



THE
ENVIRONMENT
PARTNERSHIP



**HATFIELD'S JLR
TARBOCK
ARBORICULTURAL IMPACT ASSESSMENT
OCTOBER 2024**

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Executive Summary

1. TEP has been commissioned by Taylor Design Architects to conduct a survey of land off Coppice Lane in Tarbock and a review of designations, policies and other instruments of relevance to arboriculture. This report presents the results and effects of the Proposed Development.
2. 1 individual tree and 5 tree groups were recorded within influencing distance of the Application Site. Subsequent to the survey one of the off-site groups (G5) has been removed by a third party as part of ongoing highway improvement works and is not included in the baseline data or impact assessment.
3. Trees are predominantly found at the western end of the site where a large area of self-set small trees meet a linear group of large offsite trees. Further tree cover is outside the site comprising motorway screening groups.
4. The desktop review and site survey identified no Tree Preservation Orders; no trees within a Conservation Area; no ancient woodland; no veteran trees; and no arboreal Habitats of Principal Importance. The entire site is located within the Mersey Forest.
5. The Proposed Development comprises demolition of existing buildings and construction of a new car showroom with associated workshops, parking, access and landscaping.
6. 1 individual tree and 1 tree group would be removed in full or part, equating to a total canopy cover loss of approximately 0.21ha.
7. The development would give rise to adverse effects on arboriculture with limited scope for replacement planting within the site boundary.
8. A scheme of tree planting should be produced and implemented that ensures replacement trees within the Application Site as well as additional off-site planting to adequately offset those being removed. Local planning policy requires 2 trees to be planted for every 1 removed. The detail of this should be agreed with the Local Authority.
9. Tree protection measures to be observed during construction are proposed in the form of a Tree Protection Plan, provided at Drawing 3.
10. Construction of hard surfaced parking bays next to G1 will need to be undertaken using a system of no-dig construction with a porous final surface treatment to ensure that these trees in third-party ownership are not harmed by the works. The location of this system is shown on Drawing 3 and its installation should be supervised by a suitably qualified Arboricultural Consultant who can provide on-site advice.

1.0 Scope

- 1.1 TEP has been commissioned by Taylor Design Architects to conduct an arboricultural survey of land off Coppice Lane in Tarbock, Huyton and to make an assessment in accordance with BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations.
- 1.2 This report has been produced to support a planning application. It describes the findings of field and desktop surveys; the effects that granting planning permission would have on arboriculture; and measures that are and/or should be incorporated in the Proposed Development.

Survey

- 1.3 The survey was undertaken in May 2024 in accordance with BS 5837 by a qualified arboriculturist. The survey method is included at Appendix B.
- 1.4 A topographical survey was used to record the position of trees and vegetation (drawing reference: 010419JC-01). Where trees were not shown on the topographical survey, their locations were estimated¹ using a combination of aerial photography, GPS and on-site observations.
- 1.5 Trees on private land outside the application boundary, and at inaccessible locations² were surveyed insofar as was practicable. Whilst reasonable effort has been made to ensure the accuracy and comprehensiveness of such records, it cannot be guaranteed.

Limitation

- 1.6 This report relates to a specific development proposal and should not be interpreted as advice in any other circumstance, including but not limited to the promotion or assessment of alternative schemes; the design of foundations; management of tree risk; and tree-related subsidence.
- 1.7 This report constitutes a valid basis for the evaluation of impacts on trees resulting from the Proposed Development for a period not exceeding 2 years from the date of the survey. After this, it would be necessary to review baseline data and conclusions to ensure reliability.
- 1.8 Where the recommendations of this report have been followed, any future deterioration in tree condition shall not be attributable to the development.

¹ Estimated feature locations are marked on Drawing 2

² Limitations to the survey are described at Appendix A

Other assessments

- 1.9 Woody vegetation may be described and evaluated by other assessments, including ecology, landscape, heritage and for biodiversity net gain calculations. It should be noted that these follow different methodologies and sometimes use the same terms to describe different parts of the treescape (e.g. 'hedgerow', and 'woodland'). Care should be taken when reading across or comparing assessments to ensure that comparisons are reliable. Specialist advice may be needed to understand apparent discrepancies in definition or measurement.

2.0 Baseline

The Application Site

- 2.1 The Application Site is approximately 2.45ha in size and roughly triangular. It is bounded by Coppice Lane and commercial properties to the north, the M62 Junction 6 slip road to the south and a residential driveway to the west.
- 2.2 The site is currently in no formal use with the majority covered with soft ground and overgrown with low vegetation and successional scrub and small trees. There is a small hard surfaced compound at the eastern end of the site with a small garage building.
- 2.3 The National Ordnance Survey (OS) Grid Reference for the approximate centre of the Application Site is SJ459892 and a nearby post code is L35 1QT.



Figure 1 Application Site location and approximate boundary (1:2,500)

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Tree Survey

- 2.4 11 individual tree and 5 tree groups were recorded within influencing distance of the Application Site. Since the survey took place group G5 was removed by a third party as part of ongoing highway works and has therefore not been included in the baseline information or impact assessment. It is shown on the constraints drawing for context.
- 2.5 Feature locations, their quality categories, canopy spreads and root protection areas are shown on Drawing 2. The following table provides the total canopy area for mapped trees and the total length of mapped hedgerow on Drawing 2. In some cases this may be more than the absolute area of cover due to canopy overlap between adjacent features.

Table 1 Existing canopy coverage

Trees	Groups	Woodland	Hedgerow
0.0016ha	0.3807ha	0ha	0m

2.6 All arboricultural information recorded during the survey is presented at Appendix A.

Overview

2.7 Trees are predominantly found at the western end of the site where a large area of self-set small alder, silver birch, goat willow and dogwood (G2) meets a linear group of large offsite trees along a residential driveway (G1). Further tree cover is outside the site comprising motorway screening groups.

2.8 The single individual tree recorded on site is a small multi-stemmed crack willow near the access track. It is likely self-set and has minimal value.



Figure 2 View west showing small trees in group G2 and larger trees in group G1 behind

2.9 Trees within G1 are the most significant associated with the site. They form an effective green screen between adjacent properties and the site as well as the motorway to some degree. They are primarily large hybrid poplars with understorey of alder. They are in fair condition overall with some defects typical for their age, size and species.

2.10 Other tree cover associated with the site is situated on the M62 Motorway embankment and includes scattered open grown trees (G3) and areas of small, dense scrub (G4).

Tree Quality

- 2.11 Under BS 5837 trees are objectively assigned one of four categories to describe their quality. The table below includes a description of each category and the amount of trees within it. This information is presented by canopy area to allow comparison between features of varying size and maturity. Hedgerows have not been categorised.

