CMK

Horticulture & Arboriculture Ltd.

Arboricultural Assessment, Arboricultural Impact and Tree Protection Strategy Report

Belarmine Park, Kilgobbin, Stepaside, Co. Dublin

Project No.	TAIK003	**Date**	02/08/22
Project Name	Aikens Village in the Townland of Woodside, Stepaside, Co. Dublin.	**Revision**	A

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Arboricultural Assessment

1.1 Client Brief & Methodology

CMK Hort + Arb Ltd. were commissioned by Ironborn Real Estate Ltd. to undertake an arboricultural assessment of trees on a site located at Belarmine Park, Kilgobbin, Stepaside, Co. Dublin (image 1). The fieldwork was undertaken on the 9th of February 2021.

This report examines the impact of a below ground wastewater storage tank and associated connection to the wastewater networks including ancillary above ground kiosks to service the Aikens Village development, which consists of 438. 'Build-to-Rent' apartment units on a site of approximately 3.39 Ha.

The survey methodology and documentation follow the recommendations contained within BS 5837 (2012). The analysis of the trees was undertaken using the VTA methodology as developed by Mattheck and Breloer (1994).

Image 1. Site overview with red line outline of site boundary located at Belarmine Park, Kilgobbin, Stepaside, Co. Dublin.

1.2. General description of trees

A total of 23 individual trees were identified and assessed (image 2).

The trees fall into two main groups i.e. a group 13 alder (*Alnus spp.*) on the northern site boundary adjacent to Grianan Fidh housing estate (image 3) and 10 birch (*Betula pendula*) located adjacent to Sandyford Hall housing estate on the western boundary (image 4). These trees were all planting in the last 15 years and their condition is generally moderate; with a relatively high spread within category B (Table 1).

Trees of poorer condition are primarily due to likely mower activity where roots have received bark damage as well as less optimal development due to light suppression.

The condition and categorisation of individual trees is contained within section 7 of this report and can be located within drawing TAIK003 101.

Category	Number	% of total
A	0	0%
B	18	78.3%
C	5	21.7%
U	0	0%

Table 1. Tree Category breakdown (see page 12 for tree category explanations) of individually assessed trees.

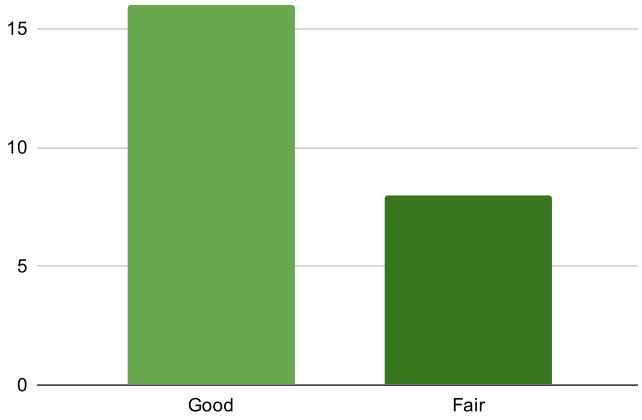

Chart 1. Tree vigour breakdown of individually assessed trees.

