Arboricultural Report

Kilnamanagh AFC

Treepark Road

Kilnamanagh

Dublin 24

June 2021

TREESPACE

Trees • Woodland • Urban Forestry

DOCUMENT CONTROL SHEET

PROJECT NAME: Arboricultural Report – *assessment of trees in relation to development for planning purposes*

PROJECT LOCATION: Kilnamanagh AFC, Treepark Rd, Kilnamanagh, Dublin 24

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1.0 INTRODUCTION

1.1 Brief

Tree-space has been instructed to carry out a tree survey and arboricultural impact assessment for a proposed development on the Kilnamanagh AFC recreation ground. The field assessment was completed on the 21st of June 2021. The following documents were provided to Tree-space to inform the tree survey and report:

Document Title	Document/Drawing Number	Originator
Existing Site Plan	LS(00)_PA	AQ
Topographical Survey	D16830 - F	Land Surveys
Proposed development Plan	L(00)_KAFC_PA_A	AQ

The report should be read in conjunction with the following plans:

- Tree Assessment Plan – TS_AIA_4_10_21
- Tree Protection Plan – TS_TPP_23_6_21

1.2 Aims and Approach

The purpose of this assessment is to quantify and categorise the arboricultural features on the site and assess the potential constraints to development. Trees are a material consideration for local authorities and whether they have statutory protection or not the potential impacts of construction must be considered. Construction activities often exert pressures on pre-existing trees and in some cases trees that have taken decades to mature can be damaged irreparably. The assessment and implementation of protection measures is therefore critical to mitigate against any potential negative impacts.

The arboricultural impact assessment was carried out in accordance with British Standard *BS 5837:2012 Trees in relation to design, demolition, and construction – Recommendations.*

Table 1: Arboricultural Impact Assessment Process

TASK	DESCRIPTION
Topographical survey	Record the position of all trees within the site with a stem diameter of 75mm or more, measured at 1.5m above highest adjacent ground level.
Tree survey	Collect relevant information on all trees included in the topographical survey, as well as any that might have been missed. The parameters of the tree survey are set out in BS5837:2012 section 4.4, and are described in more detail in appendix 3.
Tree categorization	Identify the quality and value of the existing tree population. The categorization method set out in table 1, BS5837:2012 allows informed decisions to be made concerning which trees should be

TASK	DESCRIPTION
	removed or retained in the event of a development occurring. The tree quality assessment table is appended at the back of the report.
Impact assessment	Identify the requirements for the successful retention of the retained trees and detail the measures necessary for protection during the development process. Root protection areas (RPA) are calculated in accordance with section 4.6, BS5837:2012. The RPA's of each categorised tree will be plotted on relevant scaled drawings.
Tree protection plan	The tree protection plan indicates the precise location of the protective barriers to be erected to form a construction exclusion zone around the retained trees. The plan will be superimposed on the layout plan, based on the topographical survey.
Arboricultural method statement	Address some or all of the following: Pre-development tree works, site supervision, protective fencing, ground protection, boundary treatments, services and drainage, and monitoring.

2.0 SITE DESCRIPTION

The site is a recreation centre located in Kilnamanagh, South County Dublin. The land use within the site is divided between a community centre, a men's shed, an all-weather training pitch and a grass training pitch. The site has a northwest southeast orientation, and its northern boundary runs parallel to the M50. Treepark road defines the southern boundary with adjacent residential housing. Tymon Park lies to the southeast of the site.

Figure 1: *Aerial image of the Kilnamanagh recreation site and its immediate surroundings. The approximate boundary of the site is outlined in red* (Google Earth, 2021).

3.0 THE PROPOSED DEVELOPMENT

Construction of a new two storey clubhouse (658sq.m); new external activity area (405sq.m); new boundary fencing for external activity area and all associated site works adjacent to existing all weather pitch.

