



Site 5
Clywedog Road South
Wrexham Industrial Estate

Arboricultural Method Statement

Report Ref: 236/R/200

September 2023

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Prepared by:

Marianne Dobson CMLI, BA Hons, FdScArb, MArborA

Lantra certified in Professional Tree Inspection

Landscape Architect and Arboricultural Consultant

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6 Kinderton Close

High Legh

Knutsford

Cheshire

WA16 6LZ

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1.0	Site Location Plan	
2.0	Tree Constraints Plan	236T/100-104
3.0	Arboricultural Method Statement - Tree Removal, Retention and Protection Plan	236/T/200-204
4.0	Topographical survey	
5.0	Site Layout	02-001 Site Layout Rev P3
Appendices		
1	Arboricultural Survey Data Sheets	
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EXECUTIVE SUMMARY

1. This report has been produced to detail the arboricultural impacts of proposed development for new warehouse & distribution units, office accommodation, service yards, parking, access areas and landscaping at Site 5, Clywedog Road South, Wrexham Industrial Estate.
2. A Tree Constraints Report and Plans have been produced for the site reference 236/R/100.
3. Based on an objective assessment of the trees, groups of trees, woodland made in accordance with *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations*, a total of 23 individual trees, five groups of trees and five woodland areas were recorded. No hedgerows were noted. The features fall within category A, B, C and U of the BS5837:2012 cascade chart for tree categories.
4. Correspondence with Council, has identified no Tree Preservation Orders (TPO) at the site and no Conservation Areas are affected by the proposals.
5. No individual trees or groups would be removed to facilitate the works. Scrub group G1, category C, has already been removed to allow installation of a new site fence. Only pruning works to trees to the south edge of category B woodland W1 is anticipated. Removal of scrub to the woodland edge W1 would be carried out.
6. Tree protection will be required to demarcate a Construction Exclusion Zone (CEZ) around trees to be retained prior to site establishment and commencement of construction. This function will in the main, be served by the new Paladin site fence. Where tree protection is required, this will take the form of temporary tree protection fencing to confine site access and avoid detrimental impact on the retained trees.
7. A proposal for replacement planting and habitat enhancement has not been produced as part of this method statement.
8. This method statement considers potential impacts based on the proposed construction and is valid for two years from the date of the report. Changes to trees can occur as a result of natural processes and disease, as well as the influences of development, therefore regular tree inspections are recommended to monitor the health and condition of the woodland, groups and individual trees.



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1 INTRODUCTION

1.1 Scope of method statement

- 1.1.1 MDLandscape have been commissioned by FI-REM Ltd to undertake an Arboricultural Method Statement (AMS) for a proposed development site at Wrexham Industrial Estate. It has been compiled to help ensure the successful retention of the trees on site during the proposed construction of development, and details the arboricultural impact to the trees, groups of trees and woodland and proposed protection measures.
- 1.1.2 Tree surveys at the site were conducted in Date by M Dobson (FdScArb, MArborA, Lantra certified Professional Tree Inspector) in accordance with *BS5837:2012 Trees in relation to design, demolition and construction – Recommendations*.
- 1.1.3 A topographical survey was available at time of survey and has been used to verify tree positions and crown spread. The drawing is included in Figure 2.0 at the end of this report.
- 1.1.4 This report includes:
- The tree data schedule and constraints plan for trees present within the survey and assessment area;
 - Requirements for protection during construction; and
 - Recommendations for tree removal, retention and management.
- 1.1.5 This report should be read in conjunction the following arboricultural reports and drawings:
- Tree Constraints Plans 236/T/100 to 104 and Tree Constraints Report 236/R/100; and
 - Arboricultural Method Statement Sheet Plans 236/T/300 to 304 showing Tree Removal, Retention and Protection Plan.



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2 THE SITE AND SURROUNDINGS

2.1 The site

The site is located on land centred on SJ 3709 4913 adjacent to Clywedog Road South, Wrexham Industrial Estate, as shown in Figure 1.0. The site is a grassed area with trees, groups of trees and woodland to the north, east and south east of the site.



Figure 1.0 Site location - Contains ordnance survey data OS Maps: (ordnancesurvey.co.uk)

2.2 The surroundings

The site lies within the south west area of Wrexham Industrial Estate, to the south east of Wrexham. To the north west and south of the site are warehouse units and business park developments. To the east beyond the boundary trees is a residential area known as The Oval, Maes Brenin and Pilgrim Way. The tree cover of the wider area includes mature trees and woodland to the south and north east and in planting schemes within the industrial estate.

