



**PRE-DEVELOPMENT ARBORICULTURAL SURVEY
AND
ARBORICULTURAL ASSESSMENT OF IMPACT**

**MENGHAM PARK,
NORMAN ROAD, HAYLING ISLAND,
HAMPSHIRE**

FOR

HAVANT BOROUGH COUNCIL

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This report is the responsibility of Arbor-Eco Consultancy.
It should be noted that whilst every effort is made to meet the client's brief,
no site investigation can ensure complete assessment or prediction of the natural environment.

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GLOBAL PANDEMIC

COVID-19 Government Rules on social distancing, cleanliness, lockdown measures and such like has meant that the handling of personal equipment belonging to others is no longer permitted. Touch-points such as door handles for example comes with risk. Inviting others into private property is no longer advisable.

19th July 2021 – The English Government announced ‘Freedom Day’, whereby a number of COVID-19 rules were relaxed. However, Arbor-Eco Consultancy made a conscious decision not to follow this mass removal of masks, openness and complacency but to remain vigilant and respect others by wearing appropriate PPE and remaining at a distance from members of the public.

The headings for reports under ‘normal’ circumstances would be deemed necessary for the completion and acknowledgement that a report was concise. This may no longer be possible. Providing welfare facilities by the client in their own property is not deemed safe at the time of the pandemic and writing of this report.

The rules and regulations will add pressure to the industry and this should be taken into account by the Local Authority reading this report.

For the latest guidance please see the NHS or Government websites.

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1. INTRODUCTION

1.1 PROJECT BRIEF

Havant Borough Council, hereafter referred to as the client, commissioned Arbor-Eco Consultancy to undertake an Arboricultural Survey of trees growing on land at Mengham Park, Norman Road, Hayling Island within the administrative boundary of Havant Borough Council and in the county of Hampshire.

Additionally, an Arboricultural Assessment of Impact (AAI) has been provided and this element of the report will address any impacts that the proposed and final construction may have on trees in proximity to the site. This element of the report details the impact that the proposed development will have upon the site's existing tree stock and sets out recommendations for the subsequent mitigation or avoidance of impact. The study has been completed in accordance with guidance contained within British Standard BS5837:2012 'Trees in relation to design, demolition and construction – Recommendations'.

It is worthy of note that the proposed works are to be constructed upon ground currently utilised as an existing recreation ground, with a play park, football pitch, frequented by dog-walkers and not upon newly unmade ground. Furthermore, as is shown on the Tree Protection Plan, Drawing Number MB220117-01-01, Section 6, indicates that the trees will not be in conflict with the proposed development due to the nature of the proposed works should the design respect the RPAs of the trees.

The purpose of this report is to:

- Record the current condition of the trees found on the site and categorise them using criteria outlined in BS5837:2012 "Trees in relation to design, demolition and construction - Recommendations".
- Provide guidance detailing arboricultural constraints to the proposed development and factors to be considered during the final phase of development.
- Detail the impacts and conflicts with adjacent trees on site and advise on mitigation and remediation methods.

1.2 SITE DESCRIPTION

The site is located within an urban setting towards the south fringes of the town of South Hayling, Hayling Island. The site was dominated by the existing recreation ground, areas of hard surfacing and amenity grassland utilised as open space. The trees were predominantly growing within the periphery of the site and adjacent to the northern and western boundaries.

The site is generally rectangular in shape with a finger of land that joined with Rails Lane, minor trunk road, to the east. The site was bound to the north by Norman Road, minor trunk road (unmade road). The eastern boundary was demarcated by properties off Norman Road, Rails Lane, Rails Lane, minor trunk road and properties off Harold Road, minor trunk road. The site was delineated to the south by properties off Harold Road, minor trunk road, and Harold Road, minor trunk road. The western boundary abuts St Andrew's Road, minor trunk road. The site is centred at Ordnance Survey Grid Reference SZ 72870 98864.

A good number of whips had recently been planted. These are not identified or discussed within the report individually as they can be relocated should the proposed development impact them.

The topography of the study area was generally flat.

The location of the trees surveyed can be found on Arbor-Eco Consultancy, Drawing Number MB220117-01-01 within Section 6 of this report.

2. ARBORICULTURAL SURVEY METHODOLOGY

2.1 DESK STUDY

A desk study was undertaken to identify if any of the trees present within or in close proximity to the site are covered by Tree Preservation Orders (TPOs) or if the site is situated within a Conservation Area. This involved consultation with the local authority.

2.2 CONDITION STATUS

To determine the status of the trees within the site a full arboricultural survey has been undertaken, assessing the species and status of all trees present. This survey has been carried out in accordance with British Standard 5837:2012 Trees in Relation to design, demolition and construction – Recommendations.

All trees have been given a unique reference number. Individual trees above 75 mm (diameter measured at 1.5 m above ground level) have had their position confirmed on a survey drawing. The trees were visually assessed and a schedule prepared listing tree number, species, stem diameter at 1.5 m above ground level (or in accordance with Annex C of BS5837:2012), tree height, crown spread (cardinal points), crown clearance (cardinal points), height of first branch and growth direction, age class and estimated remaining years. Any specific observations or recommendations with regard to management were also noted. Groups of trees and hedgerows have had their specific dimensions (as per individual tree) averaged and recorded as such. All these observations and measurements are summarised in Section 3.3, Table 3.2.

Each tree was assessed and assigned to one of the following categories:

- Category A: Those trees of high quality and value with an estimated remaining life expectancy of at least 40 years.
- Category B: Those trees of moderate quality and value with an estimated remaining life expectancy of at least 20 years.
- Category C: Those trees of low quality and value with an estimated remaining life expectancy of at least 10 years or young trees with a stem diameter below 150 mm.
- Category U: Trees 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.
- Categories A, B and C have further sub-categories with regards to the reasons for tree retention;
 1. Mainly arboricultural qualities
 2. Mainly landscape qualities
 3. Mainly cultural values, including conservation.

2.3 ROOT PROTECTION AREA (RPA)

In order to avoid damage to the roots or rooting environment of retained trees, the RPA has been calculated for each of the Category A, B and C trees. This is a minimum area around a tree which is deemed to contain sufficient roots and rooting volume to maintain the trees viability. Protection of the roots and soil structure in this area should be treated as a priority.

