

Arboricultural Method Statement

Plus Arboricultural Impact Assessment & Tree Survey

Land to the south of Seacroft Crescent Seacroft Leeds

> Report reference: AR-5059-03.02 AMS May 2023 Revised August 2023 Revised December 2023

Report Title:	Arboricultural Method Statement Plus Arboricultural Impact Assessment (Including Tree Survey) Land to the south of Seacroft Crescent Seacroft Leeds
Report Reference:	AR-5059-03.02 AMS
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Executive summary

This Arboricultural Method Statement has been based upon information provided within an Arboricultural Impact Assessment that was carried out by Brooks Ecological Ltd, Ref: AR-5059-02 AIA, dated August 2022. The tree survey revealed a total of sixty-one individual trees and six groups of trees/hedging were surveyed. Of these trees/groups, nineteen were identified as retention category 'B' and forty-eight as category 'C'. There were no retention category 'A' or 'U' trees identified. It has been recommended that trees T12, T17, T18, T26 and T34 are monitored annually to assess if their condition is still acceptable.

The application site is mostly flat having previously been the site of a now demolished library and social club. The land lies within a suburban area, surrounded by dwellings and a large supermarket to the North. Several stands of semi mature trees and hedging surround the outline of the original buildings with a stand of more mature trees to the South east of the site.

This report should be read in conjunction with the attached Tree Constraints Plan Ref: DR-5059-01 and Tree Survey AR-5059-01.

A plan has been provided by the client to enable an impact assessment of the proposed works on the existing relevant trees within the Site. The proposals are for eight units and associated car parking.

To facilitate the proposals three small groups, one section of one group and twelve trees are earmarked for removal.

It should be noted that in December 2023, this AMS has been updated with regards to proposed fencing on site. This is due to tree removal (third party nothing related to this application) and ground conditions and the topography of the site. T12, T13, T14 and G15 have been removed by a neighbouring development, thus no longer need protection.

The recommendations in this Arboricultural Method Statement are of a preliminary nature and are subject to comments from Leeds City Council, in line with the current planning application.

Introduction

Purpose of the Report

- 1. This report has been commissioned to provide professional independent, detailed arboricultural advice on all relevant trees present at land to the south of Seacroft Crescent, Seacroft, Leeds. This Arboricultural Method Statement has been based upon the information provided within the Arboricultural Impact Assessment carried out by Brooks Ecological Ltd, Ref: AR-5059-02, dated August 2022. This Arboricultural Method Statement aims to offer professional advice and necessary recommendations to ensure effective tree protection during the proposed development.
- 2. The report has been undertaken in accordance with BS 5837:2012 'Trees in relation to construction Recommendations'.
- 3. The recommendations outlined within this report are based on the plans provided by the client, as well as information on trees from Tree Survey & Arboricultural Impact Assessment.
- 4. A topographical plan has been supplied by the client.
- 5. This Method Statement should be included as part of any specifications and schedules of works supplied to all construction contractors.

Limitations

6. All findings and recommendations are based on visual observations conducted from ground level during the site visit only. No other diagnostic procedures were used to establish any extent of internal decay nor was a climbing inspection undertaken.

Impact Schedule

7. The following schedule identifies the individual tree and its retention category with the main feature(s) of the proposed works likely to cause an impact. The tree references are shown on the tree constraints plan and the tree protection plan. Any mitigation measures are noted.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
TI	Norway Maple	C1	Close to proposed access road Existing tar mac within RPA	Retain	Tree protective fencing in line with BS 5837:2012 Extra care must be taken when removing existing hard standing or grass within the RPA.
T2	Sycamore	C1	Close to proposed access road Existing tar mac within RPA	Retain	Tree protective fencing in line with BS 5837:2012 Extra care must be taken when removing existing hard standing or grass within the RPA.
T3	Cherry	C2	Proposals	Remove	Mitigation planting on site
T4	Norway Maple	C2	Proposals	Remove	Mitigation planting on site
T5	Cherry	C2	Proposals	Remove	Mitigation planting on site
T6	Birch	C2	Proposals	Remove	Mitigation planting on site
G7	Scots Pine	C2	Proposals	Remove	Mitigation planting on site
G8	Ash & Hawthorn	C2	Proposal	Section requires removal	Tree protective fencing in line with BS 5837:2012

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
					Mitigation planting on site
G9	Hawthorn & Goat Willow	C2	Proposals	Remove	Mitigation planting on site
G10	Mixed	C2	Proposals	Remove	Mitigation planting on site
T11	Cherry	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T12	Cherry	C1	This tree has been removed by neighbouring development – no longer on site or needing protection.	This tree has been removed by neighbouring development – no longer on site or needing protection.	This tree has been removed by neighbouring development – no longer on site or needing protection.
T13	Hawthorn	C1	This tree has been removed by neighbouring development – no longer on site or needing protection.	This tree has been removed by neighbouring development – no longer on site or needing protection.	This tree has been removed by neighbouring development – no longer on site or needing protection.
T14	Cherry	C1	This tree has been removed by neighbouring development – no longer	This tree has been removed by neighbouring development – no longer on site or needing protection.	This tree has been removed by neighbouring development – no longer on site or needing protection.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
			on site or needing protection.		
G15	Cypress	C2	This group has been removed by neighbouring development – no longer on site or needing protection.	This group has been removed by neighbouring development – no longer on site or needing protection.	This group has been removed by neighbouring development – no longer on site or needing protection.
T16	Crab Apple	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T17	Cherry	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T18	Sycamore	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T19	Sycamore	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
T20	Lime	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T21	Rowan	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T22	Lime	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T23	Lime	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T24	Lime	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T25	Lime	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
T26	Crab Apple	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T27	Poplar	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T28	Poplar	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T29	Lime	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T30	Lime	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T31	Lime	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
T32	Lime	В2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T33	Norway Maples	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T34	Norway Maple	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T35	Norway Maple	B2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T36	Crab Apple	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
G37	Birch, Alder, Norway Maple	C2	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
T38	Cherry	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T39	Ash	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T40	Willow	C1	Proposals	Remove	Mitigation planting on site
T41	Willow	C1	Proposal	Remove	Mitigation planting on site
T42	Cypress	C1	Proposals	Remove	Mitigation planting on site
T43	Cypress	C1	Proposals	Remove	Mitigation planting on site
T44	Cypress	C1	Proposals	Remove	Mitigation planting on site
T45	Beech	C1	Proposals	Remove	Mitigation planting on site
T46	Beech	C1	Proposals	Remove	Mitigation planting on site
T47	Beech	C1	Proposals	Remove	Mitigation planting on site
T48	Cherry	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T49	Hawthorn	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
T50	Hawthorn	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T51	Hawthorn	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T52	Ash	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T53	Ash	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T54	Ash	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T55	Hawthorn	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T56	Hawthorn	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
					development site.
157	Sycamore	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T58	Sycamore	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T59	Alder	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T60	Sycamore	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T61	Birch	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T62	Birch	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T63	Birch	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It

Tree ref.	Species	Retention category	Proposal feature	Impact	Mitigation
					is now completely separate to the development site.
T64	Birch	Cl	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T65	Sycamore	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T66	Birch	CI	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.
T67	Alder	C1	None	Retain	The area in which this tree is, has been fenced off using permanent metal wire and concrete posting. It is now completely separate to the development site.

Site preparation prior to any construction commencing

8. Three small groups, one section of one group and twelve trees are expected to be removed to facilitate the development. It should be noted that T12, T13, T14 and G15 have been removed by a neighbouring development, thus no longer need protection.

Tree Works

- 9. Prior to any development commencing on site the first operation will be to carry out the necessary tree works. All tree works should conform to BS 3998:2010 Recommendations for tree works. All tree works should be formally approved from the local planning authority before beginning.
- 10. Those trees which overhang the public footpaths or public highways, shall require future maintenance to maintain clearance heights for vehicular or pedestrian traffic. These heights should be 5.6m above a road and 2.5m above a footpath.
- 11. There may be some very minor canopy lifting required to facilitate the new proposed boundary features. Care must be taken while working under any canopy.
- 12. It has been recommended that trees T17, T18, T26 and T34 are monitored annually to assess if their condition is still acceptable.
- 13. Where pruning work is necessary and authorised to roots or branches of retained trees to enable facilitation works, it should be carried out by a competent contractor in accordance with BS 3998: 2010 Tree Works-Recommendations.