2.3 The Development Proposals

- 2.3.1 The AMS has been prepared in relation to a planning application for warehouse and distribution units, ancillary office accommodation, service yards and car parking.
- 2.3.2 The proposed site layout is shown on the drawing 02-001 Site Layout Rev P3, as shown in Figure 5.0.
- 2.3.3 An enquiry to the Council to confirm Tree Preservation Order (TPO) status was made on 19.8.2022. Confirmation was received that there are no TPO at the site and the survey area is not within a conservation area.

2.4 Ancient Woodland, Veteran and Ancient Trees

- 2.4.1 An examination of the Natural Resources Wales (NRW) Interactive Map Viewer on 20.09.2023¹ confirms there is no ancient woodland within the survey area. There is no comprehensive national register of veteran trees, and an examination of the Woodland Trust Ancient Tree Inventory² confirms there are no ancient or veteran trees recorded in the vicinity of the site. None of the trees surveyed are considered to have veteran or ancient tree characteristics.

2.5 Protected Species

- 2.5.1 Trees and hedges are a potential habitat for nesting birds and roosting habitat for bats, both of which are protected under the *Wildlife and Countryside Act 1981* (as amended) and certain species under the *Conservation of Species and Habitat Regulations 2010*. This makes it an offence to intentionally or recklessly, damage or destroy an active birds' nest.
- 2.5.2 Several trees within the survey boundary may be suitable habitat for nesting birds and roosting habitat for bats, therefore all trees should be inspected for the absence or presence of nesting bird activity or presence of bats, before removal or major pruning work is carried out. A qualified Ecologist should be appointed to ensure a preliminary ecological assessment is undertaken.

¹ Natural Resources Wales Interactive Map Viewer [Geocortex Viewer for HTML5 \(cyfoethnaturiolcymru.gov.uk\)](https://geocortex.naturalresources.gov.uk/)

² Ancient Tree Inventory [How to record ancient trees - Ancient Tree Inventory \(woodlandtrust.org.uk\)](https://www.woodlandtrust.org.uk/ancient-trees/how-to-record-ancient-trees/)

3 PLANNING CONSIDERATIONS

3.1 Planning Policy

3.1.1 In addition to statutory designations and protection, the planning system also confers importance on trees and woodland in the context of potential development. The Planning Policy Wales document³ states a number of policies relating to trees and benefits of trees in design, specifically relating to trees, woodlands and hedgerows in paragraphs 6.4.24 to 6.4.27:

6.4.24 *Trees, woodlands, copses and hedgerows are of great importance for biodiversity. They are important connecting habitats for resilient ecological networks and make a valuable wider contribution to landscape character, sense of place, air quality, recreation and local climate moderation. They also play a vital role in tackling the climate emergency by locking up carbon, and can provide shade and shelter, a sustainable energy source and building materials. The particular role, siting and design requirements of urban trees in providing health and well-being benefits to communities, now and in the future should be promoted as part of plan making and decision taking.*

6.4.25 *Planning authorities should protect trees, hedgerows, groups of trees and areas of woodland where they have ecological value, contribute to the character or amenity of a particular locality, or perform a beneficial and identified green infrastructure function. Planning authorities should consider the importance of native woodland and valued trees, and should have regard, where appropriate, to local authority tree strategies or SPG. Permanent removal of woodland should only be permitted where it would achieve significant and clearly defined public benefits. Where woodland or trees are removed as part of a proposed scheme, developers will be expected to provide compensatory planting.*

6.4.26 *Ancient woodland and semi-natural woodlands and individual ancient, veteran and heritage trees are irreplaceable natural resources, and have significant landscape, biodiversity and cultural value. Such trees and woodlands should be afforded protection from development which would result in their loss or deterioration unless there are significant and clearly defined public benefits; this protection should prevent potentially damaging operations and their unnecessary loss. In the case of a site recorded on the Ancient Woodland Inventory, authorities should consider the advice of NRW. Planning authorities should also have regard to the Ancient Tree Inventory.*

6.4.27 *The protection and planting of trees and hedgerows should be delivered, where appropriate, through locally specific strategies and policies, through imposing conditions when granting planning permission, and/or by making Tree Preservation Orders (TPOs). They should also be incorporated into Green Infrastructure Assessments and plans.*

