Tree Officer: Carl Springett.

Date: 20 June 2024

Development Consultation.

2024_1356 Site Of Tara Cavendish Road Weybridge Surrey KT13 0JT

Description: Air source heat pump.

Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
Description: Air source heat pump.

Dear Adam,

Thank you for consulting me on the above application. This tree and development consultation takes account of current national / local requirement. Site plans need to accurately show the positions of all trees on the site and those on adjacent land (including street trees) that may influence or be affected by the proposed development and development related operations.

NPPF 1.1. Under Section 197 of the Town and Country Planning Act 1990, local authorities have a statutory duty to consider the protection and planting of trees when considering planning applications. The effects of proposed development on trees are therefore a material consideration, and this is normally reflected in local planning policies (Appendix 3).

Local planning policy and documents include Elmbridge Borough Council,

- Local planning Core Strategy (derived from the NPPF),
- Development Management (DM),
- Biodiversity net gain (BNG).
- Supplementary Planning Documents (SPDs) (Appendix 3.)

current British Standard best practice relevant to this consultation,

- BS 5837:2012 Trees in relation to design, demolition, and construction Recommendations. Existing trees are a decisive factor on construction sites, whether on or near working areas, and are a material consideration in the UK planning system. BS 5837:2012 intendeds to assist decision-making with regard to existing and proposed trees in design, demolition, and construction. Root systems, stems and canopies, with allowance for future movement and growth, need to be taken into account, including those not requiring planning permission.
  Space required for proposed new trees to become established is an important consideration. During their lifetime, trees will be vulnerable to disturbance, injury, environmental changes, pests, and diseases. Construction work often exerts pressures on existing trees, as do changes in their immediate environment following the construction.
  Early provision of physical protection from damage is critical. Where tree retention or planting is proposed in conjunction with nearby construction, the objective should be to achieve a harmonious relationship between trees and structures that can be sustained in the long term.
- BS 3998:2010 Tree work Recommendations. Trees develop with their environment above and below ground. Conflicts with people and property can result from natural processes of growth and dieback or from the effects of damage caused by severe weather, pests, or diseases.
  Human activities can lead to conflicts, these activities can affect the growth or structural integrity of trees or increase or adversely modify their exposure to the wind by the removal of other trees or the demolition or construction of buildings.
  Human activities can also bring people and targets closer to trees. Any such conflict will have implications for health and welfare of trees concerned and the safety of people and property.
  Resolution of conflicts can be achieved by tree work, but there is often need to consider other measures such as modifying the use or management of the development and or surrounding land.

Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
Description: Air source heat pump.

Other supplementary documents for consideration include.

- NATIONAL JOINT UTILITIES GROUP (NJUG). Guidelines for the planning, installation, and maintenance of utility apparatus in proximity to trees. Volume 4, issue 2. London: NJUG, 2007,
- AA_GuidanceNote12_CellularConfinementSystems-Web.

Any submitted information supporting a development application must take account of the previous legislation, documents and best practice guidelines re-planning for the management, protection, and planting of trees in the vicinity of structures while recognizing the contribution trees make to climate change adaptation.

My comments are below.

Similar applications.

Tree Protection Status.

- Is the site located within Ancient Woodland? NO.
- Is the site within a Conservation Area? NO.
- Are there TPOs on site (Appendix 1)? YES. EL:22/32.
- Are there TPOs on adjacent land that may influence the proposal? NO.

Site Overview.

- Is the site located on a private road? YES.
- Is there public access up to the site? NO.
- Is the site visible from a public space? NO.
- Site use: Private Residential.
- Site general amenity appraisal: Good. Overall, the trees and shrubs, visible on site, contribute significantly to the character and amenity of the area.
- Scope for planting: YES.

Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
Description: Air source heat pump.

Supporting Arboricultural Information.

Has been supplied referencing British Standard 5837:2012 - Trees in relation to design, demolition, and construction – Recommendations CONSULTANT: DAVID ARCHER/SITE: Site of Tara, Cavendish Road, Weybridge, KT13 0JT/TPP: TPP 01/DATE: MAY 2024
Information received does not have the authors qualification or experience.

a. Are there significant trees with stem diameters over 1000mm? YES. T4.
b. Topography plan with spot levels and site features: NO.
c. Tree survey: YES.
d. Tree constraints plan: NO.
e. Landscape proposal: NO.
f. Impact assessment: NO.
g. Tree protection plan: YES. CONSULTANT: DAVID ARCHER/SITE: Site of Tara, Cavendish Road, Weybridge, KT13 0JT/TPP: TPP 01/DATE: MAY 2024
h. Method statement: NO.
i. Barriers: YES.
j. Utilities: Outside RPAs. Can be discussed at pre-commencement and submitted in an application to discharge Extra Arboricultural Information Condition.
k. RPA incursion: NO.
l. Site monitoring/Supervision: NO.
m. Ground protection: NO.
n. Additional precautions e.g. cranes, machinery, fires, hazardous materials etc: NO.
o. Tree work, remedial / facilitation: NO.