Table 2 Summary of BS 5837 quality categorisation³

Category	Description	Total existing
A	Trees of high quality, typically with a long remaining life expectancy; and with clear and identified merit as specimens, visually, culturally or for conservation.	0ha
B	Trees of moderate quality, typically with at least a medium remaining life expectancy; with remediable defects only; or low quality but with collective merit.	0.1392 ha (36%)
C	Trees of low quality, typically with at least a short remaining life expectancy; unremarkable trees; young or small trees that could be replaced.	0.2431ha (64%)
U	Trees that cannot realistically be retained in the current land use for 10 years; with serious and irremediable defects, pathogens or decline.	0ha

- 2.12 Tree cover is predominantly low quality (Category C) the majority of which is contained within group G2. A smaller proportion of tree cover is of moderate quality (Category B) with the bulk of this contained within group G1.
- 2.13 There are no high quality (Category A) or poor quality (Category U) trees within influencing distance of the Application Site.

Root Protection Areas

- 2.14 Using the results of the field survey a Root Protection Area (RPA) has been calculated in accordance with BS 5837 using each tree's stem diameter at 1.5 metres⁴. The RPA represents the minimum area around each tree that must be left undisturbed to ensure its survival.
- 2.15 Where a tree's rooting pattern is considered to have been influenced by site conditions the RPA has been adjusted or offset to most accurately represent the likely spread of roots⁵.

³ Refer to Appendix B for the full table

⁴ Refer to Appendix A for RPA area calculations

⁵ See Drawing 2 for RPA shapes

Policy, designations and protection

Planning Policy

- 2.16 All trees are a material consideration in the planning process. Effects on trees will therefore be considered by the consenting authority. Adverse effects that cannot be mitigated and which are not acceptable on balance against other benefits may weigh against the granting of planning permission.
- 2.17 There should be a common sense ambition to limit tree loss to that which is strictly required to facilitate the proposal, and to achieve a good design. Trees which are retained should not be harmed and the proposal should present a reasonable account of the prospects for tree retention in accordance with BS 5837.

National Planning Policy Framework

- 2.18 The National Planning Policy Framework (NPPF) has an overarching environmental objective. This embeds protection and enhancement of the natural environment and biodiversity in decision making⁶.
- 2.19 Planning policies and decision making should recognise the wider benefits from natural capital and ecosystem services, including those provided by trees and woodland, and minimise impacts on and provide net gains for biodiversity⁷.
- 2.20 Opportunities should be taken to incorporate trees into developments, ensure appropriate measures are in place to secure the long-term maintenance of newly-planted trees, and that existing trees are retained wherever possible. New streets should be tree-lined unless there are clear, justifiable and compelling reasons why this would be inappropriate⁸.
- 2.21 Where significant harm to biodiversity cannot be avoided, mitigated, or compensation provided, planning permission should be refused⁹. Loss or fragmentation of trees and woodland may constitute or give rise to significant harm to biodiversity.
- 2.22 There is a strong policy presumption against loss or deterioration of irreplaceable habitats such as ancient woodland and ancient or veteran trees. Development resulting in the loss of either should be refused unless there are wholly exceptional reasons, and a suitable compensation strategy exists¹⁰.

Local Planning Policy

- 2.23 Knowsley Metropolitan Borough Council has adopted local planning policy that is of relevance to trees and this site. The Knowsley Local Plan Core Strategy contains policies CS8 and CS21 that are of relevance. This most relevant parts of each policy are recreated below.

⁶ NPPF paragraph 8 (c)

⁷ NPPF paragraph 180 (b) (d)

⁸ NPPF paragraph 136

⁹ NPPF paragraph 186 (a)

¹⁰ NPPF paragraph 186 (c)

Policy CS8: Green Infrastructure

Maintenance and Enhancement of Knowsley's Existing Green Infrastructure

1. Knowsley's existing Green Infrastructure and its beneficial functions will be protected, managed and/or enhanced, primarily to:
 - a. *Ensure more attractive and cleaner residential neighbourhoods;*
 - b. *Sustain and promote biodiversity (including designated sites, priority habitats and protected and endangered species) in accordance with importance and contribution to ecological networks;*
 - c. *Preserve the character and function of historic environments and valued landscapes;*
 - d. *Mitigate the effects of climate change and flood risk;*
 - e. *Mitigate air, water and noise pollution;*
 - f. *Provide local opportunities for sport, recreation and allotments; and*
 - g. *Provide sustainable transport linkages between residential neighbourhoods and easy access to employment and services.*
2. *To achieve the above, planning powers and other interventions will be used to:*
 - a. *Protect and enhance strategically important areas of greenspace;*
 - b. *Ensure an appropriate quantity and improved quality of locally important open spaces, including outdoor sports provision (and ancillary facilities of appropriate scale);*
 - c. *Promote effective movement of wildlife through a network of strategic green links, by protecting, maintaining and improving existing and new open spaces, water courses (including water quality) and biodiversity assets;*
 - d. *Protect, enhance and/or introduce biodiversity into existing areas of Green Infrastructure, through integration into the design of new development and public realm projects;*
 - e. *Improve accessibility for communities to greenspace offering leisure and recreation opportunities;*
 - f. *Protect and where possible improve green paths and cycleways linking residential areas, existing strategic areas of greenspace, employment locations, local community services and leisure facilities;*
 - g. *Work in partnership with other districts and relevant bodies at a landscape scale to minimise the impact of development upon Knowsley's existing biodiversity and geological assets, and sustain the protection afforded to internationally important sites, including supporting habitat, for biodiversity outside of the borough; and*
 - h. *Deliver new integrated and functional Green Infrastructure that helps to mitigate and adapt to climate change, such as sustainable drainage systems, carbon capture and storage, soft landscaping and green roofs.*

Approach to Green Infrastructure and New Development

3. *New development must be served by Green Infrastructure to meet the needs of residents and the local environment, in a manner which will:*
 - a. *Contribute to the creation of a high quality residential environment;*
 - b. *Provide access to high quality open space for leisure and recreational purposes;*

- c. *Seek to protect, maintain and where possible enhance biodiversity within and around new developments according to their designation and significance to provide space for nature; and*
- d. *Provide adequate mitigation and/or, as a last resort, compensation for Green Infrastructure or biodiversity loss, in circumstances where harm resulting from the development is otherwise unavoidable*

Policy CS21: Green Spaces and Trees

Enhancement of Natural and Semi-Natural Greenspace and Tree Protection

1. *The Council will encourage proposals for new development to incorporate:*
 - a. *Retention of existing trees, woodland, vegetation and other habitat features which offer a positive contribution to the local environment in terms of visual amenity, recreation value or biodiversity/wildlife interest;*
 - b. *Appropriate planting of trees, other soft landscaping and installation of habitat features for the benefit of biodiversity; and*
 - c. *Adequate replacement provision where tree loss is unavoidable, comprising two additional trees for every tree lost and taking account of species and size.*

Tree Preservation Orders

- 2.24 A check with Knowsley Borough Council was undertaken on 22nd October 2024. The council's online mapping system confirmed that no trees within or adjacent to the Application Site are protected by Tree Preservation Order.

