APPENDIX 7.4

Land at Upper Cosmeston Farm, Lavernock Road, Penarth

Arboricultural Impact Assessment
(Incorporating Tree Protection Measures)

Prepared by:
The Environmental Dimension Partnership Ltd

On behalf of:
Welsh Government

August 2020
Report Reference
edp5187_r008e

Contents

Appendices

Plan

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	Report Ref: edp5187_r008			
	Author	**Formatted**	**Peer Review**	**Proofed by/Date**
008_FINAL DRAFT	TC	ER	LM	FD 110719
008a_FINAL DRAFT	TC	-	TC	FJ 280819
008b_FINAL DRAFT	TC	-	TC	GL 290819
008c_FINAL DRAFT	TC	-	TC	GL 300819
008d_FINAL DRAFT	TC	-	TC	GL 130919
008e	TC	-	-	FD 110820

Section 1
Introduction

1.1 This Arboricultural Impact Assessment (AIA) has been prepared by the Environmental Dimensions Partnership Ltd (EDP) on behalf of Welsh Government in relation to the proposed development of the Land at Upper Cosmeston Farm, Lavernock Road, Penarth (hereafter referred to as 'the Application Site'). It sets out the nature and extent of tree losses and provides recommendations for the mitigation and protection measures, to ensure the viable long-term retention of retained trees in the context of the development proposals.

1.2 This AIA has been prepared using EDP's arboricultural constraints information contained within the Arboricultural Technical Note (edp2187_r007) found to the rear of this report as **Appendix EDP 1**. This baseline survey data was collected by EDP in April 2019.

Development Proposals

1.3 The proposals upon the Application Site bring forward the numbers, uses and requirements set out within the Allocation upon the Application Site through the Vale of Glamorgan Local Plan 2011-2026 (adopted June 217), known as 'MG2 (24) Land at Upper Cosmeston Farm, Lavernock', with the remainder of the site comprising green wedge. In summary the Land at Upper Cosmeston Farm allocation comprises:

- Up to 576 dwellings comprising a mix of market and affordable housing;
- 1 hectares (ha) of land to provide a new primary school and nursery, in accordance with policy MG6 (5);
- 1 ha of land to be designated as public open space, in accordance with policy MG28 (10);
- 0.1-0.2 ha of land for the provision of a new community facility, in accordance with policy MG7 (4); and
- The provision of a new highway access point onto Lavernock Road.

1.4 The proposals are to be the subject of an outline planning application and the masterplan is provided as **Appendix EDP 2** to this report.

1.5 The arboricultural constraints of the Application Site have influenced the final layout through an iterative design process. Thus, the masterplan incorporates a degree of 'inherent' mitigation to avoid or reduce the severity of potential arboricultural impacts.

Aims and Objectives

1.6 The purpose of this report is to:

- Identify the constraints associated with retained trees to inform the conceptual design and layout of the proposed scheme;
- Identify direct and indirect effects of the design proposal on existing trees; and
- Provide recommendations for incorporation into the development's construction plans at a detailed stage, to allow the trees affected by the proposals to be safely and successfully retained.

Relevant Baseline Documents

1.7 EDP's Arboricultural Technical Note (**Appendix EDP 1**) is relevant to the provisions of this AIA, and this AIA should be read in conjunction with it where applicable.

1.8 The following best practice guidance and informative standards are relevant to the provisions of the AIA, and should be read in conjunction with the AIA where applicable:

- BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations' BSI 2012;
- NJUG Volume 4 – Guidelines for the Planning, Installation and Maintenance of Utility Apparatus in Proximity to Trees. National Joint Utilities Group 2007; and
- BS 3998:2010 Tree Work – Recommendations. BSI 2010.

Section 2
Arboricultural Impact Assessment

2.1 This Arboricultural Impact Assessment (AIA) has been prepared following site-based observations, a desktop study of the survey data and consideration of the Proposed Masterplan (**Appendix EDP 2**). It relates to the baseline arboricultural assessment and constraints information contained within **Appendix EDP 1**, which is overlaid onto the Proposed Masterplan (**Appendix EDP 2**). The resulting drawing, a Tree Retention and Removal Plan (**Plan EDP 1**), is provided at the rear of this report.

2.2 This AIA recognises that construction activities pose a threat to subject trees if treated inappropriately and assesses the likely impacts of the proposals on the tree stock and where appropriate, provides mitigation with the view of achieving a harmonious relationship between the trees and the built form.

2.3 Assessment of the impact of the proposals has been determined following consideration of the constraints each surveyed item poses by virtue of its position, branch spread and designated Root Protection Area (RPA).

2.4 Consideration should be given to retaining all trees where possible. However, ultimately the removal of any tree is dependent on its proximity to the footprint of any proposal, and associated landscaping.

Damage to Rooting Environment during Construction Activities

2.5 The required RPA for each item is described in the tree survey schedule and is depicted on the Tree Constraints Plan both found within **Appendix EDP 1**. To ensure appropriate protection is afforded to the roots, the extent of the RPA shall be defined by means of the installation of protective barriers in accordance with BS 5837:2012, the specification for which is enclosed as **Appendix EDP 3** of this report.

Items Impacted by Proposed Development

2.6 Assessment of the Proposed Masterplan determines that 32 items are impacted by the development proposals; these are detailed in **Table EDP 2.1** that follows. Of these, 11 are category B, of moderate quality and a further 21 items are category C, of low quality. Of these 32 items, 22 are removed in their entirety to facilitate the proposals, with an additional 10 requiring partial removal.

Table EDP 2.1: Trees Impacted by Development Proposals.

Tree Number	Tree Species	Impact	Tree Grade
H1	Common hawthorn	Complete Removal	C
H2	Sycamore Common hawthorn Common ash	Complete Removal	C
H3	Sycamore Common hawthorn Common ash	Complete Removal	C
H4	Sycamore Common hawthorn Common ash	Partial Removal	C
H5	Sycamore Common hawthorn Common ash	Partial Removal	C
T6	Sycamore	Complete Removal	C
T7	Sycamore	Complete Removal	C
H8	Sycamore Common hawthorn Common ash	Partial Removal	C
H9	Common hawthorn Common ash	Complete Removal	C
T10	Common ash	Complete Removal	B
G11	Sycamore Common hawthorn Common ash Wych elm	Complete Removal	C
T12	Common ash	Complete Removal	B
G13	Sycamore Common hawthorn Common ash Wych elm	Complete Removal	B
H14	Sycamore Common hawthorn Common ash Wych elm	Complete Removal	C
G15	Field maple Common hawthorn Wych elm	Complete Removal	C
T16	Field maple	Complete Removal	C
G17	Field maple Common hawthorn Common ash Wych elm	Complete Removal	C
G18	Field maple Sycamore Common hawthorn Common ash Wych elm	Partial Removal	B

Tree Number	Tree Species	Impact	Tree Grade
H20	Field maple Common hawthorn	Complete Removal	C
G21	Field maple Common hawthorn Common ash English oak Wych elm	Complete Removal	B
H23	Field maple Common hawthorn Common ash English oak Wych elm	Complete Removal	C
H27	Field maple Common hawthorn Common ash English oak Wych elm	Complete Removal	C
H29	Field maple Common hawthorn Common ash English oak Wych elm	Partial Removal	B
H30	Field maple Common hawthorn Common ash English oak Wych elm	Partial Removal	B
H31	Field maple Common hawthorn Common ash English oak Wych elm	Partial Removal	B
H34	Field maple Common hawthorn Common ash English oak Wych elm	Partial Removal	B
H35	Field maple Common hawthorn Common ash Blackthorn English oak Wych elm	Partial Removal	C
H38	Field maple Common hawthorn Common ash Blackthorn English oak Wych elm	Complete Removal	C

Tree Number	Tree Species	Impact	Tree Grade
H39	Field maple Common hawthorn Common ash Blackthorn English oak Wych elm	Complete Removal	C
H42	Field maple Common hawthorn Common ash Blackthorn English oak Wych elm	Complete Removal	C
H43	Field maple Common hawthorn Common ash Blackthorn English oak Wych elm	Complete Removal	B
H44	Field maple Common hawthorn Common ash Blackthorn English oak Wych elm	Partial Removal	B

Summary of Tree Losses and Retention

2.7 A summary of the tree losses and retention, based upon the Proposed Masterplan, is provided in **Table EDP 2.2**. In this context, the term 'affected' means a retained item where partial removal is required in order to facilitate the development.

Table EDP 2.2: Summary of Tree Losses and Retention.

	Existing	Trees and Groups Lost Due to Proposals	Trees and Groups Affected by Proposals	Trees and Groups Unaffected by Proposals
Category A	0	0	0	0
Category B	25	5	6	14
Category C	23	17	4	2
Totals	**48**	**22**	**10**	**16**

Mitigation

2.8 Existing trees identified for retention on the appended Tree Retention and Removal Plan (**Plan EDP 1**) will continue to be managed in accordance with BS 5837:2012. Critically, this requires arboricultural review of any future emerging detailed design and the implementation of physical protection measures to safeguard the retained trees. This

includes robust protection in the form of a barrier to BS 5837:2012 (**Appendix EDP 3**), during the demolition and construction phases. The importance of such matters cannot be overlooked if a successful outcome is to be ensured.

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Section 3
Conclusions

3.1 Masterplanning of the development has been informed by arboricultural recommendations throughout and has sought to retain all trees where possible. However, the loss of 22 items and partial loss of 10 items will be more than compensated for through the provision of new planting across the site. The new planting has potential for greater longevity within the landscape and will enhance the species diversity for the site, whilst also contributing to the green infrastructure for the area.

3.2 Existing trees identified for retention on the appended Tree Retention and Removal Plan (**Plan EDP 1**) will continue to be managed in accordance with BS 5837:2012. Critically, this requires arboricultural review of any alteration to the development layout and the implementation of physical protection measures to safeguard the retained trees, including robust protection in the form of a barrier to BS 5837:2012, during the demolition and construction phases. The importance of such matters cannot be overlooked if a successful outcome is to be ensured.

3.3 A suitably worded condition can secure any mitigation measures which would be required to minimise harm and ensure safe, long-term retention to trees.

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Glossary

Arboricultural Impact Assessment	Study, undertaken by an Arboriculturist, to identify, evaluate and possibly mitigate the extent of direct and indirect impacts on existing trees that may arise as a result of the implementation of any site layout proposal.
Arboricultural Method Statement	Methodology for the implementation of any aspect of development that has the potential to result in loss of, or damage to a tree.
Construction Exclusion Zone	Area based on the RPA (in m^2), identified by an Arboriculturist, to be protected during development, including demolition and construction work, by the use of barriers, and/or ground protection fit for purpose to ensure the successful long-term retention of a tree.
Detailed Investigation	During a visual inspection, a tree may be identified as requiring further detailed investigation. Examples of further assessment can include invasive boring tests, Picus reports, climbing inspections or root scans.
Root Protection Area (RPA)	Layout design tool indicating the area surrounding a tree that contains sufficient rooting volume to ensure the survival of the tree, shown in plan form in m^2.
Services	Any above ground and piped and/or ducted underground infrastructure including water main, electricity supply, gas supply, fibre-optic utilities, telecommunications cabling, storm and foul water drainage, including temporary storage for run-off, pumping stations, interceptors and other allied buried structures.
Special Engineering	Design of a structure with the physiological requirements of trees as a priority.
Tree Constraints Plan	Plan prepared by an Arboriculturist for the purposes of layout design showing the RPA and representing the effect that the mature height and spread of retained trees will have on layouts through shade, dominance, etc.
Tree Protection Plan	Scale drawing prepared by an Arboriculturist showing the finalised layout proposals, tree retentions, and tree and landscape protection measures detailed within the arboricultural method statement (AMS), which can be shown graphically.
Veteran Trees	A tree that, by recognised criteria, shows features of biological, cultural or aesthetic value that are characterised of, but not exclusive to, individuals surviving beyond the typical age range of the species concerned.

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Appendix EDP 1
Arboricultural Technical Note (edp5187_r007)

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Land at Upper Cosmeston Farm, Lavernock Road, Penarth
Arboriculture Technical Note
edp5187_r007c

1. Introduction

1.1 The Environmental Dimension Partnership Ltd (EDP) has been commissioned by Welsh Government ('the Applicant') to undertake a *BS 5837:2012 Trees in Relation to Design, Demolition and Construction* compliant survey of trees in relation to the proposed development of Land at Upper Cosmeston Farm, Lavernock Road, Penarth (hereafter referred to as 'the Application Site').

1.2 EDP is an independent environmental planning consultancy with offices in Cirencester, Cheltenham, Cardiff and Shrewsbury. The practice provides advice to private and public sector clients throughout the UK in the fields of landscape, ecology, archaeology, cultural heritage, arboriculture, rights of way and masterplanning. Details of the practice can be obtained at our website www.edp-uk.co.uk.

1.3 The Application Site is located to the south of Cosmeston which in turn is within the Local Planning Authority of Vale of Glamorgan Council (VoGC). The Application Site's boundary encompasses an area of approximately 25.2 hectares (ha), comprising a mixture of pasture and arable agriculture, the farm buildings of Lower Cosmeston Farm and the course of the disused railway route between Penarth and Sully, which dissects the Application Site at its centre from north to south. Field parcels within the Application Site are defined by a mixture of hedgerow boundaries and tree belts.

2. Methodology and Limitations

2.1 The methodology adopted for this survey is based on guidelines set out in *BS 5837:2012 Trees in Relation to Design, Demolition and Construction*, especially Section 4.4, *'Tree Survey'*. Site trees and other significant vegetation are as noted on the Tree Constraints Plan (**Annex EDP 1**). This data has been derived from the topographic survey (**Annex EDP 2**). All surveyed items are detailed in **Schedule EDP 1** (**Annex EDP 3**). No other trees are covered by this survey.

2.2 All trees have been visually inspected from ground level unless otherwise stated, with no climbing or further detailed investigative tests being undertaken. The comments on their condition are based on observable factors present at the time of inspection. All measurements are metric and have been recorded in accordance with the measurement conventions set out in Section 4.4.2.6 of *BS 5837:2012*.

2.3 Any recommendations given regarding longer-term management are made on the basis of optimising the life expectancy of site trees, given their current situation and any effects that may result from the development proposals.

2.4 **Schedule EDP 1** provides information about the following factors in accordance with Section 4.4.2.5 of *BS 5837:2012*:

- Sequential reference number (recorded on **Annex EDP 1**);
- Species;
- Height;
- Stem diameter;
- Branch spread;
- Existing height above ground level;
- Life stage;
- Physiological condition;
- Structural condition;
- Preliminary management recommendations;
- Estimated remaining contribution;
- Category grading; and
- Tree works priority codes.

2.5 Due to the changing nature of trees and other site circumstances, this report and any recommendations made are limited to a 24 month period from the survey date. Any alterations to the Application Site or the development proposals could change the current circumstances, and may invalidate this report and any recommendations made.

2.6 Trees are dynamic structures that can never be guaranteed 100% safe; even those in good condition can suffer damage under average conditions. Regular inspections can help to identify potential problems before they become acute.

2.7 A lack of recommended work does not imply that a tree is safe and likewise, it should not be implied that a tree will be made safe following the completion of any recommended work.

2.8 The subject trees have not been tagged for identification purposes.

3. Aims and Objectives

3.1 The purpose of this Technical Note is to:

- Identify principal trees suitable for retention; and
- Identify the constraints associated with retained trees to inform the conceptual design and layout of the proposed scheme and, in turn, inform the Arboricultural Impact Assessment.

4. Overview of Tree Stock

4.1 The survey has identified 10 individual trees, 29 hedgerows and nine groups, totalling 48 items. Of these 48 items, 25 have been categorised as B, of moderate quality; and 23 have been categorised as C and are of low quality.

4.2 All surveyed items are as noted on **Annex EDP 1** and detailed in **Schedule EDP 1** (**Annex EDP 3**).

5. Site Constraints

5.1 As shown by **Annex EDP 1**, all surveyed items lie within the existing field boundaries of the site. The above- and below-ground constraints yielded by the identified items will need to be considered in during the design process.

5.2 Tree root morphology can be difficult to predict where constraints such as streams, watercourses and roads can influence root distribution, and the nominal circular root protection areas in line with *BS 5837:2012* must be regarded with some caution.

5.3 The required root protection area (RPA) for each item is as described in **Schedule EDP 1** (**Annex EDP 3**) and is depicted on **Annex EDP 1**. To ensure appropriate protection is afforded to the roots, the extent of the RPA shall be defined by means of the installation of protective barriers in accordance with the recommendations given in Section 6.2 of *BS 5837:2012*.

