

TREE SURVEY & ARBORICULTURAL IMPACT ASSESSMENT

FOR

PROPOSED ROAD IMPROVEMENTS AT JUNCTION OF POGMOOR ROAD AND DODWORTH ROAD, BARNSLEY

September 2017
Revised 28 June 2018

Wainwright
Landscape Architecture

Prepared by
Wainwright Landscape Architecture
6 Lindale Lane
Wrenthorpe
Wakefield WF2 0PN
Tel (01924) 381256

E-mail : info@wainwrightla.co.uk

On behalf of
Barnsley MDC

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HD/7122127/C-1 Draft scheme layout – Option G

Appendix B Tree Survey Schedule

1 Introduction

1.1 Instruction

In September 2017 Wainwright Landscape Architecture were requested by Barnsley MDC to undertake a tree survey on the site of proposed road improvements near Junction 37 of the M1 at the junction of Pogmoor Road with Dodworth Road in Barnsley, in accordance with BS 5837:2012 'Trees in Relation to design, demolition and construction – Recommendations', and also to provide an arboricultural impact assessment.

This report was revised in June 2018 to take account of an updated layout plan of the proposals. (Option G)

1.2 Scope of Report

The purpose of the tree survey is to provide detailed and accurate information which will enable the planning and successful layout of the scheme and to minimise impact on trees to be retained. The survey will also assist in development of a future maintenance strategy, and the layout of new planting. Soil Type was not assessed.

Details of the condition of existing trees and maintenance recommendations are given on a tree by tree basis or as tree groups where appropriate. Guidance is provided for the protection of existing trees during demolition and construction processes.

The term 'group' is used to define trees that form a cohesive arboriculture feature either aerodynamically, visually or culturally, including for biodiversity. Assessment of individuals within a group has still been undertaken if there is need to differentiate between them.

1.3 Tree Statement and Report Limitations

Trees are living organisms and their health and physical condition can change rapidly due to site and climatic conditions. The tree survey is based on evidence available at the time of the survey. This report is valid for one year from the date of site inspection.

Any changes to physical site conditions after the date of this survey will have the potential to change the findings and recommendations.

It is beyond the scope of this report to comment on structural damage that may be associated with tree growth or related soil subsidence.

The survey and assessment of the tree groups is intended to provide an overall average grading and recommendation for that group. If the group is partly removed the remaining trees will need to be reviewed on a tree by tree basis based on condition, context and association with the remaining trees.

2 Site Visit and Methodology

2.1 Site Visit

Site visits for the survey were undertaken by Wainwright Landscape Architecture on 14th and 15th October 2017.

2.2 Brief Description of the Site

The survey site comprises a local park area, (Penny Pie Park), bounded by Pogmoor Road and Dodworth Road to the west and south respectively. A railway runs in a cutting along the northern boundary. The eastern boundary is formed by housing.

A play area is located within the park and there is a footpath route close to the northern and eastern boundaries. The bulk of the site is mown grassland, although part is an area given over to more natural vegetation. Trees and shrubs beds are located around the borders of the grassland area.

The site appears well used by students accessing Horizon Community College on Dodworth Road, and by dog walkers.

2.3 Trees Subject to Statutory Controls

Barnsley online mapping was consulted[1] and indicates that trees on the site are not protected by a Tree Preservation Order and the site is not within a Conservation Area.

2.4 Survey Methodology

The format of the survey follows the guidelines of British Standard BS 5837:2012 'Trees in Relation to design, demolition and construction – Recommendations'

The site survey has been carried out from ground level, and is based on a site topographical survey provided by Barnsley Council.

The species and condition of all trees or groups with stems over 75mm diameter @ 1.5 above ground level were surveyed. The survey includes all trees within the site and all trees adjacent to the site boundary which may potentially be affected by the works. All trees and tree groups within the survey have been individually numbered for identification purposes in the format T1, T2, T3 (individual trees), G1, G2, G3 (tree groups), and corresponding numbers have been used both on the Tree Survey Plans and within the Tree Survey Schedule.

Other details have been included in the survey such as: height, stem diameter, branch spread, crown clearance, life stage, and estimated remaining contribution.

Tree heights have been estimated. Crown spreads have been measured with a tape to the nearest 0.5m.

Life Stage has been defined as: Young (self-seeded / stake dependent), Semi-mature (not sexually mature / stem up to 30cm girth capable of being transplanted), Early Mature (up

[1] https://www.barnsley.gov.uk/barnsley-maps/tree-preservation-orders/

to 75% of expected mature size), Mature (fully developed size), Over Mature (tree beyond mature in natural decline).

Attention in the survey has been given to the size and form of each tree or group; physiological condition (Good, Moderate, Poor, Dead); any structural defects where apparent; the location of each tree in relation to existing features.

Preliminary management recommendations have also been given including recommendations for further investigation of suspected defects that require more detailed assessment and potential for wildlife habitat (if relevant).

2.5 Tree Classification (Grade)

On the basis of this assessment and following guidelines in BS 5837 : 2012, trees have been classified into one of the following categories, differentiated by colour on the attached Tree Survey Plans (see Appendix A):

Category A - Trees of High Quality (light green);
Trees able to make a substantial contribution.

Category B - Trees of Moderate Quality (mid blue);
Trees able to make a significant contribution.

Category C - Trees of Low Quality (grey);
Trees in adequate condition.

Category U - Trees Unsuitable for Retention (dark red);
Trees that are dead, serious structural defects or disease.

BS 5837:2012 recommends a sub division of each of the above categories into 1, 2 and 3 to reflect:

(1) Mainly Arboricultural Qualities
(2) Mainly Landscape Qualities
(3) Mainly Cultural Values

On this site all trees were judged to have mainly Landscape Qualities (2). Due to the grouping of the trees there were no specimens of mainly high arboricultural value (1) and no trees of cultural value (3) were noted.

2.6 Assessment of Tree Groups

Shrub masses were surveyed separately and in accordance with BS 5837:2012 4.4.2.7. Height, species and general descriptive information has been indicated on the survey plans where relevant.

3 Site Observations and Notes on Specific Trees

3.1 Tree Overview

Trees are set mainly around the perimeter of the site, often associated with ornamental shrubs. They form a strong boundary between roads and the parkland (along Pogmoor Road and Dodworth Road), and a buffer between the park and housing on the eastern boundary. The northern boundary, next to the railway line, is less strong and less formal comprising a more native mix of trees and shrubs.

Two groups of old, tall poplars within the park are very distinctive visually and of high wildlife value.

3.2 Trees Surveyed

A total of 113 individual trees and tree groups were surveyed. Trees are located as shown on the Tree Survey plans (see Appendix A). Survey data is summarised in the Tree Survey Schedule (see Appendix B).

