arrangements to monitor noise emissions from the development site during the demolition and construction phase. b) The control of dust including arrangements to monitor dust emissions from the development site during the demolition and construction phase. This shall take account of the

	'Environmental Statement September 2021' Chapter 8.6 Air Quality Mitigation c) Measures to reduce mud deposition offsite from vehicles leaving the site. d) Details concerning pre-commencement ecology checks (including badgers, bats, breeding birds, otter, and water vole) and appropriate working practices and safeguards for wildlife and habitats that are to be employed whilst works and taking place on site. e) A method statement and confirmed tree protection details during the construction phase, with regard to the approved Tree Retention Plans contained in the ES chapter 11. Development shall be carried out in compliance with the approved Demolition and Construction Environmental Management Plan
HBBC – 7 RBC – 16	A landscape and ecological management plan (LEMP) for each phase shall be submitted to, and be approved in writing by, the Local Authority prior to the development for that phase being first brought into use. The content of the LEMP shall include the following: a) Description and evaluation of features to be managed b) Ecological trends and constraints on site that might influence management c) Aims and objectives of management d) Appropriate management options for achieving aims and objectives e) Prescriptions for management actions f) Preparation of a work schedule (including an annual work plan capable of being rolled forward over a five-year period). g) Details of the body or organisation responsible for implementation of the plan h) Ongoing monitoring and remedial measures The LEMP shall also include details of the legal and funding mechanism(s) by which long-term implementation of the plan will be secured by the developer with the management body(ies) responsible for its delivery.
HBBC – 8 RBC – 17	Construction shall be limited to the following hours (Excluding highways works which will be subject to separate agreement): Monday – Friday 07:30 – 18:00 Saturday 08:30 – 13:00 No working Saturdays or bank holidays

HBBC – 18 RBC – 27	Prior to the commencement of any construction work, a Construction Traffic Management Plan, including as a minimum, details of the routing of construction traffic, wheel cleansing facilities, vehicles parking facilities and a timetable for their provision, shall be submitted to and approved in writing by the LPA, in consultation with National Highways. The approved plan and timetable should be adhered to throughout the construction period.
HBBC – 19	No development of the A5 road lowering works shall take place until an assessment of the fluvial flood risk to and resulting from this element of this scheme has been submitted to, and approved in writing, by the local planning authority (in consultation with the Environment Agency). The assessment shall also include: 1. Confirmation of any fluvial flood risks to the road lowering (including suitable hydraulic modelling or calculations for all fluvial flood events up to the design flood event, including an allowance for climate change (2022 guidance). 2. Details of any mitigation measures required to overcome any fluvial flood risk issues. Any mitigation measures required shall be fully implemented prior to first use of the lowered road (A5) and subsequently in accordance with the scheme's timing/phasing arrangements. Any measures detailed above shall be retained and maintained thereafter throughout the lifetime of the development.

APPENDIX 5

Arboricultural Method Statement for MOUNTPARK HINCKLEY (Padge Hall Farm)

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1) Introduction

This Arboricultural Method Statement (AMS) includes the Arboricultural Assessment which has the Tree Retention Plan (TRP) in Appendix A and Tree Survey Schedule in Appendix B. This AMS is to be read in conjunction with these documents.

The aim of this document is to identify what is required for the development in regard to:

- Required tree works
- Protection measures for retained trees
- Site monitoring and supervision
- The sequence of events and key actions
- Communication
- Responsibilities

This AMS is a stand-alone document and will be kept on site throughout the construction phase. All dimensions for installing protective barrier fencing are to be taken from the TRP in Appendix A.

2) Required Tree Work

Seven individual specimens were considered to be unsuitable for retention in their current condition and in relation to the current land use. These trees ranged from standing dead stumps, large mature trees with declining health to trees which had suffered extensive browsing damage. These will be removed as part of the works.

3) Tree Protection

Fencing

- Material storage and contractors parking are to be sited away from the retained trees and will be displayed on the TRP with a fenced off perimeter.
- All trees that are in proximity to construction works or have the potential to be damaged during construction require protective Construction Exclusion Zone (CEZ) fencing that conforms to BS 5837:2012. The fencing will be sturdy enough to withstand impact from plant machinery with support struts fixed to the ground – see fencing examples and installation methods (Appendix C).
- The fencing will display all weather notices attached along the fence line at regular intervals (Appendix D).
- The positions of the CEZ fencing will be taken from the TRP in Appendix A (the positions are also displayed on the TPP), and shall extend to the edge of the calculated RPA radius (Appendix A) or the edge of the canopy spread – whichever is the greatest. A table is displayed below to indicate the distance required from the base of the nearest tree:

Temporary ground protection

- No areas have been identified that require temporary ground protection. In the event that insufficient space is identified for pedestrian access or plant machinery between the CEZ fencing and the construction zone, the barrier can be set back and temporary ground protection can be installed within the RPA.
- The specification will be agreed with the project arboriculturist and confirmation from the Council will be obtained prior to moving the CEZ fencing and installing the temporary ground protection.
- An example of temporary ground protection can be seen in Appendix E.

- All temporary ground protection areas will be specified by an appropriate engineer to calculate the required specification for anticipated traffic use.
- Advice and consultation with specialists can be found at the following: Cellweb@TRP - [Cellular Confinement System \(geosyn.co.uk\)](http://geosyn.co.uk).

4) Site Monitoring and Supervision

The project arboriculturist shall attend site at the following times:

- Pre-commencement meeting between the principle contractor, client and project arboriculturist, to ensure that all aspects of the AMS and tree protection measures are understood.
- Prior to commencement of the development, to ensure that tree protective fencing (i.e. CEZs) has been satisfactorily installed as per the TRP.
- At least once during construction and before completion, to inspect that tree protection measures are in good order.

5) Communication

6.1. Pre-commencement

- A copy of this method statement shall be provided to all relevant parties.
- Before any site works begin, the contact details for the site manager, contractors and the project arboriculturist shall be shared between all parties. This will ensure that all parties have a point of contact and can communicate to agree the sequence of events (where they can impact on trees), and are able to acquire understanding of the tree protection measures detailed in this document as needed.
- Dimensions and fence positions of the approved CEZs will be drawn onto all plans used by site operatives.
- Laminated protective fence signage shall be erected on all CEZ protective fencing at 1.5m from ground level and every 10m along the fence.

6.2 During works

When required, the project arboriculturist shall provide a photographic record and detail observations during any site visits that they undertake. The report shall include any matters that are in breach of this AMS relating to tree protection.

6) Responsibilities

It is the responsibility of the principal contractor to ensure that the details of this AMS are understood and followed by site personnel.

The site manager has overall responsibility on site for ensuring that tree protection is in accordance with that agreed at the pre-commencement site meeting (i.e. what is stated here in the AMS). The site manager will contact the arboriculturist for the following reasons:

- When arboricultural monitoring and supervision is required at stated times within the AMS
- Any deviation from the agreed AMS is required.
- Unexpected tree related problems during the construction that is not detailed in the AMS.
- Any tree related advice required throughout the scheme.
- Any accidental damage to tree protection measures.

The project arboriculturist's role is to monitor compliance with the AMS, and to provide advice in regard to any tree-related issues that may occur during the build.

LAND SOUTH OF HINCKLEY.

CHAPTER 10 ENVIRONMENTAL STATEMENT ECOLOGY AND NATURE CONSERVATION

APPENDIX 10.1D – ARBORICULTURAL ASSESSMENT

SEPTEMBER 2021



Agrarian Development Holdings Limited

Padge Hall Farm, Hinckley

Arboricultural Assessment

March 2021

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1.0 INTRODUCTION

- 1.1 This report has been prepared by FPCR Environment and Design Limited on behalf of Agrarian Development Holdings Limited to present the findings of an Arboricultural Assessment and survey of trees located at Padge Farm, Hinckley (hereafter referred to as the site), OS Grid Ref SP 398 927.
- 1.2 The survey was carried out on 15th July 2020.

Scope of Assessment

- 1.3 The tree survey and assessment of existing trees has been carried out in accordance with guidance contained within British Standard 5837:2012 *Trees in Relation to Design, Demolition and Construction - Recommendations* (hereafter referred to as BS5837). The guidelines set out a structured assessment methodology to assist in determining which trees would be deemed either as being suitable or unsuitable for retention.
- 1.4 The guidance also provides recommendations for considering the relationship between existing trees and how those trees may integrate into designs for development; demolition operations and future construction processes so that a harmonious and sustainable relationship between any retained trees and built structures can be achieved.
- 1.5 The purpose of the report is therefore to firstly, present the results of an assessment of the existing trees' arboricultural value, based on their current condition and quality and to secondly, provide an assessment of impact arising from the proposed development of the site.
- 1.6 This report has been produced to accompany a planning application for commercial / industrial warehousing and has included an assessment of any impact to the tree cover. The survey has therefore focused on any trees present within or bordering the site that may potentially be affected by the future proposals or will pose a constraint to any proposed development.

Site description

- 1.7 The site is located to the south of Hinckley, on the outer edge of the existing residential and industrial areas. The site is bordered by the A5 trunk road to the north east and the Birmingham – Leicester railway line to the south. The Harrow brook extends through the site and forms the boundary to the west and north. The site is dominated by arable land with field boundaries formed by native hedgerows, some with associated ditches and mature trees.

2.0 PLANNING POLICY

National Planning Policy Framework 2019

- 2.1 National Planning Policy is defined by the National Planning Policy Framework (NPPF). This sets out the Government's most current and up to date planning policies for England and how these should be applied. The current NPPF is dated February 2019.
- 2.2 Paragraph 11 of the NPPF states that there is a presumption in favour of sustainable development and states that for decision making, the LPA should be '*c) approving development proposals that accord with an up-to-date development plan without delay*'. In the absence of a development plan or the development plan is out of date, the acting LPA should grant planning consent so far as the development proposals do not breach the policies and guidance outlined in the NPPF.
- 2.3 In relation to arboriculture, the NPPF also states that:
- 175(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 provides specific guidance that:
- 175(d) '*development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity*'.
- 2.4 Examples of what is deemed to be '*wholly exceptional*' are included within Footnote 58 and provides the examples of '*infrastructure projects (including nationally significant infrastructure projects, orders under the Transport and Works Act and hybrid bills), where the public benefit would clearly outweigh the loss or deterioration of habitat*'.

Statutory Considerations

- 2.5 Local authorities have a Duty under the Town and Country Planning Act to create Tree Preservation Orders (TPO) in order to protect and preserve specific trees and woodlands that bring significant amenity benefit to a particular site or location. Under a TPO it is a criminal offence to cut down, top, lop, uproot or willfully destroy a tree protected by that Order, or to cause or permit such actions, if carried out without the prior written consent of the acting LPA. Anyone found guilty of such an offence is liable and in serious cases, may result in prosecution and incur an unlimited fine.
- 2.6 No direct consultation with the Local Planning Authority has taken place, however, it is understood having used the online search facility on the website for the Local Planning Authority, Hinckley and Bosworth Borough Council that there are no Tree Preservation Orders and Conservation Areas that would apply to any trees present on, or in close proximity to the assessment site and therefore no statutory constraints would apply to the development in respect of trees. Before any tree works are undertaken confirmation of the online information should be sought from the Local Authority.

- 2.7 Information provided on Tree Preservation Orders and Conservation Areas is accurate to the date of this assessment and cannot be assumed to remain unchanged. The last check was carried out on the 4th October 2020.

Non-Statutory Considerations

- 2.8 In order to compile existing baseline information on relevant arboricultural considerations information was requested from both statutory and non-statutory nature conservation organisations. The Multi Agency Geographic Information for the Countryside (MAGIC)¹ website highlighted no tree cover within the site as or included within the following:

3.0 SURVEY METHODOLOGY

- 3.1 The survey of trees has been carried out in accordance with the criteria set out in Chapter 4 of BS5837. The survey has been undertaken by a suitably qualified and experienced arboriculturist and has recorded information relating to all those trees within the site and those adjacent to the site which may be of influence to any proposals. Trees were assessed for their arboricultural quality and benefits within the context of the proposed development in a transparent, understandable and systematic way.
- 3.2 Trees have been assessed as groups, hedgerows or woodland where it has been determined appropriate.
- The term group has been applied where trees form cohesive arboricultural features either aerodynamically, visually or culturally including biodiversity or habitat potential for example parkland or wood pasture.
 - For the purposes of this assessment, a hedgerow is described as any boundary line of trees or shrubs less than 5m wide at the base and are managed under a regular pruning regime.
 - For the purposes of this assessment woodland is described as a habitat where 'trees are the dominant plant form. The individual tree canopies generally overlap and interlink, often forming a more or less continuous canopy'². Woodlands, however, are not just formed of trees and generally include a great variety of other plants. These will include 'mosses, ferns and lichens, as well as small flowering herbs, grasses and shrubs'³.
- 3.3 An assessment of individual trees within groups, hedgerows or woodland has been made where a clear need to differentiate between them, for example, in order to highlight significant variation between attributes including physiological or structural condition or where a potential conflict may arise.

¹ <http://magic.defra.gov.uk/>

² http://www.countrysideinfo.co.uk/woodland_management/whatls.html

³ http://www.countrysideinfo.co.uk/woodland_management/whatls.html

Ancient and Veteran Trees

- 3.4 Veteran trees and Ancient Woodland are important components of the landscape, their importance can be for a number of reasons including that of their ecological, social, cultural and historic value.
- 3.5 Veteran Trees and Ancient Woodlands are material considerations within the planning process and their importance is specifically recognised within the National Planning Policy Framework (NPPF) 2019, which defines the terms ancient or veteran tree as:
- 'A tree which, because of its age, size and condition, is of exceptional biodiversity, cultural or heritage value. All ancient trees are veteran trees. Not all veteran trees are old enough to be ancient but are old relative to other trees of the same species. Very few trees of any species reach the ancient life-stage.'*⁴
- 3.6 Various published methodologies are currently available which, due to the complexity and subjectivity of the process of defining and assessing these trees, often have conflicting definitions. This assessment, and the criteria used for defining ancient/veteran trees and the identification of attributable ancient/veteran features, has been based on a range of currently published guidance and resources.

Ancient Woodland

- 3.7 Ancient woodland in England is defined as an area that has been continuously wooded since at least 1600 AD. 'Continuously wooded' does not require there to have been a continuous cover of trees and shrubs across the entire area. Habitats such as glades, deer lawns, rides, ponds and streams, as well as gaps created by natural occurrences, and forestry may all occur within woodland.
- 3.8 Ancient woodland includes both ancient semi-natural woodland and plantations on ancient woodland sites:
- Ancient semi-natural woodland (ASNW) is where the stands are composed predominantly of trees and shrubs native to the site that do not obviously originate from planting. However, woodlands with small planting of trees native to the site would still be included in this category. The stands may have been managed by coppicing or pollarding or the tree and shrub layer may have grown up by natural regeneration.
 - Plantations on ancient woodland sites (PAWS) these are areas of ancient woodland where the former native tree cover has been felled and replaced by planted trees, predominantly of species not native to the site. These sites often retain some of the ancient woodland features such as soils, ground flora, fungi and woodland archaeology.
- 3.9 Ancient woodland is a resource of great importance for its wildlife, soils, recreation, cultural value, history and the contribution to diverse landscapes.

⁴ Ministry of Housing, Communities and Local Government. (2019). National Planning Policy Framework. London: Ministry of Housing, Communities and Local Government.

BS5837 Categories

- 3.10 Trees have been divided into one of four categories based on Table 1 of BS5837, 'Cascade chart for tree quality assessment'. For a tree to qualify under any given category it should fall within the scope of that category's definition (see below).
- 3.11 Category U trees are those which would be lost in the short term for reasons connected with their physiology or structural condition. They are, for this reason not considered in the planning process on arboricultural grounds. Categories A, B and C are applied to trees that should be of material considerations in the development process. Each category also having one of three further sub-categories (i, ii, iii) which are intended to reflect arboricultural, landscape and cultural or conservation values accordingly.
- 3.12 **Category (U) – (Red):** Trees which are unsuitable for retention and are in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years. Trees within this category are:
- Trees that have a serious irremediable structural defect such that their early loss is expected due to collapse and includes trees that will become unviable after removal of other category U trees.
 - Trees that are dead or are showing signs of significant, immediate or irreversible overall decline.
 - Trees that are infected with pathogens of significance to the health and/ or safety of other nearby trees or are very low-quality trees suppressing adjacent trees of better quality.
 - Certain category U trees can have existing or potential conservation value which may make it desirable to preserve.
- 3.13 **Category (A) – (Green):** Trees that are considered for retention and are of high quality with an estimated remaining life expectancy of at least 40 years with potential to make a lasting contribution. Such trees may comprise:
- Sub category (i) trees that are particularly good examples of their species, especially if rare or unusual, or are essential components of groups such as formal or semi-formal arboricultural features for example the dominant and/or principal trees within an avenue.
 - Sub category (ii) trees, groups or woodlands of particular visual importance as arboricultural and / or landscape features.
 - Sub category (iii) trees, groups or woodlands of significant conservation, historical, commemorative or other value for example veteran or wood pasture.
- 3.14 **Category (B) – (Blue):** Trees that are considered for retention and are of moderate quality with an estimated remaining life expectancy of at least 20 years with potential to make a significant contribution. Such trees may comprise:
- Sub category (i) trees that might be included in category A but are downgraded because of impaired condition for example the presence of significant though remediable defects, including unsympathetic past management and storm damage.

- Sub category (ii) trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.
 - Sub category (iii) trees with material conservation or other cultural value.
- 3.15 **Category (C) – (Grey):** Trees that are considered for retention and are of low quality with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150mm. Such trees may comprise:
- Sub category (i) unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.
 - Sub category (ii) trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value or trees offering low or only temporary / transient screening benefits.
 - Sub category (iii) trees with no material conservation or other cultural value.

Site Plans

- 3.16 The individual positions of trees and groups have been shown on the Tree Survey Plan. The positions of trees are based on a topographical / land survey, as far as possible, supplied by the client. Where topographical information has not identified the position of trees these have been plotted using a global positioning system and aerial photography to provide approximate locations. The crown spread, root protection area and shade pattern (where appropriate) are also indicated on this plan.
- 3.17 As part of this assessment, a Tree Retention Plan has been prepared to show the proposed layout in relation to the existing tree cover allowing an assessment of any potential conflicts. The plan also identifies which trees would be required to be removed or retained as part of the proposed development.

Tree Constraints and Root Protection Areas

- 3.18 Below ground constraints to future development are represented by tree roots and the soil environment in which they grow which needs to be protected if the tree is to be retained. Tree rooting systems are essential for the uptake of water and nutrients, serving the storage of carbohydrates for the future growth and function of the tree, and form structural anchorage and support for the stem and crown. The perceived rooting area of the tree; referred to as the root protection area (RPA) needs to be protected if the tree is to be retained.
- 3.19 The RPA is a notional area considered to be the minimum zone that must be protected to avoid any adverse impacts on retained trees. The RPA has been calculated in accordance with Annex C, D and Section 4.6 of BS5837:2012 and requires suitable protection in order for the tree to be successfully incorporated into any future scheme. As such, the RPA of existing trees is an important material consideration when considering site constraints and planning development activities.

- 3.20 Where applicable the shape of the Root Protection Area has been modified to consider the presence of any nearby obstacles (existing or past) which may have restricted root growth and the likely root distribution i.e., the presence of hard standing, structures and underground apparatus. Where groups of trees have been assessed, the Root Protection Area has been shown based on the maximum sized tree in any one group and so may exceed the Root Protection Area required for some of the individual specimens within the group. Further detailed inspection of the individual trees forming a group may be required where development impacts upon the group.
- 3.21 Whilst it is generally accepted that a tree's roots may extend far greater distances than the notional RPA, with the distribution of the root system relating directly to the availability of suitable conditions for growth (namely oxygen, water and nutrients), with roots predominantly located in the upper 1,000 mm of the soil horizon; the RPA offers an accepted protective buffer from development.
- 3.22 Above ground constraints such as the current crown spread of the trees and an illustration of the shade pattern (where appropriate) have been considered and identified within the Tree Survey Plan and Tree Retention Plan indicates their potential area of shading influence.

