



Instructing Client:
Taylor Wimpey UK Limited and Bellway Homes Limited

**DISCHARGE OF CONDITION 14 & 20 OF OUTLINE APPLICATION
PT14/0565/0**

Land at Cribbs Causeway, Bristol

**ARBORICULTURAL IMPLICATIONS ASSESSMENT AND TREE
PROTECTION METHOD STATEMENT**

Date: February 2021

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Contents

1.0	Introduction	3
2.0	Site Description	4
3.0	Tree Stock Analysis	5
4.0	Tree Loss and Additional works	5
5.0	Arboricultural Implications.....	6
6.0	Tree Protection Requirements	7
7.0	Site Monitoring and Supervision	9
8.0	Final Completion	9
9.0	Completion Meeting.....	10
10.0	Conclusions.....	10
11.0	References.....	10

Appendix 1: Tree Removal and Protection (8354/64960)

Appendix 2: Protective Fencing Signage

1.0 Introduction

1.1 I am Ken Sheppard, *MICFor. F.Arbor.A. Dip.Arb. (RFS) Tech Cert (Arbor.A) CUEW*. I am the Senior Arboricultural Consultant with Tree Maintenance Limited. I have 36 years' experience in Arboriculture. I am a Fellow of the Arboricultural Association and a Chartered Arboriculturalist through the Institute of Chartered Foresters.

1.2 I have been instructed by Taylor Wimpey UK Limited and Bellway Homes Limited to provide an Arboricultural Implications Assessment (AIA), Arboricultural Method Statement (AMS) and Tree Removal and Protection Plan in relation to the discharge of conditions 14 & 20 of outline application PT4/0565/0 for land at Cribbs Causeway, Bristol. This implications assessment follows the previously approved tree protection strategy but amends and builds on it to facilitate the landscape works.

1.3 Conditions

1.3.1 Condition 14 Protective Fencing Requires:

Notwithstanding the submitted details, prior to the commencement of development in any geographical phase (including the commencement of any site preparation works as defined by the S106 Agreement) a scheme including plans shall be submitted to and approved by the Local Planning Authority in writing detailing the protective fencing for those trees shown as being retained on the approved plans, which shall be in accordance with BS5837 2012 Trees in Relation to Construction.

1.3.2 Condition 20 Tree Protection – Triangle Land

Prior to the submission of any reserved matters application on land within the 'Triangle' site or adjacent to any of the category A Oak trees as defined in the approved tree and hedgerow survey by Illman Young (Aug & Nov 2013 and July 2015) and revised in Feb 2014 or the root protection zone for any of these trees, in accordance with British Standard 3998: 2010 - Recommendations for Tree Work, a survey of the trees in relation to the proposed development including a method statement for how the trees are to be protected during construction for all below ground works within any root protection zone shall be first submitted to and approved in writing by the Local Planning Authority. The development shall thereafter be implemented in accordance with the approved survey and method statement.

1.4 The following documents have been provided for consideration:

- Existing Planning Application Boundaries and Reference Numbers.
- Infrastructure (Highways and Drainage) engineering layout
- Infrastructure (Highways and Drainage) Amendment engineering layout
- S278 Highway engineering layout files ('Laurels' and 'Passage Rd' junctions and roundabout)
- Updated Landscape RM design files
- Updated Vegetation Removal Plan

1.5 This Arboricultural Method Statement has been written in accordance with British Standard 5837: 'Trees in Relation to design, demolition and construction – Recommendations 2012' and follows on from the previous tree survey and constraints advice provided for consideration during the design process.

1.6 The AIA and AMS together with the Tree Removal and Protection Plan (TRPP) (8354/64960) attached at Appendix 2 identifies the trees that are to be removed, together with those that