5.4 Consultation with the online resource provided by VoGC[1] has ascertained that there are no Tree Preservation Orders associated with the site, nor is any part of the site contained within a conservation area.

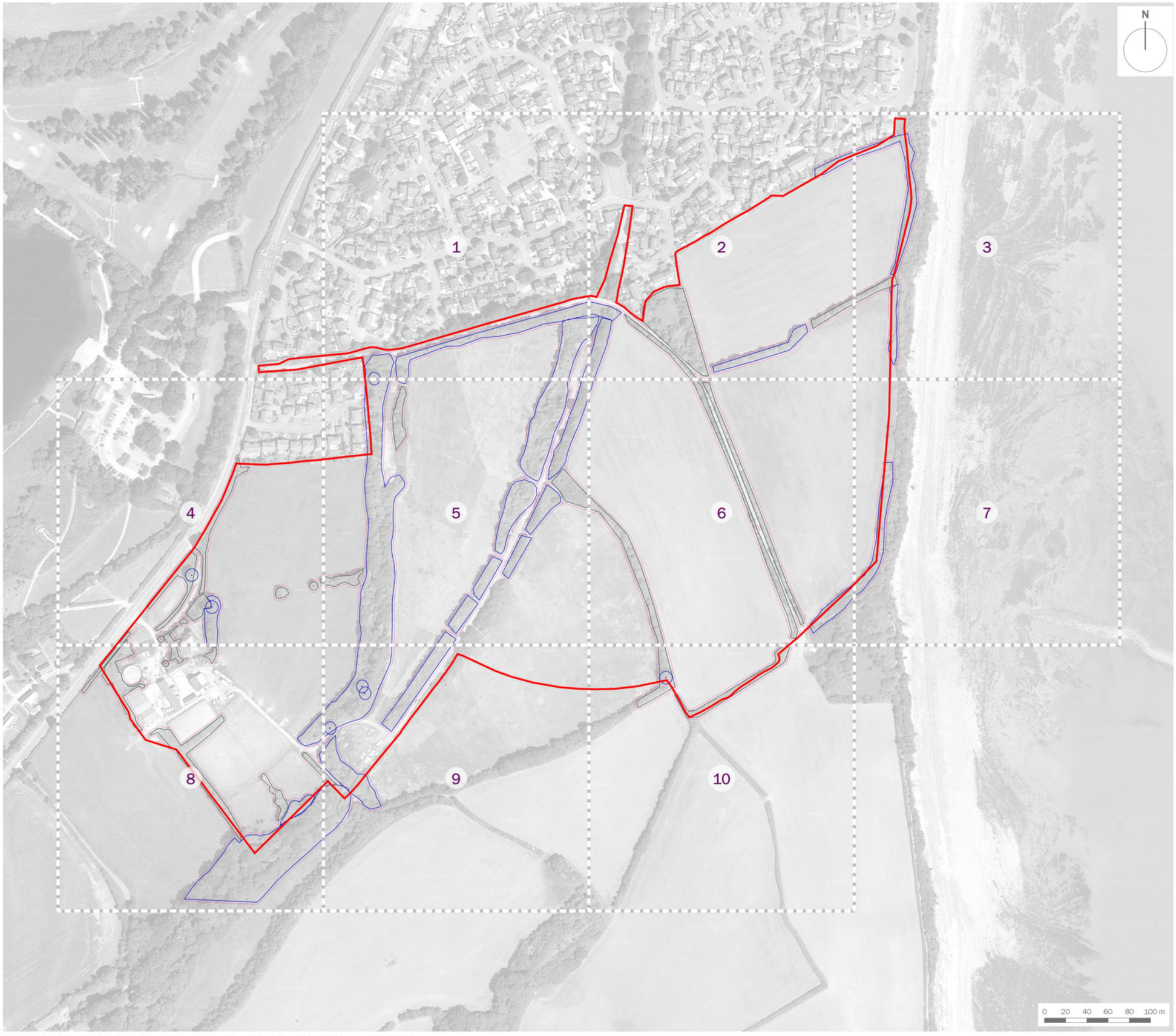
[1] Address: https://myvale.valeofglamorgan.gov.uk/myGlamorgan.aspx Accessed: 20.05.2019

6. Conclusion

6.1 Of the items surveyed, 25 items categorised as B, of moderate quality. These items should be prioritised for retention, where practicable. However, the default position when designing any forthcoming scheme should be the retention of all items, as so far as is practicable, regardless of category grading. All trees provide positive environmental and ecological contributions, irrespective of current condition.

6.2 The arboricultural constraints information provided within this Technical Note will feed into the design and layout of the scheme and, in turn, will be used to undertake an Arboricultural Impact Assessment and Tree Protection Plan, to be submitted as part of the detailed planning application.

Annex EDP 1
Tree Constraints Plan
(edp5187_d017c 30 August 2019 TC/EB)



Site Boundary

T1 Tree/Group Number

Tree/Group Canopy

Tree Stem

Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value

client

Welsh Government

project title

Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title

Plan EDP 1: Tree Constraints Plan Overview

date	**30 AUGUST 2019**	drawn by	**TC**
drawing number	**edp5187_d017c**	checked	**EB**
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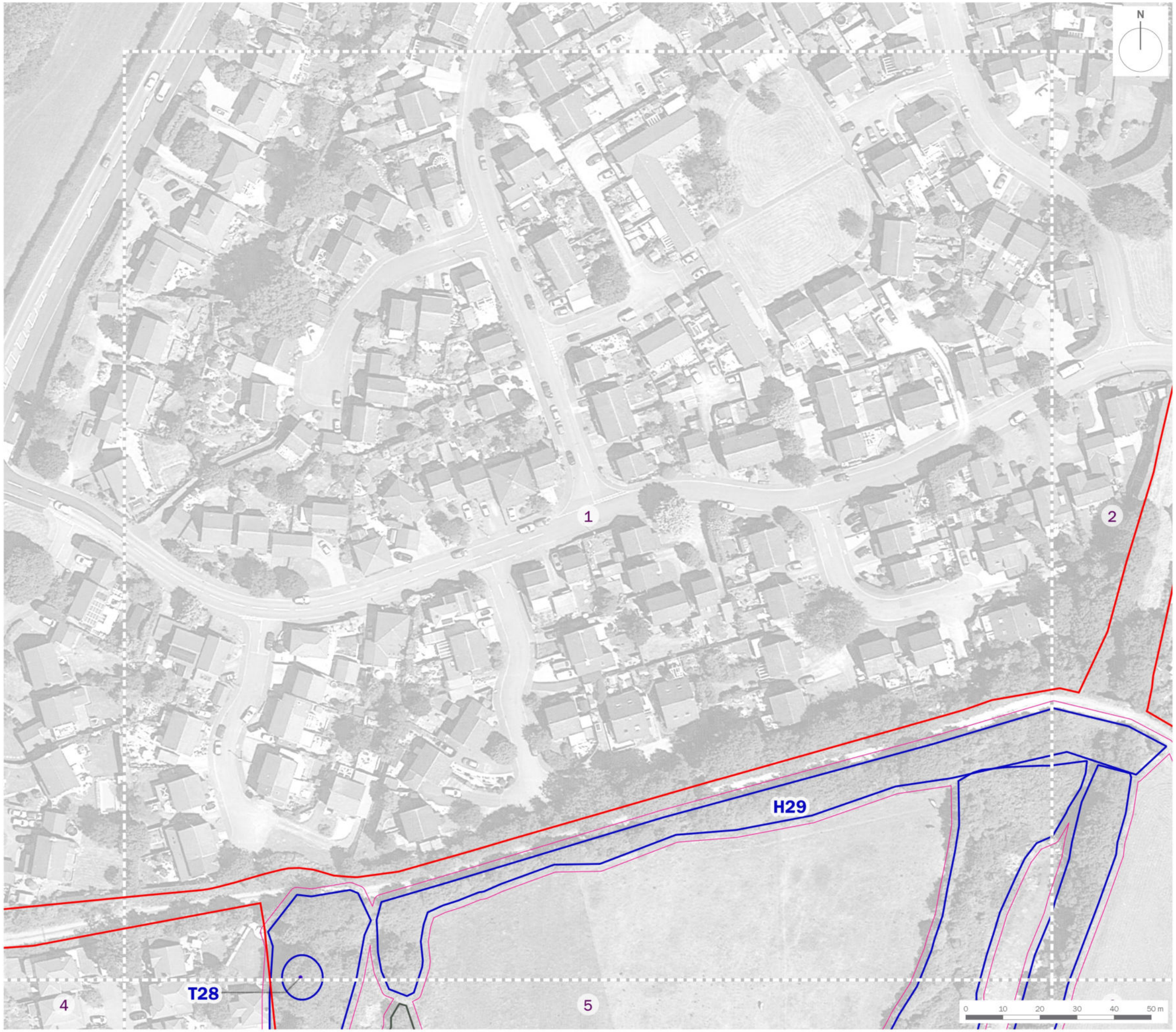


Site Boundary

T1 Tree/Group Number

Tree/Group Canopy

Tree Stem

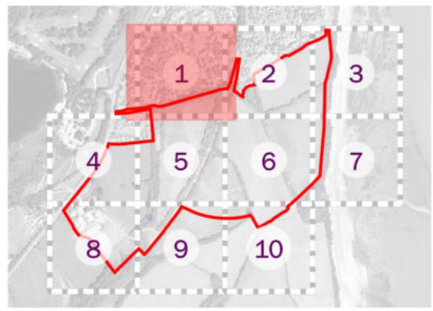
Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value



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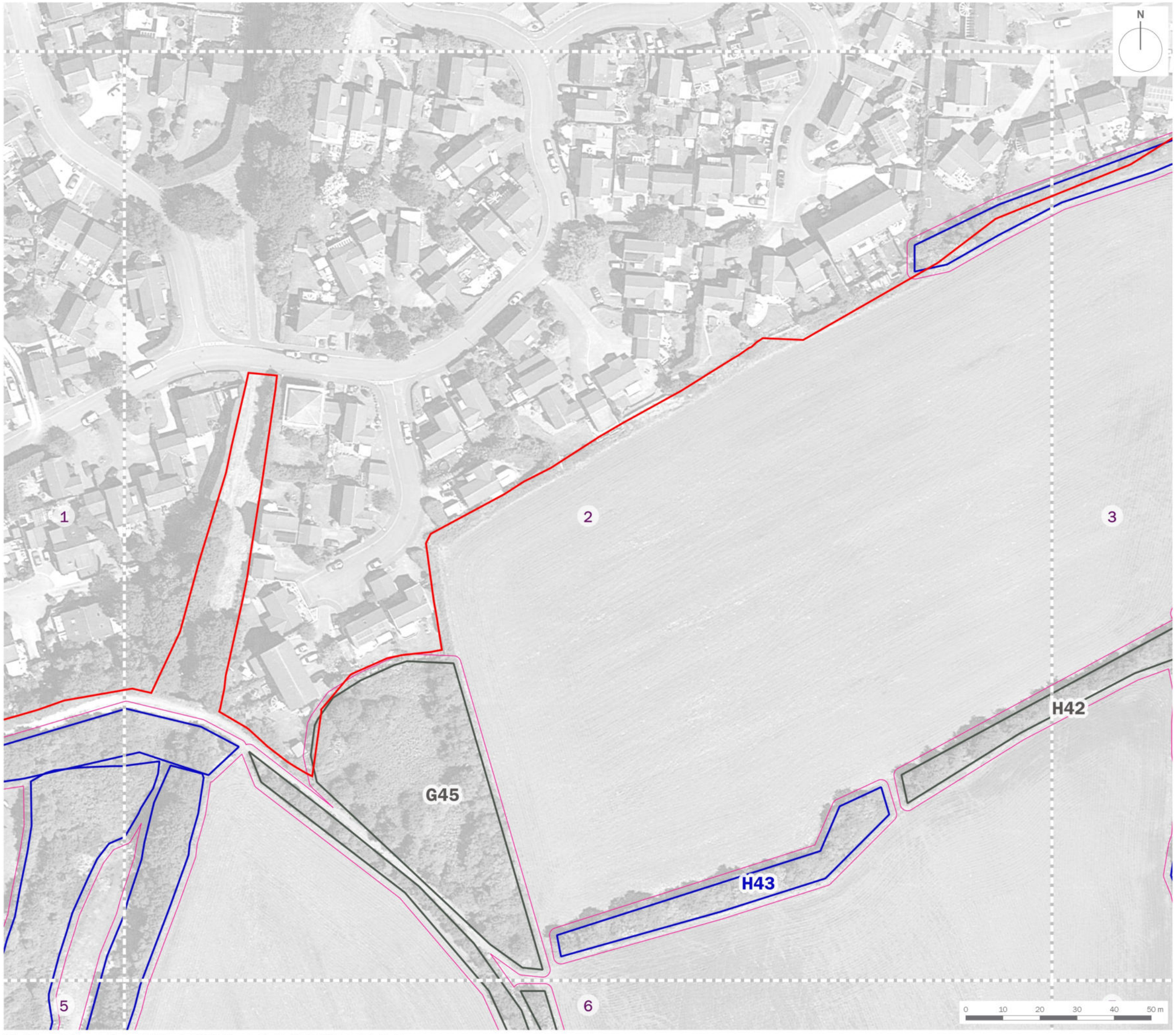

Site Boundary

T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value

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Land at Upper Cosmeston Farm, Lavernock Road, Penarth

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Plan EDP 1: Tree Constraints Plan (Sheet 2 of 10)

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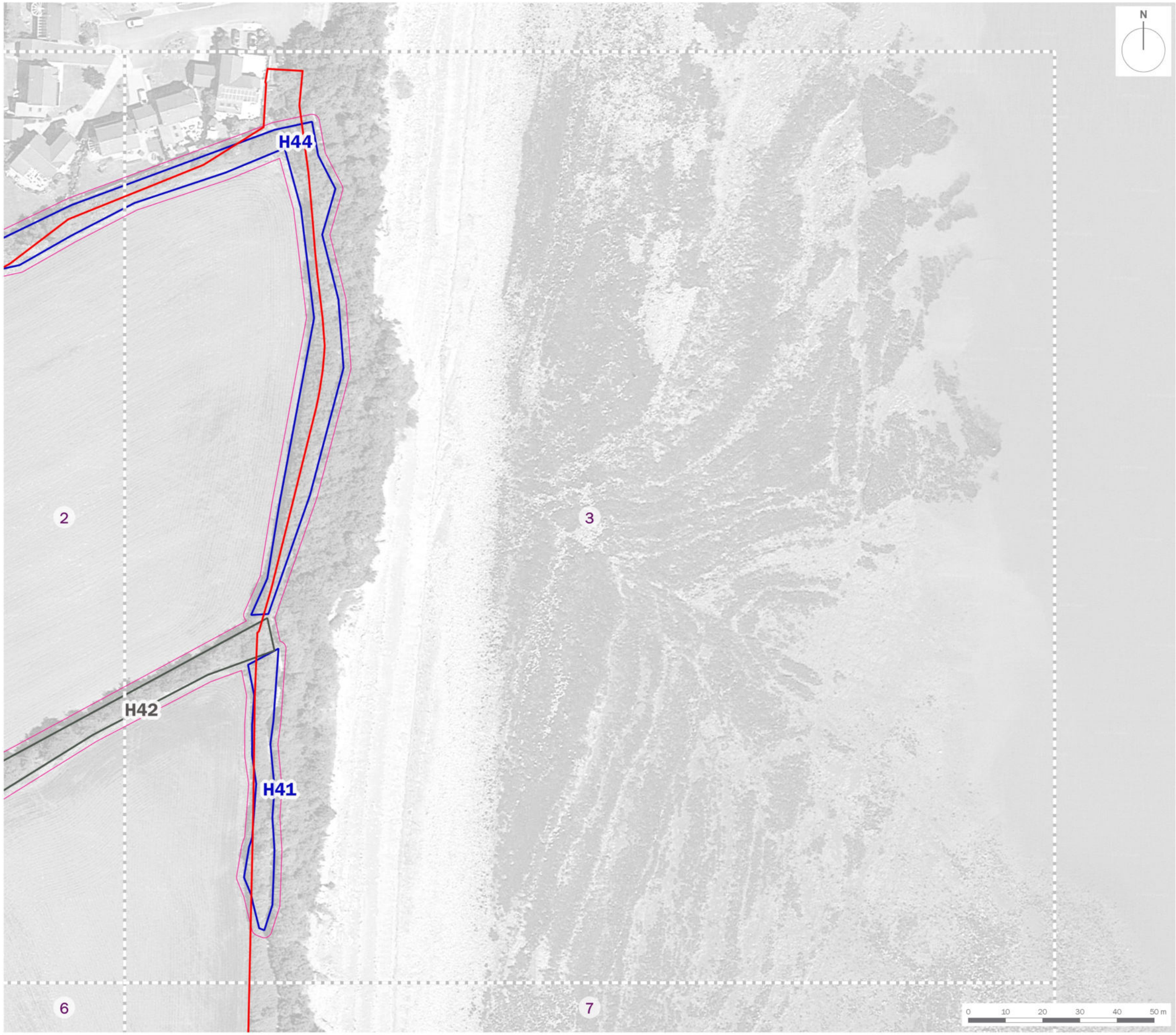