3.3 Species Diversity

The majority of the trees are non-native species with Norway Maple, sycamore and lime varieties appearing frequently. Due to the variability of these species it has been difficult to identify precise varieties so most are identified by genus or species only. Walnut, ash, horse chestnut, cherry and plum are also represented with a few large weeping willows. Occasional more unusual species, such as tulip tree and Indian bean tree, were also noted. Table 1 shows the number of individuals and groups recorded.

3.4 Age Distribution

Many of the trees along the Dodworth Road and Pogmoor Road boundaries are of a similar age. Marked as ‘mature’ on the schedule, they are likely to be 30-50years old.

The large weeping willows (T76, T79, T80) are likely to be older than this, as are the two groups of hybrid poplars in the centre of the site. The poplars could be older than 60years. They show many signs of senescence and are possibly unstable. However they have been allocated a C category rather than an U (unsuitable for retention) due to the wildlife value of dead/dying wood.

Table 1: Species Diversity Individual Trees

Common Name	Botanical Name	Quantity	Approx. %
Norway maple	Acer platanoides spp	23	21
Lime	Tilia spp	19	18
Sycamore	Acer psuedoplatanus spp	15	14
Black polar hybrid	Populus nigra var	15	14
Cherry spp.	Prunus spp	6	6
Weeping willow	Salix babylonica	5	4
Walnut	Juglans regia	4	3
Ash	Fraxinus excelsior	4	3
Horse chestnut	Aesculus hippocastanum	3	3
Alder	Alnus glutinosa	2	2
Tulip tree	Liriodendron tulipifera	2	2
Purple Plum	Prunus cerasifera	2	2
Crack willow	Salix fragilis	2	2
Birch	Betula pendula	1	1
Beech	Fagus sylvatica	1	1
Rowan	Sorbus aucuparia	1	1
Goat willow	Salix caprea	1	1
Indian bean tree	Catalpa bignoniodes	1	1
	Total	**107**	**100**

3.5 Grading Classification

Distribution of category grading is depicted in The Tree Survey Schedule and shows that 5 trees within the survey population achieve a grade ‘A’, 39 are grade B, 66 are grade C and 2 are grade U.

Generally, the trees contribute to the wider collective landscape value as a group providing an important element of the local streetscape, despite their sometimes slightly impaired individual condition.

Most of the trees have been well managed to maintain a safe parkland space and clear roadways, although the proximity of trees to each other has lead to crown suppression in many of the individual trees.

3.6 Trees and Woodland to be removed

The following table lists all trees proposed to be removed as part of the scheme. This shows the worst-case scenario.

Table 4: Trees and Tree Groups to be removed or thinned

Ref.	Description	Grade	Quantity
T1, T12-T24, T37 -T42, T50-56, T64-T68, T70, T75, T79, T80-T86, T89, T90, T107	Individual trees	A - 7% B – 40% C – 53% U – 0%	45 no.
G1, G2, G3 (part only), G4 (part only)	Tree groups	B – 0.5% C – 0.5%	4 no.

Many of the above trees that will be lost due to the road-junction improvement proposals are located along the edge of Dodworth Road. They are part of a belt of trees alongside this major route into Barnsley, contributing significantly towards a positive impression of Barnsley for people approaching the town from the west. It is important to maintain a green approach as far as possible. It is recommended that the details of the design layout are explored to reduce the numbers of mature trees lost. In particular, re-routing the footway behind these trees may allow retention of the perimeter trees that could form a strong green interface with the new road.

4 Tree Constraints and Protection Measures

4.1 Root Protection Area

The protection of existing trees is vital if trees are to be successfully retained within or adjacent to new development. All trees to be retained should be protected by barriers and / or ground protection. Barriers should be fit for excluding construction activity and appropriate to the degree and proximity of work taking place around the retained trees. Special attention should be paid to ensuring that barriers remain rigid and complete.

To avoid damage to tree roots or rooting environment, a minimum area or Root Protection Area (RPA) in m2 should be left undisturbed around each tree to be retained.

4.2 Root Protection Area Calculation

The RPA for individual trees has been plotted on the Tree Survey Plans as a circle centred on the base of that stem. The RPA for tree several groups is estimated based on the RPA of significant ends or canopy edge of large trees, then linked together.

4.3 Protective Fencing

The recommended location of protective fencing is shown on the Tree Survey Plans in Appendix A (also the 'Tree Protection Plans').

Protective fencing and barriers should be constructed in accordance with Section 6.2 and Figure 2 + 3 of BS 5837:2012 and fit for excluding construction activity.

5 Strategic Overview, Future Management and Recommendations for New Planting

5.1 Tree Constraints During Design and Development

It is essential when selecting trees to be retained to make practical provision for protection during the development work. Root Protection Areas and the location for barrier fencing have been indicated on the Tree Survey plans.

Careful consideration should also be taken of the location of services. If possible service layout should be designed to follow common trenches, and leaving suitable space for tree planting and avoiding Root Protection Areas. This will also avoid subsequent disruption of trees during routine maintenance of services.

Future post development maintenance of new and existing trees is vital if new trees are to become successfully established, and the older trees are to be safely retained. Maintenance of new planting is also important during the establishment period.

5.2 Design Considerations for New Planting

All new tree planting should take into consideration the future use, layout and design of the new road, constraints of the soil and climate, the local landscape character and contextual surroundings.

There will be a loss of just under 50% of the tree cover on the site, most of it along Dodworth Road. The unaffected trees located immediately behind these lost ones should be supplemented by new planting to form a dense roadside tree belt to recreate and enhance the existing vegetation pattern. (Alternatively, consideration could be given to re-routing the footway behind the perimeter trees as para 3.6 above)

All new planting should be designed in conjunction with the proposed new ‘Gateway Feature’ and the design for the remaining areas of Penny Pie Park.

6 Tree Removal and Surgery of Trees to be Retained

6.1 Tree Works

The tree by tree survey indicates all trees which should be removed, and all work needed to individual trees or groups. Consideration should be given during the tree works operations to balance and form, in association with the adjacent trees to be retained within a group. A system should be adopted where all trees to be felled and all stumps grubbed up should be removed first, so that subsequent crown shaping work may be considered within the context of the remaining space.

Tree removal and surgery work should be made following the recommendations of BS 3998, and a qualified tree works contractor / arboriculturalist should be used to carry out any of the works.

6.2 Bats - Protected Species

All British bat species are protected under Schedule 5 of the Wildlife and Countryside Act 1981, as updated by the Countryside and Rights of Way Act 2000. All British bats are also included on Schedule 2 of the Conservation (Natural Habitats etc) Regulations 1994 as European Protected Species.

It is an offence to intentionally or recklessly kill, injure or capture bats; deliberately or recklessly disturb bats (whether in roots or not); damage, destroy or obstruct access to bat roosts.

6.3 Birds - Protected Species

The main bird nesting season is between March and August inclusive. Contractors have a legal responsibility to comply with current legislation relating to breeding birds.