Conservation Areas

- 2.25 A check with Knowsley Borough Council was undertaken on 22nd October 2024. The council's online mapping system confirmed that no trees surveyed within the Application Site are within a Conservation Area.

Ancient Woodland

- 2.26 Ancient Woodland is defined in England as any area that has been wooded continuously since at least 1600 AD; it is regarded as 'irreplaceable'¹¹. The distribution of Ancient Woodland has been assessed on the basis of Natural England's Ancient Woodland Inventory (Provisional) for England via www.magic.defra.gov.uk.

- 2.27 There is no ancient woodland within or adjacent to the Application Site.

Veteran Trees

- 2.28 NPPF defines veteran trees are those which, because of age, size and condition, are of exceptional biodiversity, cultural or heritage value¹². All ancient trees are veteran trees. Not all veteran trees are ancient, though they tend to be relatively old for the species. Ancient and veteran trees are regarded as 'irreplaceable'.

¹¹ NPPF Annex 2: Glossary (p.71)

¹² NPPF Annex 2: Glossary (p. 67)

2.29 There is no comprehensive national register of veteran trees. The Woodland Trust maintains an inventory of significant trees which includes some ancient and veteran individuals¹³. At the time of writing it contained no records of relevance to the Application Site.

2.30 An assessment of each tree was made by a qualified arboriculturist as part of the tree survey. There are no veteran trees within or adjacent to the Application Site.

Community Forests

2.31 Online mapping¹⁴ confirmed that the Application Site is within the Mersey Community Forest.

2.32 An approved Community Forest Plan may be a material consideration in preparing development plans and in deciding planning applications.

Habitats of Principal Importance

2.33 A list¹⁵ of habitats which are of principal importance for the purpose of conserving biodiversity is maintained by the Secretary of State¹⁶. The list includes habitat types that are defined by woody vegetation, which are listed below. The geographical extent and location of these habitats (excluding hedgerow) is mapped by Natural England on the Priority Habitat Inventory¹⁷. Observations were also made to corroborate the mapping during the site survey.

2.34 All public authorities, including local planning authorities and statutory undertakers have a duty to have regard to the purpose of conserving biodiversity¹⁸. Habitats of Principal Importance provide a means of evaluating effects on biodiversity, and thereby a metric to demonstrate the discharge of this duty. In the context of planning, adverse effects on Habitats of Principal Importance that cannot be mitigated are material to decision making.

Deciduous Woodland

2.35 Six distinct types of woodland¹⁹ are amalgamated in the Inventory under the habitat type 'Deciduous Woodland'.

2.36 The Inventory has no records of Deciduous Woodland at the Application Site.

*Wood Pasture and Parkland*²⁰

2.37 Wood-pasture and parkland are mosaic habitats valued for their trees, especially veteran and ancient trees, and the plants and animals that they support. They are exclusively associated with some species of insects, lichens and fungi which depend on dead and decaying wood. Grazing animals and continuity of management are fundamental to the existence of the habitat and it can be a type of ancient woodland.

¹³ <https://ati.woodlandtrust.org.uk/>

¹⁴ <https://magic.defra.gov.uk/>

¹⁵ [Habitats and species of principal importance in England - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/publications/habitats-and-species-of-principal-importance-in-england)

¹⁶ Natural Environment and Rural Communities Act 2006, 41 (1)

¹⁷ <https://magic.defra.gov.uk/MagicMap.aspx>

¹⁸ Natural Environment and Rural Communities Act 2006, 40 (1)

¹⁹ Upland Oakwood; Lowland Beech and Yew Woodland; Upland Mixed Ashwoods; Wet Woodland; Lowland Mixed Deciduous Woodland; Upland Birchwoods

²⁰ [Wood-pasture and parkland \(UK BAP Priority Habitat description\) – Revised 2011 \(jncc.gov.uk\)](https://www.jncc.gov.uk/publications/wood-pasture-and-parkland-uk-bap-priority-habitat-description-revised-2011)

- 2.38 The Inventory has no records of Wood Pasture and Parkland at the Application Site.

*Traditional Orchards*²¹

- 2.39 Traditional orchards are defined, for priority habitat purposes, as groups of fruit and nut trees planted on vigorous rootstocks at low densities in permanent grassland; and managed in a low intensity way. Habitat structure rather than vegetation type, topography or soils, is the defining feature of the habitat.

- 2.40 The Inventory has no records of Traditional Orchards at the Application Site.

*Hedgerow*²²

- 2.41 Hedgerow is any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps are less than 20m wide. It may include banks, walls, ditches, herbaceous vegetation, climbing plants or trees within 2m of the centre line. All hedgerows which comprise at least 80% woody native species are included.

- 2.42 The survey identified no hedgerows²³.

Protected Species

- 2.43 No assessment of the presence of protected species has been made during the production of this report. Features of possible interest that were observed incidentally during the tree survey are recorded in Appendix A.

- 2.44 Works to and around trees have the capacity to affect protected species where present, particularly including birds, bats, great crested newts, badgers, dormice, otters and water voles. Contractors should be familiar with the locations and sensitivities of any protected species that are present and take reasonable avoidance measures or comply with the requirements of any licence agreement in accordance with the advice of an ecologist.

- 2.45 General information regarding bats and birds is detailed below however the Ecological Assessment (TEP Ref: 10523.002) should be referred to for specific details regarding all protected species.

Birds

- 2.46 Intentional harm to a wild bird, egg, or a nest that is in use or being built is an offence²⁴. Disturbance of certain wild birds that are building a nest, or are in, on or near a nest containing eggs or young, or disturbance of dependent young is also an offence²⁵.

- 2.47 All trees are a potential habitat for nesting birds so tree work should ideally, but not essentially, be undertaken outside the bird nesting season. Between March and August, a detailed inspection of each tree should be undertaken by a qualified ecologist to confirm the absence of nesting birds immediately prior to works.

