

Tree Management Plan

for

St Peter and St Paul School  
Chesterfield

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Consultancy

## Summary

This tree and woodland management plan has been prepared to help protect the long term amenity of tree cover within the school grounds.

The tree population is large and mature. The trees are a considerable asset to the school and significant within the local landscape.

The trees are mostly in very good health following a tree condition survey in August 2021.

Tree populations can be vulnerable to loss from pests and diseases and natural senescence. Newly planted trees can take a number of decades to mature meaning it can be many years before the loss of a large mature tree is replaced by new planting.

Sections 1 and 2 of this plan identify the threats to tree loss and the areas within the school grounds that are most sensitive to change through tree loss.

Section 3 identifies options to improve the tree population and Section 4 makes specific recommendations.

Plans 1 and 2 show the suggested planting positions.

The proposals are limited to planting 11 trees over the next ten years. The proposals are intended to reach a balance between helping to protect long term tree cover whilst recognising there may be limits to the amount of resources that can be made available for such work.

# Contents

1	INTRODUCTION .....	5
1.1	Introduction .....	5
1.2	The need for a tree management plan.....	5
1.3	Description of the existing tree cover .....	5
1.3.1	Woodland along the southern boundary .....	6
1.3.2	Lime avenue.....	6
1.3.3	Line along the western boundary .....	6
1.3.4	Woodland along the northern boundary .....	7
1.3.5	Woodland to the north of the school .....	7
1.3.6	Group to the west of the school and car park.....	7
1.3.7	Group in the playing fields.....	8
2	THREATS TO THE TREES .....	9
2.1	Species specific pests and diseases.....	9
2.2	Age profile.....	9
2.3	Threats to the tree population at St Peter and St Paul School.....	10
3	MANAGEMENT SUGGESTIONS.....	11
3.1.1	Woodland along the southern boundary .....	11
3.1.2	Lime venue.....	11
3.1.3	Line along the western boundary .....	11
3.1.4	Woodland along the northern boundary .....	12
3.1.5	Woodland to the north of the school building.....	12
3.1.6	Woodland to the west of the car park .....	12
3.1.7	Group within the playing fields.....	12
4	PLANTING RECOMMENDATIONS .....	13
4.1	Planting recommendations.....	13
4.1.1	Woodland along the southern boundary .....	13
4.1.2	Lime avenue.....	13
4.1.3	Line along the western boundary .....	13
4.1.4	Northern boundary .....	13
4.1.5	Woodland to the north of the school .....	13
4.1.6	Woodland to the west of the car park .....	14

4.1.7 Group within the playing fields..... 14

## Plans

Plan 1 The suggested planting positions of new trees along the southern boundary and west of the car park.....15

Plan 2 The suggested planting positions of new trees on the southern boundary.....16

# **1 INTRODUCTION**

## **1.1 Introduction**

St Peter and St Paul School is set within large grounds with a significant population of trees. The trees are growing as individuals, groups and woodland areas. Some of the trees are likely to form part of the original landscaping when the property was built.

There are in excess of 300 trees in the grounds. Most are mature.

The trees contribute significantly to the character and amenity of the school grounds but also to the wider area.

This management plan has been prepared to help ensure there is a continued population of healthy trees into the long term.

## **1.2 The need for a tree management plan**

In large open spaces with no trees the desire and need to plant trees can be obvious and immediate. However, when properties enjoy the benefits of a large population of healthy trees the need to plant more trees can be easy to overlook.

Trees are living structures that have a finite life expectancy. They can also be affected by extreme weather conditions and pests and diseases. These natural phenomena can conspire to reduce the life expectancy of trees. Furthermore, where trees are growing in high risk areas there can be a need to remove them before the natural end of their life to eliminate a known risk to safety or damage to property.

Newly planted trees can take so long to mature, particularly long lived species such as oak, sweet chestnut and lime. It can be many decades before they begin to replace the value lost by a large mature tree.

