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**TIVY DALE CLOSE, BARNSELY**

**Arboricultural Impact Assessment and Arboricultural Method Statement**

October 2019

## **1.0 INTRODUCTION**

### **1.1 Introduction**

Keptcastle Ltd have asked Weddle Landscape Design (WLD) to inspect the trees onsite and prepare an Arboricultural Impact Assessment and Arboricultural Method Statement report.

This report has been prepared by Neil Northrop BA DipLD MCIHort MArborA CMLI of Weddle Landscape Design. Neil is a Chartered Landscape Architect and professional member of the Arboricultural Association, registered user of Quantified Tree Risk Assessment with over 12 years' experience of arboricultural consultancy.

This report considers the impact of development on the trees and refers to drawing TCD 01A Tree Survey, TCD 02A Tree Constraints Plan and TCD 03 A Tree Protection Plan

### **1.2 Background**

This report has been prepared to assist in the discharge of conditions 10 and 11 of planning application 2018/1443 at Tivy Dale Close, Barnsley.

**Condition 10.** *"No development or other operations being undertaken on site shall take place until the following documents in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction - Recommendations have been submitted to and approved in writing by the Local Planning Authority: Tree protective barrier details Tree protection plan Arboricultural method statement"*

**Condition 11.** *"The erection of barriers and any other measures specified for the protection of any retained tree shall be undertaken in accordance with the approved plans and particulars before any equipment, machinery or materials are brought on to the site for the purposes of the development, and shall be maintained until all equipment, machinery and surplus materials have been removed from the site. Nothing shall be stored or placed in any area fenced off in accordance with this condition and the ground levels within those areas shall not be altered, nor shall any excavation be made, without the written consent of the Local Planning Authority."*

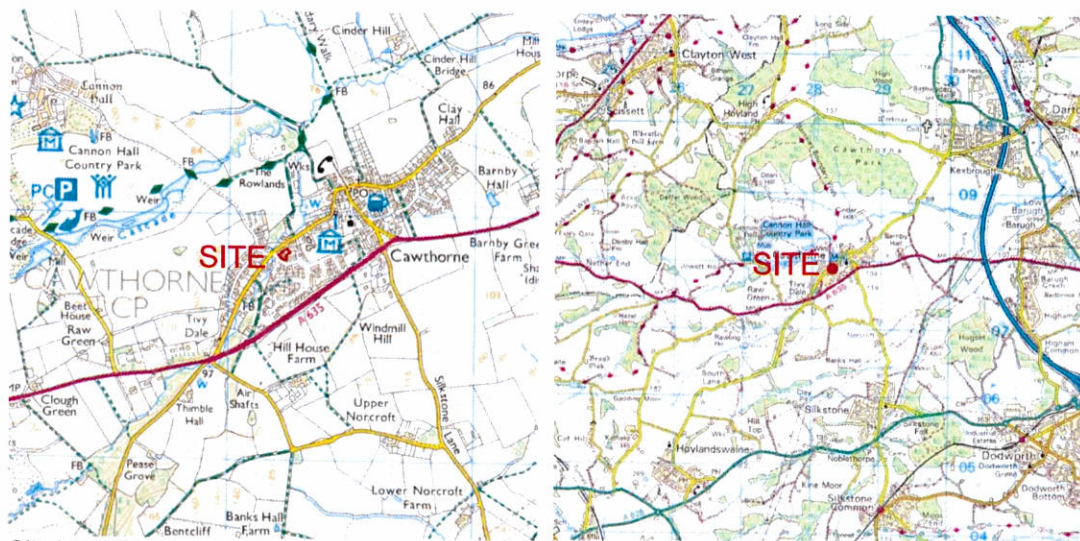
### **1.3 General Site Description**

The site is located close to the centre of Barnsley. The site is a small parcel of land off Tivy Dale Close with one property surrounded by detached residential properties on the north, east and west side.

The Barnsley Metropolitan Policies Map Adopted January 2019 shows that the site does not lie within a conservation area. The site sits immediately next to the conservation area and also close to Green Belt and Park and Garden of Historic Interest. There is also a route just north of the site marked as Green Way which is mostly open character and provides links between housing, countryside and services.

There is one Tree Preservation Order (TPO) on site for T1 Copper Beech, reference 5/T1.

