BS5837:2012 Tree Survey Report

Proposed Construction of a New McDonald's Drive Thru Restaurant at:

Lane End, Kirkby in Ashfield, NG17 8AP

23rd April 2024

Revision B – 11th December 2024

ENVIRONMENTAL AND
SUSTAINABILITY CONSULTANTS

encon associates

Report Reference Number: A6605

Document Control

Date of first Issue	Revision	Date of Revision	Author	Checked by
17th April 2024		-	MJB	LB
	A	13th May 2024	MJB	LB
	B	11th December 2024	MJB	LB

Contents

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 land at Lane End, Kirkby in Ashfield and provides recommendations for the protection of the trees in proximity to the development.

The proposal consists of the construction of a new McDonald's Drive Thru Restaurant with car park, servicing, landscaping and associated works.

The report includes a survey of 18 individual trees and 5 groups of trees located along the boundaries and across the application site.

The site comes under the planning jurisdiction of Ashfield District Council, a search of the council GIS on-line mapping tool confirms there are no trees on site that are protected by a Tree Preservation Order and that the site is not within a Conservation Area.

In accordance with BS5857 cascade chart for tree quality assessment, the individual trees have been categorised as follows: 4 trees as B2 "trees of moderate quality"; 7 as C2 – "trees of low quality"; 7 as U "unsuitable for retention"

13 individual trees require removal to facilitate the development, 7 of these are category U trees and 6 are category C. 5 trees to the west of the site can be retained, 4 of these trees are category B trees and 1 is category C.

The 5 groups of trees are categorised as follows: 3 as C2 – "trees of low quality"; 2 as U "unsuitable for retention".

4 groups (2 x category C and 2 x category U) require removal to facilitate the development. 1 group requires partial removal with 75% retained.

Pruning and crown lift work will also be necessary to prevent conflict with the construction work.

The removal of the trees will have a visual impact in the short term. However, once replacement trees are established this effect will be sufficiently mitigated.

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.

There is an opportunity to introduce new tree planting to increase the diversity of tree species in the area and increase the biodiversity of the site. Landscape proposals for the development have been prepared which include the planting of a number of native individual trees to mitigate for the loss of the existing trees. The remaining trees can be retained and successfully integrated into the completed development.

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.

1 Introduction

1.1 This tree survey report has been prepared in respect of the planning application for the construction of a new McDonald's Drive Thru Restaurant at Lane End, Kirkby in Ashfield 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 McDonald's Drive Thru Restaurant with car parking, servicing, landscaping and associated works.

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, Drawing No. 4230177/4101 by Glanville, dated June 2023
- 13010_AEW_2120_1004A_Proposed Site Plan by AEW Architects dated 27th November 2024

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 conducted on 10th April 2024. 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 A6605-01 and Tree Constraints Plan A6605-02 and Tree Protection Plan A6605-03.

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 m^2. 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 off Lane End (B6020), Kirkby in Ashfield. Access is proposed from an existing service road located to the east of the site.

3.2 The existing site is currently an area of undeveloped land with concrete slab footprints of now demolished buildings present.

3.3 To the north of the site, on the opposite side of Lane End, there is a Dance School and an Aldi Supermarket.

3.4 There is a residential area to the east of the site beyond the existing service road.

3.5 The site is bounded to the south by the service/storage yard for the adjacent engineering works. The car park for this works site is located immediately west of the site. Further west of the site there are more commercial units and car parking.

3.6 The wider area around the site is a mix of residential and commercial with Kirkby in Ashfield Railway Station to the north west.

Proposed Development

3.7 The planning application proposes to construct a new McDonald's Drive Thru Restaurant with car parking, servicing, landscaping and associated works.

3.8 Access into the development will be from an existing service road, connecting to Lane End.

4 Baseline Factors

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

4.1 The site comes under the planning jurisdiction of Ashfield District Council, a search of the council GIS on-line mapping tool confirms there are no trees on site that are protected by a Tree Preservation Order and that 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 5 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, the individual trees have been categorised as follows: 4 as B2 “trees of moderate quality with an estimated remaining life expectancy of at least 20 years”; 7 as C2 – “trees of low quality with an estimated remaining life expectancy of at least 10 years or young tres with a stem diameter below 150mm”; 7 as U “in such a condition that they cannot realistically be retained as living trees”.

4.4 T1-T8 are a mix of Ash, Cherry and Hawthorn, located along the northern boundary of the site. T9-T13 are along the western boundary, they comprise Ash, Goat Willow and Silver Birch with 4 trees categorised as B2 trees of moderate quality. T14-T15 (Goat Willow) are located more centrally to the south of the site. T16-T18 (Goat Willow) are located to the east.