These figures have been calculated utilising the formulas within Section 4.6 and Annex D of British Standard 5837:2012.

3. RESULTS

3.1 DESK STUDY

Havant Borough Council (2022) Business Support Team - Planning Services confirmed in an email on 18th February 2022, that a number of trees are covered by a Tree Preservation Order. Due to the colouration of the attached plan in Section 6, it is unclear of the validity of the information. Confirmation can be obtained from the local authority.

As a precaution, The Town and Country Planning (Tree Preservation) (England) Regulations 2012, Part 4 – Applications for Consent under Tree Preservation Orders states that an application for consent to the cutting down, topping, lopping or uprooting of any tree in respect of which an order is for the time being in force shall be made in writing to the authority on a form published by the Secretary of State for the purpose of proceedings under these Regulations.

Until such time as the application has been granted no works must be undertaken on the trees identified as being subject to TPOs that contravene the order. Works include pruning, topping, lopping, uprooting or wilfully damaging these trees. Any proposed pruning works will need to be fully specified and agreed within any planning application. If works are not included within the planning application, a separate TPO application will be required to be submitted to the Local Authority for permission to undertake any works (approximately an 8-week process).

Apart from limited exceptions, permission must be sought from the local planning authority by submitting a standard application form. The form is available from the Local Authority Planning Portal. It is important that the information on the form makes clear what the proposed work is and provides adequate information to support the case.

Furthermore, Havant Borough Council (2022) Business Support Team - Planning Services confirmed in an email on 18th February 2022 that the site is not situated within a Conservation Area.

3.2 WEATHER CONDITIONS

The survey was completed on 17th February 2022 by Marco Bartolini, Arboricultural Consultant. The weather conditions at the time of the survey are shown in Table 3.1.

Conditions	Result
Temperature (°C)	11
Cloud Cover (%)	100
Precipitation (%)	16
Wind Speed	F4-5

Table 3.1: Weather Conditions at Time of Survey

3.3 SURVEY RESULTS

It is noteworthy to mention that all of the trees were wind sculptured with deformed canopies and stems that were leaning predominantly north-east (against prevailing winds). All of the Ash trees exhibited ash dieback and were in differing states of decline. The trees' roots of all trees were subjected to continued compaction, basal areas showed signs of trimmer and mower damage along with bark wounds as a result of people damage.

There are a large number of Ash trees that exhibit ash dieback. First confirmed in Britain in 2012, Chalara dieback of ash, also known as 'Chalara', ash dieback or Chalara ash dieback, is a disease of ash trees caused by a fungus called *Hymenoscyphus fraxineus*. Chalara causes leaf loss, crown dieback and bark lesions in affected trees. Once a tree is infected the disease is usually fatal, either directly, or indirectly by weakening the tree to

the point where it succumbs more readily to attacks by other pests or pathogens, especially *Armillaria* sp., or honey fungus.

However, some ash trees appear to be able to tolerate or resist infection, and scientists are studying the genetic factors which make this possible so that tolerant ash trees can be bred for the future.

The Ash trees within the site, if not felled, will require additional monitoring. Latest government guidelines promote the retention of Ash trees where practical to encourage resistance to the disease in young and older trees. It is therefore a decision ultimately by the Local Authority (due to financial constraints) to fell or retain certain trees, however, this report details those trees that pose a public health risk and require remedial work.

Government guidelines are to remove dead or dying Ash trees where public health is at risk from falling branches or failure of the tree. The arisings are then burnt to prevent further infection. All arborist tools should be cleaned under the bio-security guidelines published by Forestry Commission England and the Plant Health Authority.

It is becoming apparent that Ash trees can die within two years of becoming infected, yet other hybrids are beginning to withstand the disease. Without knowing which trees are becoming more tolerant it is advised that all Ash trees, whether individual or within groups, should be monitored annually but permitting the survey to be conducted across all seasons so a 10-month or 14-month cycle is advised. It is recommended that land managers consider their management options now, even if they are dealing with low levels of infection. This includes preparing or amending management plans to account for current future impacts of ash dieback. Before changing management regimes, the objectives and individual setting of the tree or woodland should be considered. Felling diseased ash requires a felling licence from the Forestry Commission, unless the trees are dead or pose a real and immediate danger. Restrictions such as tree preservation orders must also be respected; the local authority will be able to provide guidance. Uninfected ash trees should not be felled, other than during normal management activities and if appropriate permissions are in place.

The following links provide extended information on the management of Ash trees.

<https://www.forestresearch.gov.uk>

<https://treecouncil.org.uk/science-and-research/ash-dieback/>

It is therefore considered that the Ash trees surveyed cannot realistically be categorised higher than Category U; those in such a condition that they cannot be realistically be retained as living trees in the context of the current land use for longer than 10 years, until further scientific evidence suggests that UK trees are resistant.

The full results of the Arboricultural Assessment are detailed in Table 3.2.