Site Boundary

T1 Tree/Group Number

Tree/Group Canopy

Tree Stem

Root Protection Area

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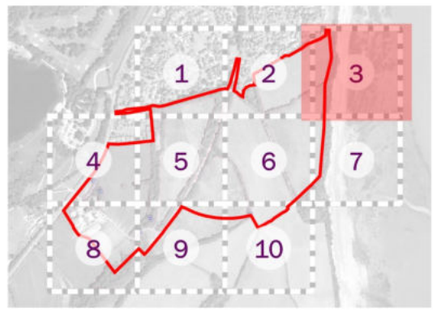
Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value



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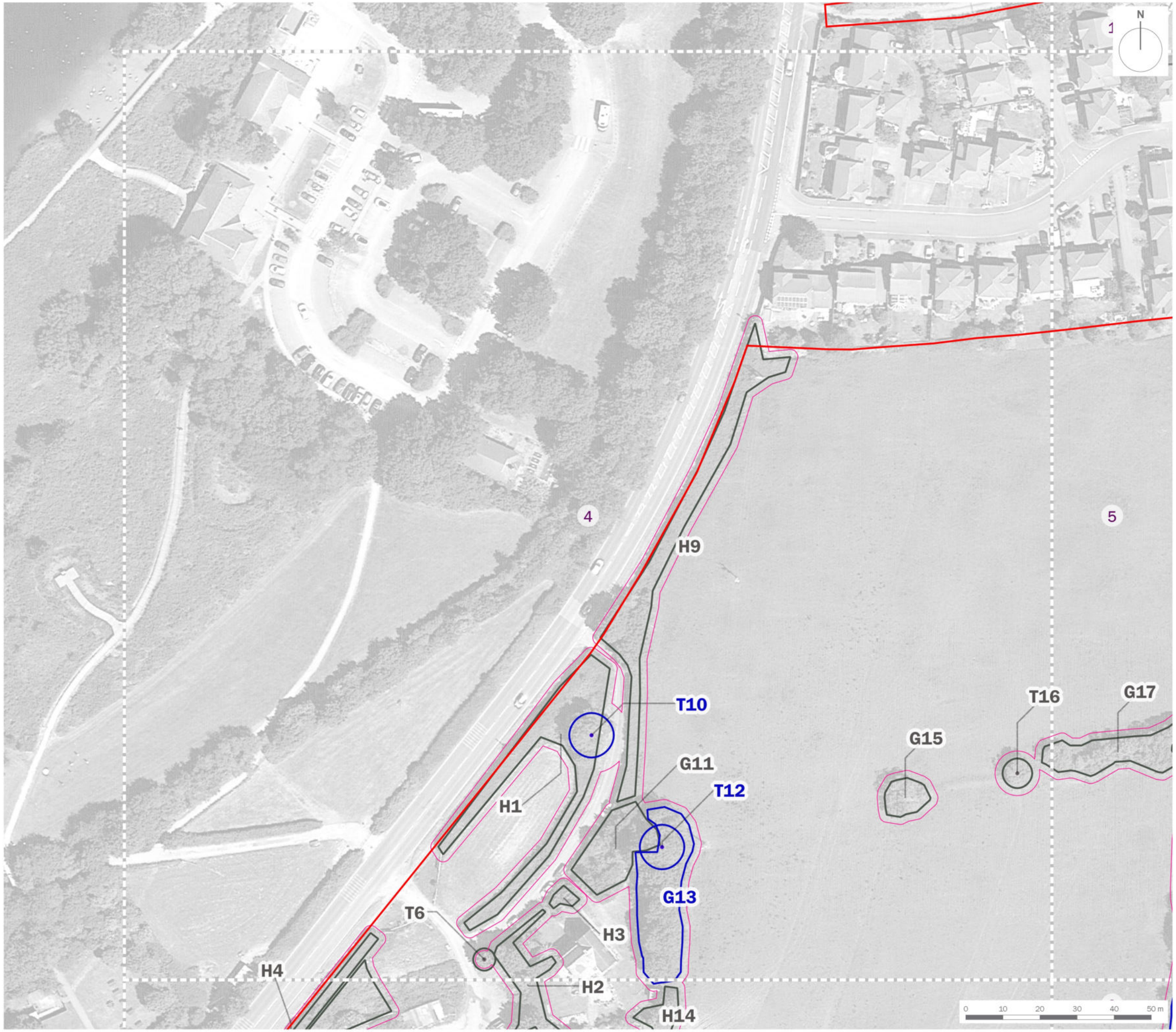

Site Boundary

T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
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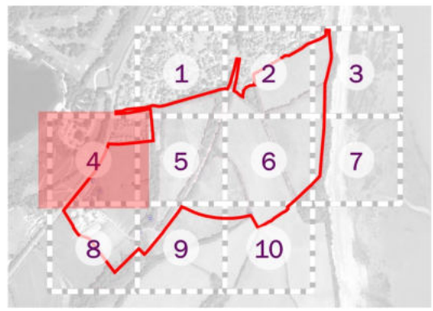

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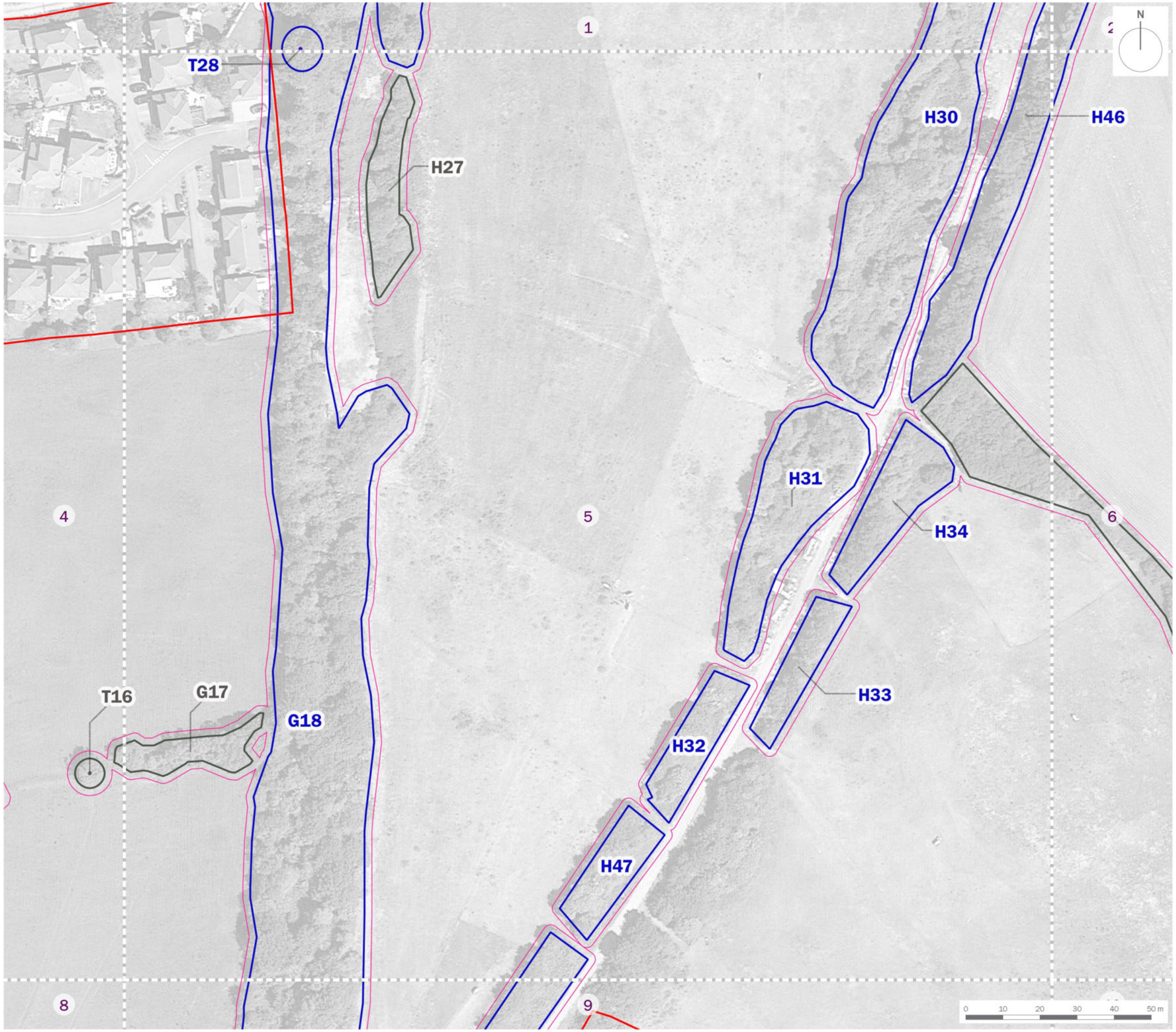

Site Boundary

T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

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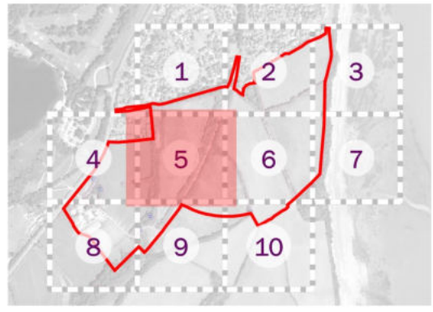

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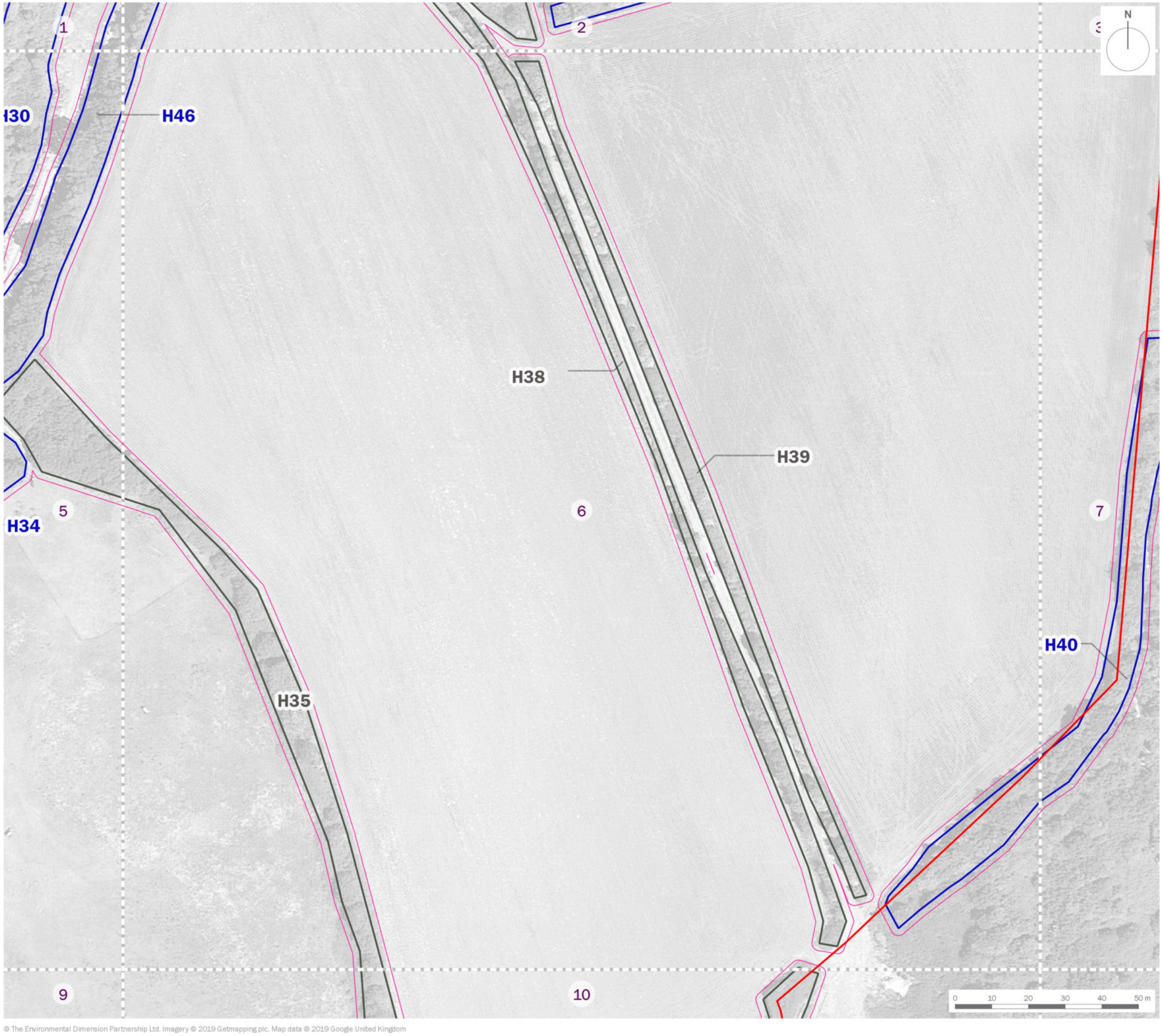

Site Boundary

T1 Tree/Group Number

Tree/Group Canopy

Tree Stem

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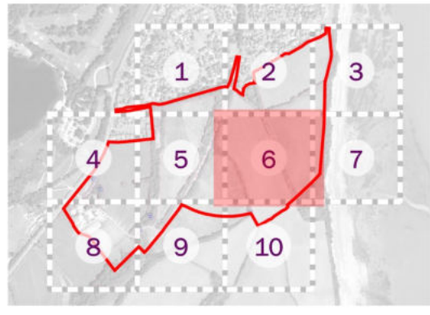

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project title

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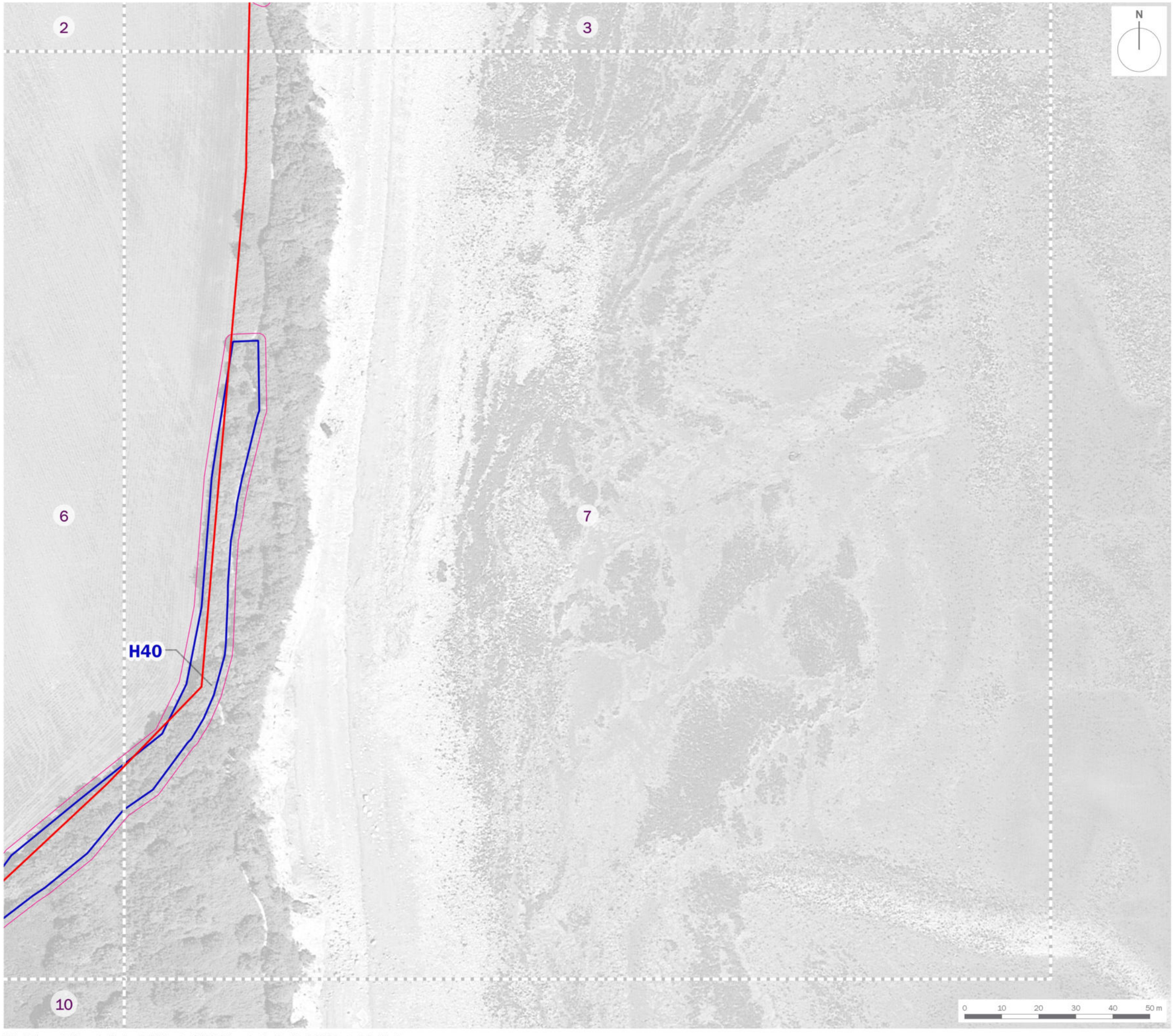

