



BS5837:2012 Tree Survey Report

Proposed Construction of a New Home Bargains Store & Refurbishment of Existing Warehouse at

Sovereign Industrial Estate, Wilson Road, Huyton, Liverpool L36 6AW

9th May 2023

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ENVIRONMENTAL AND
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Executive Summary

The trees on the application site have been assessed in accordance with BS 5837:2012 "Trees in relation to design, demolition and construction - Recommendations".

This tree report details the potential effects of the proposed development on the existing tree population within and in proximity to the application site at Sovereign Industrial Estate, Wilson Road, Huyton, Liverpool and provides recommendations for the protection of the trees in proximity to the development.

The site was revisited in October 2023 to assess the impact of a revised layout of the proposed development, the report has been updated accordingly.

The proposal consists of the construction of a new Home Bargains Store at Sovereign Industrial Estate as part of a redevelopment of the site which will also include the demolition of single storey ancillary offices to be relocated within an existing warehouse. The proposal includes access and servicing arrangements, car parking, landscaping and associated works.

The report includes a survey of 18 individual trees and 4 groups of trees located both within the site and within proximity of the development.

The site comes under the planning jurisdiction of Knowsley Council, a search of the council GIS on-line mapping tool confirms there are trees within the site and in proximity to it that are protected by a Tree Preservation Order No: 2-2001. The site is not within a Conservation Area.

In accordance with BS5857 cascade chart for tree quality assessment, these trees have been categorised as follows: 16 Individual trees and the 4 groups as B2 "trees of moderate quality"; 2 individual trees as C2 - "trees of low quality".

1 group of 5 trees and 10 individual trees require removal to facilitate the development. Of these 4 individual trees are covered by the TPO.

3 groups of trees and 8 individual trees can be retained. 2 of the retained groups contain trees that are covered by the TPO and 5 individual trees are also protected.

Access facilitation pruning and crown lift work may also be required to enable the construction of the site. Any tree pruning work to trees covered by the TPO will need approval of an “application to carry out work to protected trees” from the Local Planning Authority.

The removal of the trees will have a minor visual impact in the short term.

However, there is an opportunity to introduce new tree planting which once replacement trees are established this effect will be sufficiently mitigated.

It is recommended that 4 new trees are planted elsewhere on site and be of sufficient size and maturity to provide instant visual amenity to the site.

Recommendations have been made within the report to safeguard the retained trees and protect them from any damage from construction work including erection of protective fencing to separate from the construction activities.

As long as the recommendations within this report are fully adhered to and replacement tree planting is included within the application boundary for the proposed new development, the impact of the development can be minimised. The remaining trees can be retained and successfully integrated into the completed development.

1 Introduction

1.1 This tree survey report has been prepared in respect of the planning application for the construction of a new Home Bargains Store and refurbishment of an existing warehouse at Wilson Road, Huyton, Liverpool in order to:

- Assess the quality of the Trees in proximity to the proposed building work;
- Investigate any legal protection of the trees;
- Provide an Arboricultural Assessment with regard to the proposals; and
- Recommend measures which will suitably protect the trees during the construction process

1.2 The proposal is for the construction of a new Home Bargains Store with car parking, servicing, landscaping and associated works. The proposal also includes the demolition of a single storey office building which will be relocated within the existing warehouse.

1.3 In accordance with recommended best practice, the Arboricultural information is provided within this report in accordance with BS5837:2012.

1.4 The report is based on the following drawings which have been supplied by the client's architect:

- Topographical Survey, reference 40493_T_UG_REV0_Sent_2022-10-24 221052 by Greenhatch dated 10 June 2021
- Proposed Site Plan, Job No. 13579-AEW-XX-XX-DR-A-0503 Rev. P03, by AEW Architects dated September 2023

2 Limitations & Methodology

- 2.1 The survey is concerned with the arboricultural aspects of the site only. The trees, on site have been surveyed and classified in accordance with BS 5837:2012 "Trees in relation to design, demolition and construction - Recommendations".
- 2.2 The survey was undertaken using the Visual Tree Assessment (VTA) methodology to conduct a preliminary assessment of the above ground portion of the tree.
- 2.3 Trees are large dynamic organisms whose health and condition can change rapidly, therefore due to their changing nature and other site considerations, this report and any recommendations made are valid for a 12-month period following the site survey which was initially conducted on 25th April 2023 and revisited on 27th October 2023. After a period of 5 years, the information in this survey should not be relied upon.

Third Party Liability

- 2.4 The limit of Encon Associates Limited indemnity over any matter arising out of this report extends only to the instructing client. Encon Associates Limited cannot be held liable for any third party claim that arises following this report.

Subsistence Risk

- 2.5 This report is primarily concerned with the condition of existing trees and the application of current guidance for their retention. Any discussion of soil characteristics is only presented where this may have a direct effect on tree growth. This report does not seek to address the specific area of subsidence risk assessment or damage to buildings or structures.

Survey Methodology

- 2.6 The survey was undertaken from ground level with the aid of binoculars where necessary.
- 2.7 No aerial inspection nor invasive probing or drilling has been undertaken. No excavations were carried out nor soil or root samples taken.
- 2.8 The height of each subject tree was measured on site using an electronic Disto measuring device.
- 2.9 The canopy spread of each subject tree was measured on four compass points using measuring tape.
- 2.10 The locations of the trees have been taken from the topographical survey provided. We cannot guarantee the absolute accuracy of tree locations; however, the positions are believed to be accurately represented based on the GPS locations used by the surveyor. Encon Associates cannot be held responsible for any discrepancy in the position of the trees.
- 2.11 The information contained within the “Schedule of Trees” includes the following for each surveyed tree:
- 1 **Tree reference number** - cross referenced with the Tree Survey Plan A6081-01 and Tree Constraints Plan A6081-02 and Tree Protection Plan A6081-03.
 - 2 **Species** - have been given their common and botanical name where specifically known
 - 3 **Height** - measured on site using an electronic Disto measuring device
 - 4 **Stem diameter** - have been calculated by measuring the circumference at a height of 1.5m from ground level to determine the diameter
 - 5 **Branch spread** - the circles indicated on the tree survey plan are a representation of the overall spread of the crown in each compass direction
 - 6 **Height of crown clearance** - given in metres above adjacent ground level
 - 7 **Age class** - young (YNG) up to 10 years, 1/3 life expectancy semi-mature (SM), early mature (EM) 2/3 life expectancy, mature (M) over 2/3 life expectancy, over mature