This management plan seeks to identify threats to the tree cover at St Peter and St Paul School and present opportunities to complete new planting.

## **1.3 Description of the existing tree cover**

A tree condition survey completed in August 2021 identified over 300 trees growing in woodlands and as groups around the grounds. Most are growing around the boundaries of the property such as woodland and a lime avenue along the southern boundary, a line of trees along the western boundary, and woodland along the northern boundary and to the north of the school buildings.

### 1.3.1 Woodland along the southern boundary

This woodland comprises mixed broadleaves including sycamore, oak, beech and ash with smaller horse chestnuts, elms, yews, hollies and rowans.

The large, significant trees in the woodland are mainly sycamore, beech and some oak.

The trees are mostly in good health and most have good future prospects but a number have reduced life expectancy. These include the ash trees due to the threat from ash dieback and some of the beech trees with impaired condition.

The tree condition survey identified four large beech trees in this woodland that are not expected to live longer than 20 years due to decay or poor health. Trees 11, 13 and 49 are expected to live safely for up to 20 years. Tree 44 is in very poor health and has been recommended to have its crown removed.

These trees are a significant component of the woodland because they are so large.

### 1.3.2 Lime avenue

There is a double row of lime trees growing along the western part of the southern boundary. These trees make a significant feature of the landscape.

The trees will have been planted at the same time in closely spaced rows, probably as part of the original landscaping for the property.

These limes are in good health with long future prospects. I would expect most of the lime trees to continue growing healthily for the next 40 years. There are a number of suppressed trees within the avenue that may die sooner but this will not impact the overall significance of the feature.

There are a number of less significant trees within this feature such as sycamore, elm and pine. These are incidental to the limes which provide the significant amenity.

### 1.3.3 Line along the western boundary

There is a single line of mature trees along the western boundary. There are 35 sycamores and two oaks. Most are large mature and healthy trees with good future prospects.

There are three large trees along this boundary which may need to be removed within the next 20 years.

Tree 194 is a sycamore with a decay cavity. I have recommended removal as a low priority.

Trees 198 and 203 have reduced vigour. Monitoring of their health will help establish whether there is a pattern of decline or whether they might improve.

There are a number of gaps in this line where trees have already been removed.

#### 1.3.4 Woodland along the northern boundary

There is a long linear woodland along the northern boundary growing on very steeply sloping ground. There is a line of 33 mature sycamore and five oaks growing along the edge with the playing field. Many of these are large imposing trees with large crowns that extend over the playing field. These are all in good health and I would expect most will continue to grow healthily for at least another 40 years.

#### 1.3.5 Woodland to the north of the school

This woodland area is dominated by beech and sycamore. Some of the beech are very large, old trees. There is a particularly large, old beech tree towards the northern part of the woodland.

Most of the trees are in good health with good future prospects. There are a limited number of younger trees throughout the woodland, mainly because the canopy of the mature trees has created dark conditions on the ground that is preventing young trees from establishing. This means that the number of young trees present to replace older trees is limited.

Fortunately, the trees in this woodland are mostly in good health and I would not anticipate significant tree loss from this area over the next ten years.

#### 1.3.6 Group to the west of the school and car park

There are a number of old trees within this groups that will have been planted as part of the early formal landscaping of the grounds. The weeping ash, copper beech and yew are likely to form part of the original planting.

The sycamores have grown up in recent years naturally from seed.

There is a much higher than normal chance of the weeping ash dying prematurely due to infection with the pathogen that causes ash dieback.

There are three large copper beech in this group. They are a significant component of the group. They are presently healthy but they are all the same age in maturity and may begin to develop defects and need to be removed at a similar time. If this comes to pass it would create a significant gap in the tree cover in this part of the grounds.

### 1.3.7 Group in the playing fields

There is a group of 18 sycamore trees growing at very close spacings. The trees are all the same age having been planted at the same time. Some are significantly larger than others. The small trees will have become suppressed by the larger trees which has resulted in slower growth rates.