Tree protection barriers

- 14. Once the necessary tree works are complete, the protective barriers should be fully installed. No other work should commence until this happens this includes movement of materials, supplies or machinery onto the site and any excavations or soil stripping. Once the barriers are properly erected in their correct positions, they should not be removed or altered in any way without prior approval from the local planning authority.
- 15. An alternative fencing has been proposed by the client for the protection of T1 & T2, because they feel the area is too tight to install default specification fencing, in with BS 5837:2012 due to the back bracing. The method of fencing has been used by Wates previously on different sites IN Leeds. The fencing consists of 2m tall welded mesh Heras panels on rubber heavily weighed feet on stabilizer struts. The panels are jointed together using several anti-tamper couplers installed from inside. Couplers spaced 1m apart and uniform throughout fence. In section there is a triangular fencing adding further strength to the fencing. Vertical scaffold framework poles have also been proposed so the fencing is well braced to resist impacts.

- 16. The rest of the trees on site have been fenced off using permanent metal wire and concrete posting. These areas are now completely separate to the development site.
- 17. All tree protection barriers should be located as shown in on DR-5059-02.01 Tree Protection Plan.
- 18. Care should be exercised when locating the vertical poles to avoid underground services and, in the case of the bracing poles, also to avoid contact with structural roots.
- 19. This fencing will create construction exclusion zones in order to protect the retained trees root protection areas. No pedestrians, vehicles, materials or equipment should be allowed within these fenced areas at any time.
- 20. Clear notices are to be fixed on the outside of the barriers with wording such as: 'NO ACCESS PROTECTED AREA NO STORAGE OR WORK WITHIN THIS AREA'.
- 21. All construction and other relevant personnel are to be informed at site induction of the role of the exclusion barriers and their importance.
- 22. All tree protective fencing should remain intact until **ALL** works within the relevant area are completed.

Site inspection

- 23. Once the necessary tree works have been carried out and the protection barriers are fully installed, it is recommended that no work should commence until the local planning authority and/or Brooks Ecological are invited to carry out a site visit to ensure that it meets all requirements.
- 24. Regular brief reports, including photos, should be submitted to Leeds City Council's Planning Officer and LCC Landscape Team within 5 working days of any inspection.

Development phase

Ground level changes

25. We can confirm that the development proposals do not propose any level changes within proximity any of the retained trees.

Demolition

26. Demolition is not expected within the proposed Site works. Care must be taken when removing grass within the vicinity of any retained tree.

Drainage and utilities

- 27. Drainage and utilities are expected to be included within the proposed Site works and should not involve digging or trenching within RPA's.
- 28. Please refer to the Drainage Plan Ref: 5816-JPG-XX-XX-DR-D-140_ Drainage_General_Arrangement_Preliminary_PO5, for further details.

Proposed retaining walls

- 29. Retaining walls are not proposed within the RPA's of any retained trees on this site.
- 30. Please refer to Plan Ref: 5815-JPG-SW-XX-DR-S-1550_Retaining_Wall_Location_Plan_ Preliminary_PO1, for further details.

Mitigation

- 31. There is opportunity within the scheme to plant trees and enhance wildlife potential. A comprehensive landscaping scheme has been commissioned.
- 32. A compound plan has been provided and we can confirm the compound area is located away from the RPA of any retained tree on site.
- 33. Any cultivation operations within these RPA's should be undertaken carefully by hand with the use of no heavy mechanical machinery.
- 34. All works within RPA's should supervised by Brooks Ecological.
- 35. Regular brief reports, including photos, should be submitted to Leeds City Council's Planning Officer and LCC Landscape Team within 5 working days of any inspection.

Post development phase

Removal of protective barriers

36. Once every aspect of the construction is complete and all machinery and materials are off site, the protective barriers can be dismantled.

Completion meeting

37. Upon completion of all the works specified, it is recommended that the local planning authority are invited to meet on site to check that all works are completed satisfactorily and to discuss any remedial works as required.

General principles for tree protection

- 38. A copy of this Arboricultural Method Statement and appendices should be retained on site at all times.
- 39. If 360 degree excavators are to be used on this site during construction, at no time should the excavating arm encroach over the position of the protective barriers.
- 40. No fires at all on site.
- 41. A designated storage area should be created away from the root protection areas of any retained tree on site. All materials should be stored within this compound.
- 42. Care must be taken to avoid leakage of any noxious materials on to the soil.

Timescale of Works

43. The timescale for arboricultural requirements are summarised below.

Timescale	Action
Stage 1	All requirements listed in the planning consent are approved by the Local Authority planning office.
Stage 2	Undertake the tree works
Stage 3	Install the protective barrier (default specification) around the trees as detailed on DR-5059-02 Tree Protection Plan.
Stage 4	Brooks Ecological to inspect the barrier prior to any on site activity. Once inspected, the protective barrier must not to be moved or breached until ALL works have been completed. Regular brief reports, including photos, should be submitted to Leeds City Council's Planning Officer and LCC Landscape Team within 5 working days of any inspection.
Stage 5	Undertake the construction of proposals.

Stage 6	Following the completion of the construction phase and when all site traffic and machinery has left, the protective barrier and can be removed.
Stage 7	Post construction remedial tree works to be undertaken, if required, including tree planting and landscaping.

Relevant Contact Details

Contact Name	Company	Contact Number
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Tree Survey AR-5059-01



Tree Survey

Land to the South of Seacroft Crescent Seacroft Leeds

> Report reference: AR-5059-01 February 2021

Report Title:	Tree Survey Land to the South of Seacroft Crescent Seacroft Leeds
Report Reference:	AR-5059-01
Written by:	Tom Benson FdSc Arb Arboricultural Consultant
Technical review:	Victoria Black FdSc Arb Principal Arboricultural Consultant
QA review:	Victoria Black FdSc Arb Principal Arboricultural Consultant
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Summary Statement

The land is mostly flat having previously been the site of a now demolished library and social club. The land lies within a suburban area, surrounded by dwellings and a large supermarket to the North. Several stands of semi mature trees and hedging surround the outline of the original buildings with a stand of more mature trees to the South east of the site.

A total of sixty-one individual trees and six groups of trees/hedging were surveyed. Of these trees/groups, nineteen were identified as retention category 'B' and forty-eight as category 'C'. There were no retention category 'A' or 'U' trees identified. Please refer to the retention category and definition criteria for more information.

It has been recommended that trees T12 (now removed), T17, T18, T26 and T34 are monitored annually to assess if their condition is still acceptable.

This report should be read in conjunction with the attached Tree Constraints Plan Ref: DR-5059-01.

Introduction

Purpose of the report

- 2. This report has been commissioned to provide professional independent, detailed arboricultural advice on all relevant trees present at land to the South of Seacroft Crescent, Seacroft, Leeds.
- 3. This report has been undertaken in accordance with BS 5837:2012 Trees in relation to construction Recommendations.
- 4. The client has provided a topographical plan.
- 5. All findings and recommendations are based on visual observations conducted from ground level during the Site visit only. No other diagnostic procedures were used to establish any extent of internal decay nor was a climbing inspection undertaken.
- 6. All measurements were obtained with the use of a clinometer and an electronic distometer. On occasion it is not viable to provide accurate measurements due to restricted access or other mitigating circumstances on site, and the data may be estimated.

Legal implications of work to trees

- 7. Due to the potentially large penalties for illegally carrying out work to protected trees, it is recommended that a check with the local planning authority is carried out prior to any tree works being undertaken and any required consents such as for work to trees with Tree Preservation Orders and/or Conservation Areas are obtained before work to trees on site. Additionally, work to trees at certain times of the year may contravene sections of the Wildlife and Countryside Act regarding nesting and roosting of protected species.
- 8. Every tree owner has a general duty of care to ensure their tree(s) does not pose an unacceptable risk to other people on or adjacent to their land. The landowner will only be liable for injury or damage caused by trees if they are found to be negligent.
- 9. There is no legal obligation for a tree owner to cut back growth from a neighbouring property. However, under Common law of tort of nuisance, an affected neighbour has the right to cut back roots or branches that encroach onto a neighbouring property

back to the boundary of the land owned by the person abating the nuisance without the neighbour's consent (with the exception of TPO's or CA's). The person abating the nuisance has a duty to exercise reasonable care in carrying out work as a failure to do so may lead to liability in negligence (for example where removal of roots makes a tree unstable).