4.0 THE TREES

The trees on the site are enclosed in a 900m² plot that is protected by a low masonry wall with a metal security fence fixed to the concrete capping. The trees are established approximately 70cm inside the boundary wall with their canopies extending over the security fence onto Treepark Road and the grass pitch training area. In total fifteen individual trees were surveyed and two mature hedge features. The most common genus of the individually surveyed trees is cherry *(Prunus).* The trees on the site are generally of average quality. There has been historic crown raising but the removed branches have not been target pruned leaving stubs. The crown structure of the cherry trees could be improved. Many of the limbs are becoming over-extended resulting in an irregular crown shape. Only one tree was classified as category A (table 1, BS5837:2012), a small-leaved lime *(Tilia cordata).*

There are two mature hedge features on the site running along the boundary with Treepark road, they are identified as H1 (hedge 1) and H2 (hedge 2) on the tree survey schedule. Hedge one is north of the main entrance to the Kilnamanagh Recreation Centre. There are nine mature cypress *(Cupressocyparis leylandii)* and three rowan *(Sorbus aucuparia)* trees which make up the hedge feature. The rowans are heavily suppressed with <10% of their leaf area remaining. Hedge two is south of the main entrance and has 37 cypress trees. Both hedges have been well maintained in the past and their crown development restricted through pruning. The dense inner crown provides nesting potential for birds. Both hedges add mature landscape qualities to the site and should continue to be maintained at their current size and not allowed to develop further. The three rowan trees should be removed.

5.0 ARBORICULTURAL IMPACT ASSESSMENT

5.1 Tree Loss to Facilitate Development

In total seven trees (T149-T155) will need to be removed to facilitate the proposed development. The life stage of the trees proposed for removal ranges from early-mature to mature and they are generally of a lower quality (category B-C). The hornbeam *(Carpinus betulus)* T150 is heavily supressed by neighbouring trees and not suitable for retention. The canopies of the other six trees extend over the existing security fencing and are in conflict with the proposed development. Tree number 151, the mature sycamore *(Acer pseudoplatanus)* extends over the proposed outdoor training area. To improve headroom a large portion of the

crown would have to be removed, it is therefore unsuitable for retention. The canopies of the remaining five trees T149 & T152-T155 are in direct conflict with the proposed structure and outdoor training area. Their retention is not recommended due to potential conflicts with branch failures, honeydew, and seasonal leaf fall.

In addition, T157 a heavily suppressed cherry has been categorised as unsuitable for retention (category U) and should be removed as part of the tree work operation.

5.2 Tree Pruning to Facilitate Development

Some minor tree works are recommended on two of the retained trees to reduce any potential conflicts with construction traffic. Tree number's 156 & 158 will need to have their crowns raised to improve headroom over Treepark Road and the access road to the grass pitch training area.

5.3 Construction Activities & Retained Trees

In total seven trees (T156 & T158-T163) will be retained on the site. The trees are established along the Treepark Road boundary and are not expected to be impacted upon by the development.

Both mature hedge features described in paragraph two, section 4.0 will not be impacted upon by the development.

5.4 Arboricultural mitigation

There is sufficient space on the site to establish new trees post development. The author recommends that seven new trees are planted. The new trees should be established approximately 2-3m away from the existing security fence and masonry wall. Tree species with a smaller crown size in maturity should be favoured e.g. *Malus sylvestris, Prunus* 'Pandora', and *Sorbus aucuparia.*

6.0 CONCLUSIONS

- Some tree loss is necessary on the site to accommodate the proposed development. However, the trees being lost are generally of a lower quality with one good quality tree being removed.
- All the trees along Treepark Road will be retained and are not expected to be impacted upon by the proposed development.
- The retained trees are enclosed by an existing security fence which will act as the tree protection barrier.
- There is sufficient space on the site for replanting post development.

7.0 REFERENCES

The British Standards Institution (2012). ***Trees in relation to design, demolition and construction – Recommendations.*** **BSI Standards Limited.**

Appendix 1

Arboricultural Method Statement

Tree Works

- The necessary tree works to facilitate the proposed development are described in the tree works schedule.
- Prior to any tree works being carried out the tree works schedule should be presented to the tree owner. The tree owner must agree to any proposed works.
- All tree works will be carried out in accordance with the recommendations given in BS 3998 (2010).
- Tree felling works on the site are exempt from a felling licence under section 19 of the Forestry Act 2014.
- The tree work contractor should be made aware of the underground utility services located within the site.
- Prior to the commencement of any tree works, the trees and their surroundings should be assessed for the presence of any seasonal nesting sites, potential roost features or protected species.