The trees are all very healthy and sycamore is usually a very long lived species where it is not impacted by mechanical damage. With the exception of some of the small suppressed trees in this groups I would expect most of the trees in this group to live for at least the next 40 years. The trees that are suppressed are not a major component of the group and would not alter the appearance of the group if they died.



## 2 THREATS TO THE TREES

### 2.1 Species specific pests and diseases

There are pests and diseases that attack single tree species, often with catastrophic effect. They have the potential to alter whole landscapes. Dutch elm disease killed the vast majority of the two native elms in England between the 1960s and 1990s. The disease continues to kill elms in Scotland.

Ash dieback is a disease that has been moving west through mainland Europe for the last 30 years. It arrived in the UK in 2012 and is having a significant impact on the native ash population of the UK.

Other pests and diseases already present include *Phytophthora ramorum* on larch, spruce bark beetle and acute oak decline.

Two pests yet to enter the UK, but that are a significant threat, are the emerald ash borer and Asian longhorn beetle.

The best way to mitigate against these pests and diseases is to have as varied a population of trees as possible. This will reduce the impact of any one pest or disease outbreak on a tree population.

### 2.2 Age profile

Trees all have a limit to their life expectancy. Cherries, ornamental apples and birches tend to be short lived at no more than 50 years. Beech can reach 200 or so years, oaks and limes over 500 and yew for over 1000 years. However, life expectancy is often reduced in urban areas because there are pressures on the trees which reduce their health. Trees may also need to be removed prematurely in urban areas to remove a threat to safety.

Where a population of trees is all a similar age and in the older age categories this can result in a number of trees being removed at a similar time. This can have the effect of altering the local landscape.

### **2.3 Threats to the tree population at St Peter and St Paul School**

The main species in terms of numbers and their significance are beech, sycamore and lime with a smaller number of oak. The diversity of tree species within the school grounds is reasonably good across the school as a whole. However, local areas within the school grounds could be susceptible to significant change from species specific pests and diseases. These are the lime avenue on the southern boundary, the line of mainly sycamores on the western and northern boundaries and the dominance of beech in the woodland to the north of the school. Fortunately, there are no significant known threats from pests and diseases to any of these species at present. There is a threat to beech from climate change if we experience hotter drier summers but this threat is more likely in the south of England.

The population within the school grounds is mostly mature. There are some younger trees but the age profile is significantly biased towards mature trees. This age profile is the largest threat to the tree population at St Peter and St Paul School. Fortunately, the tree condition survey from August 2021 concluded that most trees are in good health and there were only three mature trees recommended for removal. At this stage there are another seven trees that potentially may need to be removed within the next 10 to 20 years.

### 3 MANAGEMENT SUGGESTIONS

Based on the discussions in Sections 1 and 2 above I have made some management suggestions for the seven areas that will help to maintain continuity of cover in the long term.

#### 3.1.1 Woodland along the southern boundary

There are a number of gaps in the canopy of this woodland area that have high enough light levels to allow new trees to establish. These areas are identified on Plan 1. The woodland is currently dominated by sycamore and beech. In the interests of increasing species diversity I would recommend establishing a wider range of species. I would recommend long lived, large growing species such as lime, Sessile oak and sweet chestnut.

There is also an opportunity to plant a specimen tree in the lawned area at the entrance to the school if the school wished to consider it. Large growing statement species such as Deodar cedar, cedar of Lebanon, copper beech or tulip tree would make a statement. The other more commonly grown species such as oak, lime and sweet chestnut could also be considered.

#### 3.1.2 Lime venue

The trees in this avenue are in good condition. Lime is also known to be a very robust and long lived tree. The school probably has the luxury of time with this avenue.

It would be advisable to consider some new planting within the avenue but there are possibly other, larger priority areas to consider over the next ten years.

#### 3.1.3 Line along the western boundary

There are a number of gaps in this row following the removal of trees over the years. These gaps can be seen on Plan 3. I have recommended removing one other tree in the tree condition report. This will create a further gap.

