



Arboricultural Survey & Report

Impact Assessment in Support of Development

In accordance with:

BS5837:2012 Trees in relation to Design, demolition and construction – Recommendations

CLIENT:	TADW Architects
SITE REF:	Land at Louise Gardens
Treetops REF:	PA-14224
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REPORT DATE:	22/09/2022

Quality Assurance

Date	Originated	Reviewed	Approved
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Revision Record and Document Control

Revision	Details	Document Reference
01	Initial submission	PA-14224_Rev01

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1.0 Executive Summary

- 1.1 On behalf of TADW Architects and in accordance with BS 5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations'. A tree survey was carried out at Land at Louse Gardens, Rochdale, OL12 9RZ on 21/09/22 by Treetops Ltd, where all trees within the site and all those which may be affected by any development proposals were surveyed. Data collected from the survey forms the basis of the forthcoming assessment regarding potential impact from development proposals and methodologies adopted to protect retained trees.
- 1.2 The location, dimensions and RPA (Root Protection Area) of surveyed trees have been plotted on the Tree Constraints Plan along with their BS5837:2012 retention category (see appendix 2, drawing reference TT.TCP.14224.v1).
- 1.3 The client proposes to develop the site by upgrading the existing foot path and associated access steps and walkway. This will not require the removal of any trees. In the absence of suitable controls this proposal has the potential to have an indirect impact on a number of the trees proposed for retention.
- 1.4 A mitigation strategy in the form of tree protective measures is therefore necessary during the construction process. This report recommends the following protective measures and construction methods be adopted to ensure adequate protection of retained trees:
- Access facilitation pruning
 - Protective fencing
 - Arboricultural watch and brief

The development of the site as proposed and its impact on trees does not require tree planting to compensate for the loss of trees, as the overall impact on the arboricultural environment is considered minimal should the above controls be implemented successfully.

2.0 Introduction

- 2.1 Treetops LTD. Were instructed by TAWD Architects to undertake a tree survey in accordance with BS 5837:2012 'Trees in relation to design, demolition, and construction Recommendations', to support a planning application for development at Land at Louise Gardens, Rochdale, OL12 9RZ.
- 2.2 The site survey and this document was completed by a suitably qualified arboricultural consultant on 21/09/22 to assess the quality of trees within or adjacent the site. The survey was undertaken in accordance with guidelines set out in 'BS 5837:2012 Trees in Relation to Design, Demolition and Construction - Recommendations'. The following report is based upon the findings of that visit and the conditions found on that day.
- 2.3 Data collected as part of the site survey forms the basis of assessment contained within this report. All trees were plotted from a topographical survey (Document Ref: 22H003 - 2D.dwg) provided by the client.

3.0 Scope and Objectives

- 3.1 This report has been commissioned by TAWD Architects and the scope of the report reflects the client's instructions following our fee proposal.
- 3.2 The scope of this report is limited to an appraisal of the existing trees on (and/or adjoining) the site and identification of the implications of development on retained trees.
- 3.3 The brief is to appraise the trees in relation to the proposed development of the site in accordance with British Standard 5837:2012 'Trees in relation to design, demolition and construction - Recommendations'.
- 3.4 Prepare clear recommendations supported by relevant plans and data in order to facilitate consideration of the arboricultural impact by the Local Planning Authority.
- 3.5 Consider the development proposals, identify areas where there are arboricultural issues and to recommend possible solutions.
- 3.6 Review additional information provided and identify any subsequent arboricultural issues and to recommend possible solutions.

4.0 Definitions and Abbreviations

4.1 Definitions

Subject	Definition
Root Protection Area (RPA)	The RPA represents the area around the base of the tree in which special precautions are required if the tree is to be safely retained. The RPA should be an area equivalent to a circle with a radius 12 times the stem diameter of the tree. For single stemmed trees this is a simple measurement taken at 1.5m above ground level. For multi-stemmed trees, the stem diameter is calculated using one of two methods dependent on the number of stems which originate below 1.5m above ground level (refer to section 4.6 of BS5837:2012 for further details).
Tree Constraints Plan (TCP)	Accurately represents the tree position and crown spread (to the four cardinal compass points), RPA and BS5837:2012 tree quality category.
Tree Protection Pan (TPP)	Identifies the position of the proposed development within the context and position(s) of retained trees and identifies areas where protective measures and specific methodologies are to be adopted to ensure the adequate protection of trees.
Tree Preservation Order (TPO)	The principal effect of a TPO is to prohibit the cutting down, uprooting, topping, lopping, willful damage or willful destruction of trees without first obtaining the consent of the relevant Local Planning Authority.
Conservation Area (CA)	Trees within a Conservation Area receive statutory protection. Where works to trees within a CA are proposed, six weeks notification must first be given to the relevant Local Planning Authority.