(OM) declining/moribund, veteran (V) exceptionally old tree towards the end of its life, (D) dead

- 8 **Condition & Comments** - good (G) sound tree needing little or no attention, fair (F) minor but rectifiable defects, poor (P) major structural and/or physiological defects that would be inappropriate to retain and/or expensive, dead (D) no longer alive or those dying and unlikely to recover. General observations on 'physiological/structural condition' and 'preliminary management' is also provided
- 9 **Estimated remaining contribution** - in years e.g. <10, 10+, 20+ and 40+
- 10 **Category grading** - have been given a grade to classify the quality of each tree based on the Condition Classes and subcategories given overleaf
- 11 **RPA** - Protective measures as per BS 5837 section 4.6 which states that an area based on a radius equal to 12 times the stem diameter should be protected against damage to roots known as the "Root Protection Area" (RPA) given in m². A radius has also been given shown around each tree on the drawing.

2.12 Category grading for the assessment of tree quality (in accordance with Table 1 "Cascade chart for tree quality assessment" within BS 5837:2012) is described below:

- U Trees unsuitable for retention** - Those in such a condition that they cannot be realistically retained as living trees in the context of the current land use for longer than 10 years
- A Trees of high quality** - With an estimated remaining life expectancy of at least 40 years
- B Trees of moderate quality** - With an estimated remaining life expectancy of at least 20 years
- 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

2.13 Subcategories grading for the assessment of tree quality (in accordance with Table 1 "Cascade chart for tree quality assessment" within BS 5837:2012) is described below:

- 1 Mainly arboricultural qualities** - Trees that are a particularly good example of their species, especially if rare or unusual

- 2 Mainly landscape qualities** - Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features
- 3 Mainly cultural values, including conservation** - Trees, groups or woodlands of significant conservation, historical, commemorative or other value eg veteran trees or wood-pasture

For full description of subcategories, refer to Table 1, page 9 of the BS 5837:2012 document.

3 Project Requirements & Site Overview

Site Context

- 3.1 The site is located on land at Sovereign Industrial Estate, 1.7km south east of Huyton centre and 11km east of Liverpool city centre. The site currently comprises car parking and warehouses with an existing access road from Wilson Road.
- 3.2 Further industrial warehouses lie to the north of the site with a residential area stretching to the north west.
- 3.3 Immediately south of the site is the A5080 Cronton Road which runs west to east and links to Wilson Road. 320m beyond this the M62 motorway runs east to west
- 3.4 To the east of the site, across Wilson Road, there is a hotel and restaurant and the Paramount Business Park. 450m to the east the M57 motorway runs north to south.
- 3.5 To the west of the site, beyond the existing warehouse unit, there is an area of trees which are covered by a Tree Preservation Order. On the other side of the trees there is a public house and a commercial gardens and building supplier.
- 3.6 The wider area is a mix of commercial and industrial unit to the north and east and residential dwellings to the west and south.

Proposed Development

- 3.7 The planning application proposes to construct a new Home Bargains Store and substantial refurbishment of the existing warehouses, including demolition of a single storey office building, on land at Sovereign Industrial Estate, Wilson Road, Huyton.
- 3.8 The Home Bargains Store is approximately 2,325m² with 140 car parking spaces, cycle parking, motorcycle parking, EV charging point and service yard.
- 3.9 Vehicle access into the development will be re-configured from Wilson Road.

4 Baseline Factors

Tree Preservation Orders (TPO) or Conservation Area (CA) Designation

- 4.1 The site comes under the planning jurisdiction of Knowsley Council, a search of the council GIS mapping system confirms there are trees on site that are protected by Tree Preservation Order No: 2-2001. The TPO covers the trees around the south west boundary of the survey area. The site is not within a Conservation Area. See Appendix E for confirmation.

Existing Trees on Site

- 4.2 There are 18 individual trees and 4 groups of trees included in the survey which are located both close to the site boundaries and within the site itself.
- 4.3 In accordance with BS5857 cascade chart for tree quality assessment, these trees have been categorised as follows: 16 individual trees and the 4 groups as B2 “trees of moderate quality”; the 2 remaining individual trees as C2 - “trees of low quality”.
- 4.4 There are no A2 “trees of high quality”; or U trees “unsuitable for retention” on the site.

- 4.5 The trees covered by the Tree Preservation Order are T4-T12 and some trees within groups G2 and G4.
- 4.6 Group G1 is mainly Scots Pine (23no) with mixed native deciduous trees interspersed including Oak and Cherry. Group G2 is a group of 8 Alder and Birch trees growing on a grassed slope. Group G3 is row of 5 Callery Pear trees growing in a grass verge adjacent to the existing building. Group G4 is a group of 7 Silver Birch and Ash trees growing on a grass embankment.
- 4.7 The individual trees are a mix of species including Silver Birch, Ash, Cherry, Field Maple Callery Pear, Lawson Cypress, Blue Spruce, Italian Cypress and Yew.
- 4.8 Details of the locations and Root Protection Areas (RPA) are provided on the Tree Protection Plan (TPP) appended to this report.
- 4.9 A schedule of trees and their condition including their category grading and RPA radius is attached in Appendix A.

Root Protection Area (RPA)

- 4.10 The Root Protection Area (RPA) of a tree is defined in BS5837 as the area surrounding the trunk that contains sufficient rooting volume to ensure the survival of the tree and is calculated as an area based on the stem diameter of the tree.
- 4.11 The RPA's have been calculated in accordance with BS5837 and are detailed in the Tree Schedule located in Appendix A of this report. Where ground constraints have, or are likely to have, had an effect on tree root development, for example, where level changes or changes in rooting medium eg heavily compacted ground, areas of hard standing etc, have influenced tree root growth, the RPA is unlikely to follow an exact circle and will probably be more elliptical in shape.