Given the supplied tree information, are any significant trees contributing highly to local public amenity (or with potential to do so) on or off site under significant threat due to the proposal? NO.

Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
Description: Air source heat pump.

Conclusion re-compatibility of new development and retained trees on/near to site.

Considering supplied information re-potential impact of proposed development, the proposal has potential to have an acceptable level of compatibility with protected trees on/off site.

Therefore, the Arboricultural Officer has no objection to the proposal on arboricultural grounds due to,

- suitable supporting arboricultural information,
- location of protected trees in relation to proposed development,

if works are carried out to specifications detailed within Choose an item. arboricultural report and attention is paid to the use of the following planning conditions.

Planning Conditions.

TR103 – Tree Protection Measures (No Pre-Commencement Meeting)
No development including groundworks and demolition and no equipment, machinery, or materials to be brought onto site for the purposes of the development until all tree protection measures have been installed in the positions identified on the approved tree protection plan(s) and are suitably fit for purpose (BS5837 2012 Figure 2 and / or Figure 3 including ground protection described within section BS5837 2012 6.2.3.3).

CONSULTANT: DAVID ARCHER/SITE: Site of Tara, Cavendish Road, Weybridge, KT13 0JT/TPP: TPP 01/DATE: MAY 2024

and maintained for the course of the development. The development thereafter shall be implemented in strict accordance with the approved details and method statements contained in

CONSULTANT: DAVID ARCHER/SITE: Site of Tara, Cavendish Road, Weybridge, KT13 0JT/TPP: TPP 01/DATE: MAY 2024

Reason: To protect and enhance the appearance and character of the site and locality, reduce the risk to protected and retained trees in accordance with the approved details pursuant to section 197 of the Town and Country Planning Act 1990, and in accordance with policies CS14, DM6 of the Councils Core Strategy 2011 and Development Management Plan 2015.

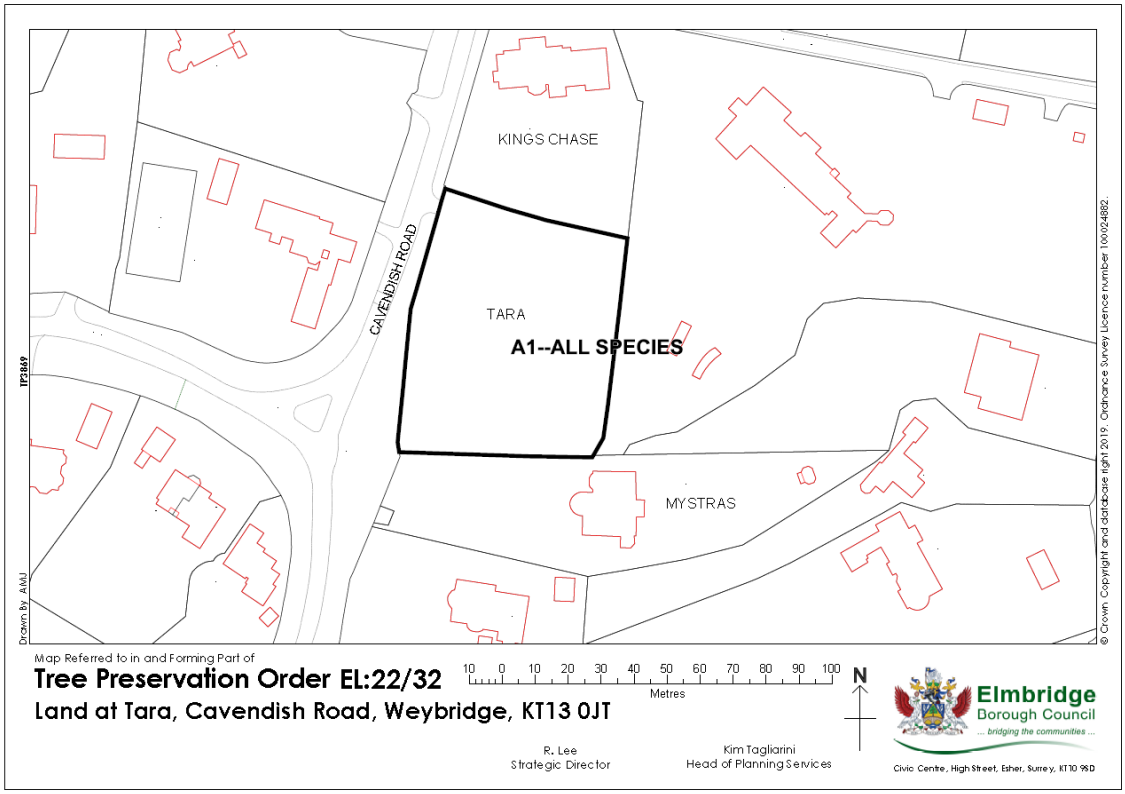
TR108 – Tree Retention
All existing trees, hedges or hedgerows *inside the identified site boundary shall be retained*, unless shown on the approved drawings as being removed and paragraphs (a) and (b) below shall have effect until the expiration of 5 years from the first occupation of the proposed development.
No retained tree, hedge or hedgerow providing a screen shall be cut down, uprooted, or destroyed, other than in accordance with the approved plans and particulars.
If any retained tree, hedge, or hedgerow is removed, uprooted, or destroyed or dies, another tree, hedge or hedgerow of similar size and species shall be planted at the same place, in the next available planting season or sooner.
Reason: To protect and enhance the appearance and character of the site and locality, reduce the risk to protected and retained trees in accordance with the approved details pursuant to section 197 of the Town and Country Planning Act 1990, and in accordance with policies CS14, CS15, of the Councils Core Strategy 2011 and DM6 of the Councils Development Management Plan 2015.

