

Tree Survey, Arboricultural Impact Assessment and AMS

for

Cowplain School, Waterloooville

On behalf of

Frontier Estates Ltd

May 2022

Planning

The Landscape Partnership Ltd is a practice of Chartered Landscape Architects, Chartered Ecologists and Chartered Environmentalists, registered with the Landscape Institute and a member of the Institute of Environmental Management & Assessment & the Arboricultural Association
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1 Introduction

- 1.1 The Landscape Partnership was commissioned by Frontier Estrates Ltd to carry out a tree survey at a site Cowplain School, Waterloooville.
- 1.2 The site is not within a conservation area and none of the trees are known to be subject to a TPO.
- 1.3 Redevelopment of the site is proposed which includes the removal of existing hard paving and its replacement with a care home, 6 residential dwellings and associated infrastructure.
- 1.3 The site visit was carried out by Michael Paginton Tech.Arbor.A in May 2021.

2 Site Description

- 2.1 The site comprises the grounds of Cowplain School. The eastern parcel comprises a tarmac hard surfacing with a managed beech hedge along the northern side fronting Hart Plain Avenue. To the east of the tarmac surfacing are two oaks and two ash (T23-26) that are growing in a small area of soft landscaping adjacent to the school access.
- 2.2 The western site parcel comprises a playing field. In terms of trees and vegetation all are confined to the northern boundary with Hart Plain Avenue. A managed hawthorn and blackthorn hedge (H3) fronts the road with a line of early mature trees (mix of ash, horse chestnut, poplar and oak) set to the south of the boundary hedge (G4-G13).
- 2.3 The eastern and western site parcels are separated by residential properties.

3 Trees and Hedges

- 3.1 A total of twenty eight survey items were recorded as part of the tree survey. Full details of species and characteristic are set out in the accompanying tree survey schedule.
- 3.2 The following photos depict the site and trees.



Photo1: View north-east towards G4-G10.



Photo 2: View north-east towards T12 and G13.



Photo 3: View towards G2.



Photo 4: View along H20



Photo 5: View of the southern part of H19.

4 Arboricultural Impact Assessment (AIA)

- 4.1 The AIA uses information provided in the tree survey to identify areas where the proposed development construction may be at odds with accepted standards, in terms of a tree's requirements for soil volume in which to maintain existing roots and shoots and soil volume for future growth.
- 4.2 Details of the trees surveyed are given in the accompanying Tree Survey Schedule. Tree locations are shown on the accompanying Tree Survey Drawing B21016-106.
- 4.3 The quality and relative importance of each is shown as coloured polygons. The colour used relates to the British Standard categories as follows: A, green; B, blue; C, grey and U, red. Red trees are discounted as they are recommended for removal. In general, the design process will try to retain at least A and B category trees. Proposed construction will therefore normally be excluded from the root protection area of A and B category trees.
- 4.4 The root protection area (RPA) is shown as a default pink dashed circle on the Tree Survey Drawing B21016-106, with the plan also showing a dashed orange line which represents where the RPA has been adjusted to take into consideration existing below ground constraints such as existing hardstanding.
- 4.5 The AIA considers existing site conditions and the effect that they may have on the development of the surveyed tree root systems. Hard structures such as buildings and paved roads and paths can influence the root activity of trees by reducing the availability of both moisture and nutrients.

5 Impact of Proposed Development on Retained Trees

- 5.1 Refer to the accompanying AIA drawing B21016-107 for the relationship between the proposed development and the trees on the site.
- 5.3 The proposals will require the removal of several short stretches of H20-C2 and a short stretch of H3-C2. These are both low quality hedges and shouldn't be considered a constraint to development.
- 5.4 T6-U is proposed to be removed on the basis of its structural and physiological condition, regardless of the proposals.

6 Arboricultural Impact Assessment and Tree Protection

- 6.1 The Arboricultural Impact Assessment provide the means by which areas of construction activity or working space requirements identified in the AIA as being within or close to the RPA of retained trees, can be achieved whilst minimising the impact of that construction activity on the affected trees.