There are 18 trees on site and 1 group. There are 8 off site trees included in the survey and 1 group. The trees are mostly native species including Beech, Ash, Hawthorn, Holly, Cypress, Cherry, Apple, Laurel, Elm and Fir. There is also Ginkgo, laburnum, Fir and ornamental species.



Site Location

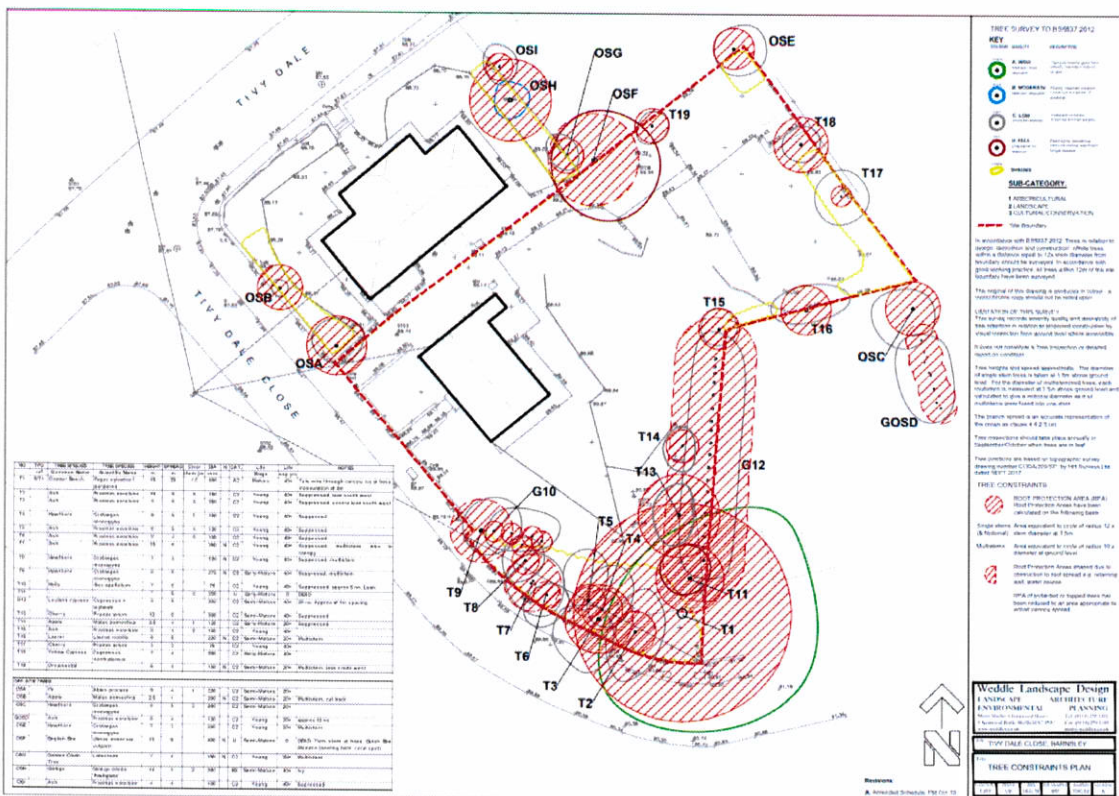


Site Location – Satellite Imagery

## 2.0 TREE SURVEY

A Tree Survey to BS 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' was carried out by Weddle Landscape Design in July 2019, as shown on drawing TDC 01A below.





Tree Constraints Plan TDC 02A

### 3.0 TREE CONDITION

The tree survey includes an assessment of life stage, life expectancy, general observations on condition and categorisation in accordance with BS 5837:2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' Section 4.5 and Table 1. Specific This information is presented in the tree schedule on drawing TDC 01.

The survey included 26no. trees and 2no. groups.