Trees and development consultation.

Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.

Description: Air source heat pump.

Appendix 1: Tree legislation on site.



Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
Description: Air source heat pump.

Appendix 2: Terms and definitions.

1.0 Access facilitation pruning. One-off tree pruning operation, the nature, and effects of which are without significant adverse impact on tree physiology or amenity value, which is directly necessary to provide access for operations on site.

2.0 Arboricultural method statement. Methodology for the implementation of any aspect of development that is within the root protection area or has the potential to result in loss of or damage to a tree to be retained.

3.0 Arboriculturist. Person who has, through relevant education, training, and experience, gained expertise in the field of trees in relation to construction.

4.0 Competent person. Person who has training and experience relevant to the matter being addressed and an understanding of the requirements of the particular task being approached.
NOTE A competent person is expected to be able to advise on the best means by which the recommendations of this British Standard may be implemented.

5.0 Construction. Site-based operations with the potential to affect existing trees.

6.0 Construction exclusion zone. Area based on the root protection area (3.7) from which access is prohibited for the duration of a project.

7.0 Root protection area (RPA). Layout design tool indicating 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.

8.0 Service. Any above- or below-ground structure or apparatus required for utility provision.
NOTE Examples include drainage, gas supplies, ground source heat pumps, CCTV, and satellite communications.

9.0 Stem. Principal above-ground structural component(s) of a tree that supports its branches.
Structure. Manufactured object, such as a building, carriageway, path, wall, service run, and built or excavated earthwork.

10.0 Tree protection plan. Scale drawing, informed by descriptive text where necessary, based upon the finalized proposals, showing trees for retention, and illustrating the tree and landscape protection measures.

11.0 Veteran tree. 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.
NOTE These characteristics might typically include a large girth, signs of crown retrenchment and hollowing of the stem.

Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
Description: Air source heat pump.

Appendix 3: Policy.

NPPF.
1.3. In paragraph 135, within Section 12 "Achieving well-designed and beautiful places" the NPPF states: "Planning policies and decisions should ensure that developments:

a. will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;
b. are visually attractive as *a result of good architecture, layout, and appropriate and effective landscaping;*
c. are sympathetic to local character and history, including the surrounding built environment and landscape setting.
d. optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space).

1.4. Paragraph 136 in this section states: "Trees make an important contribution to the character and quality of urban environments and can also help mitigate and adapt to climate change. Planning policies and decisions should ensure that new streets are tree-lined, that appropriate measures are in place to secure the long-term maintenance of newly planted trees, and that existing trees are retained wherever possible.

1.5. The section titled "Meeting the challenge of climate change, flooding and coastal change" states at paragraph 158: "Plans should take a proactive approach to mitigating and adapting to climate change.

1.6. In paragraph 180, within Section 15 "Conserving and enhancing the natural environment" the NPPF states: "Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes,
b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including trees and woodland; minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
e) Development should, wherever possible, help to improve local environmental conditions, such as air quality.

1.7. In paragraph 186, under the 'Habitats and biodiversity' section, the NPPF states: "When determining planning applications, local planning authorities should apply the following principles; development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons, and a suitable compensation strategy exists.