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	Ht 1 st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
1	Cappadocian Maple	1	270	6.0	2.0 E	4.0	4.0	1.0	2.0	4.0	3.0	3.0	4.0	EM	F	P	<10	U	• Cavity at base with honey fungus present. • Artificial structures within RPA. • Major deadwood in crown.	Crown clean deadwood.
2	Cappadocian Maple	1	150	6.0	2.0 E	2.5	3.0	1.5	0.5	2.5	2.5	2.5	2.5	Y	F	F	10+	C1	• Artificial structures within RPA.	-
3	Ash	1	420	14.0	2.0 N	4.5	4.0	3.0	3.0	2.5	2.5	2.5	2.5	M	F	G	<10	U	• Ash dieback evident. • Artificial structures within RPA.	-
4	Cappadocian Maple	1	220	6.0	3.0 E	2.0	4.0	1.5	0.5	4.0	4.0	4.0	4.0	EM	F	G	10+	C1	• Artificial structures within RPA.	-
5	Ash	1	440	10.0	2.5 E	4.0	5.0	4.0	3.5	4.0	2.0	2.0	2.0	M	F	G	<10	U	• Exposed surface roots with mechanical damage. • Bifurcated at 2.0 m above ground level. • Artificial structures within RPA.	-
6	Cappadocian Maple	1	210	10.0	2.5 E	4.5	4.0	3.5	3.0	5.0	3.0	3.0	4.0	EM	G	F	10+	C1	• Artificial structures within RPA. • Exposed surface roots – erosion.	-
7	Cappadocian Maple	1	260	10.0	3.0 W	4.5	2.0	2.0	3.5	4.0	4.0	5.0	3.0	EM	F	F	10+	C1	• Artificial structures within RPA. • Exposed surface roots – erosion. • Minor deadwood throughout crown.	-
8	Cappadocian Maple	1	260	13.0	2.5 S	3.0	3.0	2.0	1.0	4.0	3.0	3.0	4.0	EM	P	F	<10	U	• Growing though crown of T9. • Tall and etiolated. • Bark wound to stem occluding. • Exposed surface roots with mechanical damage.	-
9	Elm	1	410	15.0	2.0 N	9.0	7.5	5.0	4.5	6.0	4.0	2.0	4.0	M	G	F	10+	C1	• Historical root heave. • Tree leans heavily to NE. • Bark wound to stem. • Exposed surface roots. • Major deadwood in crown. • Artificial structures within RPA.	Crown clean deadwood.
10	Elm	1	440	17.0	2.0 E	8.0	8.0	7.0	7.0	4.0	4.0	4.0	4.0	M	G	G	20+	B1	• Bifurcated at 2.0 m above ground level. • Artificial structures within RPA.	-
11	Cappadocian Maple	1	260	10.0	4.0 E	2.0	2.5	3.0	3.5	4.0	4.0	4.0	4.0	EM	P	F	<10	U	• Bark wounds to stem occluding with heartwood exposed and decay pockets. • Exposed surface roots with mechanical damage.	-
12	Ash	1	300	10.0	2.5 W	3.0	3.5	3.5	4.0	5.0	3.0	3.0	2.0	EM	P	F	<10	U	• Ash dieback evident. • Bark wounds to stem and in crown. • Exposed surface roots with mechanical damage. • Significant dieback in crown.	-

Table 3.2: Results of Arboricultural Survey (continues)

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	Ht 1 st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
13	Cappadocian Maple	1	130	5.0	2.0 W	3.0	2.0	1.5	1.5	2.0	2.0	2.0	2.0	EM	F	F	10+	C1	- Bark wounds to stem. - Suppressed by T14.	-
14	Common Lime	1	290	9.0	0.0 S	5.0	5.0	3.0	3.0	0.0	0.0	0.0	0.0	EM	G	G	20+	B1	- Suckers at base restricted access to survey. - Poor past management.	-
15	Ash	1	310	9.0	2.0 S	3.0	3.0	3.5	3.5	3.0	3.0	3.0	3.0	EM	F	P	<10	U	- Significant ash dieback evident. - Bark wounds to stem. - Canker in crown.	-
16	Ash	1	330	14.0	2.0 W	6.0	6.0	5.0	5.5	2.0	4.0	3.0	2.0	M	F	F	<10	U	- Ash dieback evident. - Artificial structures within RPA. - Major deadwood in crown. - Exposed surface roots with mechanical damage.	Crown clean deadwood.
17	Cappadocian Maple	2	340	7.0	2.0 N	3.5	3.5	3.0	3.0	2.0	4.0	4.0	2.0	EM	F	P	<10	U	- Bifurcated at ground level. - Bark wounds to stem with heartwood exposed. - Artificial structures within RPA. - Decayed stem.	-
18	Cappadocian Maple	1	230	6.0	2.0 W	3.0	3.0	1.5	1.0	4.0	4.0	3.0	2.0	EM	P	F	<10	U	- Bark wounds to stem with heartwood exposed. - Poor form. - Major deadwood in crown.	Crown clean deadwood.
19	Elm	1	400	14.0	2.0 S	6.0	7.0	5.5	6.0	4.0	3.0	3.0	3.0	M	G	G	20+	B1	- Historical root heave. - Major deadwood in crown.	Crown clean deadwood.
20	Ash	1	260	7.0	2.0 N	5.0	4.0	4.5	4.0	3.0	3.0	2.0	3.0	EM	F	G	<10	U	- Ash dieback evident. - Major deadwood in crown.	Crown clean deadwood.
21	Cappadocian Maple	1	190	6.0	2.0 W	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	EM	G	G	10+	C1	- Bark wound to stem. - Artificial structures within RPA.	-
22	Field Maple	1	190	5.0	2.0 N	3.5	1.5	1.0	0.5	2.5	2.5	2.5	3.0	EM	F	G	10+	C1	Bark wounds to stem occluding.	-
23	Ash	1	300	9.0	2.0 N	5.5	3.0	4.5	3.0	2.0	3.0	2.0	4.0	EM	F	F	<10	U	- Ash dieback evident. - Bark wounds to stem occluding.	-
24	Elm	1	410	11.0	2.0 E	8.0	7.5	3.0	4.0	2.0	3.0	4.0	4.0	M	G	G	20+	B1	- Exposed surface roots with mechanical damage. - Major deadwood in crown.	Crown clean deadwood.
25	Ash	1	290	9.0	2.0 E	5.0	5.5	4.0	5.0	4.0	2.0	3.0	3.0	M	F	G	<10	U	- Ash dieback evident. - Girdling roots. - Major deadwood in crown.	Crown clean deadwood.