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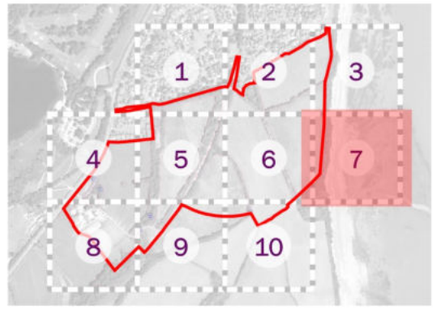
Category C: Trees of low quality and value

Category U: Trees of poor quality and value



client

Welsh Government

project title

Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title

Plan EDP 1: Tree Constraints Plan (Sheet 7 of 10)

date	**30 AUGUST 2019**	drawn by	**TC**
drawing number	**edp5187_d017c**	checked	**EB**
scale	**1:1,000 @ A3**	QA	**RB**

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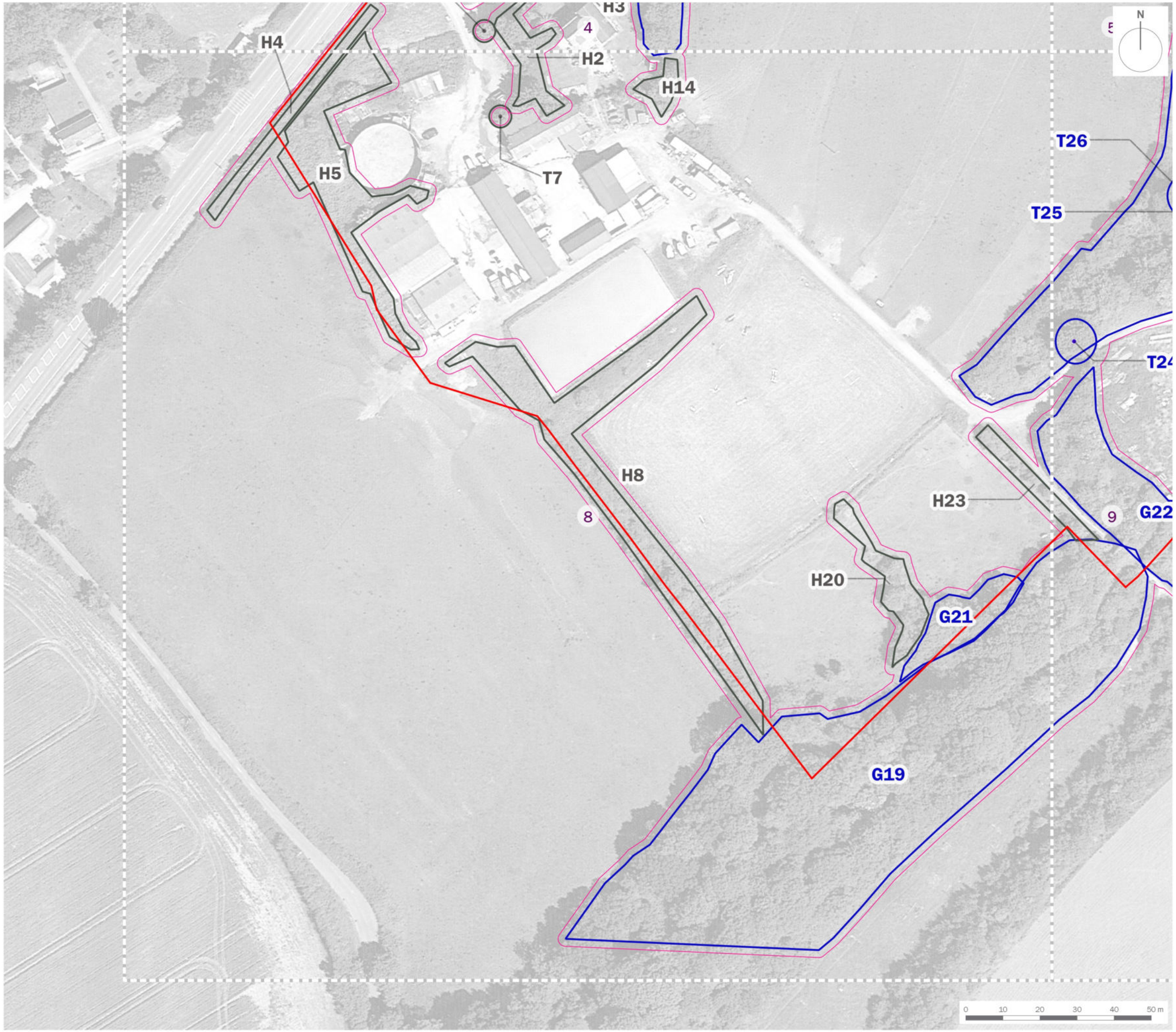


Site Boundary

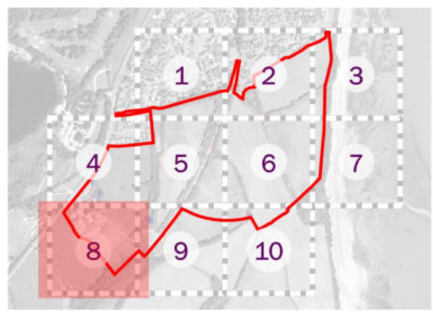
T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value



client

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Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title

Plan EDP 1: Tree Constraints Plan (Sheet 8 of 10)

date	30 AUGUST 2019	drawn by	TC
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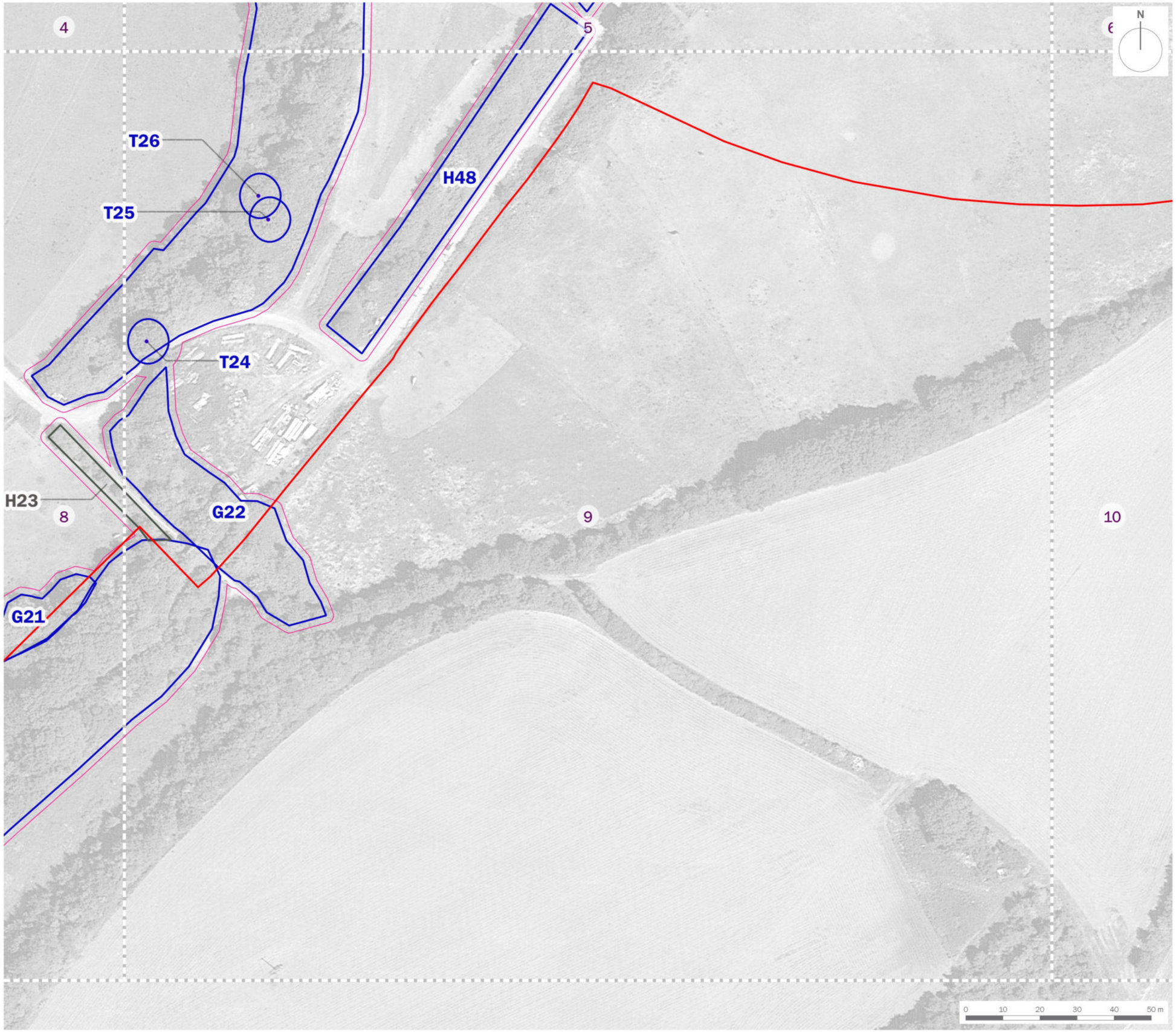


Site Boundary

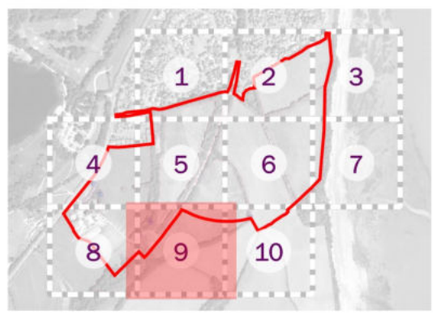
T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value



client

Welsh Government

project title

Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title

Plan EDP 1: Tree Constraints Plan (Sheet 9 of 10)

date	**30 AUGUST 2019**	drawn by	**TC**
drawing number	**edp5187_d017c**	checked	**EB**
scale	**1:1,000 @ A3**	QA	**RB**

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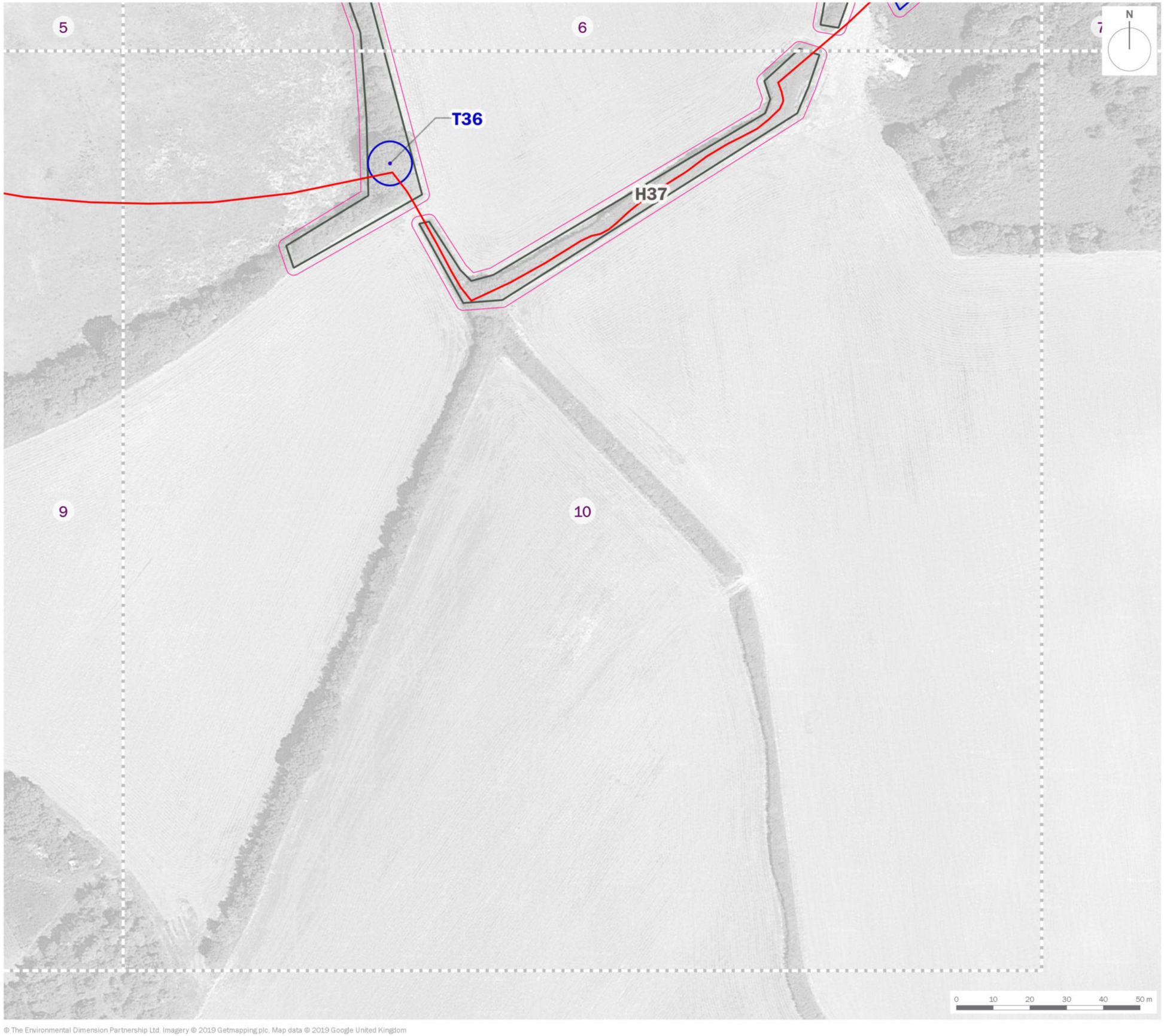


Site Boundary

T1 Tree/Group Number

Tree/Group Canopy

Tree Stem

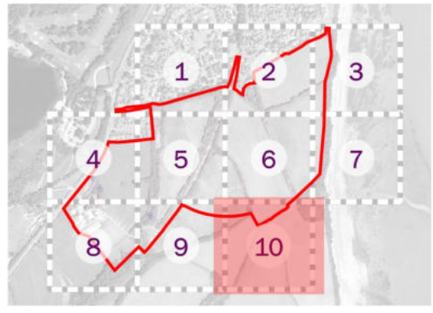
Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value