Elmbridge Core Strategy 2011 CS14.
Safeguarding important trees, woodlands and hedgerows and securing provision of soft landscaping measures in new development, focusing on the use of native species, particularly trees, which are an important feature of the Elmbridge landscape, and taking opportunities to create links with the wider green infrastructure network.

Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
Description: Air source heat pump.

3.3. Elmbridge is well known for its extensive private residential estates, that offer secure, flexible, and creative environments as well as a high level of privacy and independence. These locations also benefit from convenient access to the rest of the country and indeed the rest of the world and provide accommodation for successful entrepreneurs who contribute to the health of the Southeast economy.

Elmbridge Development Management Plan 2015 DM6.

Successful design should,

a. reflect, conserve, or enhance the existing landscape integrating, development into its surroundings, adding scale, visual interest, and amenity.
b. contribute to biodiversity by conserving existing wildlife habitats, creating new habitats, and providing links to the green infrastructure network.
c. encourage adaptation to climate change.
d. provide tree planting for shade, shelter and cooling and a balance of hard and soft elements.
e. not result in loss of, or damage to, trees and hedgerows making/capable of significant contribution to character and/or amenity of the area, unless in exceptional circumstances the benefits would outweigh the loss.
f. adequately protects existing trees including their root systems prior to, during and after the construction process.
g. not result in the loss or deterioration of irreplaceable habitats including ancient woodland and ancient or veteran trees, unless in exceptional circumstances the benefits would outweigh the loss.
h. include proposals for the successful implementation, maintenance and management of landscape and tree planting schemes.

Development Management Advice Note 7: Supporting biodiversity and encouraging nature in development.
5. Maintain / create a green corridor for wildlife. Rather than just a hard fence, consider softer boundary treatment such as hedges, flowering shrubs, and trees. Native hedge species: Alder buckthorn, blackthorn, broom, buckthorn, dogrose, dogwood, elder, guelder-rose, hawthorn, spindle.

Elmbridge Supplementary Planning Documents.
4.3. *Site features:* Plot accurately existing buildings, structures, walls, trees, hedges or bushes, access ways, (driveways, yards, roadways etc.). Evaluate each to assess their condition and their potential for rehabilitation and re-use. This will be essential if they are considered a heritage asset, or if they are considered as important components contributing to the positive character of the area. Even if these features are of little value in this category, it is good sustainable practice to re-use as much as is feasible.

4.3. *Site boundaries and their sensitivity:* Plot all site boundaries, describing materials, condition, and height. Additionally, note their sensitivity to overlooking and overshadowing. The heights of buildings adjacent to the site and the position of windows to habitable rooms should be noted. Locate the existing access point(s) to the site and evaluate future levels of vehicular access. Existing gate piers or other entrance features should generally be retained where appropriate.

5.36. Hedgerows, woodlands, trees, and verges form important wildlife corridors providing essential links between habitats and the wider Green Infrastructure network.

5.37. Retention and protection of hedgerows, woodlands, trees, and verges can reduce the impact of development and allow development to adapt more suitably to its surroundings and preserve and enhance the

Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
Description: Air source heat pump.

Borough's biodiversity, Green Infrastructure and distinctive character as well as improving its resilience to climate change.

5.38. Development should take account of the ecological value of a site and enhance and protect it where appropriate. As the largest living element within the environment, trees should not be seen as a constraint to development but can provide their own biodiversity and ecology as well as amenity and character to the wider area.
They can screen unsightly views, improve aesthetics by softening buildings and have an important cooling effect in the urban environment. Suitable design should include existing features and encompass them within development.
The provision for planting and retention of trees offers significant opportunities to increase sustainability including the influence on rainfall, essential wildlife habitat, creation of shade and shelter and reduction of soil erosion.

5.4. The creation and retention of trees and hedgerows to establish an environment sheltered from strong winds should be demonstrated in design schemes.

5.81. Give careful consideration to the design and siting of the new development in relation to existing topography, trees, other buildings, external views into and out of the site and internal views within the site.
Site features such as hedges, ponds, terraces, paths, and boundary walls.
The presence of individual trees and groups, their condition and age and how the development could successfully integrate them to give scale and maturity.
Potential open spaces and new areas for planting within the development to avoid dominating the residential and landscape environment.
The choice of soft materials (planting types, extent, and species) which should be appropriate to the area, the scale of development and future maintenance requirements.

Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
Description: Air source heat pump.

Appendix 4: Considerations.

1.0. Design constraints. Imposed by trees, above and below ground should inform the site layout design. Certain trees are of such importance and sensitivity (Veteran/Ancient trees) as to be major constraints on development or to justify its substantial modification. However, care should be taken to avoid misplaced tree retention.