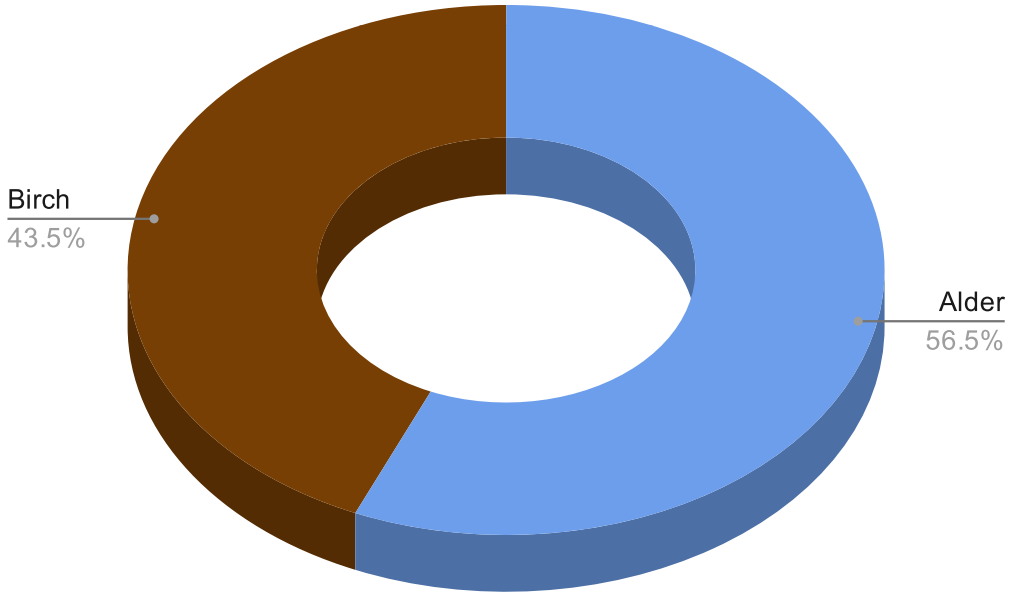

Chart 2. Tree species breakdown.

Image 2. Overview of survey area in Belarmine Park.

Image 3. Group 13 alder on the northern survey boundary adjacent to Grianan Fidh housing estate.

Image 4. Group of 10 birch located adjacent to Sandyford Hall housing estate on the western boundary.

Section 2. Arboricultural Impact and Mitigation

2.1 Arboricultural Impact

The direct impact of the proposed attenuation tank which is required to upgrade the waste water network and is required by Irish Water, will necessitate the removal of four trees from the site. This represents 16.7% of the tree population within categories B & C.

Category	Number	% of total within category	% of total
A	0	0%	0%
B	3	16.6%	13%
C	1	20%	4.3%
U	0	0%	0%

Table 3. Tree Removal Categories

The loss of four trees will be confined within a group of alder (*Alnus spp.*) on the northern boundary. These trees provide some screening to the residents in the apartment block directly north. A potential benefit of the removal these four trees will be increased light for the remaining specimens; the larger and more developed of which remain along the north-most edge of the group.

A methodology for managing trees during construction is contained within section 3 of this report with the locations of tree protection fencing shown on drawing TAIK003 103.

2.2 Mitigation

An agreement has been made for grass seeding to rectify any disturbed areas caused by the infrastructure works and access to area to agreed landscape specification with Dún Laoghaire-Rathdown County Council Parks Department.

Section 3. Tree Protection Strategy

This section is designed to outline the procedures which will be undertaken to effectively retain trees free from adverse construction impacts for the duration of the construction period on the site of proposed school development at Belarmine Park, Stepaside, Co. Dublin. The section is divided into sub-sections which begin at the pre-construction planning stage and follows on to post construction re-assessment of retained trees.

3.1 Key issues

Appointment of an arborist (Site Arborist) to oversee all works relevant to trees.

Scheduling of tree and construction works.

Establishment of tree protection (refer to drawings Tree Protection TAIK003 103).

Monitoring of tree protection (adherence to the Tree Protection Code of Practice).

Supervision of works in the vicinity of trees.

Post construction re-assessment of retained trees.

3.2. Consulting Arborist

A Site Arborist shall be appointed prior to the commencement of site construction works and will be responsible for the setting up and monitoring of tree protection, liaising with local authority tree/planning officers and providing feedback and advice to the design construction teams on issues relevant to trees. The Site Arborist shall be retained for the duration of construction works and should be appointed to carry out a post-construction tree survey/assessment.

3.3 Scheduling of works

3.3.1 Pre-construction meetings/tree works

- An onsite meeting will be held if required, with all relevant parties; including the Developer and or his Agents, Site Arborist and Local Planning Authority
- Remedial works to trees throughout the site where indicated as necessary within the Tree Works Schedule. All works will be undertaken to BS 3998 2010 Tree Work and/or to current best practice.
- Erection of tree protection fencing as per recommendations contained within BS 5837:2012 Trees in relation to design, demolition and construction -Recommendations. Tree protection to be erected under supervision of Site Arborist prior to main construction works being undertake on site (refer to drawings Tree Protection TAIK003 103).