- 4.12 Detailed analysis of the ground conditions has not been carried out, however a visual assessment concluded that whilst some of the trees are growing in landscaped areas around the site, all are within proximity to areas of hard standing.
- 4.13 Tree root systems are typically concentrated within the uppermost 600mm of the soil, although it may be deeper within the dense mass of roots and soil closer to the base of the tree. The development of the root system is influenced by the availability of water, nutrients, oxygen and soil penetrability i.e. how compacted the ground is and therefore the root spread does not generally show the symmetry seen in the branch system. The root systems of all trees are expected to have been affected by their growing environment. Therefore roots of most of the trees are likely to have been influenced by their proximity to adjacent hard standing and infrastructure or level changes with the morphology and disposition of the root system, being drawn deeper, or diverted away from compacted ground and paving subbases in those instances.
- 4.14 The footprint of the proposed construction work does not encroach within the RPA of any trees that are to be retained.

5 Arboricultural Impact Assessment

- 5.1 This section considers the implications that the proposed development may have upon the existing trees within and adjacent to the site and provides advice on solutions to any issues to ensure the retained trees are safeguarded.
- 5.2 1 group of trees (G3) requires removal to facilitate the development. This is a row of 5 Callery Pear trees growing in a grass verge adjacent to the warehouse building, categorised as B2 “trees of moderate quality”. The trees are not covered by a TPO.
- 5.3 10 individual trees also require removal to facilitate the development, as follows:

Trees to be Removed:

Tree Reference No	Species	TPO	Category
T9	Cherry	Yes	B2
T10	Cherry	Yes	B2
T11	Cherry	Yes	B2
T12	Field Maple	Yes	B2
T13	Callery Pear	No	B2
T14	Silver Birch	No	B2
T15	Lawson Cypress	No	B2
T16	Blue Spruce	No	C2
T17	Italian Cypress	No	B2
T18	Yew/Cypress	No	C2

- 5.4 The remaining 3 groups of trees can be retained (G1, G2 and G4). All groups are categorised as B2 “trees of moderate quality” and G2 and G4 contain trees included within the TPO.
- 5.5 7 individual trees can also be retained (T1-T6 and T8). T4, T5, T6 and T8 are protected by the TPO.
- 5.6 Recommendations have been made within the report to safeguard the retained trees and protect them from any damage from construction work including erection of protective fencing to separate from the construction activities.
- 5.7 As the trees are covered by a TPO, an application is required to carry out tree works and there is a legal impediment to the tree being removed or works carried out to trees by the land owner.
- 5.8 Access facilitation pruning and crown lift work may also be required to enable the construction of the site. Any tree pruning work to trees covered by the TPO will need

approval of an “application to carry out work to protected trees” from the Local Planning Authority.

- 5.9 Prior to the removal of any trees, the contractor and/or tree surgeon appointed to carry out the works must ensure any necessary regulations and/or felling licences in accordance with BS5837 are complied with and in place.

Planting of New Trees and Landscaping Alterations

- 5.10 In order to mitigate for the removal of 4 TPO trees, it is recommended that 4 new trees are planted elsewhere on site and be of sufficient size and maturity to provide instant visual amenity to the site.

- 5.11 The specification for the trees is recommended to be 4.5m high, 18-20 cm girth Extra Heavy Standard root balled trees, pit planted including securing in an upright position with a timber stake and rubber tie, in order to provide sufficient instant visual amenity to mitigate the loss of the existing trees.

6 Tree Protection Method Statement

This section describes in detail the specific measures that should be implemented to protect the trees to be retained from harm during the construction process. A full tree protection method statement is included in Appendix C.

Protective Fencing

- 6.1 The remaining existing trees within or in proximity to the application boundary which are to be retained should be protected from damage during construction operations by fencing them off from machinery circulation routes and material storage areas. The distance from the trees to the construction activity is such that damage could occur and therefore construction vehicles should be prevented from unwittingly travelling too

close to the trees and causing damage to overhanging branches or compaction of the root zone.

- 6.2 Protective fencing as detailed in Appendix C of this report should be erected in front of the line of trees as demonstrated on the Tree Protection Plan, prior to the commencement of work to form a construction exclusion zone to prevent the storage of materials within the landscaping areas. Where temporary construction access is needed for works within the area fenced off, in accordance with BS5837:2012, this should be facilitated by a set-back in the alignment of the tree protection barrier. The fencing should be moved back to its original location following completion of surfacing in this area, as shown on the Tree Protection Plan in order to protect the trees throughout the remainder of the construction process. In these areas, suitable existing hard surfacing should be retained to act as temporary ground protection during construction, rather than being removed during demolition. Where the set back of the protective fencing would expose unmade ground to construction damage or compaction, new temporary ground protection should be installed prior to working on site.

Tree Pruning

- 6.3 The working and access space needed for the construction of the proposed development and resurfacing works should not require “access facilitation pruning”. However, should this become necessary a one-off tree pruning operation, which is directly necessary to provide access for operations on site, is acceptable in accordance with BS5837 as long as “the nature and effects of the pruning are without significant adverse impact on the tree physiology or amenity value”.
- 6.4 As the trees are covered by a TPO approval from the local authority is required to carry out work to them. Those trees not within ownership of the application site must also be granted permission before any tree works are carried out to them.

6.5 All proposed tree works should be undertaken prior to the commencement of construction activities. Trees on site which have been identified to have their crowns lifted and/or access facilitation/ formative pruning must be carried in accordance with BS3998 British Standard Tree Work - Recommendations 2010 by a competent tree surgeon to the following specification:

- Where practicable, pruning should be restricted to healthy, small diameter parts of the tree to minimise the size of resultant wounds and enable these to be occluded.
- Crown lifts should include complete removal of the lowest primary branches and thereafter secondary and tertiary branches (not exceeding 50mm diameter cuts). When pruning branches back to the main stem or fork, the branch will be removed in small sections using the step cut method leaving a small stub before carrying out the final cut. Crown lifting should preferably not result in the removal of more than 15% of the live crown height, and the remaining live crown should make up at least two-thirds of the height of the tree.
- Formative pruning to branches 20mm and less in diameter to be pruned cleanly back to its point of origin, avoiding damaging the bark of the tree and ensuring the canopy maintains a natural shape. Growth greater than 20mm is to be cut back to avoid damage to the branch bark ridge and collar if applicable. All pruning carried out using a sharp handsaw or secateurs. On no account will a chainsaw be used in this operation. All shoots will be removed back to, but not into the branch collar leaving no projections or exaggerating the size of the wound.