Site description

- 10. The land is mostly flat having previously been the site of a now demolished library and social club. Seacroft Crescent borders the North of the site, Brooklands Avenue runs along the western border and The Green is to the South. Several stands of semi mature trees and hedging surround the outline of the original buildings with a stand of more mature trees to the South east of the site.
- 11. The land is generally flat sloping very slightly from North to South.
- 12. The land lies within a suburban area, surrounded by dwellings and a large supermarket to the North.

Survey conditions

13. The trees were surveyed in cool, overcast and sleeting conditions on 6th January 2021.

Tree data abbreviations and survey methodology

Т	Tree	GL	Ground level
G	Tree group	MS	Multi-stemmed
Н	Hedge	AFP	Access facilitation pruning
OSB	Outside Site boundary	Ave	Average dimension
#/est	Estimated dimension	Тур	Typical dimension
Ν	North	E	South
S	South	W	West
Min	Minimum	Lwr	Lower
adj	Adjacent	Ht	Height

- 14. The trees were assessed visually from ground level. Where access to a tree is restricted this is noted in the schedule.
- 15. The tree reference numbers refer to the attached Tree Constraints Plan (TCP) references. The trees were not tagged for this survey.
- 16. The tree species is listed by common name in the schedules, with a key to scientific names below:

Common name	Botanical name	Common name	Botanical name
Alder (common)	Alnus glutinosa	Goat willow	Salix caprea
Alder (grey)	Alnus incana	Hawthorn	Crataegus monogyna
Apple	Malus domestica	Hazel	Corylus avellana
Aspen	Populus tremula	Holly	llex aquifolium
Ash	Fraxinus excelsior	Hornbeam	Carpinus betulus
Beech	Fagus sylvatica	Larch	Larix decidua
Birch (silver)	Betula pendula	Lime (common)	Tilia x europaea
Birch (downy)	Betula pubescens	Lime (small-leaved)	Tilia cordata
Chestnut (sweet)	Castanea sativa	Maple (field)	Acer campestre
Chestnut (horse)	Aesculus hippocastanum	Maple (Norway)	Acer platanoides
Cherry (wild)	Prunus avium	Poplar (black)	Populus nigra
Cherry (bird)	Prunus padus	Oak (sessile)	Quercus petraea
Cherry	Prunus serrulata	Oak (pendunculate)	Quercus robur
(Japanese)			
Leyland Cypress	X Cupressocyparis leylandii	Rowan/mountain ash	Sorbus aucuparia
Elm (English)	Ulmus procera	Sycamore	Acer pseudoplatanus
Elm (wych)	Ulmus glabra	Weeping willow	Salix chrysocoma
		Whitebeam (Swedish)	Sorbus intermedia

- 17. Measurement of the existing height above ground level of the first significant branch and the direction of growth and the height of the canopy. This informs ground clearance, crown/stem ratio and shading.
- 18. The stem/trunk diameter is measured with a diameter tape at 1.5m from ground level around the stem for single stem trees and for multi-stemmed trees and other variants in accordance with Annex C of the British Standard. Where access restricts measurement of the tree, an estimate has been made, denoted by '#'.
- 19. Canopy spread is measured with an electronic distometer. The close-spacing of some of the trees impeded measurements of canopy spread and height and estimates were made.
- 20. The age of the tree is based on the typical longevity of the particular tree species. The age classes are: young (Y), semi-mature (SM), early mature (EM), mature (M), over-mature (OM) and veteran (V).
- 21. The physiological condition of the tree is an assessment of its likely health, vigour and stress. The classes for physiological condition are: good, fair, poor and dead.
- 22. Structural condition includes tree form, visible defects, irregularities and influencing factors.
- 23. Preliminary management recommendations note work (with prior approval where necessary) to promote the health and longevity of the tree and/or improve safety and/or increase habitat potential.
- 24. The life expectancy (life exp.) is the estimated remaining contribution in years, (<10, 10+, 20+, 40+).
- 25. The retention category (ret cat) for each tree is assessed in accordance with BS 5837: 2012 Table 1, summarised as below:

Category A	Trees of high quality with an estimated remaining life expectancy (ERC) of at least 40 years. Green canopy outline on plan.
Category B	Trees of moderate quality with an estimated ERC of at least 20 years. Blue canopy outline on plan.

Category C	Trees of low quality with an ERC of at least 10 years, OR young trees with a stem diameter below 150mm. Grey canopy outline on plan.
Category U	Trees 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. Trees unsuitable for retention. Dark red canopy outline on plan.

26. Sub-categories of 1, 2 or 3 are included in the tree data tables and are defined as follows:

Sub-category 1 trees are those with 'mainly arboricultural value'

Sub-category 2 trees are those with 'mainly landscape value'

Sub-category 3 trees are those with 'mainly cultural or conservation value'.

27. The root protection area (RPA) in m² is for layout purposed and indicates the 'minimum area around a tree deemed to contain sufficient roots and rooting volume to maintain the tree's viability, and where the protection of the roots and soil structure is treated as a priority'. The RPA is calculated in accordance with BS 5837: 2012 Annex D. Where Site features are likely to have distorted the typical RPA, a polygon of the same area is estimated on plan to reflect a more realistic shape, in accordance with the British standard.

Tree data

28. The following schedule contains the tree data obtained on site:

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
TI	Norway Maple	SM	12	3	380	N 3.5 E 3.5 S 3.5 W 3.5	G	Single vertical stem with a balanced canopy. Epicormic growth at base. No major visible defects.	No additional recommendations	10+	C1
T2	Sycamore	SM	10	2	458	N 3.7 E 3.7 S 3.7 W 3.7	G	Single vertical stem with a balanced canopy. Multi stemmed canopy. No major visible defects.	No additional recommendations	10+	C1
Τ3	Cherry	EM	10	3N	305	N 4.9 E 4.1 S #4.0 W 4.28	F	Single vertical stem with a balanced canopy. Twin- stemmed at 1.5m with included bark. Dead wood and stubs noted throughout. Pruning wounds throughout.	No additional recommendations	10+	C2
T4	Norway Maple	SM	10	5	190	N 4.8 E 2 S 3 W 4.0	F	Single vertical stem with an unbalanced canopy. Suppressed by T3, No major visible defects. Overhanging road	No additional recommendations.	10+	C2
T5	Cherry	SM	9	2	185	N 4.8 E 4.8 S 4.8 W 4.8	F	Single vertical stem with an unbalanced canopy. Suppressed by T4. No major visible defects.	Crown Clean	10+	C2
T6	Birch	EM	10	2	180 160	N 4 E 4 S 4 W 4	G	Twin stemmed at ground level with a balanced canopy. Bark wounds throughout. Significant wound 0.5m. Dead wood and stubs noted throughout. Base obscured, limited inspection. Overhanging footpath.	Crown Clean	10+	C2

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
G7	Scots Pine	EM	>12	2	>400	See plan	F	5x Trees. Bases obscured by brush. Suppression of lower limb growth, typical of species. Covered in dense ivy. No major visible defects	Remove Ivy and reinspect.	10+	C2
G8	Ash & Hawthorn	SM	>8	0	>150	See plan	G	Unmaintained hedge.	No additional recommendations.	10+	C2
G9	Hawthorn & Goat Willow	EM	>8	0	>150	See plan	G	Unmaintained hedge.	No additional recommendations.	10+	C2
G10	Mixed	SM	То 7	0	150	See plan	F	Scrappy self sown understorey. No major visible defects.	No additional recommendations.	10+	C2
TII	Cherry	EM	12	2E	#300	N 5.6 E 5.6 S 5.6 W 5.6	G	Within thick hedge and bramble. Single vertical stem with a balanced canopy. Twin stemmed at 2m. Limited inspection due to location.	No additional recommendations.	10+	C1
T12	Cherry	M						This tree has been removed by neighbouring development – no longer on site or needing protection.	This tree has been removed by neighbouring development – no longer on site or needing protection.		
T13	Hawthorn	М						This tree has been removed by	This tree has been removed		