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Welsh Government

project title

Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title

Plan EDP 1: Tree Constraints Plan (Sheet 10 of 10)

date	**30 AUGUST 2019**	drawn by	**TC**
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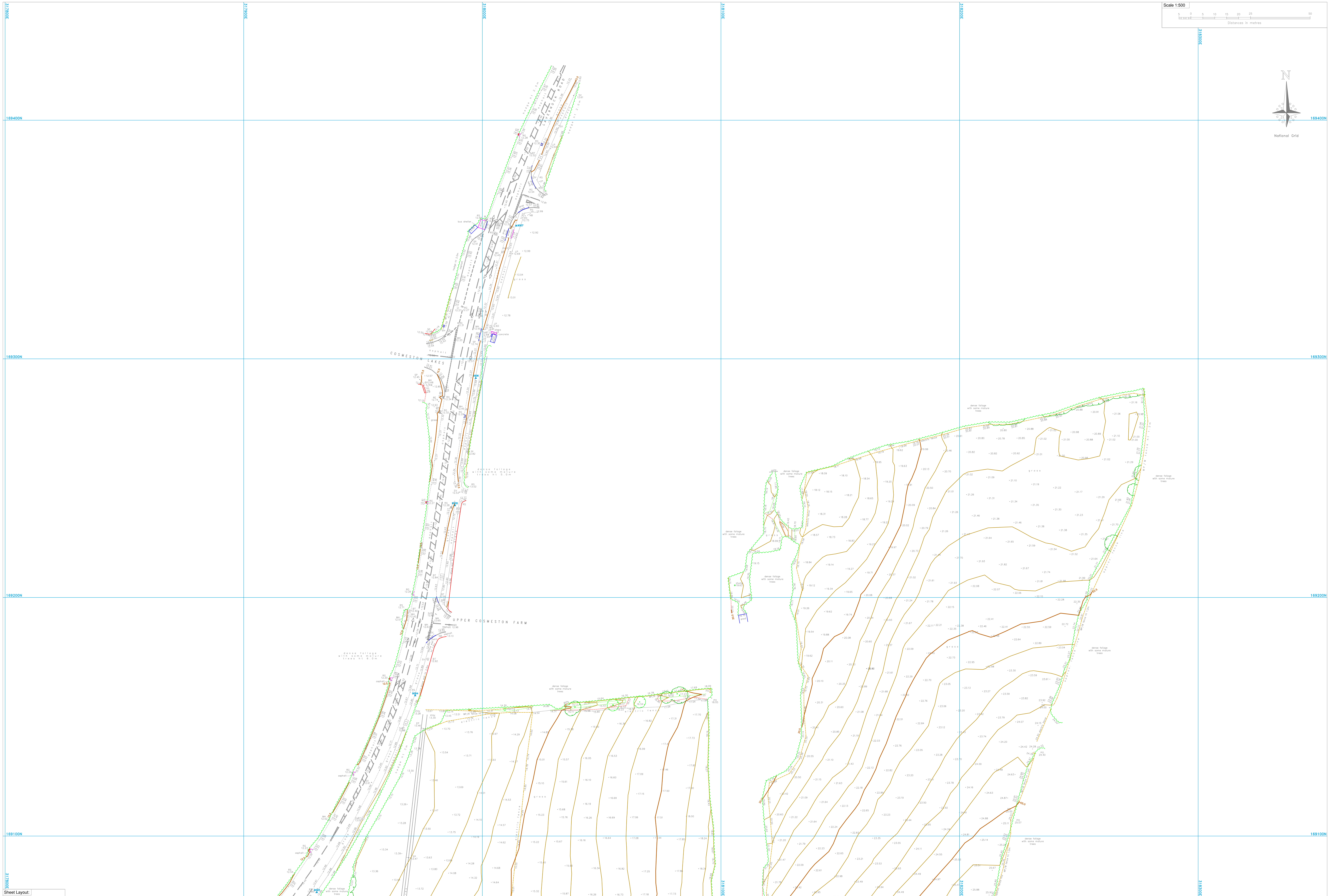
Annex EDP 2
Topographical Survey
Ref: PB2981-01A



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www.azimuthgeodata.co.uk

Abbreviations:

B/RW	brick retaining wall
BB	Belisha beacon
BI	bollard (illuminated)
BL	bollard
BT	telecom inspection cover
BW	brick wall
C/RW	concrete retaining wall
CATV	cable television cover
CB	close boarded
CM	corrugated metal
conc.	concrete
CP/BW	concrete post & barbed wire
CP/CL	concrete post & chain link
CP/CP	concrete post & panel
CP/W	concrete post & wire mesh
CPS	concrete paving slabs
DC	drainage channel
DK	drop kerb
DR	drain
EP	electricity pole
ER	earthing rod
FB	flower bed
FFL	finished floor level
FS	flagstaff
G/W	gabion wall
GP	gate post
GV	gas valve
HR	handrail
HY	fire hydrant
IC	inspection cover (general)
IR	metal railings
Iwn	interwoven wood slat
JB	junction box
KO	kerb outlet
LP	lamp post
MH	manhole
MK	marker
MM	metal mesh
MP	mile post
NB	name board
O/H	overhead
OB	open boarded
OHC	overhead cable/wire
P/C	post & chain fence
PA	paling
PO	post
RE	rodding eye
RG	road gully
RP	reflector post
RS	road sign
RSJ	rolled steel joint
RWP	rain water pipe
S/RW	stone retaining wall
Sap.	sapling
SP	sign post
SPS	stone paving slabs
stay	stay wire
STN	survey control station
SV	water stop valve
SVP	soil vent pipe
tact.	tactile paving
THL	threshold level
TL	traffic light
TP	telephone pole
VP	vent pipe
Wlap	wood lap
WM	water meter
WP/BW	wood post & barbed wire
WP/R	wood post & rail
WP/W	wood post & wire
ht	height (of feature)
↑	arrow indicates up (unless otherwise stated)
▲9002	survey control point

Drainage features:

CL	cover level
ID	invert depth
IL	invert level
FWS	foul water sewer
SWS	storm water sewer
CWS	combined water sewer
UTD	unable to determine
UTL	unable to lift
ø	pipe diameter (mm)
SL	soffit level
←	arrow indicates direction of flow

Notes:

Revisions:

Revision 1: Addition survey data added – 6.4.2016

ALS

❑ Topographical Surveys
❑ Engineering Surveys
❑ Measured Building Surveys
❑ Boundary Surveys
❑ OS Mapping and Data Centre
❑ Europe - Africa - Middle East

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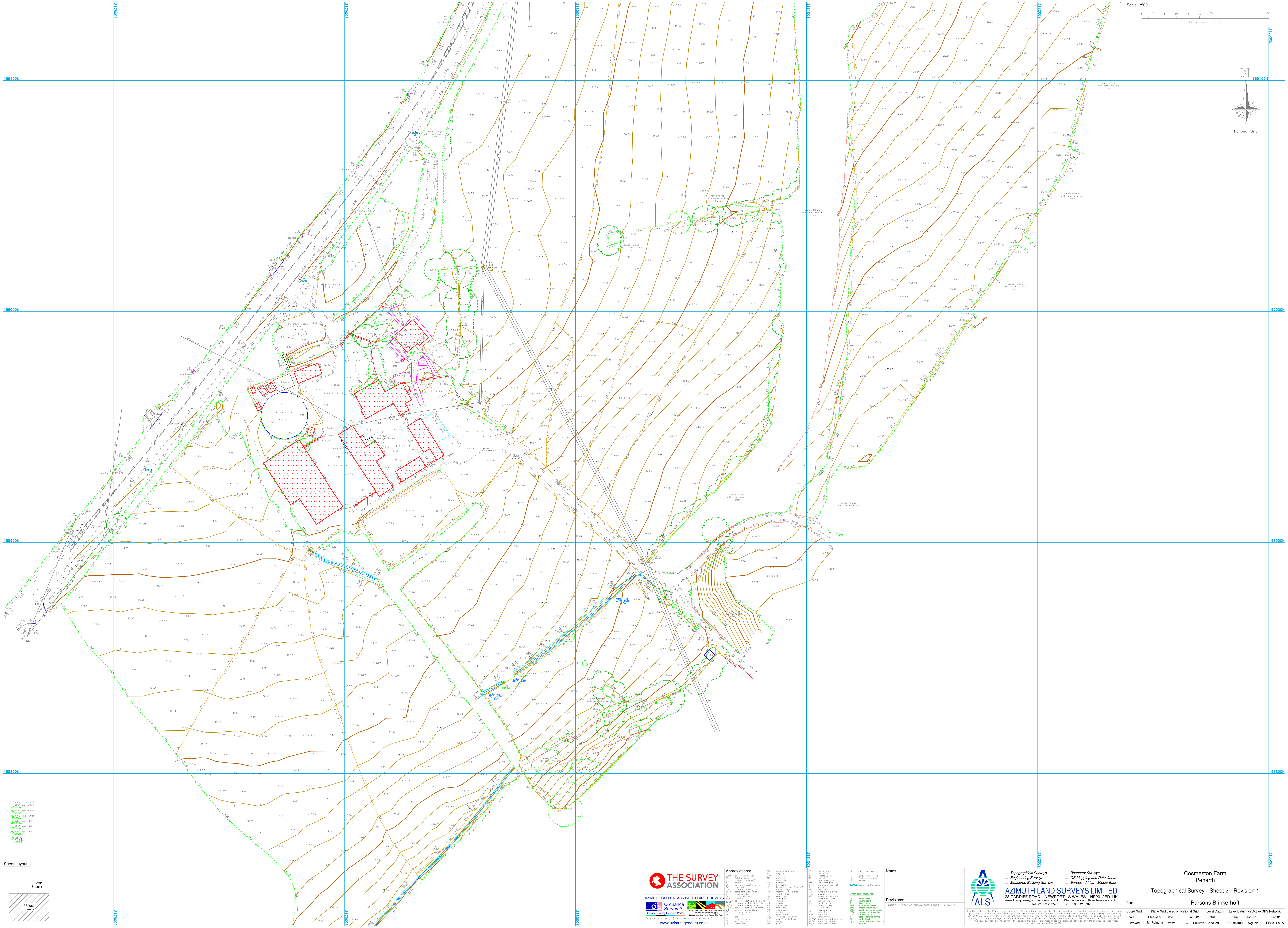
Tel: 01633 263575 Fax: 01633 213767

Cosmeston Farm
Penarth

Topographical Survey - Sheet 1 - Revision 1

Client	Parsons Brinkerhoff						
Coord Grid	Plane Grid based on National Grid			Level Datum	Level Datum via Active GPS Network		
Scale	1:500@A0	Date	Jan 2016	Status	Final	Job No.	PB2981
Surveyed	M. Rajnoha	Drawn	C. J. Sullivan	Checked	D. Lazarou	Dwg. No.	PB2981-01A



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UTD	unable to determine
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SL	soffit level
←	arrow indicates direction of flow

Notes:

Revisions:

Revision 1: Addition survey data added – 6.4.2016

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Cosmeston Farm
Penarth

Topographical Survey - Sheet 2 - Revision 1

Client	Parsons Brinkerhoff						
Coord Grid	Plane Grid based on National Grid			Level Datum	Level Datum via Active GPS Network		
Scale	1:500@A0	Date	Jan 2016	Status	Final	Job No.	PB2981
Surveyed	M. Rajnoha	Drawn	C. J. Sullivan	Checked	D. Lazarou	Dwg. No.	PB2981-01A

Annex EDP 3
Schedule EDP 1
Tree Survey Key and Schedule

Sequential Reference Number	T - Individual specimen; G - Group, Trees that form cohesive arboricultural features either aerodynamically, visually or culturally; H - Linear group of specimens that form a hedge or boundary; and W - A larger group or area of trees that should be regarded as a single woodland unit.
Species	Common English names are used wherever possible for simplicity.
Height	An approximation of height (in metres) is provided for the highest point of the tree.
Stem Diameter	This is the measurement of stem diameter in millimetres taken in accordance with Annex C of *BS 5837:2012*.
Branch Spread	This is taken at four cardinal points, with a stated value in metres to enable an accurate representation of the crown, as shown on **Annex EDP 1**.
Existing Height Above Ground Level	An approximation of height (in metres) of crown clearance above adjacent ground level.
Life Stage	There are six classes to which trees are assigned: Young; Semi Mature; Early Mature; Mature; Over Mature; and Veteran.
Physiological Condition	An indication of the tree's physiological condition is represented and classed as good, fair, poor or dead, this is informed by the following: Canopy Density: It should be taken that, unless otherwise stated with each individual entry, the canopy density of the trees is typical of the species; and Leaf Size and Colouration: It should be taken that, unless otherwise stated with each individual entry, leaf size and colouration is typical of the species.
Structural Condition	Additional notes are provided giving details of the tree's structural condition. This is informed by "*the presence of any decay and physical defect*[2]".

[1] *BS 5837:2012* Section 4.4.2.5

Preliminary Management Recommendations	These are made on the basis of optimising the life expectancy of site trees, given their current situation and that which may result from the development proposals. The survey process pays particular attention to implications for life and/or property; defects recorded under the structural condition have the necessary mitigation measures proposed within this section of the schedule.
Estimated Remaining Contribution	The definitions of the terms used are as follows and describe the estimated length of time (in years) over which the tree can be expected to make a safe contribution to local amenity: Less than 10; 10+; 20+; and 40+.
Category Grading	Trees have been assigned 'U' or Category Grading 'A' to 'C' in accordance with the Cascade Chart given in *BS 5837:2012*.
Tree Works Priority Codes	Priority codes from 1 to 3 have been given for trees requiring work. The definition of the codes used is as follows: Priority 1: Work that should be undertaken urgently due to the identification of a potential hazard; Priority 2: Work that should be undertaken prior to any works commencing on site; and Priority 3: Work that should be undertaken following the completion of the development.

Client: Welsh Government

Site: Land at Upper Cosmeston Farm, Lavernock

Date of Survey: 18/04/2019

Consultant Thomas Cleeton

Tagged N/A

Weather Overcast, Dry

Sequential Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Recommendations	Estimated Remaining Contribution (Years)	Category Grading	Root Protection Radius (m)
				North	East	South	West									
H1	Common hawthorn (Crataegus monogyna)	2	150	1	1	1	1	0	Early Mature	Fair	Fair	Hedgerow - Maintained	No Work Recommended	10+	C1	1.8
H2	Sycamore (Acer pseudoplatanus);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	No Significant Faults Observed	No Work Recommended	10+	C1	1.8
H3	Sycamore (Acer pseudoplatanus);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	No Significant Faults Observed	No Work Recommended	10+	C1	1.8
H4	Sycamore (Acer pseudoplatanus);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior)	2	150	1	1	1	1	0	Early Mature	Fair	Fair	Hedgerow - Maintained	No Work Recommended	10+	C1	1.8
H5	Sycamore (Acer pseudoplatanus);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	Hedgerow - Maintained	No Work Recommended	10+	C1	1.8
T6	Sycamore (Acer pseudoplatanus)	7	200	3	3	3	3	3	Early Mature	Fair	Fair	Access to inspect base - Not possible; multistem	No Work Recommended	10+	C1	2.4
T7	Sycamore (Acer pseudoplatanus)	7	200	3	3	3	3	3	Early Mature	Fair	Fair	Access to inspect base - Not possible; multistem	No Work Recommended	10+	C1	2.4
H8	Sycamore (Acer pseudoplatanus);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	Hedgerow - Neglected / overgrown	No Work Recommended	10+	C1	1.8
H9	Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior)	2	150	1	1	1	1	0	Early Mature	Fair	Fair	Hedgerow - Maintained	No Work Recommended	10+	C1	1.8
T10	Common ash (Fraxinus excelsior)	12	850	6	6	6	6	3	Mature	Poor	Poor	Access to inspect base - Not possible; Ivy or climbing plant; Deadwood - Minor	No Work Recommended	20+	B1	10.2
G11	Sycamore (Acer pseudoplatanus);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Wych elm (Ulmus glabra)	7	200	1	1	1	1	0	Early Mature	Fair	Fair	No Significant Faults Observed	No Work Recommended	10+	C1	2.4
T12	Common ash (Fraxinus excelsior)	12	750	6	6	6	6	3	Mature	Poor	Poor	Access to inspect base - Not possible	No Work Recommended	20+	B1	9
G13	Sycamore (Acer pseudoplatanus);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Wych elm (Ulmus glabra)	12	500	1	1	1	1	0	Early Mature	Fair	Fair	No Significant Faults Observed	No Work Recommended	20+	B1	6

Sequential Reference Number -T - Individual specimen; G - Group, Trees that form cohesive arboricultural features either aerodynamically, visually or culturally; H - Linear group of specimens that form a hedge or boundary; W - A larger group or area of trees that should be regarded as a single woodland unit.
Species -Common English names are used wherever possible for simplicity.
Height -An approximation of height (in metres) is provided for the highest point of the tree.
Stem Diameter -This is the measurement of stem diameter in millimetres taken in accordance with Annex C of BS5837:2012.
Branch Spread -This is taken at four cardinal points, with a stated value in metres to enable an accurate representation of the crown, as shown on Plan EDP 1.
First Significant Branch -Height of first significant branch and direction of growth e.g. 2.4 N, measured from adjacent ground level.
Existing Height Above Ground Level -An approximation of height (in metres) of crown clearance above adjacent ground level.