Construction of New Surfacing

6.6 BS5837 contains Design Recommendations (7.4.2) where hard surfacing is proposed within the RPA of existing trees.

- 6.7 No new surfacing is proposed within the RPA of any trees to be retained, therefore no special construction is required.

Installation of New Fencing

- 6.8 To ensure the existing trees are not damaged during the installation of any new fencing or knee rail, the following procedures are to be strictly adhered to:

- The dashed line around each tree indicates the Root Protection Area (RPA) as calculated within the Tree Survey Report and shown on the Tree Protection plan.
- Prior to commencing any work on site, Heras type fencing is to be installed as per the detail appended to this report to separate the trees from the work
- No excavations using machinery is permitted
- Holes for fence posts are to be carefully dug by hand avoiding damage any roots which may be encountered
- No storage of materials or mixing of cement is to take place within RPA around each tree and should be done well away from the trees
- No machinery or vehicles to travel within the RPA around each tree
- Holes excavated for fence posts to be lined with polythene prior to pouring concrete to prevent cement coming into contact with any tree roots which may be present
- Extreme care to be taken when installing fence posts and panels to prevent damage to trunk or branches of the trees

Construction of Foundations

- 6.9 BS5837 contains Special Engineering for Foundations within the RPA (7.5) where structures are proposed within the RPA of existing trees.
- 6.10 The footprint of the proposed new building does not extend within the RPA of any of the existing trees to be retained, therefore no special foundations are required.

Conclusions

7.1 The proposal is for the construction of a new Home Bargains Store at Sovereign Industrial Estate as part of a redevelopment of the site which will also include the demolition of single storey ancillary offices to be relocated within an existing warehouse. The proposal includes access and servicing arrangements, car parking, landscaping and associated works.

- The report includes a survey of 18 individual trees and 4 groups of trees located both within the site and within proximity of the development.
- The site comes under the planning jurisdiction of Knowsley Council, a search of the council GIS on-line mapping tool confirms there are trees within the site and in proximity to it that are protected by a Tree Preservation Order No: 2-2001. The site is not within a Conservation Area.
- In accordance with BS5857 cascade chart for tree quality assessment, these trees have been categorised as follows: 16 Individual trees and the 4 groups as B2 “trees of moderate quality”; 2 individual trees as C2 - “trees of low quality”.
- 1 group of 5 trees and 10 individual trees require removal to facilitate the development. Of these 4 individual trees are covered by the TPO.
- 3 groups of trees and 8 individual trees can be retained. 2 of the retained groups contain trees that are covered by the TPO and 5 individual trees are also protected.
- Access facilitation pruning and crown lift work may also be required to enable the construction of the site. Any tree pruning work to trees covered by the TPO will need approval of an “application to carry out work to protected trees” from the Local Planning Authority.
- The removal of the trees will have a minor visual impact in the short term.

- However, there is an opportunity to introduce new tree planting which once replacement trees are established this effect will be sufficiently mitigated.
- It is recommended that 4 new trees are planted elsewhere on site and be of sufficient size and maturity to provide instant visual amenity to the site.
- Recommendations have been made within the report to safeguard the retained trees and protect them from any damage from construction work including erection of protective fencing to separate from the construction activities.

7.2 As long as the recommendations within this report are fully adhered to and replacement tree planting is included within the application boundary for the proposed new development, the impact of the development can be minimised. The remaining trees can be retained and successfully integrated into the completed development.

Appendix A - Schedule of Trees

Site: Huyton

Date: 25th April 2023 & 27th October 2023

Weather: Dry, sunny spells

Ref	Species	Height (m)	Stem Diameter (mm)	Branch spread (m)				Height crown clearance (m)	Age class	Condition & Comments	Years left	Category grading	RPA (m²)	RPA radius
				N	E	S	W							
T1	Betula pendula (Silver Birch)	14	multi	4.0	4.0	4.0	4.0	2.5	EM	Good. Forks into 3 stems 1 x 100mm; 1 x 150mm; 1 x 225mm	20+	B2	38	3.45
T2	Betula pendula (Silver Birch)	14	multi	4.0	4.0	4.0	4.0	2.5	EM	Good. Forks into 3 stems 1 x 100mm; 1 x 150mm; 1 x 225mm	20+	B2	38	3.45
T3	Betula pendula (Silver Birch)	14	multi	4.0	4.0	4.0	4.0	2.5	EM	Good. Forks into 3 stems 1 x 100mm; 1 x 150mm; 1 x 225mm	20+	B2	38	3.45
G1	Pinus sylvestris (Scots Pine) Acer campestre (Field Maple) Taxus baccata (Yew) Fagus sylvatica (Beech) Betula pendula (Silver Birch) Cornus sanguinea (Dogwood) Hedera helix (Ivy) Quercus robur (English Oak) Prunus avium	12-16	200-300	3.0	3.0	3.0	3.0	3	EM	Good. Group of mainly Scots Pine (23 no) with understorey of native deciduous species. Ground cover of Ivy. Some English Oak and Wild Cherry interspersed.	20+	B2	41	3.60
T4	Fraxinus excelsior (Ash)	12	200	3.0	3.0	3.0	3.0	4	SM	Fair.	20+	B2	18	2.40
T5	Betula pendula (Silver Birch)	14	200	2.0	2.0	2.0	2.0	5	EM	Fair. Located in grass verge.	20+	B2	18	2.40
T6	Prunus avium (Cherry)	12	215	4.0	4.0	4.0	4.0	3	EM	Good. ocated in grass verge.	20+	B2	21	2.58