Under the Wildlife and Countryside Act 1981 and the Countryside and Rights of Way Act 2000, all birds, their nests and eggs are protected and it is an offence to take, damage or destroy the nest of any wild bird; take or destroy the egg of any wild bird; disturb any wild bird on Schedule 1 while it is nest building, at nest containing young, or disturb the dependent young of such a bird.

7 Summary

7.1 The Site

The survey site is a small park of mainly open grassland with a belt of trees and shrubs along its southern (Dodworth Road) and western (Pogmoor Road) boundaries. A railway cutting of native trees and shrubs forms the northern boundary and a wider woodland belt buffers the eastern boundary from adjacent housing.

7.2 Individual trees, Groups of trees and shrubs

Most of the trees are of ornamental or semi-native species and of a similar age, 20-40years old.

The trees are set mainly around the perimeters of the park. Those on the Dodworth Road boundary form a visually important roadside tree belt. Trees and shrubs along Pogmoor Road form a similar function but are a less continuous belt.

7.3 Specific Tree Observations

The groups of black poplar hybrids near the centre of the park are all over mature and most show signs of senescence and instability but are not recommended for removal due to their potential wildlife value. Of the five trees allocated a grade A, three are the trees set on the road verge on Pogmoor Road where space has allowed the formation of well-balanced trees. (T77, T85, T86).

7.4 Impact Assessment and Recommendations

Generally the trees are a mix of category B and C, with a scattering of category A trees. Many have supressed or one-side crowns due to proximity to other trees. However they have been generally well managed and have significant collective value to the landscape as a group features.

Approximately 49no individual trees and tree groups will be lost as result of the proposed works representing just under 50% of the total. Of these 3no are grade A, 20no are grade B and 26no are grade C.

It is recommended that substantial tree planting is undertaken, particularly along Dodworth Road, but it should be linked in design and species to the design of the Gateway Feature and the remainder of Penny Pie Park. Consideration could be given to re-routing the footway on the north side of Dodworth Road through the park to retain a greater proportion of the existing roadside trees.

Tree protection fencing is recommended to protect the roots of the trees to be retained, all in accordance with the recommendations of BS 5837:2012 and the Tree Protection Plan.

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Appendix A Drawings

J209/01a Overview and Key Plan
J209/02a Tree Survey & Tree Protection Plan (sheet 1/4)
J209/03a Tree Survey & Tree Protection Plan (sheet 2/4)
J209/04a Tree Survey & Tree Protection Plan (sheet 3/4)
J209/05a Tree Survey & Tree Protection Plan (sheet 4/4)

HD/7122127/C-1 Draft scheme layout – Option G

SHEET FOUR

SHEET THREE

SHEET ONE

SHEET TWO

POGMOOR ROAD

WHITEHILL AVENUE

Site boundary

DODWORTH ROAD

A628 DODWORTH ROAD

BROADWAY

KEY

REFERENCE
BS 5837:2012 Category.

- A - High quallity
- B - Moderate quality
- C - Low quality
- U - Trees Unsuitable for Retention
- Other tree groups and hedgerows
- Trees to be removed due to proposed works
- Tree protection fencing
- Root Protection Areas (RPA)
- Overlay of proposals

N

Tree numbers refer to schedule in Tree Survey Report .

The RPA should be created using a robust barrier fence that fully meets the requirements of BS 5837:2012.

Barrier fence to be 2m high 'Heras' type weldmesh fencing panels, well braced to resist impacts, or a framework of vertical and horizontal tubular scaffold poles braced sufficiently to receive weld mesh which should itself be securely fixed with wire or scaffold clamps.

The fencing should be sufficiently strong to withstand impacts likely to be caused during building operations.

All-weather signs should also be affixed to the fencing at regular intervals stating; "CONSTRUCTION EXCLUSION ZONE KEEP OUT."

Revision Revised layout proposals, Option G, added Date 28 June 18

Project	Date	Scale	Size
J37: Pogmoor Rd., Dodworth Rd., junction improvements	Sept 17	1:1000	A2
Drawing Title	**Drawing no.**	**Drawn by**	**Checked**
Tree Survey and Protection Plan Overview and key plan.	J209/01a	CF	

Wainwright
Landscape Architecture
6 Lindale Lane, Wrenthorpe, Wakefield, WF2 0PN
T. +44 (0)1924 381256 E. info@wainwrightla.co.uk