4.2 Abbreviations

Abbreviation	Definition
RPA	Root Protection Area
TCP	Tree Constraints Plan
TPP	Tree Protection Plan
TPO	Tree Preservation Order
CA	Conservation Area
LPA	Local Planning Authority

5.0 Assumptions and Limitations

- 5.1 This report is only intended for use by the person(s) or company named on the front cover.
- 5.2 The trees have been assessed from ground level only. Assessment of condition is based on a visual tree assessment (VTA). No detailed inspection of the upper crown has been carried out. No decay detection equipment (destructive or non-destructive) has been used to further assess the condition of the trees, which is beyond the scope of the survey. Any dangerous trees requiring further assessment on safety grounds will be identified.
- 5.3 Due to the changing nature of trees and other site circumstances this report and any recommendations made are limited to a 2-year period. Any alteration to the application site or any development proposals could change the current circumstances and may invalidate this report and any recommendations made. Should this be the case this report will require revision to reflect the development proposals.
- 5.4 Trees are dynamic structures that can never be guaranteed 100% safe; even those in good condition can suffer damage under average conditions. Regular inspections can help to identify potential problems before they become acute.
- 5.5 A lack of recommended work does not imply that a tree is safe and likewise it should not be implied that a tree will be made safe following the completion of any recommended work.
- 5.6 Tree dimensions were measured using a combination of a Trupulse 200 Laser Range Finder, a Leica Disto Laser Rangefinder and a Richter Diameter tape. All instruments were used in accordance with appropriate user guides.
- 5.7 No soil samples were taken and no soils analysis was undertaken as part of our assessment.
- 5.8 Any legal description or information given to Treetops LTD is believed to be accurate.
- 5.9 Where solutions to arboricultural problems are specified which require the usage of a third party product e.g. no dig roadway construction. No liability is assumed for the performance or suitability of the product and specialist advice as to the suitability or installation of the product should be sought from the manufacturer or other specialist.
- 5.10 No responsibility is assumed by Treetops LTD for legal matters that may arise from this report, and the consultant shall not be required to give testimony or to contribute to legal proceedings unless additional contractual arrangements are made.
- 5.11 Any alteration or deletion from this report shall invalidate it as a whole.

6.0 Planning Policy & Relevant Legislation

6.1 National Planning Policy Framework 2019 (NPPF)

- 6.1.1 The National Planning Policy Framework (2019) sets out the Government's planning policy to achieve sustainable development across economic, social and environmental core objectives. Project proposals that are consistent with the framework objectives are sought to be approved without delay. Specifically, and in context with this report, section 15 of the NPPF sets out key criteria for conserving and enhancing the natural environment. Paragraph 170, sections a – f requires planning policy and decisions to contribute to and enhance the natural and local environment.
- 6.1.2 Developers should therefore value the economic and environmental benefits afforded by trees and woodlands, and, where possible, incorporate these existing features within development proposals.

6.2 Local Planning Policy

- 6.2.1 Local planning policy that applies to the subject site in relation to trees is contained within the Rochdale Core Strategy. The specific policies that relate to trees and development against which the project proposals will likely be assessed are listed below:

G6 - Enhancing green infrastructure

G7 - Increasing the value of biodiversity and geodiversity

6.3 Town and Country Planning 1990

- 6.3.1 In accordance to sections 198 and 211 of the Town and Country Planning Act, trees can be protected by statutory controls, in the form of a TPO or CA.
- 6.3.2 Rochdale Borough Council have not yet made TPO and CA designations available online. It is recommended that any statutory protections applied to surveyed trees are identified during the planning application process.

6.4 Hedgerow Regulations 1997

- 6.4.1 There are no hedgerows on site that are deemed to be protected under the hedgerows act.

6.5 Wildlife Constraints

- 6.5.1 Various habitats and animal species are protected under UK legislation. All tree work operations must satisfy requirements within The Wildlife and Countryside Act 1981 as

amended by the Countryside and Rights of Way Act 2000, which provide statutory protection to birds, bats and other species, all of which could inhabit trees. Where applicable, it may be necessary to plan works to trees outside of the nesting bird period (March – August).

7.0 Tree Survey Methodology

7.1 All survey data was recorded in line with standards recommended within BS 5837:2012 “Trees in relation to design, demolition and construction- Recommendations”. A full specification of the survey and survey methods can be found within section 4 of BS5837:2012. A brief detail of survey methodology is detailed below. All survey data is collated with appendix 1, Tree Data Tables, and displayed within the TCP, appendix 2.