Site: Landscape Reserve Matters - Land at Cribbs Causeway, Bristol

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TM/KS/8354/64960

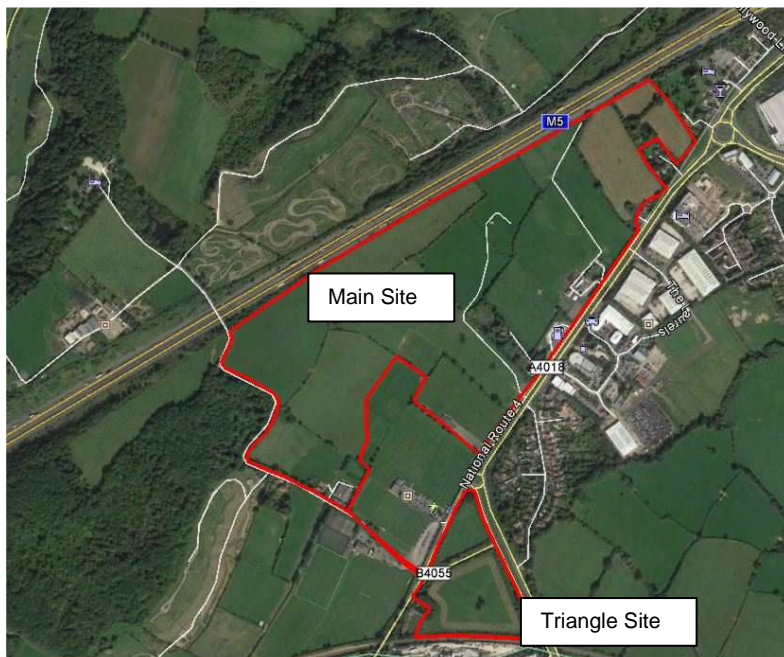
could be affected by the development but are retained as part of this proposal. It identifies the minimum tree protection requirements to be employed to ensure that the trees shown for retention are maintained in a safe and healthy condition during and following development.

- 1.7 At this stage, the AMS has been formulated without consultation with the main contractor. Montel have been recently appointed for Phase 1 of the main site and Phase 3 (Triangle Site). Should amendments be required for operational reasons, these will be submitted to, and approved in writing by, South Gloucestershire Council prior to the amendments being implemented.
- 1.8 Tree numbers in this document and associated drawings follow the numbering system in the Arboricultural Survey and shown on Tree Constraints Plan produced by Tree Maintenance Limited (referenced 8354/62372) revised in February 2020.

2.0 Site Description

- 2.1 The site is generally linear in shape and orientated North to South along the side of the M5 motorway. The site consists of a number of residential properties, equestrian holdings and paddock fields (Figure 1).
- 2.2 The site slopes from South West to East, becoming level to the South and South East.
- 2.3 The site is divided by a number of hedges of varying quality and wire fences together with walls and boundary fences around the private amenity space and around residential properties.
- 2.4 The larger trees are generally located within hedge lines or within the gardens of residential properties.
- 2.5 The extent of the site is shown in Figure 1 below.

Figure 1. Site Location



3.0 Tree Stock Analysis

- 3.1 The tree stock within the entire application site has been surveyed as individual trees or as groups or hedges, depending on their form and recent management. There were 216 individual trees and 119 groups or hedges on or adjacent to the site.
- 3.2 Individual trees: there are no good quality 'A' grade trees, there are 63 moderate 'B' category trees (29.9%), 138 low quality 'C' grade trees (63.9%) and 15 'U' category low grade trees (6.9%). In terms of age class, the individual tree population consists of 0.5% young trees, 13.0% semi mature trees, 66.7% middle-aged trees, 16.7% mature trees and 2.8% over mature trees.
- 3.3 The structural and physiological condition of the trees was assessed. The structural condition indicates that 22.7% were in good condition, 67.6% were in fair condition and 9.7% were in poor condition. In terms of physiological vitality, 74.5% were in good condition, 21.3% were in fair condition, 2.8% were in poor condition one tree was moribund (0.5%) and two (0.9%) were dead.
- 3.4 Groups: there are no good quality 'A' grade features, there are 26 'B' grade moderate quality groups, 83 low quality 'C' category groups and 10 poor quality 'U' grade groups. Most groups consist of a mix of age classes and therefore could not be analysed. The physiological and structural condition was assessed as an average condition of a particular feature. In terms of structural condition, 31.9% were in good condition, 67.3% were in fair condition and 11.7% were in poor condition. Physiologically, 50.5% were in good condition, 44.5% were in fair condition and 5% were in poor condition.
- 3.5 The survey was updated in February 2020 and it was found that Group 37 had been removed and, although some trees had declined, the tree stock remained broadly similar to the previous 2016 Survey. The tree stock in its current setting is of sufficient health and vitality to continue to provide landscape features in the near future, however, due to the lack of good management in the past, the health and structural condition of the tree stock will continue to deteriorate.
- 3.6 Unmaintained hedgerows continue to thin, becoming dominated by large, top heavy individual specimens which shade younger, lower growth. Large gaps have become colonised by dense bramble growth, again suppressing the establishment of desirable hedgerow species. Around the southern triangle site hedges are established but have not been maintained and are reverting to poor quality linear tree features. Those which are maintained are generally heavily flailed and again heavily colonised by bramble and by Ivy.
- 3.7 No new continuation planting has been installed, resulting in a gradual degradation of individual landscape trees. This situation will not improve without substantial intervention in terms of sustained hedgerow management and the installation of new planting to diversify the species mix and age class of trees across the site. For more details on tree condition, see survey information 8354/53855 dated December 2016.