3.3.2 Construction period

- The Site Arborist shall monitor tree protection.
- The Site Arborist shall specify any necessary remedial works to trees which may arise due to construction works.
- The Main Contractor shall carry out any instructions made by the Site Arborist with regard to the protection of retained trees and ensure where necessary that these instructions are followed by any sub-contractors.

3.3.3 Post construction works will consist of:

- Re-survey of retained trees and the implementation of measures contained with the survey document.

3.4 Preservation of Trees

3.4.1 Contractors obligations

The Contractor shall take all precautions to ensure that any trees which are not required to be taken down under the contract shall remain undisturbed and undamaged. All works to trees and all operations adjacent to trees should be undertaken in accordance with the Code of Practice. The Contractor must appoint a qualified arboricultural contractor to undertake all tree works subject to approval by the Consulting Arborist. The Contractor shall undertake no works to trees unless instructed by the Contract Administrator. All works on or within the Construction Exclusion Zone are to be supervised by the site arborist. Five working days notice of intention to undertake works to be given.

3.4.2 Setting out: Protected Tree Zone/Construction Exclusion Zone

The tree protection zone shall be set out in accordance with the Code of Practice (5) and as per drawings Tree Protection TAIK003 103. A notice 'Construction Exclusion Zone' shall be placed on tree protection fencing at regular intervals along the protective fencing. This notice shall include contact details for the Site Arborist. Strictly no access should be permitted to this zone unless instructed by the Site Arborist.

The Contractor is to maintain the protective fencing in good condition to the satisfaction of the Site Arborist for the duration of the contract. Any damage to fencing is to be reported to the Site Arborist immediately. Damaged fencing is to be repaired within 2 hours of the damage occurring. All works within the vicinity of the damaged fencing are to be suspended until the fencing is repaired.

3.4.3 Maintenance of Protected Tree Zone

The Site Arborist should be given 5 days notice of any works within or access required to this zone. The 'Protected Tree Zone' should under no circumstances be used for storage of materials, equipment, or site debris. No fires should be lit within the "Protected Tree Zone", or equipment washed or cleaned.

3.5. Code of Practice for the preservation of trees

The following specification is intended for the preservation of trees.

These guidelines will help sustain vigour and minimise adverse growing conditions for trees set out for retention.

3.5.1 Code of Practice notifications

The Code of Practice will be brought to the attention of all site personnel including those of the Main Contractor, Sub-Contractors and Engineering Specialists associated with the project.

All operations to be in accordance with BS 5837:2012 Trees in relation to design, demolition and construction -Recommendations.

The Contractor should purchase and make available on site a copy of the above

3.5.2 The Site Arborist:

- Supervise the installation of tree protection fencing.
- Supervise all tree works and assess on-going tree protection.
- Liaise with the relevant authorities during the project.
- Constantly monitor the project with regard to tree health to ensure that no damage is caused to the subject trees during the operational works.
- Report any negligent damage to trees which will prejudice their health.
- Monitor, where necessary, all works carried out by the Arboricultural Contractor and Main Contractor within the 'Protected Tree Zone'.

3.5.3 Arboricultural Contractor:

- Submit a full method statement containing machinery to be used, removal of wood etc. to the Site Arborist.
- Carry out works to the most up to date arboricultural practices available e.g. BS 3998. Recommendations for tree work (as amended).
- Undertake work only with suitably qualified operatives in constant consultation with the Site Arborist.
- Trees identified for removal will be section felled in wooded areas so as not to damage remaining trees.

3.5.4 Main Contractor:

- Appoint a member of staff to be responsible for tree protection and this person shall be the point of contact between the Main Contractor and the Site Arborist.
- Undertake all work in accordance with this specification.
- Ensure that all personnel, operatives, sub-contractors etc. are aware of this specification and operate accordingly
- Notify the Site Arborist of any potential conflicts that may affect the health, vigour and viability of trees.