Site: Huyton

Date: 25th April 2023 & 27th October 2023

Weather: Dry, sunny spells

Ref	Species	Height (m)	Stem Diameter (mm)	Branch spread (m)				Height crown clearance (m)	Age class	Condition & Comments	Years left	Category grading	RPA (m²)	RPA radius
				N	E	S	W							
T7	Prunus avium (Cherry)	12	215	4.0	4.0	4.0	4.0	3	EM	Good. Located in grass verge.	20+	B2	21	2.58
T8	Prunus avium (Cherry)	14	400	5.0	5.0	5.0	5.0	2	M	Good. Located in grass verge.	20+	B2	72	4.80
T9	Prunus avium (Cherry)	14	400	5.0	5.0	5.0	5.0	2	M	Good. Located in grass verge.	20+	B2	72	4.80
T10	Prunus avium (Cherry)	12	200	5.0	5.0	5.0	5.0	2	EM	Good. Located in grass verge.	20+	B2	18	2.40
T11	Prunus avium (Cherry)	12	300	6.0	6.0	6.0	6.0	2	EM	Good. Located in grass verge.	20+	B2	41	3.60
T12	Acer campestre (Field Maple)	8	200	3.0	3.0	3.0	3.0	2	EM	Good. Located in grass verge.	20+	B2	18	2.40
G2	Alnus glutinosa (Alder) Betula sp (Birch)	12	350	4.0	4.0	4.0	4.0	1.5	EM	Good. Group of 3 trees on grassed slope	20+	B2	55	4.20
G3	Pyrus calleryana (Callery Pear)	8	250	3.5	3.5	3.5	3.5	2	EM	Good. Row of 5 trees in grass verge adjacent to building.	20+	B2	28	3.00

Site: Huyton

Date: 25th April 2023 & 27th October 2023

Weather: Dry, sunny spells

Ref	Species	Height (m)	Stem Diameter (mm)	Branch spread (m)				Height crown clearance (m)	Age class	Condition & Comments	Years left	Category grading	RPA (m²)	RPA radius
				N	E	S	W							
G4	Fraxinus excelsior (Ash) Betula pendula (Silver Birch)	7-9	100-200	3.0	3.0	3.0	3.0	1.5	SM	Fair. Group of 7 trees on grass embankment.	20+	B2	18	2.40
T13	Pyrus calleryana (Callery Pear)	6	225	3.0	3.0	3.0	3.0	2	EM	Good. Single tree in grass verge.	20	B2	23	2.70
T14	Betula pendula (Silver Birch)	6	100	2.0	2.0	2.0	2.0	1.8	SM	Good.	20+	B2	5	1.20
T15	Chamaecyparis lawsoniana (Lawson Cypress)	10	225	2.5	2.5	2.5	2.5	1.6	EM	Good.	20	B2	23	2.70
T16	Picea pungens (Blue Spruce)	5	200	2.0	2.0	2.0	2.0	1	SM	Fair.	20	C2	18	2.40
T17	Cupressus sempervirens (Italian Cypress)	6	200	3.0	3.0	3.0	3.0	0	EM	Fair.	20+	B2	18	2.40
T18	Taxus baccata (Common Yew) Cupressus (Cypress)	5	125-250	2.5	2.5	2.5	2.5	1.2	EM	Fair. 2 trees located close together to form a single tree.	20	C2	41	3.00

Appendix B - Tree Survey Plan & Tree Protection Plan



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Notes:

Key to Tree Survey Plan

The RPA (Root Protection Area) is the zone in which the root system is believed to be concentrated, has been calculated for each tree within the site boundary. The results can be found with the Tree Report.

This drawing is based on:

- Topographical Survey, reference 40493_T_UG_REV0_Sent_2022-10-24 221052 by Greenhatch dated 10 June 2021
- Site visit by Encon Associates, 03.05.23

T1

Class A

T1

Class B

T1

Class C

T1

Class U

T1

RPA shown as a dashed circle around each tree

Area Tree Preservation Order (TPO No: 2-2001)

A	30.10.23	Updated in accordance with revised layout	MJB	GLM
Rev	Date	Description	Drawn	Checked