Table 3.2: (cont'd) Results of Arboricultural Survey (continues)

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	Ht 1 st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
26	Ash	1	270	8.0	2.0 S	5.0	5.0	4.0	4.0	4.0	4.0	3.0	3.0	M	F	G	<10	U	- Ash dieback evident. - Exposed surface roots with mechanical damage. - Bark wound to stem occluding. - Major deadwood in crown.	Crown clean deadwood.
27	Cappadocian Maple	1	210	6.0	2.5 S	2.0	3.5	2.0	2.0	4.0	3.0	3.0	3.0	EM	F	P	<10	U	- Bark wound to stem with decay and heartwood exposed. - Shear crack of stem with partial occlusion.	-
28	Common Lime	1	280	6.0	0.0 N	4.0	4.0	2.5	3.5	0.0	0.0	0.0	0.0	EM	G	G	20+	B1	- Suckers at base restricted access to survey. - Poor past management.	-
29	Sycamore	1	140	7.0	2.0 E	2.0	2.0	2.0	2.0	3.0	3.0	3.0	3.0	EM	G	G	10+	C1	Bark wound to stem occluding.	-
30	Ash	1	260	8.0	2.0 S	4.0	4.0	2.0	4.0	4.0	3.0	3.0	3.0	M	F	F	<10	U	- Ash dieback evident. - Bark wound to stem occluding. - Major deadwood in crown.	Crown clean deadwood.
31	Turkey Oak	1	340	9.0	2.0 S	6.0	5.0	4.0	5.0	2.0	2.0	2.0	2.0	EM	G	G	20+	B1	- Poor past management. - Artificial structures within RPA.	-
32	Ash	1	300	9.0	2.0 S	4.0	4.0	4.0	4.0	3.0	3.0	3.0	3.0	M	F	G	<10	U	- Ash dieback evident. - Poor past management. - Major deadwood in crown.	Crown clean deadwood.
33	Elm	1	310	10.0	2.0 S	7.0	7.0	7.0	7.0	4.0	4.0	4.0	4.0	M	G	G	20+	B1	- Girdling roots. - Bark wounds to stem occluding.	-
34	Sycamore	1	100	6.0	2.0 W	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	EM	G	G	10+	C1	Bark wounds to stem occluding.	-
35	Ash	1	220	7.0	2.0 E	4.0	3.5	2.5	3.0	2.0	2.0	2.0	2.0	EM	F	G	<10	U	- Ash dieback evident. - Bark wounds to stem occluding. - Major deadwood in crown.	-
36	Ash	1	170	6.0	2.0 S	4.0	2.0	1.5	1.0	3.0	3.0	2.0	2.0	EM	F	F	<10	U	- Ash dieback evident. - Bark wounds to stem occluding. - Major deadwood in crown.	-
37	Cappadocian Maple	1	280	8.0	2.0 S	4.0	3.0	2.0	3.0	2.0	2.0	2.0	2.0	EM	F	G	10+	C1	- Bark wound to stem occluding. - Artificial structures within RPA.	-
38	Sycamore	1	190	6.0	2.0 E	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	EM	F	G	10+	C1	Bark wound to stem occluding.	-
39	Sycamore	1	100	5.0	2.0 N	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	EM	F	G	10+	C1	Bark wound to stem occluding.	-
40	Cappadocian Maple	1	80	4.0	2.0 N	0.5	2.0	0.0	0.0	-	2.0	-	-	EM	P	P	<10	U	Bark wound to stem with decay and heartwood exposed.	-
41	Cappadocian Maple	1	130	5.0	2.0 N	3.0	3.0	0.5	0.0	2.0	2.0	-	-	EM	P	P	<10	U	Bark wound to stem with decay and heartwood exposed.	-

Table 3.2: (cont'd) Results of Arboricultural Survey (continues)

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	Ht 1 st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
42	Manna Ash	1	650	12.0	2.0 N	5.0	5.0	5.0	5.0	2.0	2.0	2.0	2.0	M	F	F	<10	U	- Ash dieback evident. - Bark wounds to stem. - Artificial structures within RPA. - Decay and rot of stem at old pruning wound.	-
43	Cappadocian Maple	1	230	8.0	2.0 S	4.0	3.0	2.0	2.0	4.0	3.0	3.0	3.0	EM	F	F	10+	C1	Bark wound to stem occluding.	-
44	Cappadocian Maple	1	170	7.0	2.0 N	3.0	3.0	1.0	0.5	3.0	3.0	3.0	3.0	EM	F	F	10+	C1	Bark wound to stem occluding.	-
45	Ash	1	260	9.0	2.0 N	5.0	<u>6.5</u>	4.0	2.0	3.0	4.0	4.0	3.0	M	F	F	<10	U	- Ash dieback evident. - Major deadwood in crown. - Bark wounds to stem.	Crown clean deadwood.
46	Ash	1	340	9.0	2.0 S	5.0	<u>7.0</u>	3.0	1.0	4.0	5.0	2.0	2.0	M	P	P	<10	U	90 % of crown is dead.	Fell to ground level and replant with suitable species.
47	Oak	1	170	5.0	2.0 S	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	EM	P	F	<10	U	- Bark wounds to stem – possibly dog baiting. - Poor past management.	-
48	Ash	1	130	4.0	2.0 N	2.0	2.0	1.0	0.0	2.0	2.0	2.0	2.0	EM	P	P	<10	U	- Girdled stem – people damage. - Ash dieback evident.	Fell to ground level and replant with suitable species.
G1	Oak Ash Elder	1	<u>350</u>	16.0	0.0 W	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	0.0	0.0	0.0	0.0	Y EM M	F	F	20+	B2	- Off-site group. - Narrow group of trees to north of Norman Road. - Provides good visual separation.	-
G2	Oak Sycamore Ash Bramble	1	<u>110</u>	5.0	0.0 S	<u>2.0</u>	<u>2.0</u>	<u>2.0</u>	<u>2.0</u>	0.0	0.0	0.0	0.0	Y EM	F	F	10+	C2	- Dense bramble understorey prevented detailed assessment. - Small copse plantation.	-
G3	Bramble Blackthorn Ash Sycamore	1	<u>300</u>	10.0	0.0 W	<u>3.0</u>	<u>3.0</u>	<u>3.0</u>	<u>3.0</u>	0.0	0.0	0.0	0.0	Y EM M	F	F	20+	B2	- Off-site group. - Self-set and planted trees to boundary of unmade access road to car park and school. - Dense understorey prevented detailed assessment. - Overhangs access road. - Poor past management. - Artificial structures within RPA.	-

Table 3.2: (cont'd) Results of Arboricultural Survey (continues)