#### Onsite Trees

- Copper Beech T1 is inoculated at 3m, has wire through the canopy and ivy at the base. The tree is covered by a TPO and has a long life expectancy. It is considered to be of high quality (category A).
- Ash T2 and T3 are suppressed, leaning south west and are considered to be of low quality (category C).
- Hawthorn T4 is suppressed. It has a long life expectancy and is considered to be of low quality (category C).
- Ash T5 and T6 are suppressed, have a long life expectancy and are considered to be of low quality (category C).
- Ash T7 is a multi-stem, is suppressed and has wire in its canopy. It has a long life expectancy and is considered to be of low quality. (category C)
- Hawthorn T8 and T9 are multi stem and are both suppressed. They both have a long life expectancy and are considered to be of low quality (category C)

- Holly T10 is suppressed, has a long life expectancy and is considered to be of low quality. (category C)
- T11 is dead and is unsuitable for retention. (category U)
- G12 Leyland Cypress has approximately 20 trees at 1m spacing. They have a long life expectancy and are considered to be of low quality. (category C)
- T13 Cherry is suppressed, has a long life expectancy and is considered to be of low quality.
- T14 Apple is suppressed, has a moderate life expectancy and is considered to be of low quality. (category C)
- T16 Laurel is a multi-stem. It has a long life expectancy and is considered to be of low quality. (category C)
- T15 Ash, T17 Cherry and T18 Yellow Cypress has a long life expectancy and are considered to be of low quality. (category C)
- T19 Ornamental sp. is a multi-stem and is leaning south west. It is considered to have a moderate life expectancy and is considered to be of low quality. (category C)

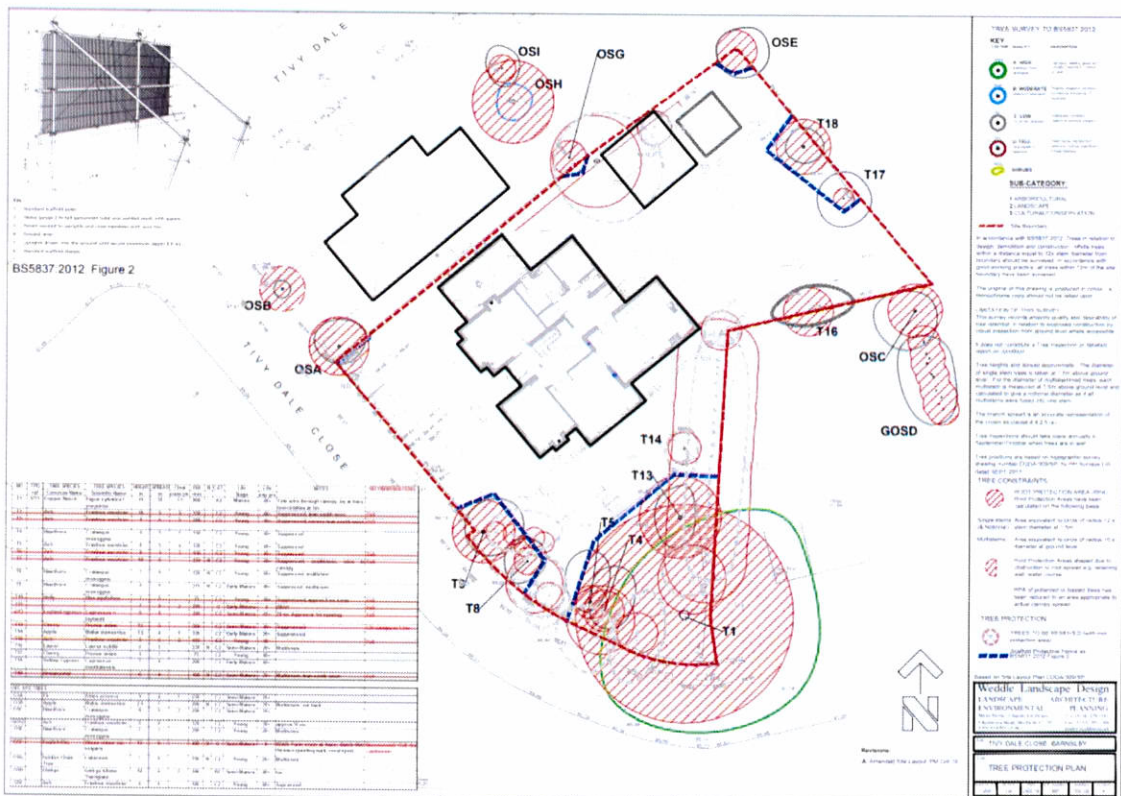
#### Offsite Trees

- OSA Fir, OSC Hawthorn and GOSD Ash group are considered to have a moderate life expectancy and is considered to be of low quality. (category C)
- OSB Apple is a multi-stem and has been cut back. It has a moderate life expectancy and is considered to be of low quality. (category C)
- OSE Hawthorn and OSG Laburnum have a moderate life expectancy and are considered to be of low quality. (category C)
- OSF English Elm is dead and is classed as category U.
- OSH Ginkgo has a good life expectancy and is considered to be of moderate quality (category B)
- OSI Ash is suppressed. It has a moderate life expectancy and is considered to be poor quality. (category C)

## 4.0 DEVELOPMENT IMPACT

### 4.1 Description of proposed development

The proposal is for the erection of a new dwelling with a detached garage and green house. The proposed layout is shown on drawing TDC 03 A Tree Protection Plan. The Tree Protection Plan also indicates the position for protective barriers.