³ Planning Policy Wales, Edition 11, February 2021 Welsh Government [Planning Policy Wales - Edition 11 \(gov.wales\)](https://gov.wales/planning-policy-wales)

4 TREE POPULATION AND CONDITION

4.1 Tree species and population

- 4.1.1 The trees surveyed included the following species: oak, balsam poplar, Turkey oak, field maple, ash, silver birch, Scot's pine, silver bark maple, crab apple, goat willow, beech, alder and cypress and included scrub species of hawthorn, rose, blackthorn, guelder rose and elder.
- 4.1.2 A total of 23 individual trees, five groups of trees and five woodland areas were recorded. A detailed description of the woodland, groups of trees, individual trees and hedgerows is given in the Tree Constraints Report 236/R/100.
- 4.1.3 During the assessment, the overall tree population, composition of groups and woodland, arboricultural, landscape and conservation qualities have been considered. A full description of the woodland compartment, groups of trees and individual trees, is given in the tree data schedule in Appendix 1 and is not repeated in the body of the report.

4.2 Categorisation and value

- 4.2.1 Trees, groups of trees and woodland compartment within the survey area have been identified within categories A, B, C and U.
- 4.2.2 The trees surveyed are detailed in the tree data schedule in Appendix 1. Photographs of notable trees, groups, woodland and general character of the site vegetation are illustrated in the Tree Constraints Report 236/R/100.
- 4.2.3 A summary of the cascade chart for tree categories is given below. The full table is included within the Tree Constraints Report.
- Category A Trees of high value including those that are particularly good examples of their species and/or those that have visual importance or significant conservation or other value.
 - Category B Trees of moderate value including those that do not qualify as Category A due to impaired condition and/or those that collectively have higher value than they would as individuals; also trees with material conservation or other value.
 - Category C Trees of low value including those with very limited merit or impaired condition; trees offering transient or temporary landscape benefits.
 - Category U Trees with irremediable defects and anticipated early loss due to collapse; dead trees or those in immediate decline and those with infectious pathogens that threaten other trees.

5 ARBORICULTURAL IMPACTS OF THE PROPOSED DEVELOPMENT

5.1 Trees to be removed to facilitate development

- 5.1.1 The proposed site layout, has been overlaid onto the Tree Constraints Plan to identify the potential impact of the permanent works on existing trees.
- 5.1.2 Category C group G1 hawthorn scrub to the site frontage identified in the Tree Constraints Report, August 2022, has already been removed to facilitate the installation of a new Paladin fence to the site boundary that extends from the north west, to the south and north east, following the line of the Public Right of Way to the east.
- 5.1.3 Removal of some blackthorn and hawthorn scrub to the edge of category B woodland W1 has also been undertaken as part of the management of the site and grassland. Photographs 1 and 2 from August 2022, show the extent of scrub along the woodland edge and photograph 3 shows the recent fence installation and pruning to the woodland edge.



Photographs 1 and 2 Woodland W1 south edge, August 2022



Photograph 3 South edge woodland W1 and T1 to the left, with managed grassland and pruned scrub, August 2023 (image courtesy of Google Streetview)

- 5.1.4 As a result of the installation of the permanent site fence, it is considered that the trees to the east of the site will be sufficiently protected from the proposed construction works, in terms of the extent of the RPA and crown spread.
- 5.1.5 A tree protection fence will be required to the south of the woodland edge, W1, the north site boundary. Minor crown pruning will be required to ensure branches and crown spread are not damaged during construction and the fence can be installed to the extent of the RPA and crown spread of trees to be retained. Supervision of excavation within the RPA of the woodland edge W1 and tree T1 will be required in conjunction with an arboricultural watching brief for pruning of any tree roots.
- 5.1.6 Pruning of scrub to the front of woodland W1 is anticipated to allow installation of the temporary tree protection fence and permanent site fence as shown on the Tree Removal, Retention and Protection Plan. The proposed works are referenced on the relevant drawings.