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
								neighbouring development – no longer on site or needing protection.	by neighbouring development – no longer on site or needing protection.		
T14	Cherry	М						This tree has been removed by neighbouring development – no longer on site or needing protection.	This tree has been removed by neighbouring development – no longer on site or needing protection.		
G15	Cypress	EM						This tree has been removed by neighbouring development – no longer on site or needing protection.	This tree has been removed by neighbouring development – no longer on site or needing protection.		
T16	Crab Apple	M	10	2.58	280	N 0.69 E 3.4 S 3.9 W 2.6	F	Single leaning stem with an unbalanced canopy. Basal epicormic growth. Pruning wounds throughout. No major visible defects. Overhanging road.	No additional recommendations.	10+	C1
T17	Cherry	EM	8	2.55	290	N 1.9 E 6.7 S 5.6 W 3.8	F	Single leaning stem with an unbalanced canopy, biased to South. Large bark wound to the Northwest with decay. Pruning wounds	Monitor.	10+	C1

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
								throughout. Soil pocket at union. Dead wood and stubs throughout.			
T18	Sycamore	M	14	3E	425	N 6 E 8.6 S 3.5 W 5.9	F	Single vertical stem with a balanced canopy. Large bark wound to South at 3m with signs of decay – torn limb. Pruning wounds throughout. Dead wood and stubs noted throughout.	Crown Clean and Monitor.	10+	B2
T19	Sycamore	м	14	2.5N	390	N 6.4 E 4.8 S 2.19 W 5.26	G	Single vertical stem with an unbalanced multi-stemmed canopy. Pruning wounds throughout. Dead wood and stubs noted throughout.	Crown Clean.	10+	B2
T20	Lime	SM	10	2	225	N 3 E 3 S 3 W 3	G	Single leaning stem with an unbalanced canopy. Pruning wounds throughout. Dead wood and stubs throughout. No major visible defects.	No additional recommendations	10+	C1
T21	Rowan	EM	7	2	225	N 3.16 E 3.1 S 3.75 W 2.7	F	Single leaning stem with a balanced canopy. Basal epicormic growth. Pruning wounds throughout. Minor decay evident at base – typical of species.	Clean base, remove epics and reinspect.	10+	C1
T22	Lime	EM	10	25	305	N 3.9 3 3.7 S 3.5 W 3.5	G	Single vertical stem with a balanced canopy. Some exposed roots with mechanical damage.	No additional recommendations	10+	B2

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
								Dead wood and stubs noted throughout.			
T23	Lime	EM	12	2.58	290	N 4.8 E 2.79 S 4.47 W 3.4	G	Single vertical stem with a balanced canopy. Twin- stemmed at 3m. Some exposed roots with mechanical damage. No major visible defects.	No additional recommendations	10+	B2
T24	Lime	EM	12	3	300	N 4 E 2.46 S 6 W 1.58	G	Single vertical stem with balanced canopy. Dead wood and stubs noted throughout. No major visible defects.	Crown Clean	10+	B2
T25	Lime	EM	12	15	320	N 2.18 E 5.2 S 5.7 W 4.1	G	Single vertical stem with balanced canopy. Dead wood and stubs noted throughout. Pruning wounds noted throughout. Birds nesting in canopy. No major visible defects.	Crown Clean	10+	B2
T26	Crab Apple	EM	4	25	160	N 1.4 E 3.4 S 5.4 W 2.68	F	Single leaning stem with an unbalance canopy. Significant decay at base. Pruning wounds throughout.	Monitor	10+	C1
127	Poplar	M	14	10	320	N 1.4 E 1.7 S 3.8 W 2.37	F	Single vertical stem with a balanced canopy. High canopy with significant dead wood below. Dead wood and stubs noted throughout.	Crown Clean	10+	C1

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
T28	Poplar	M	14	10	280	N 2 E 2 S 2 W 2	F	Single vertical stem with a balanced canopy. High canopy with significant dead wood below. Birds nesting in canopy. Dead wood and stubs noted throughout.	Crown Clean	10+	C1
T29	Lime	EM	11	3	310	N 4,8 E 3.28 S 4.6 W 3.2	G	Single vertical stem with a balanced canopy. Epicormic growth throughout, typical of species. Birds nesting in canopy. Dead wood and stubs noted throughout. No major visible defects.	No additional recommendations	10+	B2
тзо	Lime	EM	13	3	370	N 5.3 E 3.7 S 4.3 W 5.3	G	Single vertical stem with a balanced canopy. Dead wood and stubs throughout. Pruning wounds throughout. No major visible defects.	No additional recommendations	10+	B2
T31	Lime	EM	14	3	345	N 5.3 E 4.9 S 3.4 W 2.4	G	Single vertical stem with a balanced canopy. Dead wood and stubs throughout. Pruning wounds throughout. Birds nesting in canopy. No major visible defects.	No additional recommendations	10+	B2
T32	Lime	EM	13	3	325	N 3 E 3.5 S 5.3 W 3.4	G	Single vertical stem with a balanced canopy. Dead wood and stubs throughout. Pruning wounds throughout. Birds nesting in canopy. No major visible	No additional recommendations	10+	B2

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
								defects.			
T33	Norway Maples	M	12	2	410	N #6 E 5.2 S 4.4 W 3.79	G	Single vertical stem with multi-stemmed balanced canopy. Dead wood and stubs throughout. No major visible defects.	Crown Clean	10+	B2
T34	Norway Maple	М	11	35	305	N 0.96 E 3.26 S 5.67 W 1.68	F	Single leaning stem with an unbalanced canopy. Several dead branches to the North. Significant damage and decay from base to 2m North. Dead Wood and stubs throughout.	Monitor. Crown Clean	10+	B2
T35	Norway Maple	M	11	35	300 inc Ivy	N 3.28 E 3.57 S 5.58 W 1.5	G	Single vertical stem with an unbalanced canopy. Covered in dense Ivy. No major visible defects.	Crown Clean	10+	B2
T36	Crab Apple	м	5	25	160	N 1.6 E 3.5 S 3.69 W 2.86	G	Single leaning stem with an unbalanced canopy. Epicormic growth on stem. No major visible defects.	No additional recommendations.	10+	C1
G37	Birch, Alder, Norway Maple	SM	>10	1	>150	See plan	G	Tall spindly group covered in dense Ivy. Brash and bramble at base limiting inspection.	No additional recommendations	10+	C2
T38	Cherry	M	10	2	#100 100 120 200	# N 4.4 E 4.4 S 4.4 W 4.4	G	Multi-stemmed at ground level with a balanced canopy. Pruning wounds throughout. Located within dense brash and bramble,	No additional recommendations.	10+	C1

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
								limiting inspection.			
T39	Ash	SM	8	0	#100 120	# N 3.4 E 3.4 S 3.4 W 3.4	G	Twin-stemmed at ground level with a balanced canopy. Pruning wounds throughout. Located within dense brash and bramble, limiting inspection.	No additional recommendations	10+	C1
T40	Willow	SM	8	1.5	# 200	# N 1.8 E 1.8 S 1.8 W 1.8	F	Single vertical stem with a balanced canopy. Located within dense bramble preventing close inspection.	No additional recommendations	106	C1
T41	Willow	SM	8	1.5	# 200	# N 1.75 E 1.5 S 1.5 W 1.5	F	Single vertical stem with a balanced canopy. Located within dense bramble preventing close inspection.	No additional recommendations	10+	C1
T42	Cypress	SM	10	1	# 300	# N 2 E 2 S 2 W 2	F	Single vertical stem with a balanced canopy. Located within dense bramble preventing close inspection.	No additional recommendations	10+	C1
T43	Cypress	SM	10	1	# 200	# N 1.8 E 1.8 S 1.8 W 1.8	F	Single vertical stem with a balanced canopy. Located within dense bramble preventing close inspection.	No additional recommendations	10+	C1
T44	Cypress	SM	10	1	# 300	# N 1.8 E 1.8 S 1.8	F	Single vertical stem with a balanced canopy. Located within dense bramble preventing close inspection.	No additional recommendations	10+	C1