Tree Protection Plan – TDC 03A

## 4.2 Implications of proposed development

### 4.2.1 Trees to be removed

11 No. trees will be removed as part of the development.

There is also 1 offsite tree which has been recommended for removal by the landowner.

a) Of these 2 No. will be removed for arboricultural reasons:

- T11 is dead and is considered to be category U and unsuitable for retention.
- Elm OSF has dutch elm disease and is dead. It is considered to be category U and is unsuitable for retention and has been recommended for removal by the land owner.

b) The layout has been developed considering a number of factors including engineering levels, access roads, connection to highway, parking provision, architectural massing, service easements and tree constraints etc. To achieve a viable layout will require the removal of 3 No Trees, all of which are graded low quality (category C)

- T14 Apple
- T15 Ash
- T19 Ornamental sp.

c) 6 additional low quality (category C) trees will be removed for amenity and management reasons:

- Ash T2 and T3 are both suppressed and leaning south west.
- Ash T6 and T7 are suppressed.
- G10 Holly is suppressed.
- G12 Leyland cypress

#### **4.2.2 Trees to be retained**

All other trees will be retained. The proposed development has the potential to impact on the retained trees and protective fencing will be erected to surround all retained trees. The location of protective fencing is shown on drawing TDC 03 A Tree Protection Plan.

The retained trees aren't close to the building and can be protected sufficiently with protective fence.

- d) OSA Fir is in close proximity to the site entrance and is principally protected by protective fencing on the site boundary. <20% of the RPA lies under the driveway and the potential loss of this root area is considered acceptable.
- e) T13 Cherry should have its canopy lifted to 1.5m.

#### **4.2.4 Mitigation**

The removal of the low quality trees can be mitigated through a planting scheme and long term management of retained trees.

### **5.0 TREE CONSERVATION**

#### **5.1 Tree protection from compaction**

The general principle of avoiding compaction of soil within the trees protected area is achieved by erecting protective fencing as recommended by BS 5837:2012, Trees in Relation to Design, Demolition and Construction – Recommendations (Clause 5.5), before site works commence.

The Tree Protection Fence shall be a minimum of 2 metre high vertical and horizontal scaffold framework well braced to resist impacts as Figure 2 in BS5837:2012

Protective fencing will be erected as a first site operation. No construction activities, soil removal or adjustment, material storage, or utility trenching will take place within the fenced area.

#### **5.2 Prevention of damage to trees during construction**

Consideration must be given to all construction operations which will be undertaken in proximity to trees:

##### **a) Location and space needed for service runs including surface water and foul drains, land drains, water, gas, electric, telecoms.**

No service runs should pass through protected areas. If unavoidable, all trenching should be carried out in accordance with NJUG 10 (Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees published by the National Joint Utilities Group April 1995).

**b) Changes in ground level, location of retaining walls**

No change in level should take place within protected areas.

**c) Working space and access for machinery**

Protective fencing will be based on the RPA recommended in Clause 4.6 of BS5837:2012.

Where it is essential for scaffolding to be erected within the protected area of trees, construction shall be in accordance with Clause 7 of BS5837:2012. Underlying roots will be protected by a layer of geotextile fabric placed over undisturbed soil, covered by a minimum 50mm depth of sand overlain by scaffold boards.

If branches extend beyond the protective fencing in positions liable to impact, the branch may be shortened back to a fork in accordance with the recommendations of BS 3998.

**d) Space for site huts and other temporary structures**

None within protected areas. Scaffolding only in accordance with Clause 7 of BS5837:2012.

**e) Type and extent of landscape works within the fenced areas.**

Soft landscape only, with no adjustment of topsoil levels.