6 ARBORICULTURAL METHOD STATEMENT

6.1 General requirements

- 6.1.1 A copy of this document should be provided to the Project Manager and retained at the site office, with all relevant drawings included in the appendices clearly displayed on site notice boards. The method statement must be made freely available for inspection to contractors and sub-contractors. The document shall be introduced to all new contractors as part of the general site induction and shall include a tool box talk as included in Appendix 7.
- 6.1.2 An Arboricultural Consultant shall be appointed to inspect the tree works and protection measures to ensure compliance with this method statement in accordance with the draft Arboricultural Inspection Proforma in Appendix 5 and reporting procedures. Timing of inspections will generally be every 6-8 weeks, timed to coincide with planned work stages and include ad-hoc inspections.
- 6.1.3 All proposed tree works shall be carried out by a suitably qualified, competent and insured contractor, preferably an Arboricultural Association approved contractor. Tree work should be undertaken in accordance with BS 3998:2010 – “Tree Work - Recommendations” and current issued FISA Safety Guides (Forestry Industry Safety Accord). No tree works shall be undertaken by construction personnel.
- 6.1.4 All tree works to be carried out shall comply with all appropriate legislation, including planning application decision notices and conditions, felling licences, statutory Tree Preservation Order and Conservation Area constraints and requirements. This includes The Wildlife and Countryside Act 1981 as amended by the Countryside and Rights of Way Act 2000 which provides statutory protection to protected species and birds. All tree work operations are covered by these provisions and advice from an ecologist should be obtained before undertaking any works that might constitute an offence.
- 6.1.5 The proposed tree works are shown on Arboricultural Method Statement Sheet Plans 236-T-200 to 204 (Tree Removal, Retention and Protection Plans).
- 6.1.6 All proposed tree pruning and scrub removal, shall be undertaken in accordance with the approved schedule and plans appended within this report and in consultation with the Arboricultural Consultant and Ecologist. No works are to be undertaken on trees that are shown to be retained and protected without prior consultation with the Arboricultural Consultant and Ecologist.
- 6.1.7 Scrub to be removed shall be spray painted in accordance with the drawings and accompanying schedule.

- 6.1.8 The Site Manager shall be responsible for daily compliance with this method statement and shall contact the Arboricultural Consultant as required for general queries, ad-hoc inspections and unexpected occurrences affecting trees during the course of the works, such as encountering large roots over 25mm diameter or if additional pruning is required.
- 6.1.9 The tree works and subsequent installation of protection must be carried out prior to the commencement of construction, ground preparation works, establishment of site compounds, delivery of construction plant and materials or other investigation works.
- 6.1.10 No tree removal or pruning works other than those identified in this method statement, are to be carried out as further permissions from Wrexham County Borough Council may be required and ecological constraints may be present.
- 6.1.11 All tree works should be undertaken outside of the nesting bird season which is between 1st March to 1st September, however it should be noted, that should warm weather be prevalent at the end of February, it is possible that bird nesting activity may start early.
- 6.1.12 If any tree works are to take place between March and August, a suitably qualified Ecologist should check the tree works area a maximum of 24 hours before any works commence. Should any nesting birds be found, or suspected to be present, advice should be sought from the Ecologist before proceeding.
- 6.1.13 If nesting birds are found, the tree should be marked with tape or spray paint to prevent the tree from being removed until the young have fledged the nest. The drawing displayed in the site office and showing the relevant tree should be marked to identify the presence of a birds nest and the date noted. This will allow forward planning for reinspection and removal once the young have fledged the nest.

7 ARBORICULTURAL METHOD STATEMENT WORKS TO EXISTING TREES

7.1 Tree works

- 7.1.1 No tree removals are proposed. Vegetation works are for crown pruning of trees and removal of scrub only and are shown on the Arboricultural Method Statement Sheet Plans 236-T-200 to 204 (Tree Removal, Retention and Protection Plans).
- 7.1.2 All operations must be carried out to avoid damaging neighbouring retained trees. Trees to be retained must not be used for anchorage or winching purposes.
- 7.1.3 Any pruning to facilitate access must ensure there is no significant adverse impact on tree physiology or amenity value. A suitable working area may be created by temporarily tying back tree branches to avoid pruning.
- 7.1.4 All arising timber from scrub pruning shall be stacked to form habitat piles in clearings within the woodland in the CEZ, it should not be stacked below the canopy of trees to be retained and not within the construction working area.
- 7.1.5 Tree protection fencing shall be installed following completion of the pruning works and prior to any other construction or clearance works taking place.
- 7.1.6 All tree work should be undertaken with due regard to ecological constraints and any mitigation requirements.