4.5 The 5 groups of trees are categorised as follows: 3 as C2 – “trees of low quality” and 2 as U “unsuitable for retention”.

4.6 Group G1 is a group of Goat Willow located along the western boundary. G2 is a group of Goat Willow and Silver Birch located along the southern boundary. G3 is located more centrally to the south of the site and is made up of Grey Alder and Silver Birch. G4 is a mixed group in poor condition to the eastern boundary and G5 is a group of Cherry trees, also in poor condition, in the north east corner of the site.

4.7 Details of the locations and Root Protection Areas (RPA) are provided on the Tree Protection Plan (TPP) appended to this report.

4.8 A schedule of trees and their condition including their category grading and RPA radius is attached in Appendix A.

Root Protection Area (RPA)

4.9 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.

4.10 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.

4.11 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 soft landscaped areas around the site, all are within proximity to areas of hard standing with many self-set regenerating trees growing within derelict parts of the land.

4.12 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.

4.13 The footprint of the proposed construction work does not encroach within the RPA of the 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 13 individual trees and 4 groups of trees require removal to facilitate the proposed development. In addition, the remaining group will be partially removed, retaining 75% of the existing trees. Some crown lift and pruning work will also be necessary to prevent conflict with construction work and avoid potential damage to low hanging branches.

5.3 As the trees are not covered by a TPO, no application is required to carry out tree works and there is no legal impediment to the tree being removed or works carried out to trees by the land owner.

5.4 The individual trees to be removed are a mix of species comprising Ash, Cherry, Hawthorn and Goat Willow. The trees are detailed on the Tree Schedule (see Appendix

A) as T1-T8; T14 – T18. 6 of these are categorised as U "in such a condition that they cannot realistically be retained as living trees". The remaining 7 trees to be removed are categorised as 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".

5.5 There are 5 individual trees located along the western boundary which can be retained 4 are categorised as B2 "trees of moderate quality" and 1 as a category C "tree of low quality". The trees are made up of 2 Ash and 3 Silver Birch. The trees are detailed on the Tree Schedule (see Appendix A) as T9 – T13.

5.6 4 groups of trees across the site require removal. 2 of these are categorised as B2 "trees of moderate quality" and 2 are categorised as U "unsuitable for retention". These groups contain a mix of species including Goat Willow, Alder, Silver Birch and Cherry. They are detailed on the Tree Schedule (see Appendix A) as G2-G5.

5.7 1 further group of trees (G1), located to the west of the site, requires partial removal to facilitate the development. This group of Goat Willow is categorised as C2 "trees of low quality". 75% of this group can be retained.

5.8 The removal of the trees will have a visual impact in the short term. However, once replacement trees are established this effect will be sufficiently mitigated.

5.9 There is an opportunity to introduce new tree planting to increase the diversity of tree species in the area and increase the biodiversity of the site. Landscape proposals for the development have been prepared which include the planting of a number of native individual trees.

5.10 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

5.11 A new landscaping scheme has been prepared for the proposed re-development.

5.12 Full details of new tree planting and landscaping is shown on the separate Proposed Landscaping Scheme drawing. 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 timber stake and rubber tie to secure the tree in an upright position, in order to provide sufficient instant visual amenity to mitigate the loss of the existing trees.

6 Tree Protection Method Statement

6.1 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

6.2 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.

6.3 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.

Avoiding physical damage to the roots during construction

6.4 A number of planned operations detailed in this section have the potential to impact roots, such as constructing new surfacing and excavating foundations. To avoid damage to roots, existing ground levels should be retained within the RPA, and topsoil should be retained in-situ in this area. Limited manual excavation may be acceptable provided it is carried out using hand-held tools only and preferably by compressed air soil displacement.

6.5 Any roots encountered should not be damaged and any exposed should be wrapped in dry, clean hessian sacking to prevent desiccation and to protect from rapid temperature changes. Wrapping should be removed prior to backfilling.

6.6 Roots smaller than 25mm diameter may be pruned back, making a clean cut with a sharp tool (secateurs or handsaw), except where they occur in clumps. Roots occurring in clumps or of 25mm diameter or more should be severed only following consultation with an arboriculturist, as such roots may be essential to the tree's health and stability.

6.7 Prior to backfilling, retained roots should be surrounded by topsoil or compacted sharp sand (not builders' sand due to its high salt content which is toxic to tree roots), or other loose granular fill, before soil or other suitable material is replaced. The material should be free of foreign objects that have the potential to cause injury to the roots.

Tree Pruning

6.8 The working and access space needed for the construction of the proposed development and resurfacing works may require "access facilitation pruning" carried out to some of the trees in closer proximity to the works to prevent injurious contact between construction plant and the tree canopy. 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".