1.1. Proximity of structures to trees. The default position should be that structures are located outside the RPAs of trees to be retained. However, where there is an overriding justification for construction within the RPA, technical solutions might be available that prevent damage to the tree(s). If operations within the RPA are proposed, the project arboriculturist should:

a. demonstrate that the tree(s) can remain viable, and that the area lost to encroachment can be compensated for elsewhere, contiguous with its RPA;
b. propose a series of mitigation measures to improve the soil environment that is used by the tree for growth.

A realistic assessment of the probable impact of any proposed development on the trees and vice versa should take into account the characteristics and condition of the trees, with allowance for their future growth and maintenance.

To maximize the probability of successful tree retention, the following factors should be taken into account during the design process.

1.2. Shading of buildings. Shading of buildings by trees can be a problem, particularly where there are rooms which require natural light. Proposed buildings should be designed to take account of existing trees, their ultimate size and density of foliage, and the effect that these will have on the availability of light.

1.33. Shading of open spaces. Open spaces such as gardens and sitting areas should be designed to meet the normal requirement for direct sunlight for at least a part of the day.

1.4. Privacy and screening. It might be desirable for trees to provide screening to a building, e.g. for internal privacy, to reduce overlooking by neighbours or to mitigate undesirable views, such as busy roads, railway lines or industrial premises. In order to achieve the desired outcome, account should be taken of the proposed orientation and aspect of the building, the type of building, its use and location relative to the tree, and the species attributes of the tree.

1.5. Direct damage. Below-ground damage to structures can occur as a result of incremental root and stem growth. Above-ground damage can occur to trees and structures by the continuous whipping of branches against the fabric of a building. Branch ends might have to be cut back periodically, possibly affecting the shape of the tree. Structures should therefore be designed and/or located with due consideration for a tree's ultimate growth, so as to reduce the need for frequent remedial pruning or other maintenance.

1.6. Future pressure for removal. The relationship of buildings to large trees can cause apprehension to occupiers or users of nearby buildings or spaces, resulting in pressure for the removal of the trees. Buildings and other structures should be sited allowing adequate space for a tree's natural development, with due consideration given to its predicted height and canopy spread. However, this does not mean that trees should not be retained within any particular distance of a structure.

Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
Description: Air source heat pump.

1.7. *Seasonal nuisance.* Trees are naturally growing and shedding organisms. Leaves of some species can cause problems, particularly in the autumn, by blocking gullies and gutters. Fruit can cause slippery patches, and accumulation of honeydew can be damaging to surfaces and vehicles. Buildings, footpaths, and hard-standing areas should be designed with due consideration to the proximity of retained trees, especially in terms of their foliage, flowering, and fruiting habits. Where conflicts might arise, detailed design should address these issues, e.g. use of non-slip paving; provision of leaf guards or grilles on gutters and gullies; provision of access and means of maintenance.

1.8. *Permanent hard surfacing within the RPA.* Where unavoidable, site-specific, specialist arboricultural and construction design advice should determine whether it is achievable without significant adverse impact on retained trees. This does not apply to veteran trees, no construction, including the installation of new hard surfacing, occurs within the RPA.

2.0. National/Local requirements. Supporting arboricultural information which consists of,

3.0. *Topographical survey,* showing ground levels and site features should record,

a. spot levels at the base of trees and throughout the site at an interval appropriate to meet design requirements, recorded as a grid and interpolated as contours, ensuring that any abrupt changes, embankments, ditch inverts and retaining features are recorded;
b. the position of all trees within the site with a stem diameter of 75 mm or more, measured at 1.5 m above highest adjacent ground level;
c. the position of trees with an estimated stem diameter of 75 mm or more that overhang the site or are located beyond the site boundaries within a distance of up to 12 times their estimated stem diameter;
d. for individual trees, the crown spread taken at four cardinal points; for woodlands or substantial tree groups, the overall extent of the canopy;
e. the extent, basal ground levels and height of shrub masses, hedges, hedgerows, and stumps;
f. other relevant landscape features and artefacts, such as streams, buildings and other structures, boundary features and means of enclosure, trenching scars near to trees, and overhead and underground utility apparatus, including drainage runs with manholes and invert levels.
g. *Tree survey.* A tree survey should be undertaken by an arboriculturist to record information about the trees on or adjacent to a site. The results of the tree survey, including material constraints arising from existing trees that merit retention, should be used (along with any other relevant baseline data) to inform feasibility studies and design options.