7 Site Preparation/Demolition and Construction Close to Retained Trees

- 7.1 The existing area of hard surfacing to the south of H20-C2 will be removed. Heras barriers will be installed prior to the surfacing removal, to align the southern side of the hedge. Once the hard surfacing has been removed, the heras barriers can be re-aligned to the positions as shown on the protection plan to protect the retained sections of hedge along the road frontage.

8 Services

- 8.1 All service runs are to be placed outside the RPA of trees on and adjacent to the site. Where it is not possible to achieve this, the section of service run which passes within the RPA of a tree will be hand dug in accordance with 'broken trenches' (NJUG 4 section 4, appendix 13.4). This will ensure that tree roots are not damaged during the installation of the service. All root pruning will be agreed be-forehand with the named arboriculturist in consultation with the local authority arboricultural officer. All root pruning will be in accordance with BS 3998: 2010. All routes for overhead services will aim to avoid the trees. Where this is unavoidable any tree work will be agreed prior to commencement with the Council's Arboricultural Officer.

- 8.2 There is plenty of space within the site to install services without a requirement to affect the two retained trees.

9 Tree Protection

- 9.1 Heras barriers have been shown on the protection plan, which shall be installed prior to any site works being undertaken, and remain in place until all building work has been completed.
- 9.2 Two areas of sensitive working are shown in light blue in respect of the new resin bound path that clips the outer edge of G4/G5 and T9. The existing turf layer can be scraped back and the path laid on top of the existing ground layer, without a need to excavate into the ground and remove any roots. Resin bound gravel surfacing is permeable and will allow water to permeate the surface. The trees in this location have plenty of green space beneath them to exploit. Providing the path is installed as described above, the trees will not be impacted adversely.
- 9.3 G2 is a poor-quality group located on the boundary of the site. The new parking bays clip the outer edge of the RPA. No mitigation measure are required due to the very minor nature of the encroachment which won't impact the trees.

10 Conclusions

- 10.1 The majority of survey items are being retained and protected as part of the proposals. The trees along the road frontage on the northern boundary are retained in an area of soft landscaping. The proposals only require the removal of several short stretches of hedge along the northern boundary.

11 Recommendations

- 11.1 This report should be read in conjunction with the B21016_106 Tree Survey and constraints Plan and B21016_107 Tree Retention Loss and Protection Plan.

12 Project Contact Details

Client:	Frontier Estrates Ltd
Principal Arboriculturist:	Michael Roseveare, The Landscape Partnership Tel: 01394 380509
Local Planning Authority:	Havant Borough Council

BS5837:2012 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 <i>NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve; see [BS5837:2012] 4.5.7.</i>			
	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)	
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	
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	

FLAC Note

The original contents of the column *Identification on plan* have been replaced by FLAC in the version above; spot colours to RGB codes given in BS5837:2012 Table 2

Project:		Cowplain School, Waterlooille			BS 5837 2012 Trees in relation to construction - recommendations												
Ref:		B21016															
Date:		May 2022															
Client:		Frontier Estates Ltd															
Surveyed by:			DP														
Weather:			Sunny														
Tagged:			No														
Type	No.	Common Name	Height (m)	DBH (mm)	Canopy Spread				Height of branch clearance N,S,E,W	Height of crown clearance	Age class	Physiological Condition	Structural condition problems	Preliminary management	Estimated remaining contribution years	BS Category	
					N	E	S	W									
T	1	Eucalyptus	10.0	650	4.0	4.5	6.0	3.5	N/A	2.0	M	Fair	Fair	Off site within neighbouring garden, unable to see base.	20+	B1	
G	2	Cypress, maple, oak	6.5	450	As shown				N/A	2.0	EM	Fair	Poor	Line of topped cypress with semi to early mature oak and maple set within neighbouring garden.	10+	C2	
H	3	Blackthorn, hawthorn	1.5	100	1.0	0.0	0.5	0.0	N/A	0.0	EM	Fair	Fair	Boundary hedge managed to 1.5m.	10+	C2	