7.2 Tree Survey Data collection

7.2.1 Table 1 below details the collection of measured data:

Table 1. Details of recorded measured data (see Tree Data Tables, appendix 1 for data records).

Data Set	Units	Notes
Tree height	Metres (m)	Estimated depending on conditions
Stem diameter	Millimetres (mm)	Measured in accordance with Annex C of BS 5837:2012
Branch spread	Metres (m)	Taken to four cardinal points (N, E, S, W)
Existing height above ground level of first significant branch and direction of growth	Metres (m)	Significant branch determined by surveyor. Direction of branch in accordance to cardinal points
Existing height above ground level of canopy	Metres (m)	N/A
RPA	Metres (m)	Diameter multiplied by 12. RPA capped at 15 metres. Calculated in accordance with section 4.6 of BS5837:2012.

7.2.1 Observed data as part of the survey is collected for the following categories:

- General observations – comment on structural and/or physiological condition (e.g. presence of decay or defect).
- Preliminary Management Recommendations – recommendations for management based upon good arboricultural practice.
- Estimated remaining contribution in years (<10, 10+, 20+, 40+)
- Life stage (see Table 2 below).

Table 2. Details of life stage categories and criteria.

Abbreviation	Life Stage	Criteria
Y	Young	Trees aged less than 1st third of their life expectancy.
SM	Semi Mature	Trees within 2nd third of their life expectancy.
M	Mature	Trees aged within final third of their life expectancy.
OM	Over Mature	Trees at the end or surpassed final third of life expectancy
V	Veteran	Specimens exhibiting features of biological, cultural or aesthetic value that are characteristic of, but not exclusive to, individuals surviving beyond the typical age range for the species concerned.

7.3 Retention Category Assessment Criteria

- 7.3.1 In accordance to section 4.5 and Table 1 of BS5837:2012 all surveyed trees are afforded a retention category (A, B, C and U). The retention category indicates the assigned trees quality along with the suitability for retention in the context of the proposed development. In addition to a retention category, trees are also assigned a sub-category (1, 2, 3). Trees may be afforded more than one sub category as required (see Table 3 below for category and sub category descriptions).

Table 3. Retention category and sub-category with corresponding criteria.

Category	Criteria
Category A	Trees of high quality with an estimated remaining life expectancy of at least 40 years whose retention is most desirable
Category B	Trees of moderate quality with an estimated remaining life of at least 20 years.
Category C	Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.
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.
Sub-Category	
1	Tree of arboricultural value
2	Tree of landscape value
3	Tree of cultural value (including conservation)

8.0 Tree Survey and Site Assessment

8.1 Site appraisal

- 8.1.1 The is currently a residential greenspace area located between Louise Gardens and Low Hill, Rochdale. The area is predominantly laid to grass, accessed from the south via steps to the right of 52 Louise Gardens and from the north via a footpath off Low Hill, see figure 1 and 2 below.
- 8.1.2 An existing compact hardcore path through the site links Louise Gardens to Low hill. This path is surrounded by mature trees on both sides.