7.2 Tree and root protection

- 7.2.1 Following completion of the pruning works, and subsequent inspection and sign off by the Arboricultural Consultant, the Site Manager will arrange installation of the temporary tree protection.
- 7.2.2 Tree protection fencing in accordance with BS5837:2012 (See Appendix 2 for details) or other suitable robust and immovable fence to minimum 1.5m in height to be approved by the Arboricultural Consultant and Wrexham Borough Council Tree Officer, shall be erected prior to the commencement of any of the following activities:
- Soil stripping;
 - Delivery of any plant or materials;
 - Demolition and site clearance;
 - Commencement of construction works;
 - Installation of any utilities;
 - Soiling / ground reinstatement; and
 - Landscape works.

- 7.2.3 The protective fencing shall be erected to the alignment as shown on the Arboricultural Method Statement Sheet Plans 236-T-200 to 204 (Tree Removal, Retention and Protection Plans). The temporary tree protection fencing shall tie into the existing site green Paladin fencing where appropriate.
- 7.2.4 If the permanent site fence is to be continued along the proposed line of the temporary fence protection, and installed prior to construction, this will serve as the tree protection fence.
- 7.2.5 Weather proof tree protection fence signs (See Appendix 3) shall be attached to the fencing at 10m intervals and positioned at eye level. These signs must be replaced if they are removed or become illegible.
- 7.2.6 Once erected these fenced areas should be respected and after installation, barriers and ground protection should not be removed or altered without prior recommendation by the Arboricultural Consultant and must remain in place until completion of all construction works on site.
- 7.2.7 No works are proposed within the CEZ once the fence and ground protection measures are installed. The CEZ must not be altered and the following restrictions shall apply:
- No change in ground level, reprofiling or mechanical excavations;
 - No excavations by other means without the advice and agreement of the Arboricultural Consultant;
 - No removal of grass areas by mechanical means;
 - No storage of plant or materials;
 - No fires;
 - No storage or handling of any chemicals, fuels, wash out areas; and
 - No vehicular access.
- 7.2.8 No Root Protection Areas (RPA) for retained trees extend beyond the planned tree protection fencing and existing site fencing, therefore temporary ground protection is not proposed.
- 7.2.9 If there is a need to amend the tree protection fence alignment, the Arboricultural Consultant must be contacted as soon as possible to ensure any ground protection can be installed where access is required within the CEZ. If such ground protection is required, this shall be installed in accordance with BS5837:2012. Such ground protection must ensure that there is no soil compaction and root growth is uninhibited. The ground protection shall consist of the following as relevant to the proposed site layout and construction requirements:

7.3 Topsoil storage

- 7.3.1 Topsoil storage within the RPA of existing trees to be retained should be avoided. It is recommended that geotextile be laid below the proposed topsoil storage bund to segregate existing and stored soils to prevent inadvertent excavation at reinstatement. Topsoil should not be stored more than 1m in height.

7.4 Temporary pedestrian access during construction

- 7.4.1 Single thickness non-slip boards on a 100mm compression-resistant layer of woodchip, over a robust geo/textile membrane; or, geotextile laid over existing ground with 100mm depth clean inert hardcore; or, non-slip boards laid on a purpose formed scaffold frame, creating a suspended walkway. Alternative proposals may be submitted to the Arboricultural Consultant.

7.5 Vehicular access

- 7.5.1 Where vehicular construction access is required within the RPA of trees to be retained, an above ground protection system shall be provided. This shall be installed to accommodate the potential loading within the RPA (e.g. proprietary systems as shown in Appendix 4) and shall be designed to an engineering specification in conjunction with arboricultural advice.
- 7.5.2 On completion of construction and reinstatement works the above ground protection systems shall be removed only with the approval of the Arboricultural Consultant. Surface de-compaction and root zone enhancement measures may be required and can then be undertaken.

7.6 Additional precautions outside the CEZ

- 7.6.1 Care should be taken when planning site operations to ensure that all types of machinery can operate without encountering retained trees. Such contact can result in significant damage and compromise safe retention of the tree. It is recommended that a banksman is employed to ensure adequate clearance from trees is always maintained. Where this is not possible, access facilitation pruning in consultation with the Arboricultural Consultant may be required. No signs, apparatus or any other services shall be attached to any part of a retained tree.

7.7 Site compounds, cabins, storage of materials and spoil

- 7.7.1 Temporary site compounds, including portable welfare facilities and temporary service connections, are to be positioned clear of the RPA of retained trees. The site poster 'Common causes of tree death' (see Appendix 6) shall be posted in the site cabin(s).
- 7.7.2 The delivery, storage, mixing and discharge of concrete and all other cement based materials shall be carried out away from retained trees, so that there is no risk of runoff and spillage in the RPA. No substances that are potentially injurious to trees (including fuels, building materials and other phyto-toxic materials) shall be stored or used in the vicinity of retained trees where there is a risk of injurious contact. Emergency spillage kits must be available to minimise the impacts of any accidental spillages to the local environment.