It would be very worthwhile to establish new trees in these gaps. This would allow enough time for the trees to become established before many more trees need to be removed. This process has been started with the planting of a Norway maple and a lime. This is regarded as sound long term management.

#### 3.1.4 Woodland along the northern boundary

The large sycamore trees along the woodland edge are all very healthy with no major defects likely to limit their life expectancy within the next 20 years. Furthermore, there is a woodland belt behind these trees which helps to provide additional tree cover should any of the edge trees be lost.

#### 3.1.5 Woodland to the north of the school building

The trees in this woodland are mostly very healthy with few significant defects that are likely to reduce life expectancy. The woodland floor is very dark at the moment due to canopy closure of the mature trees. To be able to establish new trees within this woodland there would need to be more light reaching the woodland floor through gaps in the canopy, otherwise the new trees would struggle to thrive. The gaps in the canopy would need to be created by removal of mature trees. This can either be done when trees are starting to become unsafe or through proactive felling. There are possibly enough other areas with higher priorities for tree establishment than this area at the moment.

#### 3.1.6 Woodland to the west of the car park

There are two weeping ash in this area that are declining in health due to ash dieback. Whilst it is too early to know for sure if they are likely to die there is a higher than normal expectation that they will.

The young sycamore trees that are in this group would never have been intended as part of the planting. It is likely that this would have been an open terrace with specimen trees such as the weeping ash, copper beech, yews and hollies.

Re-landscaping the terrace by removing the young sycamore and replacing these with up to five specimen trees would recreate some of original landscaping. I appreciate that this is a larger piece of work that would take greater resourcing.

Species to consider could include smaller ornamental trees such as flowering cherries, weeping species to replace the weeping ash such as weeping beech, Camperdown elm and Young's weeping birch. The latter two are smaller growing species.

#### 3.1.7 Group within the playing fields.

These trees are in very good health with currently no defects that are expected to shorten their lives. Some of the smaller trees that are suppressed may die out over time but this will not have a negative impact on the groups as a whole.

This group is a low priority for establishing new trees.

## 4 PLANTING RECOMMENDATIONS

### 4.1 Planting recommendations

The following are planting recommendations that the school may wish to consider within the next ten years within the school grounds. The trees would not need to be planted all in the same years. They could be planted as and when budget allow over the next decade.

The species recommendations are intended to begin to increase the range of species in the grounds.

The planting positions selected are within those areas most at risk of change over the next 20 years due to tree loss.

#### 4.1.1 Woodland along the southern boundary

Consider planting three trees at the positions shown on Plan 1; one of each from the following species: small leaved lime, large leaved lime or sweet chestnut.

Consider a specimen tree at the entrance to the school from the following species: Tulip tree, copper beech, deodar cedar, cedar of Lebanon or Sessile oak.

#### 4.1.2 Lime avenue

No need to consider any new planting within the next ten years.

#### 4.1.3 Line along the western boundary

Consider one tree in each of the gaps between Trees 207 and 208 and Trees 210 and 211. Select one of each from Scots pine, small leaved lime, tulip trees and Norway maple.

#### 4.1.4 Northern boundary

No need to consider any new planting within the next ten years.

#### 4.1.5 Woodland to the north of the school

No need to consider any new planting within the next ten years unless gaps in the canopy arise from planned tree removal.