6.9 The trees are not covered by a TPO and so no application or approval from the local authority is required to carry out work to them. Any trees not within ownership of the application site must also be granted permission before any tree works are carried out to them.

6.10 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

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

6.12 In accordance with BS5837, the part of a tree most susceptible to damage is the root system and therefore no excavations should be carried out with machinery which could damage or sever major roots. Damage can also be caused to the roots by building up material to raise existing levels within the RPA.

6.13 New permanent hard surfacing should not exceed 20% of any existing unsurfaced ground within the RPA.

6.14 The proposals do not include any new paving within any existing unsurfaced areas within the RPA of any existing trees and therefore will not impact any existing trees.

6.15 Whilst it is unknown if any roots will actually be encountered, care must be taken when constructing the new surfacing within the RPA of existing trees to be retained. All work should be carried out by hand and not with machinery which could cause damage to the roots by severing them or compacting them. Any roots encountered should not be damaged and any exposed should be wrapped in dry, clean hessian sacking to prevent desiccation and to protect from rapid temperature changes, until the new surfacing is constructed.

Installation of New Fencing

6.16 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

6.17 BS5837 contains Special Engineering for Foundations within the RPA (7.5) where structures are proposed within the RPA of existing trees.

6.18 The footprint of the proposed new buildings 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 McDonald's Drive Thru Restaurant with car park, servicing, landscaping and associated works at Lane End, Kirkby in Ashfield.

- The report includes a survey of 18 individual trees and 5 groups of trees located within the site.
- The site comes under the planning jurisdiction of Ashfield District Council, a search of the council GIS on-line mapping tool confirms there are no trees on site that are protected by a Tree Preservation Order and that the site is not within a Conservation Area.
- In accordance with BS5857 cascade chart for tree quality assessment, the individual trees have been categorised as follows: 4 as B2 "trees of moderate quality"; 7 as C2 – "trees of low quality"; 7 as U "unsuitable for retention".
- 13 individual trees will require removal to facilitate the development.
- 5 individual trees can be retained along the western boundary, 4 are categorised as B2 "trees of moderate quality"; 1 is categorised as C2 "trees of low quality".
- There are 5 groups of trees within the site, 3 categorised as C2 – "trees of low quality"; 2 as U "unsuitable for retention".
- 4 groups require full removal to facilitate the development; 2 category C2 "low quality" and 2 category U "unsuitable for retention". 1 further group requires partial removal to facilitate the development with 75% of the group being retained.
- Pruning and crown lift work will also be necessary.
- 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.

- There is an opportunity to introduce new tree planting to increase the diversity of tree species in the area and increase the biodiversity of the site. Landscape proposals for the development have been prepared which include the planting of a number of native individual trees.
- The removal of the trees will have a visual impact in the short term. However, once replacement trees are established this effect will be sufficiently mitigated.

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.

Appendix A - Schedule of Trees

Site: Lane End, Kirkby in Ashfield **Date:** 10th April 2024 **Weather:** Dry, bright

Ref	Species	Height (m)	Stem Diameter (mm)	Branch spread (m) N	E	S	W	Height crown clearance (m)	Age class	Condition & Comments	Years left	Category grading	RPA (m^2)	RPA radius
T1	Fraxinus excelsior (Ash)	10	275	2.5	2.5	2.2	2.5	4	EM	Poor. Trunk grown around chain link fencing and in poor condition.	<10	U	34	3.30
T2	Prunus avium (Cherry)	6	295	5.0	5.0	5.0	5.0	2	M	Poor. Some deadwood, very poor condition.	<10	U	39	3.54
T3	Prunus avium (Cherry)	7	Multi	2.0	2.0	2.0	2.0	1	EM	Poor. Forks into 2 x 125mm stems at base. Poor condition.	<10	U	14	2.12
T4	Prunus avium (Cherry)	5	295	3.0	3.0	3.0	3.0	2	M	Poor. Severly coppiced, deadwood. Poor condition.	<10	U	39	3.54
T5	Fraxinus excelsior (Ash)	7	100	1.0	2.0	2.0	2.0	3	EM	Fair.	20	C2	5	1.20
T6	Crataegus monogyna (Hawthorn)	5	M	3.0	3.0	3.0	3.0	0.4	EM	Fair. Forks into 3 x 100m stems at the base.	20	C2	14	2.08
T7	Fraxinus excelsior (Ash)	7	100	1.0	2.0	2.0	2.0	3	SM	Fair.	20	C2	5	1.20
T8	Fraxinus excelsior (Ash)	7	100	1.0	2.0	2.0	2.0	3	SM	Fair.	20	C2	5	1.20