3.5.5 Access:

Access to the site and service roads shall be agreed with the Site Arborist prior to commencement of works. Where it is deemed necessary for heavy machinery access the contractor shall refer to the guidelines within BS 5837 2012 and liaise with the Site Arborist to instigate the most appropriate root protection system.

3.6 Post Construction

A post construction report on the condition of trees should be undertaken and all recommendations made within this report should be carried out to BS3998 Tree Works.

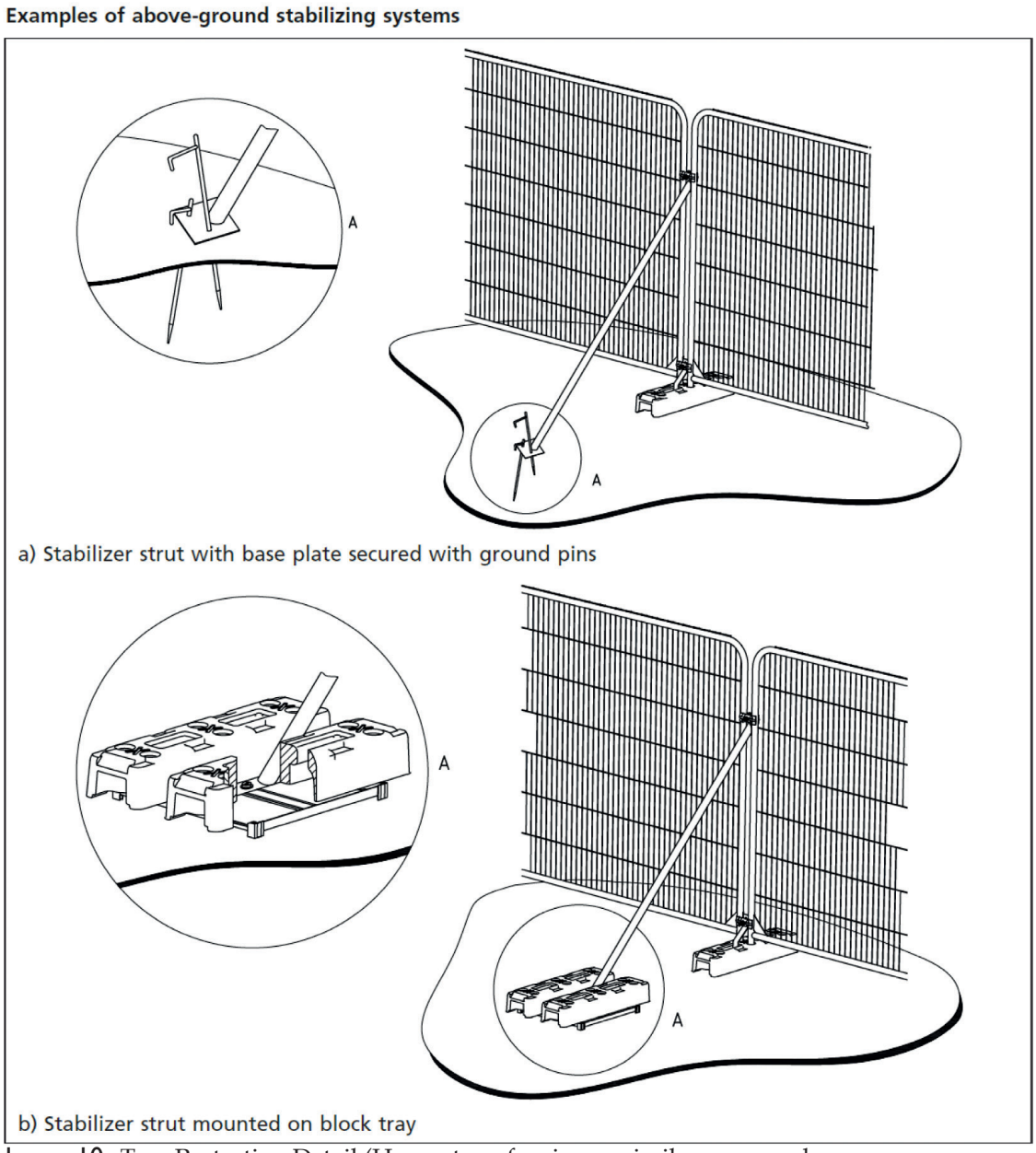

Image 10. Tree Protection Detail (Herras type fencing or similar approved.

4. Limitations of Survey

This survey should be regarded as a preliminary assessment of the trees and deals with the current condition as identified during this survey only.

Every attempt was made to identify hazardous trees in this report however this survey was carried out from the ground and therefore cannot be held to have identified elements of decay which may be hidden out of sight within the crown or beneath ivy or other obstructions. To counter this limitation in the survey process it is vital that during tree works any additional defects found by the climbing arborist are communicated to the consulting arborist to allow appropriate action to be taken.

The details within this survey are based on the condition of the trees during the survey period only. The findings in this survey cannot be held to be valid after any site disturbance, man-made or natural, which may have an adverse effect on any trees present.

5. Relevant legislation

There are no Tree Protection Orders (TPOs) on any of the trees on this site. However unless planning permission which clearly identifies trees for removal has been granted then under Section 7 of the Forestry Act 2014 a person wishing to fell trees must apply to the minister for a licence to do so.

Exempted trees: Section 19 states that the requirement for a felling licence for the uprooting or cutting down of trees does not apply where:

- The tree in question is standing in an urban area
- The tree is considered dangerous and hazardous.
- The tree is within 10m of a public road and regarded as hazardous
- The tree in question is less than 100 ft./30m from a dwelling other than a wall or temporary structure;
- The tree in question is a hazel, apple, plum, damson, pear, or cherry tree grown for the value of its fruit or any ozier;

Other exceptions apply in the case of local authority road construction, road safety and electricity supply operations.

The Act is administered by the Forest Service (Department of Agriculture, Fisheries and Food). The Felling Section of the Forest Service is based in Johnstown Castle, Co. Wexford (053-9160200 or 1890-200223).

If any queries arise re tree felling in general it is recommended that advice is sought from Felling Section of the Forest Service or the local forestry development officer for further information.

No Special Areas of Conservation (SACs) are in effect on the surveyed site or surrounding area.

Bats

Trees may contain bats. Bats are afforded legal protection under Irish and EU legislation and agreements (Wildlife Act (1976), Wildlife (Amendment) Act (2000), S.I. No. 94 of 1997 and S.I. No. 378 OF 2005 implementing the EU Habitats Directive, Bonn Convention (The Convention on the Conservation of Migratory Species of Wild Animal) and the Bern Convention (Convention on the Conservation of European Wildlife and Natural Habitats).

Trees provide roosting opportunities for bats. Mature trees are the most likely to have potential as roost sites. This may be provided by cavities, crevices, limb fractures, storm damage or mechanical damage and may even be by way of loose bark. Felling of mature trees and even surgery to large limbs may place bats at risk and both procedures remove roosting sites for bats.

Professional advice from a licenced surveyor should be sought prior to any works commencing on trees.