3.1. Tree surveys undertaken after a detailed design has been prepared can identify significant conflicts: in such cases, the nature of and need for the proposed development should be set against the quality and values of affected trees. The extent to which the design can be modified to accommodate those trees meriting retention should be carefully considered.
The survey should contain information including,

a. Tree number.
b. Species.
c. Age classification.
d. Height.
e. Height of first significant branch.

f. Height of crown.
g. Crown spread N, S, E, W.
h. Vitality.
i. Mechanics.
j. Comments.
k. Category (BS5837 2012).

4.0. Arboricultural constraints on design. The constraints imposed by trees, both above and below ground should inform the site layout design, although it is recognized that the competing needs of development mean that trees are only one factor requiring consideration. Certain trees are of such importance and sensitivity as to be major constraints on development or to justify its substantial modification. However, care should be taken to avoid misplaced tree retention; attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal.

4.1. As trees can affect and be affected by many aspects of site operations, during the conception and design process the project arboriculturist should be involved in ongoing review of layout, architectural, engineering and landscape drawings. All members of the design team should be made aware of the requirements for the successful retention of the retained trees and should make provision for these throughout the development process.

4.2. Trees should be assigned categories,

- Category 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.
- Category A. Trees of high quality (Trees that are particularly good examples of their species, especially if rare or unusual; or those that are essential components of groups or formal or semi-formal arboricultural features (e.g. the dominant and/or principal trees within an avenue) with an estimated remaining life expectancy of at least 40 years.
- Category B. Trees of moderate quality (Trees that might be included in category A, but are downgraded because of impaired condition ((e.g. presence of significant though remediable defects, including unsympathetic past management and storm damage)), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation with an estimated remaining life expectancy of at least 20 years.
- Category C. Trees of low quality (Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories, but can be upgraded as part of a group) with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.

5.0. Impact assessment. The project arboriculturist should use gathered information to prepare an arboricultural impact assessment that evaluates the direct and indirect effects of the proposed design and where necessary recommends mitigation.

5.1. The assessment should take account of the effects of any tree loss required to implement the design, and any potentially damaging activities proposed in the vicinity of retained trees. Such activities might include the removal of existing structures and hard surfacing, the installation of new hard surfacing, the installation of services, and the location and dimensions of all proposed excavations or changes in ground level, including any

that might arise from the implementation of the recommended mitigation measures. In addition to the impact of the permanent works, account should be taken of the buildability of the scheme in terms of access, adequate working space and provision for the storage of materials, including topsoil.

5.2. As well as an evaluation of the extent of the impact on existing trees, the arboricultural impact assessment should include:

a. the tree survey;
b. trees selected for retention, clearly identified (e.g. by number) and marked on a plan with a continuous outline;
c. trees to be removed, also clearly identified (e.g. by number) and marked on a plan with a dashed outline or similar;
d. trees to be pruned, including any access facilitation pruning, also clearly identified, and labelled or listed as appropriate;
e. areas designated for structural landscaping that need to be protected from construction operations in order to prevent the soil structure being damaged;
f. evaluation of impact of proposed tree losses;
g. evaluation of tree constraints and draft tree protection plan;
h. issues to be addressed by an arboricultural method statement, where necessary in conjunction with input from other specialists.

6.0. Tree protection plan. The tree protection plan should be superimposed on a layout plan, based on the topographical survey, and showing all hard surfacing and other existing structures within the RPA. The plan should clearly indicate the precise location of protective barriers to be erected to form a construction exclusion zone around the retained trees. It should also show the extent and type of ground protection, and any additional physical measures, such as tree protection boxes, that will need to be installed to safeguard vulnerable sections of trees and their RPAs where construction activity cannot be fully or permanently excluded.

6.1. These measures should be indicated on the plan, accompanied by descriptive text as required. Barrier and ground protection offsets should be dimensioned from existing fixed points on the site to enable accurate setting out. The position of barriers and any ground protection should be shown as a polygon representing the actual alignment of the protection.

6.2. Where temporary access is to be permitted into a construction exclusion zone, the extent of the set-back of the permanent barrier should be clearly indicated, along with the temporary ground protection measures to be adopted for the duration of the works within the RPA.

6.3. These details should be incorporated into relevant subsequent plans, method statements used for design purposes and construction drawings issued for use on site, to ensure that all interested parties are fully aware of the areas in which access and works may and may not take place.