Site: Lane End, Kirkby in Ashfield **Date:** 10th April 2024 **Weather:** Dry, bright

Ref	Species	Height (m)	Stem Diameter (mm)	Branch spread (m) N	E	S	W	Height crown clearance (m)	Age class	Condition & Comments	Years left	Category grading	RPA (m^2)	RPA radius
T9	Fraxinus excelsior (Ash)	14	Multi	4.5	4.5	4.5	4.5	2	EM	Fair. Forks into 3 stems: 2 x 200mm; 1 x 100mm. Some deadwood.	20	C2	41	3.60
G1	Salix caprea (Goat Willow)	7	Multi	1.5	1.5	1.5	1.5	0	SM	Poor. Growing in hardstanding area. Forks into 2 x 100mm stems.	<10	C2	9	1.70
T10	Betula pendula (Silver Birch)	15	Multi	3.5	3.5	3.5	3.5	2	M	Fair. Forks into 1 x 275mm and 1 x 350mm stems. Ivy colonising trunk.	20+	B2	90	5.34
T11	Betula pendula (Silver Birch)	14	Multi	5.0	5.0	5.0	5.0	2	OM	Fair. Forks into 2 large trunks: 2 x 300mm. Some deadwood and broken branches.	20+	B2	81	5.09
T12	Betula pendula (Silver Birch)	14	Multi	5.0	5.0	5.0	5.0	2	OM	Fair. Forks into 2 large trunks: 2 x 300mm stems. Some deadwood and broken brances.	20+	B2	81	5.09
T13	Fraxinus excelsior (Ash)	16	Multi	5.0	5.0	5.0	5.0	2	OM	Fair. Forks into 2 large trunks: 2 x 300mm stems. Some deadwood and broken brances.	20+	B2	81	5.09
T14	Salix caprea (Goat Willow)	9	Multi	4.5	4.5	4.5	4.5	0.5	M	Fair. Growing in hard standing. Forks into 3 x 200mm and 1 x 100mm stems.	20	C2	59	4.33
G2	Salix caprea (Goat Willow) Betula pendula (Silver Birch)	6-8	<75-175	2.0	2.0	2.0	2.0	0	YNG/SM	Fair. Block of self set regenerating trees mainly <75mm Silver Birch with some larger 100-150mm. Occasional larger Willows mixed in.	20	C2	10	1.80

Site: Lane End, Kirkby in Ashfield **Date:** 10th April 2024 **Weather:** Dry, bright

Ref	Species	Height (m)	Stem Diameter (mm)	Branch spread (m) N	E	S	W	Height crown clearance (m)	Age class	Condition & Comments	Years left	Category grading	RPA (m^2)	RPA radius
G3	Alnus incana (Grey Alder) Betula pendula (Silver Birch)	6-8	<75 - 100	2.0	2.0	2.0	2.0	0	YNG	Poor. Located close to hardstanding area. Mix of Alder and Birch with a single larger Alder 175mm in centre. Dead Silver Birch tree fallen over.	20	C2	5	1.20
T15	Salix caprea (Goat Willow)	9	Multi	4.0	4.0	4.0	4.0	0	M	Fair. Forks into several 100mm stems. Located within G3 young Birch trees.	20	C2	23	2.68
T16	Salix caprea (Goat Willow)	6	Multi	2.5	2.5	2.5	2.5	0	EM	Fair. Located in a mound of rubble. Forks into 3 x 100mm stems.	<10	U	14	2.08
G4	Salix caprea (Goat Willow) Betula pendula (Silver Birch) Fraxinus excelsior (Ash) Crataegus monogyna (Hawthorn) Ribes sanguineum (Red-Flowering Currant)	6-8	<75 - 200	3.0	3.0	3.0	3.0	0	SM-EM	Poor. Located along boundary lane within rubble/soil bund. Poor condition. Some growing through chain link fence.	<10	U	10	1.80
T17	Salix caprea (Goat Willow)	6	Multi	5.0	5.0	5.0	5.0	0	EM	Poor. Forks into 1 x 200mm and 3 x 100m stems.	<10	U	32	3.17
T18	Salix caprea (Goat Willow)	7	Multi	6.0	6.0	6.0	6.0	0	OM	Poor. Forks into 2 x 325mm trunks. Severe deadwood, broken branches.	<10	U	96	5.52
G5	Prunus avium (Cherry)	6-10	100 - 200	3.0	3.0	3.0	3.0	1.5	EM	Poor. Group of 5 Cherry trees in poor condition.	<10	U	18	1.80

Appendix B - Tree Survey Plan & Tree Protection Plan

Notes:

Key to Tree Survey Plan

The RPA (Root Protection Area) ie 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 4230177-4101 Kirkby-ST2120 by Glanville dated June 2023
- Site visit by Encon Associates, 10.04.2024

T1 **Category A**

T1 **Category B**

T1 **Category C**

T1 **Category U**

T1 **RPA shown as a dashed circle around each tree**

Rev	Date	Description	Drawn	Checked

Client
McDonald's

Project
Proposed New Drive Thru
Lane End
Kirkby in Ashfield

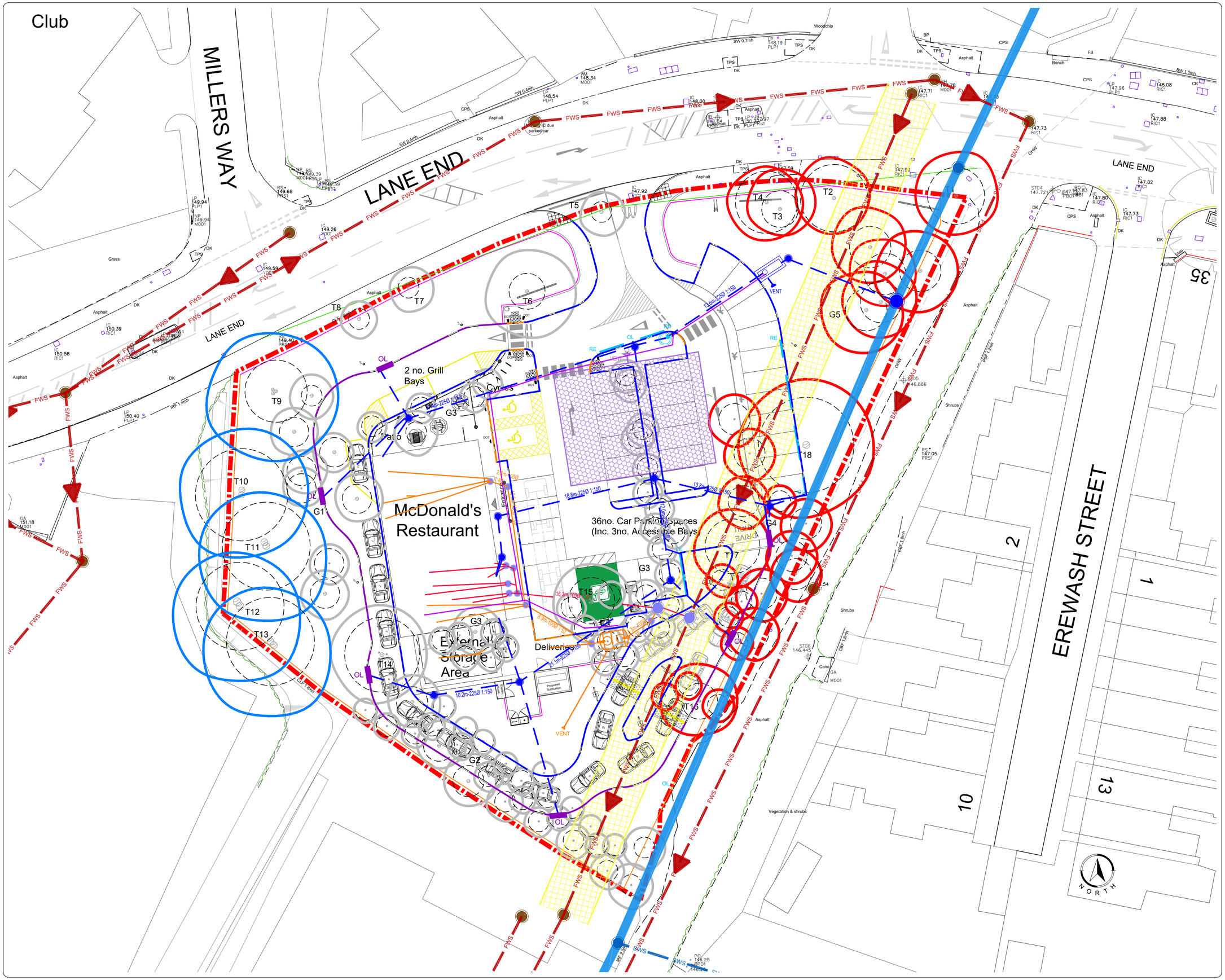
Title
Tree Survey Plan

Drawing Status
FOR PLANNING APPROVAL

Drawn	MB	Checked	LB
Date	10.04.24	Scale (A1)	1:200

encon associates
10 Chapel Lane
Arnold
Nottingham
NG5 7DR
T: 0115 987 55 99 E: enquiries@enconassociates.co.uk W: www.enconassociates.co.uk
Environmental Consultants to the Construction Industry
- BREEAM - Code for Sustainable Homes Assessors - Landscape Architecture - Transportation - Life Cycle Costing - Energy Assessment - SAP - EPC - SBEM - Daylight Calculations