Client
TJ Morris

Project
Proposed Retail Development
Wilson Road, Huyton
Liverpool

Title
Tree Survey Plan

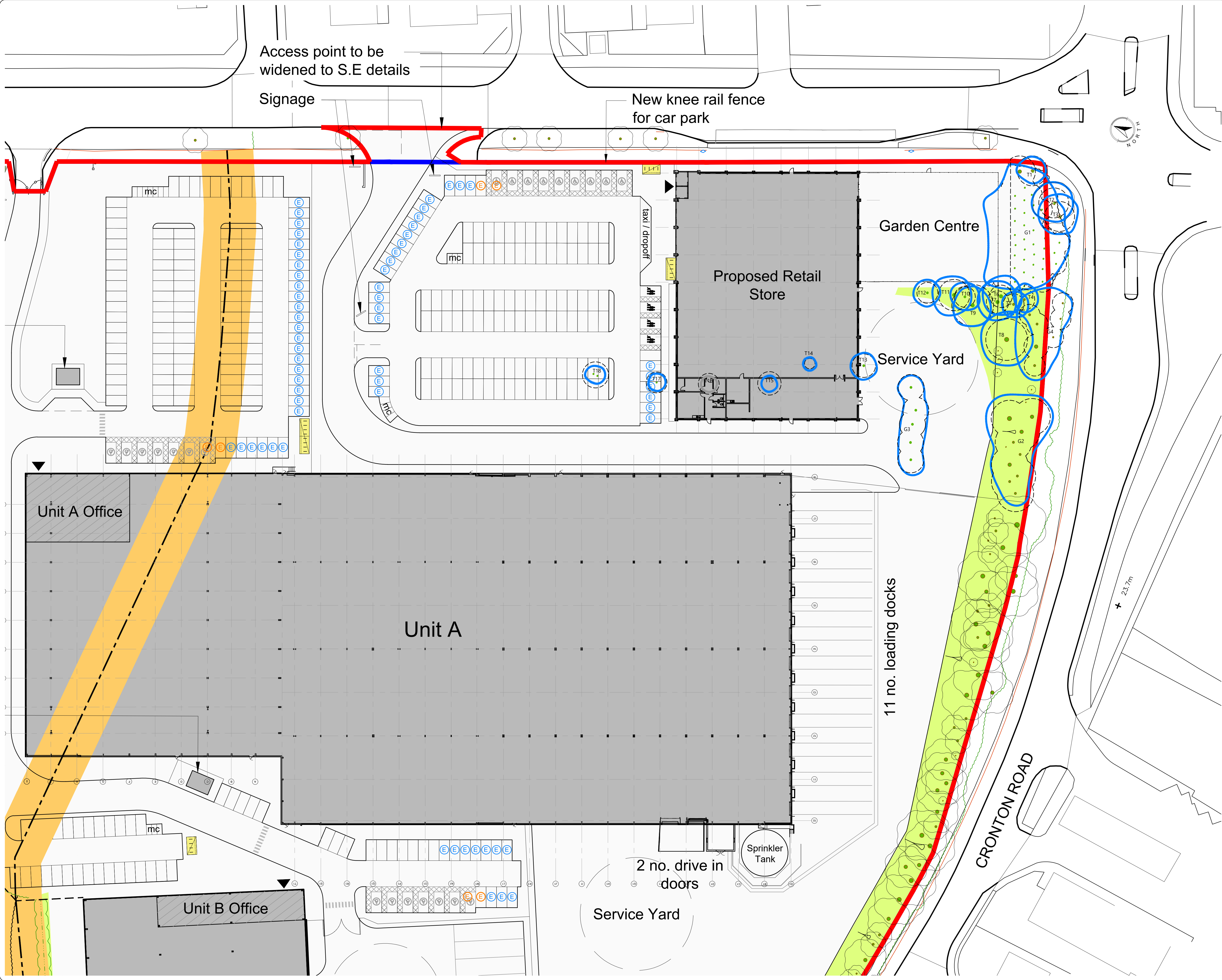
Drawing Status
FOR PLANNING APPROVAL

Drawn	MJB	Checked	LB
Date	03.05.23	Scale (A1)	1:400

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- Life Cycle Costing - Energy Assessment - SAP - EPC - SBEM - Daylight Calculations

Job Number	Drawing Number	Rev
A6081	01	A



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Notes:

Key to Tree Survey Plan

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This drawing is based on:

- Topographical Survey, reference 40493_T_UG_REV0_Sent_2022-10-24 221052 by Greenhatch dated 10 June 2021
- Proposed Site Plan, Job No. 13579-AEW-XX-XX-DR-A-0503 Rev. P03, by AEW Architects dated September 2023
- Site visit by Encon Associates, 03.05.23

T1

Class A

T1

Class B

T1

Class C

T1

Class U

T1

RPA shown as a dashed circle around each tree

Area Tree Preservation Order (TPO No: 2-2001)

A 30.10.23 Updated in accordance with revised layout MJB GLM

Rev	Date	Description	Drawn	Checked
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Client
TJ Morris

Project
Proposed Retail Development
Wilson Road, Huyton
Liverpool

Title
Tree Constraints Plan

Drawing Status
FOR PLANNING APPROVAL

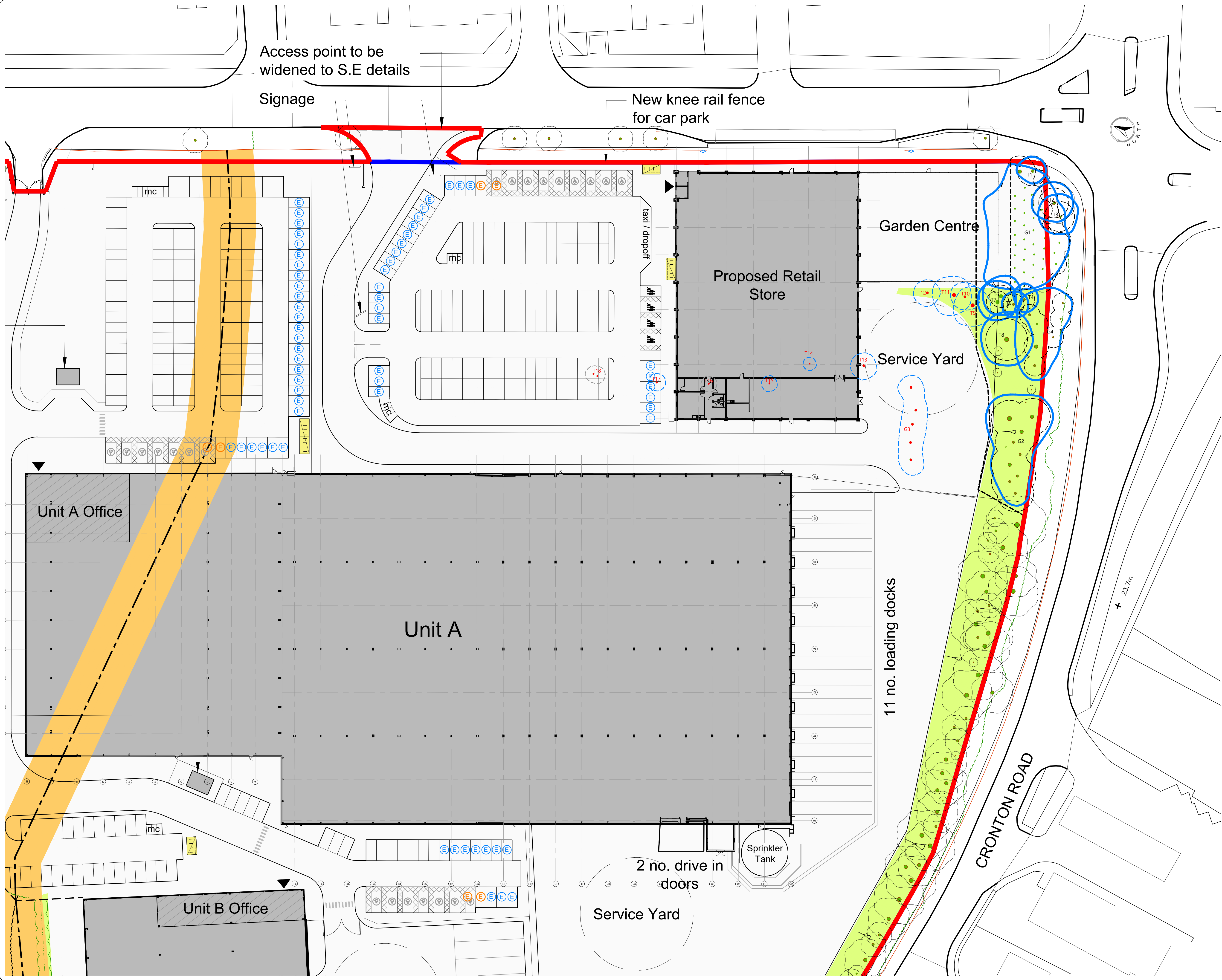
Drawn	MJB	Checked	LB
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Date	03.05.23	Scale (A1)	1:400
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Job Number	Drawing Number	Rev
A6081	02	A



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Notes:

Key to Tree Survey Plan

The RPA (Root Protection Area) is the zone in which the root system is believed to be concentrated, has been calculated for each tree within the site boundary. The results can be found with the Tree Report.