6. Terminology

Tree categories

A	Trees of high quality and value due to their size, age, condition, historical/visual merit and/or conservation potential (a minimum of 40 years).
A1	Mainly arboricultural values. Particularly good examples of species, essential components of groups or of formal or semi-formal arboricultural features.
A2	Mainly landscape values. Trees, groups or woodlands which provide a definite screening or softening effects to the locality in relation to views into or out of site, or those of particular visual importance.
A3	Mainly cultural values, including conservation. Trees, groups or woodlands of significant conservation, historical, comparative or other value (e.g. veteran trees or wood-pasture).
B	Trees of moderate quality and value (a minimum of 20 years).
B1	Mainly arboricultural values. Trees that might be included in high categories but are downgraded because of impaired condition (e.g. presence of remedial defects including unsympathetic past management and minor storm damage)
B2	Mainly landscape values. Trees present in numbers, usually as groups or woodlands, such that they form distinct landscape features, thereby attracting a higher collective rating than they might as individuals but which are not, individually, essential components of formal or semi-formal features (e.g. trees of moderate quality within an avenue that includes better A category specimens) or trees situated internally to the site, therefore individually having little visual impact on the wider locality.
B3	Mainly cultural values including conservation. Trees with clearly identifiable conservation or other cultural benefits.
C	Trees of low quality and value (a minimum of 10 years).
C1	Not qualifying in higher categories
C2	Trees present in groups or woodlands but without conferring on them greater landscape value and/or trees offering low or only temporary screening benefit.
C3	Trees with very limited conservation or other cultural benefits.
U	Trees in such condition that any existing value would be lost within 10 years and which should, in the current context, be removed for reasons of sound arboricultural management. Trees that are dead, dying or showing immediate and irreversible decline.

Terminology (cont.)

Comments: Refers to the tree's condition and suitability for the site.

Common name: Most widely used non botanical name.

Co-dominant: Two branches assuming the role of leading shoots. When growing close together may form a weak attachment (included bark) at their point of contact. Trees with this defect may be in danger of splitting at this weak attachment.

Crown Spread: Measured in metres north, east, south, and west.

Decay fungi: Refers to those species of fungi which degrade living wood and which may, depending on the degree of degradation, render the tree structurally unsound.

Defects: Refers to cracks, storm damage and any other damage mechanical or biological.

Diameter: Diameter of the trunk (millimetres) at 1.5m. M.S. after the measurement refers to the tree being multi-stemmed.

Genus & Species: Refers to the botanical names for the tree.

Height: Measured in metres.

Monitor: Refers to trees which need to be re-surveyed on a yearly basis to assess their condition. This timescale may be sooner where works or adverse weather conditions have impacted negatively on the trees.

Overhaul: A reference to standard tree surgery work which consists of the removal of deadwood, crossing branches and balancing where appropriate.

Recommendations: Indicates surgery work necessary for the retention or, where necessary, removal of the tree.

Tree No.: Refers to numbered tag fixed to tree during survey.

Tag Number	Species	Vigour	Age class	Category	Comments	Recommendations	Long Term Potential	DBH (mm)	Height (metre)	Crown spread NESW (metre)	Clear Stem (metre)
1242	Birch *Betula pendula*	Good	Early mature	B	Minor bark loss on roots south from likely mower activity with no associated decay. Overhead services intrude into upper canopy.	Reduce near overhead services	40	240	9	2;2;3;2	2s
1243	Birch *Betula pendula*	Good	Early mature	B	Minor bark loss from likely mower activity with no associated decay. Well formed canopy.	No action necessary	40	250	10	4;2;3;3	1.5w
1244	Birch *Betula pendula*	Fair	Early mature	B	Minor bark loss from likely mower activity with no associated decay.	No action necessary	40	170	9	1.5;1;3;1	1.5s
1245	Birch *Betula pendula*	Fair	Early mature	C	Subdominant within neighbouring tree group. No visible defects.	No action necessary	10--20	170	9	1;1;1;1	1.75n
1246	Birch *Betula pendula*	Good	Early mature	B	Overhead services intrude into upper canopy. Minor bark damage on roots west with no associated decay.	No action necessary	40	200	9	1.5;1.5;1;1	1n
1247	Birch *Betula pendula*	Fair	Early mature	C	Minor decay at points of larger pruning stumps.	Monitor decay	10--20	150	9	1;1;1;1	2s
1248	Birch *Betula pendula*	Good	Early mature	B	Well formed with no visible defects	No action necessary	40	180	9	2;2;1;1	3n
1249	Birch *Betula pendula*	Good	Early mature	B	Minor bark loss at base with associated decay.	Monitor area of bark loss	40	160	10	1;2;1.5;1	2e
1250	Birch *Betula pendula*	Good	Early mature	B	Overhead services intrude into upper canopy. No visible defects.	Reduce near overhead services	40	180	9	1;2;1;1	2n
1251	Birch *Betula pendula*	Good	Mature	B	Located 2m from eastern boundary wall. Overhead services intrude into upper canopy. Well formed with no visible defects.	Reduce near overhead services	40	210	10	2;2;2;1.5	2s
1253	Alder *Alnus spp.*	Good	Mature	B	Single stemmed. Well formed with no visible defects.	No action necessary	20-30	260	11	2;2;2;2	2.5s
1254	Alder *Alnus spp.*	Fair	Early mature	B	Form suppressed due to dominant tree north. No visible defects.	No action necessary	20-30	220	7	1;2;2;1	6n

