




NOVEMBER 20, 2021

BS5837 TREE SURVEY REPORT

Tedcastles Site, Cork South Docks, Cork

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Site at Tedcastles Site, Cork South Docks, Cork

Introduction to Tree Survey

Comer Group Ireland has requested a BS5837 'Trees in relation to construction' tree survey concerning the trees population of the above site. This provides the initial data to inform the design team in any future development.

Survey details

An initial BS 5837 2012 tree survey report was undertaken in May with an update in November 2021.

All information proved to the author of this report is assumed to be accurate.

The scope of this report is to complete a BS5837 2012- Trees in relation to construction-specification tree survey of the trees and make recommendations for any tree management required.

The survey was carried out using Visual Tree Assessment (VTA) methodologies from ground level only. No below ground, invasive or destructive tests were undertaken. No soil / root samples were taken for analysis.

Weather conditions on the day were dry with a light wind.

Due to the changing nature of trees and other site circumstances this report and any recommendations made are limited to a 2-year period. Any alteration to the subject site, trees or any development could change the current circumstances and may invalidate this report and any recommendations made.

The report is valid only for normal weather conditions. Healthy trees or parts of healthy trees may fail in normal weather situations although the risk is significantly increased in storm conditions and as the consequences of such weather phenomena are unforeseeable the tree surveyor cannot be held liable for any such failures.

Any alteration or deletion from this report shall invalidate it as a whole.

Tree details

This site is based around a former industrial/ commercial premises. The tree population has arisen through a combination of deliberate planting and self-seeding. The amenity value of the majority of the trees should be considered low to medium due to being mostly self-seeded and unmaintained.

The remaining contribution of the majority of the trees is very limited.

This survey has been completed on the basis that the locational information provided is correct.

The surveyed area has a population of approximately 135 trees surveyed as individuals and groups. The species breakdown can be explored in Figure 1.

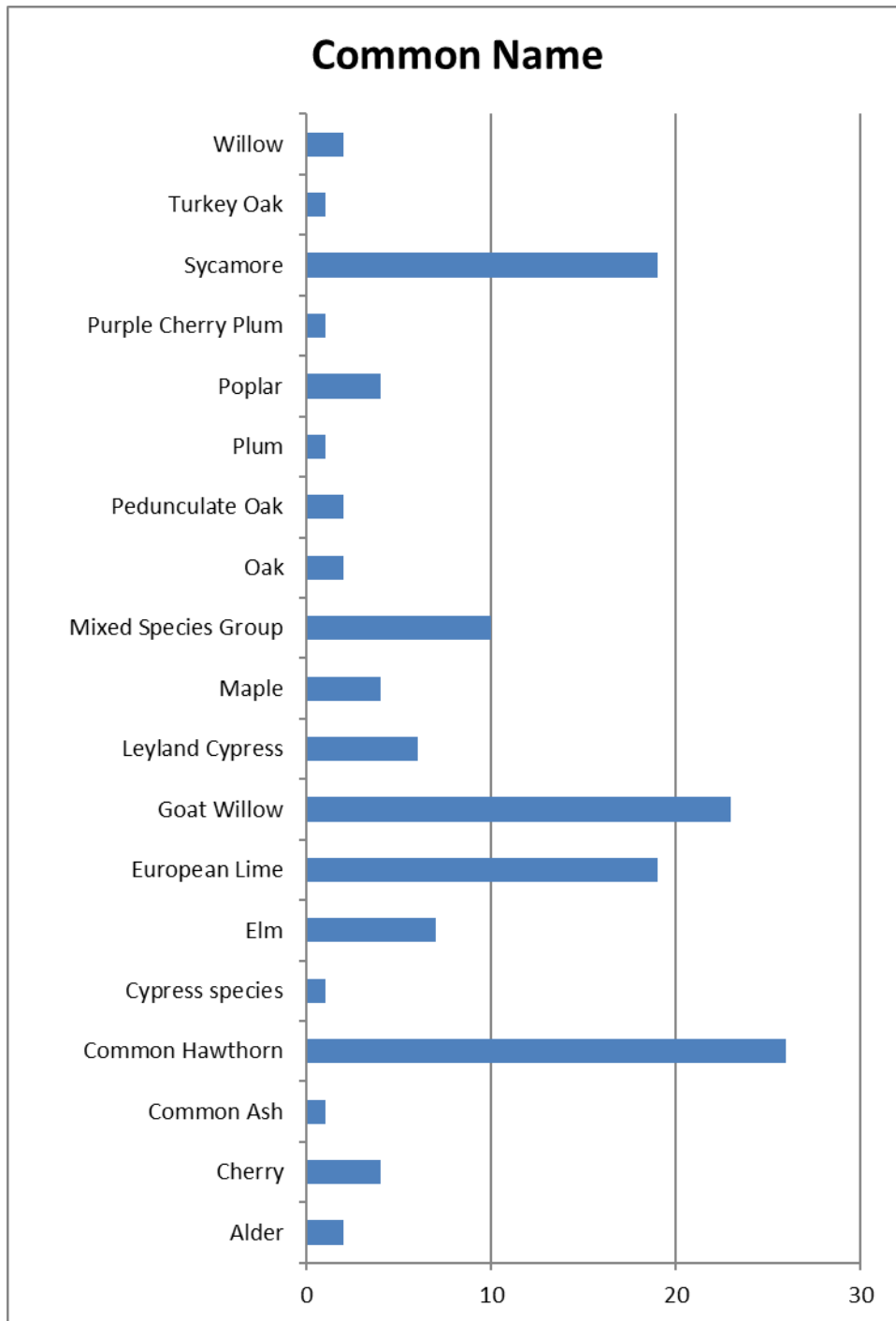


Figure 1. Species make up.

The tree population has a diversity of ages with the majority being mature. (Figure 2.) Remaining contribution is illustrated in figure 3.