²¹ [Traditional orchards \(UK BAP Priority Habitat description\) \(jncc.gov.uk\)](#)

²² [Hedgerows \(UK BAP Priority Habitat description\) \(jncc.gov.uk\)](#)

²³ See Appendix A

²⁴ Wildlife and Countryside Act 1981, 1 (1)

²⁵ Wildlife and Countryside Act 1981, 1 (5)

- 2.48 Some birds nest outside the core nesting season. If an active nest is found at any time of year, work likely to affect the nest must be halted until the nest becomes inactive. This will vary depending on the species of bird but is typically up to six weeks. The advice of an ecologist regarding the duration and size of a protection buffer around the nest should be sought.

Bats

- 2.49 It is an offence to damage, destroy or obstruct access to any structure or place which is used for shelter or protection²⁶, or breeding or resting²⁷ by a bat. Mature trees often contain cavities, splits and ivy, which may be attractive to bats.
- 2.50 If the presence of a bat, or a roost or resting site is suspected whilst undertaking works on any trees, operations must be halted and the advice of appropriately licensed ecologist should be sought.

²⁶ Wildlife and Countryside Act 1981, 9 (4)

²⁷ The Conservation of Habitats and Species Regulations 2017, 43 (1)

3.0 Effects

- 3.1 In simple terms, the effects on arboriculture comprises an account of which existing trees, groups of trees, hedgerow and woodland would not be retained within the Proposed Development; what significance they have; and whether adverse effects would or can be mitigated or offset.

Proposed Development

- 3.2 The Proposed Development comprises demolition of existing buildings and construction of a new car showroom with associated workshops, parking, access and landscaping.
- 3.3 The proposed layout is shown on Drawing 2 and is based on the following drawings provided by Taylor Design Architects.
- Proposed Site Plan (ref: 6329_01_Proposed Site Plan)
- 3.4 An external works plan showing the detail and arrangement of drainage, utilities, retaining structures and cut and fill was not available to inform the production of this assessment.

Tree Removal

- 3.5 This section details all tree removal which is proposed as part of the development. All trees not identified for removal can be retained in accordance with BS 5837 based on the information currently available.
- 3.6 In total, 1 individual tree and 1 tree group would be removed in full or part. This would equate to total of approximately 0.21ha of tree canopy loss.

Table 3 Reference number and location of features that would be removed

	Trees	Groups	Woodland	Hedgerow
Remove	T1	G2	-	-
Remove	-	-	-	-

(Features in brackets are those of which a part would be removed and part retained)

- 3.7 If planning permission is granted with reference to this report, the removal of any feature not listed above and shown on Drawing 2 for removal would constitute a material amendment and may therefore require an application to vary the consent.
- 3.8 The removal of trees that are not wholly within the Application Site boundary will require the permission of the landowner. It may be necessary to demonstrate the ability to undertake such works and how they would be secured prior to determination.

- 3.9 The following table provides an overview of the quantity and a breakdown of the number of instances of removal by quality category. It uses canopy area to describe effects on Trees, Groups and Woodland. The reported areas may be higher than the absolute area of tree cover on the Application Site due to overlap between adjacent features.

Table 4 Quantity of trees to be removed

Feature	Number of features affected				
	Category A	Category B	Category C	Category U	Hedges
Trees	0	0	1	0	0
Groups	0	0	1	0	
Woodland	0	0	0	0	
Total loss	0ha	0ha	0.2133ha	0ha	0m
Total canopy loss	0.2133ha				

- 3.10 Tree removal is wholly associated with the proposed construction of new built elements including car parking and buildings. The loss will primarily result in a reduction in habitat provided by the dense self-set trees.
- 3.11 Construction of hard surfaced parking bays next to G1 will need to be undertaken using a system of no-dig construction with a porous final surface treatment to ensure that these trees in third-party ownership are not harmed by the works. The location of this system is shown on Drawing 3 and its installation should be supervised by a suitably qualified Arboricultural Consultant who can provide on-site advice.

Effects on designated or protected features

Community Forest

- 3.12 The Proposed Development would result in a net decrease in tree canopy cover within a Community Forest. It would therefore have a negative effect on the delivery of the policies and objectives of the Community Forest without mitigation.

Protected Species

- 3.13 The effects of the Proposed Development on protected species and significance thereof are considered by the relevant Ecology reports including the Ecological Assessment (TEP Ref 10523.002).

4.0 Mitigation

- 4.1 This section describes opportunities to mitigate or offset adverse effects described by the previous section. It summarises measures that are part of the Proposed Development and which are relied upon by this report, and measures that are not proposed but could be secured by planning condition or agreement. Conclusions are drawn regarding overall effects, and the requirements that should be imposed in order to secure the outcomes described.
- 4.2 The table below provides an overview of effects on the receptors described in the preceding sections. Within it, Column (1) describes the outcome for each receptor without mitigation; Column (2) reflects whether any mitigation would be secured by the current application; Column (3) represents whether predicted effects are (or could be rendered) neutral or positive; and Column (4) defines the outcome in simple terms.

Table 5 Summary of effects and mitigation

Receptor	(1) Adverse effect*	(2) Mitigation proposed	(3) Mitigation possible	(4) Residual effect
Tree cover	Yes	No	Yes (with offsite planting)	Pending
Tree condition ²⁸	Yes	Yes	Yes	Neutral

**Without mitigation*

- 4.3 **Positive** residual effects represent benefits that would be delivered by the Proposed Development.
- 4.4 **Neutral**²⁹ residual effects are those that should have no weight in decision making.
- 4.5 **Negative** residual effects cannot be mitigated or offset and represent adverse effects of the Proposed Development. They may be acceptable in the planning balance on consideration of other benefits delivered by the Proposed Development.
- 4.6 **Pending** residual effects are those for which mitigation or offsetting can be secured after consent has been granted, typically by planning condition. It is assumed by this report that they would be.

Proposed measures

- 4.7 The following measures are proposed and would be secured by a planning permission referencing and requiring compliance with this report:

²⁸ In this context, whether there would be a risk of harm to existing trees during development (without protection)

²⁹ Including negligible and non-material effects

Layout

- 4.8 The retention of trees that has been assessed as possible within the proposed layout would be observed by the developer and all appointed contractors; tree removal would be limited to that illustrated on Drawing 2.

Temporary Barrier Tree Protection Fencing

- 4.9 A Tree Protection Plan is provided at Drawing 3. It shows the arrangement of temporary protection measures that would be installed prior to the commencement of any works, including ground investigation, setting out, compound establishment or delivery of any plant or materials. It also shows the location of special mitigation measures for the construction of new hard surfacing and installation of the security fence within the RPA of group G1.
- 4.10 Temporary barrier fencing around retained trees will follow the specification provided at Drawing 4.
- 4.11 Temporary protection measures would be maintained as shown during the entire construction process and would not be removed until all buildings, structures, hard surfaces, utilities, drainage, demolition and the removal of scaffolding, plant, compounds and surplus material has been completed.