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- Overlay of proposals

N

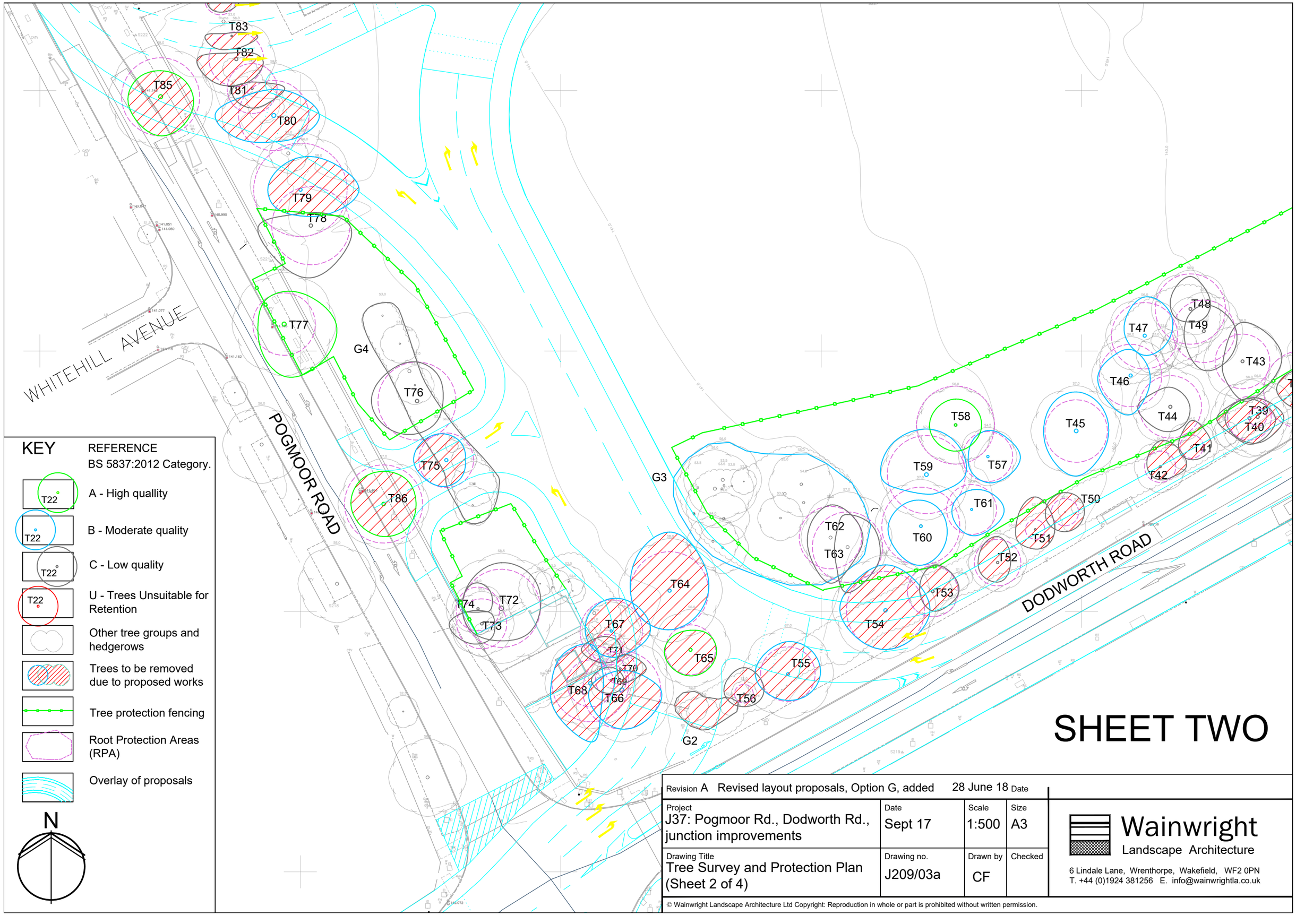
DODWORTH ROAD

SHEET ONE

Revision A Revised layout proposals, Option G, added 28 June 18 Date			
Project J37: Pogmoor Rd., Dodworth Rd., junction improvements	Date Sept 17	Scale 1:500	Size A3
Drawing Title Tree Survey and Protection Plan (Sheet 1 of 4)	Drawing no. J209/02a	Drawn by CF	Checked

Wainwright
Landscape Architecture
6 Lindale Lane, Wrenthorpe, Wakefield, WF2 0PN
T. +44 (0)1924 381256 E. info@wainwrightla.co.uk

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SHEET TWO

KEY

REFERENCE
BS 5837:2012 Category.

- A - High quallity
- B - Moderate quality
- C - Low quality
- U - Trees Unsuitable for Retention
- Other tree groups and hedgerows
- Trees to be removed due to proposed works
- Tree protection fencing
- Root Protection Areas (RPA)
- Overlay of proposals

N

Revision A Revised layout proposals, Option G, added 28 June 18 Date			
Project J37: Pogmoor Rd., Dodworth Rd., junction improvements	Date Sept 17	Scale 1:500	Size A3
Drawing Title Tree Survey and Protection Plan (Sheet 2 of 4)	Drawing no. J209/03a	Drawn by CF	Checked

Wainwright
Landscape Architecture
6 Lindale Lane, Wrenthorpe, Wakefield, WF2 0PN
T. +44 (0)1924 381256 E. info@wainwrightla.co.uk

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SHEET THREE

KEY

REFERENCE
BS 5837:2012 Category.

- A - High quallity
- B - Moderate quality
- C - Low quality
- U - Trees Unsuitable for Retention
- Other tree groups and hedgerows
- Trees to be removed due to proposed works
- Tree protection fencing
- Root Protection Areas (RPA)
- Overlay of proposals

N

T22 G6 T98 T94 T95 T93 T97 T96 T92 G5 T91 T90 T89 G6 T88 T87 T84 T83 T82 T85 T81 T80 T79

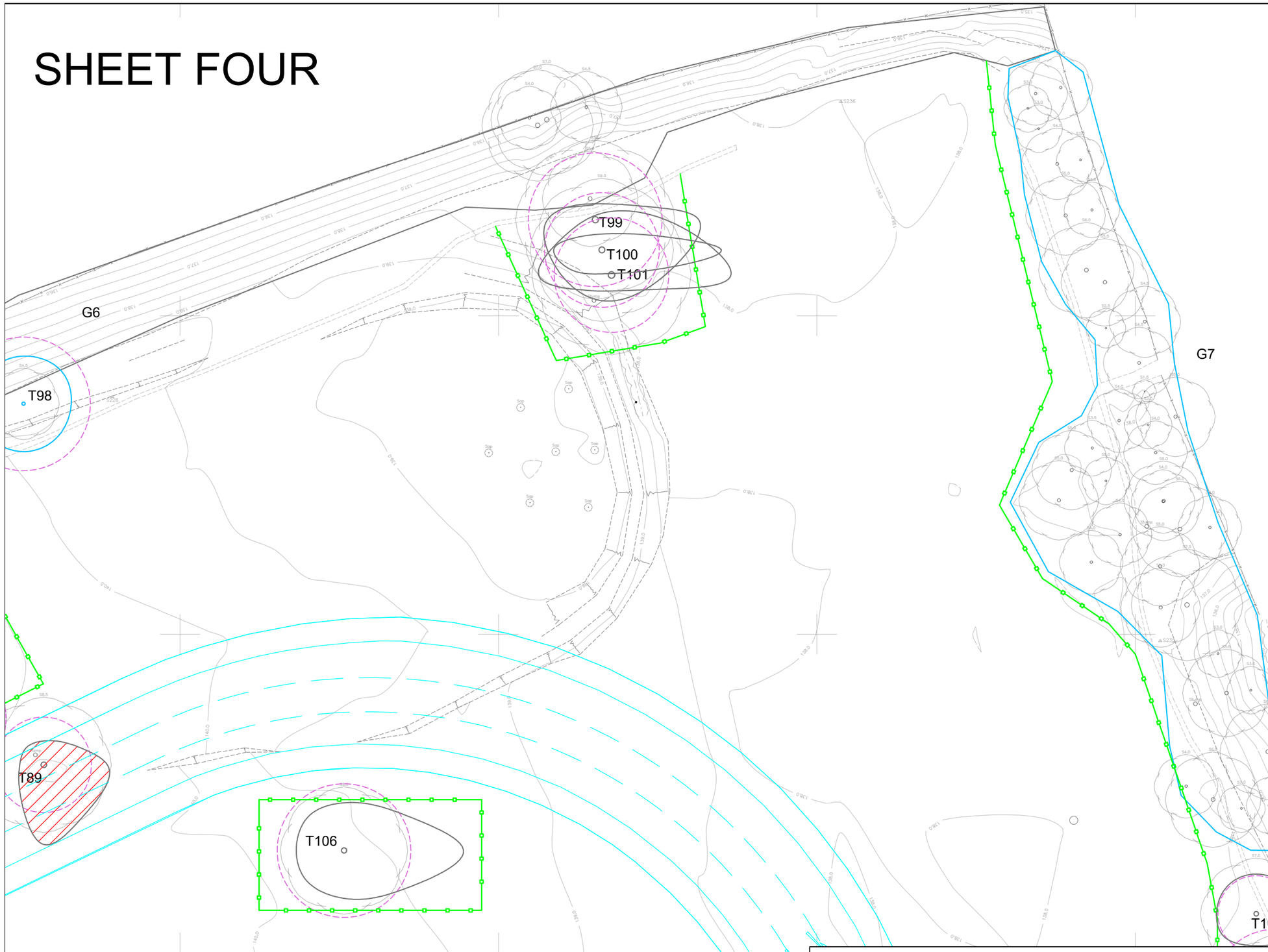
Revision A Revised layout proposals, Option G, added 28 June 18 Date