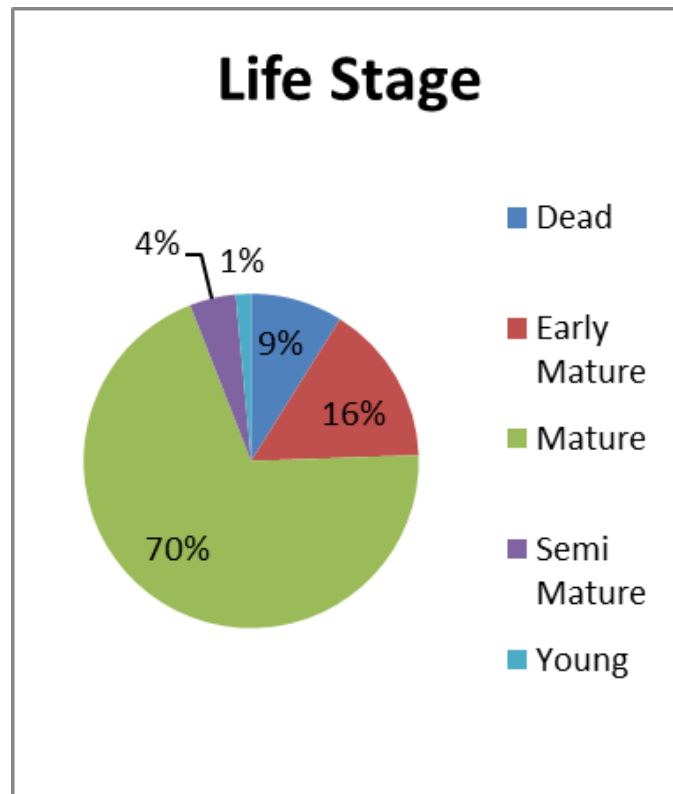


Figure 2. Life stage

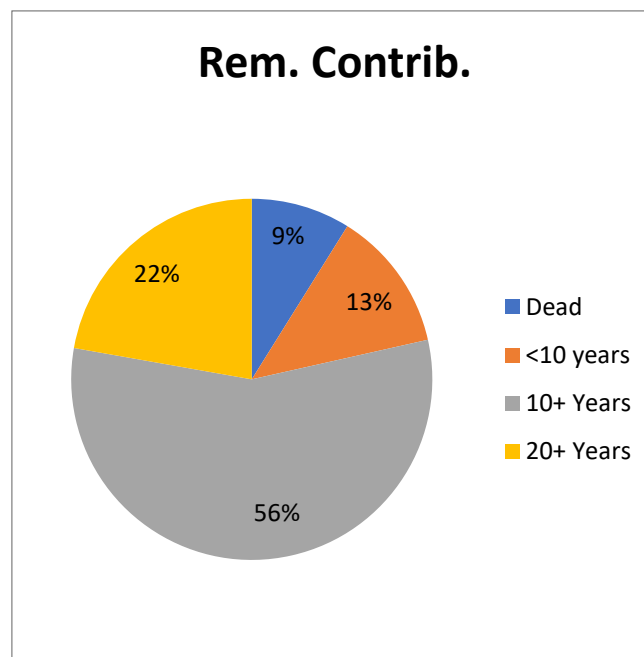


Figure 3. Remaining contribution.

BS5837 Categorisation.

Each tree or group of trees has been assigned a category from the British standard. (Figure 4)

57% of the trees have been categorised as C. Trees in this category include unremarkable trees of limited merit, small-growing, young species which have a relatively low potential amenity value, and low landscape benefits.

21% of the trees have been categorised as U. Trees assigned to this category are in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years and/or are unsuitable for retention in the proximity of new dwellings or areas of public open space.

The remainder (22%) are classed as B. Trees assigned to this category include healthy attractive trees with remediable defects that are in a condition as to be able to make a significant contribution for a minimum of 20 years.

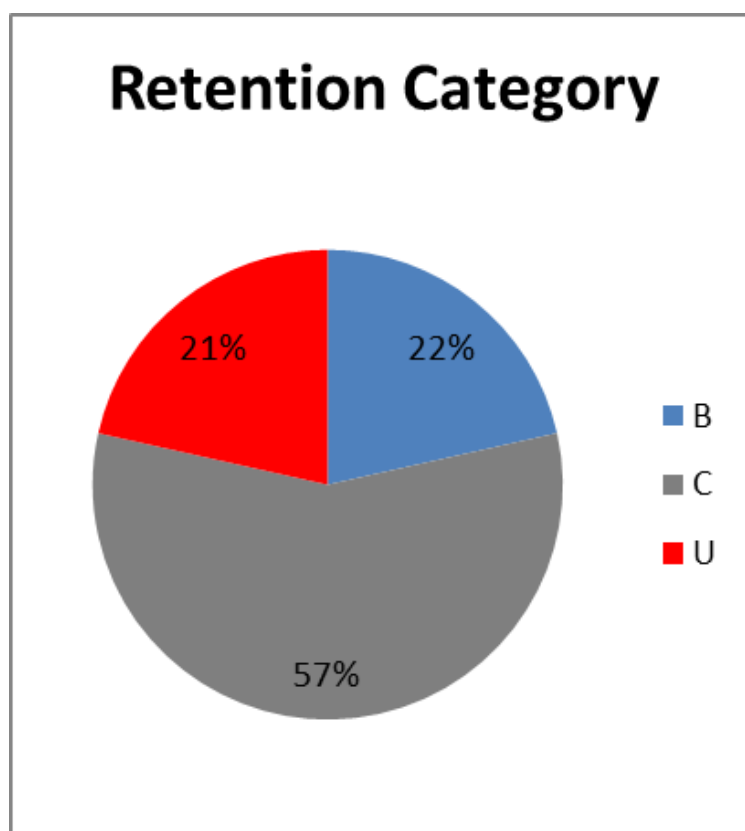


Figure 4. Retention category summary.