**6.0 METHOD STATEMENT FOR CONSTRUCTION**

**6.1 Introduction**

The root system is the most susceptible part of a tree to damage, because it is not immediately visible. Damage of the root system will affect the health, growth, life expectancy and safety of the rest of the tree. The effects of below ground damage may only become evident several years later.

Damage to the trunk and branches of a tree may cause severe disfigurement although rarely kills the tree. Death of branches or their unplanned removal may adversely affect the balance of the tree and hence its safety.

**6.2 Protection of roots against compaction and asphyxiation**

Roots need oxygen from the soil. Respiration by the roots and other soil organisms depletes this oxygen and increases carbon dioxide levels in the soil. Diffusion between the soil and the atmosphere maintains a correct balance of oxygen and carbon dioxide in the soil. Anything which affects this balance will affect the condition of the root system.

Compaction of the ground reduces space between soil particles and hence can upset this balance.

Within protected areas defined by protective fencing, site construction activities will be controlled to prevent:-

Movement of heavy vehicles, and storage of heavy materials.

Raising of soil levels

Covering root areas with impervious materials

Rise in water table

Increase in organic matter

Spillage of chemicals including diesel, cement and construction materials

### **6.3 Prevention of damage to roots by soil stripping or excavations**

The majority of roots are within the top 600mm of soil. No stripping of topsoil will take place within protected areas.

Excavation for foundations will be outside of protected areas. This will be sufficiently deep to sever any roots. Any roots in excess of 25mm encountered will be cleanly cut back to the face of existing soil.

Foundation design should be in accordance with NHBC Chapter 4.2 "Building near Trees" standards.

Construction of services within the protected areas of trees to be retained will be carried out in accordance with NJUG10 (Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees published by the National Joint Utilities Group April 1995).

The protected area is defined as a radius of 12 times stem girth at 1.5 metres height. All work within the protected area is to be carried out by hand. Where roots of 25mm size and above are encountered these are to be retained spanning the trench, and services are to be inserted carefully beneath them.

In the event that roots are accidentally damaged or require cutting, the Landscape Consultant should be asked to advise on any necessary work to the tree.

### **6.4 Essential work within protected area**

The protective fencing defines the protected area and will be considered sacrosanct. It should not be removed, moved or breached without the advice of the Landscape Consultant.

### **6.5 Additional precautions outside fenced areas**

Oil, bitumen, cement or other material likely to be injurious to trees will not be stacked or discharged within 10 metres of a tree stem.

Materials will not be stacked or discharged within 5 metres of a stem.

Fires will not be lit.

Trees will not be used as anchorages for any equipment.

## **7.0 PROGRAMME**

### **7.1 Prior to development**

Felling of trees to be removed, any other works to trees should be undertaken as a first site operation.

Protective fencing should then be erected immediately prior to development as shown on drawing TDC 03 A Tree Protection Plan.

### **7.2 During development**

Fence lines should be maintained as TDC 03 A, and no construction activities should take place within the protected area.

### **7.3 After development**

Replacement planting scheme should be implemented, and protective fencing should be removed once all construction work is complete.



TREE SURVEY TO BS5837:2012

KEY	COLOR	QUALITY	DESCRIPTION
GREEN	GREEN	A. HIGH	Healthy trees with high canopy cover or tree
YELLOW	YELLOW	B. MODERATE	Healthy trees with moderate canopy cover
RED	RED	C. LOW	Healthy trees with low canopy cover
ORANGE	ORANGE	U. FELL	Dead trees, dead standing, or trees showing significant signs of decay
ORANGE	ORANGE	SHRUBS	Shrubs

- SUB-CATEGORY:**
- 1 ARBORICULTURAL
  - 2 LANDSCAPE
  - 3 CULTURAL/CONSERVATION
- Site Boundary

In accordance with BS5837:2012 'Trees in relation to design and construction' all trees within 12m of the proposed site boundary should be surveyed. In accordance with good working practice, all trees within 12m of the site boundary have been surveyed.

The original of this drawing is produced in colour - a monochrome copy should not be relied upon.

**LIMITATION OF THIS SURVEY**  
This survey records amenity quality and desirability of trees in relation to the proposed development by visual inspection from ground level where accessible. It does not constitute a tree inspection or detailed report on condition.

Tree heights and spread approximate. The diameter of single stem trees is taken at 1.5m above ground level. For the diameter of multi-stemmed trees, each multistem is measured at 1.5m above ground level and calculated to give a nominal diameter as if all multistems were fused into one stem.