Specialised Construction

- 4.12 Construction works within the RPA of retained trees must be carefully controlled to prevent harm. New car parking and a security fence are both proposed within the RPA of group G1 and are subject to control measures.
- 4.13 Fencing should be realigned under the guidance of an Arboricultural Consultant to allow installation of the above ground construction parking bays and the boundary fence within the RPA of group G1. The updated alignment is shown on Drawing 3.
- 4.14 Above ground construction must be installed as per the specification provided at Drawing 5. Once complete the newly surfaced area can be used to access the site boundary fence.
- 4.15 The boundary fence will be installed as follows
- (i) Post holes will be dug by hand and any roots found that are below 25mm diameter will be severed with a sharp spade or secateurs.
 - (ii) If major roots are found, they will not be severed; the hole will be relocated.
 - (iii) Post holes will be lined to prevent contact between wet concrete and soil.
 - (iv) No ground penetration by fence panels is permitted. An air gap will be maintained at the base of all fences.
 - (v) If fencing is to be installed prior to construction of the new car parking spaces access to the rooting area will be restricted to pedestrians. No access by machinery is permitted.

Tree works

- 4.16 The works would be undertaken by a qualified contractor in accordance with British Standard 3998:2010 Tree work – Recommendations.

Recommended measures

- 4.17 The following measures should be secured by planning condition or other agreement:

Planting

- 4.18 Local planning policy requires 2 trees to be planted for every 1 removed. This can easily be delivered within the site for individual trees however there is limited scope for planting areas of continuous canopy cover to compensate for the loss of group G2. There will therefore be a net loss of canopy cover in the short to medium term.
- 4.19 Areas of soft landscape, including planting of at least 6 new trees, are illustrated on the proposals but the detail of this is yet to be produced. These trees should be native species that will achieve a large final size and should be supplemented by additional tree planting to further offset the losses. It may be possible to deliver mitigation through offsite planting or a financial contribution but this will need to be agreed with the Local Authority

APPENDIX A: Arboricultural Survey Data

APPENDIX B: Survey Method



Surveyor Angus Blankenstein
Survey Date 03.05.2024
Site Hatfields JLR, Tarbock
Drawing Ref D10532.001

Italicised Feature Ref: Inspection of this feature was restricted
Italicised Values: Feature value was estimated

APPENDIX A: Arboricultural Survey Data Sheets

Ref	Species	Height	Canopy Ground Clearance	Stem Diameter (or range)	No. of stems/ individuals	Crown Spread North	Crown Spread South	Crown Spread East	Crown Spread West	Lowest Branch Height	Lowest Branch Direction	Maturity	Condition	Comments on form, condition, health and significant defects	Management recommendations in current context	BS 5837 Quality Category	Estimated Remaining Contribution
		(m)	(m)	(mm)	arising below 1.5m	(m)	(m)	(m)	(m)	(m)	(N,S,E,W)	Young, Middle Age, Mature	Good, Fair, Poor, Veteran			A,B,C,U (1,2,3)	Long, Medium, Short, Very Short
Trees																	
T1	Crack willow	4.0	0.5	194	3	2.5	2.0	3.0	2.0	0.5	W	Middle Age	Fair	Small multistemmed tree. Low rounded crown. Some minor broken branches		C ,1, 2	Long
Groups																	
G1	Common alder, Hybrid black poplar	8 to 18	1.0	280 to 650	25							Middle Age	Fair	Linear group of large trees along access track. Good screening and connectivity. Some standing dead trees. Dead wood throughout. Broken branches and stubs		B ,2	Medium
G2	Common alder, Silver birch, Common dogwood, Goat willow	3 to 6	0.0	50 to 80	100							Young to Middle Age	Good	Dense area of self set trees. Mostly alder with some willows and dogwood. Some multistemmed forms. Dense undergrowth in places		C ,2, 3	Long
G3	Sycamore	4 to 12	0.5	240 to 360	6							Middle Age	Fair	Larger trees forming clusters with shared canopy on motorway embankment. Unable to access. Some multistemmed forms. Minor dead wood. Easternmost trees slightly sparse		B ,2	Medium
G4	Silver birch, Dogwood species, Common hawthorn, Common ash, Pedunculate oak, Goat willow, Elder	2 to 10	0.5	75 to 210	30							Young to Middle Age	Fair	Trees on motorway embankment and extending into site. Self set willows. Dense undergrowth. Some multistemmed forms. Some standing dead.		C ,2	Medium
G5	Sycamore, Common hawthorn, Aspen, Crack willow	4 to 18	0.5	75 to 350	40							Middle Age	Fair	Large screening group on motorway embankment. Overhangs site by up to 5m. Some areas of self set scrub to north. Some dead trees. Occasional failed limbs. Good vigour overall	NB - Removed by third party	B ,2	Long

Limitation

Trees are dynamic living organisms with a constantly changing structure; even healthy trees can change or decline. Survey information is presented as being correct at the time of survey. Limitations to the reliability of the survey data are noted within Appendix A and the main report text.

Scope

All woody vegetation with a stem diameter exceeding 75mm is recorded. Below this threshold, vegetation may also be recorded at the discretion of the surveyor. The survey includes woody vegetation within a defined boundary, and on adjacent land where the characteristics, location or context of the tree mean that activity within the boundary could affect the tree, or be influenced by it. This is typically up to 15m outside the boundary.

Resolution

Vegetation is recorded as either an individual *Tree*, *Group* of trees, *Woodland*, or *Hedgerow*. This is done at the discretion of the surveyor to provide a useful resolution to the survey data, to differentiate between features with varying attributes and group those with common attributes, and collective value or function.

Typically, *Trees* are recorded where they are arranged separately; different from adjacent trees; or where the assessment would benefit from greater detail. *Groups* are coherent arboricultural features comprising trees with a collective form, function, history or management opportunities. *Woodland* is recorded where areas of tree cover have the qualities of a woodland habitat, including age and species structure, natural regeneration, and associated non-arboreal features. *Hedgerow* describes linear features largely comprising woody vegetation that are under, or could be returned to, regular hedgerow management. It should be noted that these terms are also used in other assessment types, sometimes with different definitions.

Tree locations

The location of trees is based on stem locations and canopy spreads taken from a topographical survey, where available. Where this information is not available, this is noted in Appendix A and locations should be regarded as approximate. Approximate locations are based on one or more of: GPS data captured during the survey; aerial photographs; and measurement from known points of reference. Approximate stem locations are typically accurate to within a few metres. Stem locations are shown for all *Trees*.