For a complete list of observations and recommendations on a tree by tree basis please consult the attached tree survey schedule.

Trees Suitable for Retention

Where possible, it is generally considered desirable for Category 'A' and Category 'B' trees to be retained and incorporated into new developments and layouts. Category 'U' trees are not considered to be appropriate for retention.

In assessing the Arboricultural Impact on the trees of the proposed development and which trees might be suitable for retention in the context of the proposed layout the following factors should be considered.

- Shading-
- Future Pressure for Tree Removal and Pruning
- Seasonal Nuisance
- Infrastructure
- Direct Damage
- Root Protection Areas
- Future Management
- Demolition/Ground Works
- Construction Activity

Recommendations

Full details of the Preliminary management Recommendations are provided in the attached tree survey Schedule.

Tree Protection Guidelines

Root protection areas –(RPAS)

The erection of protective fencing as per the Tree Protection Plan (TPP) prior to the commencement of any works on site will protect the RPA of retained trees.

Existing ground levels should be retained within the RPAs. Intrusions into the soil within the RPAs is generally not acceptable and topsoil within it should remain in situ.

The erection of protective fencing, in this instance, is considered likely to place constraints on elements of the construction and its associated activities and/or possibly limit the working space available, with the subsequent result that incursions into the RPAs of some of the retained trees. Consequently, additional ground protection measures will be required.

Guidance is provided below, which upon adoption, will help to minimise the potential for any detrimental effect that associated ground works and construction might have in respect of retained trees.

Suitable existing hard surfacing that is not proposed for re-use as part of the finished design should be retained to act as temporary ground protection during the construction and, development rather than being removed. The suitability of such surfacing for this purpose should be evaluated by the project arboriculturist and an engineer as appropriate (BS 5837:2012).

The British Standards 5837:2012 advises that new temporary ground protection should be capable of supporting any traffic entering or using the site without being distorted or causing

compaction to underlying soil and further provides the following note:

NOTE The ground protection might comprise one of the following:

a) for pedestrian movements only, a single thickness of scaffold boards placed either on top of a driven scaffold frame, so as to form a suspended walkway, or on top of a compression resistant layer (e.g. 100 mm depth of woodchip), laid onto a geotextile membrane;

b) for pedestrian-operated plant up to a gross weight of 2 t, proprietary, inter-linked ground protection boards placed on top of a compression-resistant layer (e.g. 150 mm depth of woodchip), laid onto a geotextile membrane;

c) for wheeled or tracked construction traffic exceeding 2 t gross weight, an alternative system (e.g. proprietary systems or pre-cast reinforced concrete slabs) to an engineering specification designed in conjunction with arboricultural advice, to accommodate the likely loading to which it will be subjected.

Root Protection Fencing.

Protective fencing is essential to preserve root protection areas during the duration of the works.

The location will be agreed with the retained Arboricultural consultant prior to work commencing and will aim to preserve and protect the root systems of retained trees for the duration of the works.

Due to the nature of this site root protection fencing may have to allow for pedestrian movement.

Protective barriers are to be erected prior to the commencement of site works including demolition, soil stripping or movement, bringing onto site of materials, supplies or machinery. Tree works can be undertaken prior to the erection of the barriers.

The barriers should be considered essential and should not be removed or altered without prior recommendation by an Arboriculturalist and approval of the local planning authority.

The barrier should consist of a vertical and horizontal framework of scaffold tubing which is adequately braced to resist impacts. The vertical scaffold tubes need to be placed at a distance not exceeding 3m apart and driven securely into the ground for a minimum depth of 0.6m. Care should be taken when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid any structural roots. The weldmesh or Heras panels need to be a minimum 2.0m tall and are securely attached to the scaffold framework with wire or scaffold clamps.

The wire or scaffold clamps should be secured on the inside of the barrier to avoid easy dismantling. Panels on rubber or concrete feet are not resistant to impact and should not be used. No fixing shall be made to any tree and all possible care must be taken to prevent damage to tree roots when locating the posts. (Figure 5)

All barriers must be firmly fixed to prevent movement by site personnel or vehicles and include all weather signs with the wording "Construction exclusion zone- keep out".

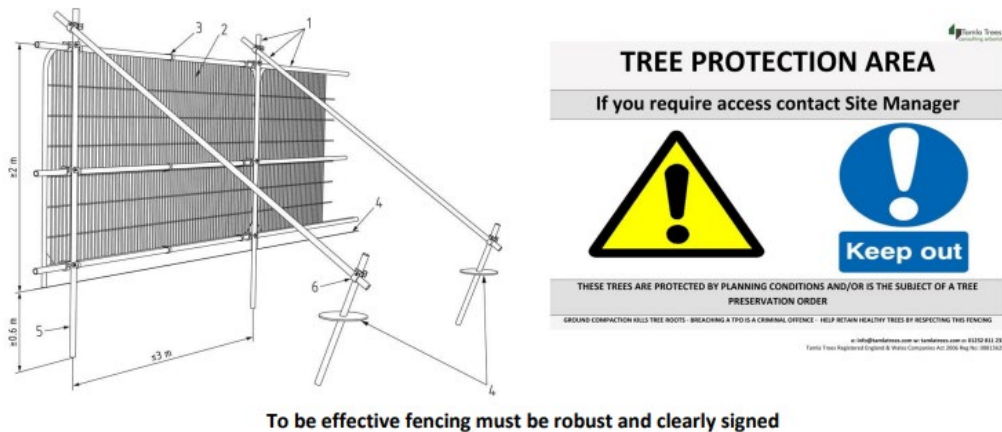


Figure 5- Root Protection fencing.

Excavation/Ground Works

The erection of protective fencing and/or use of ground protection, prior to the commencement of any works on site, will allow excavations and ground works to take place without any adverse effect and/or impact on the retained trees.

All plant and vehicles engaged in ground works should either operate outside the RPAs, or run on ground protection in the proximity of retained trees.