4.0 Tree Loss and Additional works

- 4.1 Tree loss is listed working from north to south and covers removal for all phases of development and accords with vegetation removal shown on NPA 10640 T1 201 Site Wide Vegetation Removal Plan 08-01-2020. It reflects the full and final extent of the vegetation

loss across the site, including that required for site levelling and residential development opportunities.

4.2 Site wide felling is shown in table 1 below working from East to West across the site.

Table 1. Site-wide felling, working from East to West.

Tree Number	Group Number	Comment
1119 1118, 1120, 1114, 1116, 1117, 1108, 1107, 1106, 1109, 1110, 1088, 1154, 1175, 1174, 1173, 1172, 1171, 1170, 1086, 1084, 1075, 1003, 1004, 1005, 1006, 1011, 1039, 1040, 1041, 1042, 1044, 1045, 1046,	69, 67, 66, 65, 64, 63 & 62 60, 58 , 56, 76, 75 , 54, 53, 52, 51, 50, 49, 48, 47, 46, 45, 44, 42,41, 40, 39 , 38, 37, 36, 87, 88, 89, 90, 93, 95, 98, 18, 19, 24 .	Group 69 and tree 1120 removed by adjacent landowner since 2020. Group 62, 63 and 64 removed by adjacent landowner since 2020. Partial removal of group 57. Part group 43 (east end) Group 107 (north end) Group 106 (north end) Group 97 Southern tip Group 3 (western edge) Group 14 and 17 (Northern tip)

4.3 At the site meeting of the 19th June 2019, it was confirmed by Simon Penfold of South Gloucestershire Council that hedge groups 13, 17, 20 and 23 would benefit from active management by laying the hedge in a local style which would then be maintained at a height of around 1.5 -2 metres into perpetuity.

5.0 Arboricultural Implications

5.1 Extensive levelling, ground works and infrastructure are proposed but due to their position, the impact on trees retained following completion of the project are rather minimal. Most works are located outside the Root Protection Area (RPA) of retained trees.

5.2 Levels within the RPA of retained trees have been retained where possible.

5.3 Boundary and hedge management works are proposed and have been approved under planning consent PT17-2332-F.

5.4 Trees retained at this stage could be at risk due to construction operations, these risks include:

- Excavation and /or severing of roots
- Soil compaction
- Physical damage to the surface roots, trunk and branches
- Poisoning of the roots by the accidental spillage of harmful chemicals and fuels
- Root asphyxiation by excessive level increases or covering soft landscape areas with impervious hard surfacing
- Installation and maintenance of services

6.0 Tree Protection Requirements

6.1 In order to minimise the impact of the proposed works on existing trees, groups and hedges the following protection measures will be implemented:

6.1.1 Pre-construction Works - a pre-commencement site meeting shall be held prior to any works starting on site, to agree all approved processes with the Arboricultural Consultant, tree works contractor, construction personnel and South Gloucestershire Council. This meeting could be used to formally agree the methods of work, position of site facilities, material storage, compounds, parking and tree protection measures prior to commencement of the construction.

6.1.2 At the time of the meeting, it is suggested that points of contact and lines of communication are established prior to commencement of the works on site including:

- Arboricultural Consultant
- Project Architect
- South Gloucestershire Council's Tree Officer
- South Gloucestershire Council's Planning Case Officer
- Site Supervisor and Foreman
- Grounds Works Contractor

6.1.3 Tree Works: all felling, pruning and hedge laying works are to be completed prior to the installation of tree protection measures. The extent of tree works is shown on NPA 10640 GA Combined 21-02-2020.