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					N	E	S	W								
G	4	Horse chestnut	7.0	300	3.0	3.0	3.0	3.0	N/A	2.0	EM	Good	Fair	Three horse chestnut part of line of trees on boundary of playing field, supressing each other but good canopy shape and leaf bearing structure.	20+	B1
G	5	Horse chestnut	6.0	220	1.0	3.0	3.0	3.0	N/A	2.0	EM	Poor	Poor	Semi to early mature, suppressed to north by neighbour, poor canopy shape, bark cracks and splits suggesting bleeding canker. Western tree has a large wound north side with exposed heart wood.	<10	C1

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					N	E	S	W								
T	6	Horse chestnut	6.5	260	2.0	2.0	2.5	2.0	N/A	0.0	SM	Poor	Poor	Bark peeling off, exposed heart wood, black stains in upper stem, symptoms of bleeding canker.	<10	U
G	7	Poplar	16.0	693	4.0	5.0	6.5	4.0	N/A	2.0	EM	Fair	Poor	Twelve poplar stems between 100-200mm. All drawn up. Poor structure. Limited long term retention value.	10+	C2

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					N	E	S	W								
T	8	Poplar	16.0	381	4.0	2.0	5.0	5.0	N/A	4.0	EM	Fair	Poor	Three stems from 0.5m, tight unions with rib formation. Drawn up. Low quality. Lower canopy pruned in past. Bark around east side of stem near base looks hollow but unable to access to inspect.	10+	C2

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T	9	Horse chestnut	10.0	440	4.0	3.0	4.0	3.5	N/A	2.0	M	Fair	Fair	Pruned in past, union from 1.5m with crack north side. Wound south side on stem with exposed heartwood partially occluded. Staining. Bark cracks with potential canker.	10+	B1
G	10	Ash	11.0	350	4.0	4.0	4.0	4.0	N/A	2.0	EM	Fair	Fair	Two ash trees. Both good dense canopies. Western ash with minor ivy and leaning slightly to the north.	20+	B1

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					N	E	S	W									
G	11	Prunus sp.	5.0	150	3.0	3.0	2.0	3.0	N/A	0.0	EM	Fair	Poor	Self set, multiple stems forming shrub mass rather than trees. One has been topped to 1.5m.	<10	C2	
T	12	Oak	11.0	380	5.0	4.0	3.5	5.0	N/A	0.0	EM	Fair	Fair	Dense ivy on stem obscuring view. Dense canopy.	20+	B1	
G	13	Ash	11.0	350	As shown				N/A	0.0	EM	Good	Fair	Four ash trees in line part of line of trees on boundary. Dense canopies, good shape.	20+	B2	

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T	14	Maple	10.0	400	4.5	4.5	4.5	4.5	N/A	0.0	M	Good	Fair	Set in timber planter. Good shape, dense canopy	20+	B1
T	15	Alder	8.5	273	2.5	4.0	3.5	4.0	N/A	2.0	EM	Fair	Poor	Multistem from base, pruned in past. Dense canopy.	10+	C1
T	16	Alder	6.5	300	3.0	3.0	3.0	3.0	N/A	2.0	EM	Fair	Poor	Drawn up, multistemmed from base, low quality.	10+	C1

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					N	E	S	W								
T	17	Willow	11.5	980	5.0	5.0	5.5	4.5	N/A	3.5	M	Fair	Fair	Large willow tree, crown reduced in recent past.	10+	B1
T	18	Poplar	14.5	799	5.0	6.0	6.0	5.0	N/A	3.5	M	Fair	Fair	Large poplar, crown reduced in past. Some branches left to help maintain crown shape.	10+	B1
H	19	Cypress	3.5	100	As shown				N/A	0.0	EM	Fair	Fair	Cypress hedge, managed, screens neighbouring property	10+	C2