Where trees stand adjacent to hard surfaces and/or buildings to be removed, excavation should be undertaken inwards, from within the footprint of the existing hard surfacing or outside of the RPAs.

Hard Surfacing Within the Root Protection Area

General guidance is provided below in the event that a subsequent need transpires.

Arboricultural Practice Note No. 12 describes in detail the requirements of no-dig type installation whilst BS 5837:2012 suggests 'Appropriate sub-base options for new hard surfacing include three-dimensional cellular confinement systems'.

An assessment should be made to establish whether or not the existing site topography lends itself to the installation of a three-dimensional cellular no-dig product upon anticipation of the required and final level changes.

Final on-site measurements should be taken to ascertain the extent of any incursions into the RPA and provide subsequent guidance on the extent of any 'no-dig' installation.

Cross sectional drawings of a suitable product can be seen below (figure 6)

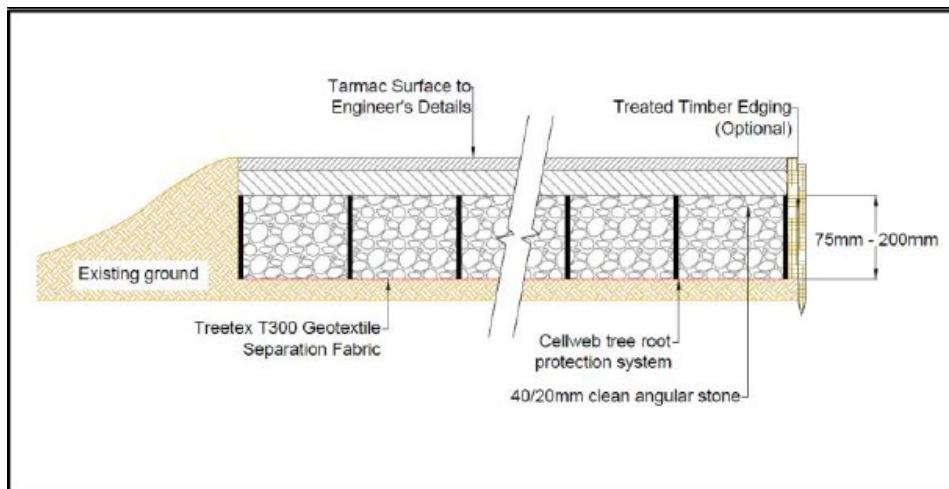


Figure 6. Cross section illustrating a possible permeable tarmac surface finish

General considerations.

To prevent damage to the retained trees, including their roots, within the fenced area (RPA) the following should be avoided.

- Alteration of ground levels, including soil stripping.
- Storage of any materials or equipment, even on a temporary basis.
- Storage of oil, bitumen, cement or other harmful materials, mixed or discharged within 12-m of the trunk of any retained tree and making further allowances for any slope of the ground so prevent running contamination. Phytotoxic materials would include any mineral oil, fuels, cement mortar washings concrete washings, mortar.
- Fires must not be lit beneath or within 12-m of any tree canopies.
- Site operations such as deliveries, site machines, crane jibs etc should be organised to avoid damaging the trunk or crown of trees. Where this conflict is unavoidable then facilitation pruning should be carried out in advance, rather than after damage has occurred. This may also be required to allow demolition operations.
- Mechanical cultivation of the soil as part of landscaping operations.

Direct Damage

Any proposed layout should consider the likelihood of direct damage occurring from incremental root and stem growth and the possibility of the fabric of any new structure being damaged by the whipping of branches against it.

Andrew Boe *BSc (Hons) MArborA*

Photographic record.



Photograph 1. (Photo A.Boe May 2021) Self-seeded Willow with Conifer row to the rear.



Photo 2. The site shares a boundary with public highway.

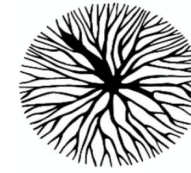


Photo 3. The Southern, self contained area of the site.

Tree survey Schedule

BS5837 Report

Comer Group Ireland
Tedcastles Site Cork South Docks



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Retention Category	No. trees
B	29
C	77
U	29
Total	135

Life Stage	No. trees
Dead	12
Early Mature	21
Mature	94
Semi Mature	6
Young	2

Rem. Contrib.	No. trees
Dead	12
<10 years	17
10+ Years	76
20+ Years	30

-BS5837 Tree Surveys, Tree Constraints Plans-
-Arboricultural Impact Assessments
-Arboricultural Method Statements Tree Protection Plans
-Arboricultural Supervision and Site Monitoring-
-Mortgage Tree Report-



Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Comments	Measurements2	Recommendations
City tree 0018	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 470 Spread (m): 5N, 4E, 4S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:5 E:4 S:4 W:4	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Dieback - poor foliage lower canopy. Street tree. Root damage suspected from kerb installation.	B1	Radius: 5.6m. Area: 99 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 0019	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 350 Spread (m): 5N, 4E, 5S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:5 E:4 S:5 W:4	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree. Root damage suspected from kerb installation.	B1	Radius: 4.2m. Area: 55 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6313	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 350 Spread (m): 4N, 3E, 3S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:3 S:3 W:4	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree.	B1	Radius: 4.2m. Area: 55 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6314	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 400 Spread (m): 4N, 4E, 4S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:4 S:4 W:3	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree.	B1	Radius: 4.8m. Area: 72 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6315	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 13 Stem Diam (mm): 400 Spread (m): 4N, 4E, 4S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:4 S:4 W:4	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree.	B1	Radius: 4.8m. Area: 72 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Comments	Measurements2	Recommendations
City tree 6316	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 13 Stem Diam (mm): 300 Spread (m): 4N, 4E, 4S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:4 S:4 W:4	A Single stemmed tree forking at 2m. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree.	B1	Radius: 3.6m. Area: 41 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6317	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 10 Stem Diam (mm): 250 Spread (m): 3N, 3E, 3S, 3W Life Stage: Early Mature Rem. Contrib.: 20+ Years	N:3 E:3 S:3 W:3	A Single stemmed tree forking at 1.3m. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree.	B1	Radius: 3.0m. Area: 28 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6318	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 400 Spread (m): 4N, 4E, 4S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:4 S:4 W:3	A Single stemmed tree forking at 1.2m. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree.	B1	Radius: 4.8m. Area: 72 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6319	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 14 Stem Diam (mm): 400 Spread (m): 4N, 4E, 4S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:4 S:4 W:3	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree.	B1	Radius: 4.8m. Area: 72 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6320	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 14 Stem Diam (mm): 400 Spread (m): 4N, 4E, 4S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:4 S:4 W:3	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree.	B1	Radius: 4.8m. Area: 72 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6321	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 12 Stem Diam (mm): 300 Spread (m): 3N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years	N:3 E:3 S:3 W:3	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree.	B1	Radius: 3.6m. Area: 41 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6322	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 12 Stem Diam (mm): 300 Spread (m): 4N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:3 S:3 W:3	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree.	B1	Radius: 3.6m. Area: 41 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6323	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 350 Spread (m): 4N, 3E, 4S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:3 S:4 W:4	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree. Overhangs adjacent utility lines. Some evidence of pruning.	B1	Radius: 4.2m. Area: 55 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Comments	Measurements2	Recommendations
City tree 6324	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 350 Spread (m): 4N, 3E, 3S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:3 S:3 W:4	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree. Overhangs adjacent utility lines. Some evidence of pruning.	B1	Radius: 4.2m. Area: 55 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6325	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 400 Spread (m): 4N, 3E, 4S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:3 S:4 W:4	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree. Overhangs adjacent utility lines. Some evidence of pruning.	B1	Radius: 4.8m. Area: 72 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6326	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 350 Spread (m): 4N, 3E, 4S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:3 S:4 W:4	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree. Overhangs adjacent utility lines. Some evidence of pruning.	B1	Radius: 4.2m. Area: 55 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6327	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 350 Spread (m): 4N, 3E, 4S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:3 S:4 W:4	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree. Overhangs adjacent utility lines. Some evidence of pruning.	B1	Radius: 4.2m. Area: 55 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6328	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 350 Spread (m): 4N, 3E, 4S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:3 S:4 W:4	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree. Overhangs adjacent utility lines. Some evidence of pruning.	B1	Radius: 4.2m. Area: 55 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
City tree 6329	European Lime (<i>Tilia x europaea</i>)	Tree	Height (m): 16 Stem Diam (mm): 400 Spread (m): 4N, 3E, 4S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:3 S:4 W:4	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent road Overhangs adjacent path. Deadwood in the crown. Street tree. Overhangs adjacent utility lines. Some evidence of pruning.	B1	Radius: 4.8m. Area: 72 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Comments	Measurements2	Recommendations
T001	Sycamore (<i>Acer pseudoplatanus</i>) Goat Willow (<i>Salix caprea</i>)	Group 2 trees	Height (m): 4 2 stems, avg. (mm): 150 Spread (m): 3N, 3E, 3S, 3W Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	Self seeded group of multi-stemmed trees.	C1	Area: 146 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T004	Leyland Cypress x6 (<i>Cupressocyparis leylandii X</i>)	Group 6 trees	Height (m): 16 6 stems, avg. (mm): 350 Spread (m): 3N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 20+ Years	N:3 E:3 S:3 W:3	A section of a mature tree row forming a high barrier. \$Extends to either side. The trees grow on the bank of a waterway and have become unbalanced in places. Overhanging adjae public path in several areas. As typical of the species there is deadwood throughout and evidence of past crown failures. No significant evidence of maintainance.	C1	Area: 1729 sq m.		Physiological Cond: Fair Structural Cond: Physical Defect	No action required.
T005	Goat Willow (<i>Salix caprea</i>)	Tree	Height (m): 4 Stem Diam (mm): 150 Spread (m): 3N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	A multi-stemmed tree. Healthy spreading crown. Self-seeded.	C1	Radius: 1.8m. Area: 10 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T007	Sycamore (<i>Acer pseudoplatanus</i>)	Tree	Height (m): 7 Stem Diam (mm): 300 Spread (m): 3N, 3E, 3S, 3W Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	On bank. By river. A multi-stemmed tree. Healthy spreading crown. Self seeded.	C1	Radius: 3.6m. Area: 41 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T012	Goat Willow x20 (<i>Salix caprea</i>)	Group 20 trees	Height (m): 7 20 stems, avg.(mm): 200 Spread (m): 3N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	Self-seeded area of Willow. All multi-stemmed. Forming a thicket.	C1	Area: 1185 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T013	Pedunculate Oak x2 (<i>Quercus robur</i>)	Group 2 trees	Height (m): 4 2 stems, avg.(mm): 130 Spread (m): 2N, 2E, 2S, 2W Life Stage: Young Rem. Contrib.: 10+ Years	N:2 E:2 S:2 W:2	Self seeded. On bank. By river. A Single stemmed tree. Healthy but partially suppressed crown. Partially overgrown with Ivy.	C1	Area: 17 sq m.		Physiological Cond: Fair Structural Cond: Fair	Sever ivy at base.
T014	Common Hawthorn (<i>Crataegus monogyna</i>)	Tree	Height (m): 4 Stem Diam (mm): 130 Spread (m): 1N, 2E, 2S, 2W Life Stage: Mature Rem. Contrib.: 10+ Years	N:1 E:2 S:2 W:2	On bank. By river. A Single stemmed tree. Healthy but unbalanced crown. Partially overgrown with Ivy.	C1	Radius: 1.6m. Area: 8 sq m.		Physiological Cond: Fair Structural Cond: Fair	Sever ivy at base.
T015	Common Hawthorn (<i>Crataegus monogyna</i>)	Tree	Height (m): 4 Stem Diam (mm): 130 Spread (m): 2N, 2E, 2S, 2W Life Stage: Dead	N:2 E:2 S:2 W:2	This tree is dead but still standing.	U	None - due to Retention Category of U.		Physiological Cond: Dead Structural Cond: Poor	Tree removal.





Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Comments	Measurements2	Recommendations
T016	Turkey Oak (<i>Quercus cerris</i>)	Tree	Height (m): 14 Stem Diam (mm): 560 Spread (m): 4N, 4E, 4S, 4W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:4 S:4 W:4	On bank. By river. A Single stemmed tree. Healthy but partially suppressed crown. Overhangs adjacent path. Deadwood in the crown. Partially overgrown with Ivy. Overhangs lines.	B1	Radius: 6.7m. Area: 141 sq m.		Physiological Cond: Fair Structural Cond: Fair	Sever ivy at base.
T017	Common Hawthorn x8 (<i>Crataegus monogyna</i>)	Group 8 trees	Height (m): 4 8 stems, avg.(mm): 130 Spread (m): 2N, 2E, 2S, 2W Life Stage: Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:2 W:2	Old hedge. On bank. By river. A very sparse collection of trees which may have formed a hedge at one time.	C1	Area: 181 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T018	Common Ash (<i>Fraxinus excelsior</i>)	Tree	Height (m): 13 Stem Diam (mm): 150 Spread (m): 3N, 3E, 3S, 3W Life Stage: Dead	N:3 E:3 S:3 W:3	This tree is dead but still standing.	U	None - due to Retention Category of U.		Physiological Cond: Dead Structural Cond: Poor	Tree removal.
T019	Oak (<i>Quercus sp.</i>)	Tree	Height (m): 10 Stem Diam (mm): 140 Spread (m): 1N, 2E, 3S, 2W Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:1 E:2 S:3 W:2	On bank. A Single stemmed tree. Healthy but unbalanced crown. Partially overgrown with Ivy.	C1	Radius: 1.7m. Area: 9 sq m.		Physiological Cond: Fair Structural Cond: Fair	Sever ivy at base.
T020	Mixed Species Group x10 (Group, mixed species)	Group 10 trees	Height (m): 15 10 stems, avg.(mm): 300 Spread (m): 3N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: <10 years	N:3 E:3 S:3 W:3	Area of dead or dying trees in a wetland area. The trees show extensive loss of vigour or death. Several have failed at the root plate. Old self-seeded and unmanaged.	U	None - due to Retention Category of U.		Physiological Cond: Poor Structural Cond: Poor	Remove trees.
T021	Sycamore (<i>Acer pseudoplatanus</i>)	Tree	Height (m): 16 Stem Diam (mm): 450 Spread (m): 3N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	A Single stemmed tree. Healthy spreading crown. Overhangs adjacent path.	C1	Radius: 5.4m. Area: 92 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T022	Common Hawthorn (<i>Crataegus monogyna</i>)	Tree	Height (m): 13 Stem Diam (mm): 200 Spread (m): 3N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	A Single stemmed tree. Healthy but partially suppressed crown. Partially overgrown with Ivy.	C1	Radius: 2.4m. Area: 18 sq m.		Physiological Cond: Fair Structural Cond: Fair	Sever ivy at base.
T023	Sycamore (<i>Acer pseudoplatanus</i>)	Tree	Height (m): 15 Stem Diam (mm): 300 Spread (m): 4N, 4E, 4S, 4W Life Stage: Mature Rem. Contrib.: 10+ Years	N:4 E:4 S:4 W:4	A Single stemmed tree. Poor unbalanced crown. Dead tree hung up in crown.	C1	Radius: 3.6m. Area: 41 sq m.		Physiological Cond: Fair Structural Cond: Physical Defect	Remove dead tree.
T024	Common Hawthorn x10 (<i>Crataegus monogyna</i>)	Group 10 trees	Height (m): 10 10 stems, avg.(mm): 200 Spread (m): 3N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	One time hedge now individual trees largely unmanaged and unbalanced. Chocked with Ivy.	C1	Area: 158 sq m.		Physiological Cond: Fair Structural Cond: Physical Defect	Sever ivy at base.