6.1.3.1 All permitted or approved tree works shall be carried out to the highest standards, based on British Standard 3998:2010 'Recommendations for Tree Work' and current best practice. To ensure standards are met, it is recommended that a contractor from the Approved List of the Arboricultural Association be used (01242 522152 www.trees.org.uk).

6.1.3.2 Under no circumstances shall site personnel undertake any tree pruning operations. All tree surgery work should be carried out prior to the erection of protective fencing and before site preparation works are started.

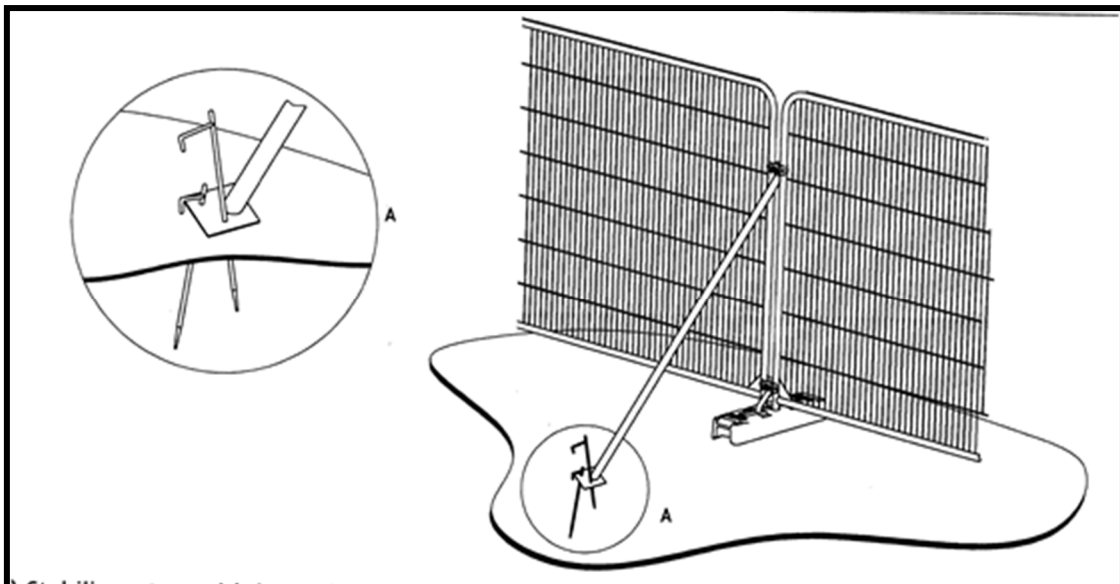
6.1.3.3 Consideration should be given to the timing of the proposed tree works to avoid the active growing period of trees. Therefore, work to retained trees should ideally be carried out during the dormant period from November through to February and then again from June to August. Consideration should also be given to nesting birds and tree works should not normally be undertaken between March and May. However, care should be taken to inspect trees during the summer months for evidence of nesting birds.

6.1.3.4 Should additional tree works become apparent during the construction process; written consent will be required from South Gloucestershire Council prior to these additional works being undertaken.

6.2 Protective Fencing

- 6.2.1 Fencing will be installed following the completion of tree works and prior to the start of the site preparation works.
- 6.2.2 Location of tree protection will be in accordance with Tree Removal and Protection Plan 8354/64960. A copy of the Tree Removal and Protection Plan will be available on site as a point of reference for all site operatives.
- 6.2.3 Fencing will comprise of prefabricated weld mesh panels supported by concrete or rubber feet and securely braced to prevent them being relocated. Panels will be connected using two clamps per panel with securing nuts facing the retained trees. Supporting feet will be cross pinned to the ground to prevent them being readily relocated (Type 2), see Figure 2 below.

Figure 2. Protective fencing



- 6.2.4 Where gradients make installation difficult, fencing will be supported on driven scaffold tubes and braced to resist impact.

6.3 Additional protection requirements.

- 6.3.1 Once fencing and ground protection are installed, all-weather notices shall be fixed to the inside faces of the fencing reading "Root Protection Area – No Access". A sign for reproducing and use on site is included at Appendix 2.
- 6.3.2 Fencing will be installed prior to the start of works on each phase of development in areas where site works facilities, machinery or materials could impact on existing retained trees. Once installed fencing will be maintained throughout each construction phase and only removed when final soft landscaping is to be completed.
- 6.3.3 There shall be no storage of materials/spoil or access by machinery within the root protection areas of retained trees (even on a temporary basis).