Tree No.	Species	No. Stems	Diam (mm)	H't (m)	Ht 1 st Branch (m)	Branch Spread (m)				Crown Clearance (m)				Age	Phys Cond	Struc Cond	Est. Remain Contrib (Years)	Cat	Comments	Preliminary Management Recommendations
						N	E	S	W	N	E	S	W							
G4	Oak Sycamore	1	<u>400</u>	10.0	2.0 S	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	<u>6.0</u>	2.0	2.0	2.0	2.0	EM M	F	F	20+	B2	- Off-site group of trees. - Major deadwood in crown. - Overhangs access road. - Poor past management. - Artificial structures within RPA. - Crown and stems congested.	Crown clean deadwood.
Key <u>Age Class</u> Y: Young = tree within first third of average life expectancy EM: Early mature = tree within second third of average life expectancy M: Mature = tree within final third of average life expectancy OM: Over mature = tree beyond average life expectancy V: Veteran status <u>Physiological Condition</u> G: Good = no health problems F: Fair = symptoms of ill health that may be remedied P: Poor = poor health D: Dead <u>Structural Condition</u> G: Good = no structural defects F: Fair = remedial structural defects P: Poor = significant structural defects D: Dead <u>000</u>: Estimated measurement due to access restrictions RPA: Root Protection Area Major deadwood: branches in excess of 50 mm diameter Minor deadwood: branches/twigs less than 50 mm diameter																				

Table 3.2: (cont'd) Results of Arboricultural Survey

3.4 ROOT PROTECTION AREA (RPA)

Table 3.3 provides details of the Root Protection Area (RPA) of all trees surveyed. This table also gives an approximate root protection radius for these trees.

Tree No.	Species	Diam (mm)	Approx. Root Protection Radius (m)	RPA (m ²)
1	Cappadocian Maple	270	3.3	34
2	Cappadocian Maple	150	1.8	10
3	Ash	420	5.1	81
4	Cappadocian Maple	220	2.7	23
5	Ash	440	5.4	92
6	Cappadocian Maple	210	2.7	23
7	Cappadocian Maple	260	3.3	34
8	Cappadocian Maple	260	3.3	34
9	Elm	410	5.1	81
10	Elm	440	5.4	92
11	Cappadocian Maple	260	3.3	34
12	Ash	300	3.6	41
13	Cappadocian Maple	130	1.8	10
14	Common Lime	290	3.6	41
15	Ash	310	3.9	48
16	Ash	330	4.2	55
17	Cappadocian Maple	340	4.2	55
18	Cappadocian Maple	230	3.0	28
19	Elm	400	4.8	72
20	Ash	260	3.3	34
21	Cappadocian Maple	190	2.4	18
22	Field Maple	190	2.4	18
23	Ash	300	3.6	41
24	Elm	410	5.1	81
25	Ash	290	3.6	41
26	Ash	270	3.3	34
27	Cappadocian Maple	210	2.7	23
28	Common Lime	280	3.6	41
29	Sycamore	140	1.8	10
30	Ash	260	3.3	34
31	Turkey Oak	340	4.2	55
32	Ash	300	3.6	41
33	Elm	310	3.9	48
34	Sycamore	100	1.2	5
35	Ash	220	2.7	23
36	Ash	170	2.1	14
37	Cappadocian Maple	280	3.6	41
38	Sycamore	190	2.4	18
39	Sycamore	100	1.2	5
40	Cappadocian Maple	80	1.2	5
41	Cappadocian Maple	130	1.8	10
42	Manna Ash	650	7.8	191
43	Cappadocian Maple	230	3.0	28
44	Cappadocian Maple	170	2.1	14
45	Ash	260	3.3	34
46	Ash	340	4.2	55

Table 3.3: RPA and Approximate Root Protection Radius of Trees Surveyed (continues)

Tree No.	Species	Diam (mm)	Approx. Root Protection Radius (m)	RPA (m ²)
47	Oak	170	2.1	14
48	Ash	130	1.8	10
G1	Oak Ash Elder	<u>350</u>	4.2*	55*
G2	Oak Sycamore Ash Bramble	<u>110</u>	1.5*	7*
G3	Bramble Blackthorn Ash Sycamore	<u>300</u>	3.6*	41*
G4	Oak Sycamore	<u>400</u>	4.8*	72*
Key: <u>000</u> : Estimated dimension *: Average dimensions around centre of each group				

Table 3.3: (cont'd) RPA and Approximate Root Protection Radius of Trees Surveyed

4. DISCUSSION AND CONCLUSIONS

4.1 DESK STUDY

It has yet to be determined whether the trees surveyed are the subject of a Tree Preservation Order (TPO) or situated within a Conservation Area.

This information should be obtained from the local authority prior to any works taking place.

4.2 TREE QUALITY

Forty-eight trees and four groups of trees have been inspected in accordance with BS 5837:2012 Trees in relation to design, demolition and construction - Recommendations.

- None of the trees surveyed are considered to be Category A – Trees of high quality and value.
- Seven of the trees and three groups of trees surveyed are considered to be Category B – Trees of moderate quality and value.
- Fifteen of the trees and one group of trees surveyed are considered to be Category C – Trees of low quality and value.
- Twenty-six of the trees surveyed are considered to be Category U – Trees whose long-term contribution are limited.

A summary of the trees in each of the four categories is given in Table 4.1.

BS 5837 (2012) Category	Tree Number
A	-
B	10, 14, 19, 24, 28, 31, 33, G1, G3, G4.
C	2, 4, 6, 7, 9, 13, 21, 22, 29, 34, 37, 38, 39, 43, 44, G2.
U	1, 3, 5, 8, 11, 12, 15, 16, 17, 18, 20, 23, 25, 26, 27, 30, 32, 35, 36, 40, 41, 42, 45, 46, 47, 48.

Table 4.1: Summary of Trees in BS5837:2012 Categories

5. POTENTIAL IMPACTS FROM CONSTRUCTION PROCESSES OF THE PROPOSED DEVELOPMENT

5.1 CONSTRUCTION PROPOSALS

A Planning Application shall be submitted for the construction of artificial boundary features to Mengham Park in order to prevent unauthorised motor vehicles from entering the site. The construction will include the forming of bunds, swales and the positioning of boulders. No excavation work will be carried out, and subject to the relocation of a number of swales, none required, within the RPA of any tree surveyed as shown on Arbor-Eco Consultancy, Tree Protection Plan, Drawing Number MB220117-01-01, Section 6.