Groups, *Woodland* and *Hedges* are principally described in terms of their canopy outline, although stem locations may also be shown. Individual tree canopy outlines are projected on Drawings based on measurements taken as described below (see Crown Spread). *Groups*, *Woodland* and *Hedges* canopy outlines are projected based on the same hierarchy of source data as stem locations.

Tree survey

The survey is conducted from ground level by an arboriculturist, taking account of the tree, and its context. The nature of the soil is not assessed. Non-invasive assessment tools may be used as appropriate, including hypsometer, measuring tape, probe and nylon mallet.

The following attributes are recorded for each feature (see Arboricultural Survey Data Sheets at Appendix A):

Reference Number	A unique code per feature, typically but not necessarily a chronological sequence, in the form <i>Tn</i> for <i>Trees</i> ; <i>Gn</i> for <i>Groups</i> ; <i>Wn</i> for <i>Woodlands</i> ; and <i>Hn</i> for <i>Hedgerows</i>
Species	The common name is given. All species are listed for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> . The Latin name may also be given if further clarification is required.
Height	Top height recorded in metres, or the range for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i>
Canopy Ground Clearance	The height of the canopy above ground level in metres
Stem Diameter	A measurement taken at 1.5 metres above ground level, or the nearest representative point below, in millimetres. For multi-stemmed trees a single figure is calculated according to BS5837 4.6. For <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> , the range of diameters

No. of Stems / Individuals	The number of stems arising below a height of 1.5 metres, or for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> an estimate or count of the number of trees
Crown Spread	Radial branch spread in metres at cardinal points (N, S, E, W) from the location of the <i>Tree</i> stem at ground level (for <i>Groups</i> , <i>Woodland</i> and <i>Hedgerows</i> , see <i>Tree Locations</i>)
Lowest Branch Height	The height of the first significant branch at the point of attachment (<i>Trees</i> only)
Lowest Branch Direction	The direction of growth of the first significant branch from the point of attachment (<i>Trees</i> only)
Maturity	Classification describing age relative to the species, and size and growth potential, in order to inform management decisions • Young means small and/or recently planted and could be relocated, or replaced on a like for like basis • Middle Age means established and independent, within the growth stage of life, and with potential to continue increasing in height and/or spread • Mature means having reached ultimate height and/or spread, given the location and surroundings; further increases will be slow or limited • Mixed Age (<i>Groups</i>, <i>Woodland</i> and <i>Hedgerows</i> only) means comprising all three maturity classes
Condition	An overall assessment of a feature's physiological and structural state, informing longevity and quality categorisation, and supported by <i>Comments</i> • Good condition means with vitality and resilience commensurate with species and age, and without significant defects or pathogens • Fair condition means with tolerable reduction of vitality and resilience, and/or remediable or tolerable defects and/or pathogens • Poor condition means with declining or significant loss of vitality and resilience, and/or significant and irreparable defects and/or pathogens • Dead condition means without photosynthetic or metabolic capacity, or moribund and in imminent terminal decline • Mixed (<i>Groups</i> and <i>Woodland</i>) means comprising more than one condition class • Veteran means trees of exceptional value, meeting recognised criteria including age, size and characteristics. Classification is partly informed by the sustained presence of structural defects, physiological decline, and pathogens, and their contribution to biodiversity. Undesirable characteristics in ordinary trees may be desirable in veteran trees, therefore <i>Veteran</i> can be understood as a superlative <i>Condition</i> that supersedes other categories (excluding <i>Dead</i>).
Comments	A description of all significant characteristics of the feature and its context that are not described by other attribute fields; including observations to support the classification of <i>Condition</i> , <i>Quality Category</i> and <i>Estimated Remaining Contribution</i> as appropriate
Management Recommendations	Recommendations for arboricultural works based on the current land use, in the interests of good arboricultural practice. These are incidental to the primary survey purpose, and not a comprehensive schedule in pursuit of any particular objective.
BS 5837 Quality Category	Tree quality assessment based on Table 1 of BS 5837:2012 (see below) comprising quality categories A , B , C and U and sub-categories 1 , 2 and 3
Estimated Remaining Contribution	A forecast of the durability of the feature in its current form and context, and therefore the reliance that can be placed on any benefits or functions it provides. This is influenced by <i>Species</i> and <i>Condition</i>, and is not necessarily a forecast of life expectancy. • Long means more than 40 years • Medium means 20 to 40 years • Short means 10 to 20 years • Very Short means less than 10 years

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years	- Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) - Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline - Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.</i>			See Table 2
	1 Mainly arboricultural qualities	2 Mainly landscape qualities	3 Mainly cultural values, including conservation	
Trees to be considered for retention				
Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years	Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years	Trees that might be included in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation	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	Trees with material conservation or other cultural value	See Table 2
Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Table 1: Extract from **British Standards Institution (2012) BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations**, page 9

Note on Root Protection Areas:

Data is captured during the survey to inform the design of Root Protection Areas (RPA). These are a design tool, representing the area around a tree in which restrictions to some activities may be required to avoid significant harm, particularly to roots and soil. The RPA is a function of *Stem Diameter*, and additional considerations including management history, barriers to root growth, topography, ground conditions and tree characteristics. These factors are combined by an arboriculturist to produce a buffer zone for each feature from which the exclusion of construction activities would ensure the continued reliability of the survey data at Appendix A, including *Condition*, *BS 5837 Quality Category* and *Estimated Remaining Contribution*.

For *Trees*, RPA is defined as a circle with a radius 12 times the *Stem Diameter*, which may be modified to reflect the considerations above.

For *Groups* and *Woodland* RPA is based on the size and location of peripheral constituent trees, and presented as an offset from the canopy edge giving equivalent or greater protection to all trees of any size, or modified to reflect significant variation in constituent tree sizes and/or the considerations above.

For *Hedgerow*, no RPA is shown. Typically, hedgerow requires a smaller stand-off than trees due to reduced crown dimensions. Any stand-off should include sufficient space for access and ongoing management and should therefore normally be based on the canopy spread rather than root spread.

DRAWINGS

Drawing 1 - Tree Constraints Plan

Drawing 2 - Tree Works Plan

Drawing 3 - Tree Protection Plan

Drawing 4 - Tree Protection Fencing Specification

Drawing 5 - Above Ground Construction Specification



KEY

[This drawing must be reproduced in colour]

T1/G1/W1

Trees

Root Protection Area (RPA)

Survey Boundary

Approximate location

(Feature not shown on supplied topographical survey)

Tree Quality Categorisation

(Based on BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations)

Category B

(Moderate quality)

Category C

(Low quality)

NOTE: This drawing should be read in conjunction with the respective Arboricultural Survey Data (Appendix A).