- 6.3.4 There shall be no underground service trenching, other excavation or use of machinery including rotavators etc. within the protected areas even after fencing has been removed.
- 6.3.5 No notice boards, cables, nails or other items shall be attached to any part of any retained tree.
- 6.3.6 Site operations, such as deliveries or machine operation, shall be organised to avoid damaging the trunk or crown of retained trees. A banksman shall be employed if machinery is passing or working close to retained trees. If conflict is unavoidable then facilitation pruning shall be carried out in advance, rather than after damage has occurred.
- 6.3.7 Materials which could contaminate the soil, e.g. concrete mixing, fuel, vehicle washings, etc. shall not be discharged within 10m of the stem of any retained tree or group of trees, and not on ground that slopes down to any retained tree. Phytotoxic materials for use on site will be kept to an absolute minimum and stored on the hard standing at the southeast corner of the site. All fuels will be held in bunded containers to prevent accidental spillage or leakage.
- 6.3.8 Fires will not be permitted on site.

7.0 Site Monitoring and Supervision

- 7.1 On-going arboricultural site monitoring for the duration of the proposed development will be carried out by the Arboricultural Consultant at pre-determined and agreed time intervals, and governed by the type, timing, location and intensity of site works.
- 7.2 Any excavation works within the RPA of retained trees will be supervised and monitored by the retained Arboricultural Consultant.
- 7.3 In addition to specific work monitoring, regular inspections will be completed. This is to be agreed, but at least one visit per month during the construction of each phase of the development is advised, together with additional visits to supervise works with the RPA of retained trees. The aim of the visits is to maintain on-going liaison with all personnel involved in the site development, South Gloucestershire Council and its Tree Officer.
- 7.4 A site visit report will be provided listing the efficiency of the tree protection measures, any defects requiring rectification or other relevant comments relating to the management of the tree stock. The report will be provided to the client, contractor/site manager and the South Gloucestershire Council Tree Officer.
- 7.5 The South Gloucestershire Council Tree Officer (or appropriate representative) will have agreed access to the site and will report on any problem areas directly to the developer's retained Arboricultural Consultant, who will then visit the site and make recommendations to the developer on how best to rectify the situation and ensure implementation.

8.0 Final Completion

- 8.1 Once each stage of the development is complete, all drainage and service runs are in place and all site machinery has been removed from the develop phase, protective fencing may be

removed and/or repositioned for next phase of works. Completed areas will be designated as 'off limits' to all site machinery and personnel.

- 8.2 Once the protective fencing has been removed from site, landscaping will be completed in accordance with the approved landscaping scheme and implementation programme.
- 8.3 The landscaping works will need to be undertaken in such a way as to avoid damage to existing retained trees. Areas of new landscaping within the RPA of retained trees will be supervised by the project Arboricultural Consultant and landscape architect.

9.0 Completion Meeting

- 9.1 On completion of each stage of development, the retained Arboricultural Consultant will invite South Gloucestershire Council's Tree Officer to meet on site, to discuss the project and to agree on any remedial works required.