Considerations and Limitations of the Tree Survey

- 3.23 The survey was completed from ground level only and from within the boundary of the site. Aerial tree inspections or an assessment of the internal condition of the stem/s or branches were not undertaken at this stage as this level of survey is beyond the scope of the initial assessment.
- 3.24 The statements made in this report regarding defects in assessed trees does not take into account the effects of extreme / adverse weather conditions, changes in land use prior to the site's development, unforeseen accidents or anti-social behaviors, such as vandalism, which occur since the date of the survey. As such, the assessment of tree condition given within applies to the date of survey and cannot be assumed to remain unchanged.
- 3.25 It will be necessary to review all comments and observations made within this report, in accordance with sound arboricultural practice, within two years of the date of survey (unless explicitly stated elsewhere within this report). Further review may also be necessary where site conditions change or works to trees are carried out which have not been specified in detail within this report.
- 3.26 Hedgerows are identified as a Habitat of Principal Importance (HPI) as listed within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. The tree survey conducted, in accordance with BS5837, does not assess hedgerows against the Hedgerow Regulations 1997 or specifically from an ecological perspective, and is outside the scope of this assessment.
- 3.27 It may be necessary during detailed design to undertake further assessment and accurate positioning of woody species within tree groups and hedgerows to assist structural calculations for foundation design of structures in accordance with current building regulations. The exact position of individual trees or species included as part of a tree group should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculating foundation depths in accordance with NHBC Chapter 4.2 Building near Trees.

4.0 RESULTS

- 4.1 A total of 37 individual trees, 6 groups of trees and 19 hedgerows were surveyed as part of the Arboricultural Assessment. Trees were surveyed as individual trees and groups of trees where examples are clearly present as per the description. Refer to the Tree Survey Plan and Appendix A – Tree Schedule for full details of the trees included in this assessment. The table below summarises the trees assessed.

Tree Schedule

- 4.2 Appendix A presents details of any individual trees, groups and hedgerows found during the assessment including heights, diameters at breast height, crown spread (given as a radial measurement from the stem), age class, comments as to the overall condition at the time of inspection, BS5837 category of quality and suitability for retention and the root protection area.
- 4.3 General observations particularly of structural and physiological condition for example the presence of any decay and physical defect and preliminary management recommendations have also been recorded where appropriate.
- 4.4 Several of the trees have been discussed in more detail following the table, owing to their physical condition or arboricultural significance.

Results Summary

Table 1: Summary of Trees by Retention Category

	Individual Trees	Total	Groups of Trees	Total
Category U - Unsuitable	T1, T10, T11, T12, T13, T22, T27	7		0
Category A (High Quality / Value)	T15, T18, T21, T31	4		0
Category B (Moderate Quality / Value)	T5, T6, T7, T8, T9, T14, T16, T23, T24, T33	10	G1, G3, G4, G6	4
Category C (Low Quality / Value)	T2, T3, T4, T17, T19, T20, T25, T26, T28, T29, T30, T32, T34, T35, T36, T37	16	G2, G5, H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11, H12, H13, H14, H15, H16, H17, H18, H19	21

- 4.5 The vast majority of trees formed the boundaries of each field parcel forming linear tree lines and hedgerows. Tree cover also defined the site boundaries along the existing watercourse and railway line. The dominant species to be found within the site was ash *Fraxinus excelsior* and English oak *Quercus robur*. Groups tended to be comprised of several species, with a high proportion of thorny species such as hawthorn *Crataegus monogyna* and blackthorn *Prunus spinosa*. Other species such as English elm *Ulmus procera*, elder *Sambucus nigra*, willow *Salix* sp. Sycamore *Acer pseudoplatanus*, and field maple *Acer campestre*, all significantly contribute to the site's vast species diversity.
- 4.6 A large majority of the trees appeared to have had little in terms of management, with exception of rudimentary branch removals for access of farm machinery. This was evident as many specimens contained large quantities of deadwood, branch stubs and broken material.

- 4.7 The majority of individual trees and tree groups observed on site were assessed as having low arboricultural quality (category C) in the most part, to either their sporadic and outgrown nature, or as a result of comprising trees which exhibited a fair to poor physiological condition. The vast majority of moderate quality tree cover (category B) was present along the Harrowbrook and provided a key visual feature between the site and the wider landscape. Ten individual specimens were also considered to be moderate quality, comprising of oak and ash.
- 4.8 Four individual trees were deemed to be high in quality and category A. All four specimens were English oak and mature in proportions being situated within the northern portion of the site.
- 4.9 Seven individual specimens were considered to be unsuitable for retention in their current condition and in relation to the current land use. These trees ranged from standing dead stumps, large mature trees with declining health to trees which had suffered extensive browsing damage.

Ancient and Veteran Trees

- 4.10 None of the assessed trees were considered as ancient or veteran trees in accordance with accepted methodologies and guidance.

5.0 ARBORICULTURAL IMPACT ASSESSMENT

- 5.1 The following paragraphs present a summary of the tree survey and discussion of particular trees and groups recorded in the context of any proposed development in the form of an Arboricultural Impact Assessment in accordance with section 5.4 of BS5837. Any final tree retentions will need to be reconciled with the advice contained within this report.
- 5.2 The AIA has been based upon the Site Plan – As Proposed and seeks to outline the relationship between the proposals and the existing trees and hedgerows. The drawing shows the proposals for industrial/commercial units with associated earthworks, highway infrastructure, drainage attenuation and landscaping. An overlay of the layout has been incorporated in the Tree Retention Plan to assist in identifying the relationship and any potential conflicts between the proposals and the existing trees and hedgerows.

Table 3: Summary of Impact on Tree Stock

	Trees to be Retained	Total	Trees to be Removed in full or part	Total
Category U - Unsuitable	T22, T27	2	T1, T10, T11, T12, T13	5
Category A (High Quality / Value)	T15, T21, T31	3	T18	1
Category B (Moderate Quality / Value)	T5, T6, T7, T14, T16, T23, T24, G1, G3, G4, G6	11	T8, T9, T33	3
Category C (Low Quality / Value)	T3, T4, T25, T26, T28, T29, T30, T32, T34, G2, H3, H4, H12, H13, H14, H19	16	T2, T17, T19, T20, T35, T36, T37, G5, H1, H2, H5, H6, H7, H8, H9, H10, H11, H15, H16, H17, H18	21

- 5.3 Having appraised the above plan for any arboricultural implications that may arise as a result of the proposals it would appear that the layout will, through its design, retain and incorporate the majority of the boundary tree cover and that considered to be high and moderate quality.
- 5.4 The position of the units is to be central within the site and closer to the southern boundary. Access will be forged onto the A5 in the north east. The western, northern and eastern areas are to be remodelled to provide soil bunds and drainage attenuation supporting large areas of strategic woodland tree and shrub planting to produce vegetative screening of the development from the wider landscape whilst also acting as a wildlife corridor and mitigation for the losses identified. Tree and hedgerow impacts will therefore be focused in those areas proposed for development to provide a level surface and the surrounding earthworks.
- 5.5 The existing linear tree group positioned along the Harrowbrook is to be retained providing screening and reinforced through additional planting located on the earth bunding.
- 5.6 The loss of tree cover will comprise of internal field boundary hedgerows, outgrown hedgerows forming broken groups of trees and a small number of individual specimens. The vast majority of these losses are considered to be low in quality. A small percentage is recorded as moderate quality with a single individual of high quality.
- 5.7 All retained tree cover will be protected in accordance with guidance set out within BS5837, using Tree Protection Fencing to the specification shown in Appendix B. All tree protection measures will be provided within an Arboricultural Method Statement as part of the detailed design process.
- 5.8 The strategic benefits of this development in terms of local and national investment would provide the potential for job creation and offer economic benefits that would outweigh the loss of the existing trees shown as being removed. Although the tree loss shown could be considered significant, fewer high-quality trees are to be removed than retained and the large blocks of tree cover and linear tree belts assessed are to be retained and incorporated. Significant areas of new tree and shrub planting, in terms of both the number of trees and future canopy cover, would clearly outweigh the losses shown and therefore, in terms of mitigation, the proposals offer an extensive increase when considering the balance between losses and gains.

Tree Management

- 5.9 The layout of the development is currently reserved for subsequent approval. In the course of a reserved matters application pursuant to layout, a review of the relationship between the layout and the retained trees should be undertaken by a qualified arboriculturist to assess the existing tree cover and prepare a schedule of tree works.
- 5.10 All retained trees should be subjected to sound arboricultural management as recommended within section 8.8.3 of BS5837 *Post Development Management of Existing Trees*, where there is a potential for public access in order to satisfy the landowner's duty of care. Additionally, inspections annually and following major storms should be carried out by an experienced arboriculturist or arborist to identify any potential public safety risks and to agree remedial works as required.

- 5.11 All tree works undertaken should comply with British Standard 3998:2010 and should therefore be carried out by skilled tree surgeons. It would be recommended that quotations for such work be obtained from Arboricultural Association Approved Contractors as this is the recognised authority for certification of tree work contractors.
- 5.12 All vegetation and, particularly, woody vegetation proposed for clearance should be removed outside of the bird-breeding season (March - September inclusive) as all birds are protected under the Wildlife and Countryside Act, 1981 (as amended) whilst on the nest. Where this is not possible, vegetation should be checked for the presence of nesting birds prior to removal by an experienced ecologist.

6.0 NEW TREE AND HEDGEROW PLANTING

- 6.1 As part of the development proposals an adequate quantity of structured tree planting has been demonstrated predominantly within or close to hard landscaped areas of car parking or alongside the primary access roads within the roadside verges. The purpose and function of this new tree planting should be understood from the start of any design stages so that key objectives from a landscape perspective can also be achieved.

Trees

- 6.2 The landscaping scheme should consider the use of both native tree species (for their low maintenance requirements and nature conservation value) and ornamental species (for their contribution to urban design and amenity value). Species choices should be selected on the basis of their suitability for the final site use. Furthermore, during the design process consultation should be made with the Local Planning Authority to obtain information on their tree strategy and incorporate the planting proposals with any local policies and initiatives and/or Biodiversity Action Plans (BAP).
- 6.3 In line with the NPPF all schemes should aim achieve a net gain in biodiversity value. Nationally recognised biodiversity metrics allow for the inclusion of, not limited to, newly planted scattered trees, woodlands and hedgerows as a means of compensating for loss of habitat as part of the development. Tree and shrub planting can therefore be used to contribute to this biodiversity gain.
- 6.4 To maximise biodiversity value (and contribution to net gain) native species or varieties should be specified. Such provisions can be incorporated into both the hard and soft landscaping of the scheme. It is recommended that tree and hedgerow specifications are made following consultation with guidance published by the Local Planning Authority.
- 6.5 When deciding upon suitable tree species, careful consideration would need to be given to the following: ultimate height and canopy spread, form, habit, density of crown, potential shading effect, colour, water demand, soil type and maintenance requirements in relation to both the built form of the new development and existing properties.

- 6.6 Through careful species selection, the landscape scheme shall reduce the risk of trees being removed in the future on the grounds of nuisance. Nuisance can be perceived in a number of ways and vary from person to person however most commonly, within the context of trees, low overhanging branches, excessive shading, seasonal leaf fall and the misinformed perception that trees close to buildings cause damage.

Hedgerows

- 6.7 Hedgerows are identified as a Habitat of Principle Importance (HPI) as listed within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006. Consequently, it is important that the proposed scheme delivers a net gain in terms of linear hedgerows through new planting to compensate for any losses. Species should be native, and characteristic of the locality.
- 6.8 Recommended species for native hedgerow planting are as follows:
- *Crataegus monogyna*
 - *Prunus spinosa*
 - *Cornus sanguinea*
 - *Corylus avellana*
 - *Acer campestre*
 - *Euonymus europaeus*

Rooting Environment and Soil Volumes

- 6.9 The success of any landscaping scheme relies on an adequate provision of a high-quality rooting environment within which trees can thrive and reach their full potential. Planting trees with due care and consideration can, in the long term, provide a greater return on a schemes green investment and ensure trees remain healthy and grow to mature proportions. Healthy mature trees integrate well into the built environment; increase the maturity of the landscape; help provide a natural green and leafy urban environment in which people would want to reside whilst also benefiting local wildlife.
- 6.10 The planting of trees within confined urban environments should consider the use of appropriately designed planting pits specifically engineered to promote tree health and longevity. Crucially the aim will be to provide an adequate volume of quality soil for roots to suitably develop by calculating the amount of available soil volumes needed and selecting species whose mature size is compatible with the site. This is an integral component of the planning stage (Lindsey & Bassuk, 1991).
- 6.11 In a natural environment free from constraints to growth, it has been proven through research that root systems can extend up to three times the radius of the tree crown and although in an urban environment there is often insufficient space to accommodate the extent of the full potential for root growth, all efforts should be made to at least provide as much soil volume as possible. One researched method of calculating the minimum required soil volume is as follows:

Table 3: Example of calculating Soil Volume for New Tree Planting (Source: CIRIA C712 and Calculating Target Soil Volumes – Green Blue Urban)

Projected canopy area of mature tree (m) x depth 0.6m		
Calculation 1	Projected mature canopy diameter (metres)	= 3 (Diameter)
Calculation 2	Projected mature canopy area (square metres), $(\pi \times \text{Radius}^2)$	= 7.1 (Area)
Calculation 3	Target soil volume (cubic metres), $(\text{Area} \times 0.6\text{m})$	= 4.24 (Volume)
	Target soil volume	= 4.24m ³

General Planting Recommendations

- 6.12 Wherever possible, following discussions with the developer and utility companies, common service trenches should be specified to minimise land take associated with underground service provision and facilitation access for future maintenance.
- 6.13 Tree planting should be avoided where they may obstruct overhead power lines or cables. Any underground apparatus should be ducted or otherwise protected at the time of construction to enable trees to be planted without resulting in future conflicts.

General Design Principles in Relation to Retained Trees

- 6.14 In a subsequent Reserved Matters application following the final layout of the scheme, assessment of the distance of proposed development in relation to the calculated root protection area of retained trees should be made which will inform the final layout.
- 6.15 Ground investigation through the use of pneumatic excavation, such as an Air Spade and digging of trial pits, may be required should there be areas where it is not possible to modify the layout to avoid conflict with retained trees. Ground investigations would aim to determine the actual location of the physical roots without causing them damage in the process. Such an assessment would enable consideration of the practicality and suitability of certain 'tree friendly' construction methods and would better inform decision making for a design.
- 6.16 Further assessment of the impact to actual roots found during the ground investigations can then be made and solutions reached thus, greatly reducing any potential future impacts on retained trees whilst allowing the development to proceed and minimising risks to future tree health. Ultimately the aim would be to reduce conflicts between trees and buildings, and achieve successful tree retention.
- 6.17 The use of "no-dig" construction methods should be considered prior to decisions being made as to the removal of each tree concerned, where conflicts between trees identified for retention and the layout arise. Such methods of construction and the use of industry led specialist engineering solutions i.e., three dimensional "load bearing" cellular confinement systems can be used particularly in the case of carriageways, footways and driveways in order to avoid unnecessary losses of trees.

- 6.18 The routing of below ground services should also be considered with regard to the retained trees as part of a subsequent reserved matters application pursuant to layout. As recommended by the guidance given in section 7.7 of BS5837 services, where possible, should not encroach within the Root Protection Areas of retained trees. If below-ground services are proposed within a Root Protection Area, modifications to the alignment of the service route may need to be made in order to minimise adverse effects on root stability and overall tree health.
- 6.19 Consideration may also need to be given to the potential for tree roots of newly planted trees and hedgerows to affect or compromise the future services. As far as feasible, it would be preferable that proposed services near both the existing and any new planting should be ducted for ease of access and maintenance and grouped together to minimise any future disturbance.

7.0 TREE PROTECTION MEASURES

- 7.1 Retained trees will be adequately protected during works ensuring that the calculated root protection area for all retained trees can be appropriately protected through the erection of the requisite tree protection barriers. Measures to protect trees should follow the guidance in BS5837 and will be applied where necessary for the purpose of protecting trees within the site whilst allowing sufficient access for the implementation of the proposed layout. These have been broadly summarised below.

General Information and Recommendations

- 7.2 All trees retained on site will be protected by suitable barriers or ground protection measures around the calculated RPA, crown spread of the tree or other defined constraints of this assessment as detailed by section 6 and 7 of BS5837.
- 7.3 Barriers will be erected prior to commencement of any construction work and before demolition including erection of any temporary structures. Once installed, the area protected by fencing or other barriers will be regarded as a construction exclusion zone. Fencing and barriers will not be removed or altered without prior consultation with the Project Arboriculturist.
- 7.4 Any trees that are not to be retained as part of the proposals should be felled prior to the erection of protective barriers. Particular attention needs to be given by site contractors to minimise damage or disturbance to retained specimens.
- 7.5 Where it has been agreed, construction access may take place within the root protection area if suitable ground protection measures are in place. This may comprise single scaffold boards over a compressible layer laid onto a geo-textile membrane for pedestrian movements. Vehicular movements over the root protection area will require the calculation of expected loading and the use of proprietary protection systems.
- 7.6 Confirmation that tree protective fencing or other barriers have been set out correctly should be gained prior to the commencement of site activity.

Tree Protection Barriers

- 7.7 Tree protection fencing should be fit for the purpose of excluding any type of construction activity and suitable for the degree and proximity of works to retained trees. Barriers must be maintained to ensure that they remain rigid and complete for the duration of construction activities on site.
- 7.8 In most situations, fencing should comprise typical construction fencing panels attached to scaffold poles driven vertically into the ground. For particular areas where construction activity is anticipated to be of a more intense nature, supporting struts, acting as a brace should be added and fixed into position through the application of metal pins driven into the ground to offer additional resistance against impacts.
- 7.9 Where site circumstances and the risk to retained trees do not necessitate the default level of protection an alternative will be specified appropriate to the level / nature of anticipated construction activity. The recommended methods of fencing specifications for this site have been illustrated in Appendix B.
- 7.10 It may be appropriate on some sites to use temporary site offices, hoardings and lower level barrier protection as components of the tree protection barriers. Details of the specific protection barriers for the site can be provided should the application be approved, as part of a site specific Arboricultural Method Statement for a Reserved Matters application and in accordance with the guidance contained within BS5837.

Protection outside the exclusion zone

- 7.11 Once the areas around trees have been protected by the barriers, any works on the remaining site area may be commenced providing activities do not impinge on protected areas.
- 7.12 All weather notices should be attached to the protective fencing to indicate that construction activities are not permitted within the fenced area. The area within the protective barriers will then remain a construction exclusion zone throughout the duration of the construction phase of the proposed development. Protection fencing signs can be provided upon request.
- 7.13 Wide or tall loads etc should not come into contact with retained trees. Banksman should supervise transit of vehicles where they are in close proximity to retained trees.
- 7.14 Oil, bitumen, cement or other material that is potentially injurious to trees should not be stacked or discharged within 10m of a tree stem. No concrete should be mixed within 10m of a tree. Allowance should be made for the slope of ground to prevent materials running towards the tree.
- 7.15 No fires will be lit where flames are anticipated to extend to within 5m of tree foliage, branches or trunk, taking into consideration wind direction and size of fire.
- 7.16 Notice boards, telephone cables or other services should not be attached to any part of a retained tree.
- 7.17 Any trees which need to be felled adjacent to or are present within a continuous canopy of retained trees, must be removed with due care (it may be necessary to remove such trees in sections).

Protection of Trees Close to the Site

- 7.18 A number of trees were located on the boundaries of the site and therefore the root protection area and crown spread of these trees will need to be protected in the same way as all the retained trees within the site. All trees located outside the boundaries of the assessment site yet within close proximity to works should be adequately protected during the course of the development by barriers or ground protection around the calculated root protection area.
- 7.19 Any trees which are to be retained and whose Root Protection Areas may be affected by the development should be monitored, during and after construction, to identify any alterations in quality with time and to assess and undertake any remedial works required as a result.