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Rev	Description	Drawn	Approved	Date

TEP

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Project

Hatfields JLR, Tarbock

Title

Drawing 1: Tree Constraints Plan [BASELINE]

Drawing Number

D10523.001

Drawn	Checked	Approved	Scale	Date
MLM	AAB	JGS	1:1,000 @ A3	11/10/2024





KEY

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-   T1/G1/W1 Retained trees, groups and woodland
-  Root Protection Area (RPA)
-  Survey Boundary
-  Approximate location
(Feature not shown on supplied topographical survey)
-  Tree Protection Fencing (c. 133m)
(Must be installed prior to works commencement)
-  Tree Protection Fencing
(Realigned to allow fence installation and above ground works)
-  Above Ground Construction
(See Drawing 4 for specification)
-  Controlled Fence Installation



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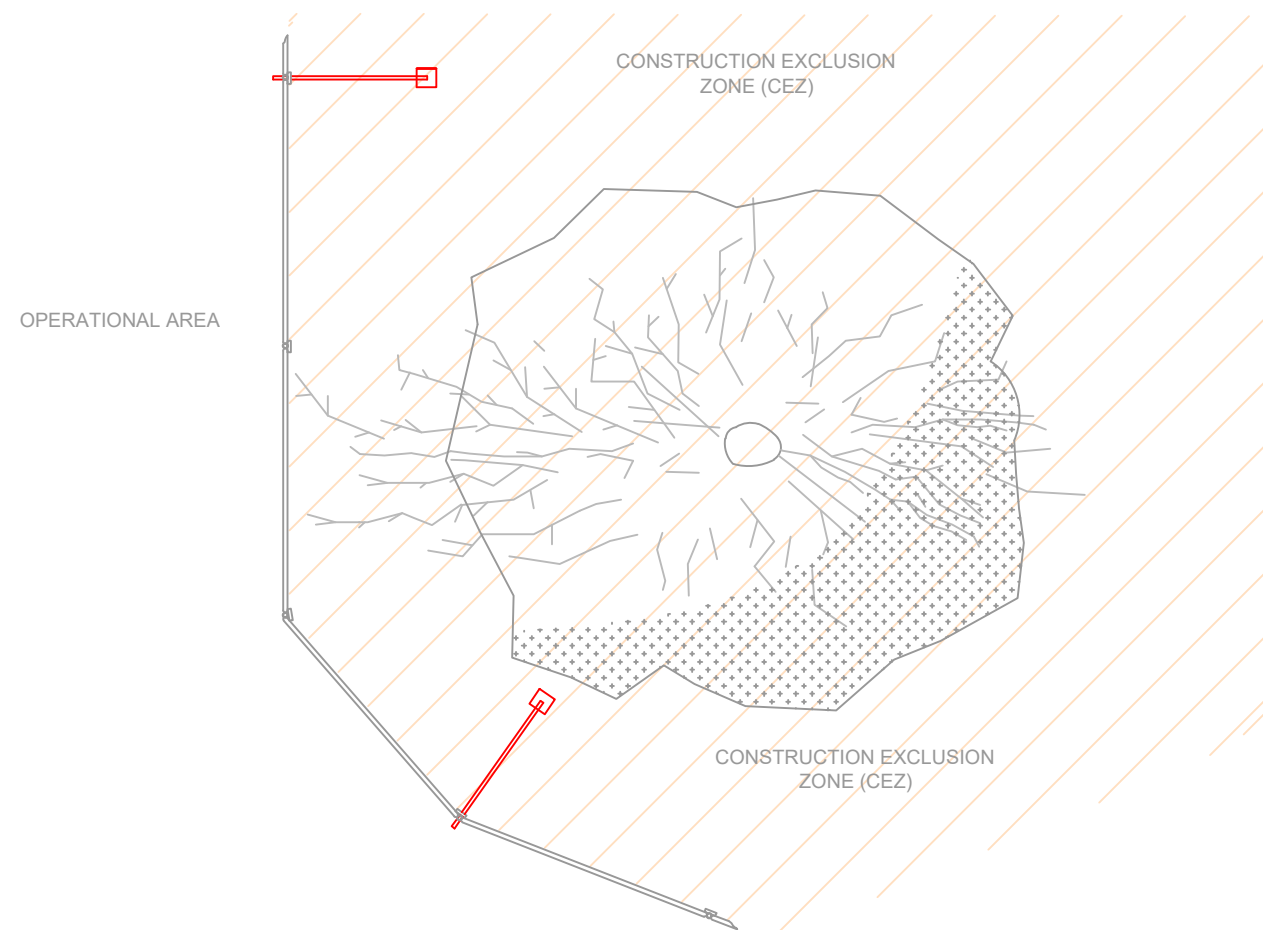
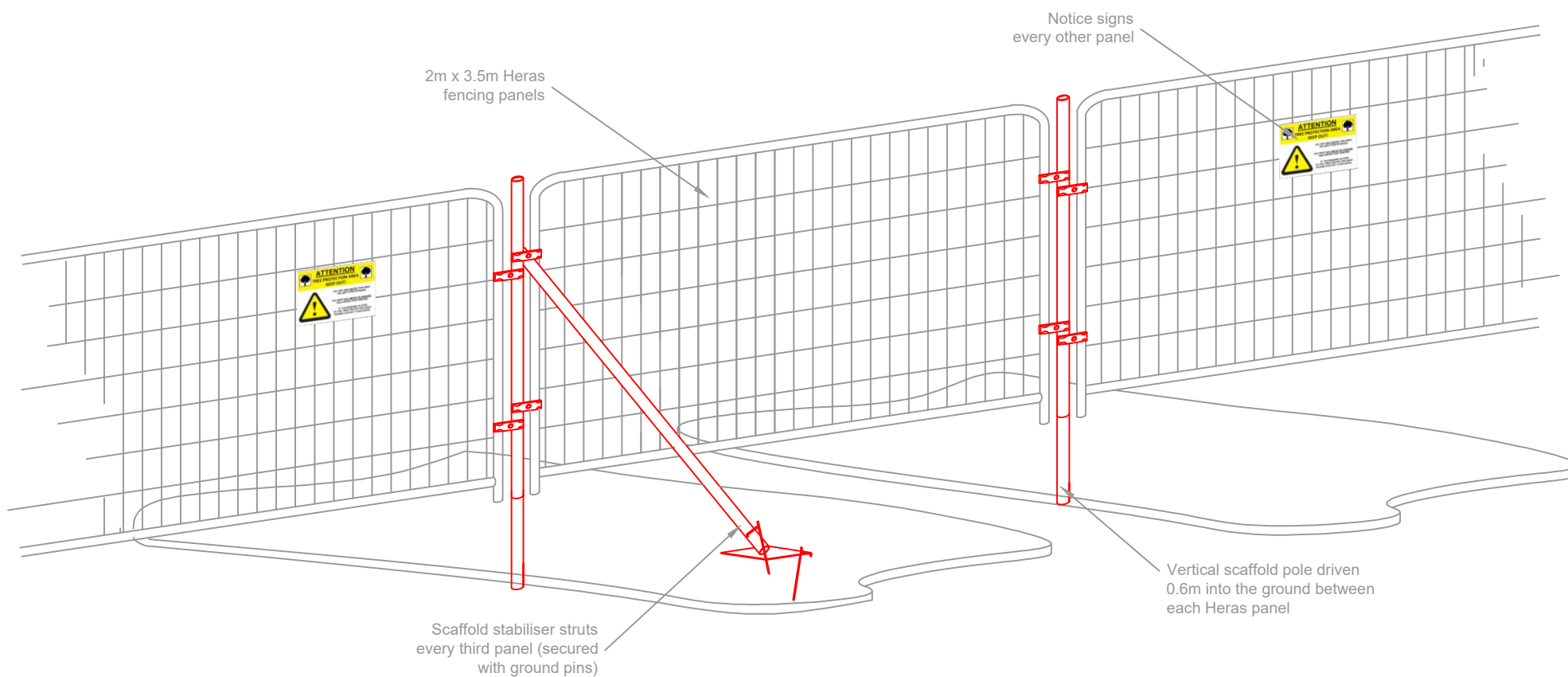
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Project
Hatfield's JLR, Tarbock