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- Proposed Site Plan, Job No. 13579-AEW-XX-XX-DR-A-0503 Rev. P03, by AEW Architects dated September 2023
- Site visit by Encon Associates, 03.05.23

T1

Class A

T1

Class B

T1

Class C

T1

Class U

T1

RPA shown as a dashed circle around each tree

Area Tree Preservation Order (TPO No: 2-2001)

Tree Protection Fencing

T1

Trees to be removed

A 30.10.23 Updated in accordance with revised layout MJB GLM

Rev	Date	Description	Drawn	Checked
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Client
TJ Morris

Project
Proposed Retail Development
Wilson Road, Huyton
Liverpool

Title
Tree Protection Plan

Drawing Status
FOR PLANNING APPROVAL

Drawn	MJB	Checked	LB
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Date	03.05.23	Scale (A1)	1:400
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Job Number	Drawing Number	Rev
A6081	03	A

Appendix C - Method Statement for Tree Protection

The following Arboricultural Method Statement should be followed by the contractor:

1.1 Root Protection Area (RPA)

The RPA required by the current edition of BS 5837:2012 relates to the stem diameter of each tree when measured at a height of 1.5m from ground level, adjusted where necessary to account for actual rooting patterns on site. The RPAs are to be afforded protection at all times and will be protected by fencing barriers. No works will be undertaken within any RPA that causes compaction to the soil or severance of tree roots.

2.0 Protective Fencing

A protective fence should be erected prior to the commencement of any site works e.g. before any materials or machinery are brought on site, any construction work starts or any stripping of soil commences. The barrier needs to have signs attached stating that this is a Tree Protection Area and that no works are permitted within the barrier. The barrier may only be removed following completion of all construction works.

2.1 The fence is required to be sited in accordance with the TCP. The fence must ideally be constructed as per figure 2 in BS 5837:2012 (see detail at the end of this section) and be fit for the purpose of excluding any construction activity. The construction on site should be excluded from the RPA with 'Heras' type Fencing construction, along with a formal briefing of any work person by the site manager with regards to the contents of this method statement.

3.0 Precautions in respect of Temporary Works

If temporary access is required to an RPA then access may only be gained after consultation with the Local Planning Authority and following placement of materials such as geo-textile fabrics that will spread the weight of any vehicular load and prevent compaction to the soil. For pedestrian movements within any RPA then a single thickness scaffold board on top of a compressible layer laid onto a geotextile fabric may be acceptable. Otherwise, there should be no access within the RPA at any time during the contract.

4.0 Access Details

There is no requirement for any special measures related to the retained trees if access for all construction vehicles is kept away from the trees to be retained and stay outside of the RPA.

5.0 Contractors Car Parking

This is likely to be within the existing car park area onsite. The area designated for parking needs to be away from the area around the trees to be retained.

6.0 Site Huts and Toilets

The area designated for site accommodation needs to be away from the area around the trees to be retained.

7.0 Storage Space

The storage of materials should ideally be on existing hard standing away from existing trees. The contractor should not store any materials on site within the RPA of an existing tree.

8.0 Additional Precautions

No storage of materials or lighting of fires should take place within the RPA. No mixing or storage of materials should take place up a slope where they may leak into an RPA.

8.1 No fires to be lit within 20 metres of any tree stem and the fire size and wind direction should be taken into account so that, no flames come within 5.0m of any foliage.

8.2 No high-sided vehicles or cranes should access the site close to any trees to be retained and should not come into contact with any branches or travel within the RPA

8.3 No notice boards, cables or other services to be attached to any tree.

8.4 Materials which may contaminate the soil should not be discharged within 10m of any tree stem. When undertaking the mixing of materials it is essential that any slope of the ground does not allow contaminates to run towards a tree root area.

9.0 Site Gradients

No alterations of soil levels to take place within the RPA of the protected trees

10.0 Demolition Works

No demolition works to take place with the RPA of the protected trees

12.0 Soft landscaping

Refer to the landscaping scheme for detail on soft landscaping.

13.0 Use of Herbicides

No herbicide use is predicted, however if used, it should be done so in strict accordance with the manufacturer's instructions and contact with any tree foliage should be avoided.

14.0 On Site Monitoring Regime

All operations to be monitored by the main contractor. The site manager shall contact the appointed specialist if there is a breach of the RPA and tree protection measures. The appointed specialist shall recommend an action plan to incorporate mitigation measures where necessary.

17.0 Remedial Tree Works

The recommended tree works should be undertaken prior to the commencement of construction activities. All tree works are to be carried out in accordance with BS 3998 British Standard Tree Work - Recommendations 2010. Permission must be granted by the local authority prior to working on any tree protected by a Tree Preservation Order. Failure to do so may result in prosecution.

- 17.1 In order to prevent the disturbance of nesting birds, any vegetation clearance, tree works or felling should be carried out outside of the bird nesting season (typically March to August). If this is not possible, and vegetation to be removed should be searched by an ecologist for the presence of active nests immediately prior to clearance. If any active nest are found, these should be retained in-situ until the nestlings have fledged.