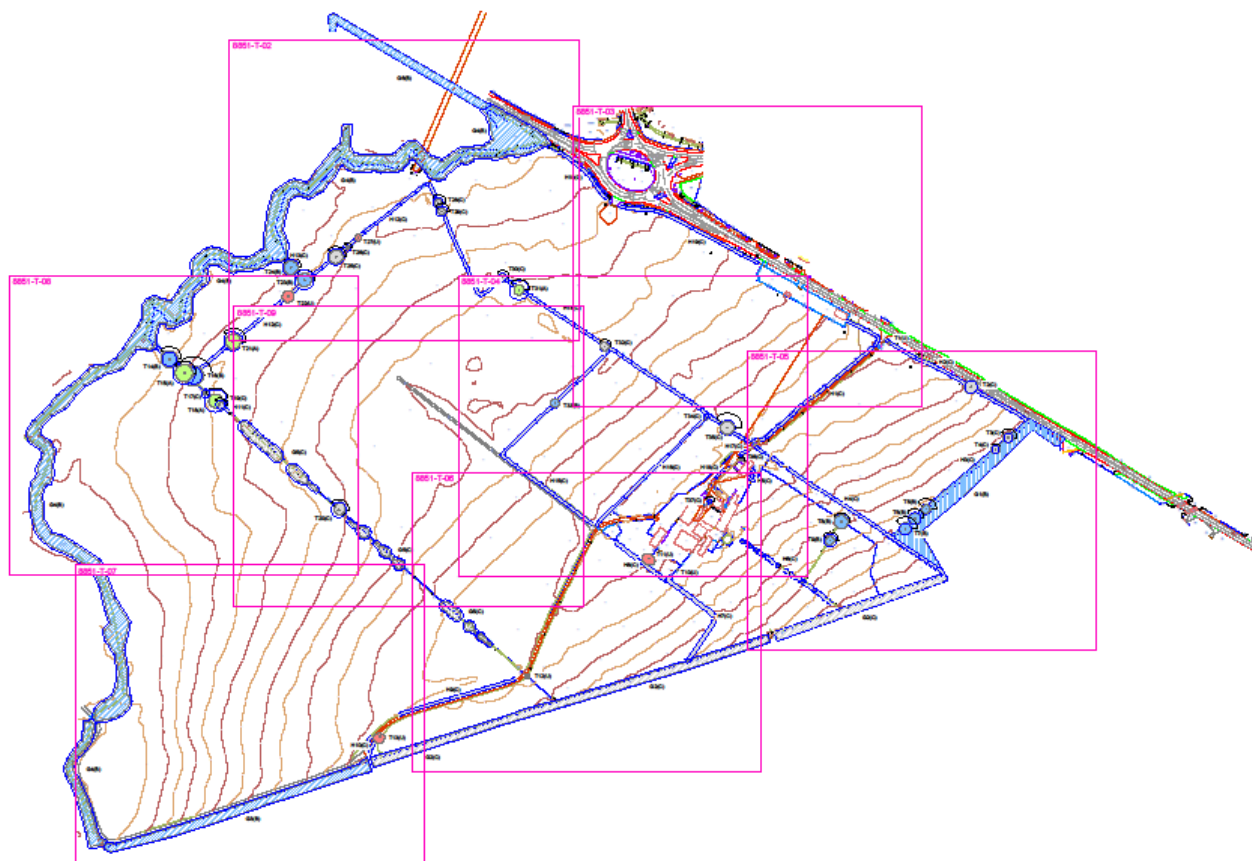
Protection for Aerial Parts of Retained Trees

- 7.20 Where it is deemed necessary to operate wide or tall plant within close proximity to trees it is best advised that appropriate, but limited tree surgery, be carried out beforehand to remove any obstructive branches as any such equipment would have potential to cause damage to parts of the crown material, i.e., low branches and limbs, of retained trees within the protective barriers. This is termed as 'access facilitation pruning' within BS5837. Any such pruning should be undertaken in accordance with a specification prepared by an arboriculturist.
- 7.21 A pre-commencement site meeting with contractors who are responsible for operating machinery is advised to firstly highlight the potential for damage occurring to tree crowns and to ensure that extra care is applied when manoeuvring machinery during such operations within close proximity to retained trees to avoid any contact.
- 7.22 In the event of having caused any branch or limb damage to retained trees it is strongly recommended that suitable tree surgery be carried out, in accordance with British Standard 3998:2010 and in agreement with the Local Planning Authority prior to correcting the damage, upon completion of development.

8.0 CONCLUSION

- 8.1 The site is located to the south of Hinckley, Leicestershire bordered by the A5 trunk road to the north east and the Birmingham – Leicester railway line to the south. The Harrow brook extends through the site and forms the boundary to the west and north. The site is dominated by arable land with field boundaries formed by native hedgerows, some with associated ditches and mature trees.
- 8.2 The majority of tree cover observed on site was recorded as low arboricultural quality (category C). Tree cover of moderate quality tree cover (category B) was mainly present along the Harrowbrook. Four individual trees were deemed to be high in quality and category A. All four specimens were English oak and mature in proportions being situated within the northern portion of the site.
- 8.3 The proposals for industrial/commercial units with associated earthworks, highway infrastructure, drainage attenuation and landscaping the layout will, retain and incorporate the majority of the boundary tree cover and that considered to be high and moderate quality.

- 8.4 The existing linear tree group positioned along the Harrowbrook is to be retained providing screening and reinforced through additional planting located on the earth bunding.
- 8.5 The loss of tree cover will comprise of internal field boundary hedgerows, outgrown hedgerows forming broken groups of trees and a small number of individual specimens. The vast majority of these losses are considered to be low in quality. A small percentage is recorded as moderate quality with a single individual of high quality.
- 8.6 All retained tree cover will be protected in accordance with guidance set out within BS5837 and section 7 of this report. All tree protection measures will be provided within an Arboricultural Method Statement as part of the detailed design process.
- 8.7 In conclusion the loss of tree cover required is not considered to be detrimental to the surrounding landscape from an arboricultural perspective. The strategic benefits of this development in terms of local and national investment would outweigh the loss of the existing trees being removed. New tree, hedgerow and shrub planting, in terms of both the number of trees and future canopy cover, will provide adequate mitigation.



KEY

-  Category U - Trees / Groups Unsuitable for Retention (BS 5837:2012)
-  Category A - Trees / Groups of High Quality (BS 5837:2012)
-  Category B - Trees / Groups of Moderate Quality (BS 5837:2012)
-  Category C - Trees / Groups of Low Quality (BS 5837:2012)
-  Hedgerow (Colour indicates BS5837:2012 Category)
-  Root Protection Area (The RPA has been altered where appropriate to reflect underground constraints)
-  Individual / Group Number and BS5837:2012 Category
-  Indicative Shade Pattern (In accordance with BS5837:2012 where appropriate)

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NOTES

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project
Padge Hall Farm
Hinckley

drawing title
TREE SURVEY PLAN

environmental planning
environmental assessment
landscape design
urban design
ecology
architectural
arboriculture

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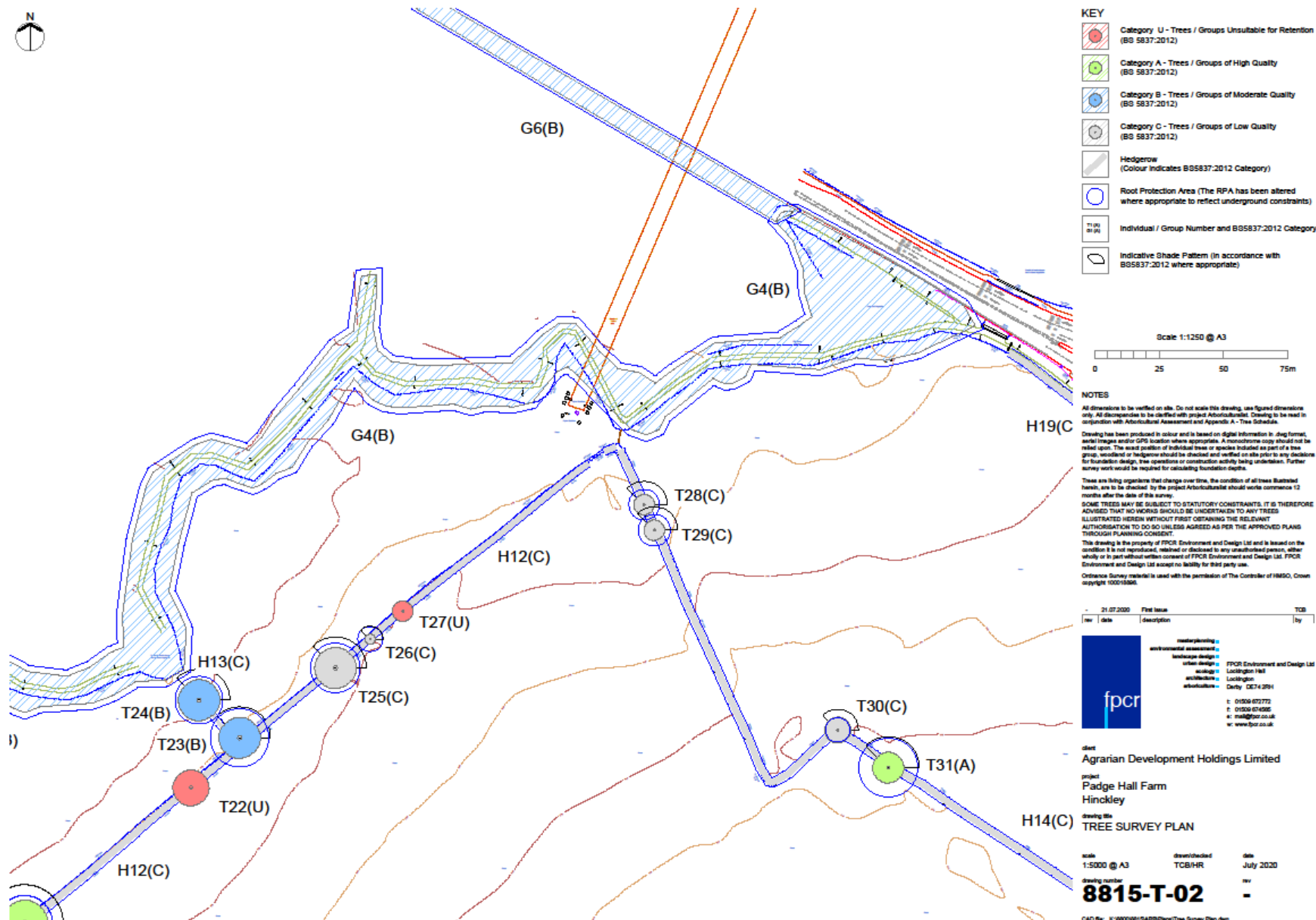
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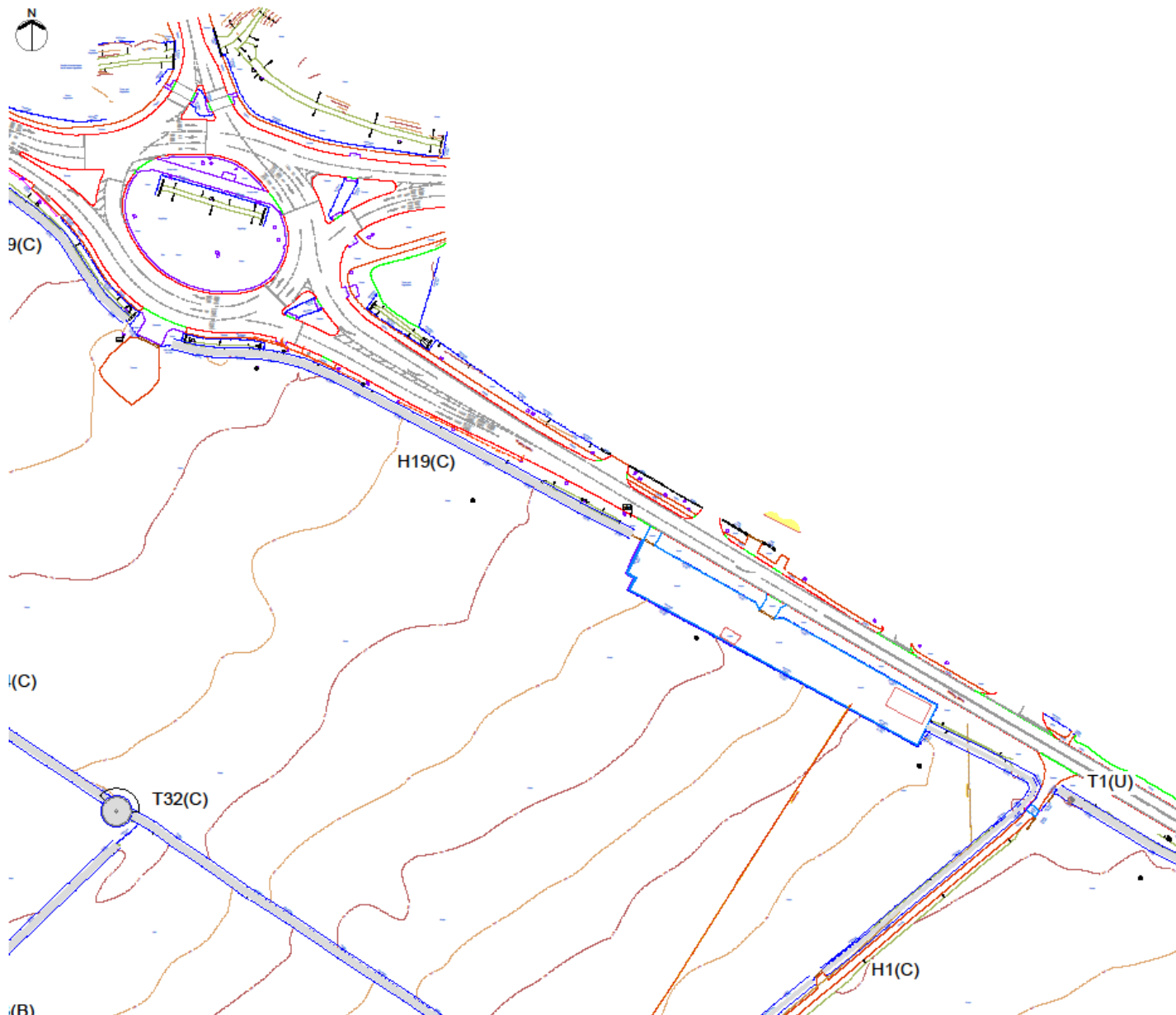
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- KEY**
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 - Hedgerow (Colour Indicates BS5837:2012 Category)
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 - Indicative Shade Pattern (In accordance with BS5837:2012 where appropriate)

Scale 1:1250 @ A3

0 25 50 75m

NOTES

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client
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project
Padge Hall Farm
Hinckley

drawing title
TREE SURVEY PLAN

scale
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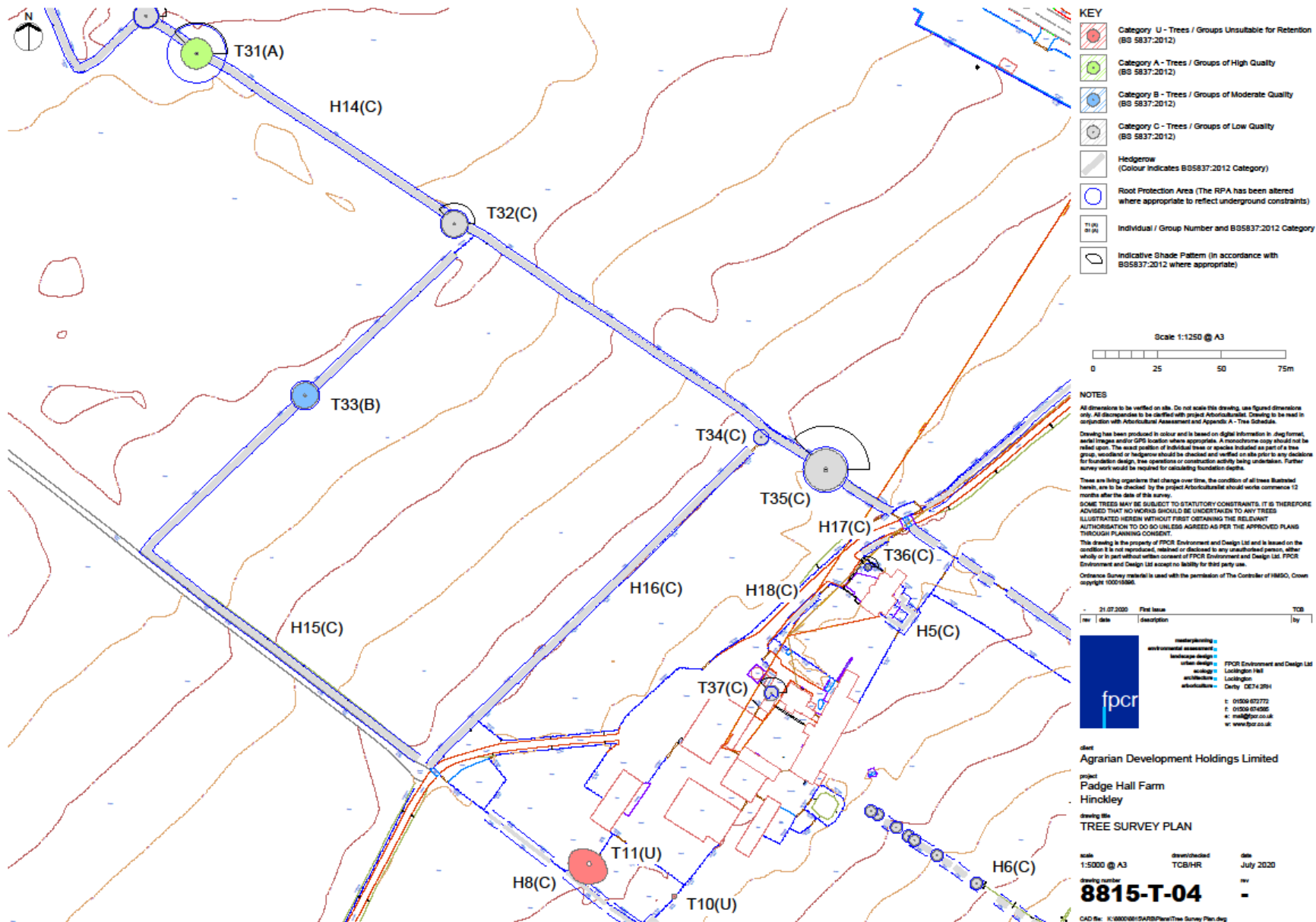
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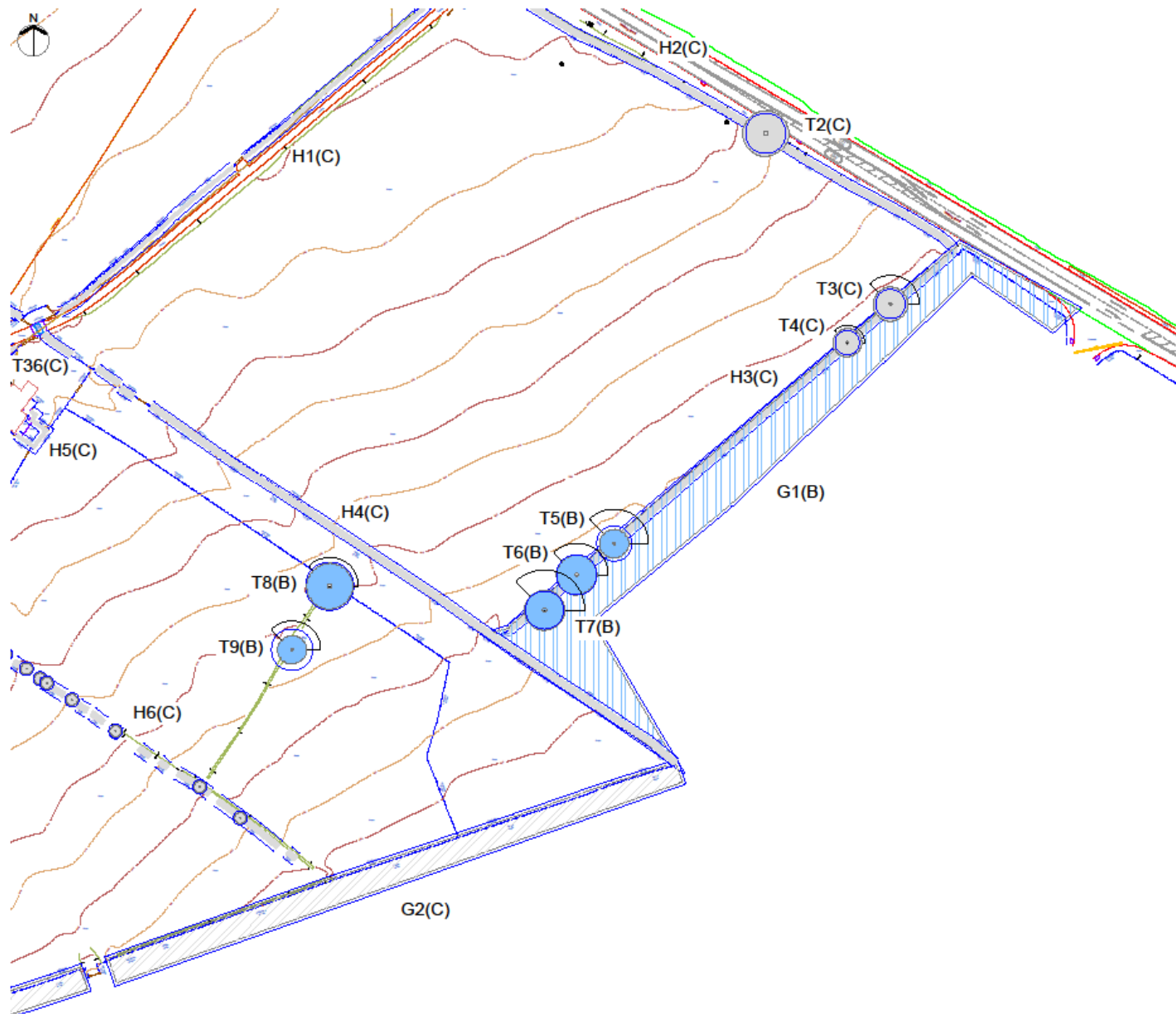
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KEY