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Comments	Measurements2	Recommendations
T025	Common Hawthorn x5 (<i>Crataegus monogyna</i>)	Group 5 trees	Height (m): 8 5 stems, avg.(mm): 200 Spread (m): 2N, 3E, 2S, 2W Life Stage: Dead	N:2 E:3 S:2 W:2	5 dead trees down at bank of water course.	U	None - due to Retention Category of U.		Physiological Cond: Dead Structural Cond: Poor	Tree removal.
T026	Sycamore (<i>Acer pseudoplatanus</i>)	Tree	Height (m): 8 Stem Diam (mm): 3000 Spread (m): 2N, 2E, 1S, 3W Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:2 E:2 S:1 W:3	A Single stemmed tree. Healthy but unbalanced crown. Fractured limbs - storm damage	C1	Radius: 15.0m. Area: 707 sq m.		Physiological Cond: Fair Structural Cond: Physical Defect	Prune and tidy damage.
T027	Elm x7 (<i>Ulmus sp.</i>)	Group 7 trees	Height (m): 16 7 stems, avg.(mm): 400 Spread (m): 4N, 4E, 4S, 4W Life Stage: Mature Rem. Contrib.: <10 years	N:4 E:4 S:4 W:4	A collection of Elms which have died or have severe die back.	U	None - due to Retention Category of U.		Physiological Cond: Poor Structural Cond: Physical Defect	Tree removal.
T028	Willow (<i>Salix sp.</i>)	Tree	Height (m): 17 Stem Diam (mm): 400 Spread (m): 3N, 3E, 3S, 3W Life Stage: Dead	N:3 E:3 S:3 W:3	This tree is dead but still standing.	U	None - due to Retention Category of U.		Physiological Cond: Dead Structural Cond: Poor	Fell tree.
T029	Willow (<i>Salix sp.</i>)	Tree	Height (m): 6 Stem Diam (mm): 300 Spread (m): 3N, 3E, 3S, 3W Life Stage: Dead	N:3 E:3 S:3 W:3	This tree is dead but still standing. By river.	U	None - due to Retention Category of U.		Physiological Cond: Dead Structural Cond: Poor	Fell tree.
T033	Oak (<i>Quercus sp.</i>)	Tree	Height (m): 16 Stem Diam (mm): 350 Spread (m): 3N, 4E, 4S, 4W Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:4 S:4 W:4	On bank. By river. A Single stemmed tree. Healthy but partially suppressed crown. Partially overgrown with Ivy.	B1	Radius: 4.2m. Area: 55 sq m.		Physiological Cond: Fair Structural Cond: Fair	Sever ivy at base.
T034	Cypress species (<i>Cupressocyparis sp.</i>)	Tree	Height (m): 10 Stem Diam (mm): 300 Spread (m): 3N, 3E, 3S, 3W Life Stage: Dead	N:3 E:3 S:3 W:3	This tree is dead but still standing.	U	None - due to Retention Category of U.		Physiological Cond: Dead Structural Cond: Poor	Fell tree.
T040	Cherry (<i>Prunus sp.</i> 'Cherry')	Tree	Height (m): 4 Stem Diam (mm): 160 Spread (m): 3N, 2E, 3S, 4W Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:2 S:3 W:4	Twin-stemmed tree. Healthy but partially suppressed crown. Partially overgrown with Ivy.	B1	Radius: 1.9m. Area: 11 sq m.		Physiological Cond: Fair Structural Cond: Fair	Sever ivy at base.
T041	Cherry (<i>Prunus sp.</i> 'Cherry')	Tree	Height (m): 6 Stem Diam (mm): 400 Spread (m): 2N, 5E, 3S, 1W Life Stage: Mature Rem. Contrib.: 20+ Years	N:2 E:5 S:3 W:1	A multi-stemmed tree. Healthy but partially suppressed crown. Deadwood in the crown.	B1	Radius: 4.8m. Area: 72 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T042	Maple (<i>Acer sp.</i>)	Tree	Height (m): 14 Stem Diam (mm): 360 Spread (m): 5N, 5E, 2S, 2W Life Stage: Mature Rem. Contrib.: 20+ Years	N:5 E:5 S:2 W:2	A Single stemmed tree. Healthy but partially suppressed crown. Deadwood in the crown.	B1	Radius: 4.3m. Area: 58 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T043	Alder x2 (<i>Alnus sp.</i>) Poplar x4 (<i>Populus sp.</i>)	Group 6 trees	Height (m): 10 6 stems, avg.(mm): 160 Spread (m): 3N, 3E, 3S, 3W Life Stage: Semi Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	Overgrown self-seeded Poplar and Alder. Multi-stemmed.	C1	Area: 71 sq m.		Physiological Cond: Fair Structural Cond: Fair	Tree removal.

Ref	Species	Full Structure	Measurements	Spread	General Observations	Retention Category	RPA	Comments	Measurements2	Recommendations
T044	Sycamore x11 (<i>Acer pseudoplatanus</i>)	Group 11 trees	Height (m): 12 11 stems, avg.(mm): 400 Spread (m): 3N, 3E, 3S, 3W Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	A group of self-seeded trees growing on the boundary of the site. Growing through old fence in many places. Single and multi-stemmed.	C1	Area: 741 sq m.		Physiological Cond: Fair Structural Cond: Physical Defect	No action required.
T045	Goat Willow (<i>Salix caprea</i>)	Tree	Height (m): 7 Stem Diam (mm): 300 Spread (m): 2N, 3E, 3S, 3W Life Stage: Mature Rem. Contrib.: 10+ Years	N:2 E:3 S:3 W:3	A multi-stemmed tree. Previously reduced. Healthy but partially suppressed crown.	C1	Radius: 3.6m. Area: 41 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T046	Sycamore x3 (<i>Acer pseudoplatanus</i>)	Group 3 trees	Height (m): 7 3 stems, avg.(mm): 280 Spread (m): 3N, 3E, 3S, 3W Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:3 W:3	Self-seeded group at the boundary between water course and public road. Single stemmed.	C1	Area: 47 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T047	Cherry (<i>Prunus sp.</i> 'Cherry')	Tree	Height (m): 5 Stem Diam (mm): 250 Spread (m): 3N, 3E, 3S, 3W Life Stage: Dead	N:3 E:3 S:3 W:3	This tree is dead but still standing.	U	None - due to Retention Category of U.		Physiological Cond: Dead Structural Cond: Poor	Fell tree.
T048	Maple (<i>Acer sp.</i>)	Tree	Height (m): 8 Stem Diam (mm): 450 Spread (m): 4N, 4E, 4S, 3W Life Stage: Mature Rem. Contrib.: 10+ Years	N:4 E:4 S:4 W:3	A Single stemmed tree. Healthy but partially suppressed crown. Fractured limbs - storm damage	B1	Radius: 5.4m. Area: 92 sq m.		Physiological Cond: Fair Structural Cond: Fair	Complete prune, which is a combination of crown reduction, crown lifting, crown thinning and the removal of epicormic shoots. Where the tree overhangs the street, the Contractor must ensure that they leave the tree with a 5.8 metre height clearance over the road.
T049	Cherry (<i>Prunus sp.</i> 'Cherry')	Tree	Height (m): 4 Stem Diam (mm): 180 Spread (m): 2N, 2E, 2S, 2W Life Stage: Dead	N:2 E:2 S:2 W:2	This tree is dead but still standing.	U	None - due to Retention Category of U.		Physiological Cond: Dead Structural Cond: Poor	Fell tree.
T050	Maple (<i>Acer sp.</i>)	Tree	Height (m): 12 Stem Diam (mm): 450 Spread (m): 4N, 3E, 2S, 2W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:3 S:2 W:2	Twin-stemmed tree. Healthy but partially suppressed crown.	B1	Radius: 5.4m. Area: 92 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T051	Purple Cherry Plum (<i>Prunus cerasifera</i> 'Pissardi')	Tree	Height (m): 4 Stem Diam (mm): 210 Spread (m): 3N, 3E, 2S, 2W Life Stage: Mature Rem. Contrib.: 10+ Years	N:3 E:3 S:2 W:2	A Single stemmed tree. Healthy but partially suppressed crown.	B1	Radius: 2.5m. Area: 20 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T052	Plum (<i>Prunus domestica</i>)	Tree	Height (m): 3 Stem Diam (mm): 130 Spread (m): 1N, 2E, 2S, 1W Life Stage: Early Mature Rem. Contrib.: 10+ Years	N:1 E:2 S:2 W:1	A Single stemmed tree. Healthy but unbalanced crown.	B1	Radius: 1.6m. Area: 8 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.
T053	Maple (<i>Acer sp.</i>)	Tree	Height (m): 12 Stem Diam (mm): 350 Spread (m): 4N, 4E, 3S, 2W Life Stage: Mature Rem. Contrib.: 20+ Years	N:4 E:4 S:3 W:2	Twin-stemmed tree. Healthy but partially suppressed crown.	B1	Radius: 4.2m. Area: 55 sq m.		Physiological Cond: Fair Structural Cond: Fair	No action required.