Tag Number	Species	Vigour	Age class	Category	Comments	Recommendations	Long Term Potential	DBH (mm)	Height (metre)	Crown spread NESW (metre)	Clear Stem (metre)
1255	Alder *Alnus spp.*	Good	Mature	B	Dominant within neighbouring tree group. Growth extended north into neighbouring private property by 2m north and east. Good landscape value. No visible defects.	Reduce canopy north and east over properties by 1-2m	20-30	340	11	4;4;2.5;2	3s
1256	Alder *Alnus spp.*	Fair	Early mature	C	Subdominant due to local competition with minor bark loss at base north due to likely mower activity.	No action necessary	10-15	160	6	1;1;1.5;1.5	2s
1257	Alder *Alnus spp.*	Good	Early mature	B	Well formed with no visible defects.	No action necessary	20-30	170	9	2;1.5;2.5:1.5	2s
1258	Alder *Alnus spp.*	Fair	Early mature	C	Subdominant due to local competition with minor bark damage at base north due to likely mower activity.	Monitor base	10-15	120	6.5	1;1.5;1;1.5	2.5s
1259	Alder *Alnus spp.*	Good	Early mature	B	Single stemmed with no visible defects.	No action necessary	20-30	200	10	2;1.5;1.5;1.5	4w
1260	Alder *Alnus spp.*	Good	Early mature	B	Dominant within neighbouring tree group. Canopy extended over private property north. No visible defects.	Reduce canopy north by 1m	20-30	220	9	3.5;2;2.5;2	2.5n
1261	Alder *Alnus spp.*	Good	Early mature	B	Single stemmed with growth extended east by 0.5m. No defects visible.	No action necessary	20-30	190	6	1;1.5;1;1	N/A
1262	Alder *Alnus spp.*	Good	Early mature	B	Single stemmed. No visible defects.	No action necessary	20-30	210	7.5	2:2:2:2	N/A
1263	Alder *Alnus spp.*	Good	Early mature	B	Located 2.5 south from boundary wall. Multi stemmed from base. Minor root girdling east which is not significant at present. No other visible defects.	No action necessary	20-30	210	6	1;1;1;1	N/A
1264	Alder *Alnus spp.*	Good	Early mature	B	Located 2.5 south from boundary wall. Underground services 1.25m north. Multi stemmed from 0.3m. No visible defects.	No action necessary	20-30	220	5.5	2:2:2:2	N/A

Tag Number	Species	Vigour	Age class	Category	Comments	Recommendations	Long Term Potential	DBH (mm)	Height (metre)	Crown spread NESW (metre)	Clear Stem (metre)
1265	Alder *Alnus spp.*	Fair	Early mature	C	Located 2.5 south from boundary wall. Underground services 2.25m west. Bark damage north and west with no associated decay. Bark damage at base north with minor decay.	Monitor damage sites	10-15	160	8	2;2;21.5	1.75s

*Refer to drawing TAIK001 101.

BS 5837 (2012). Trees in Relation to Design Demolition and Construction

BS 3998:2010 (2012) Tree work - Recommendations A concise guide

Mattheck and Breloer (1994). The body language of trees

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