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Scale 1:1250 @ A3

0 25 50 75m

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project
Padge Hall Farm
Hinckley

drawing title
TREE SURVEY PLAN

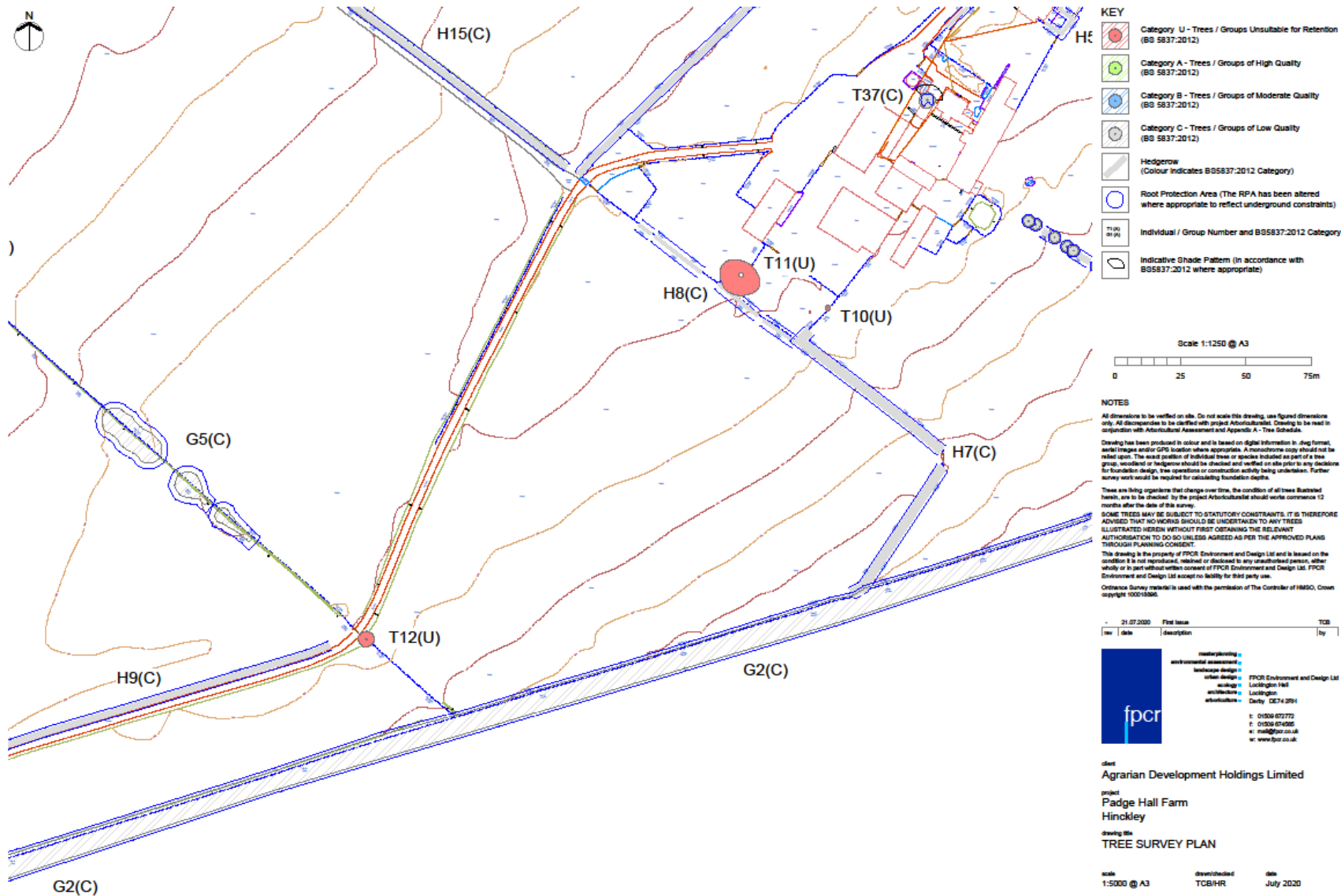
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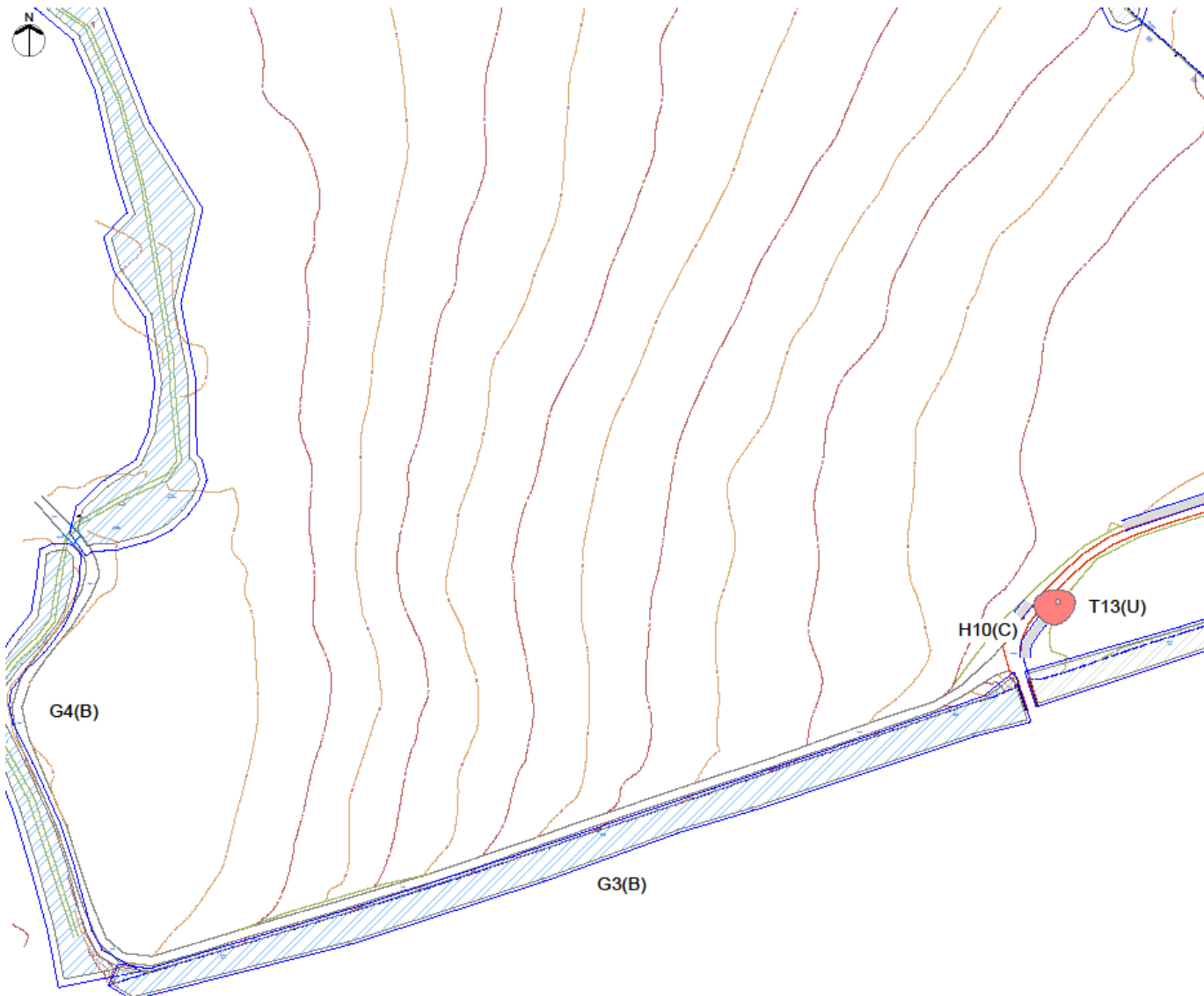
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8815-T-05

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- KEY**
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Scale 1:1250 @ A3

0 25 50 75m

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**Padge Hall Farm
Hinckley**

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TREE SURVEY PLAN

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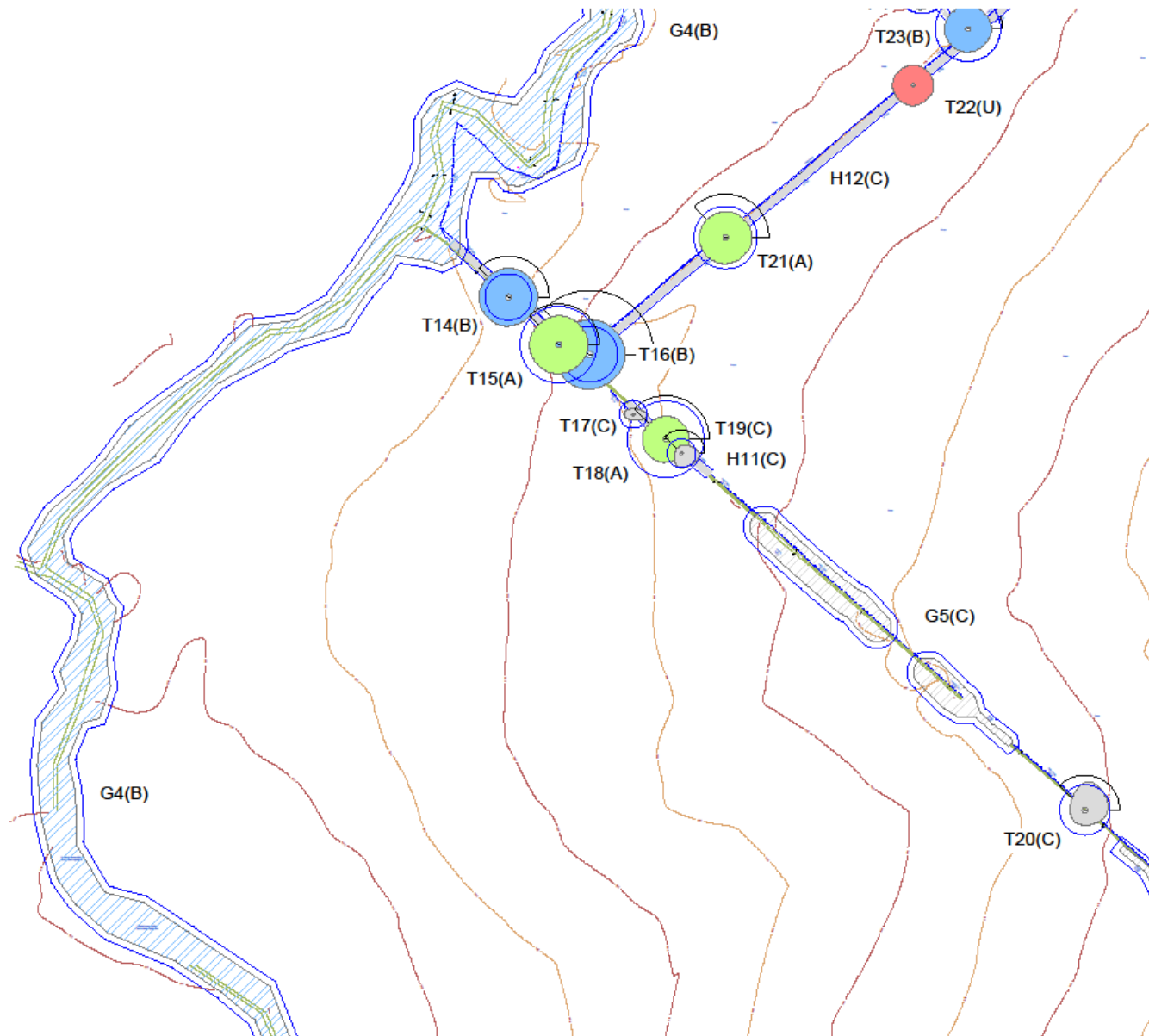
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KEY

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project
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Hinckley

drawing title
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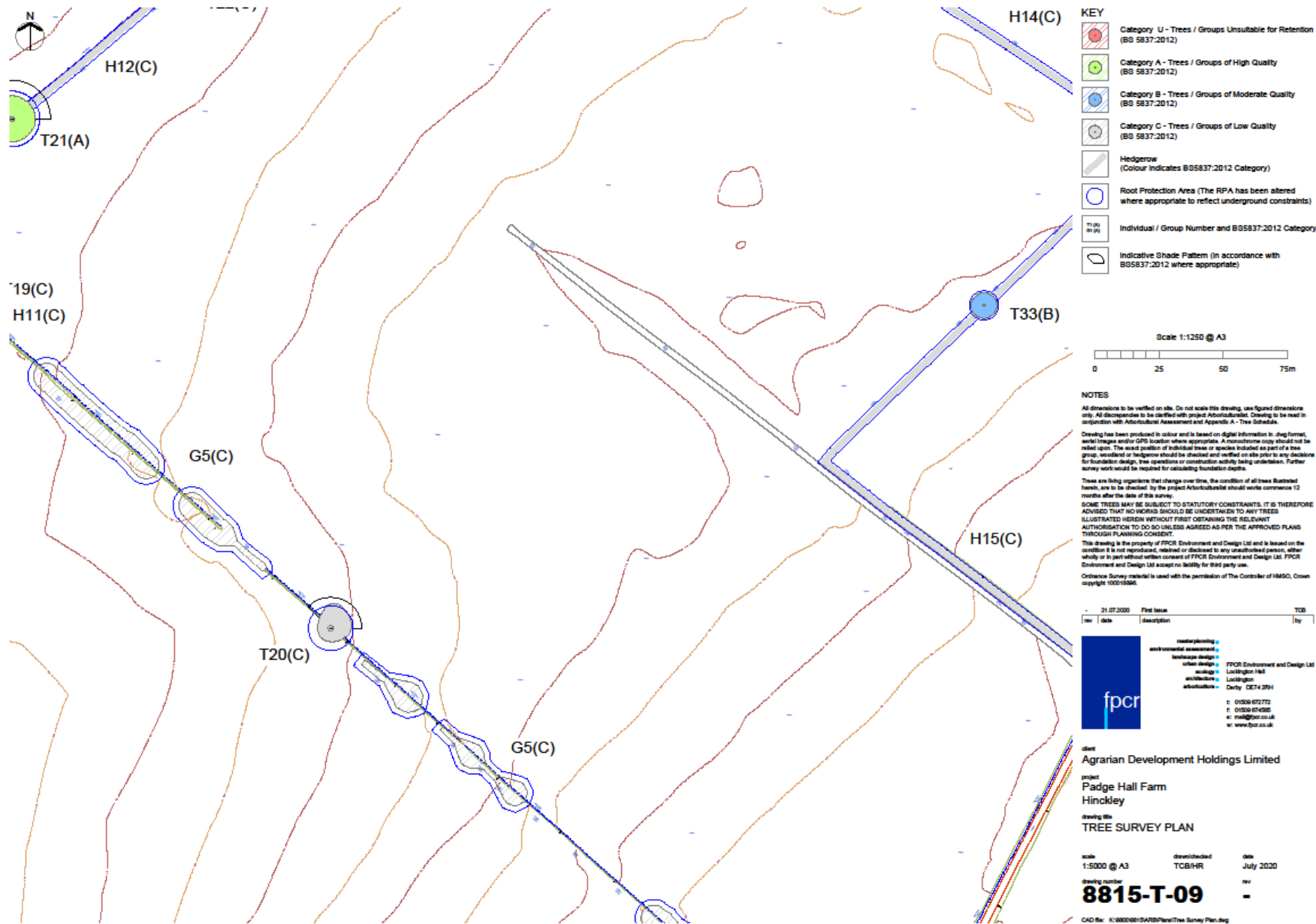
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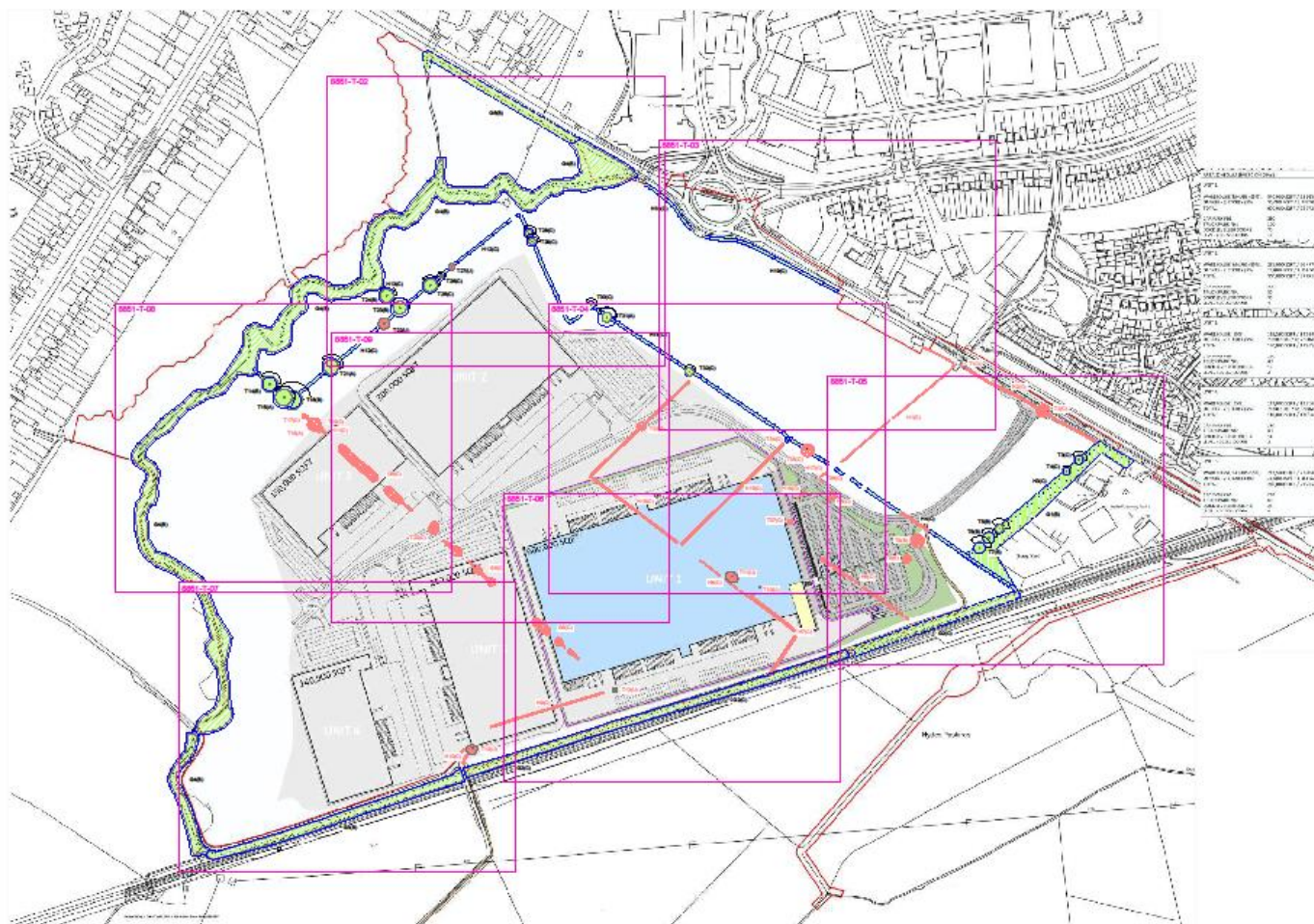
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July 2020