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m) W 1.8	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
T45	Beech	SM	9	2	# 150 150	# N 1.2 E 2 S 1.8 W 1.5	F	Twin stemmed with a balanced canopy. Located within dense bramble forming part of an overgrown, closely planted stand.	No additional recommendations	10+	C1
T46	Beech	SM	9	2	# 180 180	# N 1.5 E 2.2 S 1.2 W 1.5	F	Twin stemmed with a balanced canopy. Located within dense bramble forming part of an overgrown, closely planted stand.	No additional recommendations	10	C1
T47	Beech	SM	9	2	# 150 150	# N 1.5 E 2.5 S 2 W 1.5	F	Twin stemmed with a balanced canopy. Located within dense bramble forming part of an overgrown, closely planted stand.	No additional recommendations	10+	C1
T48	Cherry	EM	10	1	# 6 @ >100	# N 4.1 E 4.1 S 4.1 W 4.1	F	Multi-stemmed with a balanced canopy. Located within a dense hawthorn hedge limiting inspection.	No additional recommendations	10+	C1
T49	Hawthorn	SM	5	0.5	# >150	# N 1.5 E 1.5 S 1.5 W 1.5	F	Single vertical stem with a balanced canopy. Located within dense hedging and bramble preventing close inspection.	No additional recommendations	10+	C1

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
T50	Hawthorn	SM	5	0.5	# >150	# N 2.65 E 2.65 S 2.65 W 2.65	F	Single vertical stem with a balanced canopy. Located within dense hedging and bramble preventing close inspection.	No additional recommendations	10+	C1
T51	Hawthorn	SM	5	0.5	# >150	# N 1.5 E 1.5 S 1.5 W 1.5	F	Single vertical stem with a balanced canopy. Located within dense hedging and bramble preventing close inspection.	No additional recommendations	10+	C1
T52	Ash	SM	7	1	# >100	# N 1.2 E 1.2 S 1.2 W 1.2	F	Single vertical stem with a balanced canopy. Located within dense hedging and bramble preventing close inspection.	No additional recommendations	10+	C1
T53	Ash	SM	7	1	# >100	# N 1.5 E 1.5 S 1.5 W 1.5	F	Single vertical stem with a balanced canopy. Located within dense hedging and bramble preventing close inspection.	No additional recommendations	10+	C1
T54	Ash	SM	7	1	# 150 100	# N 4 E 4 S 4 W 4	F	Twin stemmed with a balanced canopy. Located within dense bramble forming part of an overgrown hedge limiting inspection.	No additional recommendations	10+	C1
T55	Hawthorn	SM	5	0	# 180	# N 1.4 E 1.4 S 1.4 W 1.4	F	Single vertical stem with a balanced canopy. Located within dense bramble and ivy preventing close inspection.	No additional recommendations	10+	C1

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
T56	Hawthorn	SM	6	Ŏ	# 150	# N 1.4 E 1.4 S 1.4 W 1.4	F	Single vertical stem with a balanced canopy. Located within dense bramble and ivy preventing close inspection.	No additional recommendations	10+	C1
T57	Sycamore	SM	9	1.5	# 150	# N 1.6 E 1.6 S 1.6 W 1.6	F	Single vertical stem with a balanced canopy. Located within dense bramble and ivy preventing close inspection.	Remove ivy and reinspect.	10+	C1
T58	Sycamore	SM	9	1.5	# 150	# N 1.55 E 1.55 S 1.55 W 1.55	F	Single vertical stem with a balanced canopy. Located within dense bramble and ivy preventing close inspection.	Remove ivy and reinspect.	10+	C1
T59	Alder	SM	10	1	# 240	# N 2.1 E 2.1 S 2.1 W 2.1	F	Single vertical stem with a balanced canopy. Located within dense bramble and ivy preventing close inspection.	Remove ivy and reinspect.	10+	C1
T60	Sycamore	SM	10	1	# 200	# N 1.9 E 1.9 S 1.9 W 1.9	F	Single vertical stem with a balanced canopy. Located within dense bramble and ivy preventing close inspection.	Remove ivy and reinspect.	10+	C1
T61	Birch	SM	8	2	# 150	# N 1.5 E 1.5 S 1.5 W 1.5	F	Single vertical stem with a balanced canopy. Located within dense bramble and ivy preventing close inspection.	Remove ivy and reinspect.	10+	C1
T62	Birch	SM	8	2	# 150	# N 1.7 E 1.7 S 1.7	F	Single vertical stem with a balanced canopy. Located within dense bramble and ivy preventing close	Remove ivy and reinspect.	10+	C1

Ref	Species	Life stage	Ht (m)	Can Ht (m)	Stem diam (mm)	Canopy spread (m)	Physio logical	Structural condition	Recommendations	Life exp. (yrs)	Ret cat
						W 1.7		inspection.			
T63	Birch	SM	8	2	# 150	# N 1.6 E 1.6 S 1.6 W 1.6	F	Single vertical stem with a balanced canopy. Located within dense bramble and ivy preventing close inspection.	Remove ivy and reinspect.	10+	C1
T64	Birch	SM	8	2	# 150	# N 1.75 E 1.75 S 1.75 W 1.75	F	Single vertical stem with a balanced canopy. Located within dense bramble and ivy preventing close inspection.	Remove ivy and reinspect.	10+	C1
T65	Sycamore	SM	9	2	# 220 150 150	# N 4.57 E 4.57 S 4.57 W 4.57	F	Multi-stemmed with a balanced canopy. Located within dense bramble and ivy limiting close inspection.	Remove ivy and reinspect.	10+	C1
T66	Birch	SM	8	2	# 150	# N 3.7 E 3.7 S 3.7 W 3.7	F	Single vertical stem with a balanced canopy. Located within dense bramble preventing close inspection.	Remove ivy and reinspect.	10+	C1
T67	Alder	EM	11	2	# 300	# N 5.2 E 5.2 S 5.2 W 5.2	F	Single vertical stem with a balanced canopy. Located within dense bramble preventing close inspection.	Remove ivy and reinspect.	10+	C1

Findings

Tree descriptions and recommendations

- 29. The tree survey revealed a total of sixty-one individual trees and six groups of trees. Of these, nineteen trees were identified as retention category 'B' and forty-eight trees/groups were identified as retention category 'C'. There were no retention category 'A' or 'U' trees identified. Please refer above for retention category and definition criteria.
- 30. It should be noted that T12, T13, T14 and G15 have been removed by a neighbouring development, thus no longer need protection.
- 31. It has been recommended that trees T12 (now removed), T17, T18, T26 and T34 are monitored annually to assess if their condition is still acceptable.
- 32. Those trees which overhang the public footpaths or public highways, shall require future maintenance to maintain clearance heights for vehicular or pedestrian traffic. These heights should be 5.6m above a road and 2.5m above a footpath.



Figure 1

Looking north-west through the south eastern area with T19 in the foreground showing a stand of mature specimens.