Protective Fencing

- All trees that are being retained on the site will be protected from construction activities by an existing security fence. The security fence is a robust barrier fit for purpose to exclude construction traffic. Signs will be fixed to the fence stating 'Tree Protection Area – No Construction Access'.
- Construction activities and the storage of materials will be confined to the grass pitch area. No construction traffic is permitted into the tree protection zone. The tree protection zone will not be fully enclosed for the duration of the project. The area must remain in use for members of the Kilnamanagh Recreation Centre and adjoining men's shed.
- The main contractor will inform the local authority officer that the tree protection signage is in place before construction activities commence.
- It is highly unlikely that alterations or repositioning of the tree protection fencing will take place during the construction period.

Monitoring

- No monitoring is necessary for the duration of the project.

Appendix 2

Report Limitations

- Only those trees specified in the scope of work were assessed. The observations that were made are limited to the requirements of planning and development. The survey is not a tree risk assessment.
- The trees were visually assessed from ground level only. No climbing inspections were carried out. No invasive or other detailed internal decay detection devices were used.
- The conclusions relate to the conditions found at the time of survey. Trees are living organisms that are subject to the stresses of climatic extremes, decay fungi and injurious diseases. There is no warranty or guarantee, expressed or implied, that problems or deficiencies of the trees in question may not arise in the future.

Appendix 3

Tree/Tree group number	No. of trees	Species	Height (m)	Stem count	Stem diameter (cm)	Crown spread (m)								Crown clearance Ht (m)	Life stage: Y-EM-SM-M-LM	Physiological Condition: G-F-P-D	Observations and Recommendations	RPA(M^2)	RPR (M)	Remaining contribution in years: <10, 10-20, 20-40, 40+	Retention category	Retention Sub-category
						N	NE	E	SE	S	SW	W	NW									
T149	1	*Tilia cordata* Small-leaved Lime	10	1	39	4.4		4.5		3.7		2.4		2.5	Semi-mature	Good	Structural condition-good, partially obscured by ivy. Medium sized crown, leaf area normal. Historic crown raising, poor pruning cuts. Lower limbs over extended, conflict with containers. Further crown raising recommended and ivy removal.	69	4.7	40+	A	2
T150	1	*Carpinus betulus* Hornbeam	10	1	18	1		1.3		4.5		1.9		2.5	Early-mature	Fair	Structural condition-fair. Small sized crown heavily suppressed by neighbouring trees, leaf area sparse. Historic crown raising, poor pruning cuts.	15	2.2	10-20	C	2
T151	1	*Acer pseudoplatanus* Sycamore	16	1	54	8.2		5.5		4		3.6		2.2	Mature	Fair	Structural condition-fair. Large sized crown with a number of over extended limbs. Leaf area sparse. Historic crown raising, poor pruning cuts.	132	6.5	20-40	B	2
T152	1	*Tilia cordata* Small-leaved Lime	12	1	37	5		3.3		3.8		3.1		3	Semi-mature	Good	Structural condition-fair, co-dominant stems with partial bark inclusion at base of crown. Medium sized crown, leaf area normal. Historic crown raising, poor pruning cuts.	62	4.4	40+	B	2
T153	1	*Prunus avium* 'Umineko' Cherry	10	2	21	5		1.8		2.2		1.7		3	Semi-mature	Fair	Structural condition-poor, co-dominant stems with partial bark inclusion at base of stem. Small sized crown, heavily suppressed by neighbouring trees. leaf area normal. Historic crown raising, poor pruning cuts.	20	2.5	10-20	C	2