Project	Date	Scale	Size
J37: Pogmoor Rd., Dodworth Rd., junction improvements	Sept 17	1:500	A3
Drawing Title Tree Survey and Protection Plan (Sheet 3 of 4)	Drawing no. J209/04a	Drawn by CF	Checked

Wainwright
Landscape Architecture
6 Lindale Lane, Wrenthorpe, Wakefield, WF2 0PN
T. +44 (0)1924 381256 E. info@wainwrightla.co.uk

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SHEET FOUR



KEY

REFERENCE
BS 5837:2012 Category.

- A - High quallity
- B - Moderate quality
- C - Low quality
- U - Trees Unsuitable for Retention
- Other tree groups and hedgerows
- Trees to be removed due to proposed works
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- Overlay of proposals

N

Revision A Revised layout proposals, Option G, added 28 June 18 Date

Project	Date	Scale	Size
J37: Pogmoor Rd., Dodworth Rd., junction improvements	Sept 17	1:500	A3
Drawing Title	**Drawing no.**	**Drawn by**	**Checked**
Tree Survey and Protection Plan (Sheet 4 of 4)	J209/05a	CF	

Wainwright
Landscape Architecture
6 Lindale Lane, Wrenthorpe, Wakefield, WF2 0PN
T. +44 (0)1924 381256 E. info@wainwrightla.co.uk

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N

KEY

- NEW & IMPROVED HIGHWAY
- FOOTWAY / CYCLEWAY
- GREEN SPACE
- SIGNALISED CROSSING LOCATIONS

EXISTING MULTI USE GAMES AREA & OUTDOOR GYM TO BE RELOCATED

EXISTING EMERGENCY HELICOPTER LANDING AREA TO BE RELOCATED

POGMOOR ROAD CLOSED TO VEHICULAR TRAFFIC

WHITE HILL AVENUE NEW ACCESS ROAD

POGMOOR ROAD CLOSED TO VEHICULAR TRAFFIC AT JUNCTION WITH DODWORTH ROAD

NEW HORIZON SCHOOL ACCESS

BARNSLEY TO HUDDERSFIELD RAILWAY

POGMOOR ROAD

WHITE HILL AVENUE

A628 DODWORTH ROAD

BROADWAY

HAREWOOD AVENUE

DALESWOOD AVENUE

BEAUMONT AVENUE

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Rev.	By	Amendments	Date

BARNSLEY
Metropolitan Borough Council

Project
M1 JUNCTION 37
PHASE 1

Drawing title
GENERAL LAYOUT
APPENDIX A

Scale	Drawn	Checked	Date
1:500	K.Holdroyd		FEB 18

Drawing No.	Revision	File
HD/7122127/C - 1		

Paul Castle Service Director Place Directorate
Environment & Transportation (Business Unit 6)
P.O. Box 601, Westgate Plaza One, Westgate
Barnsley. S70 9FA
Tel. (01226) 770770 Fax. (01226) 772222

Appendix B Tree Survey Schedule

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T1	Norway maple *(Acer platanoides)*	18	450	N 2 E 7 S 5 W 5	4	Mature	Good	Light, well balanced crown. Stem leans very slightly	None	20+	B
T2	Norway maple *(Acer platanoides)*	6	120	N 2 E 2 S 3 W 1	3	Early mature	Medium	Leader bends at top of bole. Slightly spindly growth due to growing within the crown of T1.	None	40+	C
T3	Sycamore cultivar *(Acer pseudoplatanus spp)*	16	300	N 2.5 E 5 S 2.5 W 3	4	Mature	Good	Narrow crown affected by neighbouring trees	None	20+	B
T4	Silver birch *(Betula pendula)*	18	300	N 2 E 5 S 2 W 5	4	Mature	Medium	Frequent dead branches in lower crown	Cut our deadwood	20+	C
T5	Beech cultivar *(Fagus spp)*	18	300	N 2 E 5 S 2 W 5	4	Mature	Poor	Significant deadwood in crown. Very close to adjacent house		10+	R
T6	Alder *(Alder glutinosa)*	16	200	N 2.5 E 5 S 2 W 2.5	6	Mature	Poor	Extremely sparse crown, due to overshadowing of adjacent trees.		10+	R
T7	Horse chestnut *(Aesculus hippocastanum)*	18	450	N 5 E 6 S 6 W 5	4	Mature	Good	Well balanced crown, but dense	Crown thin	20+	B

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T8	Alder *(Alder glutinosa)*	15	320	N 6 E 5 S 4 W 2	3	Mature	Good		None	20+	B
T9	Sycamore cultivar *(Acer pseudoplatanus spp)*	17	400	N 6 E 6 S 4 W 2	4	Mature	Good		None	20+	B
T10	Sycamore cultivar *(Acer pseudoplatanus spp)*	17	400	N 8 E 6 S 2 W 5	4	Mature	Good		None	20+	B
T11	Sycamore cultivar *(Acer pseudoplatanus spp)*	17	400	N 4 E 3 S 3 W 5	4	Mature	Good	Ivy taking hold on stem. Some poorly pruned branches on east side of canopy	Prune stumps left from poor pruning. Remove ivy	20+	C
T12	Sycamore cultivar *(Acer pseudoplatanus spp)*	18	500	N 3 E 7 S 9 W 5	4	Mature	Good	Stem covered with ivy	Remove ivy	20+	C
T13	Lime *(Tilia spp.)*	16	300	N 4 E 2 S 4 W 3	3	Mature	Moderate	Leans to east. Bi-furcates @2m ht to one large and one small stem. Interstitial growth	Remove interstitial growth	20+	C
T14	Ash *(Fraxinus excelsior)*	18	500	N 6 E 6 S 3 W 4	4	Mature	Good	A few dead branches within areas of heavy shade	Remove dead branches)	20+	B