Figure 2

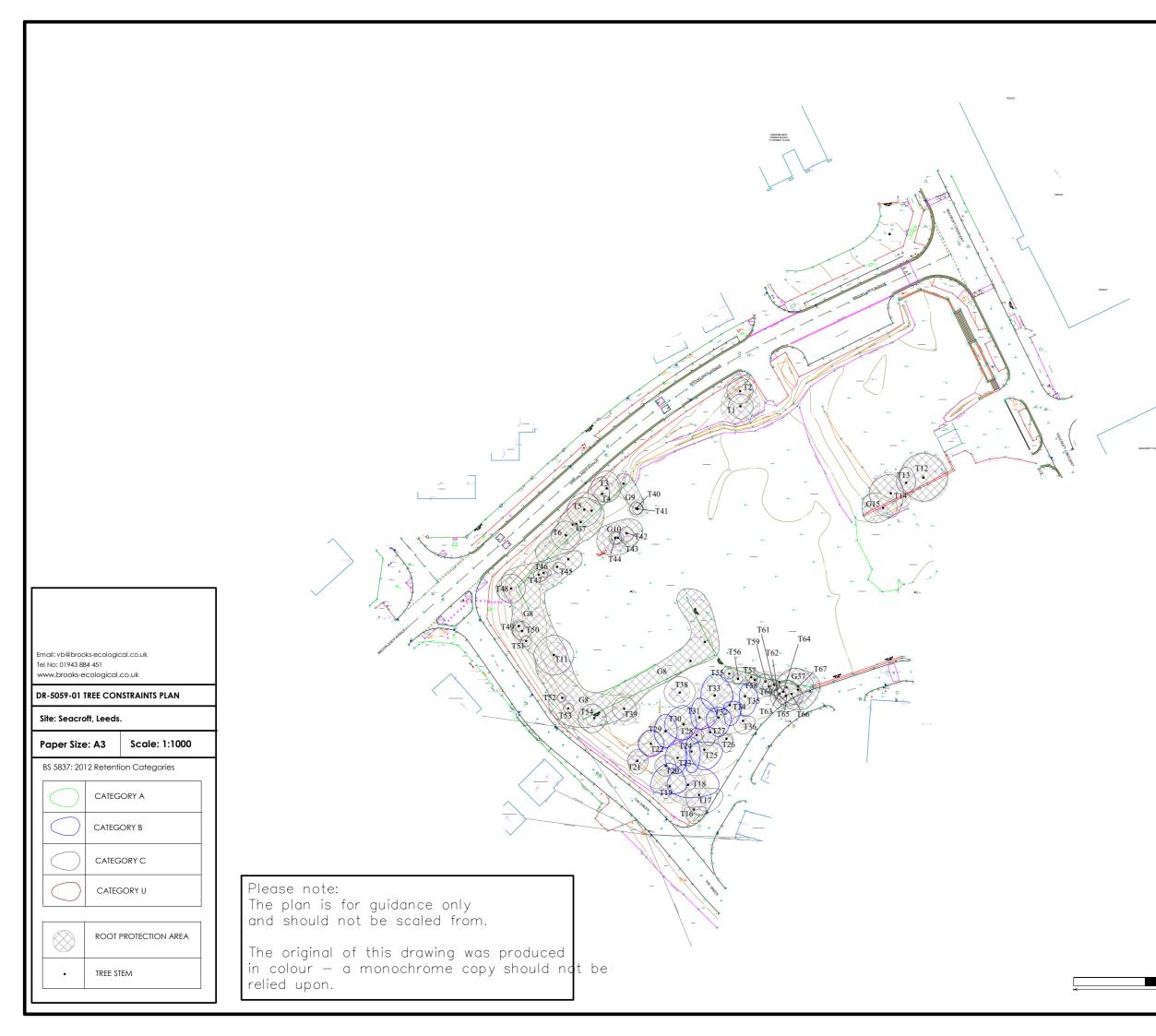
T18- Large bark wound from torn limb with decay in evidence.



Figure 3

Looking West from the South East of the site with T27 and 28 in the centre of the image. Note birds nest and significant deadwood in lower canopy.

DR-5059-01 Tree Constraints Plan





DR-5059-02.01 Tree Protection Plan

An alternative fencing has been proposed by the client for the protection of T1 & T2, because they feel the area is too tight to install default specification fencing, in with BS 5837:2012 due to the back bracing. The method of fencing has been used by Wates previously on different sites in Leeds. The fencing consists of 2m tall welded mesh Heras panels on rubber heavily weighed feet on stabilizer struts. The panels are jointed together using several anti-tamper couplers installed from inside. Couplers spaced 1m apart and uniform throughout fence. In section there is a triangular fencing adding further strength to the fencing. Vertical scaffold framework poles have also been proposed so the fencing is well braced to resist impacts.

For more information please refer to paragraphs 14-22 of the submitted AMS Ref: AR-5059-03.02 dated December 2023.

There are no encroachments into any retained tree RPA with the proposed drainage or retaining/boundary features Please refer to paragraphs 7, 8 and 9 of the submitted AIA Ref: AR-5059-02 for further details.

Please also refer to plans:

5815-JPG-XX-XX-DR-D-140_Drainage_General_Arrangement_Preliminary_PO5 5815-JGP-SW-XX-DR-S-1550_Retaining_Wall_Location_Plan_Preliminary_PO1

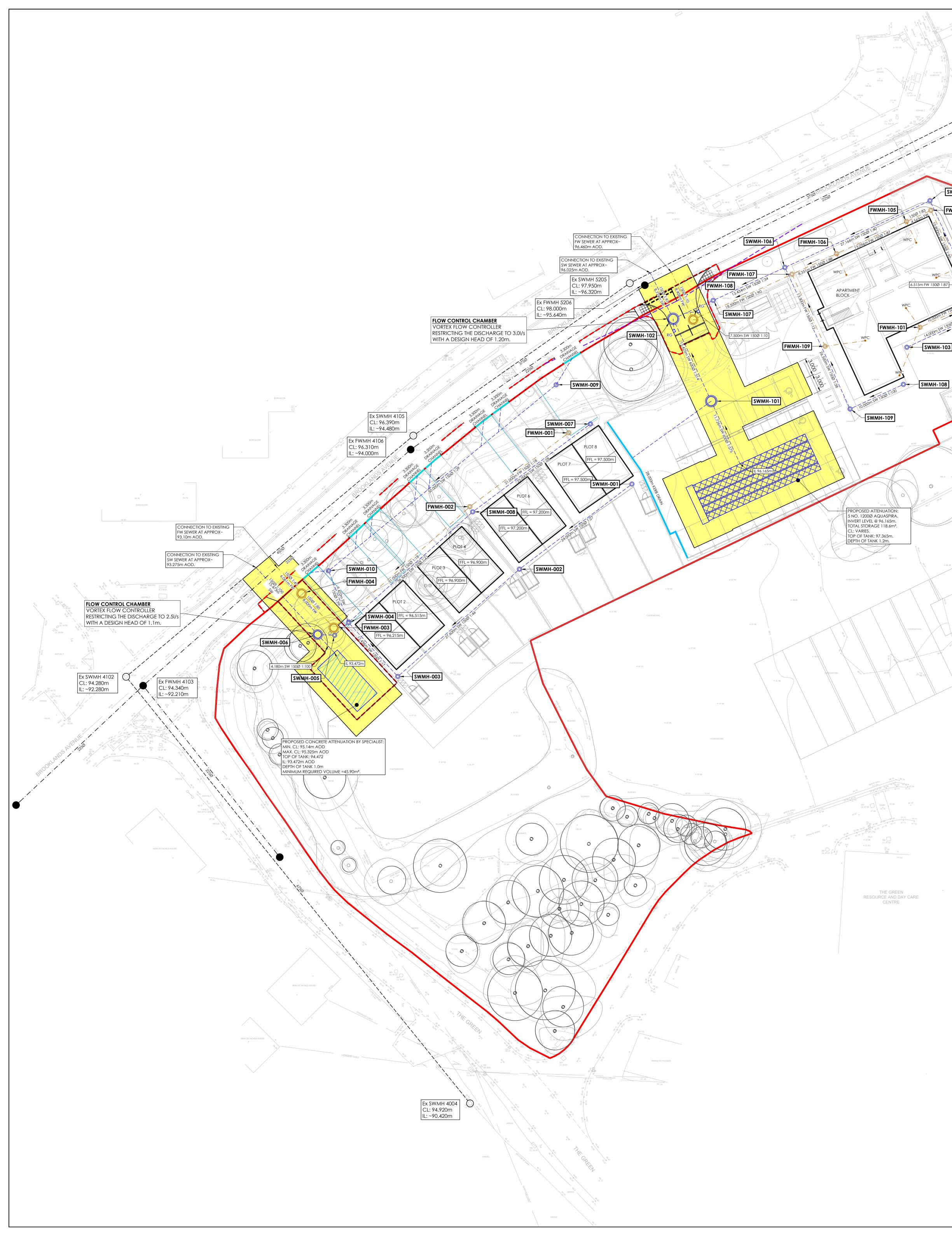
Email: vb@brooks-ecological.co.uk Tel No: 01943 884 451 www.brooks-ecological.co.uk DR-5059-02.01 TREE PROTECTION PLAN Site: Seacroft, Leeds. Paper Size: A3 Scale: 1:1000 TREE TO BE RETAINED TREE TO BE RETAINED TREE TO BE REMOVED TREE PROTECTIVE FENCING PERMANENT METAL WIRE AND CONCRETE POSTING FENCE ROOT PROTECTION AREA

TREE STEM

THESE TREES HAVE BEEN REMOVED BY A NEIGHBOURING DEVELOPMENT AND ARE NO LONGER ON SITE. G8 19 . T50 T61 T64 T59 Г<u>62</u> T52 • ંત્ર્& T53 T54 **T**39 T21 T26 • T25 Please note: The plan is for guidance only and should not be scaled from. The original of this drawing was produced in colour - a monochrome copy should not be relied upon.