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H	20	Beech	1.5	100	As shown				N/A	0.0	M	Fair	Fair	Managed beech hedge.	10+	C2
T	21	Oak	10.0	500	4.0	4.0	4.0	4.0	N/A	3.0	M	Fair	Fair	Oak set in soft landscape/grass. Unable to access. Crown reduced in past.	20+	B1
G	22	Rowan	4.0	290	3.0	3.0	3.0	3.0	N/A	0.0	M	Good	Fair	Two rowan in planting bed between hard standing. Good shape and dense canopy.	10+	C2

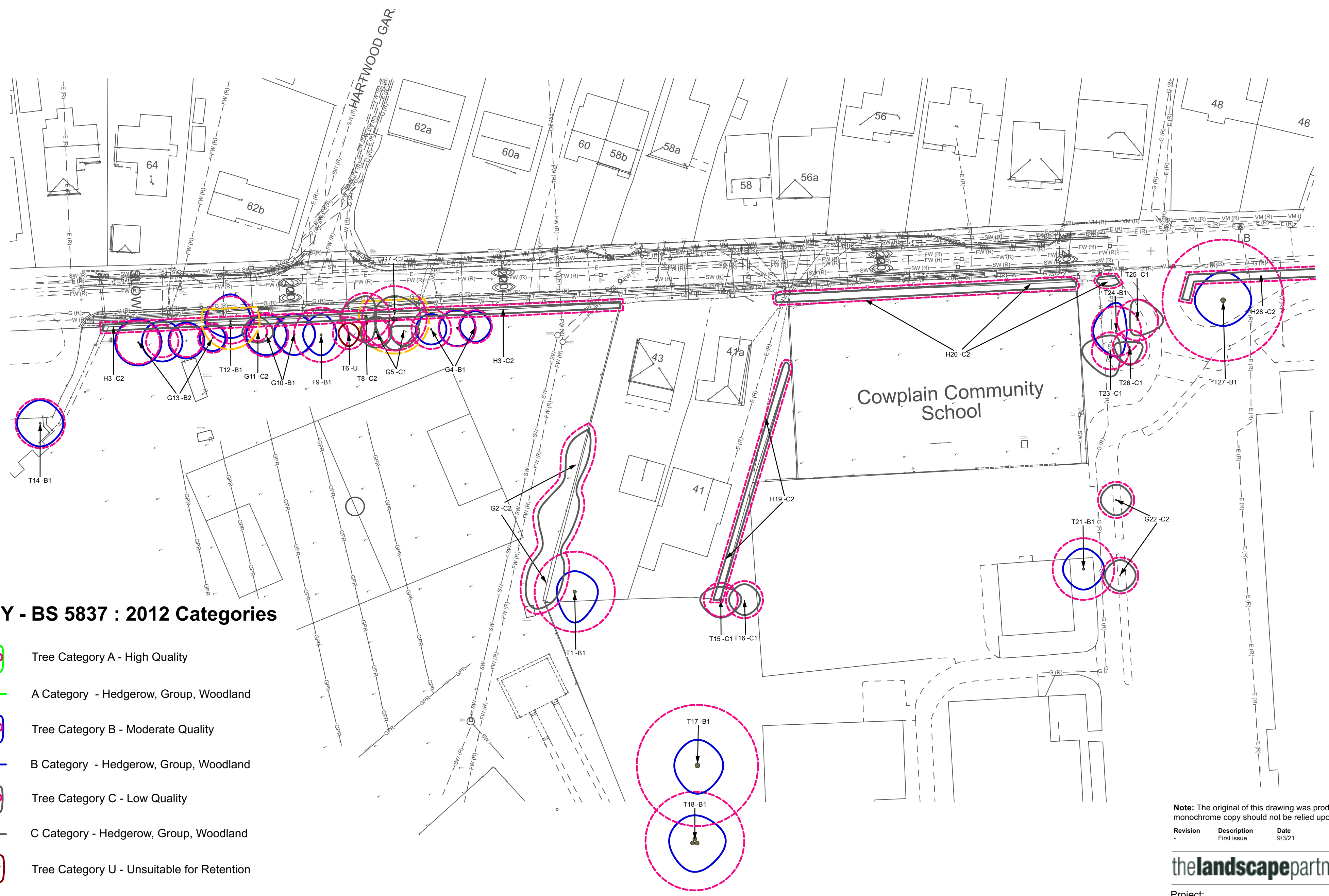
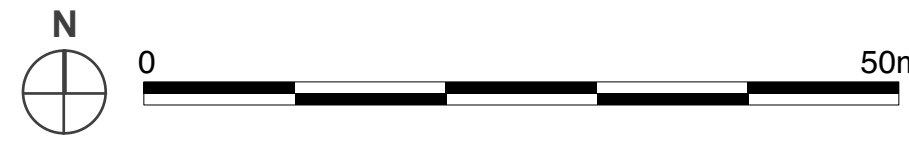
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T	23	Oak	10.0	300	3.0	2.0	5.0	5.5	N/A	2.5	EM	Fair	Fair	Oak set in planting bed, hard surface to west. Suppressed by neighbour to north east. Canopy weighted south. Minor deadwood.	20+	C1
T	24	Oak	13.0	400	5.5	2.0	5.0	4.5	N/A	3.0	M	Fair	Fair	Minor deadwood, adventitious growth on branches, suppressed east side, pruned in past.	20+	B1