T: Tree - H: Hedge - S: Shrub

Tree/Tree group number	No. of trees	Species	Height (m)	Stem count	Stem diameter (cm)	Crown spread (m)								Crown clearance Ht (m)	Life stage: Y-EM-SM-M-LM	Physiological Condition: G-F-P-D	Observations and Recommendations	RPA(M²)	RPR (M)	Remaining contribution in years: <10, 10-20, 20-40, 40+	Retention category	Retention Sub-category
						N	NE	E	SE	S	SW	W	NW									
T154	1	*Prunus avium* 'Umineko' Cherry	11	5	19	5		2.3		4.4		1.8		2	Semi-mature	Fair	Structural condition-poor, co-dominant stems with bark inclusion at base of stem. Medium sized crown, leaf area normal. Historic crown raising, poor pruning cuts. Some over extended limbs.	16	2.3	10-20	B	2
T155	1	*Acer pseudoplatanus* Sycamore	14	1	41	6		1.6		4.2		6.8		2	Mature	Fair	Structural condition-fair,multiple leaders. Large sized crown, leaf area normal. Historic crown raising, poor pruning cuts. Crown raising necessary over access road.	76	4.9	20-40	B	2
T156	1	*Prunus avium* 'Umineko' Cherry	16	1	49	6.5		6.5		4.8		5		2	Mature	Good	Structural condition-fair,multiple leaders, stems obscured by ivy. Large sized crown, leaf area normal. Historic crown raising. Further crown raising necessary over access road to facilitate construction traffic. Remove dead hanger. Consider 10-15% reduction in crown size to reduce over extension.	109	5.9	10-20	B	2
T157	1	*Prunus avium* 'Umineko' Cherry	8	1	12	1.7		2		2		1.3		2	Early-mature	Fair	Structural condition-poor. Small sized crown, leaf area sparse. Heavily suppressed tree. Removal is recommended.	6.5	1.4	<10	U	
T158	1	*Malus domestica* Cultivated Apple	12	2	23	6.2		2.4		3.1		1.8		2	Mature	Fair	Structural condition-poor, co-dominant stems with partial bark inclusion at base of stem. Medium sized crown, leaf area sparse. Historic crown raising, poor pruning cuts. Consider reducing over extended limbs on tree park road.	24	2.8	10-20	C	2

T: Tree - H: Hedge - S: Shrub

Tree/Tree group number	No. of trees	Species	Height (m)	Stem count	Stem diameter (cm)	Crown spread (m) N	NE	E	SE	S	SW	W	NW	Crown clearance Ht (m)	Life stage: Y-EM-SM-M-LM	Physiological Condition: G-F-P-D	Observations and Recommendations	RPA(M^2)	RPR (M)	Remaining contribution in years: <10, 10-20, 20-40, 40+	Retention category	Retention Sub-category
T159	1	*Tilia cordata* Small-leaved Lime	16	1	48	5.1		4.6		3.5		4.6		2	Mature	Good	Structural condition-fair, multiple leaders with partial bark inclusion. large sized crown, leaf area dense. Historic crown raising, poor pruning cuts.	104	5.8	40+	B	2
T160	1	*Prunus avium* 'Umineko' Cherry	16	1	50	5		5.5		4.8		4.6		2	Mature	Good	Structural condition-fair. Large sized crown, leaf area normal.	113	6	20-40	B	2
T161	1	*Prunus avium* 'Umineko' Cherry	16	1	43	4.9		2.6		3		3		2.5	Mature	Fair	Structural condition-fair. Large sized crown, leaf area normal. Crown is suppressed on southern aspect by neighbouring tree.	84	5.2	20-40	B	2
T162	1	*Cupressocyparis leylandii* Leyland cypress	16	1	45	2		1.5		2		1.5		4	Early-mature	Fair	Structural condition-poor. Small sized crown, leaf area sparse. Suppressed tree. Historic failure of co-dominant stem and crown raising. Poor pruning cuts.	92	5.4	20-40	C	2
T163	1	*Prunus avium* 'Umineko' Cherry	16	1	52	2.3		3.6		3.5		2		5	Mature	Fair	Structural condition-fair. Medium sized crown, leaf area normal. Suppressed on northern aspect. Historic failure crown raising, poor pruning cuts.	122	6.2	20-40	B	2
H1	9	*Cupressocyparis leylandii* Leyland cypress (6) *Sorbus aucuparia* Rowan(3)	12	n/a	n/a	5.2		4.5		4.3		2		3	Mature	Fair	Structural condition-fair, multi stem trees with co-dominance, some partial inclusions. Large sized crown, leaf area normal. Hedge should be maintained at its current size. 3 x rowans heavily suppressed, almost dead.	n/a	n/a	10-20	B	2

