

Arboricultural report for the demolition of the existing dwelling and erection of replacement dwelling

Reference: GRS/TS/TPP/89/22

- tree survey
- tree location and protection plan

Site: 245 Singlewell Road, Gravesend, Kent, DA11 7RN
Local Planning Authority: Gravesend Borough Council



DATE OF REPORT 24THJUNE 2022

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1. APPENDICES

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Drawings:	Tree location plan and Tree protection plan

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2. REFERENCES

AL Shigo (1991) 'Modern Arboriculture', Shigo and Trees Associates

BS 3998:2010 'Recommendations for Tree Work', British Standards Institution, London.

BS5837: 2012 'Trees in relation to design, demolition and construction – Recommendation', British Standards

D. Lonsdale (1999) 'Principles of Tree Assessment and Management' HMSO

Mattheck and Broeler (1994) 'The Body Language of Trees' HMSO

Strouts and Winter (1994) 'Diagnosis of Ill Health in Trees' HMSO

**Appendix A –Tree survey information - undertaken in accordance with section 4,
BS5837:2012 ‘Trees in relation to design, demolition and construction – Recommendations**

Tree no:	Sequential reference number of trees or groups of trees commencing at "1". Prefixed with a letter indicating type: T: Tree. G: Group. H: Hedge. W: Woodland. A: Area
Tree Preservation Order/ (TPO) conservation area (CA)	Served on individual, groups, woodland or as an area when the local planning authorities (LPA) consider it necessary to protect the visual amenity of the local area. Consent from the LPA must be sought prior to undertaking any works, failure to do so may lead to unlimited fines. Conservation area is an area designated under 69 of the Planning (Listed Buildings and Conservation Areas) Act 1990. Works to trees located within a CA require six weeks notification (S211 notice) to be submitted to the LPA. If the works are considered excessive and will have an impact on the visual amenity of the CA a TPO can be served.
Name	Species listed by common name/ latin name
Height	Estimated height of tree shown in metres.
Trunk Dbh:	Diameter at breast height measured at approximately 1.5 m above ground level given in millimetres and to the nearest 100 mm. Where there are more than 1 stem the average diameter is provided.
Radial crown spread (M)	Given as a radial measurement in metres from the centre of the stem to the furthest point of the canopy at the four main compass points N, E, S, W
Crown clearance (M)	First branch above ground level
Height to first branch	Height and orientation of first significant branch.
Age Class	Y: Young: Age less than 1/4 life expectancy SM: Semi Mature: 1/4 to 1/2 life expectancy EM: Early Mature: 1/2 to 3/4 life expectancy M: Mature: Over 3/4 life expectancy OV: Over-mature: Mature, and in a state of decline V: Veteran: tree that, by recognized criteria, shows 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.
Physiology At the time of inspection the general health of the tree based upon its general appearance, vigour and the presence or absence of symptoms associated with poor health and physiological stress	• Good: Typical for species and age • Fair: Signs of physiological stress or dysfunction; but not significant enough that the tree may not recover. • Poor: Signs of physiological stress or dysfunction; significant enough that the tree might not recover. • Dead: Dead specimen.

Structure Structural condition of the tree based on the structure of its roots, trunk and major stems and branches in relation to the presence of any physiological, pathological or mechanical defects.	• Good: No significant structural defects. • Fair: Significant structural defects; but these are either remediable or do not put the tree at immediate or early risk of collapse. • Poor: Significant and irremediable structural defects, such that there may be a risk of early or premature collapse. • Hazardous: Significant and irremediable structural defects, such that there is a risk of imminent collapse.
Landscape value	• High: Individuals specimens considered to be of visual importance • Moderate: trees growing in a group no individual tree/s of significance: • Low; located within woodland, or provide little landscape value
Estimated Years	Estimated life expectancy based on current condition. • 0 Dead trees. • <10 Less than ten years. • 10+ more than ten years. • 20+ more than twenty years. • 40+ more than forty years
Comments:	General comments relating to identified structural defects or hazards, vitality, pathogens or observational notes.
Recommendation of work	Arboricultural – Remedial tree works that involves pruning to a specification in accordance with the arboricultural best practice BS3998: 2010 Tree work – Recommendations. Examples include crown reduction, crown thinning, reducing specific branches and crown lifting. Safety works- nature of the works is to ensure the trees are kept in a safe manner. Facilitative – one off pruning works associated with development works whereby branches are removed to allow the movement of plant machinery within the grounds of the site without harming the trees visual appearance.
Category	A-Trees of high quality; B- Trees of moderate quality; C- Trees of low quality; U – Those 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 1- Mainly arboricultural qualities 2- Mainly landscape qualities 3 – Mainly cultural values , including conservation values
Root Protection Area: (RPA)	• The RPA represents the minimum area of soil that the tree requires supporting a healthy and effective root system. The amount shown is based on the calculations set out in section 4.6 of the BS see attached appendices for the method of calculation.
Root Protection Area m²	• Root Protection Area (RPA) as radius (m) from the centre of the trunk