Life Stage -There are five classes to which trees are assigned: Young; Early Mature; Mature; Over Mature; Veteran.
Physiological Condition -An indication of the tree's physiological condition is represented and classed as good, fair, poor or dead, this is informed by the following: Canopy Density: It should be taken that, unless otherwise stated with each individual entry, the canopy density of the trees is typical of the species; and Leaf Size and Colouration: It should be taken that, unless otherwise stated with each individual entry, leaf size and colouration is typical of the species.
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Estimated Remaining Contribution -The definitions of the terms used are as follows and describe the estimated length of time (in years) over which the tree can be expected to make a safe contribution to local amenity: Less than 10; 10+; 20+; and 40+.
Category Grading -Trees have been assigned 'U' or Category Grading 'A' to 'C' in accordance with the Cascade Chart given in BS5837:2012.
Tree Works Priority Codes -Priority codes from 1 to 3 have been given for trees requiring work. The definition of the codes used is as follows: Priority 1: Work that should be undertaken urgently due to the identification of a potential hazard; Priority 2: Work that should be undertaken prior to any works commencing on site; and Priority 3: Work that should be undertaken following the completion of the development.

Sequential Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Recommendations	Estimated Remaining Contribution (Years)	Category Grading	Root Protection Radius (m)
				North	East	South	West									
H14	Sycamore (Acer pseudoplatanus);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Wych elm (Ulmus glabra)	4	200	1	1	1	1	0	Early Mature	Fair	Fair	No Significant Faults Observed	No Work Recommended	10+	C1	2.4
G15	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Wych elm (Ulmus glabra)	6	250	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor	No Work Recommended	10+	C1	3
T16	Field maple (Acer campestre)	7	500	4	4	4	4	2	Mature	Poor	Poor	Access to inspect base - Not possible; Weak fork / branch union with included bark	No Work Recommended	10+	C1	6
G17	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Wych elm (Ulmus glabra)	6	250	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor	No Work Recommended	10+	C1	3
G18	Field maple (Acer campestre);Sycamore (Acer pseudoplatanus);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Wych elm (Ulmus glabra)	7	250	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; dense linear feature	No Work Recommended	20+	B1	3
G19	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Wych elm (Ulmus glabra)	10	400	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; dense linear feature	No Work Recommended	20+	B1	4.8
H20	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna)	4	200	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; lapsed hedge	No Work Recommended	10+	C1	2.4
G21	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);English oak (Quercus robur);Wych elm (Ulmus glabra)	8	400	1	1	1	1	0	Mature	Fair	Fair	Deadwood - Minor	No Work Recommended	20+	B1	4.8
G22	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);English oak (Quercus robur);Wych elm (Ulmus glabra)	6	200	1	1	1	1	0	Mature	Fair	Fair	Deadwood - Minor	No Work Recommended	20+	B1	2.4

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Sequential Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Recommendations	Estimated Remaining Contribution (Years)	Category Grading	Root Protection Radius (m)
				North	East	South	West									
H23	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	10+	C1	1.8
T24	Sycamore (Acer pseudoplatanus)	11	800	6	6	6	5	2	Mature	Poor	Poor	Access to inspect base - Not possible; Ivy or climbing plant	No Work Recommended	20+	B1	9.6
T25	Sycamore (Acer pseudoplatanus)	11	800	6	6	6	5	2	Mature	Poor	Poor	Access to inspect base - Not possible; Ivy or climbing plant	No Work Recommended	20+	B1	9.6
T26	Sycamore (Acer pseudoplatanus)	11	800	6	6	6	5	2	Mature	Poor	Poor	Access to inspect base - Not possible; Ivy or climbing plant	No Work Recommended	20+	B1	9.6
H27	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	10+	C1	1.8
T28	Common ash (Fraxinus excelsior)	12	800	6	6	6	5	2	Mature	Poor	Poor	Access to inspect base - Not possible; Ivy or climbing plant; multiple stems	No Work Recommended	20+	B1	9.6
H29	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	200	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	2.4
H30	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	200	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	2.4
H31	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	200	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	2.4
H32	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	200	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	2.4

Sequential Reference Number -T - Individual specimen; G - Group, Trees that form cohesive arboricultural features either aerodynamically, visually or culturally; H - Linear group of specimens that form a hedge or boundary; W - A larger group or area of trees that should be regarded as a single woodland unit.
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				North	East	South	West									
H33	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	200	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	2.4
H34	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	200	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	2.4
H35	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	200	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown; gappy	No Work Recommended	10+	C1	2.4
T36	Common ash (Fraxinus excelsior)	13	650	6	6	6	6	2	Mature	Poor	Poor	Access to inspect base - Not possible; Ivy or climbing plant; multiple stems	No Work Recommended	20+	B1	7.8
H37	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	2	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Maintained	No Work Recommended	10+	C1	1.8
H38	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	2	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Maintained; gappy and unmaintained in places	No Work Recommended	10+	C1	1.8
H39	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	2	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Maintained; gappy and unmaintained in places	No Work Recommended	10+	C1	1.8

Sequential Reference Number -T - Individual specimen; G - Group, Trees that form cohesive arboricultural features either aerodynamically, visually or culturally; H - Linear group of specimens that form a hedge or boundary; W - A larger group or area of trees that should be regarded as a single woodland unit.
Species -Common English names are used wherever possible for simplicity.
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First Significant Branch -Height of first significant branch and direction of growth e.g. 2.4 N, measured from adjacent ground level.
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Sequential Reference No.	Species	Height (m)	Stem Diameter (mm)	Branch Spread (m)				Canopy Clearance (m)	Life Stage	Physiological Condition	Structural Condition	Comments / Notes	Recommendations	Estimated Remaining Contribution (Years)	Category Grading	Root Protection Radius (m)
				North	East	South	West									
H40	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	2	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	1.8
H41	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	2	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	1.8
H42	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	10+	C1	1.8
H43	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	1.8
H44	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	1.8
G45	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown; dense overgrown with bramble	No Work Recommended	10+	C1	1.8

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				North	East	South	West									
H46	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	1.8
H47	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	1.8
H48	Field maple (Acer campestre);Common hawthorn (Crataegus monogyna);Common ash (Fraxinus excelsior);Blackthorn (Prunus spinosa);English oak (Quercus robur);Wych elm (Ulmus glabra)	5	150	1	1	1	1	0	Early Mature	Fair	Fair	Deadwood - Minor; Hedgerow - Neglected / overgrown	No Work Recommended	20+	B1	1.8

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Appendix EDP 2
UCF-ASL-00-00-DR-A-0930 – Proposed Masterplan

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KEY

	NEAP	1000 m²
	LEAP	3x 400 m²
	LAP	4x 100 m²
	Retained hedgerow	29 600 m²
	New hedgerow	10 300 m²
	Grass/meadow, orchards or alottments	19 600 m²
	Private gardens soft landscape	25 000 m²
	SuDS swales and reed beds	24 100 m²
	Attenuation pond (surface area)	2000 m²

Rev	Description	Drawn	Checked	Date Issued
P1	Issued to Client Steve	TS	TS	01.07.19
P2	Workshop 28.06 Revisions	TS	TS	23.07.19
P3	Revised boundary line	TS	TS	26.09.19
P4	Revised as Confidence added	TS	TS	5.10.20
P5	Revised Layout Option 5	TS	TS	5.08.20

10 20 30 40 50
Metres

Drawn	Author
Date	02.05.19
Scale @ A0	1 : 1000
Status	

Austin-Smith:Lord LLP
Architects Designers Planners
Landscape Architects
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Cardiff
CF11 0SN
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Drawings and models powered by Austin-Smith:Lord LLP **BIM** using AutoDesk **Revit**

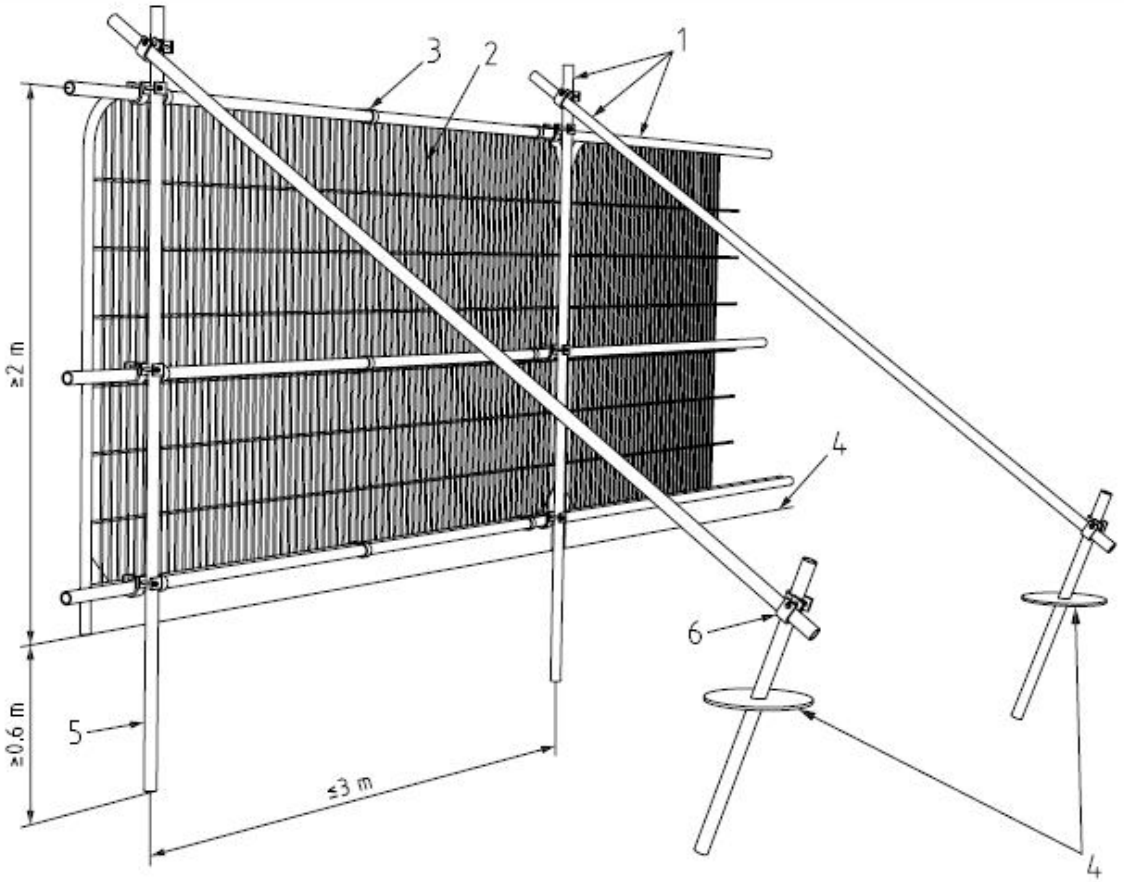
Austin·Smith:Lord

Project Upper Farm Cosmeston

Description Proposed Masterplan

Job No.	Drawing No.	Revision
318054	UFC- ASL- 00- 00- DR- A- 0930	

Appendix EDP 3
Tree Protection Barrier on Scaffold 2.0m High
(Extract from BS 5837:2012, Figure 2 'Protective Barrier')



Key

1 Standard scaffold poles
2 Heavy gauge 2 m tall galvanized tube and welded mesh infill panels
3 Panels secured to uprights and cross-members with wire ties
4 Ground level
5 Uprights driven into the ground until secure (minimum depth 0.6 m)
6 Standard scaffold clamps

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Plan

Plan EDP 1 Tree Retention and Removal Plan
(edp5187_d025b 10 August 2020 TC/LM)

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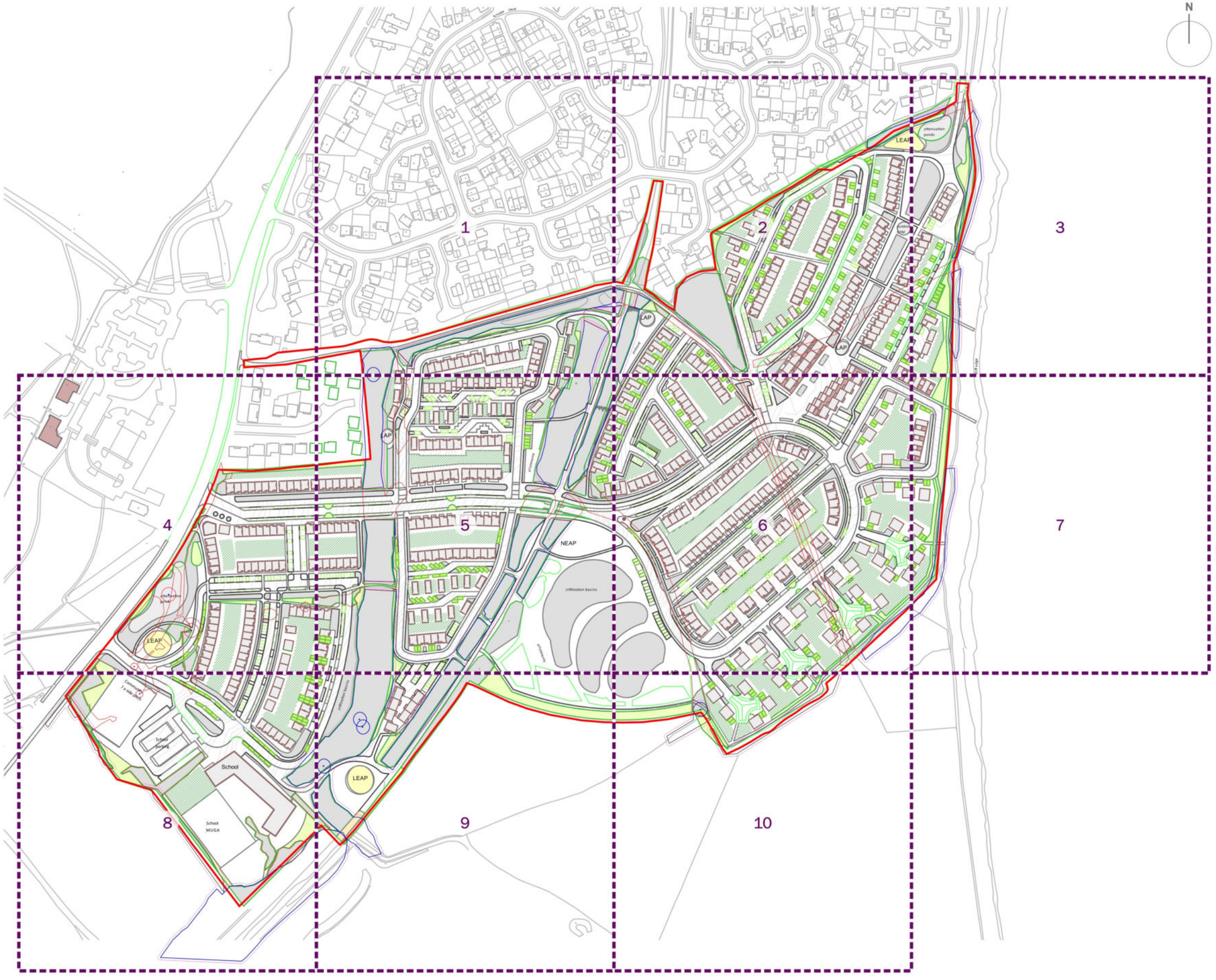