10.0 Conclusions

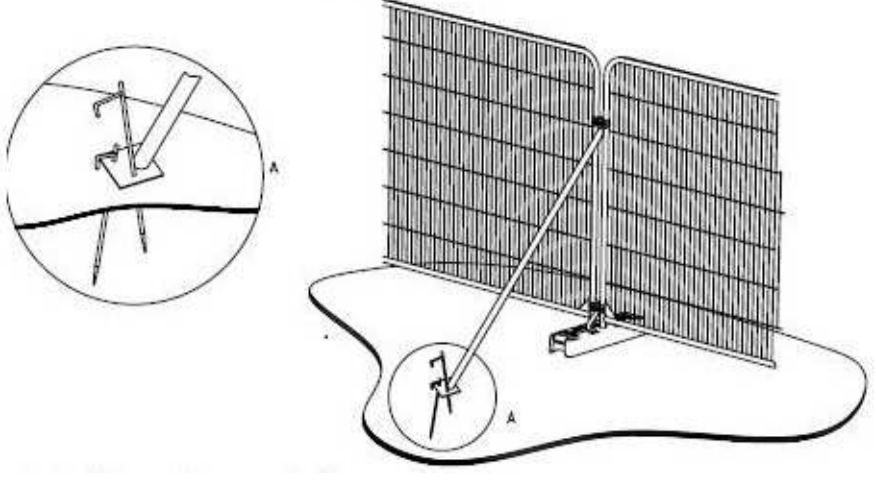
- 10.1 This proposal for the Landscape works on land at Cribbs Causeway has been assessed in accordance with British Standard 5837:2012 – 'Trees in Relation to design, demolition and construction – Recommendations'.
- 10.2 It is my opinion that the trees identified for retention can be afforded due respect and be provided with adequate protection, ensuring their safe and healthy retention during the development process.
- 10.3 The proposals require the removal 34 individual trees, 40 groups or hedges and partial removal of 8 groups.
- 10.4 Provided the recommendations included within this report are strictly adhered to, I believe the trees highlighted for retention can be retained without undue stress on their long-term health and viability.

11.0 References

- British Standard 5837:2012: *'Trees in relation to design, demolition and construction – Recommendations'*.
- British Standard 3998:2010 *'Tree work – Recommendations'*.
- Tree Roots in the Built Environment. Roberts, Jackson & Smith. DCLG/TSO 2006

**APPENDIX 1
TREE PROTECTION AND REMOVAL PLAN
8354/64960**

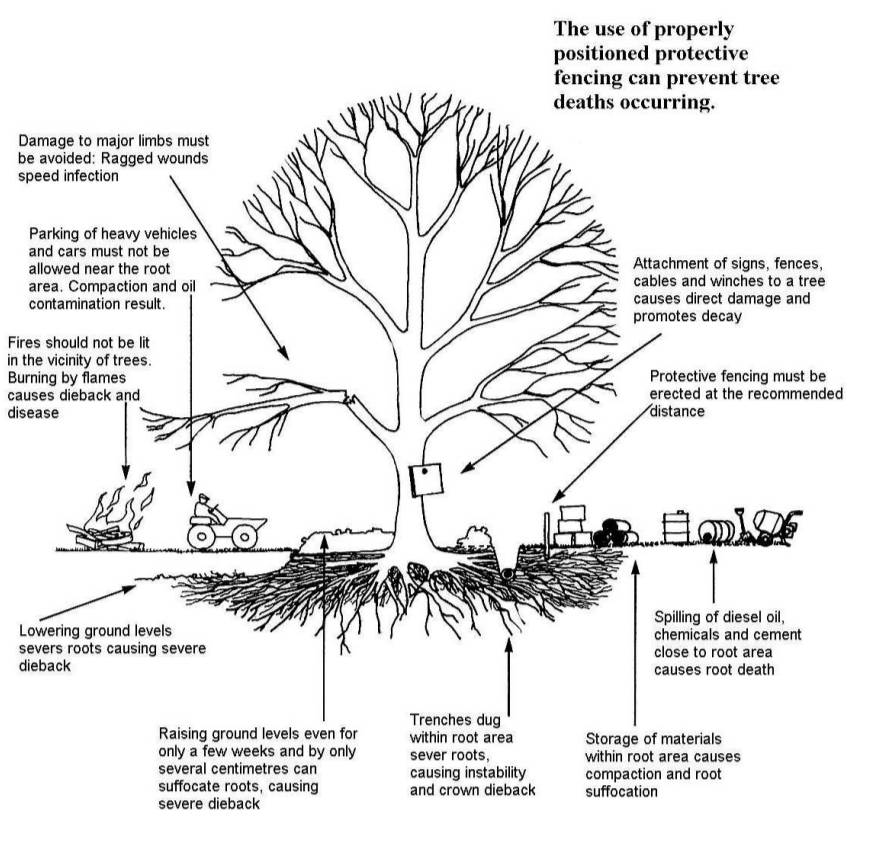
**Protective Fencing
Low Intensity Construction Activity
(Soft Ground)**