T: Tree - H: Hedge - S: Shrub

Tree/Tree group number	No. of trees	Species	Height (m)	Stem count	Stem diameter (cm)	Crown spread (m)								Crown clearance Ht (m)	Life stage: Y-EM-SM-M-LM	Physiological Condition: G-F-P-D	Observations and Recommendations	RPA(M^2)	RPR (M)	Remaining contribution in years: <10, 10-20, 20-40, 40+	Retention category	Retention Sub-category
						N	NE	E	SE	S	SW	W	NW									
H2	37	*Cupressocyparis leylandii* Leyland cypress	12	n/a	n/a	4.6		4.2		3		3		3	Mature	Fair	Structural condition-fair, multi stem trees with co-dominance, some partial inclusions. Large sized crown, leaf area normal. Hedge should be maintained at its current size.	n/a	n/a	10-20	B	2

T: Tree - H: Hedge - S: Shrub

Proposed Tree Works to faciliate development - Kilnamanagh AFC			
Tree/Tree group number	Species	Retention category	Tree Work Spec
T149	*Tilia cordata* Small-leaved Lime	A2	Direct conflict - Fell at ground level and grind stump
T150	*Carpinus betulus* Hornbeam	C2	Direct conflict - Fell at ground level and grind stump
T151	*Acer pseudoplatanus* Sycamore	B2	Direct conflict - Fell at ground level and grind stump
T152	*Tilia cordata* Small-leaved Lime	B2	Direct conflict - Fell at ground level and grind stump
T153	*Prunus avium* 'Umineko' Cherry	C2	Direct conflict - Fell at ground level and grind stump
T154	*Prunus avium* 'Umineko' Cherry	B2	Direct conflict - Fell at ground level and grind stump
T155	*Acer pseudoplatanus* Sycamore	B2	Direct conflict - Fell at ground level and grind stump
T156	*Prunus avium* 'Umineko' Cherry	B2	Crown raise over access road to facilitate construction traffic
T157	*Prunus avium* 'Umineko' Cherry	U	Fell at ground level
T158	*Malus domestica* Cultivated Apple	C2	Crown raise over Treepark road to facilitate construction traffic

Appendix 4

Tree Schedule Key

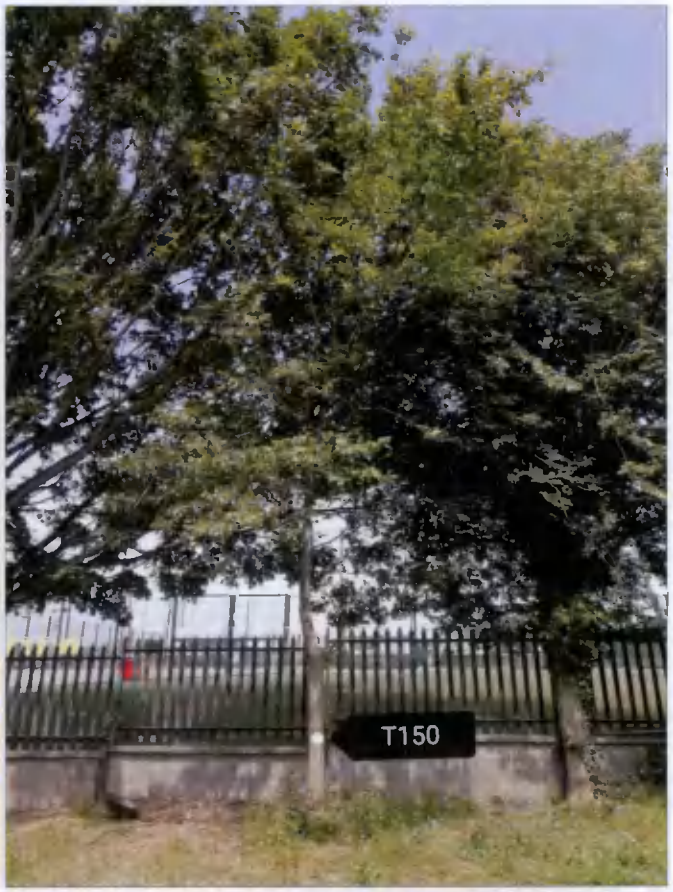
Tree/Group number	Reference number for individual trees or groups of trees, prefixed by T (Tree), G (Group), W (Woodland), H (Hedge) or S (Shrub) to indicate the type of feature
Tree Count	Number of trees of a particular species recorded within a group feature, with the default value of 1 for single trees.
Species	Scientific name followed by common name
Height (m)	Tree height to the nearest metre, measured with a Haglofs Clinometer or estimated.
Stem Count	Number of stems. Stem count indicates whether the tree is single-stemmed or multi-stemmed and informs the RPA calculation.
Stem Diameter	Stem diameter measured at 1.5m above ground level in accordance with Annex C of BS5837:2012.
Crown Spread	Distance from the stem position to crown periphery in the four cardinal directions, estimated to the nearest half metre.
Crown Clearance Height (m)	Distance between the ground and the lowest point of the crown periphery, estimated to the nearest half metre.
Lowest Branch Height (m)	Distance between the ground and lowest significant branch.
Life-stage	Young, Semi-mature, Early-mature, Mature, Late Mature, Ancient or Veteran
Physiological Condition	Good, Normal, Fair, Poor, Dead
Observations	General description of the tree or tree group, including basic features and morphology, structural and physiological condition, growing conditions and surroundings.
Recommendations	Management recommendations for tree works to address immediate unacceptable risks, or to facilitate development proposals.
RPA (m^3)	Root protection area calculated from the stem diameter according to the formula in BS5837:2012. The RPA is the minimum area required to maintain tree viability.
RPR (m)	Radius of the RPA, in metres, when this is plotted as a circle around the tree stem
Estimated Remaining Contribution (years)	Estimated number of years for which the tree will continue to make a positive contribution to the site, banded as <10yrs, 10-20yrs, 20-40yrs, 40+.
Retention Category	Quality and value category as defined in table 1 of BS5837:2012 (see next page)
Retention Sub-category	One or more sub-categories as defined in table 1 of BS5837:2012 (see next page)