Job Number	Drawing Number	Rev
A6605	01	



Notes:

Key to Tree Survey Plan

The RPA (Root Protection Area) ie 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 4230177-4101 Kirkby-ST2120 by Glanville dated June 2023
- 13010_AEW_2120_1004A_Proposed Site Plan by AEW Architects dated 27 November 2024
- Site visit by Encon Associates, 10.04.2024

T1 **Category A**

T1 **Category B**

T1 **Category C**

T1 **Category U**

T1 **RPA shown as a dashed circle around each tree**

Rev	Date	Description	Drawn	Checked
B	11.12.24	Updated in line with alternative layout	MJB	LB
A	13.05.24	Updated in line with latest proposals	MJB	GM

Client
McDonald's

Project
Proposed New Drive Thru
Lane End
Kirkby in Ashfield

Title
Tree Constraints Plan

Drawing Status
FOR PLANNING APPROVAL

Drawn	MB	Checked	LB
Date	10.04.24	Scale (A1)	1:200

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10 Chapel Lane
Arnold
Nottingham
NG5 7DR
T: 0115 987 55 99 E: enquiries@enconassociates.co.uk W: www.enconassociates.co.uk
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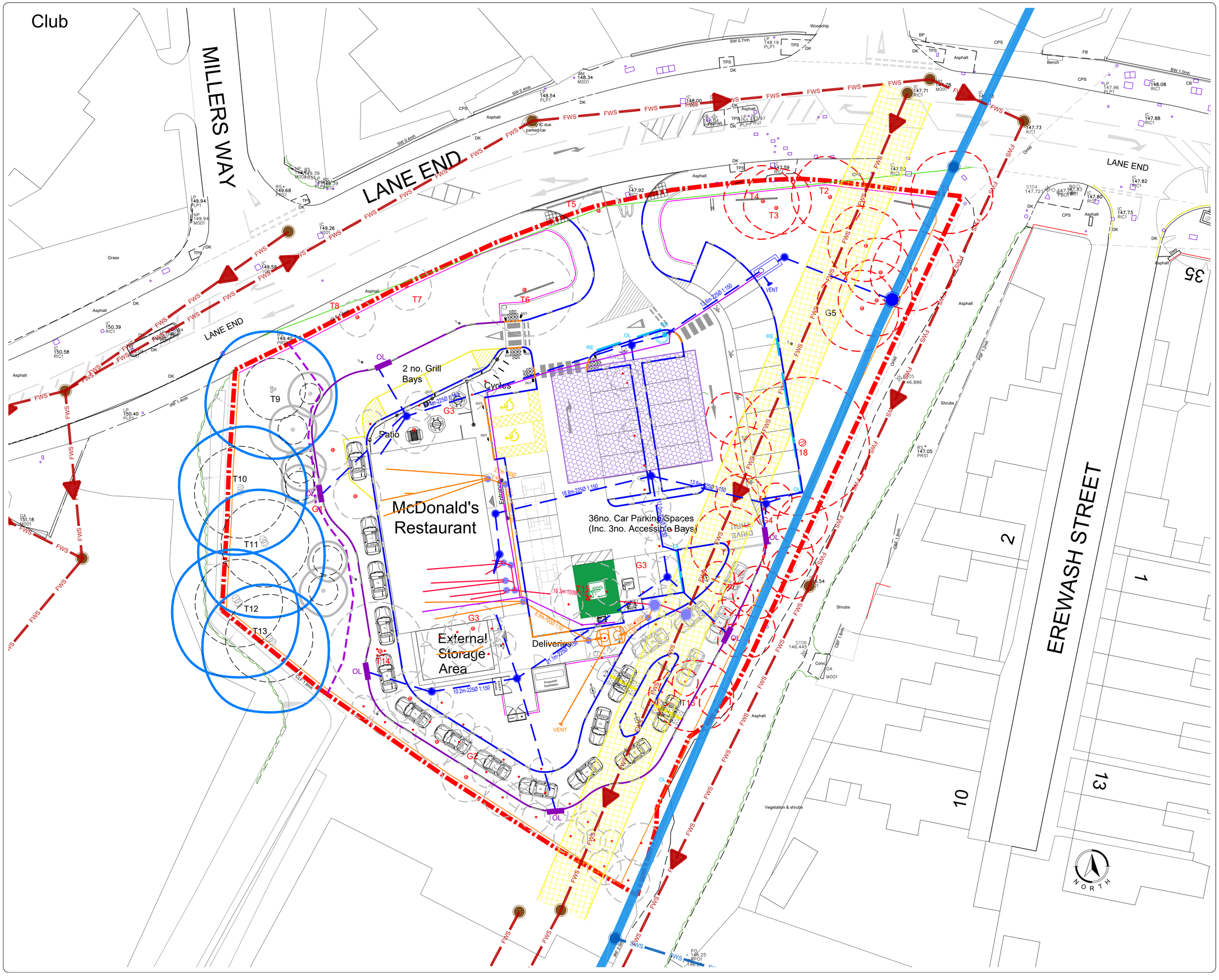
Job Number	Drawing Number	Rev
A6605	02	B