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8815-T-08

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KEY

-  Tree/Group to be Retained
-  Tree/Group to be removed to facilitate the proposals
-  Category U - Unsuitable for retention on arboricultural grounds
-  Hedgerow Proposed to be Retained and Incorporated into the New Development
-  Hedgerow Proposed to be Removed to Facilitate the Development upon Approval of the Application
-  Root Protection Area (Shown for retained trees only)
-  Individual / Group Number and BS Category
-  Individual / Group Number to be Removed and BS 5837:2012 Category

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A	21.07.2020	First Issue
B	24.11.2020	Amended layout
C	30.01.2021	Amended layout
D	16.03.2021	Amended layout

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Hinckley

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TREE RETENTION PLAN

scale
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drawing number
8815-T-10

scale
1:5000 @ A3

drawing number
8815-T-10

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drawing title
TREE RETENTION PLAN

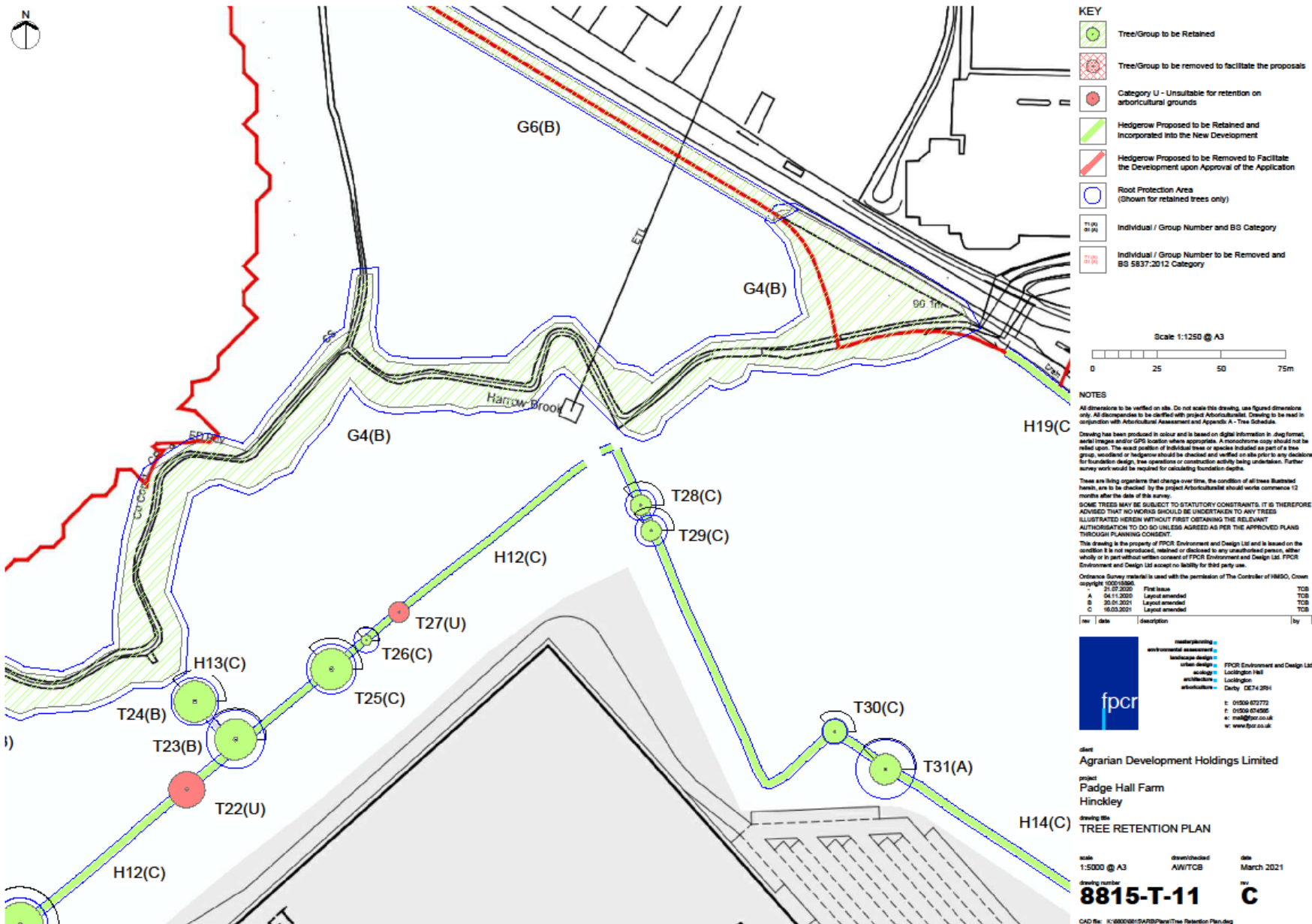
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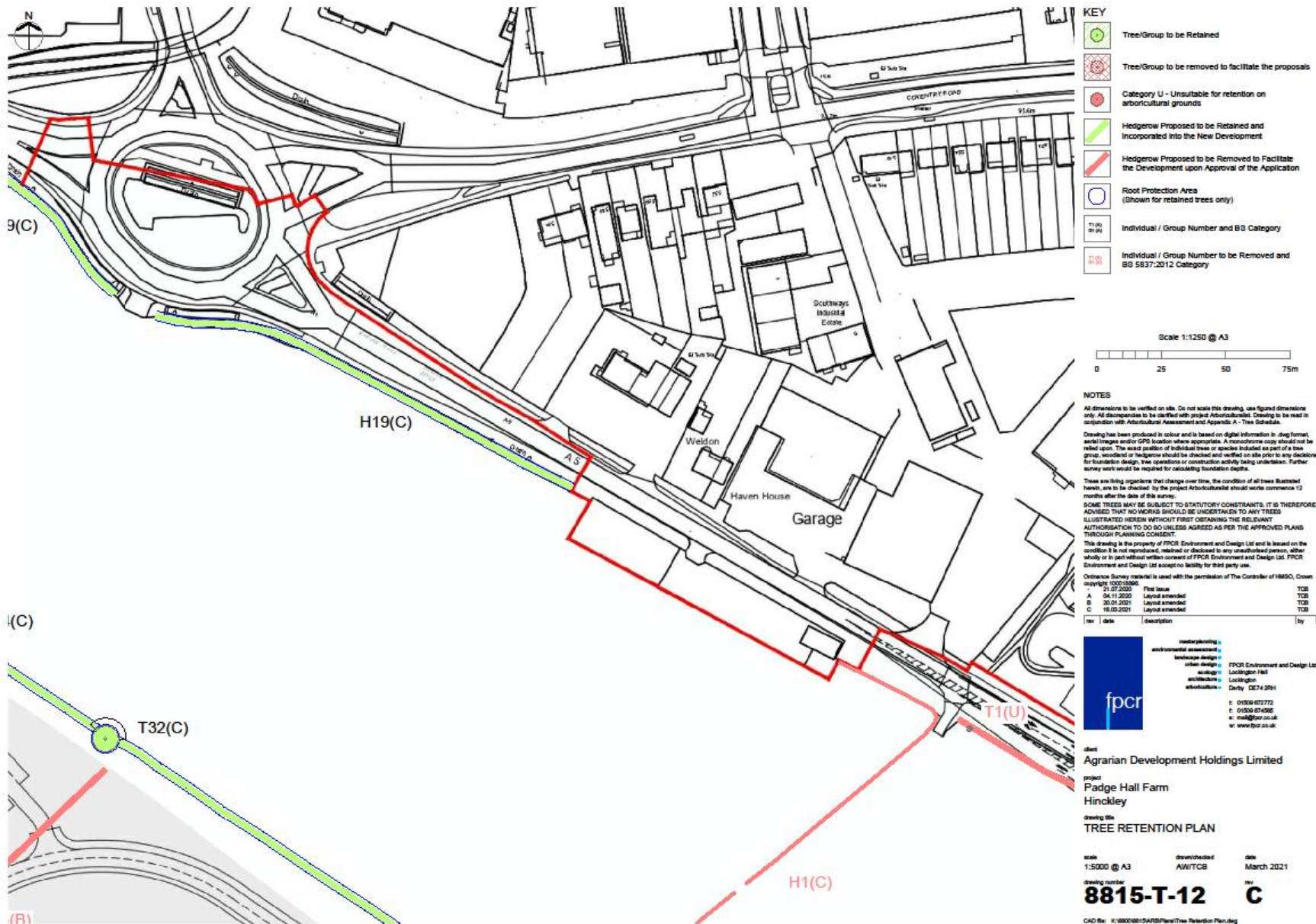
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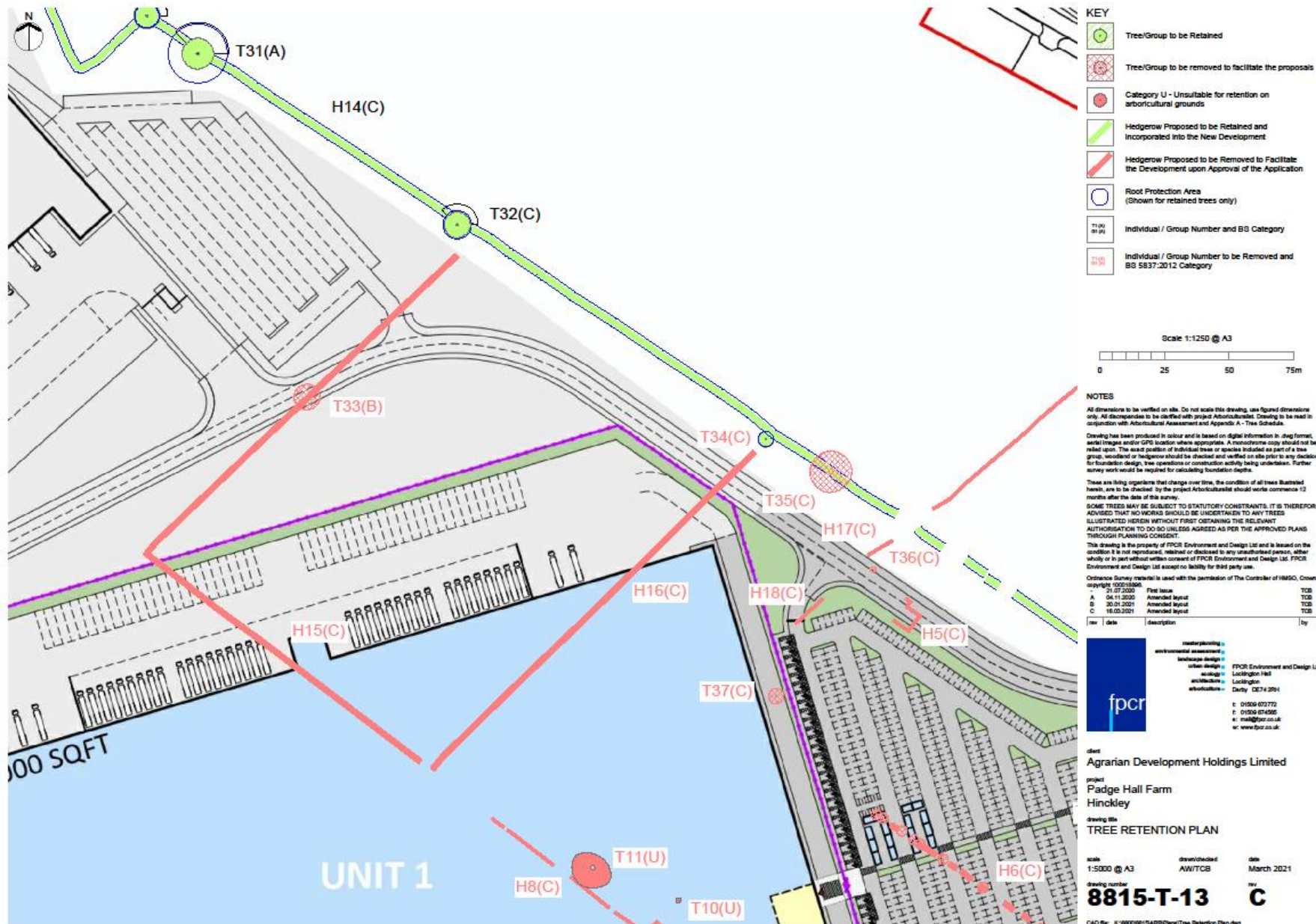
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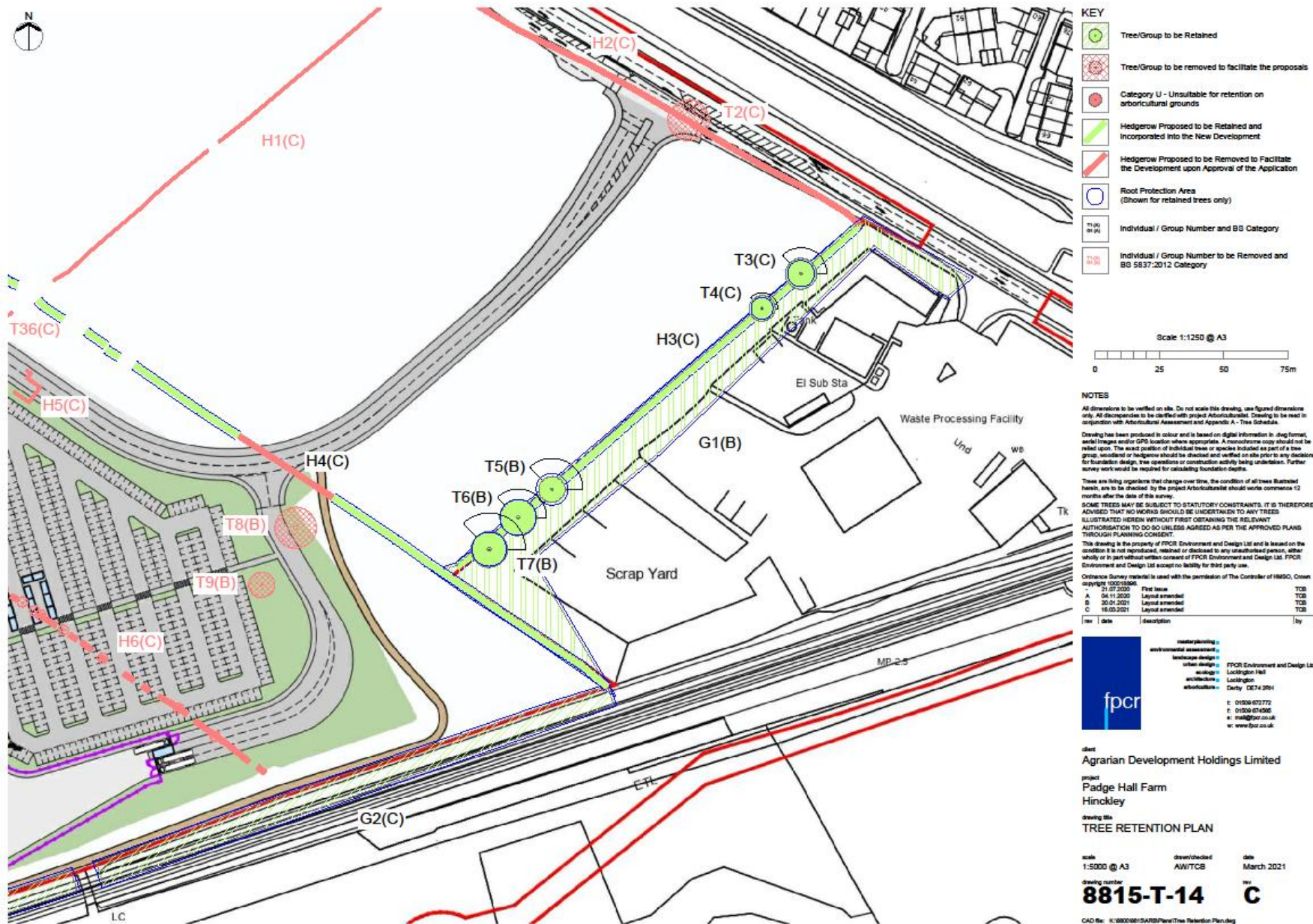
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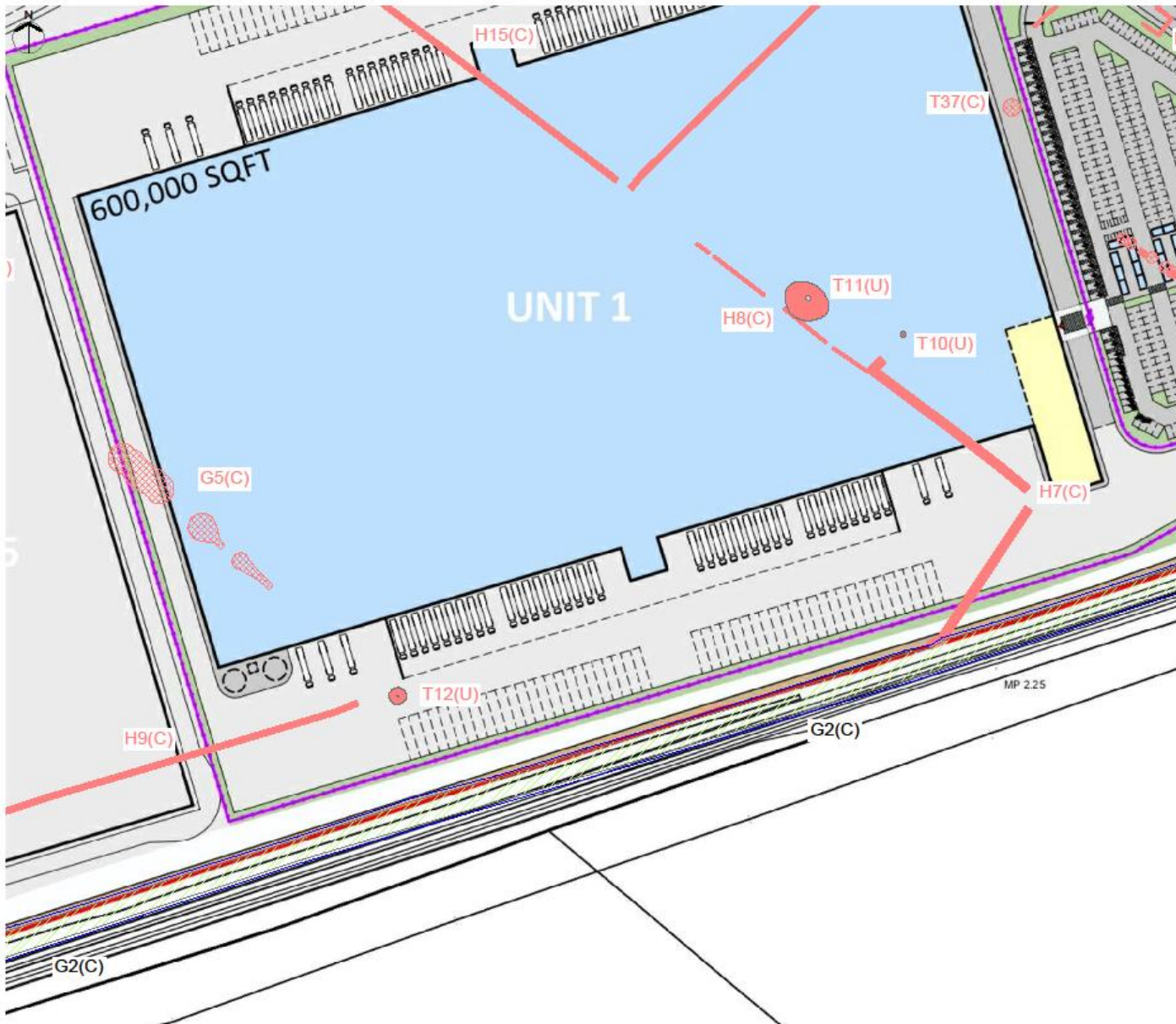
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- KEY**
- Tree/Group to be Retained
 - Tree/Group to be removed to facilitate the proposals
 - Category U - Unsuitable for retention on arboricultural grounds
 - Hedgerow Proposed to be Retained and Incorporated into the New Development
 - Hedgerow Proposed to be Removed to Facilitate the Development upon Approval of the Application
 - Root Protection Area (Shown for retained trees only)
 - Individual / Group Number and BS Category
 - Individual / Group Number to be Removed and BS 5837:2012 Category



NOTES

All dimensions to be verified on site. Do not scale this drawing. Use figured dimensions only. All discrepancies to be clarified with project Arboriculturist. Drawing to be read in conjunction with Arboricultural Assessment and Appendix A - Tree Schedule.