Table 1 Cascade chart for tree quality assessment

Category and definition	Criteria (including subcategories where appropriate)			Identification on plan
Trees unsuitable for retention (see Note)				
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	• Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning) • Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline • Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see 4.5.7.*			See Table 2
	1 Mainly arboricultural qualities	**2 Mainly landscape qualities**	**3 Mainly cultural values, including conservation**	
Trees to be considered for retention				
Category A **Trees of high quality** with an estimated remaining life expectancy of at least 40 years	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)	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features	Trees, groups or woodlands of significant conservation, historical, commemorative or other value (e.g. veteran trees or wood-pasture)	See Table 2
Category B **Trees of moderate quality** with an estimated remaining life expectancy of at least 20 years	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	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality	Trees with material conservation or other cultural value	See Table 2
Category C **Trees of low quality** with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories	Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value; and/or trees offering low or only temporary/transient landscape benefits	Trees with no material conservation or other cultural value	See Table 2

Appendix 5


T149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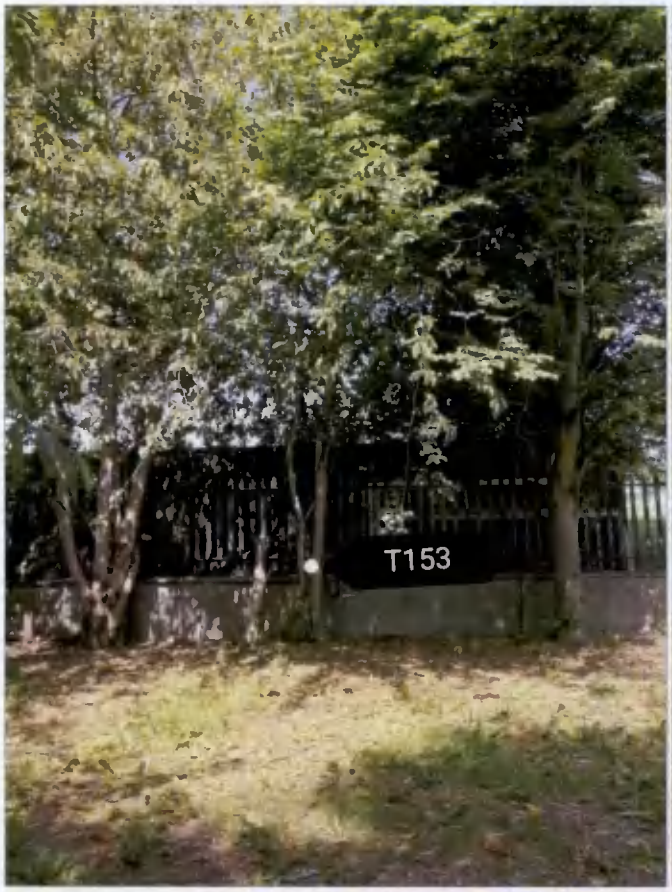
T151