Appendix 1.

BS5837:2012 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	<ul style="list-style-type: none"> 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</i> Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012] 4.5.7.				
	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)	
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	
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	

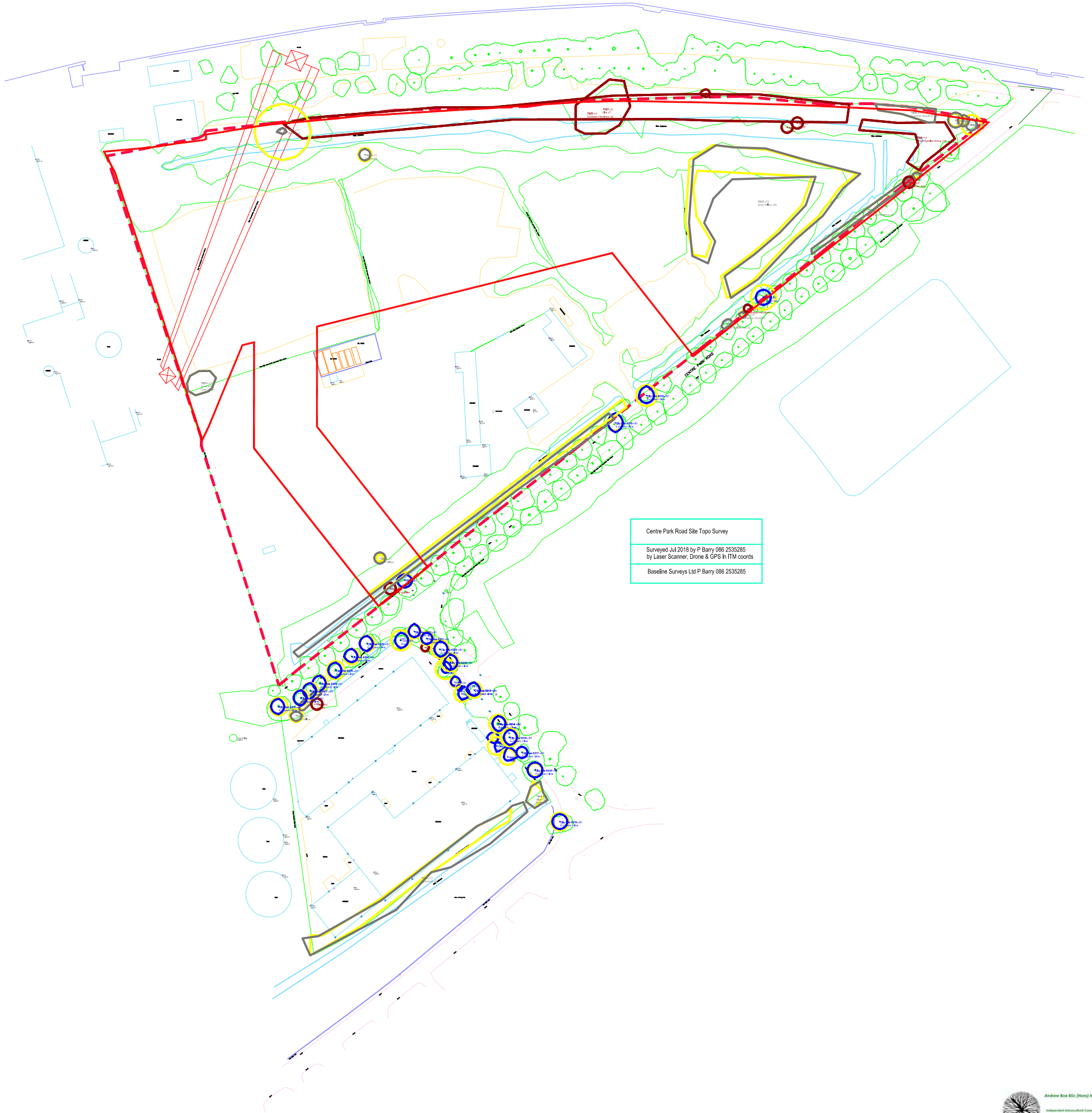
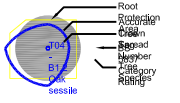
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Centre Park Road Site Topo Survey
Surveyed Jul 2016 by P Barry 086 2535285
by Laser Scanner, Drone & GPS in ITM coords
Baseline Surveys Ltd P Barry 086 2535285