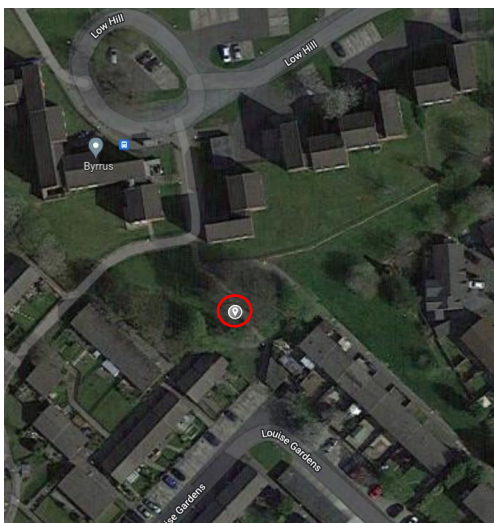


Figure 1. Location Plan

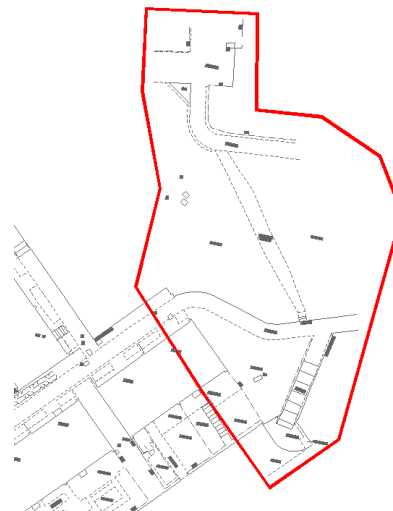


Figure 2. Existing Layout

8.2 Technical Synopsis

- 8.2.1 A total of 10 trees, 1 tree group and 0 hedges were identified as part of the survey. The site hosts a moderate population of trees for its size, where most of the vegetation was found to be in a reasonable condition. The tree survey schedule, appendix 1, describes the results of the tree survey.
- 8.2.2 Trees are located throughout the site, with the most common species being common lime (T1 – T7) (*Tilia x Europaea*). Given the age and form of these trees, it is very likely that they were planted at the same time as part of a landscape improvement plan. These trees represent the highest quality species on site.
- 8.2.3 Boundary vegetation T8 – T10 and G1 are located to the south of the site adjacent. Albeit not the greatest individual quality, these trees offer a moderate landscape impact to the location.
- 8.2.4 In summary, a total of 3 trees were afforded category A, 4 trees were afforded category B, 3 trees were afforded category C and 1 tree afforded category U in accordance with BS5827:2012.

9.0 Arboricultural Impact Assessment

- 9.0.1 An Arboricultural Impact Assessment (AIA) of all surveyed trees has been undertaken to assess the impact of the development on all existing trees and tree groups. The development has been assessed based on the proposed development plans (Drawing Ref: 221320 01 P1.dwg) provided by the client.
- 9.0.2 The client proposes to develop the site by upgrading the existing compact hardcore footpath and associated access steps.
- 9.0.3 The development as proposed does not require the removal of trees. See table 4 below for an arboricultural impact summary.

Table 4. Arboricultural Impact Summary

Impact	Category A	Category B	Category C	Category U
Trees to be retained	T1, T3, T6	T2, T4, T5, T7	T8, T10, G1	T9
Total	3	4	3	1
Trees to be removed to facilitate development	N/A	N/A	N/A	N/A
Total	0	0	0	0

- 9.0.4 Although no trees require removal to facilitate the proposals, the development, as proposed, does retain the potential to both directly and indirectly impact retained trees.
- 9.0.5 Trees T1 – T7 have low hanging canopies that will likely restrict the installation of protective fencing and potentially impact the transport of materials across the site. Therefore, these trees have been recommended for access facilitation pruning (see tree data tables, appendix 1).
- 9.0.6 The RPA T1 – T7, T8 and G1 overlaps in part with the footprint of the proposed footpath redevelopment. The existing footpath has been in place for several years. The resulting ground compaction within the RPA of these trees from the original construction and resulting foot traffic has taken place. No ill health was observed in these trees at the time of survey.
- 9.0.7 To limit any further completion to this area, the footpath has been recommended to be constructed under no-dig principles and the use of a cellular confinement system (CCS) that should be installed to manufactures guidelines.
- 9.0.8 The renewal of the retaining edge and steps within the RPA of T8 and G1 also have the potential to impact these trees. The existing steps and retaining edge will have formed a barrier to the extension of roots and it is likely that the rooting morphology in this area has adapted to accommodate these features. It is therefore recommended that the replacement of these features is to take place under an arboricultural watching brief.

- 9.0.9 All surveyed trees retain the potential to be indirectly affected by construction activity. It is therefore recommended that tree protection fencing is installed.

10.0 Arboricultural Method Statement

10.1 Access Facilitation Pruning

- 10.1.1 Before the any construction activity or site set up begins, access facilitation pruning should take place to trees that may restrict the placement protective fencing and/or prevent damage to canopies of trees that may otherwise be indirectly damaged from construction activity.

- 10.1.2 It is recommended that the canopy of T1 – T7 is crown raised to 3 metres from ground level.

10.2 Protective Fencing

- 10.1.3 All retained trees within the development boundary require the installation of protective fencing that will remain in place throughout the duration of the development.

- 10.1.4 Protective fencing should be installed in accordance to the default design unless otherwise agreed by the local planning authority in writing, see inset A, drawing number TT.TPP.14224.v1.

- 10.1.5 Protective fencing should be installed in locations as identified within the Tree Protection Plan see drawing TT.TPP.14224.v1. The fencing must be installed prior to the start of construction and must remain in place throughout the duration of the development. Within the Protective Fencing perimeter, the following prohibitions will be complied with:

- No excavations unless approved by the local planning authority
- No storage of machinery
- No storage or handling of building materials, fuel, chemicals of fuel
- No fires
- No vehicular access
- No pedestrian access unless approved by the local planning authority
- No alteration to existing ground levels
- No installation of services unless approved by the local planning authority

10.2 No-Dig Construction

- 10.2.1 A no-dig construction approach and cellular confinement system installation should be adopted for the footpath.