T152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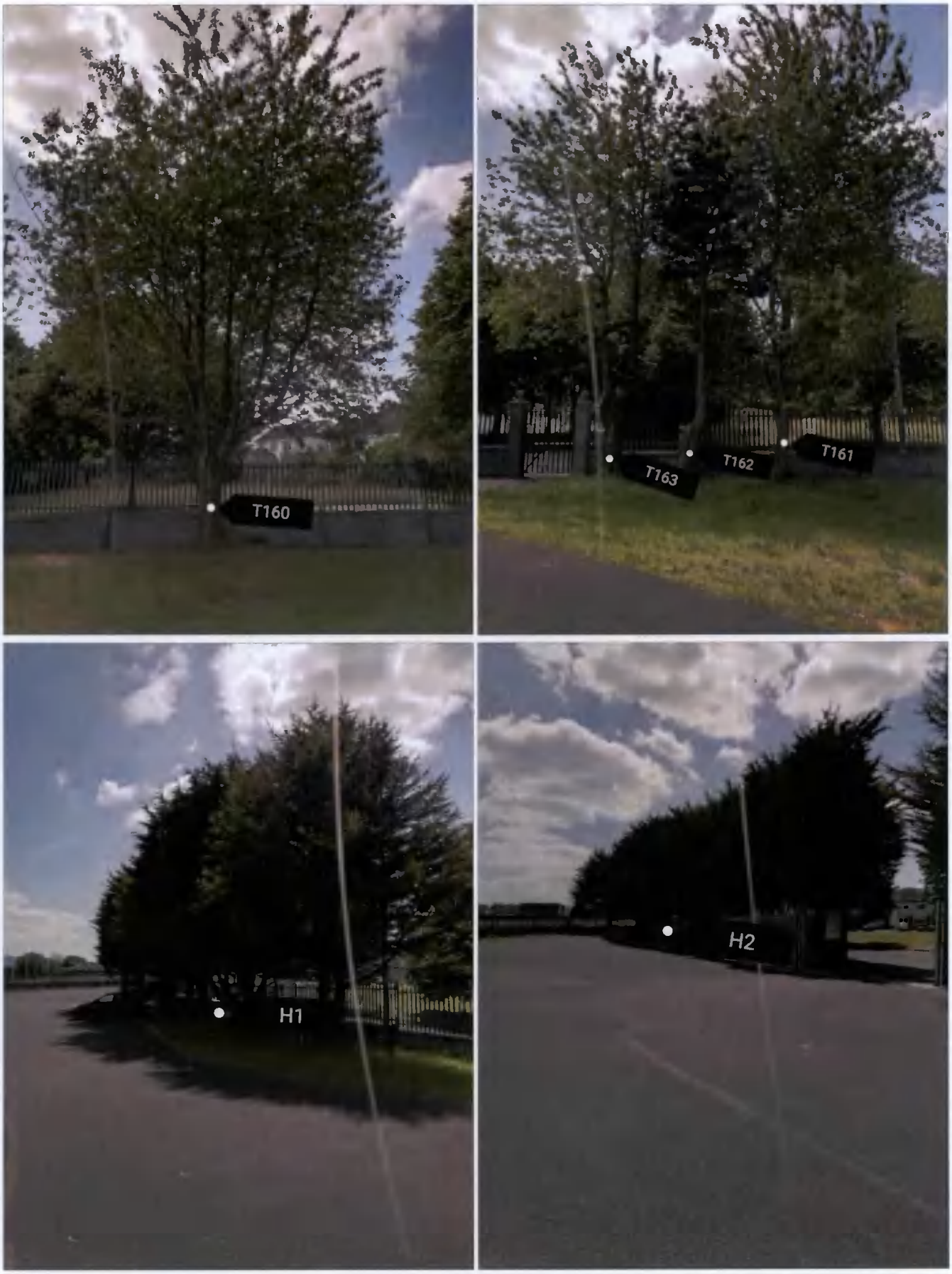
T159


T160
T163
T162
T161
H1
H2