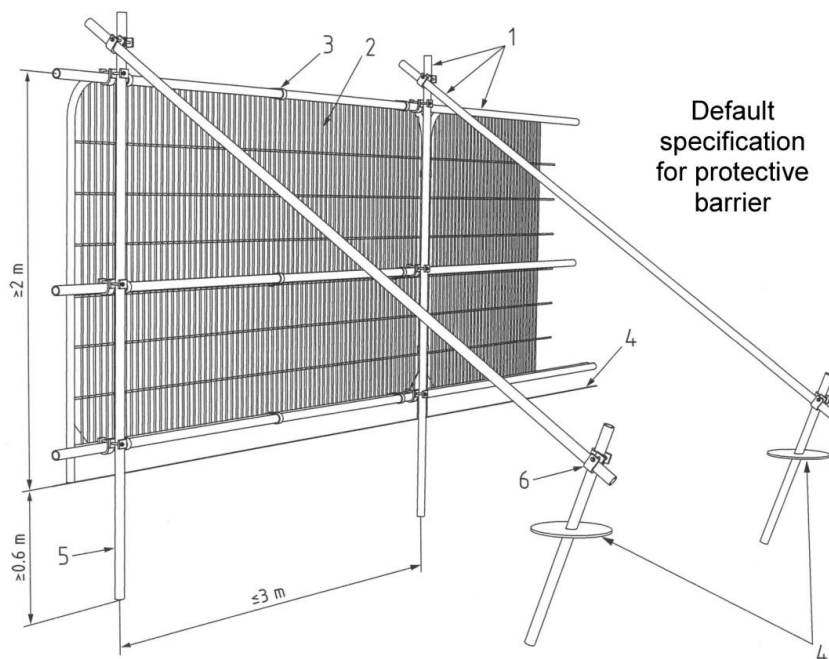
18.0 Responsibilities

It will be the responsibility of the main contractor to ensure that planning conditions are adhered to at all times and that a monitoring regime in regards to tree protection is adopted on site and ensure any necessary licences are in place prior to any felling and all necessary all relevant regulations are adhered.

18.1 The main contractor will be responsible for contacting the Local Planning Authority at any time issues are raised related to the trees on site.

18.2 The main contractor will ensure the build sequence is appropriate to ensure that no damage occurs to the trees during the construction processes. Protective fences will remain in position until completion of ALL construction works on the site.

18.3 Protective fencing should be erected around all trees to be retained as per the following specification:

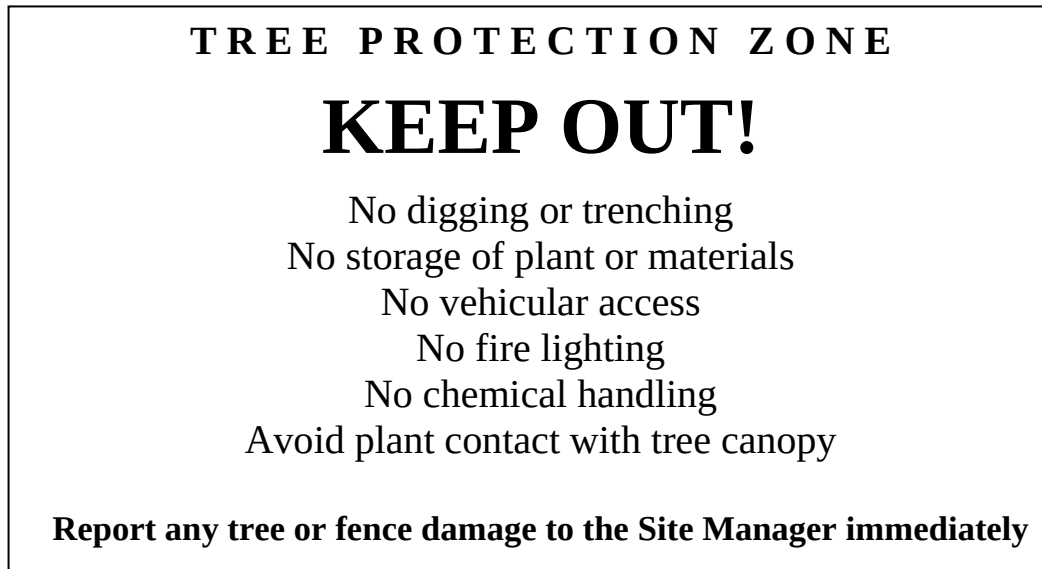


Key

- 1 Standard scaffold pole
- 2 Heavy gauge 2m tall galvanised tube and welded mesh infill panels
- 3 Panels secured to uprights and cross-members with wire ties
- 4 Ground level
- 5 Uprights driven into the ground until secure (minimum depth 0.6m)
- 6 Standard scaffold clamps

18.4 Signs, in accordance with the following example, should be displayed to inform all personnel where the tree protection areas are and to warn them not to enter.

Example of "Keep Out" Sign:



Appendix D - Photographic Record



Photo 1 - View of T1



Photo 2 - View of T2 and T3



Photo 3 - View of G1



Photo 4 - View of G1



Photo 5 - View of G1



Photo 6 - View of G2



Photo 7 - View of G3



Photo 8 - View of G4 (part covered by TPO)



Photo 9 - View of G4 (part covered by TPO)

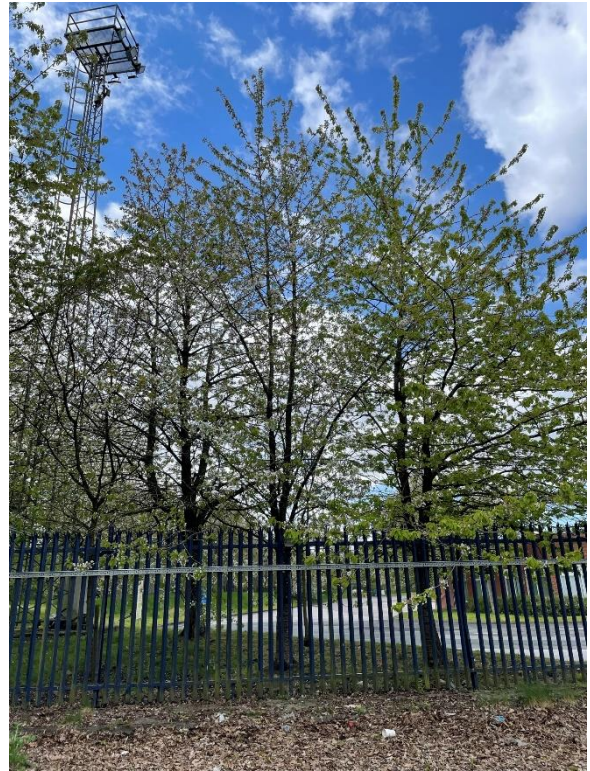


Photo 10 - View of T4-T8 (all covered by TPO)



Photo 11 - View of T9-T12 (covered by TPO)



Photo 12 - View of T13



Photo 13 - View of T14



Photo 14 - View of T15

Appendix E - Tree Preservation Order & Conservation Area

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Property is not a Listed Building

Show on Map

Property not in a Conservation Area

Show on Map

Planning Applications

Planning Application No	Date	Distance
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Tree Preservation Orders

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TPO No	Location
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