- 10.2.2 A geotextile will be laid out on top of the ground surface, before a three-dimensional Cellular Confinement System (CCS) will be installed as an integral component of the sub-base of the footpath. Infill materials should include no-fines aggregate (granular 4 – 20mm) sub-base layer which when compacted is free draining and allow gaseous exchange.

- 10.2.3 The wearing course should be a permeable surface allowing gaseous exchange and the infiltration of water into the root zone.
- 10.2.4 Kerbs and edgings that require excavations should not be used. Where kerbing is required, peg and board edging should be installed.

10.3 Arboricultural Watching Brief

- 10.3.1 The renewal of steps and retaining edging within the RPA of T8 and G1 should be undertaken with an arboricultural watching brief present to protect and preserve the RPA in this area. The watching brief will provide guidance on correct construction methodologies in relation to conditions found that cannot be accurately captured within the context of this report.

11.0 Conclusions

- 11.0.1 A total of 10 tree and 1 tree group were identified and require protection as part of the development.
- 11.0.2 Out of all 11 tree features surveyed, none will require remove to facilitate the development.
- 11.0.3 Treetops are satisfied that providing the recommendations made within this report are followed, the development can be successfully achieved without causing undue harm to any trees present on site.

12.0 Appendix 1 Tree Data Tables

ID	Common Name	Scientific Name	Maturity	Height (m)	Height and direction 1 st Branch (m)	Stem Diameter (mm)	Crown Spread				Ground Clearance (m)	Structural Condition	Physical Condition	Life Expectancy (yrs.)	Observations Recommendations	Retention Category	RPA Radius (m)	RPA (m2)
							N	E	S	W								
T1	Common Lime	<i>Tilia x europaea</i>	Mature	17	2.3N	530	6.5	3.7	3.2	6.4	2	Good	Good	40+	Retain. Crown raise to 3m to facilitate construction activity	A2	6.36	127.0
T2	Common Lime	<i>Tilia x europaea</i>	Mature	17	2N	410	6.5	6.5	3.2	2.7	2	Good	Good	20+	Retain. Crown raise to 3m to facilitate construction activity	B2	4.92	76.0
T3	Common Lime	<i>Tilia x europaea</i>	Mature	18	2N	490	6.1	6.6	3.6	3.5	2	Good	Good	40+	Retain. Crown raise to 3m to facilitate construction activity	A2	5.88	108.6
T4	Common Lime	<i>Tilia x europaea</i>	Mature	18	2.8N	430	3.6	3.1	3.7	3.4	2.4	Good	Good	20+	Retain. Crown raise to 3m to facilitate construction activity	B2	5.16	83.6
T5	Common Lime	<i>Tilia x europaea</i>	Mature	17	4S	430	3.7	3.7	6.3	3.7	3	Good	Good	20+	Retain. Crown raise to 3m to facilitate construction activity	B2	5.16	83.6
T6	Common Lime	<i>Tilia x europaea</i>	Mature	18	3.5S	430	5.8	2.9	2.6	6.9	1.2	Good	Good	40+	Retain. Crown raise to 3m to facilitate construction activity	A2	5.16	83.6
T7	Common Lime	<i>Tilia x europaea</i>	Mature	16	3W	450	2.5	3.5	5.6	6.7	0	Good	Good	20+	Retain. Crown raise to 3m to facilitate construction activity	B2	5.4	91.6
T8	Hawthorn	<i>Crataegus monogyna</i>	Semi mature	8.3	5W	180	2.5	2	2.5	2.5	2	Fair	Fair	10+	Retain	C2	2.16	14.6
T9	Alder	<i>Alnus glutinosa</i>	Semi mature	8.5	2E	170	0.1	0.7	2	0.7	1.5	Fair	Poor	<10	Retain	U	2.04	13.0
T10	Field Maple	<i>Acer campestre</i>	Mature	10	2E	330	2	4	5	4	0	Fair	Good	10+	Retain	C2	3.96	49.2
G1	Hawthorn Cherry Field Maple	<i>Crataegus monogyna</i> <i>Prunus avium</i> <i>Acer campestre</i>	Semi Mature / mature	13	3S	210 - 300	3	2	4.7	2	3	Fair	Fair	10+	Retain	C2	3.6	40.7

13.0 Appendix 2 – Tree Constraints Plan

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14.0 Appendix 3 – Tree Protection Plan

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15.0 Appendix 4 – Site Images



Plate 1. T1 – T7 looking towards the south.



Plate 2. G1, T8 and T9 looking towards the north.



Plate 3. T1 – T7, T10 and G1 looking towards the south.



Plate 4. Southern boundary of the development area, looking north towards G1