Title
Drawing 3: Tree Protection Plan [EFFECTS]

Drawing Number
D10523.003

Drawn	Checked	Approved	Scale	Date
AAB	HEE	JGS	1:1,000 @ A3	23/10/2024



Per 3No. Heras panels (10.5m)	
Component	Quantity
2m x 3.5m Standard Heras panels	3
3m Galvanised steel scaffold pole	3
Heras security fence clip	12
Heras stabilising support bar	1
Stabilising pin	2
Tree protection notice	2

Notes:

Rev	Description	Drawn	Approved	Date
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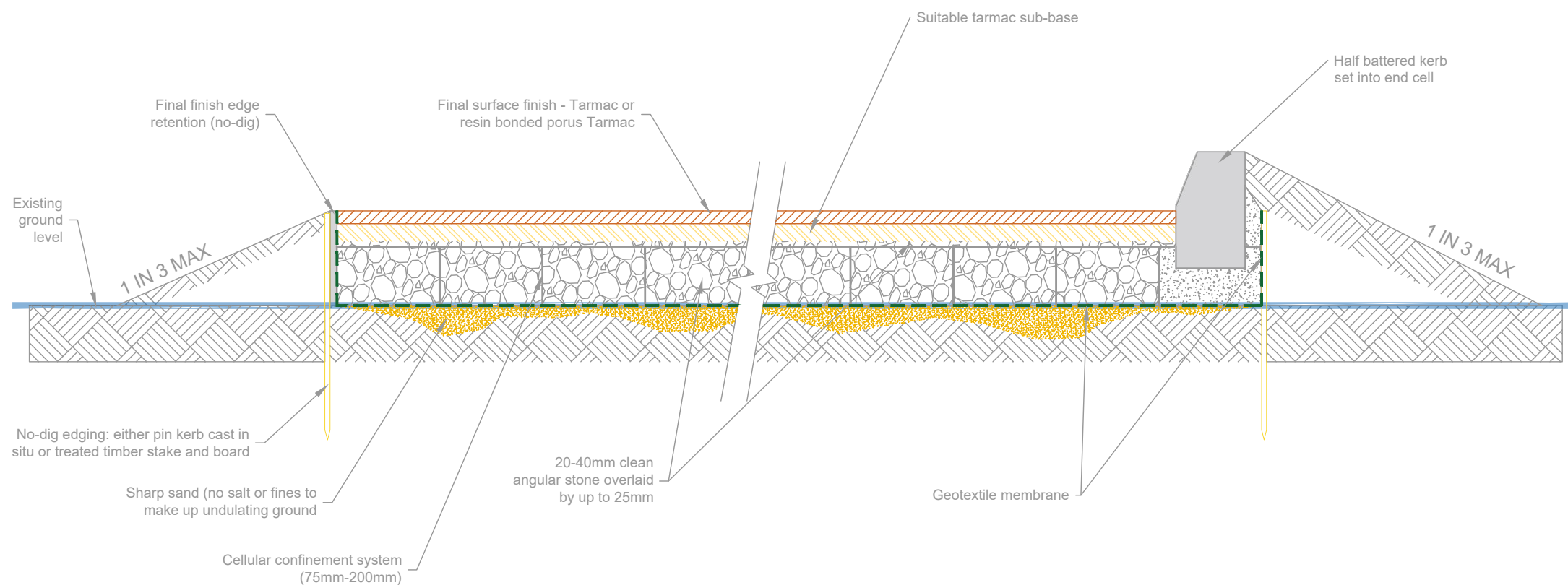
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Project

Title
Temporary tree protection fencing for use on soft surfaces

Drawing Number
TEP.ARB.FEN.001

Drawn	Checked	Approved	Scale	Date
TDP	RMG	JGS	(not to scale) @ A3	08/07/2019



Installation Notes

1. Surfacing specifications to be verified by an engineer prior to installation
2. A vegetation scrape to a maximum depth of 50mm may be undertaken by a flat toothed bucket.
3. A leveling layer of washed sharp sand (no salt or fines) may be laid as required to a maximum depth of 50mm to make up undulating ground.
4. A geotextile membrane will be laid across the whole footpath area with 300mm dry overlapping joints.
5. A no-dig cellular confinement system (CCS) will be laid across the whole area identified on the plans.
6. Clean angular stone (20-40mm) will be loose tipped onto the CCS and spread to give even coverage. Plant and vehicles will not be permitted to track on exposed ground or empty cells.
7. Aggregate will be settled using a walk-behind vibratory plate compactor.
8. In areas of hot surface application, the CCS will be overfilled with aggregate by 25mm. Surfacing will be applied directly to the aggregate base according to the manufacturer's instruction and architect's specification. All products will be pervious.
9. Timber board edging will be used where edge restraints are required.
10. New no-dig surfaces will then be tied into existing ground levels.
11. The no-dig cellular confinement system and geotextile membrane should be laid in accordance with the manufacturers' specifications.



Rev	Description	Drawn	Approved	Date
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Project

Title

No-dig CCS Indicative specification - Tarmac finish

Drawing Number

TEP.ARB.CCS.002

Drawn	Checked	Approved	Scale	Date
RMG	TDP	JGS	Not to scale @ A3	08/07/2019



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