The branch spread is an accurate representation of the crown as clause 4.4, 2.5 (e)

Tree inspectors should take place annually in September/October when trees are in leaf.

Tree positions are based on topographic survey drawing number CODA3069SP, by HH Surveys Ltd, dated SEPT 2017

**TREE CONSTRAINTS**

**ROOT PROTECTION AREA (RPA)**  
Root Protection Areas have been calculated on the following basis:

Single stems: Area equivalent to circle of radius 12 x (A) (Nominal) stem diameter at 1.5m

Multistems: Area equivalent to circle of radius 10 x diameter at ground level.

Root Protection Areas shaped due to obstruction to root spread e.g. retaining wall, water course

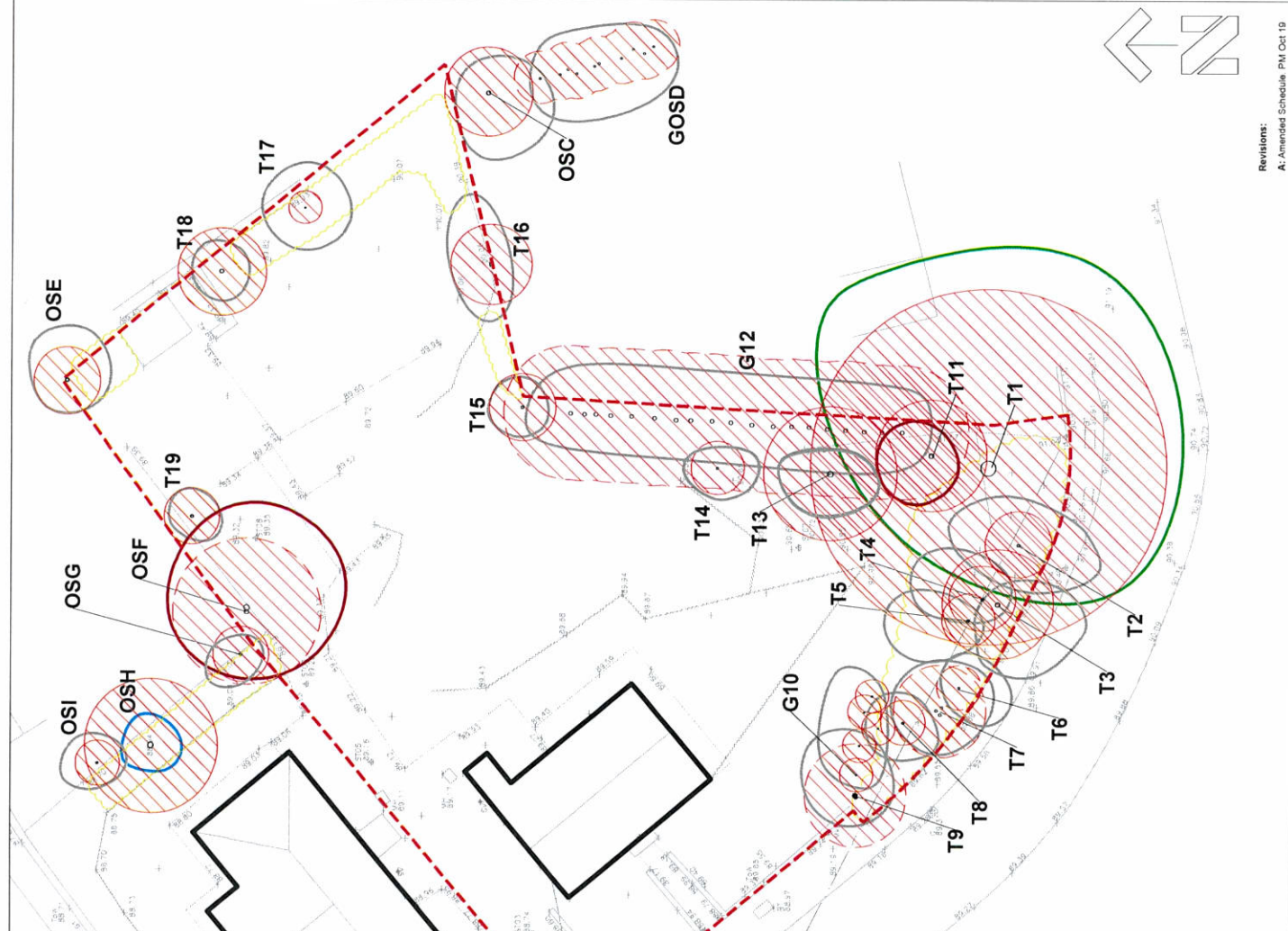
RPA of pollarded or lopped trees has been reduced to an area appropriate to actual canopy spread.