No foundations are required within the RPA and all materials are being transferred into the site from Norman Road, Rails Lane and St Andrew's Road minor trunk roads and **not from internal sections of the site.**

Impact

Construction work carried out within the RPAs of the retained trees will cause the greatest damage. Soil that has been compacted will not provide suitable conditions for the survival and growth of vegetation, whether existing or new, and is a common cause of post-construction tree loss on development sites. Compacted soil will adversely affect drainage, gas exchange, nutrient uptake and organic content, and will seriously impede or restrict root growth. The risk of soil compaction is greatest in soils with a significant clay content and in wet conditions. It can result from temporary or short-term loadings, such as the passage of a single vehicle, or from longer-term construction activities, including materials storage.

Furthermore, increasing soil levels within the RPAs of retained trees will have a similar effect. The addition of soil will compact the existing ground and also restrict the percolation of vital elements for the trees' survival including water, nutrients and oxygen.

Excavation work within the RPA of a tree can sever roots and prevent the tree from the uptake of life supporting elements.

Mitigation

An assessment of the proposed layout for the position of bunds, swales and boulders around the site (as shown on the Proposed Site Drawing provided by Havant Borough Council), indicates that the position of the bunds and swales will not impede into the RPAs except where indicated on Arbor-Eco Consultancy, Tree Protection Plan, Drawing Number MB220117-01-01, Section 6.

Where the bunds and swales are proposed within the RPAs of retained trees, then these can be replaced by boulders which will no longer cause any impact with the trees.

As the site is bound by existing highways and made-up land there is no requirement to access internal sections of Mengham Park. Any encroachment onto unmade ground can have a detrimental effect on the underlying soil structure and therefore it is recommended that all work is carried out from the relevant adjacent highways. Unmade ground will not be encroached and therefore, the fact that all of the bunds and swales can be formed from a roadside position and boulders carefully positioned using a crane and grab, it is very unlikely that any of the trees will be impacted upon.

So long as no work is carried out within the unmade ground of the RPAs of all trees then no conflict with the trees will occur. In accordance with the guidelines of BS5837:2012, all works carried out within the RPA of a retained tree should be done so under the supervision of an Arboricultural Consultant or the Local Authority Tree Officer.

5.2 POTENTIAL IMPACT ON THE AMENITY VALUE OF TREES

Impacts

The proposed development will not require the removal or significant pruning of any trees to facilitate its successful completion. There will be a requirement to remove all deadwood for the enjoyment of the park and for public health reasons only.

Mitigation

Due to the relatively low level of construction work at this site, it is considered that no tree protection measures are required should the works be carried out under the supervision of the retained Arboricultural Consultant or the Local Authority Tree Officer. Furthermore, installing any tree protection would significantly hinder the process of the provision of bunds and swales.

All tree works should be carried out in accordance with BS3998:2010 Tree work – recommendations by a suitably qualified and experienced arborist contractor.

5.3 PROXIMITY OF TREES TO PROPOSED STRUCTURE

Impacts

Branch Spread

Due to the increase in ground level in proximity to trees and that the bunds will not become an out-of-bounds feature; people will now be able to encroach into canopy space. Some of the lateral branches may require pruning works to avoid eye-strike.

Mitigation/Avoidance

A series of management practices will have to be considered in order to avoid risk to public health in the form of pruning works.

So long as such works are completed in accordance with best practice guidance, they will not cause significant harm to the health or amenity value of the tree. All tree works should be carried out in accordance with BS3998:2010 Tree work – recommendations by a suitably qualified and experienced arborist contractor.

5.4 POTENTIAL ROOT AND CANOPY PROTECTION

To prevent harm occurring to retained trees during and post development it is recommended that all construction works are excluded from the Root Protection Areas (RPAs) of retained trees. Additionally, works should not be undertaken beneath the canopy spread of retained trees where this can be avoided.

The RPA represents the minimum area around trees that must be left undisturbed to ensure their survival. The roots typically occupy the top 600 mm of soil and the fine roots which absorb water, oxygen and nutrients are situated in the top 100 mm of soil. Any incursion into the rooting zone of a tree can cause a notable impact upon a tree's health.

For the benefit of this report, it is assumed that further conflict with the roots of retained trees will be insignificant and that the roots within the site will be protected so long as good working practices are adopted along with periods of supervision from the retained Arboricultural Consultant or Local Authority Tree Officer.

Impacts

There will be no works being conducted within unmade ground identified as the RPAs (as shown on Arbor-Eco Consultancy, Tree Protection Plan, Drawing Number MB220117-01-01, Section 6) therefore no impact is anticipated.

Mitigation/Avoidance

The supervision of this work by the retained Arboricultural Consultant or the Local Authority Tree Officer will prevent the intentional and accidental incursion into the RPAs of the retained trees.

5.5 USE OF SUBCONTRACTORS

The Contracts Manager will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any tree on site. Inspections and audits will be regularly carried out by the Contracts Manager during the process. The Contracts Manager will be responsible for the protection of all of the trees and should any concerns be raised by sub-contractual staff then contact with the Project Arboriculturist will be made for advice.

5.6 CONTINGENCY PLAN FOR SOIL CONTAMINATION

Water will be readily available on site and will be used to flush spilt materials through the soil and avoid contamination to tree roots. At the time of any spillage the main contractor will contact the Project Arboriculturist for advice.

Where any vehicles or plant are to be operated or parked in a static location (away from the trees) within the site, they must be sited on a spill berm containment mat. All vehicles and plant operating internally to the site must carry a suitable spill containment and absorption kit.

5.7 REMEDIAL TREE WORKS AND TREE REMOVAL

All tree works are to be completed prior to commencement of construction works.

There are a number of trees that will require facilitation pruning to be carried out post construction and should be verified by the retained Arboricultural Consultant or the Local Authority Tree Officer.