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					N	E	S	W								
T	25	Ash	13.0	330	4.0	5.0	3.0	1.5	N/A	2.5	EM	Fair	Fair	Supressed lower canopy south side. Crown lifted in past.	20+	C1
T	26	Ash	10.0	279	1.0	2.5	3.5	3.0	N/A	3.0	EM	Fair	Fair	Supressed by neighbour north side, poor canopy shape. Low quality.	20+	C1
T	27	Pine	16.0	980	5.5	5.5	5.0	5.5	N/A	2.5	M	Good	Fair	Large tree dense canopy, crown reduced in past.	20+	B1

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					N	E	S	W								
H	28	Beech, privet	1.5	100	As shown				N/A	0.0	EM	Fair	Fair	Managed hedge.	10+	C2

KEY - BS 5837 : 2012 Categories

-  Tree Category A - High Quality
-  A Category - Hedgerow, Group, Woodland
-  Tree Category B - Moderate Quality
-  B Category - Hedgerow, Group, Woodland
-  Tree Category C - Low Quality
-  C Category - Hedgerow, Group, Woodland
-  Tree Category U - Unsuitable for Retention
-  Default Root Protection Area to BS:5837:2012
-  Adjusted Root Protection Area to BS:5837:2012
-  Shrub Mass / Offsite Tree



Note: The original of this drawing was produced in colour - a monochrome copy should not be relied upon.