Notes:

Key to Tree Survey Plan

The RPA (Root Protection Area) ie 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 4230177-4101 Kirkby-ST2120 by Glanville dated June 2023
- 13010_AEW_2120_1004A_Proposed Site Plan by AEW Architects dated 27 November 2024
- Site visit by Encon Associates, 10.04.2024

T1 **Category A**

T1 **Category B**

T1 **Category C**

T1 **Category U**

T1 **RPA shown as a dashed circle around each tree**

Rev	Date	Description	Drawn	Checked
B	11.12.24	Updated in line with alternative layout	MJB	LB
A	13.05.24	Updated in line with latest proposals	MJB	GM

Client
McDonald's

Project
Proposed New Drive Thru
Lane End
Kirkby in Ashfield

Title
Tree Protection Plan

Drawing Status
FOR PLANNING APPROVAL

Drawn	MB	Checked	LB
Date	10.04.24	Scale (A1)	1:200

encon associates
10 Chapel Lane
Arnold
Nottingham
NG5 7DR
T: 0115 987 55 99 E: enquiries@enconassociates.co.uk W: www.enconassociates.co.uk
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- BREEAM - Code for Sustainable Homes Assessors - Landscape Architecture - Transportation - Life Cycle Costing - Energy Assessment - SAP - EPC - SBEM - Daylight Calculations

Job Number	Drawing Number	Rev
A6605	03	B

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 fledge.

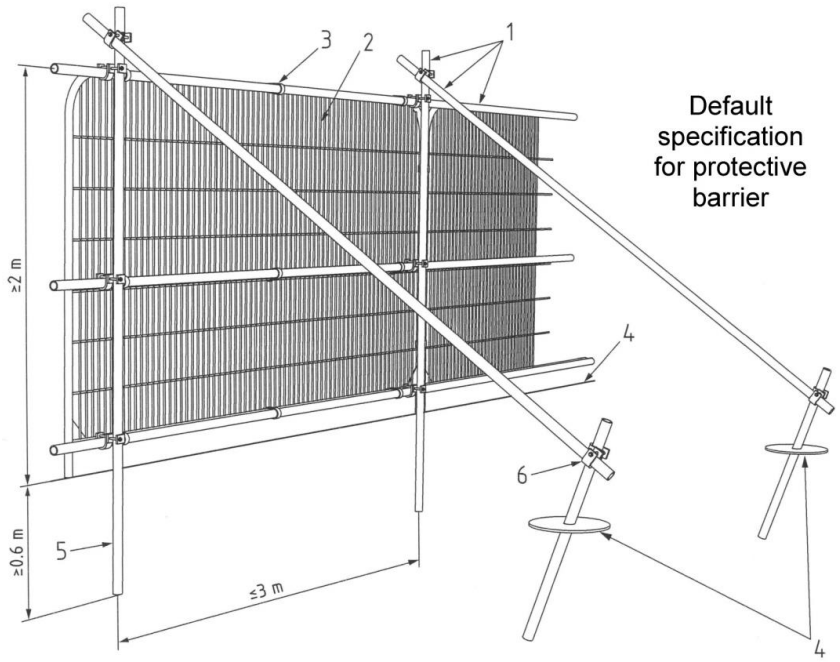
18.0 **Responsibilities**

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:

T R E E P R O T E C T I O N Z O N E

KEEP OUT!