The use of vehicles within the site upon unmade ground is potentially a highly damaging activity as any vehicle movements that occur across unprotected ground will cause soil compaction detrimental to the health of the trees through reduced soil pore space impacting upon the ability of roots to perform gaseous exchanges and nutrient uptake operations.

Where access is required across unmade ground then ground protection must be installed prior to this works being carried out. Details of the appropriate ground protection required should be verified by the retained Arboricultural Consultant or the Local Authority Tree Officer.

All tree works are to be completed by suitably qualified and insured arboricultural in accordance with BS3998:2010 'Tree work – recommendations'.

5.8 RESPONSIBILITIES

It will be the responsibility of the Contracts Manager to ensure that the planning conditions attached to the planning consent are adhered to at all times and that an auditable monitoring regime in regards to tree protection is adopted on site.

The main contractor will be responsible for contacting the Local Planning Authority or Project Arboriculturist should any issues be raised related to the trees on site.

If further pruning works to trees are required at any time, then the Contracts Manager will request permission from the Local Planning Authority and then the works must be carried out in accordance with BS3998:2010 Tree work - recommendations.

5.9 GENERAL PRECAUTIONS

No materials that are likely to have an adverse effect on tree health such as oil, bitumen or cement will be stored or discharged within 10 m of the stem of any tree that is to be retained. No fires will be lit within 20 m of the stem of any tree that is to be retained. Spill kits will be readily available across the site and carried on vehicles working within the boundary of the development.

5.10 CONTACT DETAILS

Arboricultural Consultant - Marco Bartolini
Arbor-Eco Consultancy
Tel: 07542093882

5.11 DISCLAIMER

The contents of this report are the responsibility of Arbor-Eco Consultancy. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Furthermore, the report does not automatically assume that the decision from the Local Authority will be positive as the final decision is with the Planning Department.

Arbor-Eco Consultancy accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

5.12 VALIDITY OF DATA

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, an updated site visit should be carried out by a suitably qualified and experienced arboriculturist to assess any changes to the trees, groups and woodlands on site and to inform a review of the conclusions and recommendations made.

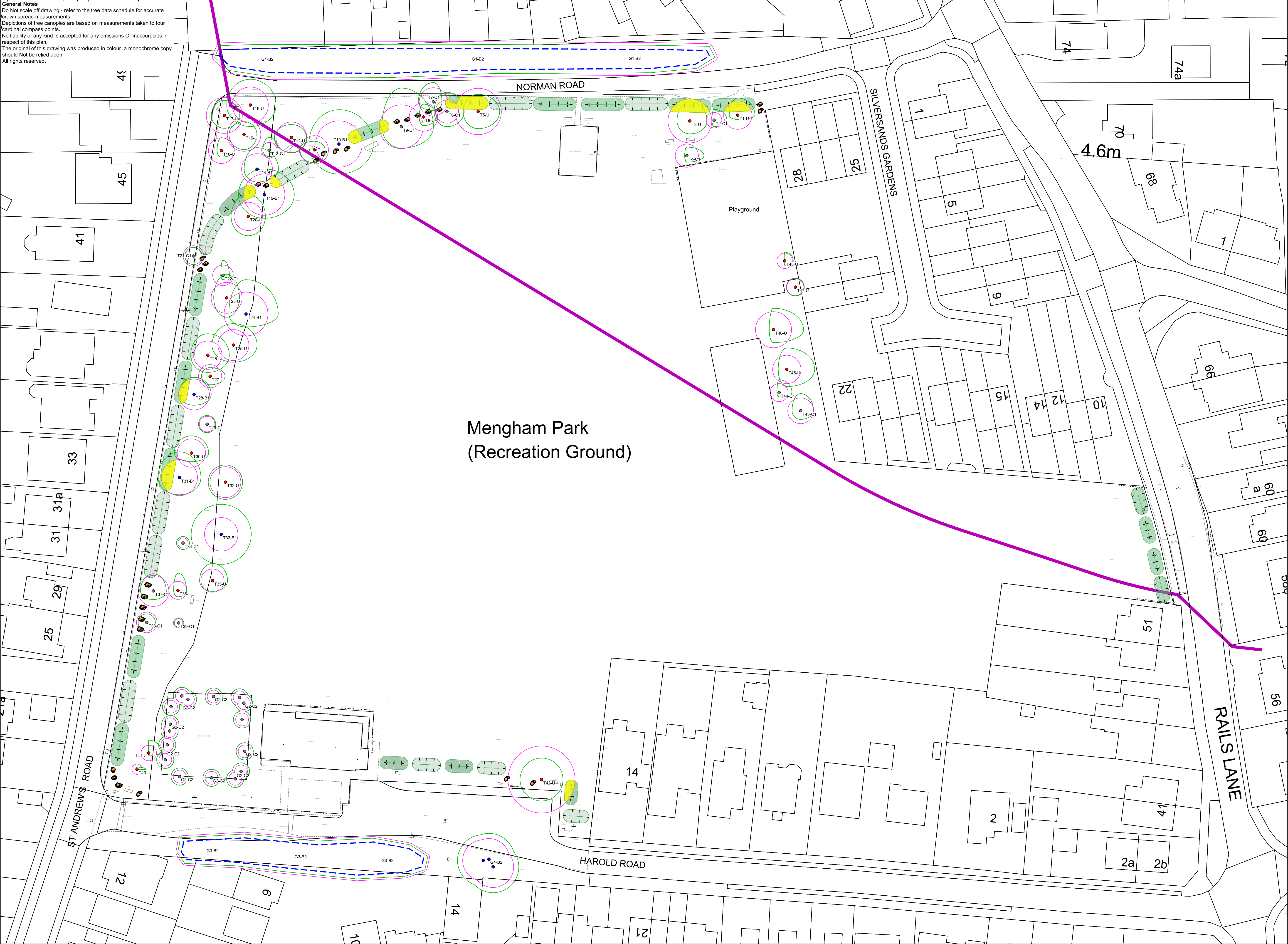
It should be noted that trees are dynamic living organisms that are subject to natural changes as they age or are influenced by changes in their environment. As such following any significant meteorological event or changes in the growing environment of the trees they should be re-assessed by a suitably qualified and experienced arboriculturist.