#### 4.1.6 Woodland to the west of the car park

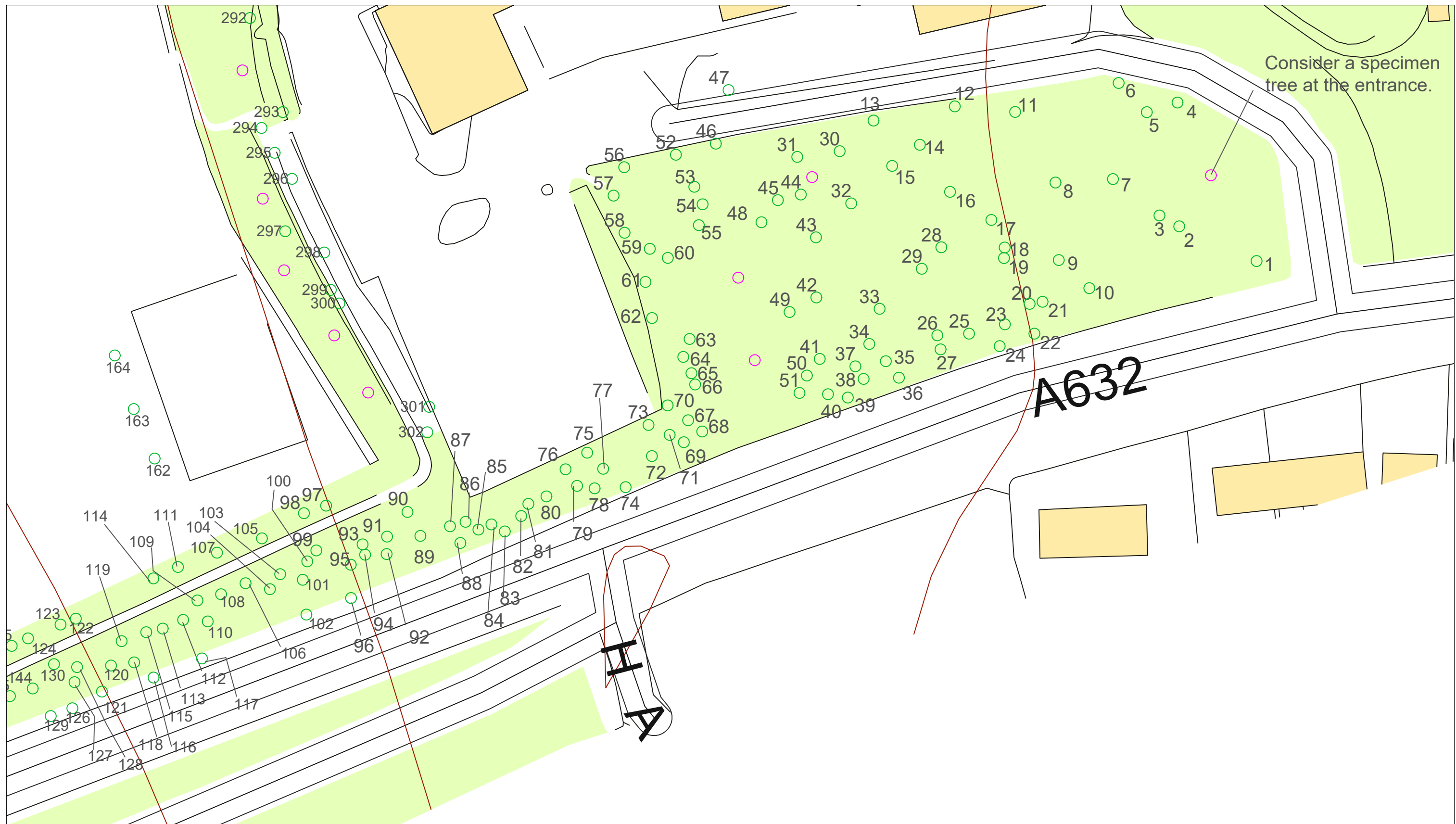
Consider removing some of the young sycamore to create space to plant up to five new trees. I would recommend a mix of small ornamental species and larger specimen trees.

The school may wish to consider three small growing species including an ornamental cherry, a Camperdown elm (this is a small growing weeping elm) and a weeping birch.

The school may also wish to consider a new copper beech and a sweet gum. Sweet gum have striking autumn colour.


#### 4.1.7 Group within the playing fields.

No need to consider any new planting within the next ten years.