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
G1	Group of 3 sycamore close together *(Acer pseudoplatanus spp)*	400 Each tree		N 3 E 4 S 5 W 4	4	Mature	Good	Part of roadside trees, therefore well pruned.	None	20+	B
T15	Norway maple *(Acer platanoides)*	16	450	N 4 E 3 S 2 W 5	3	Mature	Moderate	Main stem leans quite strongly. Splits into 5 limbs @ 2.5m ht; possible future weak point.	None	20+	C
T16	Sycamore cultivar *(Acer pseudoplatanus spp)*	16	400	N 4 E 5 S 3 W 4	4	Mature	Good	Slight lean to trunk.	None .	20+	C
T17	Lime *(Tilia spp.)*	17	350	N 3 E 4 S 3 W 3	4	Mature	Good	Slight lean to trunk	None .	20+	C
T18	Black Poplar hybrid *(Populus nigra)*	16	350	N 2 E 2 S 2 W 1	4	Early Mature	Moderate	Main stem cut previously @ 4m ht., leaving spindly leader	None. .	40+	C
T19	Norway maple *(Acer platanoides)*	17	550	N 3 E 5 S 5 W 5	4	Mature	Good	Slight lean to trunk. Splits into main stems @ 4m ht.; possible future weak point	None	20+	C
T20	Walnut *(Juglans regia)*	12	100	N 2 E 2 S 2 W 1	4	Early Mature	Good		None	40+	B

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T21	Ornamental Cherry *(Prunus spp.)*	16	500	N 4 E 3 S 4 W 3	4	Mature	Good	Large limb junction @ 3m ht.	Further investigation	20+	B
T22	Walnut *(Juglans regia)*	15	150	N 3 E 3 S 3 W 3	3	Early Mature	Good	Well pruned tree on roadside	None	40+	C
T23	Ornamental Cherry *(Prunus spp.)*	16	40	N 4 E 5 S 4 W 3	4	Mature	Good	Well pruned tree on roadside	None.	20+	B
T24	Sycamore cultivar *(Acer pseudoplatanus spp)*	17	300	N 4 E 3 S 3 W 2.5	4	Mature	Good	Well pruned tree on roadside	None.	20+	B
T25	Sycamore cultivar *(Acer pseudoplatanus spp)*	18	350 1# 400 2#	N 7 E 3 S 3 W 3	4	Mature	Good	Double –stemmed from 0.5m ht	None	20+	C
T26	Lime *(Tilia spp.)*	17	350	N 4 E 3 S 3 W 3	4	Mature	Good	Well balanced crown	None	20+	B
T27	Sycamore cultivar *(Acer pseudoplatanus spp)*	17	350 1# 350 2#	N 4 E 3 S 3 W 3	4	Mature	Good-mod	Multi-stemmed tree. Splits to 2 stems @ 0.3mht., then each branch splits to 3 @ 1-1.5m ht, but appears to be sound structurally.	None	20+	C
T28	Walnut *(Juglans regia)*	14	120	N 3 E 2 S 4 W 2	3	Early Mature	Good		None	20+	B

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T29	Tulip tree (*Liriodendron tulipifera*)	12	150	N 2 E 2 S 2 W 2	4	Early mature	Good		None. .	40+	C
T30	Black Poplar hybrid *(Populus nigra)*	17	400	N 5 E 9 S 6 W 4	4	Mature	Good-mod	Very low, heavy limb to east. Basal growth. Several joints in crown appear damp.	Further investigation of joints required	20+	C
T31	*Norway maple (Acer platanoides)*	18	450	N 4 E 5 S 5 W 4	4	Mature	Good	Basal growth	Remove basal growth	20+	B
T32	Ornamental Cherry *(Prunus spp.)*	16	500	N 6 E 5 S 10 W 6	3.5	Mature	Good	Ivy strong on stem. Dense crown, including dead laterals	Remove ivy. Crown thin, removing dead branches	20+	C
T 33	Ornamental Cherry *(Prunus spp.)*	16	300 500	N 5 E 8 S 8 W 5	3.5	Mature	Good	Double stemmed tree. Some ivy on stem	Remove ivy	20+	C
T 34	Rowan *(Sorbus aucuparia spp)*	4	100	N 2 E 2 S 2 W 2	1.5	Early Mature	Moderate	Poor shape. Growing in strong shade of neighbouring trees	None	40+	C
T 35	Purple Norway maple *(Acer platanoides Crimson King)*	16	300	N 1 E 6 S 1 W 2	3.5	Mature	Moderate	Sound, but crown one-sided due to overshadowing	None	20+	C

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T 36	Norway maple *(Acer platanoides)*	17	400	N 5 E 6 S 3 W 5	4	Mature	Good	Good roadside tree	None	20+	B
T 37	Lime *(Tilia spp.)*	16	150	N 3 E 3 S 2 W 2	3.5	Early mature	Good	Good roadside tree	None	20+	B
T 38	Lime *(Tilia spp.)*	18	500	N 3 E 3 S 3 W 4	3.5	Mature	Good	Stem splits @ 2m ht., then one stem bends sharply. Generally sound	None	20+	C
T 39 And 40	Cotoneater Cornubia	16	100 100 150 150 100 100	N 3 E 4 S 4 W 5	4	Mature	Moderate	Group of 6 stems probably arising from a single old base. Crown of dense, crossing stems	Crown thin	20+	C
T 41	Purple ash	8	150	N 4 E 3 S 2 W 2	3	Mature	Good	Dense crown, a little uneven due to neighbouring trees	Crown thin	20+	C
T 42	Lime *(Tilia spp.)*	10	200	N 4 E 4 S 2 W 3	3	Early mature-Mature	Good	Slight lean	None	40+	C
T 43	Norway maple *(Acer platanoides)*	20	350	N 6 E 6 S 6 W 3	4	Mature	Good	Stem splits into many stems at 5m ht., possible area of future weakness	None	20+	C2

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T 44	Black Poplar hybrid *(Populus nigra)*	18	400	N 3 E 3 S 4 W 5	4	Mature	Good	Damage to bark near base	None	20+	C
T 45	Norway maple *(Acer platanoides)*	19	400	N 6 E 5 S 7 W 5	4	Mature	Good	Well balanced crown	None	20	B
T 46	Lime *(Tilia spp.)*	17	400	N 4 E 3 S 6 W 5	4	Mature	Good		None	20+	B
T 47	Norway maple *(Acer platanoides)*	18	425	N 6 E 4 S 3 W 3	4	Mature	Moderate	Dark area at major joint. Bark partly stripped	Further investigation required	20+	C
T 48	Norway maple *(Acer platanoides)*	18	450	N 5 E 3 S 2 W 3	4	Mature	Moderate	Severe damage to trunk	None, but monitor due to trunk damage	20+	C
T 49	Norway maple *(Acer platanoides)*	18	400	N 4 E 5 S 6 W 3	4	Mature	Good		None	20+	C
T 50	Sycamore cultivar *(Acer pseudoplatanus spp)*	12	175	N 3 E 3 S 3 W 3	3	Early Mature	Good	Stem leans slightly. Difurcates @ 1.5m ht., but otherwise well balanced.	None	40+	C
T 51	Walnut *(Juglans regia)*	12	125	N 5 E 3 S 3 W 3	3-4	Early Mature	Good		None	40+	C