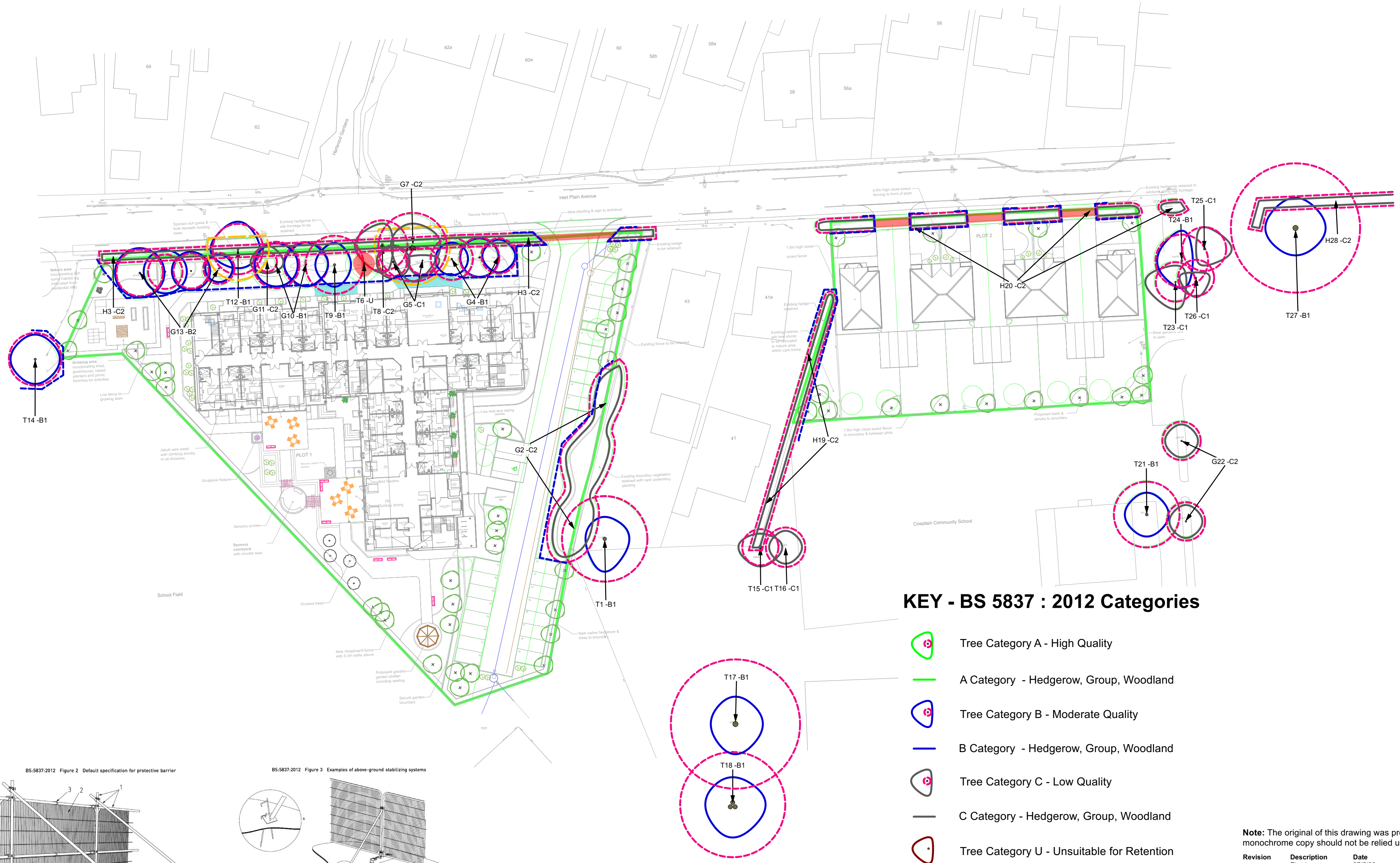
Revision	Description	Date
-	First Issue	9/3/21

thelandscapepartnership

Project:
Land at Cowplain Community School, Hart Plain Avenue, Waterloooville
Description:
Tree Survey and Constraints Plan

Status:
For Planning

Scale: 1:500 @A2	Drawn Checked DP MP	Date: 09/03/2021
Job Number: B21016	Drawing Number: 106	Revision: -



KEY - BS 5837 : 2012 Categories

-  Tree Category A - High Quality
-  A Category - Hedgerow, Group, Woodland
-  Tree Category B - Moderate Quality
-  B Category - Hedgerow, Group, Woodland
-  Tree Category C - Low Quality
-  C Category - Hedgerow, Group, Woodland
-  Tree Category U - Unsuitable for Retention
-  Default Root Protection Area to BS:5837:2012
-  Adjusted Root Protection Area to BS:5837:2012
-  Shrub Mass / Offsite Tree
-  Survey Item to be Removed
-  Tree Protection Barrier to BS:5837:2012
-  Area of Sensitive Working