Tree Protection Fencing Signage



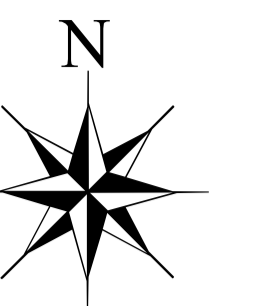
Common causes of Tree Death



**Tree Removal and Protection Plan in
discharge of conditions 14 & 20.
Outline Application PT14/0565**

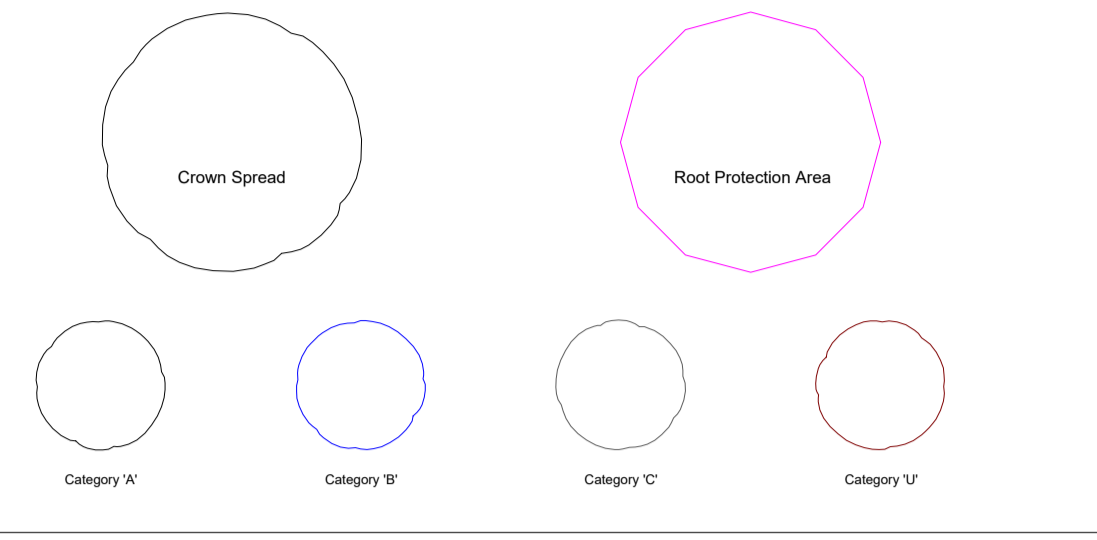
SCALE @ A0 : DATE :
1 : 2000 19/02/2021

MAP FILENAME : 8354/62390



Map based on NPA 10640 GA Combined 21-02-2020
NPA 10640 Site Wide Vegetation Removal Plan 21-02-2020 and
Tree Maintenance Limited Tree Survey and
Condition Plan, Jan 2020 8354_62390_TSA_Cr Jan 2020.
This plan must be read and reproduced in colour

Legend



Legend

- Hold Out land _Ownerships
- External 3rd Party Removal since 2016
- Removed Since 2016 Survey
- NPA-D_PLANNING BOUNDARY
- INFRASTRUCTURE (HIGHWAY AMMENDMENT) PT17/5195/F
- INFRASTRUCTURE_(HIGHWAY AMENDMENT)PT18/5195/F
- INFRASTRUCTURE_HIGHWAY PT17/2562F
- INFRASTRUCTURE_AMENDMENDMENT PT/18/1519/F
- Vegetation Removals (Site Wide)
- Tree Protective Fencing (hard landscape works)

APPENDIX 2
SIGNAGE FOR TREE PROTECTIVE FENCING.



PROTECTIVE FENCING. THIS FENCING MUST BE MAINTAINED IN ACCORDANCE WITH THE APPROVED PLANS AND DRAWINGS FOR THIS DEVELOPMENT



**TREE PROTECTION AREA
KEEP OUT**

**(TOWN AND COUNTRY PLANNING ACT 1990)
TREES ENCLOSED BY THIS PROTECTIVE FENCING ARE PROTECTED BY PLANNING CONDITIONS AND/OR ARE SUBJECT OF A TREE PRESERVATION ORDER.
CONTRAVENTION OF A TREE PRESERVATION ORDER MAY LEAD TO CRIMINAL PROSECUTION.**

ANY ALTERATION TO THE FENCING OR INCURSION INTO MUST BE WITH THE WRITTEN PERMISSION OF SOUTH GLOUCESTERSHIRE COUNCIL 01454 865859