5815-JPG-AT-XX-XX-DR-D-140_ Drainage_General_Arrangement_Preliminary_PO5





REF.	COVER LEVEL	INVERT LEVEL	SUMP DEPTH	DEPTH	EASTING	NORTHING	DIAMETER	TYPE	COVER
001	97.900m	96.700m - 150Ø OUT	0.000m	1.200m	435502.186	436173.337	450Ø	PPIC	450x450 - CLASS B
002	97.000m	95.800m - 150Ø IN 95.800m - 150Ø OUT	0.000m	1.200m	435483.049	436158.853	450Ø	PPIC	450x450 - CLASS B
003	96.400m	95.200m - 150Ø IN 95.200m - 150Ø OUT	0.000m	1.200m	435462.349	436140.597	450Ø	PPIC	450x450 - CLASS B
004	96.321m	94.450m - 150Ø IN 94.450m - 150Ø IN 94.450m - 150Ø IN 94.450m - 150Ø OUT	0.000m	1.871m	435453.961	436149.778	450Ø	PPIC	450x450 - CLASS E
005	95.380m	94.130m - 150Ø IN 94.130m - 150Ø OUT	0.000m	1.250m	435451.605	436147.612	450Ø	PPIC	450x450 - CLASS E
006	95.299m	94.100m - 150Ø IN 93.430m - 150Ø IN 93.430m - 150Ø OUT	0.500m	2.369m	435448.724	436147.730	1200Ø	TYPE B	600x600 - CLASS [
007	97.900m	96.700m - 150Ø OUT	0.000m	1.200m	435495.122	436183.561	450Ø	PPIC	450x450 - CLASS E
800	96.955m	95.795m - 150Ø IN 95.795m - 150Ø OUT	0.000m	1.160m	435475.089	436168.605	450Ø	PPIC	450x450 - CLASS E
009	97.454m	96.250m - 150Ø OUT	0.000m	1.204m	435489.284	436190.226	450Ø	PPIC	450x450 - CLASS E
010	95.746m	94.545m - 150Ø IN 94.545m - 150Ø OUT	0.000m	1.201m	435450.579	436158.572	450Ø	PPIC	450x450 - CLASS I
		FC			NHOLE S	SCHEDULI	•		
REF.	COVER LEVEL	INVERT LEVEL	SUMP DEPTH	DEPTH	EASTING	NORTHING	DIAMETER	TYPE	COVER
001	97.831m	96.230m - 150Ø OUT	0.000m	1.601m	435491.435	436182.057	450Ø	PPIC	450x450 - CLASS E
002	96.908m	95.085m - 150Ø IN 95.085m - 150Ø OUT	0.000m	1.823m	435474.608	436169.493	450Ø	PPIC	450x450 - CLASS E
003	95.410m	93.335m - 150Ø IN 93.335m - 150Ø OUT	0.000m	2.075m	435451.451	436148.883	1200Ø	TYPE B	600x600 - CLASS [
004	95.413m	93.235m - 150Ø OUT 93.235m - 150Ø IN 93.235m - 150Ø OUT	0.000m	2.178m	435445.985	436154.724	1200Ø	TYPE B	600x600 - CLASS [
REF.		PARTMENT B						TYPE	COVER
		96.145m - 600Ø IN							
101	98.797m	96.145m - 600Ø OUT 96.115m - 600Ø IN	0.000m	2.652m	435515.671	436187.439	1500Ø	TYPE B	600x600 - CLASS [
102	98.242m	96.565m - 150Ø IN 96.115m - 150Ø OUT	0.500m	2.627m	435509.198	436201.441	1500Ø	TYPE B	600x600 - CLASS [
103	99.926m	98.725m - 150Ø OUT	0.000m	1.201m	435548.954	436196.613	450Ø	PPIC	450x450 - CLASS F
104	99.872m	98.585m - 150Ø IN 98.585m - 150Ø OUT	0.000m	1.287m	435561.673	436202.464	450Ø	PPIC	450x450 - CLASS I
105	100.014m	98.375m - 150Ø IN 98.375m - 150Ø OUT	0.000m	1.639m	435552.897	436221.542	450Ø	PPIC	450x450 - CLASS I
106	99.700m	97.700m - 150Ø IN 97.700m - 150Ø IN 97.700m - 150Ø OUT	0.000m	2.000m	435528.216	436210.189	450Ø	PPIC	450x450 - CLASS I
107	98.658m	97.305m - 150Ø IN 97.305m - 150Ø OUT	0.000m	1.353m	435516.012	436204.575	450Ø	PPIC	450x450 - CLASS I
108	99.700m	98.500m - 150Ø OUT	0.000m	1.200m	435548.376	436190.293	450Ø	PPIC	450x450 - CLASS E
109	99.700m	98.400m - 150Ø IN 98.400m - 150Ø OUT	0.000m	1.300m	435539.291	436186.114	450Ø	PPIC	450x450 - CLASS E
		APARTMENT	BLOCK F	OUL W	ATER N	ANHOLE	SCHEDU	ILE	
REF.	COVER LEVEL	INVERT LEVEL	SUMP DEPTH	DEPTH	EASTING	NORTHING	DIAMETER	TYPE	COVER
101	99.700m	98.161m - 150Ø OUT	0.000m	1.539m	435551.199	436199.996	450Ø	PPIC	450x450 - CLASS E
102	99.900m	98.050m - 150Ø IN 98.050m - 150Ø OUT	0.000m	1.850m	435560.283	436204.175	450Ø	PPIC	450x450 - CLASS E
103	99.700m	97.975m - 150Ø IN 97.975m - 150Ø OUT	0.000m	1.725m	435557.561	436210.094	450Ø	PPIC	450x450 - CLASS E
104	99.700m	97.855m - 150Ø IN 97.855m - 150Ø OUT	0.000m	1.845m	435553.047	436219.905	450Ø	PPIC	450x450 - CLASS E
105	99.700m	97.800m - 150Ø IN 97.800m - 150Ø OUT	0.000m	1.900m	435548.900	436217.997	450Ø	PPIC	450x450 - CLASS I
106	99.700m	97.650m - 150Ø IN 97.650m - 150Ø OUT	0.000m	2.050m	435537.002	436212.525	450Ø	PPIC	450x450 - CLASS I
107	99.700m	97.555m - 150Ø IN 97.555m - 150Ø IN 97.555m - 150Ø OUT	0.000m	2.145m	435529.415	436209.035	450Ø	PPIC	450x450 - CLASS I
108	98.414m	97.350m - 150Ø IN 97.350m - 150Ø OUT	0.000m	1.064m	435512.608	436201.303	1200Ø	TYPE E	600x600 - CLASS E
109	99.700m	98.700m - 150Ø OUT	0.000m	1.000m	435535.057	436196.770	450Ø	PPIC	450x450 - CLASS E
CONF NGIN	FIRMED BY THE C	GE LEVELS ARE T CONTRACTOR AN EFORE ANY DRA	ND THE						

PLOT DRAINAGE FOUL WATER ALLOW FOR THE FOLLOWING PER PLOT FOR COSTING PURPOSES 15.0m OF 100Ø PIPE WORK AVERAGE DEPTH 1.00m WITH FULL CONCRETE SURROUND 2 NO. 450Ø PPIC DEPTH 1.20m

FOR DESIGN PURPOSES THESE HAVE BEEN

ASSUMED.

PLOT DRAINAGE SURFACE WATER ALLOW FOR THE FOLLOWING PER PLOT FOR COSTING PURPOSES 15.0m OF 100Ø PIPE WORK AVERAGE DEPTH 1.00m WITH FULL CONCRETE SURROUND 2 NO. 450Ø PPIC DEPTH 1.20m

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GENERAL NOTES

- ALL MATERIALS AND WORKMANSHIP IS TO COMPLY WITH JPG CONSULTANTS STANDARD SPECIFICATION & ALL RELEVANT BRITISH & EUROPEAN STANDARDS.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, M & E CONSULTANTS AND JPG CONSULTANTS DRAWINGS.
 ANY DISCREPANCIES SHOULD BE REPORTED TO THE ENGINEER
- IMMEDIATELY SO THAT CLARIFICATION CAN BE SOUGHT PRIOR TO COMMENCEMENT OF WORKS.