6.4. To avoid disturbance to the physical protection, it is essential to make allowance for, and plan, all construction operations which will be undertaken in the vicinity of trees. Factors that need to be considered include, but are not limited to:

a. site construction access;

b. the intensity and nature of the construction activity;
c. contractors' car parking;
d. phasing of construction works;
e. the space needed for foundation excavations and construction works;
f. the availability of special construction techniques;
g. the location and space needed for all temporary and permanent apparatus and service runs, including foul and surface water drains, land drains, soakaways, gas, oil, water, electricity, telephone, television, or other communication cables;
h. all changes in ground level, including the location of retaining walls, steps and making adequate allowance for foundations of such walls and backfilling;
i. working space for cranes, plant, scaffolding and access during works;
j. space for site huts, temporary toilet facilities (including their drainage) and other temporary structures;
k. the type and extent of landscape works which will be needed within the protected areas, and the effects these will have on the root system;
l. space for storing (whether temporary or long-term) materials, spoil and fuel and the mixing of cement and concrete;
m. the effects of slope on the movement of potentially harmful liquid spillages towards or into protected areas.

7.0. New planting design and associated landscape operations. All new tree planting proposals are an essential consideration in the layout, design and future use of a development site, the local landscape character, and the contextual surroundings. As trees generally form the dominant elements of the long-term landscape structure of a site, careful consideration needs to be given to their ultimate height and spread, form, habit and colour, density of foliage and maintenance implications, in relation to both the built form of the new development, and the retained landscape features.

7.1. Trees, either individually or as formal or informal groups, perform a variety of functional roles that can be exploited by a well-designed landscape. These include:

contributions to green infrastructure networks, of particular importance in built-up areas;

a. the inherent aesthetic attractiveness of trees as prominent landscape architectural features;
b. screening of undesirable views and provision of privacy;
c. articulation and definition of spaces;
d. definition and direction of routes and views;
e. introduction of natural character and seasonal change that can relieve or complement artificial environments;
f. reflection of local landscape character and providing a sense of place, sometimes as significant landmarks;
g. control of soil erosion, attenuation of surface water run-off and mitigation of flood risk, through root system reinforcement and canopy interception of precipitation.

Many of these factors can provide a significant enhancement to the value of property.

8.0. Method statement. A precautionary approach towards tree protection should be adopted and any operations, including access, proposed within the RPA (or crown spread where this is greater) should be

described within an arboricultural method statement, in order to demonstrate that the operations can be undertaken with minimal risk of adverse impact on trees to be retained.

8.1. The arboricultural method statement should be appropriate to the proposals and might typically address some or all of the following, incorporating relevant information from other specialists as required:

a. removal of existing structures and hard surfacing;
b. installation of temporary ground protection;
c. excavations and the requirement for specialized trenchless techniques;
d. installation of new hard surfacing – materials, design constraints and implications for levels;
e. specialist foundations – installation techniques and effect on finished floor levels and overall height;
f. retaining structures to facilitate changes in ground levels;
g. preparatory works for new landscaping;
h. auditable/audited system of arboricultural site monitoring, including a schedule of specific site events requiring input or supervision.

9.0. Barriers and ground protection. All trees that are being retained on site should be protected by barriers and/or ground protection before any materials or machinery are brought onto the site, and before any demolition, development or stripping of soil commences. Where all activity can be excluded from the RPA, vertical barriers should be erected to create a construction exclusion zone. Where, due to site constraints, construction activity cannot be fully or permanently excluded in this manner from all or part of a tree's RPA, appropriate ground protection should be installed.

9.1. Areas of retained structural planting, or designated for new structural planting, should be similarly protected, based on the extent of the soft landscaping shown on the approved drawings.
The protected area should be regarded as sacrosanct, and once installed, barriers and ground protection should not be removed or altered without prior recommendation by the project arboriculturist and, where necessary, approval from the local planning authority.

9.2. Where required, pre-development tree work may be undertaken before the installation of tree protection measures, with the agreement of the project arboriculturist or local planning authority if appropriate.

9.3. It should be confirmed by the project arboriculturist that the barriers and ground protection have been correctly set out on site, prior to the commencement of any other operations.
Barriers should be fit for the purpose of excluding construction activity and appropriate to the degree and proximity of work taking place around the retained tree(s). Barriers should be maintained to ensure that they remain rigid and complete.

10.0. Additional precautions outside the exclusion zone. Planning of site operations should take sufficient account of wide loads, tall loads and plant with booms, jibs, and counterweights (including drilling rigs), in order that they can operate without coming into contact with retained trees.

10.1. Such contact can result in serious damage to the trees and might make their safe retention impossible. Consequently, any transit or traverse of plant in proximity to trees should be conducted under the supervision of a banksman, to ensure that adequate clearance from trees is maintained at all times. Access facilitation pruning should be undertaken where necessary to maintain this clearance.

Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
Description: Air source heat pump.