Drawing has been produced in colour and is based on digital information in dwg format, aerial images and/or GPS location where appropriate. A monochrome copy should not be relied upon. The exact position of individual trees or species included as part of a tree group, woodland or hedgerow should be checked and verified on site prior to any decisions for foundation design, tree operations or construction activity being undertaken. Further survey work would be required for calculating foundation depths.

These are living organisms that change over time, the condition of all trees illustrated herein, are to be checked by the project Arboriculturist should commence 12 months after the date of this survey.

SOME TREES MAY BE SUBJECT TO STATUTORY CONSTRAINTS. IT IS THEREFORE ADVISED THAT NO WORKS SHOULD BE UNDERTAKEN TO ANY TREES ILLUSTRATED HEREIN WITHOUT FIRST OBTAINING THE RELEVANT AUTHORISATION TO DO SO UNLESS AGREED AS PER THE APPROVED PLANS THROUGH PLANNING CONSENT.

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A	21.07.2020	First Issue	TGB
B	04.11.2020	Layout amended	TGB
C	20.01.2021	Layout amended	TGB
C	18.03.2021	Layout amended	TGB

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project
Padge Hall Farm
Hinckley

drawing title
TREE RETENTION PLAN

scale
1:5000 @ A3

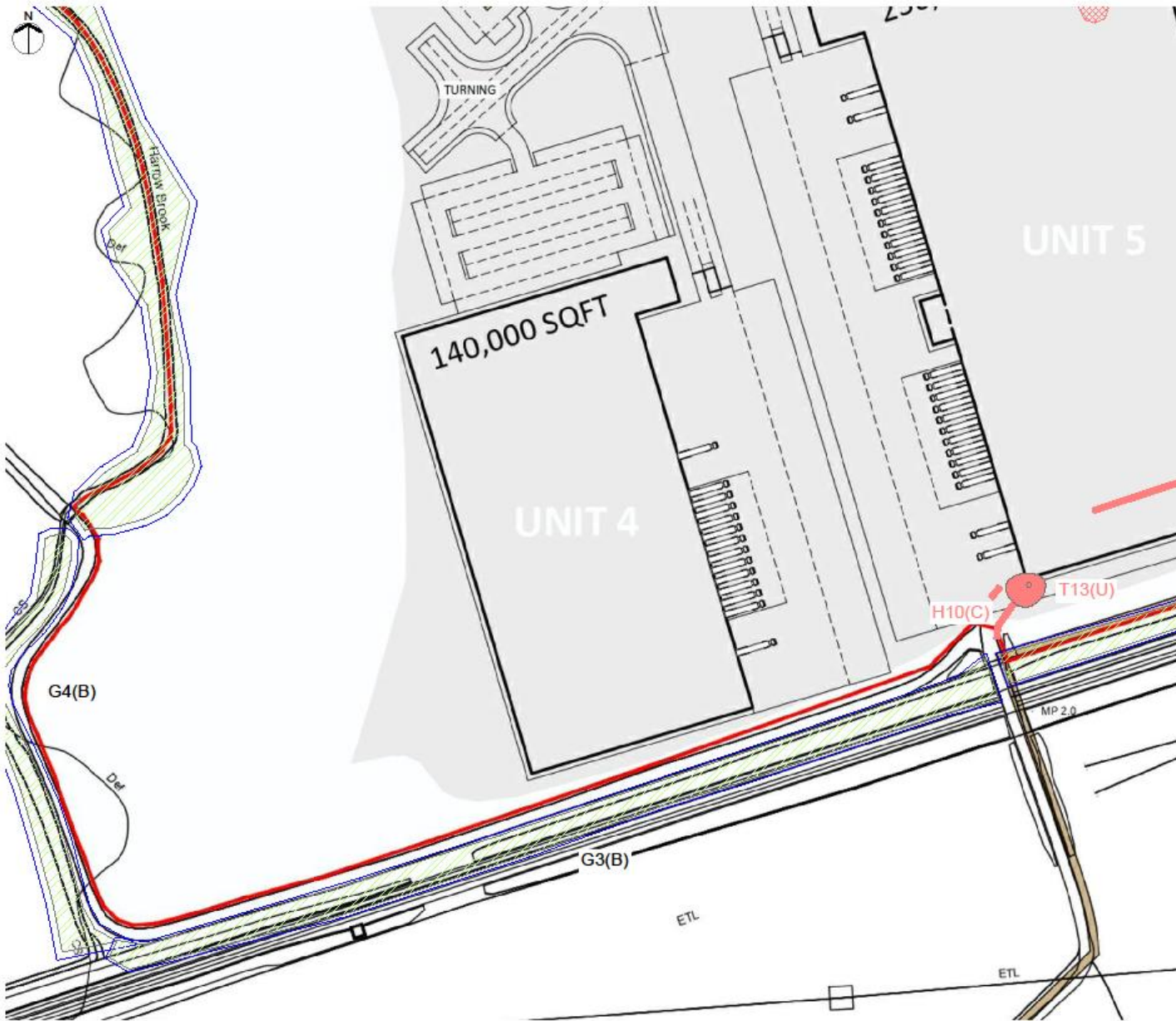
drawing checked
AW/TGB

date
March 2021

drawing number
8815-T-15

rev
C

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 - Tree/Group to be removed to facilitate the proposals
 - Category U - Unsuitable for retention on arboricultural grounds
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 - Individual / Group Number to be Removed and BS 5837:2012 Category

Scale 1:1250 @ A3

0 25 50 75m

NOTES

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These are living organisms that change over time, the condition of all trees illustrated herein are to be checked by the project Arboriculturalist should works commence 12 months after the date of this survey.

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A	04.11.2020	First Issue	TCB
B	20.05.2021	Layout amended	TCB
C	18.05.2021	Layout amended	TCB

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Master planning
environmental assessment
landscape design
other design
arboriculture
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project
**Padge Hall Farm
Hinckley**

drawing title
TREE RETENTION PLAN

scale
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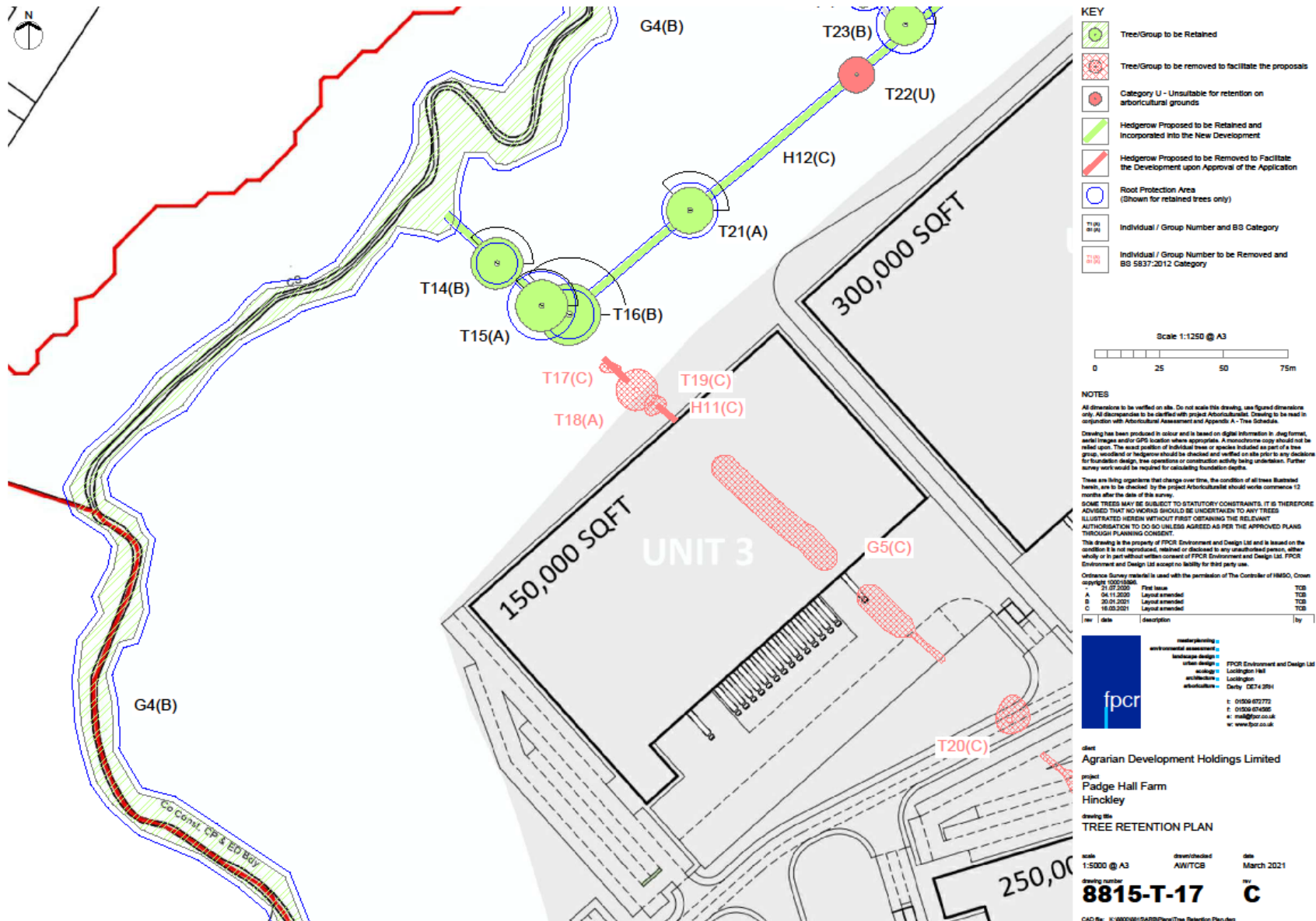
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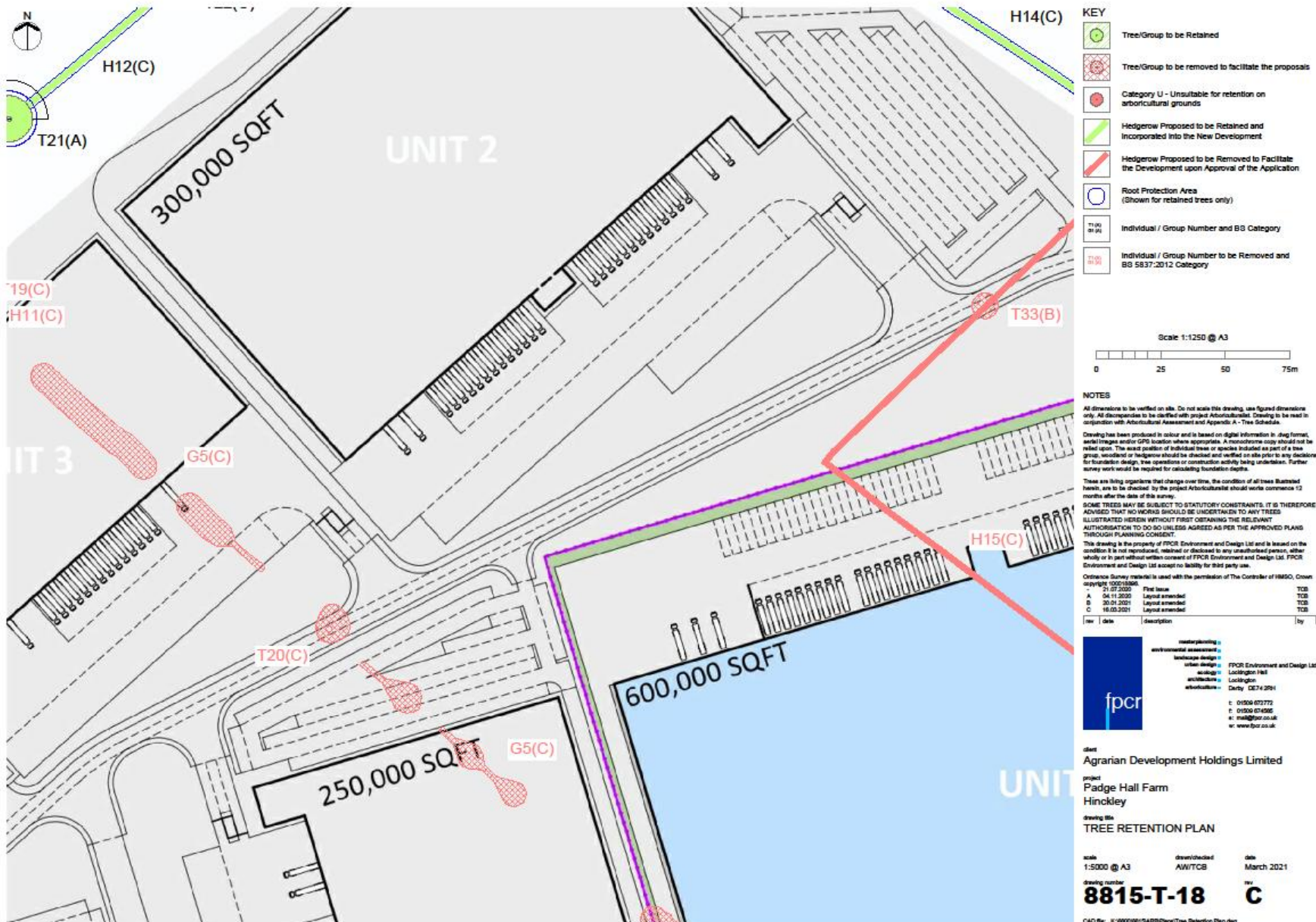
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drawn/checked
AW/TCB

date
March 2021

rev
C





Appendix A - Tree Schedule

Measurements	Age Classes	Quality Assessment of BS Category	ULE (relates to BS Category)
Height - Measured using a digital laser clinometer (m)	YNG: Establishing, typically with good vigour and fast growth rates and strong apical dominance; c. less than 1/3 life expectancy	Category U - Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	<10 years
Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837	SM: Semi-mature trees less than 1/3 life expectancy	Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years.	40+ years
Crown Radius - Measured using a digital laser clinometer radially from the main stem (m)	EM: Established, typically vigorous and increasing in apical height and lateral spread; 1/3 - 2/3 life expectancy. Offers landscape significance	Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	20-40 years
Abbreviations est - Estimated stem diameter avg - Average stem diameter for multiple stems upto - Maximum stem diameter of a group	MT: Fully established over 2/3 life expectancy, generally good vigour and achieving full height potential with crown still spreading OM: Fully mature, at the extremes of expected life expectancy, vigour decreasing, declining or moribund V: biological, cultural or aesthetic value comprising niche saproxylic habitat. Individuals of large proportions (stem girth) in comparison to trees of the same species/surviving beyond the typical age range for their species.	Category C - Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. Sub-categories: (I) - Mainly arboricultural value (II) - Mainly landscape value (III) - Mainly cultural or conservation value The BS category particular consideration has been given to the following: • The presence of any structural defects in each tree/group and its future life expectancy • The size and form of each tree/group and its suitability within the context of a proposed development • The location of each tree relative to existing site features e.g. its screening value or landscape features • Age class and life expectancy	10-20 years

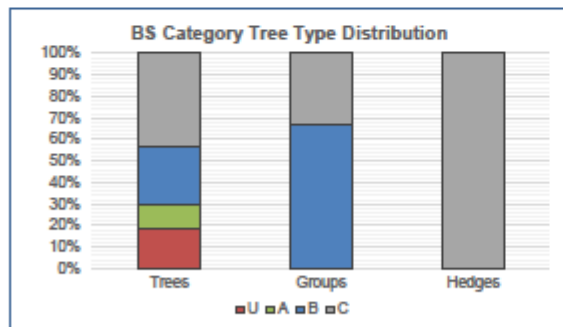
Structural Condition	Physiological Condition
Good - No significant structural defects	Good - No significant health problems
Fair - Structural defects that can be remediated	Fair - Symptoms of ill-health that can be remediated
Poor - Significant defects beyond remediation, present a risk of failure in the foreseeable future	Poor - Significant ill-health. Unlikely the tree will recover in the long term
Dead - Dead tree with structural integrity of tree severely compromised	Advanced Decline / Dead - Advanced state of decline and unlikely to recover or Dead

Root Protection Area (RPA)
- The RPA Radius column provides the extent of an equivalent circle from the centre of the stem (m). - The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the rooting area required for a tree to be successfully retained. Tree roots extend beyond the calculated RPA in many cases and where possible a greater distance should be protected. - Where veteran trees have been identified the RPA has been calculated in accordance with Natural England guidance i.e. 15x the stem diameter, uncapped.

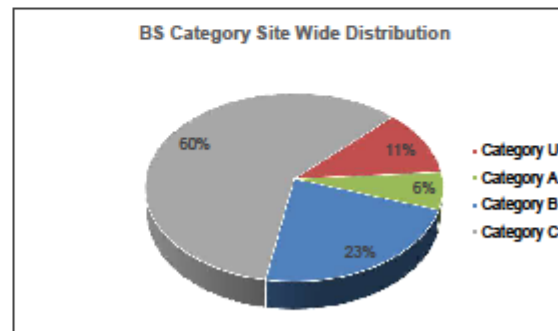
Appendix Summary

	Individual Trees	Totals	Tree Groups and Hedgerows	Totals
Category U	T1, T10, T11, T12, T13, T22, T27	7		0
Category A	T15, T18, T21, T31	4		0
Category B	T5, T6, T7, T8, T9, T14, T16, T23, T24, T33	10	G1, G3, G4, G6	4
Category C	T2, T3, T4, T17, T19, T20, T25, T26, T28, T29, T30, T32, T34, T35, T36, T37	16	G2, G5, H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11, H12, H13, H14, H15, H16, H17, H18, H19	21
	Total	37	Total	25

BS Category Tree Type Distribution displays the proportion of trees assessed in each type to enable a better understanding of the category distribution.



BS Category Site Wide Distribution shows the proportion of trees assessed in each category across the whole site which allows an interpretation of the site's overall quality.



Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
INDIVIDUAL TREES										
T1	English Oak <i>Quercus robur</i>	4	est 1500	0	OM	D	Barbed Wire attached to stem/s Delaminating bark on main stem Dense undergrowth at the base Heartwood exposed	N/A	N/A	U
T2	Ash <i>Fraxinus excelsior</i>	14	est 580	8	M	F	Basal suckers present Epicormic growth evident within the crown Established ivy cover Low crown form Minor dead wood evident in the crown (<75mm) Sparse / thinning crown	152	7.0	C (i)
T3	Ash <i>Fraxinus excelsior</i>	10	est 300 300	6	EM	F	Base obscured Crossing and rubbing branches Dense undergrowth at the base Established ivy cover Low crown form Minor dead wood evident in the crown (<75mm)	81	5.1	C (i)
T4	Ash <i>Fraxinus excelsior</i>	6	350	5	EM	P	Barbed Wire attached to stem/s Crown had been topped Dieback of the crown observed Epicormic growth evident within the crown Established ivy cover Minor dead wood evident in the crown (<75mm) Sparse / thinning crown	55	4.2	C (i)
T5	Ash <i>Fraxinus excelsior</i>	12	410 300	5	EM	F	Branch stubs evident Broken branches evident Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm)	117	6.1	B (i)
T6	Ash <i>Fraxinus excelsior</i>	11	580	7	M	F	Barbed Wire attached to stem/s Basal suckers present Branch stubs evident Broken branches evident Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm)	152	7.0	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T7	Ash <i>Fraxinus excelsior</i>	14	est 550	7	M	F	Basal suckers present Base obscured Branch stubs evident Broken branches evident Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm)	137	6.6	B (i)
T8	English Oak <i>Quercus robur</i>	10	700	8	M	F	Branch stubs evident Browsing damage noted on main stem Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown (<75mm) Poached ground at the base	222	8.4	B (i)
T9	English Oak <i>Quercus robur</i>	10	600	5	M	F	Branch stubs evident Browsing damage noted on main stem Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown (<75mm) Poached ground at the base	163	7.2	B (i)
T10	Hawthorn <i>Crataegus monogyna</i>	4	170	1	M	D	Bark wounds noted Branch stubs evident Browsing damage noted on main stem	N/A	N/A	U
T11	Ash <i>Fraxinus excelsior</i>	15	750	N - 5 S - 8 E - 8 W - 8	M	P	Branch stubs evident Broken branches evident Browsing damage noted on main stem Dieback of the crown observed Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Sparse / thinning crown Specimen in extensive decline	N/A	N/A	U
T12	Hawthorn <i>Crataegus monogyna</i>	5	320	3	M	P	Branch stubs evident Broken branches evident Browsing damage noted on main stem Dieback of the crown observed Minor dead wood evident in the crown (<75mm) Sparse / thinning crown Specimen in extensive decline	N/A	N/A	U

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T13	Ash <i>Fraxinus excelsior</i>	12	600	N - 4 S - 8 E - 6 W - 8	M	P	Bark wounds noted Base obscured Branch socket cavities observed Branch stubs evident Broken branches evident Dieback of the crown observed Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Potential Roost Features (PRF) Pruning wounds noted Sparse / thinning crown Specimen in extensive decline Woodpecker holes observed <i>Inonotus hispidus</i> Shaggy bracket present	N/A	N/A	U
T14	Ash <i>Fraxinus excelsior</i>	14	540 210 210 150 200	10	M	F	Bark wounds noted Basal suckers present Branch stubs evident Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm) <i>Inonotus hispidus</i> Shaggy bracket present	200	8.0	B (i)
T15	English Oak <i>Quercus robur</i>	14	est 1100	10	M	F	Bark wounds noted Basal suckers present Branch stubs evident Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm) Stem burning	547	13.2	A (i)
T16	Ash <i>Fraxinus excelsior</i>	22	800	12	M	F	Branch stubs evident Broken branches evident Epicormic growth evident within the crown Established ivy cover Low crown form Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Sparse / thinning crown	290	9.6	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T17	Ash <i>Fraxinus excelsior</i>	5	200 340	N - 2 S - 2 E - 5 W - 3	M	P	Bark wounds noted Branch stubs evident Coppiced form Epicormic growth evident within the crown Flail damage evident Cerioporus squamosus Dryads saddle present	70	4.7	C (i)
T18	English Oak <i>Quercus robur</i>	15	1100	8	M	F	Bark wounds noted Branch stubs evident Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm)	547	13.2	A (i)
T19	Ash <i>Fraxinus excelsior</i>	8	280 300 100	N - 3 S - 5 E - 6 W - 2	M	P	Bark wounds noted Basal suckers present Branch stubs evident Coppiced form Crossing and rubbing branches Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm) Suppressed crown form	76	4.9	C (i)
T20	Ash <i>Fraxinus excelsior</i>	12	580 430	N - 10 S - 5 E - 8 W - 5	M	P	Bark wounds noted Basal suckers present Branch stubs evident Broken branches evident Epicormic growth evident within the crown Flail damage evident Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Inonotus hispidus Shaggy bracket present	236	8.7	C (i)
T21	English Oak <i>Quercus robur</i>	15	est 900	9	M	G	Branch stubs evident Broken branches evident Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) No major defects were noted Typical crown form	366	10.8	A (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T22	Ash <i>Fraxinus excelsior</i>	12	est 600	7	M	P	Branch stubs evident Broken branches evident Epicormic growth evident within the crown Heartwood exposed Minor dead wood evident in the crown (<75mm) No major defects were noted Extensive failure of main stem with decay	N/A	N/A	U
T23	Ash <i>Fraxinus excelsior</i>	12	940	8	M	F	Bark wounds noted Basal suckers present Branch stubs evident Browsing damage noted on main stem Dieback of the crown observed Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown (<75mm) Poached ground at the base Flaring to base	400	11.3	B (i)
T24	Ash <i>Fraxinus excelsior</i>	12	770	8	M	F	Bark wounds noted Basal suckers present Branch stubs evident Browsing damage noted on main stem Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown (<75mm) Poached ground at the base Prominent buttress roots	268	9.2	B (i)
T25	Ash <i>Fraxinus excelsior</i>	12	580 550	8	M	F	Basal suckers present Base obscured Branch stubs evident Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Sparse / thinning crown Inonotus hispidus Shaggy bracket present	289	9.6	C (i)
T26	Field Maple <i>Acer campestre</i>	5	est 400	2	M	P	Base obscured Crossing and rubbing branches Epicormic growth evident within the crown Flail damage evident Heartwood exposed	72	4.8	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T27	English Oak <i>Quercus robur</i>	8	510	4	M	D	Delaminating bark on main stem Heartwood exposed	N/A	N/A	U
T28	Ash <i>Fraxinus excelsior</i>	9	490	4	M	P	Base obscured Branch socket cavities observed Branch stubs evident Dieback of the crown observed Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm) Specimen in extensive decline	109	5.9	C (i)
T29	Ash <i>Fraxinus excelsior</i>	9	est 510	4	M	P	Base obscured Branch socket cavities observed Branch stubs evident Dieback of the crown observed Epicormic growth evident within the crown Established ivy cover Flail damage evident Minor dead wood evident in the crown (<75mm) Specimen in extensive decline	118	6.1	C (i)
T30	Ash <i>Fraxinus excelsior</i>	8	est 300 200 100 100	5	M	P	Base obscured Branch stubs evident Crossing and rubbing branches Dieback of the crown observed Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm) Multi stemmed from base Specimen in extensive decline	68	4.6	C (i)
T31	English Oak <i>Quercus robur</i>	12	est 950	6	M	G	Base obscured Branch stubs evident Crossing and rubbing branches Epicormic growth evident within the crown Established ivy cover Flail damage evident Minor dead wood evident in the crown (<75mm)	408	11.4	A (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T32	Ash <i>Fraxinus excelsior</i>	8	450	5	M	P	Bark wounds noted Basal suckers present Dieback of the crown observed Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Sparse / thinning crown	92	5.4	C (i)
T33	Ash <i>Fraxinus excelsior</i>	5	330 330	5	EM	F	Base obscured Branch stubs evident Crossing and rubbing branches Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown (<75mm)	99	5.6	B (i)
T34	English Oak <i>Quercus robur</i>	4	240	3	SM	F	Base obscured Flail damage evident	26	2.9	C (i)
T35	Ash <i>Fraxinus excelsior</i>	17	730	8	M	P	Branch stubs evident Browsing damage noted on main stem Dieback of the crown observed Epicormic growth evident within the crown Low crown form Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Poached ground at the base Sparse / thinning crown Specimen in extensive decline	241	8.8	C (i)
T36	Purple Plum <i>Prunus cerasifera</i> <i>Pissardii</i>	4	120	1	Yng	F	Typical crown form	7	1.4	C (i)
T37	Hawthorn <i>Crataegus monogyna</i>	6	200	3	M	F	Typical crown form	18	2.4	C (i)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
GROUPS OF TREES										
G1	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus Wych Elm Ulmus glabra Crab Apple Malus sylvestris Hazel Corylus avellana Red Oak Quercus rubra	8	est 200	3	EM	F	Base obscured Crossing and rubbing branches Interlocking crowns Low crown forms Situating offsite Unable to gain access	18	2.4	B (ii)
G2	Blackthorn Prunus spinosa Crack Willow Salix fragilis English Oak Quercus robur Hawthorn Crataegus monogyna	10	avg 200	3	EM	F	Crossing and rubbing branches Interlocking crowns Low crown forms Intermittent tree cover along railway embankment with boundary hedgerow	18	2.4	C (ii)
G3	Elder Sambucus nigra English Oak Quercus robur Hawthorn Crataegus monogyna English Elm Ulmus procera Prunus sp.	12	avg 250	4	EM	F	Crossing and rubbing branches Dead trees noted Flail damage evident Interlocking crowns Low crown forms	28	3.0	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G4	Ash Fraxinus excelsior Blackthorn Prunus spinosa Crack Willow Salix fragilis Elder Sambucus nigra Field Maple Acer campestre Goat Willow Salix caprea Hawthorn Crataegus monogyna Alder Alnus glutinosa Prunus sp. Norway Spruce Picea abies	18	avg 500 500 500	8	SM / EM / M	F	Basal suckers present Base obscured Branch stubs evident Broken branches evident Crossing and rubbing branches Dense undergrowth at the base Epicormic growth evident within the crown Established ivy cover Flail damage evident Interlocking crowns Low crown forms Major dead wood evident in the crowns (>75mm) Minor dead wood evident in the crowns (<75mm) Multi leadered forms Multi stemmed forms Single stem forms Group forming along the Harrowbrook	339	10.4	B (ii)
G5	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna Crab Apple Malus sylvestris Holly Ilex aquifolium	10	upto 600	5	M	P	Barbed Wire attached to stem/s Bark wounds noted Basal cavities observed Basal suckers present Branch stubs evident Broken branches evident Close cultivation of the soil Crossing and rubbing branches Dieback of the crowns observed Epicormic growth evident within the crowns Flail damage evident Heartwood exposed Interlocking crowns Low crown forms Major dead wood evident in the crowns (>75mm) Minor dead wood evident in the crowns (<75mm) Standard trees with intermittent hedgerow	163	7.2	C (ii)

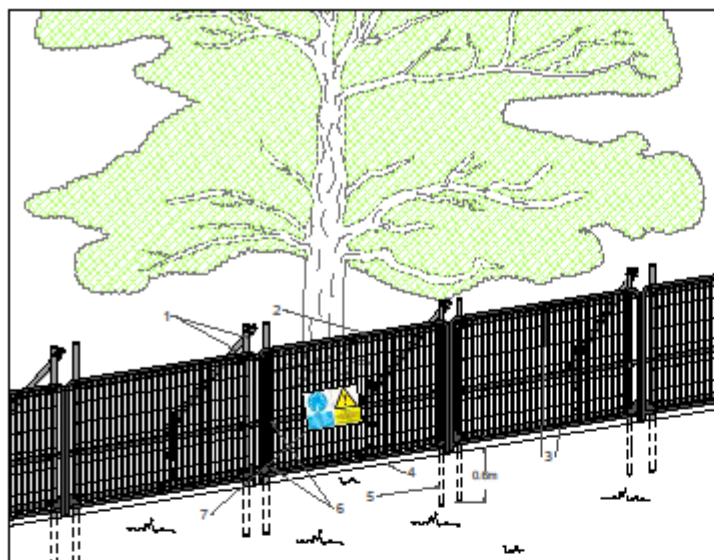
Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G6	Ash Fraxinus excelsior English Oak Quercus robur Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus	10	est 300	5	SM / EM	F	Base obscured Crossing and rubbing branches Dense undergrowth at the base Interlocking crowns Low crown forms Roadside boundary group	41	3.6	B (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
HEDGEROWS										
H1	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna	1	est 6x 60	0.5	EM	F	Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)
H2	Ash Fraxinus excelsior Blackthorn Prunus spinosa Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	M	F	Flail damage evident Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)
H3	Ash Fraxinus excelsior Blackthorn Prunus spinosa Hawthorn Crataegus monogyna English Elm Ulmus procera	1	est 6x 60	1	EM	F	Flail damage evident Maintained hedgerow	10	1.8	C (ii)
H4	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	EM	F	Flail damage evident Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H5	Lawson Cypress Chamaecyparis lawsoniana Leyland Cypress Cupressocyparis leylandii	1	est 150	0.5	EM	P	Maintained hedgerow Within garden	10	1.8	C (ii)
H6	Ash Fraxinus excelsior Hawthorn Crataegus monogyna English Elm Ulmus procera	6	avg 6x 80	1	M	P	Crossing and rubbing branches Flail damage evident Gaps present in hedgerow Maintained hedgerow Outgrown hedgerow	17	2.4	C (ii)
H7	Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera	2	avg 6x 80	1.5	M	F	Flail damage evident Gaps present in hedgerow Maintained hedgerow	17	2.4	C (ii)
H8	Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera	2	avg 6x 80	0.5	M	P	Flail damage evident Gaps present in hedgerow Maintained hedgerow	17	2.4	C (ii)
H9	Elder Sambucus nigra Hawthorn Crataegus monogyna	1	est 6x 60	1	M	F	Maintained hedgerow	10	1.8	C (ii)
H10	Hawthorn Crataegus monogyna	1	est 6x 60	1	M	F	Maintained hedgerow	10	1.8	C (ii)

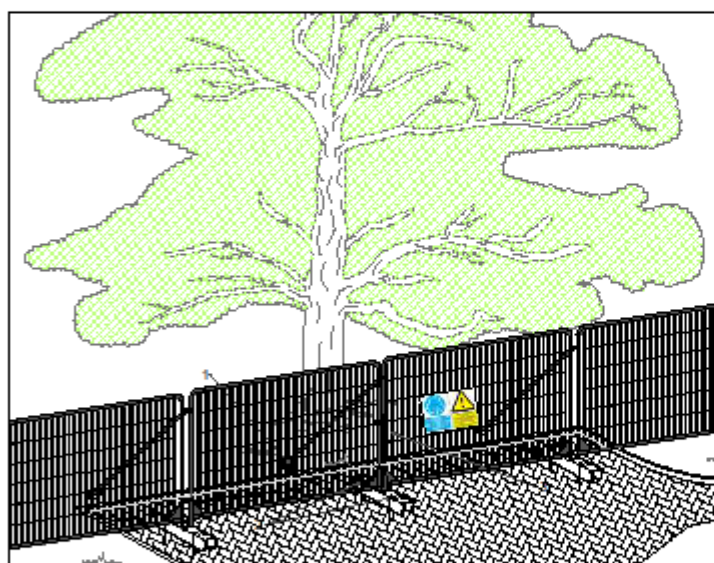
Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H11	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna	2	est 6x 60	1	M	F	Dieback of the crown observed Failed trees Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)
H12	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Field Maple Acer campestre Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	M	F	Flail damage evident Maintained hedgerow	10	1.8	C (ii)
H13	Hawthorn Crataegus monogyna	1	est 90 90	0.5	M	F	Maintained hedgerow	7	1.5	C (ii)
H14	Blackthorn Prunus spinosa Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	M	F	Flail damage evident Maintained hedgerow	10	1.8	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H15	Blackthorn Prunus spinosa English Oak Quercus robur Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	M	F	Flail damage evident Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)
H16	Blackthorn Prunus spinosa Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	M	F	Flail damage evident Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)
H17	Elder Sambucus nigra Hawthorn Crataegus monogyna	1	est 6x 50	0.5	M	F	Maintained hedgerow	7	1.5	C (ii)
H18	Hawthorn Crataegus monogyna English Elm Ulmus procera	1	est 6x 50	0.5	M	F	Maintained hedgerow	7	1.5	C (ii)
H19	Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna	1.5	est 6x 60	1	EM	F	Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)



Standard specification for protective barrier

1. Standard scaffold poles
2. Heavy gauge 2m tall galvanized tube and welded mesh infill panels
3. Panels secured to scaffold frame with wire ties
4. Ground level
5. Uprights driven into the ground until secure (min depth of 0.6m)
6. Standard scaffold clamps
7. Construction Exclusion Zone signs



Above ground stabilising systems

1. Stabiliser strut with base plate secured with ground pins
2. Feet blocks secured with ground pins
3. Construction Exclusion Zone signs

NOTES

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APPENDIX B PROTECTIVE FENCING SPECIFICATIONS

CAD file: S:\Arb resources\Basic Templates\Tree Protection\Appendix B - Protective Fencing A4.dwg

8) Appendix B: Tree Survey Schedule

LAND SOUTH OF HINCKLEY.

CHAPTER 10 ENVIRONMENTAL STATEMENT

ECOLOGY AND NATURE CONSERVATION

APPENDIX 10.1E – TREE SCHEDULE

SEPTEMBER 2021

Appendix A - Tree Schedule

Measurements	Age Classes	Quality Assessment of BS Category	ULE (relates to BS Category)
Height - Measured using a digital laser clinometer (m)	YNG: Establishing, typically with good vigour and fast growth rates and strong apical dominance; c. less than 1/3 life expectancy	Category U - Trees in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	<10 years
Stem Dia. - Diameter measured (mm) in accordance with Annex C of the BS5837	SM: Semi-mature trees less than 1/3 life expectancy	Category A - Trees of high quality with an estimated remaining life expectancy of at least 40 years.	40+ years
Crown Radius - Measured using a digital laser clinometer radially from the main stem (m)	EM: Established, typically vigorous and increasing in apical height and lateral spread; 1/3 - 2/3 life expectancy. Offers landscape significance	Category B - Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.	20-40 years
Abbreviations est - Estimated stem diameter avg - Average stem diameter for multiple stems upto - Maximum stem diameter of a group	M: Fully established over 2/3 life expectancy, generally good vigour and achieving full height potential with crown still spreading OM: Fully mature, at the extremes of expected life expectancy, vigour decreasing, declining or moribund V: biological, cultural or aesthetic value comprising niche saproxylic habitat. Individuals of large proportions (stem girth) in comparison to trees of the same species/surviving beyond the typical age range for their species.	Category C - Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm. Sub-categories: (i) - Mainly arboricultural value (ii) - Mainly landscape value (iii) - Mainly cultural or conservation value The BS category particular consideration has been given to the following: • The presence of any structural defects in each tree/group and its future life expectancy • The size and form of each tree/group and its suitability within the context of a proposed development • The location of each tree relative to existing site features e.g. its screening value or landscape features • Age class and life expectancy	10-20 years

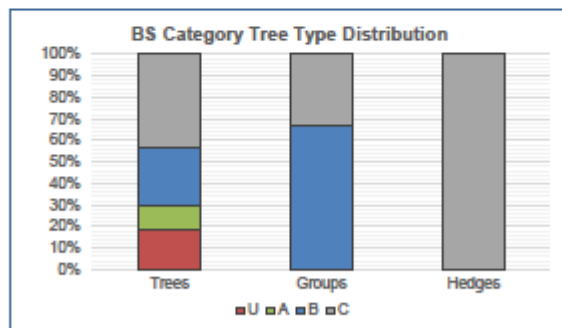
Structural Condition	Physiological Condition
Good - No significant structural defects	Good - No significant health problems
Fair - Structural defects that can be remediated	Fair - Symptoms of ill-health that can be remediated
Poor - Significant defects beyond remediation, present a risk of failure in the foreseeable future	Poor - Significant ill-health. Unlikely the tree will recover in the long term
Dead - Dead tree with structural integrity of tree severely compromised	Advanced Decline / Dead - Advanced state of decline and unlikely to recover or Dead

Root Protection Area (RPA)
- The RPA Radius column provides the extent of an equivalent circle from the centre of the stem (m). - The RPA is calculated using the formulae described in paragraph 4.6.1 of British Standard 5837: 2012 and is indicative of the rooting area required for a tree to be successfully retained. Tree roots extend beyond the calculated RPA in many cases and where possible a greater distance should be protected. - Where veteran trees have been identified the RPA has been calculated in accordance with Natural England guidance i.e. 15x the stem diameter, uncapped.

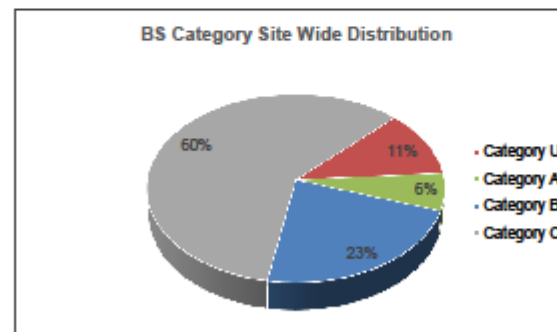
Appendix Summary

	Individual Trees	Totals	Tree Groups and Hedgerows	Totals
Category U	T1, T10, T11, T12, T13, T22, T27	7		0
Category A	T15, T18, T21, T31	4		0
Category B	T5, T6, T7, T8, T9, T14, T16, T23, T24, T33	10	G1, G3, G4, G6	4
Category C	T2, T3, T4, T17, T19, T20, T25, T26, T28, T29, T30, T32, T34, T35, T36, T37	16	G2, G5, H1, H2, H3, H4, H5, H6, H7, H8, H9, H10, H11, H12, H13, H14, H15, H16, H17, H18, H19	21
	Total	37	Total	25

BS Category Tree Type Distribution displays the proportion of trees assessed in each type to enable a better understanding of the category distribution.



BS Category Site Wide Distribution shows the proportion of trees assessed in each category across the whole site which allows an interpretation of the site's overall quality.



Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	B55837 Cat
INDIVIDUAL TREES										
T1	English Oak <i>Quercus robur</i>	4	est 1500	0	OM	D	Barbed Wire attached to stem/s Delaminating bark on main stem Dense undergrowth at the base Heartwood exposed	N/A	N/A	U
T2	Ash <i>Fraxinus excelsior</i>	14	est 580	8	M	F	Basal suckers present Epicormic growth evident within the crown Established ivy cover Low crown form Minor dead wood evident in the crown (<75mm) Sparse / thinning crown	152	7.0	C (i)
T3	Ash <i>Fraxinus excelsior</i>	10	est 300 300	6	EM	F	Base obscured Crossing and rubbing branches Dense undergrowth at the base Established ivy cover Low crown form Minor dead wood evident in the crown (<75mm)	81	5.1	C (i)
T4	Ash <i>Fraxinus excelsior</i>	6	350	5	EM	P	Barbed Wire attached to stem/s Crown had been topped Dieback of the crown observed Epicormic growth evident within the crown Established ivy cover Minor dead wood evident in the crown (<75mm) Sparse / thinning crown	55	4.2	C (i)
T5	Ash <i>Fraxinus excelsior</i>	12	410 300	5	EM	F	Branch stubs evident Broken branches evident Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm)	117	6.1	B (i)
T6	Ash <i>Fraxinus excelsior</i>	11	580	7	M	F	Barbed Wire attached to stem/s Basal suckers present Branch stubs evident Broken branches evident Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm)	152	7.0	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T7	Ash <i>Fraxinus excelsior</i>	14	est 550	7	M	F	Basal suckers present Base obscured Branch stubs evident Broken branches evident Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm)	137	6.6	B (i)
T8	English Oak <i>Quercus robur</i>	10	700	8	M	F	Branch stubs evident Browsing damage noted on main stem Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown (<75mm) Poached ground at the base	222	8.4	B (i)
T9	English Oak <i>Quercus robur</i>	10	600	5	M	F	Branch stubs evident Browsing damage noted on main stem Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown (<75mm) Poached ground at the base	163	7.2	B (i)
T10	Hawthorn <i>Crataegus monogyna</i>	4	170	1	M	D	Bark wounds noted Branch stubs evident Browsing damage noted on main stem	N/A	N/A	U
T11	Ash <i>Fraxinus excelsior</i>	15	750	N - 5 S - 8 E - 8 W - 8	M	P	Branch stubs evident Broken branches evident Browsing damage noted on main stem Dieback of the crown observed Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Sparse / thinning crown Specimen in extensive decline	N/A	N/A	U
T12	Hawthorn <i>Crataegus monogyna</i>	5	320	3	M	P	Branch stubs evident Broken branches evident Browsing damage noted on main stem Dieback of the crown observed Minor dead wood evident in the crown (<75mm) Sparse / thinning crown Specimen in extensive decline	N/A	N/A	U

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T13	Ash <i>Fraxinus excelsior</i>	12	600	N - 4 S - 8 E - 6 W - 8	M	P	Bark wounds noted Base obscured Branch socket cavities observed Branch stubs evident Broken branches evident Dieback of the crown observed Epicormic growth evident within the crown Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Potential Roost Features (PRF) Pruning wounds noted Sparse / thinning crown Specimen in extensive decline Woodpecker holes observed Inonotus hispidus Shaggy bracket present	N/A	N/A	U
T14	Ash <i>Fraxinus excelsior</i>	14	540 210 210 150 200	10	M	F	Bark wounds noted Basal suckers present Branch stubs evident Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm) Inonotus hispidus Shaggy bracket present	200	8.0	B (i)
T15	English Oak <i>Quercus robur</i>	14	est 1100	10	M	F	Bark wounds noted Basal suckers present Branch stubs evident Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm) Stem burning	547	13.2	A (i)
T16	Ash <i>Fraxinus excelsior</i>	22	800	12	M	F	Branch stubs evident Broken branches evident Epicormic growth evident within the crown Established ivy cover Low crown form Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Sparse / thinning crown	290	9.6	B (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	B55837 Cat
T17	Ash <i>Fraxinus excelsior</i>	5	200 340	N - 2 S - 2 E - 5 W - 3	M	P	Bark wounds noted Branch stubs evident Coppiced form Epicormic growth evident within the crown Flail damage evident Cerioporus squamosus Dryads saddle present	70	4.7	C (i)
T18	English Oak <i>Quercus robur</i>	15	1100	8	M	F	Bark wounds noted Branch stubs evident Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm)	547	13.2	A (i)
T19	Ash <i>Fraxinus excelsior</i>	8	260 300 100	N - 3 S - 5 E - 6 W - 2	M	P	Bark wounds noted Basal suckers present Branch stubs evident Coppiced form Crossing and rubbing branches Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm) Suppressed crown form	76	4.9	C (i)
T20	Ash <i>Fraxinus excelsior</i>	12	580 430	N - 10 S - 5 E - 8 W - 5	M	P	Bark wounds noted Basal suckers present Branch stubs evident Broken branches evident Epicormic growth evident within the crown Flail damage evident Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Inonotus hispidus Shaggy bracket present	236	8.7	C (i)
T21	English Oak <i>Quercus robur</i>	15	est 900	9	M	G	Branch stubs evident Broken branches evident Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) No major defects were noted Typical crown form	366	10.8	A (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	B55837 Cat
T22	Ash <i>Fraxinus excelsior</i>	12	est 600	7	M	P	Branch stubs evident Broken branches evident Epicormic growth evident within the crown Heartwood exposed Minor dead wood evident in the crown (<75mm) No major defects were noted Extensive failure of main stem with decay	N/A	N/A	U
T23	Ash <i>Fraxinus excelsior</i>	12	940	8	M	F	Bark wounds noted Basal suckers present Branch stubs evident Browsing damage noted on main stem Dieback of the crown observed Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown (<75mm) Poached ground at the base Flaring to base	400	11.3	B (i)
T24	Ash <i>Fraxinus excelsior</i>	12	770	8	M	F	Bark wounds noted Basal suckers present Branch stubs evident Browsing damage noted on main stem Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown (<75mm) Poached ground at the base Prominent buttress roots	268	9.2	B (i)
T25	Ash <i>Fraxinus excelsior</i>	12	580 550	8	M	F	Basal suckers present Base obscured Branch stubs evident Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Sparse / thinning crown Inonotus hispidus Shaggy bracket present	289	9.6	C (i)
T26	Field Maple <i>Acer campestre</i>	5	est 400	2	M	P	Base obscured Crossing and rubbing branches Epicormic growth evident within the crown Flail damage evident Heartwood exposed	72	4.8	C (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T27	English Oak <i>Quercus robur</i>	8	510	4	M	D	Delaminating bark on main stem Heartwood exposed	N/A	N/A	U
T28	Ash <i>Fraxinus excelsior</i>	9	490	4	M	P	Base obscured Branch socket cavities observed Branch stubs evident Dieback of the crown observed Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm) Specimen in extensive decline	109	5.9	C (i)
T29	Ash <i>Fraxinus excelsior</i>	9	est 510	4	M	P	Base obscured Branch socket cavities observed Branch stubs evident Dieback of the crown observed Epicormic growth evident within the crown Established ivy cover Flail damage evident Minor dead wood evident in the crown (<75mm) Specimen in extensive decline	118	6.1	C (i)
T30	Ash <i>Fraxinus excelsior</i>	8	est 300 200 100 100	5	M	P	Base obscured Branch stubs evident Crossing and rubbing branches Dieback of the crown observed Epicormic growth evident within the crown Flail damage evident Minor dead wood evident in the crown (<75mm) Multi stemmed from base Specimen in extensive decline	68	4.6	C (i)
T31	English Oak <i>Quercus robur</i>	12	est 950	6	M	G	Base obscured Branch stubs evident Crossing and rubbing branches Epicormic growth evident within the crown Established ivy cover Flail damage evident Minor dead wood evident in the crown (<75mm)	408	11.4	A (i)

Tree No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
T32	Ash <i>Fraxinus excelsior</i>	8	450	5	M	P	Bark wounds noted Basal suckers present Dieback of the crown observed Epicormic growth evident within the crown Minor dead wood evident in the crown (<75mm) Sparse / thinning crown	92	5.4	C (i)
T33	Ash <i>Fraxinus excelsior</i>	5	330 330	5	EM	F	Base obscured Branch stubs evident Crossing and rubbing branches Epicormic growth evident within the crown Low crown form Minor dead wood evident in the crown (<75mm)	99	5.6	B (i)
T34	English Oak <i>Quercus robur</i>	4	240	3	SM	F	Base obscured Flail damage evident	26	2.9	C (i)
T35	Ash <i>Fraxinus excelsior</i>	17	730	8	M	P	Branch stubs evident Browsing damage noted on main stem Dieback of the crown observed Epicormic growth evident within the crown Low crown form Major dead wood evident in the crown (>75mm) Minor dead wood evident in the crown (<75mm) Poached ground at the base Sparse / thinning crown Specimen in extensive decline	241	8.8	C (i)
T36	Purple Plum <i>Prunus cerasifera</i> <i>Pissardii</i>	4	120	1	Yng	F	Typical crown form	7	1.4	C (i)
T37	Hawthorn <i>Crataegus monogyna</i>	6	200	3	M	F	Typical crown form	18	2.4	C (i)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
GROUPS OF TREES										
G1	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus Wych Elm Ulmus glabra Crab Apple Malus sylvestris Hazel Corylus avellana Red Oak Quercus rubra	8	est 200	3	EM	F	Base obscured Crossing and rubbing branches Interlocking crowns Low crown forms Situating offsite Unable to gain access	18	2.4	B (ii)
G2	Blackthorn Prunus spinosa Crack Willow Salix fragilis English Oak Quercus robur Hawthorn Crataegus monogyna	10	avg 200	3	EM	F	Crossing and rubbing branches Interlocking crowns Low crown forms Intermittent tree cover along railway embankment with boundary hedgerow	18	2.4	C (ii)
G3	Elder Sambucus nigra English Oak Quercus robur Hawthorn Crataegus monogyna English Elm Ulmus procera Prunus sp.	12	avg 250	4	EM	F	Crossing and rubbing branches Dead trees noted Flail damage evident Interlocking crowns Low crown forms	28	3.0	B (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
G4	Ash Fraxinus excelsior Blackthorn Prunus spinosa Crack Willow Salix fragilis Elder Sambucus nigra Field Maple Acer campestre Goat Willow Salix caprea Hawthorn Crataegus monogyna Alder Alnus glutinosa Prunus sp. Norway Spruce Picea abies	18	avg 500 500 500	8	SM / EM / M	F	Basal suckers present Base obscured Branch stubs evident Broken branches evident Crossing and rubbing branches Dense undergrowth at the base Epicormic growth evident within the crown Established ivy cover Flail damage evident Interlocking crowns Low crown forms Major dead wood evident in the crowns (>75mm) Minor dead wood evident in the crowns (<75mm) Multi leadered forms Multi stemmed forms Single stem forms Group forming along the Harrowbrook	339	10.4	B (ii)
G5	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna Crab Apple Malus sylvestris Holly Ilex aquifolium	10	upto 600	5	M	P	Barbed Wire attached to stem/s Bark wounds noted Basal cavities observed Basal suckers present Branch stubs evident Broken branches evident Close cultivation of the soil Crossing and rubbing branches Dieback of the crowns observed Epicormic growth evident within the crowns Flail damage evident Heartwood exposed Interlocking crowns Low crown forms Major dead wood evident in the crowns (>75mm) Minor dead wood evident in the crowns (<75mm) Standard trees with intermittent hedgerow	163	7.2	C (ii)

Group No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	B55837 Cat
G6	Ash Fraxinus excelsior English Oak Quercus robur Hawthorn Crataegus monogyna Sycamore Acer pseudoplatanus	10	est 300	5	SM / EM	F	Base obscured Crossing and rubbing branches Dense undergrowth at the base Interlocking crowns Low crown forms Roadside boundary group	41	3.6	B (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
HEDGEROWS										
H1	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna	1	est 6x 60	0.5	EM	F	Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)
H2	Ash Fraxinus excelsior Blackthorn Prunus spinosa Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	M	F	Flail damage evident Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)
H3	Ash Fraxinus excelsior Blackthorn Prunus spinosa Hawthorn Crataegus monogyna English Elm Ulmus procera	1	est 6x 60	1	EM	F	Flail damage evident Maintained hedgerow	10	1.8	C (ii)
H4	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	EM	F	Flail damage evident Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H5	Lawson Cypress Chamaecyparis lawsoniana Leyland Cypress Cupressocyparis leylandii	1	est 150	0.5	EM	P	Maintained hedgerow Within garden	10	1.8	C (ii)
H6	Ash Fraxinus excelsior Hawthorn Crataegus monogyna English Elm Ulmus procera	6	avg 6x 80	1	M	P	Crossing and rubbing branches Flail damage evident Gaps present in hedgerow Maintained hedgerow Outgrown hedgerow	17	2.4	C (ii)
H7	Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera	2	avg 6x 80	1.5	M	F	Flail damage evident Gaps present in hedgerow Maintained hedgerow	17	2.4	C (ii)
H8	Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna English Elm Ulmus procera	2	avg 6x 80	0.5	M	P	Flail damage evident Gaps present in hedgerow Maintained hedgerow	17	2.4	C (ii)
H9	Elder Sambucus nigra Hawthorn Crataegus monogyna	1	est 6x 60	1	M	F	Maintained hedgerow	10	1.8	C (ii)
H10	Hawthorn Crataegus monogyna	1	est 6x 60	1	M	F	Maintained hedgerow	10	1.8	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H11	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna	2	est 6x 60	1	M	F	Dieback of the crown observed Failed trees Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)
H12	Ash Fraxinus excelsior Blackthorn Prunus spinosa Elder Sambucus nigra Field Maple Acer campestre Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	M	F	Flail damage evident Maintained hedgerow	10	1.8	C (ii)
H13	Hawthorn Crataegus monogyna	1	est 90 90	0.5	M	F	Maintained hedgerow	7	1.5	C (ii)
H14	Blackthorn Prunus spinosa Elder Sambucus nigra English Oak Quercus robur Field Maple Acer campestre Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	M	F	Flail damage evident Maintained hedgerow	10	1.8	C (ii)

Hedge No	Species	Height	Stem Dia.	Crown Radius	Age Class	Overall Condition	Structural Condition	RPA	RPA Radius	BS5837 Cat
H15	Blackthorn Prunus spinosa English Oak Quercus robur Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	M	F	Flail damage evident Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)
H16	Blackthorn Prunus spinosa Hawthorn Crataegus monogyna English Elm Ulmus procera	2	est 6x 60	1	M	F	Flail damage evident Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)
H17	Elder Sambucus nigra Hawthorn Crataegus monogyna	1	est 6x 50	0.5	M	F	Maintained hedgerow	7	1.5	C (ii)
H18	Hawthorn Crataegus monogyna English Elm Ulmus procera	1	est 6x 50	0.5	M	F	Maintained hedgerow	7	1.5	C (ii)
H19	Blackthorn Prunus spinosa Elder Sambucus nigra Hawthorn Crataegus monogyna	1.5	est 6x 60	1	EM	F	Gaps present in hedgerow Maintained hedgerow	10	1.8	C (ii)

9) Appendix C: Protective Barriers – Installation Methods

Figure 1: Figure to show default specification for protective fencing

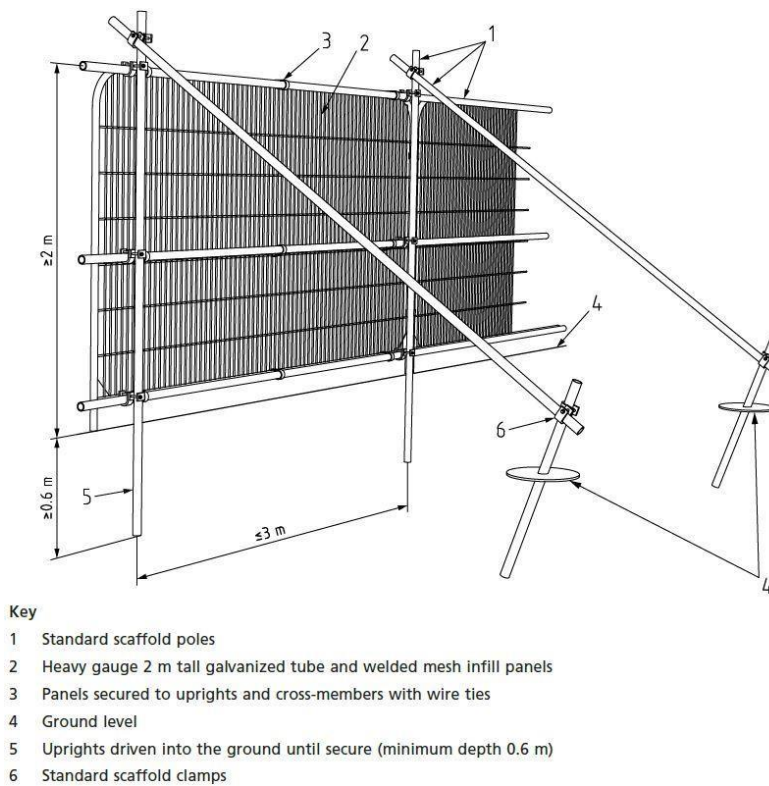


Photo 5: Heras fencing connected to secure scaffold



Photo 6: Scaffold driven into ground

Figure 2: Figure to show above ground installation of protective fencing to BS5837:2012 guidelines

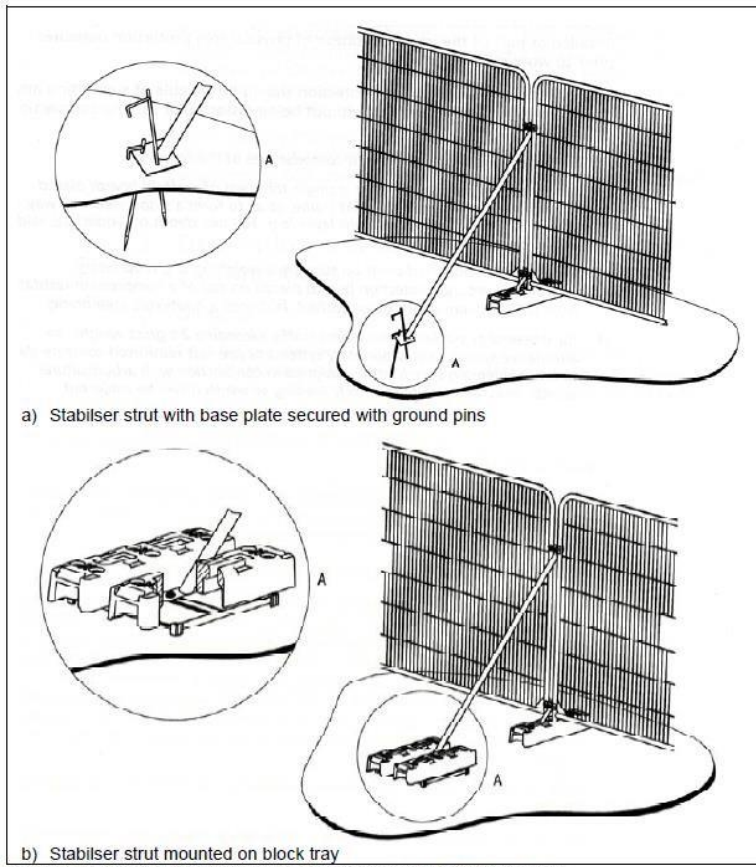


Figure 3: BS5837:2012 Examples of above-ground stabilising systems

Photo 7: Heras fencing with base plate & sign. Strut (pinned)



Photo 8: Block plat and stabilizer



10) Appendix D: Protective fencing sign (example)



11) Appendix E: Temporary ground protection

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

- *Pedestrian movements* – A single thickness of scaffold boards placed on top of a compression resistant layer, for example, 100mm depth of woodchip, laid onto a geotextile membrane.
- *Pedestrian operated machinery* (up to 2T gross weight) – inter linked ground protection boards placed on top of a compression resistant layer, for example 150mm depth of wood chip, laid on top of a geotextile membrane.
- *Wheeled or tracked construction traffic (exceeding 2T gross weight)* – Proprietary systems ([Brochure- Temporary-Ground-Protection.pdf \(geosyn.co.uk\)](#) or pre-cast reinforced concrete slabs to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

Image 1: Example of pedestrian operated machinery temporary ground protection



Image 2: Proprietary system – A geocell surface used during construction with a temporary hard wearing surface and a geotextile membrane to prevent mud from migrating down into infill (specifications and depths need to be confirmed by an engineer).