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T 52	Lime *(Tilia spp.)*	12	8 stems 125 x 3 100 x 4 75 x1	N 4 E 2 S 3 W 3	3-4	Early Mature	Good	Difficult to inspect due to shrub growth	None	40+	C
T 53	Purple plum *(Prunus cerasifera)*	10	325 below flare	N 4 E 4 S 3 W 2	3-4	Mature	Moderate	Divides @0.4m ht., to 2 stems. Heavy pruning has lead to a ragged crown. Suppressed by weeping willow (T54), on west.	Prune truncated branches back to main stems.	20+	C
T 54	Weeping willow *(Salix babylonica)*	16	500	N 7 E 7 S 6 W 7	4	Mature	Good	Leaning trunk but otherwise sound. Good roadside presence	None	20+	B
T 55	Lime *(Tilia spp.)*	16	350	N 5 E 5 S 4 W 5	5	Mature	Good		None	20+	B
T 56	Tulip tree *(Liriodendron tuliperfera)*	10	120	N 4 E 3 S 2 W 3	4	Early Mature	Good	Slightly leaning	None	40+	C
G 2	Group of small multi-stemmed plums *(Prunus domestica var)*	10	75-150	N 4 E 3 S 3 W 3	NA	Mature	Moderate	Many stems arising from 1-2 main boles at ground level. Forms shrubby group.	Light thinning of some of the stems	20+	C
T 57	Norway maple *(Acer platanoides)*	16	320	N 4 E 5 S 4 W 3	4	Mature	Good	Bifurcates at sharp joint @ 1.8m ht., but well balanced crown.	None	20+	B
T 58	Norway maple *(Acer platanoides)*	19	500	N 4 E 4 S 4 W 4	6	Mature	Good	Well proportioned	None	20+	A

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T 59	Ash *(Fraxinus excelsior)*	19	500	N 7 E 6 S 3 W 7	4	Mature	Good	Crown supressed to south	None	20+	B
T 60	Horse chestnut *(Aesculus hippocastanum)*	19	500	N 4 E 4 S 6 W 5	4	Mature	Good	Dense overcrowding where stem divides @2m ht. Some bark damage.	None	20+	B
T 61	Horse chestnut *(Aesculus hippocastanum)*	17	320	N 3 E 5 S 4 W 3	4	Mature	Good	Dense overcrowding where stem divides @2m ht.	None	20+	B
G 3	Group of cherry, Norway maple, lime, whitebeam underplanted with dogwood and snowberry.	NA	NA	NA	NA	Mature	Good	Good stand of trees and shrubs behind and separate from roadside trees. Largest trees identified separately in T62-63 below	None	20+	B
T 62	Lime *(Tilia spp.)*	18	400	N 5 E 5 S 7 W 2	4	Mature	Good	Crown suppressed by adjacent trees	None	20+	C
T 63	Lime *(Tilia spp)*	18	450	N 3 E 2 S 5 W 3	4	Mature	Good	Crown suppressed by adjacent trees	None	20+	C
T 64	Sycamore cultivar *(Acer pseudoplatanus spp)*	17	500	N 9 E 6 S 6 W 6	4	Mature	Good	Bifurcates @ 2m ht then into several heavy limbs.	None	20+	B

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T 65	Purple Norway maple (Acer platanoides Crimson King)	16	320	N 3 E 4 S 4 W 3	4	Mature	Good	Good structure	None	20+	A
T 66	Norway maple *(Acer platanoides)*	17	500	N 3 E 6 S 6 W 5	4	Mature	Good	Leans very slightly. Bi-furcates @2m ht., potential rot at this junction.	None	20+	B
T 67	Norway maple *(Acer platanoides)*	18	400	N 5 E 6 S 4 W 4	4	Mature	Good	Leans very slightly. Good crown but some die-back on lower laterals	Crown thin of dead wood	20	B
T 68	Norway maple *(Acer platanoides)*	16	300	N 6 E 2 S 9 W 6	4	Mature	Good	Leans very slightly towards light, west.		20+	B
T 69	Lime *(Tilia spp)*	17	200	N 2 E 2 S 2 W 3	5	Early Mature	Good	Good, but supressed by adjacent trees.	None	40+	C
T 70	Lime *(Tilia spp)*	17	200	N 2 E 4 S 2 W 0.5	5	Early Mature	Good	Good, but supressed by adjacent trees.	None	40+	C
T 71	Norway maple *(Acer platanoides)*	17	200	N 2 E 2 S 2 W 4	5	Early mature	Good	Good, but supressed by adjacent trees.	None	40+	C
T 72	Norway maple *(Acer platanoides)*	18	500 below flare	N 2 E 6 S 8 W 8	4	Mature	Good	Pruned heavily on west for sub-station clearance. Wire passes through crown. Bi-furcates to 2 main stems @ 2m ht. Crack in bark.	Further investigation of bark damage required	20+	C

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T 73	Lime *(Tilia spp)*	18	320	N 2 E 2 S 3 W 5	4	Mature	Good	Pruned heavily on west for sub-station clearance. Wire passes through crown. Bi-furcates to 2 main stems @ 2m ht.	None	20+	C
T 74	Lime *(Tilia spp)*	17	280	N 4 E 2 S 0.5 W 4	4	Mature	Good	Pruned heavily on west for sub-station clearance. Crown suppressed by adjacent trees. Wire passes through crown	None	20+	C
G 4	Group of shrubs and trees. Plum, rowan, ash, weeping willow, purple plum, cherry, laurel, holly, redcurrent					Mature	Good	Shrubs and trees together making reasonable group. T75 and T76 are within group.		20+	C
T 75	Ash *(Fraxinus excelsior)*	18	350	N 4 E 3 S 4 W 5	4	Mature	Good	Good specimen	None	20+	B
T 76	Weeping willow *(Salix babylonica)*	18	500	N 6 E 4 S 5 W 7	4	Mature	Good	Strong kink in main stem. Some lower branches broken or damaged. Distinctive tree on roadside	Remove broken branches	20+	C
T 77	Lime variety *(Tilia spp)*	20	400	N 5 E 8 S 8 W 4	5	Mature	Good	Stately tree in roadside verge. Well pruned to keep crown above road vehicles.	None	20+	A
T 78	Norway maple *(Acer platanoides)*	18	500 below flare	N 2 E 6 S 8 W 8	4	Mature	Good-mod	Splits into 3 at 1m height. Some bark damage near base.	None	20+	C
T 79	Weeping willow *(Salix babylonica)*	18	500 450 400 300 350	N 5 E 9 S 4 W 5	2	Over Mature	Good	5 main stems, a few broken laterals, but otherwise appears stable. Distinctive tree visually.	None	10+	B