6. DRAWINGS

Tree Protection Plan - Drawing Number MB220117-01-01.

Tree Preservation Order Map (courtesy Havant BC)

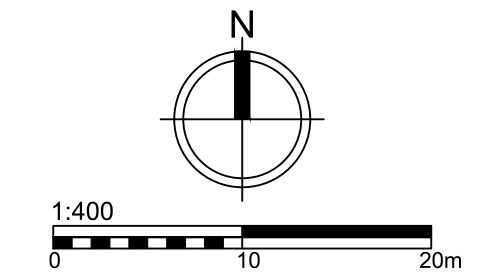
General Notes
Do Not scale off drawing - refer to the tree data schedule for accurate crown spread measurements.
Depictions of tree canopies are based on measurements taken to four cardinal compass points.
No liability of any kind is accepted for any omissions Or inaccuracies in respect of this plan.
The original of this drawing was produced in colour a monochrome copy should Not be relied upon.
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Key

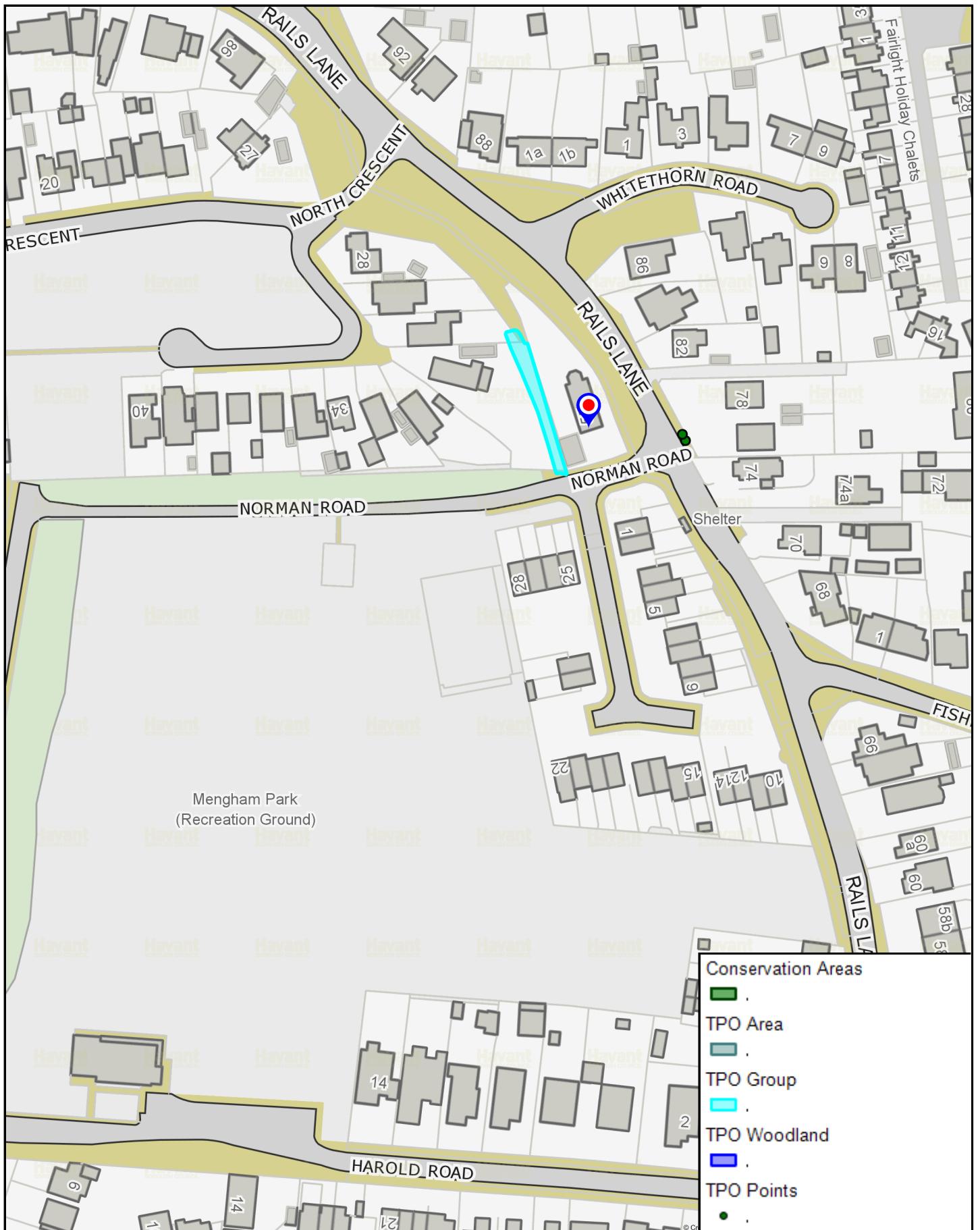
- Trees Showing Canopy extents, category colour and tag number (with category).
- Category A Trees of high quality with an estimated remaining life expectancy of at least 40 years.
- Category B Trees of moderate quality with an estimated remaining life expectancy of at least 20 years.
- Category C Trees of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150 mm.
- Category U Trees in such a condition that they can not realistically be retained as living trees in the context of the current land use for longer than 10 years.
- Tree Groups Shown as dashed centre/boundary line. Colour represents category (see above).
- BS 5837:2012 Root Protection Area
- Sections of Bund/Swale within RPA's to be Replaced with Boulders
- Proposed Swales
- Proposed Bunds
- Natural Verge Edging Stone (0.5 - 1 Tonne)
- Rising Main

All works to be carried out from the highway. No incursion within RPA's is permitted. All works to be carried out under arboricultural supervision.




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Marco Bartolini

Client	Havant Borough Council			
Project	Mengham Park, Hayling Island			
Drawing Title	Tree Protection Plan			
Scale	Date	DB	CB	
1:400 - A1	18/02/2022	CS	MB	
Drawing Number	Rev			
MB220117-01-01			A	



Mengham Park Recreation Ground

Havant
BOROUGH COUNCIL



N Scale: 1:1417

Printed on: 2022-02-18 16:20:51

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