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Job: TIVY DALE CLOSE, BARNESLEY

Title: TREE CONSTRAINTS PLAN

DATE	BY	JOB NUMBER	NUMBER	REVISION
1.2.20	CB	REC 18	887	TDC 02 A



NO	TPO	TREE SPECIES	Common Name	Scientific Name	HEIGHT	SPREAD	CHAZ	DA	N	GA	Life	Life	NOTES
					m	m	m	mm			Age	Stage	
T1	SFT	Copper Birch	Fagus sylvatica f.	16	20	1.5	100		A2	Mature	40+	40+	Tree was through canopy, Ivy at base.
T2	Ash	Ash	Fraxinus excelsior	10	8	150	100		C2	Young	40+	40+	Suppressed, lean south west.
T3	Ash	Ash	Fraxinus excelsior	8	8	3	150		C2	Young	40+	40+	Suppressed, severe lean south west
T4	Hornbeam	Cornus	Fraxinus excelsior	9	6	1	100		C2	Young	40+	40+	Suppressed
T5	Ash	Ash	Fraxinus excelsior	8	5	4	120		C2	Young	40+	40+	Suppressed
T6	Ash	Ash	Fraxinus excelsior	8	4	3	100		C2	Young	40+	40+	Suppressed, multistem, wire in canopy
T7	Ash	Ash	Fraxinus excelsior	10	5	200	100		C2	Young	40+	40+	Suppressed, multistem
T8	Hornbeam	Cornus	Fraxinus excelsior	7	4	120	100		C2	Young	40+	40+	Suppressed, multistem
T9	Hornbeam	Cornus	Fraxinus excelsior	8	6	275	100		C2	Young	40+	40+	Suppressed, multistem
G10	Holly	Ilex aquifolium		7	8	75	100		C2	Young	40+	40+	Suppressed, approx 8 no. Lean
G12	Leyland cypress	Cupressus n. nivalis		9	6	300	100		C2	Young	40+	40+	20 no. Approx at tin spacing
T11	Cherry	Prunus avium		12	5	300	100		C2	Young	40+	40+	Suppressed
T12	Apple	Malus domestica		3.5	4	120	100		C2	Young	40+	40+	Suppressed
T13	Ash	Fraxinus excelsior		8	4	150	100		C2	Young	40+	40+	Suppressed
T14	Ash	Fraxinus excelsior		6	3	200	100		C2	Young	40+	40+	Multistem
T15	Cherry	Prunus avium		6	3	200	100		C2	Young	40+	40+	Multistem
T16	Yellow cypress	Cupressus n. nivalis		7	4	200	100		C2	Young	40+	40+	Multistem
T17	Ornamental			6	4	150	100		C2	Young	40+	40+	Multistem, lean south west
<b>OSF-TREES</b>													
OSB	Ash	Fraxinus excelsior		9	4	1	200		C2	Young	40+	40+	Multistem, cut back
OSC	Hornbeam	Cornus	Fraxinus excelsior	8	8	2	200		C2	Young	40+	40+	Multistem, cut back
GOSD	Ash	Fraxinus excelsior		8	4	120	100		C2	Young	40+	40+	approx 10 no.
OSE	Hornbeam	Cornus	Fraxinus excelsior	7	3	200	100		C2	Young	40+	40+	Multistem
OSF	Single stem	Ulmus minor var. vulgaris		13	9	400	100		C2	Young	40+	40+	20 no. Lean stem at base, Dutch Elm Disease (peeling bark, coral spot)
OSG	Golden Chain Tree	Lonicera xylosteum		7	4	150	100		C2	Young	40+	40+	Multistem
OSH	Ginkgo	Ginkgo biloba		14	4	2	300		C2	Young	40+	40+	Ivy
OSI	Ash	Fraxinus excelsior		4	4	100	100		C2	Young	40+	40+	Suppressed

Revisions:  
A: Amended Schedule PM Oct 19