DRAINAGE NOTES

- ALL BUILDING DRAINAGE WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH BS EN 752:2008 DRAINAGE AND SEWER SYSTEMS OUTSIDE BUILDINGS, THE CURRENT BUILDING REGULATIONS AND THE LOCAL AUTHORITY BUILDING CONTROL SPECIFICATIONS AND REQUIREMENTS.
- 2. ANY DRAINAGE TO BE PUT FORWARD FOR ADOPTION EITHER WITHIN THE SITE OR OUTSIDE SHALL BE CONSTRUCTED TO SEWERS FOR ADOPTION LATEST EDITION AND ANY SPECIFIC REQUIREMENTS OF THE ADOPTING SEWERAGE/WATER AUTHORITY.
- 3. THE LOCATION, SIZE AND DEPTH OF ALL EXISTING DRAINS/SEWERS AND SERVICES SHALL BE ESTABLISHED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORKS ON SITE. ANY DISCREPANCIES FROM THE INFORMATION INDICATED ON THESE DRAWINGS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- 4. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER SHOULD ANY EXISTING LIVE DRAINAGE BE FOUND WITHIN THE SITE BOUNDARY SERVING ADJACENT PROPERTIES.
- 5. ALL EXISTING DRAINAGE WITHIN THE SITE NOT REQUIRED FOR THE NEW DEVELOPMENT SHALL BE ABANDONED. DRAINS AND SEWERS LESS THAN 1.500m DEEP WHICH ARE IN OPEN GROUND SHOULD AS FAR AS IS PRACTICABLE BE FULLY REMOVED ALL OTHER PIPES SHOULD BE SEALED AT BOTH ENDS AND AT ANY POINT OF CONNECTION, AND BE GROUT FILLED TO ENSURE THAT RATS CANNOT GAIN ACCESS. LARGER PIPES 225Ø OR ABOVE SHOULD BE GROUT FILLED TO PREVENT SUBSIDENCE OR DAMAGE TO BUILDINGS OR SERVICES IN THE EVENT OF COLLAPSE.
- 6. THE CONTRACTOR SHALL ALLOW FOR THE PROTECTION, TEMPORARY AND PERMANENT SUPPORT AND DIVERSION WORKS AS NECESSARY, TO ALL EXISTING SERVICES TO THE SATISFACTION OF THE UTILITY COMPANIES.
- 7. THE CONTRACTOR SHALL ALLOW FOR DEALING WITH SURFACE WATER RUN OFF INTO EXCAVATIONS AND FROM GROUNDWATER BY MEANS OF SUMPS, PUMPING AND DE WATERING AS APPROPRIATE, IN ORDER TO KEEP THE EXCAVATION AS REASONABLY DRY AS POSSIBLE DURING THE CONSTRUCTION OF THE WORKS.
- 8. THE CONTRACTOR SHALL TAKE ALL NECESSARY SAFETY PRECAUTIONS IN LINE WITH CURRENT LEGISLATION WHEN WORKING IN/NEAR CONFINED SPACES, DEEP EXCAVATIONS AND MACHINERY.
- 9. THE CONTRACTOR SHALL ALLOW FOR OBTAINING ALL APPROVALS FROM THE RELEVANT AUTHORITIES WHEN WORKING IN THE PUBLIC HIGHWAY AND ON THE SEWERAGE SYSTEM.
- 10. THE CONTRACTOR SHALL SUITABLY PROTECT PEDESTRIANS AND VEHICLES FROM WORKING AREAS.
- ALL MANHOLE/CHAMBER COVER LEVELS ARE APPROXIMATE AND SHALL BE ADJUSTED ON SITE TO SUIT THE PROPOSED FINISHED LEVELS.
 ALL PIPES SHALL BE LAID WITH LEVEL SOFFITS AND ALL
- MANHOLE/INSPECTION CHAMBER INVERT LEVELS SHOWN ARE FOR THE OUT GOING PIPE UNO. ON THE DRAWING (NOTE THAT ALL PIPE GRADIENTS INDICATED ON THE DRAWING ARE APPROXIMATE ONLY).
- ALL PIPE CONNECTION FROM DRAINAGE CHANNELS AND GULLIES SHALL BE 150Ø PIPES AT A MINIMUM GRADIENT OF 1:100 WITH CLASS Z BEDDING UNO. ON THE DRAWING.
 ALL PIPE CONNECTIONS FROM RWP'S TO BE 100Ø AT 1:60 MIN.
- AND ALL PIPE CONNECTIONS FROM WPC'S TO FIRST CHAMBER SHALL BE 100Ø AT 1:40 MIN. WITH CLASS S BEDDING BENEATH THE BUILDING AND CLASS Z UNDER EXTERNALS WHERE COVER IS LESS THAN 1.20m UNO. ON THE DRAWING (LOCATION OF RWP'S AND WPC'S TO BE CONFIRMED BY THE ARCHITECT AND ARE SHOWN INDICATIVELY ONLY).
- 15. ALL SYPHONIC RWP SYSTEMS TO BE DESIGNED BY OTHERS. PIPEWORK FROM DOWN PIPE TO FIRST MANHOLE TO BE SIZED/ DESIGNED BY SYPHONIC SYSTEM DESIGNER. THE FIRST MANHOLE TO HAVE AN OPEN GRATE COVER SAINT GOBAIN WATERWAY 2000 - D400 OR SIMILAR APPROVED.
- 16. SUITABLY SIZED PETROL INTERCEPTORS MUST COMPLY WITH THE REQUIREMENTS OUTLINE IN PPG3 THESE INCLUDE SILT STORAGE CAPACITY AND HIGH LEVEL HYDROCARBON ALARM WIRED BACK TO A MANNED OFFICE.
- 17. UPON COMPLETION OF THE DRAINAGE WORKS THE CONTRACTOR SHALL CLEAN ALL DRAIN RUNS BY JETTING AND REMOVE ALL DEBRIS FROM SITE. NO DEBRIS SHALL BE PERMITTED TO ENTER THE PUBLIC SEWER AND/OR WATERCOURSE SYSTEM. ONCE THE DRAINAGE SYSTEM HAS BEEN FULLY CLEANED OUT A CCTV CAMERA CONDITION SURVEY SHALL BE UNDERTAKEN TO ALL CONSTRUCTED DRAINAGE AND SEWER PIPES WITH THE FOOTAGE ISSUED TO THE ENGINEER FOR VIEW. THE AS BUILT INVERT AND COVER LEVELS SHALL BE RECORDED BY THE CONTRACTOR AND PASSED ON TO THE ENGINEER FOR REVIEW.

LEGEND

PROPOSED SURFACE WATER PIPE
EXISTING SURFACE WATER PIPE
EXISTING SURFACE WATER MANHOLE
$-\cdot - \cdot -$ EXISTING FOUL WATER PIPE
$-\cdot$ - Existing foul water manhole
PROPOSED DRAINAGE CHANNEL
PROPOSED KERBDRAIN
• WPC PROPOSED WASTE POINT CONNECTION
DEVELOPMENT BOUNDARY
DRAINAGE EASEMENT (3m ALL SIDES)
 \$278 BOUNDARY
0m 6.25m 12.5m

SCALE 1:250

P05	ISSUED FOR INFORMATION.	20/05/22	RMR	MKJW						
P04	ARCHITECT LAYOUT UPDATED.	29.03.22	RMR	MKJW						
P03	ARCHITECT LAYOUT UPDATED	21.10.21	DSA	HPW						
P02	COVER AND INVERT LEVEL OF SYSTEM FINALISED, ARRANGEMENT OF AQUASPIRA TANK AMENDED	DSA	HPW							
P01	INITIAL ISSUE	22.06.21	RMR	HPW						
REV	DESCRIPTION	DATE	СНК	ΒY						
Draw	CROFT CRESCENT, LE		EMEN	T						
ΙΝ	FORMATIC	DNI	SS	UE						
Lee	UNDERSTAND WWW.jpg.group <u>Leeds</u> - 0113 263 1155 London - 0207 947 4148									
58	15-JPG-XX-XX-DR-D-	1401	S2	P05						

5816-JPG-SW-XX-DR-S-1550_Retaining_Wall_Location_Plan_ Preliminary_PO1