No digging or trenching
No storage of plant or materials
No vehicular access
No fire lighting
No chemical handling
Avoid plant contact with tree canopy

Report any tree or fence damage to the Site Manager immediately

Appendix D - Photographic Record

Photo 1 - View of T1

Photo 2 – View of T1

Photo 3 – View of T2

Photo 4 – View of T3

Photo 5 - View of T4

Photo 6 – View of T5

Photo 7 – View of T6

Photo 8 – View of T7 & T8

Photo 9 - View of G1 with T9-T13 behind

Photo 10 – View of TG1

Photo 11 – View of T13

Photo 12 – View of part of T14

Photo 13 - View of part of G2

Photo 14 – View of part of G2

Photo 15 – View of part of G2

Photo 16 – View of part of G2

Photo 17 - View of part of G3

Photo 18 – View of G3

Photo 19 – View of G4

Photo 20 – View of T34-T37

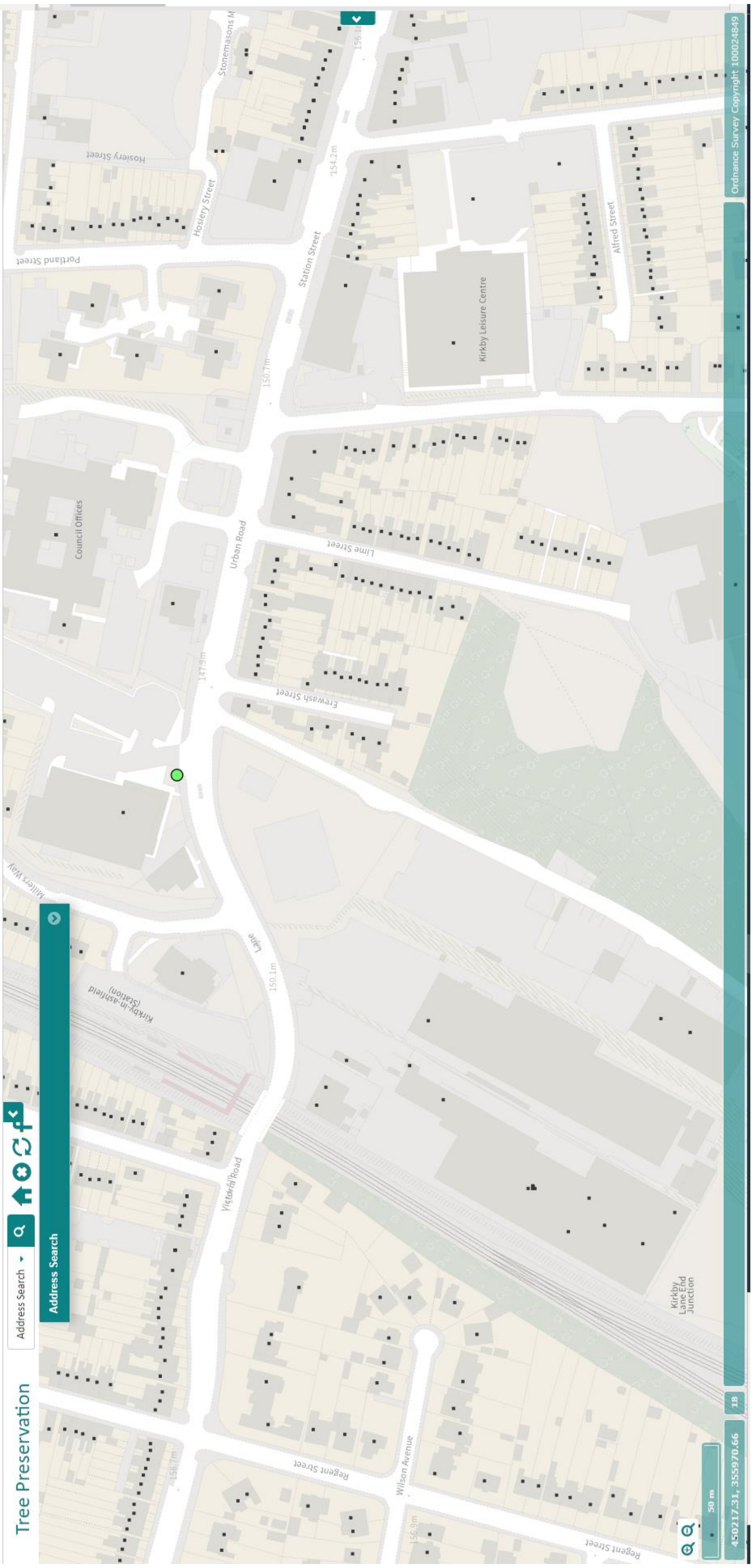
Photo 21 - View of T17

Photo 22 – View of T18

Photo 23 – View of G5

Photo 24 – View of G5

Appendix E - Tree Preservation Order & Conservation Area


Tree Preservation
Address Search
Ordnance Survey Copyright 100024849
Hosiery Street
Portland Street
Station Street
Alfred Street
Kirkby Leisure Centre
Council Offices
Urban Road
Lime Street
Erewash Street
Millers Way
Kirkby-in-Ashfield (Station)
Victoria Road
Regent Street
Wilson Avenue
Kirkby Lane End Junction
50 m
450217.31, 355970.66