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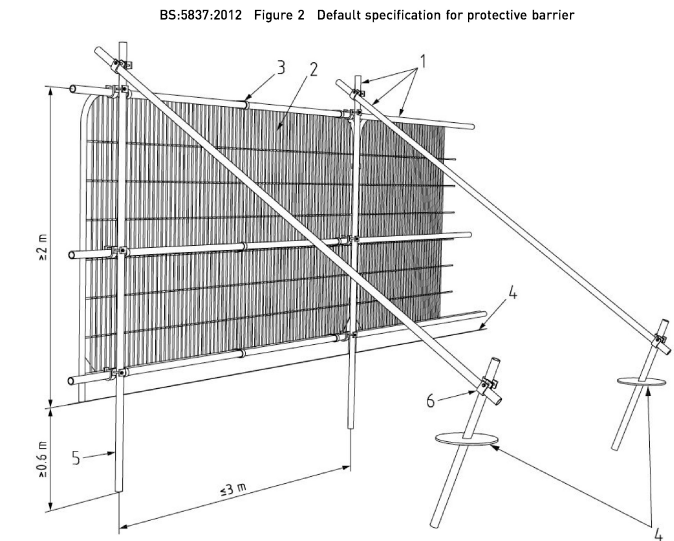
Revision	Description	Date
-	First issue	27/5/22

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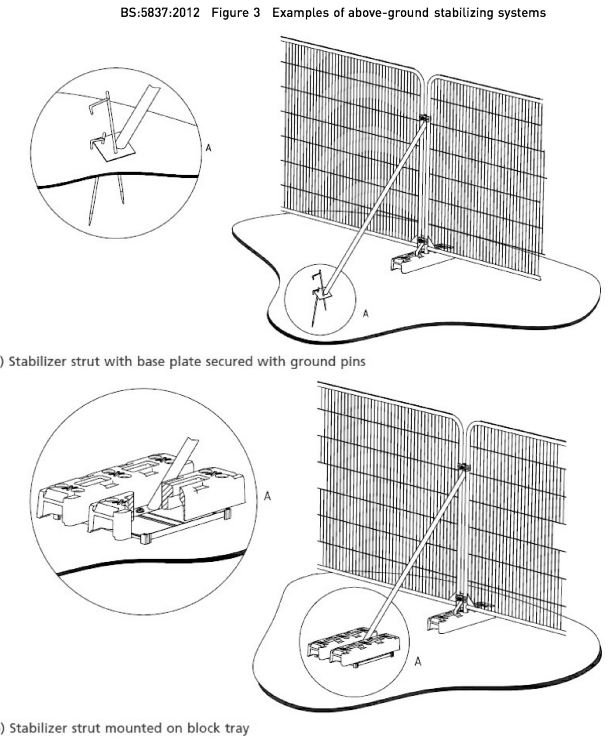
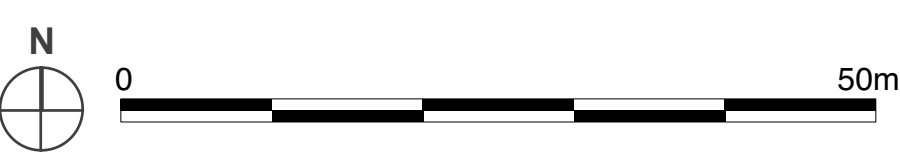
Project:
Land at Cowplain Community School, Hart Plain Avenue, Waterloo
Description:
Tree Retention, Loss and Protection Plan

Status:
For Planning

Scale: 1:500 @A2	Drawn Checked DP MP	Date: 27/05/2022
Job Number: B21016	Drawing Number: 107	Revision: -



- Key**
- 1 Standard scaffold poles
 - 2 Heavy gauge 2m 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 0.6m)
 - 6 Standard scaffold clamps



a) Stabilizer strut with base plate secured with ground pins

b) Stabilizer strut mounted on block tray