No.	Species	Height	Trunk Dia.	Radial Crown Spread	Crown Clear-ance	Height to 1st Branch	Life Stage	Physiology	Structure	Landscape Value	Est. Years	Comments	Recommendation	Category	RPA Radius	RPA m ²
T1	Hazel	4m	100mm	N2m E1m S2m W2m	N1m E1m S1m W1m	1m N	SM	Good	Good	Low	10+	Twin stemmed from base.	Fell to ground level	C (12)	1.2m	4.5m ²
T2	Hazel	4m	3 stems @ 100mm	N4m E2m S1m W2m	N1m E1m S1m W1m	1m N	SM	Good	Good	Low	10+	Twin stemmed from base; three stemmed from base.	Fell to ground level	C (12)	2.1m	13.6m ²
T3	Hazel	4m	4 stems @ 100mm	N2m E2m S2m W2m	N1m E1m S1m W1m	1m N	SM	Good	Good	Low	10+	Four stemmed from base.	Fell to ground level	C (12)	2.4m	18.1m ²
T4	Common Yew	8m	500mm est	N4m E4m S4m W4m	N2m E2m S2m W2m	2m N	SM	Good	Fair	Moderate	20+	Off site tree. No access. Remote inspection only.		B (1)	6.0m	113.1m ²
T5	Beech	15m	600mm est	N5m E5m S5m W4m	N3m E3m S3m W3m	2m N	EM	Good	Fair	Moderate	20+	Off site tree. No access. Remote inspection only.		B (1)	7.2m	162.9m ²
H1	Privet and Common Yew	1.5m	Avg 100mm	1m	0m	0m N	Y	Good	Good	Moderate	20+	Clipped hedge.		B (1)	1.2m	4.5m ²
H4	Privet	2m	Avg 100mm	N1m E1m S1m W1m	0.5m	0.5m N	Y	Good	Good	Moderate	20+	Clipped hedge providing established screening.		C (2)	1.2m	4.5m ²
H6	Beech	4m	Min 400mm Avg 200mm	N0.5m E0m S0.5m W0.5m	E1m	1m S	SM	Good	Good	Moderate	20+	Reduced line beech forming a hedge.		C (12)		
H6	Privet, Common Holly and Common Beech	2.5m	Avg 100mm	N1m E1m S1m W1m	0m	0m S	Y	Good	Good	Moderate	20+	Established boundary screening.		C (12)	1.2m	4.5m ²

Stages of the erection and removal of tree protective fencing (TPF) and signs.

The location of the TPF is shown as a light blue line on the TPP for both demolition and construction phase and must be kept in those locations throughout the course of the development which include the following stages:

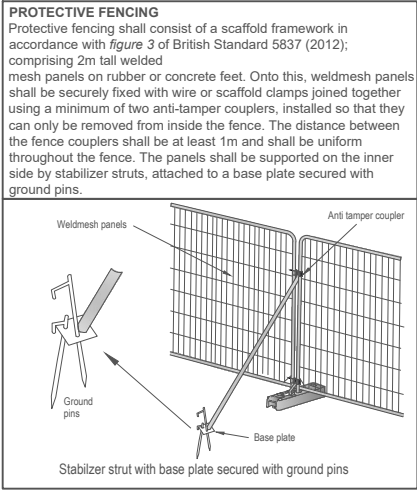
1. Demolition
2. Delivery of all plant machinery
3. Soft landscaping including the removal of soil
4. Installation of underground services
5. Construction of the approved development
6. Hard and soft landscaping

Installing and maintaining the TPF:

1. Existing vegetation that prevents the TPF from being installed in its entirety is to be removed using handtools only.
2. Mark out the fencing points.
3. Fencing contractors erect the fencing and attach tree protection signs
4. Site meeting with the project arboriculturist and site foreman to inspect and sign it off.
5. Approved works to start.

Demolition of the existing building:

1. Before any demolition starts all the relevant protective measures as shown on the TPP must in place.
2. Pre-commencement meeting with the project arboriculturist and site manager to discuss the critical stages during the demolition phase.
3. All plant machinery must be located outside the RPA.
4. In the event of contamination of the soil from fuel and oil leakage the project arboriculturist must be contacted immediately to assess the impact.



Tree removal

x3 Category 'C' trees (T1, T2, T3) shall be removed. These shall be removed in accordance with the British Standard 3998:2010; Tree work - Recommendations. Stumps shall be ground out.

Replacement hardsurfacing

Where the existing driveway is to be replaced and is within the RPAs of trees to be retained; the existing hard-surfacing shall be removed with care and under arboricultural supervision. The replacement hard surfacing shall be laid above the existing sub-base and soil below; which shall be left intact and undisturbed.

The mixing of cement based materials shall take place outside the Construction Exclusion Zones. In small confined areas provision will be made to prevent run-off from entering the RPA see diagram for a suitable example. All mixers and barrows shall be cleaned so the run-off does not enter the RPA. If there is sufficient space for mixing of cement to occur away from nearby trees then no precautions are necessary.