- 7.7.3 No materials shall be stored within the RPA of retained trees. Spoil from any site activity shall be removed or if to be retained for reuse, stored or piled outside the CEZ.

7.8 Installation of services and excavation within the RPA

- 7.8.1 Underground services should be routed outside the RPA of all retained trees to avoid risk of roots being severed during excavation. Mechanical trenching can also affect local soil hydrology. Common ducts should be used to minimise disturbance and segregated from the RPA.
- 7.8.2 Where new services are to pass within the RPA, the service plans should be developed with input from the Arboricultural Consultant. Trenchless insertion methods should be used where possible, with the entry and exit pits situated outside the RPA.
- 7.8.3 Where this is not possible the NJUG 10 Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees should be adopted. Hand excavation may be acceptable for shallow service runs, where they can be undertaken with the supervision of the Arboricultural Consultant and where roots can be retained and suitably protected. Where possible an air spade or air lance should be used to loosen the soil and removed using a vacuum excavator. Soils should be stored and retained on site for reinstatement on completion of the works. This may also involve wrapping or covering exposed roots to prevent desiccation and the effects of rapid temperature change. All wrappings must be removed prior to backfilling.
- 7.8.4 Prior to backfilling of soils the installation of a root protection barrier may be required to ensure there are no long-term effects of root growth on buried assets. Backfilling to trenches should ensure that subsoils are replaced first in 300mm layers and soils consolidated but not compacted. The final 300mm of soil backfill to ground level should be topsoil excavated from the trench or a 50/50 mix by volume of as dug topsoil and proprietary tree and shrub compost with organic matter content to replicate the upper soil profile. Injection of soils with mycorrhizal inoculant may also be considered where fibrous roots have been lost due to excavation.

7.9 Demolition and new surfacing within the CEZ

- 7.9.1 No demolition of structures or new surfacing within the CEZ is anticipated. Should this change the Arboricultural Consultant must be contacted for advice on works in close proximity to retained trees as these works should be carried out under the supervision of the Arboricultural Consultant with works planned to avoid deposition of material within the CEZ and to avoid damage to retained trees. Mechanical plant access within the CEZ should be avoided. Temporary pedestrian access shall be allowed within the CEZ to carry out these operations. A temporary breach in the fencing shall be created to facilitate pedestrian access only.

- 7.9.2 Removal of the existing hard surfacing adjacent to the RPA should be undertaken first, working away from the retained tree to allow any exposed roots to be appropriately covered and protected as work proceeds. Debris within the RPA should be removed by hand and transported clear of the protective fencing using wheelbarrows.
- 7.9.3 Where roots are encountered during the course of the works, they shall be retained and carefully worked around, wherever practicable. No root greater than 25mm dia. shall be cut without advice from the Arboricultural Consultant. If damage does occur to a root greater than 25mm diameter, then advice must be sought from the Arboricultural Consultant. Where it is essential to sever roots, they shall be cleanly cut, using an appropriate, sharp clean bladed hand tool. Roots that are to be retained shall be covered with hessian, or similar, to protect from desiccation. Prior to backfilling, any hessian wrapping should be removed and retained roots should be surrounded with sharp sand, or other loose granular fill before soil or other material is replaced.
- 7.9.4 To minimise risk of damage to tree roots to be retained, an air spade or vacuum excavator may be used to loosen and remove soils, in order to identify the location of roots adjacent to a planned excavation. Roots may then be pruned as previously described.
- 7.9.5 Soiling shall be undertaken in accordance with the Construction code of practice for the sustainable use of soils on construction sites.⁴

7.10 Reinstatement and soft landscaping within the CEZ

- 7.10.1 Reinstatement and soft landscape works, excavation and ground preparation within the CEZ shall be carried out using hand tools to minimise risk of damage to roots. Mechanical cultivation and rotovation shall be avoided.
- 7.10.2 Chemical application for treatment of woody plant matter shall be minimised. Where used, all instructions, warnings and other relevant information from manufacturers should be strictly observed and followed. Care must be taken to avoid damage to adjacent vegetation and trees to be retained.
- 7.10.3 During reinstatement, there must be no unplanned changes in ground levels within the RPA and works should only be carried out when ground conditions are suitable to avoid risk of compaction. Final grading to marry in new levels with existing ground with imported soils shall be carried out by hand tools only. Cultivations for seeding shall also be by hand.

