

Tree Survey Report

BS5837:2012

Tree Survey/Tree Constraints Plan and Tree Categorization

Survey and Report for the purposes of a Pre-Development Tree Survey in Support of Planning Application.

Windmill Gardens Pavillion

Windmill Gardens, Gravesend DA12 1LB

James Young

Gravesham Borough Council

22/04/2026

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1.0: Introduction

1.1 Instruction

1.1.1 Aureus Tree services LTD. have been commissioned by James Young of Gravesham Borough Council to undertake an arboricultural survey in line with the 'BS 5837-2012-Trees in relation to design, demolition and construction of trees' of 7 trees and 1 group of trees containing 15 trees at the site known as Windmill Gardens, Gravesend DA12 1LB, to give arboricultural advice and produce this report to comply with a planning application.

1.1.2 This survey and report have been undertaken and prepared by **David Bushell** Who holds the Level 4 Diploma in Arboriculture (RFS) TechArbA, Technical member of the Arboricultural Association, comprehensively insured and has over 16 years' experience within the arboricultural industry.

1.1.3 This survey and report have been prepared in accordance with recommendations, advice and information provided in but not limited to;

- British Standards BS 5837: 2012, Trees in relation to design, demolition and construction – Recommendations.
- British Standards BS 3998: 2010 - Tree work – Recommendations.
- Tree Roots damage to building Vol.1 &2 P.G. Biddle.
- Trees in Towns II Chris Britt & Mark Johnson.
- Tree Roots and Buildings D.F Cutler & I.B.K Richardson.
- Other Arboricultural publications, Journals and papers.

1.2 Documentation

1.2.1 Several documents have been made available and/or may be referred to throughout this report, these are as follows:

- [Planning pre-application_ Bowling Pavillion] (By Basement Bakehouse Ltd)
- British Standard 5837:2012 Trees in relation to design, demolition and construction – Recommendations. (BS 5837)
- Tree Survey Schedule (Appendix A)
- [AuTCP001MGP V1] Tree Constraints Plan (TCP) (Appendix C.i)

1.3 Aim of report

- 1.3.1 To survey in accordance with BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' to plot and assess the quality of the existing trees located on site and within 15m of proposed development operations.
- 1.3.2 To assess the impact of the proposed development upon trees located on site and within the immediate vicinity.
- 1.3.3 To provide advice on trees requiring removal and outline protective measures for trees marked for retention.
- 1.3.4 To provide a work specification as required by retained trees to accommodate the proposed development.
- 1.3.5 To provide recommendations and guidance on how trees and other vegetation may be successfully retained within the proposed development.
- 1.3.6 The scope considerations of the survey and report is to carry out an arboricultural survey to the specifications outlined within the 'BS 5837-2012-Trees in relation to design, demolition and construction of trees' to assess trees, hedges and major shrub groups growing on and within influencing distance of the site and to produce some or all of the following: A schedule of trees, Arboricultural Impact Assessment (AIA), Arboricultural Method Statement (AMS), Tree Constraints plan (TCP) and Tree Protection Plan (TPP).
- 1.4 Professional advice and recommendations
 - 1.4.1 Where appropriate, recommendations of tree works are offered to facilitate the proposed works or to improve overall condition of pre-existing tree/shrub stock using recommendations provided in British standards BS 3998: 2010, Tree Work – recommendations.
 - 1.4.2 All the advice given within this report is underwritten by our Professional Indemnity Insurance for the business practice of Arboricultural consultancy.

2.0 Scope of work and methodology

2.1 Site Description and Conditions

- 2.1.1 The site survey (in relations to trees and wood vegetation) was carried out on the 20/04/2026 where weather conditions were Sunny and cold.

Location Details

- 2.1.2 [Figure 1: Picture of Location]



- 2.1.3 The site comprises of Bowling Pavilion building in Windmill Gardens. The building is a wooden structure and has been used previously as a changing room and storage facility for the bowling green in Windmill Gardens. It is now disused and has been empty for some years, this is set in a public garden.

2.2 Methodology and limitations

- 2.2.1 This site survey includes any trees and shrubs, within any influencing distance of the proposed development or pre-existing/remaining influences, which have a stem diameter over 75mm at 1.5m height, located within the area shown on the Tree Constraints Plan, included as Appendix C.i.

- 2.2.2 Where appropriate, recommendations of tree works are offered to facilitate the proposed works or to improve overall condition of pre-existing tree/shrub stock using recommendations provided in British standards BS 3998: 2010, Tree Work – recommendations.
- 2.2.3 Any Tree/woody vegetation inspections taken, are from ground level and where needed, binoculars, sounding hammer and metal probe were used. No invasive or internal investigations, aerial inspections, soil samples, geological surveys were undertaken by any member of Aureus Tree Services LTD. The presence and condition of bark and stem wounds, cavities, decay, fungal fruiting bodies and any structural defects that could increase the risk of structural failure were noted.
- 2.2.4 Pre-development tree surveys make arboricultural management recommendations based exclusively upon the individual tree or group of trees condition relative to their present context (i.e. not in relation to the proposed development).
- 2.2.5 All Trees /woody vegetation were inspected using the 'Visual Tree Assessment method' (VTA) (Mattheck & Breloer 1994, Lonsdale 1999). VTA is a method of tree diagnosis that is used worldwide and is also legally excepted. VTA is a non-invasive method of examining the health and structural condition of individual trees. By using this method, it is possible to gather information on the condition of the tree's roots, trunk, main branch structure, crown, buds and leaves. This information will then aid in the assessment and conclusions about the general condition, health and vitality of the tree.
- 2.2.6 Topographical Survey (TOPO) was supplied and plotted onto the map by taking two measurements from two fixed points (i.e., existing plotted trees and boundary fence lines) and triangulated.
- 2.2.7 Equipment used to carry out the survey were:

- **Clinometer**
- **Laser measure**
- **Laser range finder**
- **Compass**
- **Diameter tape measure**
- **Phone and laptop**

2.2.8 The following data was collected for the tree/woody vegetation survey:

- **Individual tree number/group Reference:** An identity number for each tree/grouping/area, prefixed with a “T”, which cross reference locations shown on the plan with the schedule in Appendix A. Where a number of trees, normally of the same species, are located close together and are similar in character and requirements, they have been treated as a Group or area under a single Number, prefixed with a “G” or “A”
- **Species:** Given in its common name for ease of reference.
- **Tree height:** approximate height in metres.
- **Stem diameter:** The diameter is measured in millimetres, taken at 1.5m above ground. Where there are a number of stems, stem diameters are recorded in the as an average overall diameter.
- **Branch Spread:** Approximate spread in meters to points North, East, South and west.
- **Crown clearance:** approximate height of the canopy above ground. Where a significant, low lateral branch is present, its height and direction of growth is included in meters.
- **Age class:** Young (Y), Semi-mature (SM), Early mature (EM), Mature (M), Over-mature (OM), Veteran (V).
- **Physiological/Structural Condition:** features that affect the safe useful life expectancy and amenity of the tree, including the presence of decay or any physical defect.
- **Estimated Remaining Contribution:** <10 years, 10-20 years, 20-40 years, 40+ years,
- **Management Recommendations:** recommendations provided in British standards BS 3998: 2010, Tree Work – recommendations. (see 1.5).
- Category grading: tree classification taken from BS 5837:2012, Trees in relation to design, demolition and construction (see Appendix C for details), as follows:
 - Category U: Unsuitable for retention, trees with less than 10 years life expectancy, normally recommended for removal (Red).
 - Category A: high quality trees, able to make a substantial contribution for at least 40 years, normally retained unless there is an over-riding reason for removal and appropriate mitigation. (Green).
 - Category B: moderate quality trees, able to make a significant contribution for at least 20 years, normally retained. (Blue).
 - Category C: low quality, in adequate condition to remain for at least 10 years, or young trees <150mm stem diameter. Trees which can be removed to allow the desired layout or new planting. (Grey).

For category A, B and C trees, a subcategory has been allocated, providing information on the reasons for selection of a specific category, as follows:

- Subcategory 1: mainly arboricultural values.
- Subcategory 2: mainly landscape values.
- Subcategory 3: mainly cultural values, including conservation.

Trees have been classified irrespective of the possible proximity to future construction. The BS 5837 category is colour coded, as indicated above, on the plan included as Appendix A.

- **Root Protection Area (RPA):** the area in m², as recommended in BS 5837, to provide sufficient rooting area to ensure tree survival and which, in most situations, should be fenced off to prevent root damage from construction activities. The RPA is worked out by measuring the diameter of the tree stem at 1.5 meters from ground level, and then multiplied by twelve. The RPA will then generally form a Construction Exclusion Zone (CEZ). In most circumstances, the CEZ will be restricted from all types of development and workforce.
- 2.2.9 In some instances, it may not be possible to exclude all development from the CEZ due to sites conditions. Under certain circumstances it may be possible to build within these areas providing that appropriate specifications have been agreed between the local planning authority, the consulting arboriculturist and the developer/client.

2.3 Further survey limitations

- 2.3.1 No internal decay detection device, or other invasive tools have been used to assess any of the tree's condition.
- 2.3.2 No aerial inspection has been performed; all assessments have been done at ground level.
- 2.3.3 The Tree Constraints Plan (TCP) survey was not for the purpose of the Tree Protection Plan (TPP) initially, nor considered the effect that the trees/woody vegetation may have on the structural integrity of future buildings through subsidence and heave.
- 2.3.4 The tree survey has been undertaken for planning purposes. Although any obvious structural defects have been noted, a Tree Hazard Assessment has not been carried out. Mature trees close to highly populated areas or public highways should normally be checked for safety annually, by a suitably qualified person.

3.0 Legal protection/restrictions in relation to trees

- 3.1 The Gravesham Borough Council website was viewed on 19/04/26:
<https://www.gravesham.gov.uk/downloads/download/88/conservation-area-maps> showing that the site **DOES** fall within a Conservation Area.

- 3.2 [Figure 2: Conservation mapping in relation to site]