All other chemicals hazardous to tree health, including petrol and diesel, shall be stored in suitable containers as specified by current COSHH Regulations, and kept away from Root Protection Areas.

Tree categorization:

In accordance with the cascade chart in Table 1 of British Standard 5837 (2012) *Trees in relation to design, demolition and construction — Recommendations*

Canopy of a category U tree ●

Those 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

Canopy of a category A tree ●

Trees of high quality with an estimated remaining life expectancy of at least 40 years

Canopy of a category B tree ●

Trees of moderate quality with an estimated remaining life expectancy of at least 20 years

Canopy of a category C tree ●

Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm



Please ensure all dimensions on site and any if there are any discrepancies please notify us.

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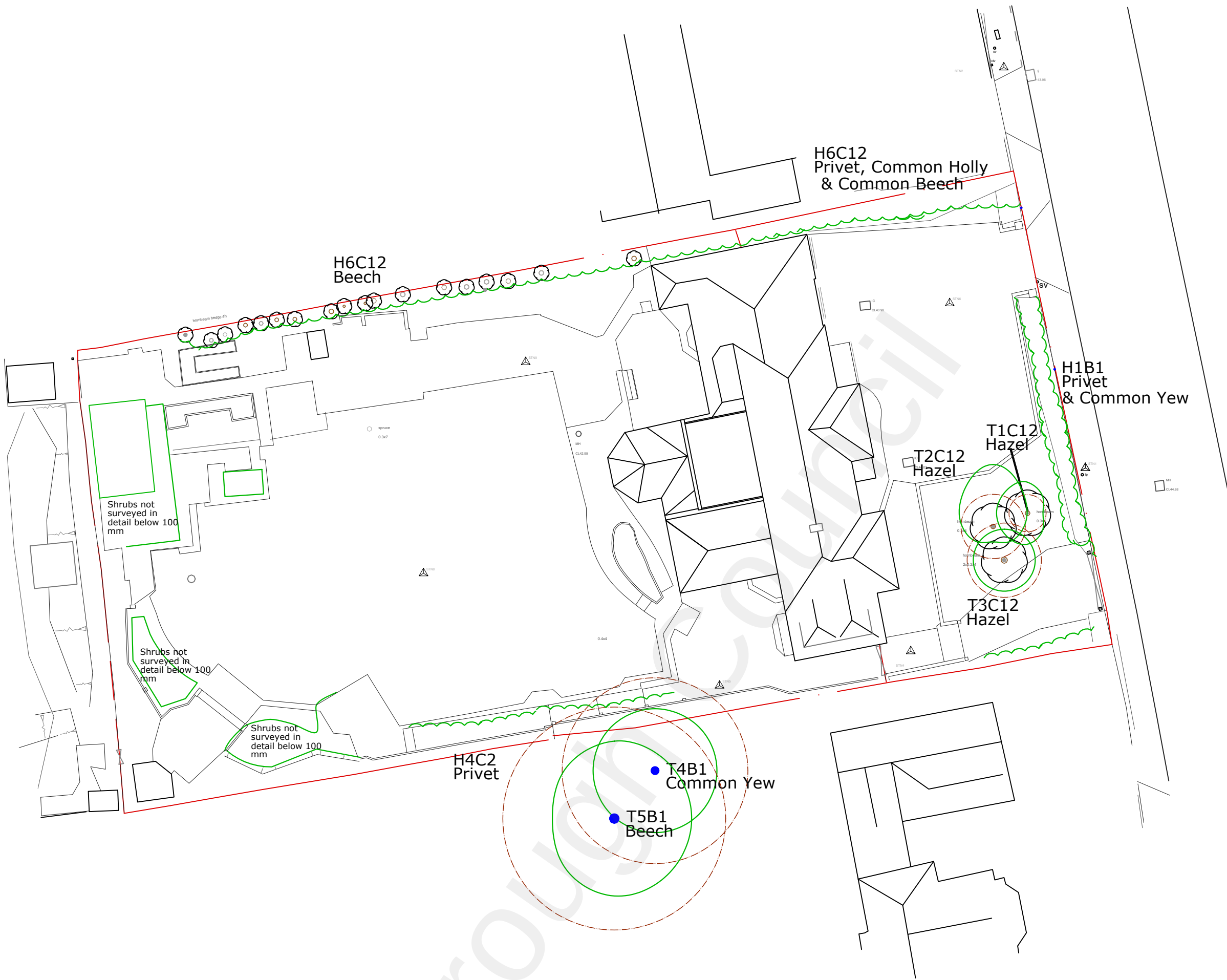
Title: Tree location and protection plan

Date: June 2022 Scale: 1:250 Paper Size: A2

Drawn: GRS Job Ref: GRS.89.22

Notes: AP - Approximate position of T4 and T5

Tree location plan



Tree protection plan