⁴ Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, www.defra.gov.uk September 2009

7.10.4 All new tree planting should be undertaken in accordance with *BS8545:2014 Trees: from nursery to independence in the landscape - Recommendations*. Planting pits for hedgerows, shrubs or trees within the RPA of existing retained trees, must be hand excavated. If substantial roots are encountered, the planting pit should be relocated if possible.

7.10.5 Plants and materials for the landscape works should be transported in wheelbarrows and must be moved across existing hard surfacing where possible, or via temporary ground protection minimise risk of compaction.

7.11 Construction of new footpaths within the CEZ

7.11.1 The construction of any new footpaths within the CEZ or potentially affecting RPA of retained trees must be installed using a 'no dig' construction method using a 3D cellular confinement system such as Cellweb, in accordance with the Manufacturer's recommendations.

7.11.2 The process for installation generally involves:

- Remove all existing vegetation from the surface using hand tools only. Arisings should be removed from the RPA using wheelbarrows only. No further excavations in this area are to take place. Any voids or depressions within the ground surface are to be made good using sharp sand (not builder's sand) to maintain levels.
- Position kerb edges where there is no conflict with tree roots with minimal haunching, or Install a metal edging to the full depth of proposed surfacing.
- Install geotextile to the ground surface and lay 3D cellular confinement mat (e.g. Cellweb) to the recommended thickness for the proposed access use on top of this membrane. Expand the mat to its full length and trim to the desired length and width. Carefully peg down the matting with proprietary staking pins to keep the cells open. Fill all the cells with a 20-40mm no fines angular granular stone working from the area furthest from the tree first. Continue filling all the cells using the previously filled cells as a working platform.
- The finished surface of the access area may be the gravel surface or laid as required with block paving or similar to manufacturers recommendations.

7.11.3 Topsoil is to be graded from the top of the kerb edge or installed edge restraints to the existing ground level to avoid creating trip hazards.

7.12 Arboricultural watching brief and supervision of excavations

7.12.1 The Site Manager shall inform the Arboricultural Consultant as soon as possible of the need to undertake excavation works within the RPA of existing trees and programme in an arboricultural watching brief. All watching briefs must be performed by an Arboricultural Consultant.

8 MITIGATION PLANTING & LANDSCAPING

8.1 Mitigation

- 8.1.1 This aspect of the works is yet to be confirmed. Impact on the existing tree population is expected to be negligible.

9 INSPECTIONS

9.1 Prior to commencement of construction

- 9.1.1 Once the protective fencing has been installed but prior to the commencement of the development a site inspection should be undertaken by the Arboricultural Consultant. This is to confirm that all protection measures have been installed in accordance with the Tree Protection Plan and the method statement.
- 9.1.2 Checks of the tree protection fence should be carried out by the contractor at regular intervals during the development to ensure trees remain adequately protected. An appointed person(s) responsible for environmental management should undertake these works and ensure all site staff are engaged in ensuring the integrity of the tree protection and compliance with the method statement.
- 9.1.3 If the permanent site fence is installed prior to construction, then regular visits to inspect the fence protection are expected to be less frequent. Inspections to confirm compliance with the arboricultural method statement will still be required.
- 9.1.4 On completion of the development a general survey of the trees by the Arboricultural Consultant is recommended to identify any remedial action necessary as a result of the works. Note that permission for any additional tree works not included in the original development consent may need to be obtained through application to the LPA/Wrexham County Borough Council.
- 9.1.5 If any arboricultural issues arise during the development then the site manager should immediately contact the Arboricultural Consultant for advice on how to proceed.

9.2 Reinspection

- 9.2.1 It is recommended that trees are inspected every two years, particularly after storms or other extreme weather events, to identify potential new hazards or changes to known defects. Inspections of all retained trees should be undertaken by a qualified Arboriculturist/Arboricultural Consultant and records of inspection held at the site or with the landowner.
- 9.2.2 Hazard recommendations are based on observations at the time of survey. Trees are dynamic living organisms whose structure is constantly changing. Even those in good condition can suffer from damage or stress. Following site development, regular (annual or biennial) inspections of all retained trees should be undertaken by a qualified Arboricultural Consultant.