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T 80	Weeping willow *(Salix babylonica)*	18	450	N 4 E 7 S 4 W 9	2	Mature	Good	Strong lean of main stem combined with heavy, wide spreading laterals may lead to instability	None	10+	B
T 81	Purple plum *(Prunus cerasifera)*	12	320	N 1 E 5 S 3 W 3	3	Over Mature	Moderate	Some poor pruning of crown. Suppression by adjacent trees.	None	20+	C
T 82	Ornamental cherry *(Prunus spp)*	13	350	N 1 E 4 S 4 W 6	3	Over Mature	Good	Dense limbs where main stem divides into 3 @ 2m ht. Uneven crown stretching towards the west.	Crown thinning	10+	C
T 83	Lime variety *(Tilia spp)*	14	200	N 0.5 E 4 S 2 W 4	3	Early Mature	Good	Bark split in stem, but growing over. Slight lean of main stem. Very suppressed crown to the north by a tree that is no longer there.	None	40+	C
T 84	Indian bean tree (*Catalpa bignoniodes*)	10	200	N 1 E 3 S 3 W 2	5	Early Mature	Good	Long straight stem with poor crown, mainly developed to the east. Sme bark damage near base.	None	40+	C
T 85	Lime variety *(Tilia spp)*	20	500	N 4 E 5 S 6 W 5	4	Mature	Good	Stately tree in roadside verge. Well pruned to keep crown above road vehicles. Acute angled junction with limbs @ 2m ht., may be susceptible to rot.	None	20+	A
T 86	Lime variety *(Tilia spp)*	19	500	N 5 E 5 S 5 W 5	4-5	Mature	Moderate	Stately tree in roadside verge. Well pruned to keep crown above road vehicles	None	20+	A
T 87	Goat willow *(Salix caprea)*	18	600	N 6 E 3 S 6 W 6	2	Over Mature	Poor	On slope of railway cutting. Open structure where main limbs meet stem, substantial rot/decay evident here. Danger of falling limbs towards rail line.	Remove all broken/damaged limbs	10+	C

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T 88	Sycamore *(Acer pseudoplatanus)*	20	500	N 6 E 7 S 7 W 7	3	Mature	Good	Densely branched tree on slope of railway cutting. Leans slightly	None	20+	B
G 4	Willow spp., poplar, elder, apple, bramble	Varies	Varies	N NA E S W	NA	NA	NA	Self-set trees and shrubs, mainly native species, along railway corridor	None		C
T 89	Black Poplar hybrid *(Populus nigra var.)*	18	500	N 3 E 8 S 10 W 3	4	Over Mature	Moderate	Leans to south. Sparse, uneven crown, heavily pruned in past and supressed by adjacent trees, now removed. Some ivy on stem.		10+	C
T 90	Black Poplar hybrid *(Populus nigra var.)*	25	700	N 3 E 6 S 10 W 6	5	Over Mature	Good	Crown mixed with T91	None	20+	B
T 91	Black Poplar hybrid *(Populus nigra var.)*	23	600 below flare	N 3 E 8 S 2 W 8	5	Over Mature	Moderate	Bi-furcates @ 0.6m to one strong and one less strong limb. Broken, drooping limbs to east	Remove broken limbs	20+	C
T 92	Black Poplar hybrid *(Populus nigra var.)*	20	700 below flare	N 6 E 7 S 4 W 10	5	Over Mature	Poor	Bi-furcates @ 0.6, bark missing at split. Substantial die-back in sparse crown	Remove	10+	R
T 93	Black Poplar hybrid *(Populus nigra var.)*	23	700	N 5 E 8 S 6 W 5	5	Over Mature	Moderate	Broken/dying branches evident in fairly sparse, decaying crown.	Remove broken limbs	10+	C
T 94	Black Poplar hybrid *(Populus nigra var.)*	14	550	N 9 E 5 S 4 W 3	4	Over Mature	Poor	Crown sparse, decaying. Main leader lost @ 8m ht.	NOne	10+	C

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T 95	Black Poplar hybrid *(Populus nigra var.)*	10	500	N 9 E 5 S 5 W 5	4	Over Mature	Poor	Centre of tree lost. Tree in senesence	None	10+	C
T 96	Black Poplar hybrid (Populus nigra var.)	20	650	N 6 E 14 S 5 W 6	5	Over mature	Good	Reasonable structure. Some crown completion with purple plum to west	None	10+	B
T 97	Crack willow (Salix fragilis)	15	300	N 3 E 5 S 4 W 3	3	Early mature	Moderate	Bark damage, some clumsy pruning. Crown affected by proximity to T97 and T95	Cut back severed limbs to a main limb	40+	C
G 5	Goat willow, purple plum snowberry	NA	NA	N E S W	NA	Mature	Moderate	Group of small trees and shrubs encompassing T96 and 97. Dense growth affecting good formation of individual specimens	Thin	20+	C
G 6	Trees forming woodland belt on eastern site boundary with housing	15-20	varies	N E S W	NA	Early mature to Mature	Good	Norway maple, horse chestnut, ash, crack willow, whitebeam reasonably spaced to form woodland belt, thickening out to small woodland group towards the south.	None	40+	B
T 98	Sycamore *(Acer pseudoplatanus)*	20	700	N 6 E 6 S 6 W 6	4	Mature	Good	Dense crown, but generally sound	None	20+	B
T 99	Black Poplar hybrid *(Populus nigra var.)*	25	700	N 2 E 13 S 10 W 6	3	Over mature	Moderate	Leans significantly. Some heavy horizontal laterals including one supported with a stake.	None	10+	C
T 100	Black Poplar hybrid *(Populus nigra var.)*	25	600	N 2 E 15 S 3 W 6	5	Over Mature	Good	Some heavy horizontal laterals	None	10+	C

Ref	Species	Height (m)	Stem Ø (mm)	Branch Spread (m)	Height Crown Clearance (m)	Life Stage	PC	Structural Condition General Observations	Preliminary Management Recommendations	ERC (Yrs)	Grade
T102	Norway maple *(Acer platanoides)*	19	400	N 3 E 5 S 3 W 5	5	Mature	Good	Good, but crown influenced by neighbouring trees	None	40+	B
T103	Norway maple *(Acer platanoides)*	19	400	N 5 E 4 S 3 W 2	4	Mature	Good	Good, but crown influenced by neighbouring trees	None	40+	B
T104	Crack willow *(Salix fragilis)*	25	600	N 4 E 3 S 4 W 7	4	Mature	Good	Some shortened or broken laterals. Crown a little supressed by neighbours	None	20+	C
T105	Norway maple *(Acer platanoides)*	19	400	N 5 E 5 S 4 W 5	4	Mature	Good		None	20+	C
T106	Black Poplar hybrid *(Populus nigra var.)*	20	700	N 6 E 10 S 8 W 7	3	Over Mature	Moderate	Some heavy limbs, a main lateral broken in western part of crown.	Remove broken limb	10+	C
T107	Weeping willow	18	700	N 6 E 10 S 8 W 7	4	Mature	Good	Generally good specimen. Pruned on north to prevent growing over road and footway		20+	B