Site Boundary

T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value

Trees to be Removed

client

Welsh Government

project title

Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title

Plan EDP 1: Tree Retention and Removal Plan Overview

date	**10 AUGUST 2020**	drawn by	**TC**
drawing number	**edp5187_d025b**	checked	**LM**
scale	**1:3,250 @ A3**	QA	**RB**

the environmental dimension partnership

Registered office: 01285 740427 - www.edp-uk.co.uk - info@edp-uk.co.uk

Site Boundary

T1 Tree/Group Number

Tree/Group Canopy

Tree Stem

Root Protection Area

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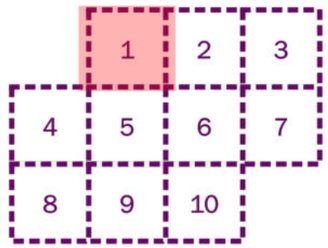
Trees to be Removed



client

Welsh Government

project title

Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title

Plan EDP 1: Tree Retention and Removal Plan (Sheet 1 of 10)

date	**10 AUGUST 2020**	drawn by	**TC**
drawing number	**edp5187_d025b**	checked	**LM**
scale	**1:1,000 @ A3**	QA	**RB**

the environmental dimension partnership

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N

attenuation ponds

LEAP

outdoor GYM

H42

H43

G45

LAP

LAP

orchard

1 2 3 4 5 6

0 10 20 30 40 50 m

Site Boundary

T1 Tree/Group Number

Tree/Group Canopy

Tree Stem

Root Protection Area

Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value

Trees to be Removed

1 2 3 4 5 6 7 8 9 10

client

Welsh Government

project title

Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title

Plan EDP 1: Tree Retention and Removal Plan (Sheet 2 of 10)

date	10 AUGUST 2020	drawn by	TC
drawing number	edp5187_d025b	checked	LM
scale	1:1,000 @ A3	QA	RB

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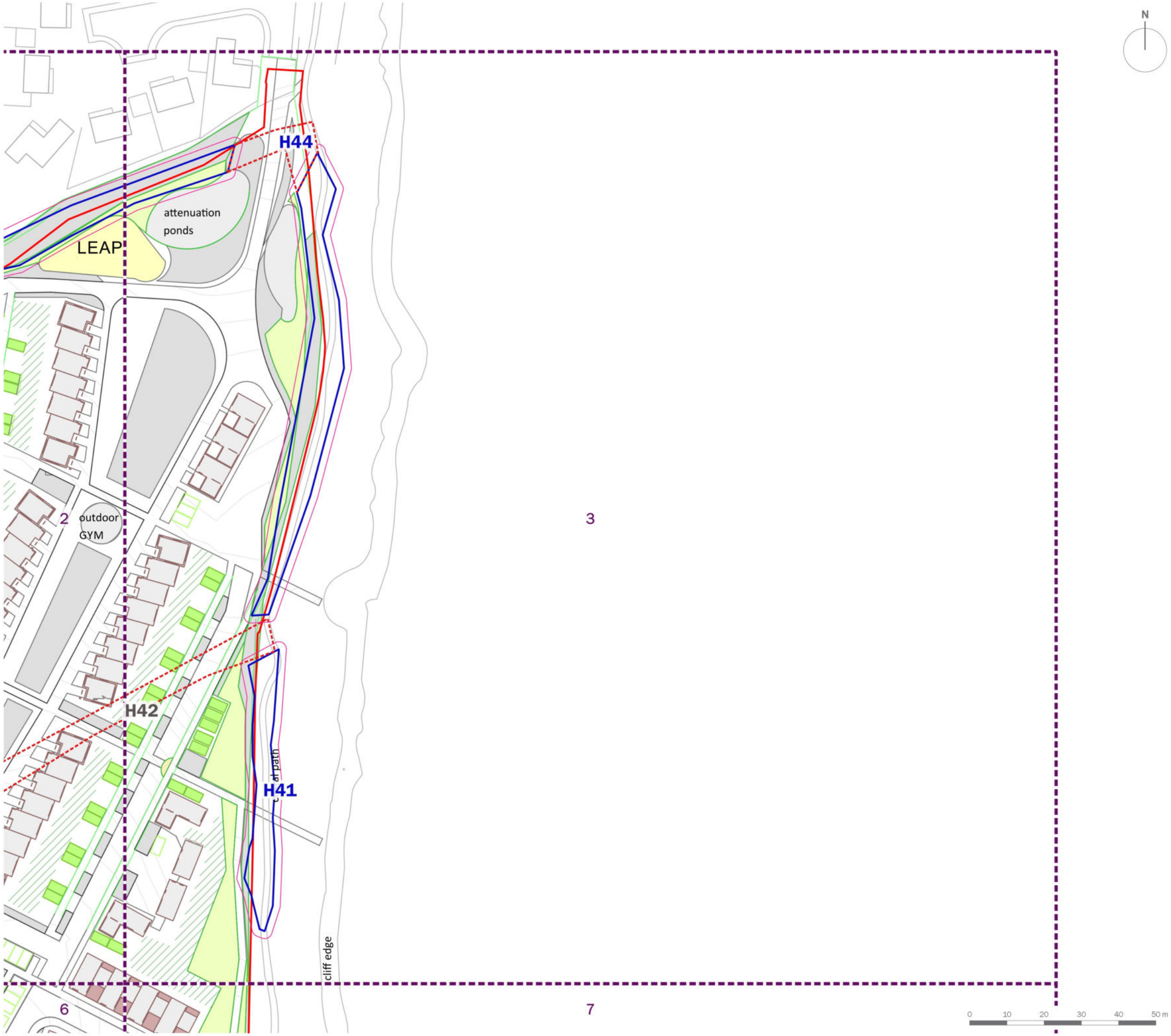

N

- Site Boundary
- T1 Tree/Group Number
- Tree/Group Canopy
- Tree Stem
- Root Protection Area
- Category A: Trees of high quality and value
- Category B: Trees of moderate quality and value
- Category C: Trees of low quality and value
- Category U: Trees of poor quality and value
- Trees to be Removed

1	2	3	
4	5	6	7
8	9	10	

client
Welsh Government

project title
Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title
Plan EDP 1: Tree Retention and Removal Plan (Sheet 3 of 10)

date	10 AUGUST 2020	drawn by	TC
drawing number	edp5187_d025b	checked	LM
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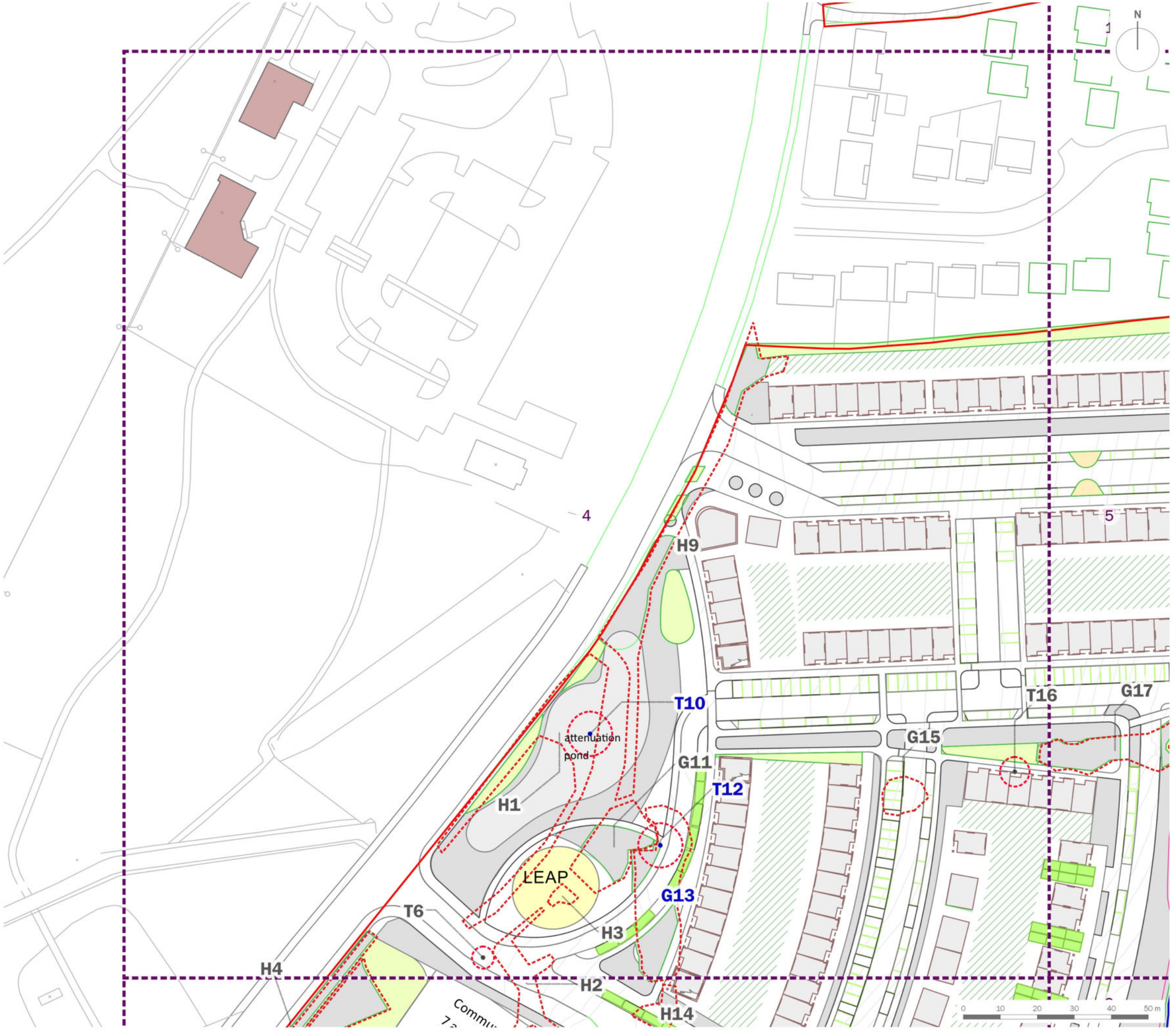

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T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

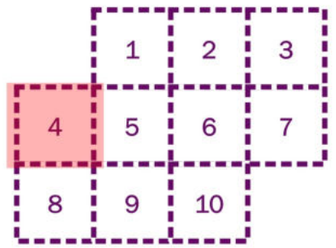
Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value

Trees to be Removed



client
Welsh Government

project title
Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title
Plan EDP 1: Tree Retention and Removal Plan (Sheet 4 of 10)

date	10 AUGUST 2020	drawn by	TC
drawing number	edp5187_d025b	checked	LM
scale	1:1,000 @ A3	QA	RB

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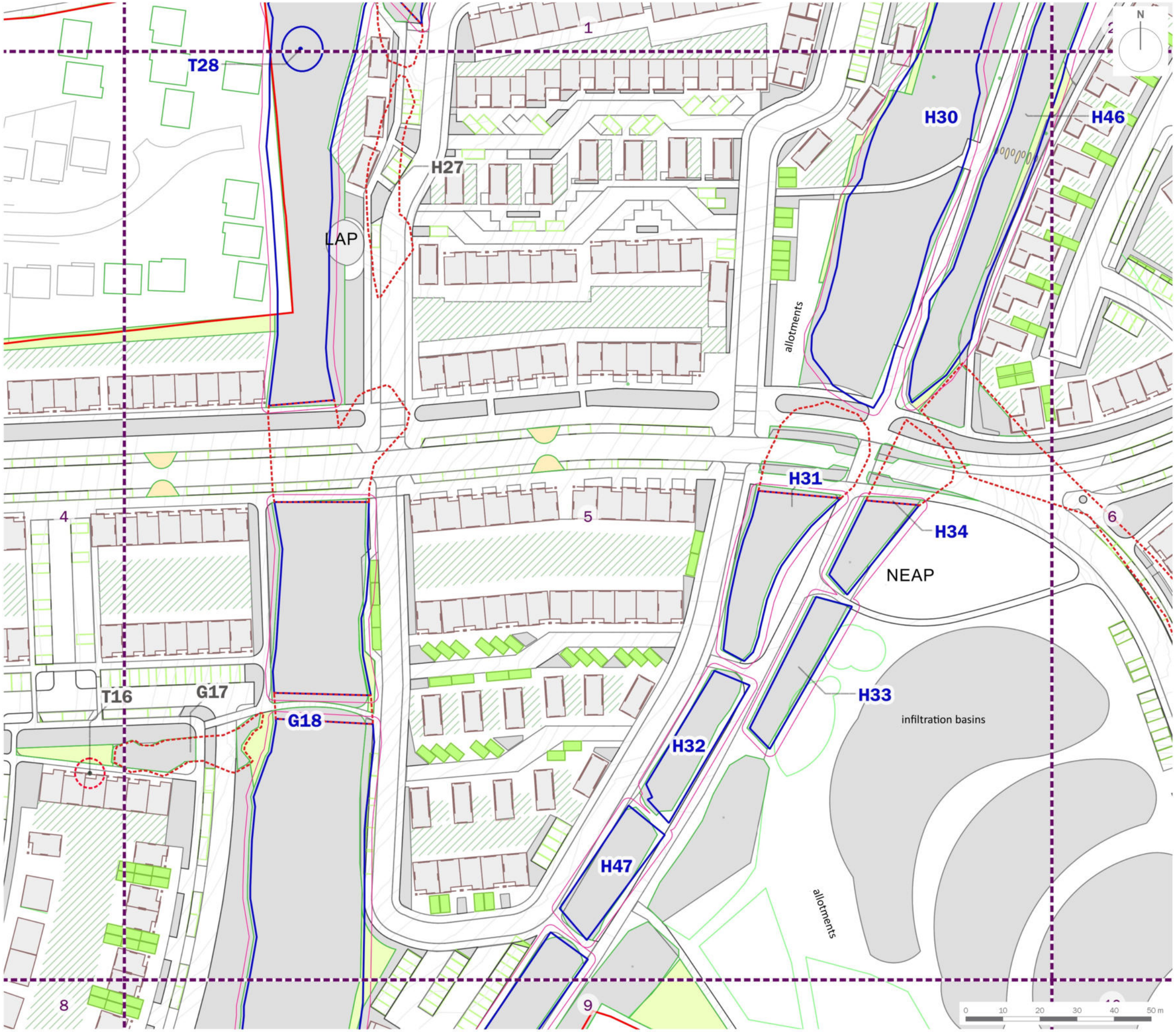


Site Boundary

T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

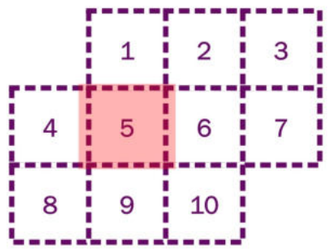
Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value

Trees to be Removed



client
Welsh Government

project title
Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title
Plan EDP 1: Tree Retention and Removal Plan (Sheet 5 of 10)

date	10 AUGUST 2020	drawn by	TC
drawing number	edp5187_d025b	checked	LM
scale	1:1,000 @ A3	QA	RB

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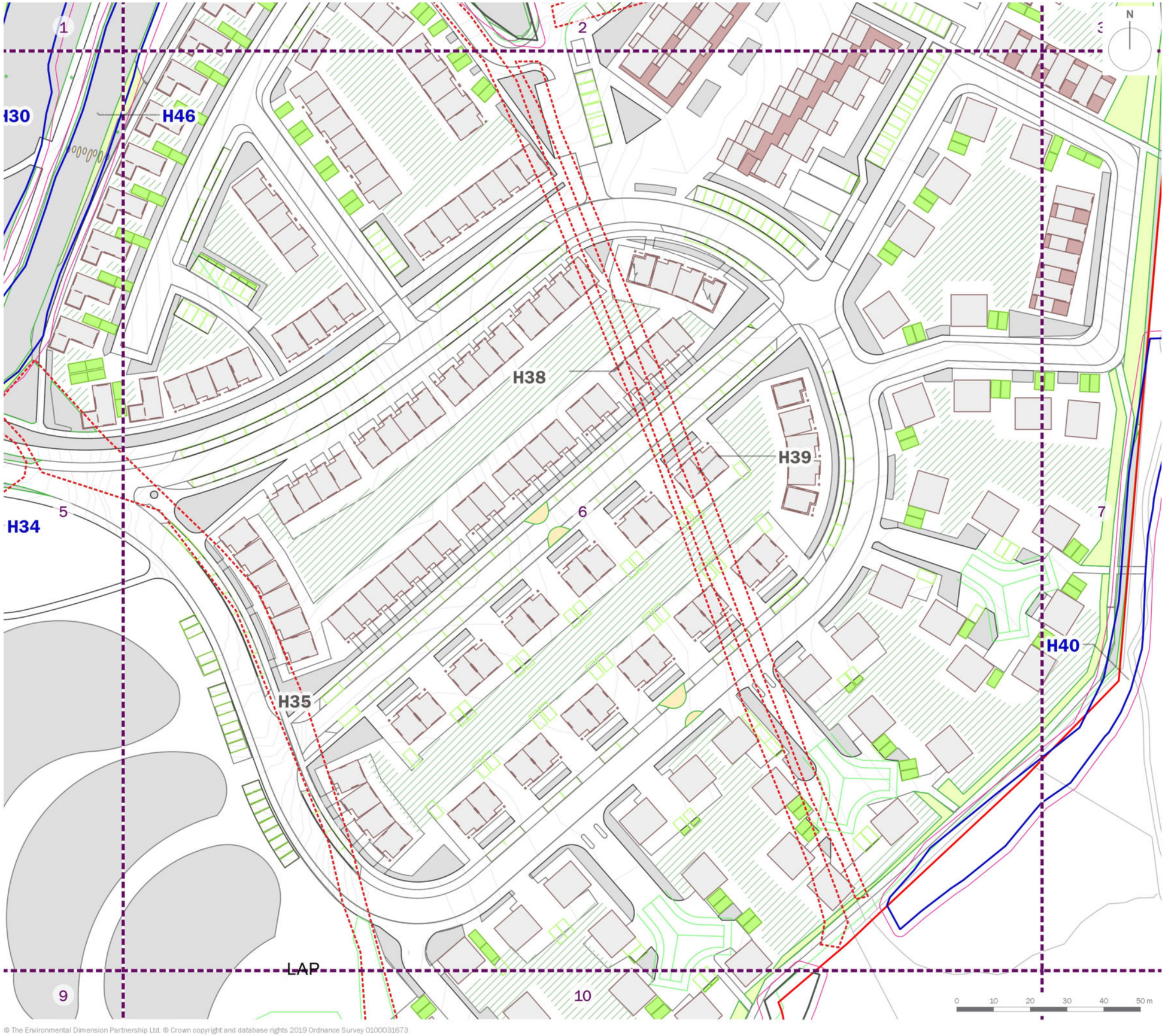