11.0. Demolition and Construction. Avoiding physical damage to the roots during demolition or construction. To avoid damage to tree roots, existing ground levels should be retained within the RPA. Intrusion into soil (other than for piling) within the RPA is generally not acceptable, and topsoil within it should be retained in situ. However, limited manual excavation within the RPA might be acceptable, subject to justification. Such excavation should be undertaken carefully, using hand-held tools and preferably by compressed air soil displacement.

12.0. Special engineering for foundations within the RPA. The use of traditional strip footings can result in extensive root loss and should be avoided. The insertion of specially engineered structures within RPAs may be justified if this enables the retention of a good quality tree that would otherwise be lost (usually categories A or B). Designs for foundations that would minimize adverse impact on trees should include particular attention to existing levels, proposed finished levels and cross-sectional details. In order to arrive at a suitable solution, site-specific and specialist advice regarding foundation design should be sought from the project arboriculturist and an engineer. In shrinkable soils, the foundation design should take account of the risk of indirect damage.

12.1. Root damage can be minimized by using piles, with site investigation used to determine their optimal location whilst avoiding damage to roots important for the stability of the tree, by means of hand tools or compressed air soil displacement, to a minimum depth of 600 mm;
Beams laid at or above ground level and cantilevered as necessary to avoid tree roots identified by site investigation.

12.2. Where a slab for a minor structure (e.g. shed base) is to be formed within the RPA, it should bear on existing ground level, and should not exceed an area greater than 20% of the existing unsurfaced ground. Slabs for larger structures (e.g. dwellings) should be constructed with a ventilated air space between the underside of the slab and the existing soil surface (to enable gas exchange and venting through the soil surface). In such cases, a specialist irrigation system should also be employed (e.g. roof run-off redirected under the slab). The design of the foundation should take account of any effect on the load-bearing properties of underlying soil from the redirected roof run-off. Approval in principle for a foundation that relies on topsoil retention and roof run-off under the slab should be sought from the building control authority prior to this approach being relied on.

12.3. Where piling is to be installed near to trees, the smallest practical pile diameter should be used, as this reduces the possibility of striking major tree roots and reduces the size of the rig required to sink the piles. If a piling mat is required, this should conform to the parameters for temporary ground protection. Use of the smallest practical piling rig is also important where piling within the branch spread is proposed, as this can reduce the need for access facilitation pruning. The pile type should be selected bearing in mind the need to protect the soil and adjacent roots from the potentially toxic effects of uncured concrete, e.g. sleeved bored pile or screw pile.

13.0. Permanent hard surfacing within the RPA. This does not apply to veteran trees, where it is recommended that no construction, including the installation of new hard surfacing, occurs within the RPA. Where permanent hard surfacing within the RPA is considered unavoidable, site-specific and specialist arboricultural and construction design advice should be sought to determine whether it is achievable without significant adverse impact on trees to be retained.

Trees and development consultation.
Application: 2024/1356 - Site Of Tara, Cavendish Road, Weybridge, KT13 0JT.
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13.1. Specialist arboricultural advice includes, for example, advice on the tolerance of a tree species to the installation of a permanent hard surface within the RPA or tolerance of salt damage.

14.0. Site monitoring. Wherever trees on or adjacent to a site have been identified within the tree protection plan for protective measures, there should be an auditable system of arboricultural site monitoring. This should extend to arboricultural supervision whenever construction and development activity is to take place within or adjacent to any RPA.

15.0. Underground and above-ground utility apparatus. Mechanical trenching for the installation of underground apparatus and drainage severs any roots present and can change the local soil hydrology in a way that adversely affects the health of the tree. For this reason, particular care should be taken in the routeing and methods of installation of all underground apparatus. Wherever possible, apparatus should be routed outside RPAs. Where this is not possible, it is preferable to keep apparatus together in common ducts. Inspection chambers should be sited outside the RPA.

15.1. Where underground apparatus is to pass within the RPA, detailed plans showing the proposed routeing should be drawn up in conjunction with the project arboriculturist. In such cases, trenchless insertion methods should be used with entry and retrieval pits being sited outside the RPA. Provided that roots can be retained and protected. Excavation using hand-held tools might be acceptable for shallow service runs.

16.0. Tree work, remedial / facilitation. Minimum clearance of 2m from the edge of the existing canopy to the location of the proposed structures or operation of site equipment is expected. Some pruning to gain clearance is acceptable however, if detrimental to the health and form of the tree(s) pruning would not be supported. Future heights and predicted spreads of trees, when they reach maturity, should be shown. Placing structures in close proximity to young trees identified for retention may result in future pressures to remove them as they mature or place unreasonable ongoing costs of maintenance to the owner.