Site Boundary

T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

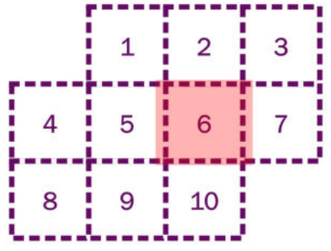
Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value

Trees to be Removed



client
Welsh Government

project title
Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title
Plan EDP 1: Tree Retention and Removal Plan (Sheet 6 of 10)

date	10 AUGUST 2020	drawn by	TC
drawing number	edp5187_d025b	checked	LM
scale	1:1,000 @ A3	QA	RB

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N

Site Boundary

T1 Tree/Group Number

Tree/Group Canopy

Tree Stem

Root Protection Area

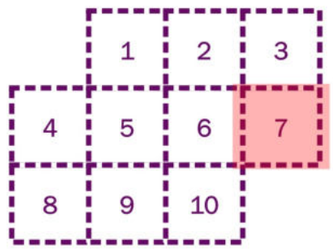
Category A: Trees of high quality and value

Category B: Trees of moderate quality and value

Category C: Trees of low quality and value

Category U: Trees of poor quality and value

Trees to be Removed



client

Welsh Government

project title

Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title

Plan EDP 1: Tree Retention and Removal Plan (Sheet 7 of 10)

date	**10 AUGUST 2020**	drawn by	**TC**
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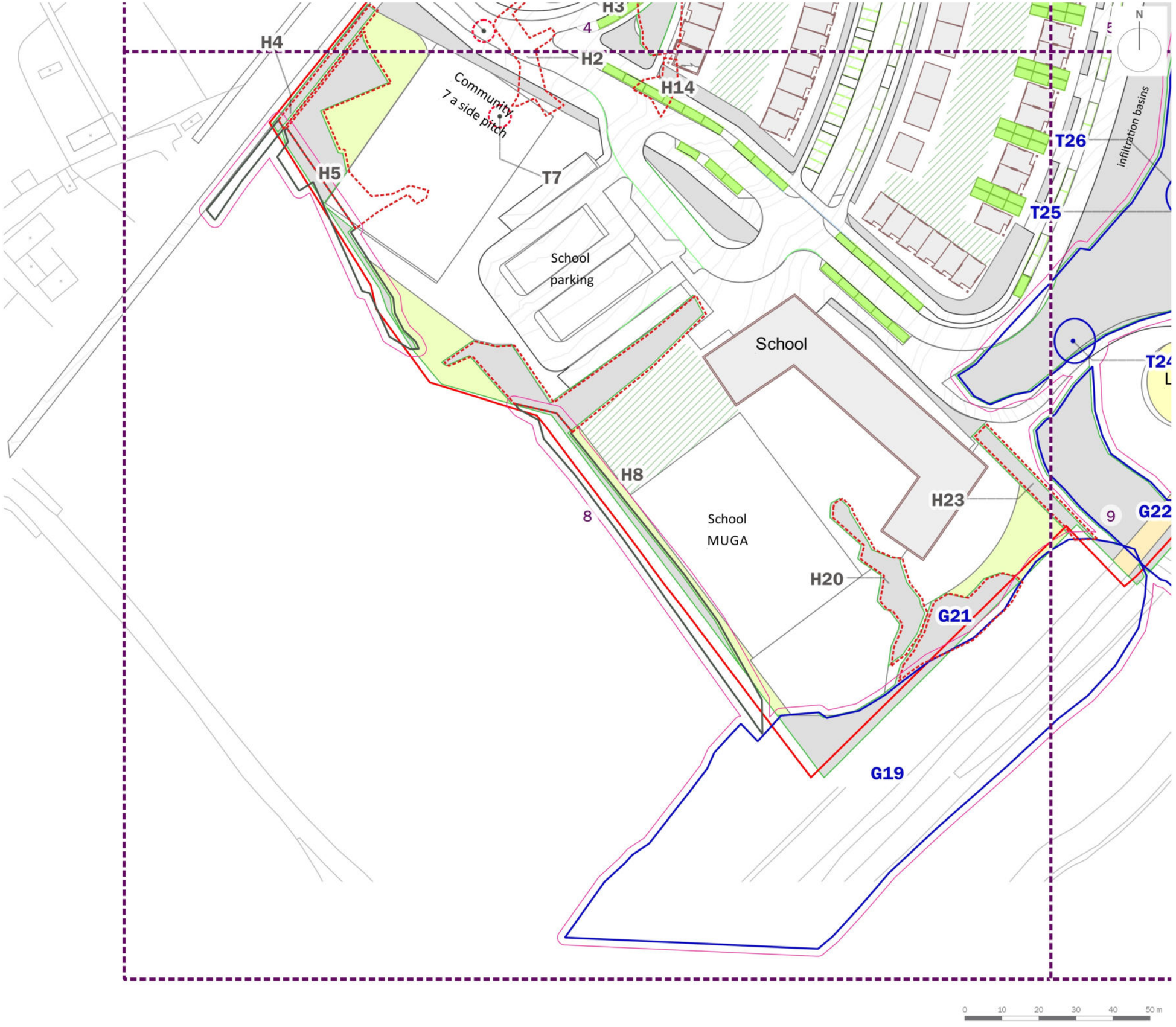

Site Boundary

T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

Category A: Trees of high quality and value

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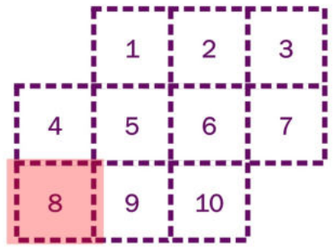
Category C: Trees of low quality and value

Category U: Trees of poor quality and value

Trees to be Removed



client

Welsh Government

project title

Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title

Plan EDP 1: Tree Retention and Removal Plan (Sheet 8 of 10)

date	**10 AUGUST 2020**	drawn by	**TC**
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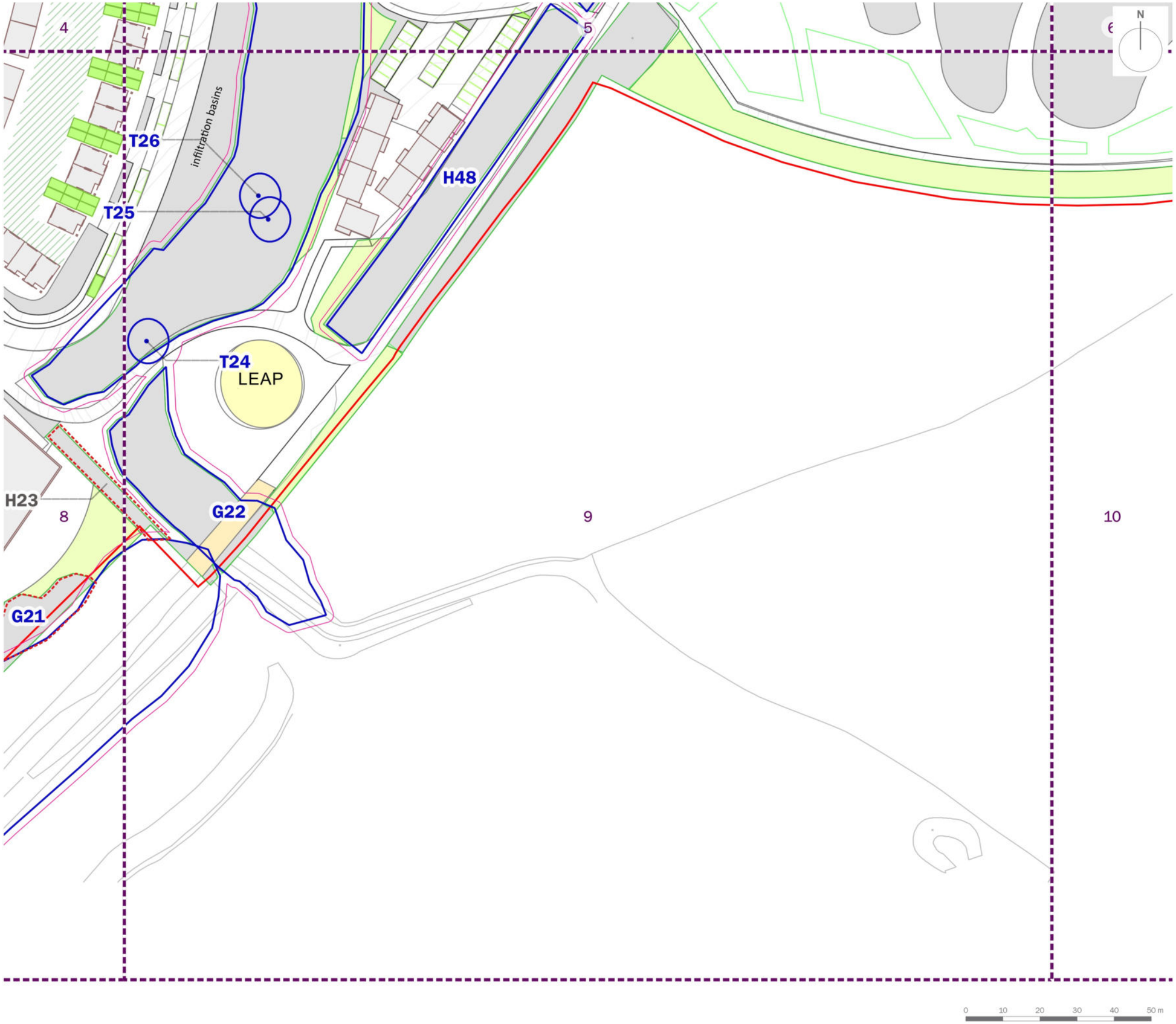

Site Boundary

T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

Category A: Trees of high quality and value

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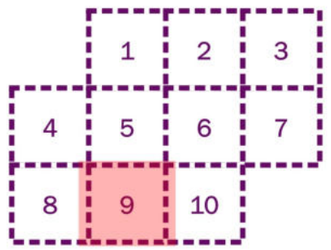
Trees to be Removed



client
Welsh Government

project title
Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title
Plan EDP 1: Tree Retention and Removal Plan (Sheet 9 of 10)

date	10 AUGUST 2020	drawn by	TC
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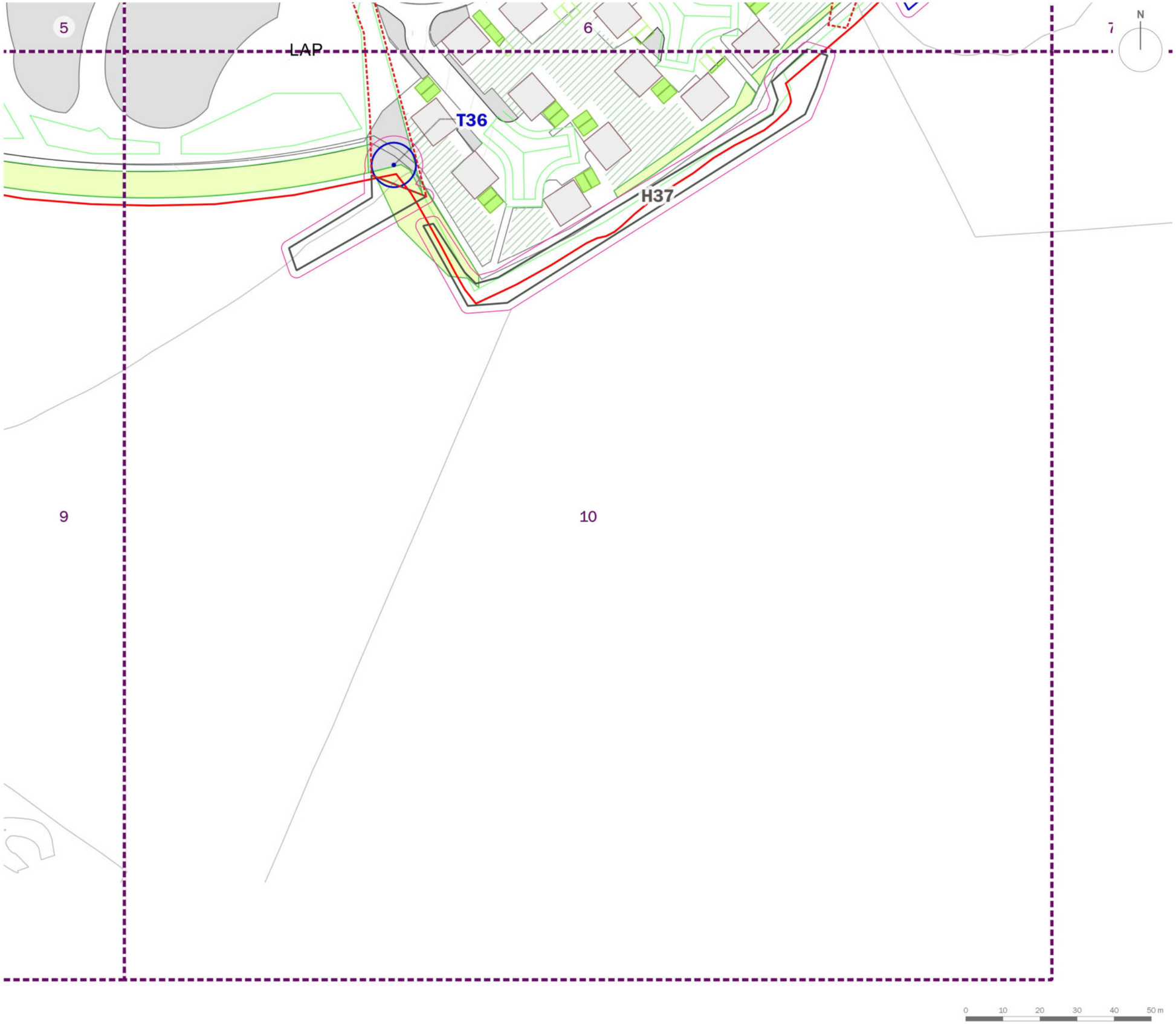

Site Boundary

T1 Tree/Group Number
Tree/Group Canopy
Tree Stem
Root Protection Area

Category A: Trees of high quality and value

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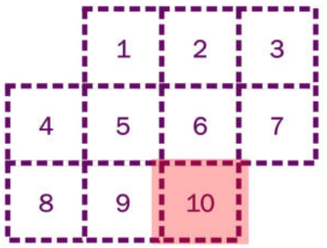
Category U: Trees of poor quality and value

Trees to be Removed



client

Welsh Government

project title

Land at Upper Cosmeston Farm, Lavernock Road, Penarth

drawing title

Plan EDP 1: Tree Retention and Removal Plan (Sheet 10 of 10)

date	**10 AUGUST 2020**	drawn by	**TC**
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