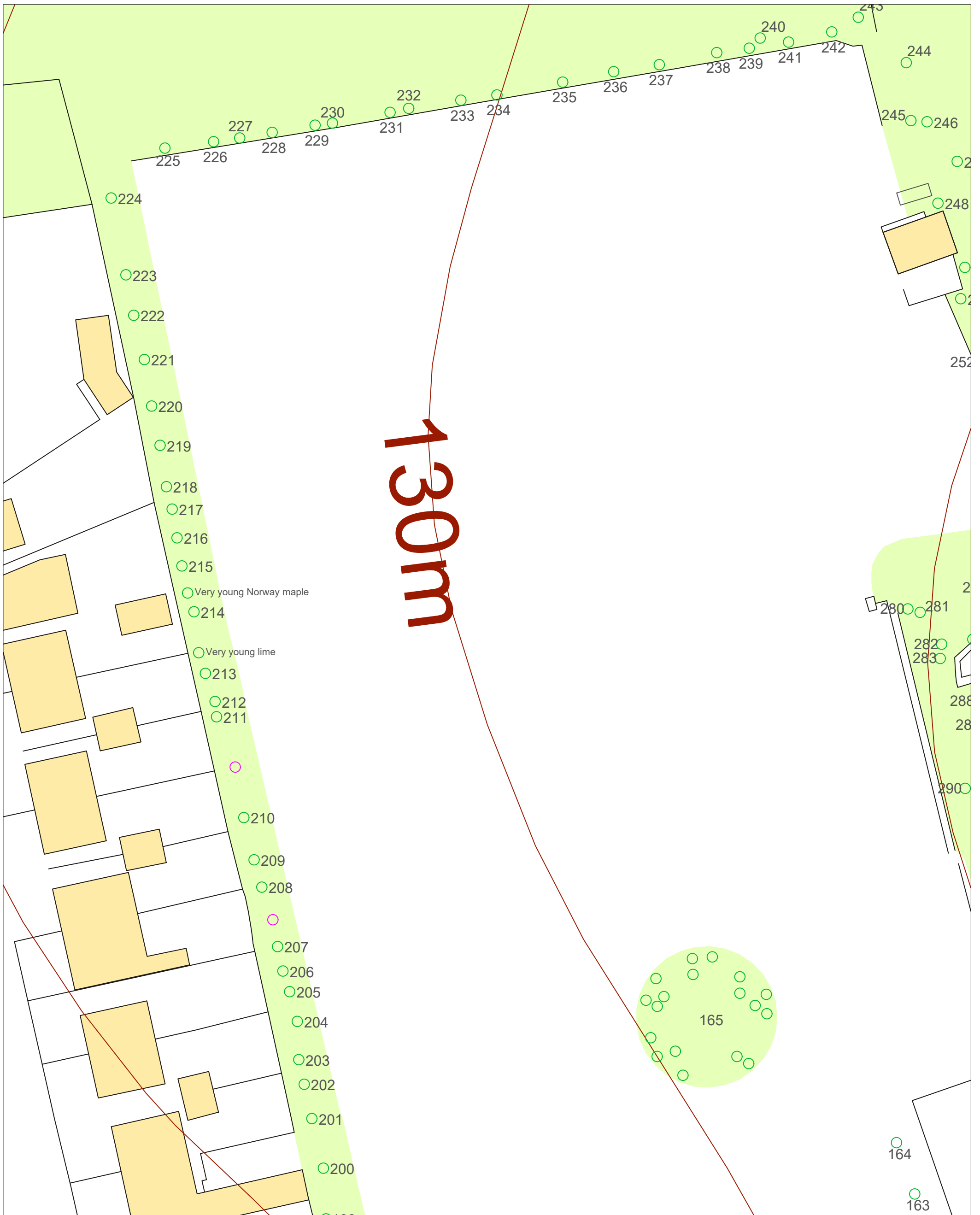


Plan 1. Suggested planting positions along the drive and around the car park

Scale 1:500 @ A3

- 1  The approximate location of an existing tree included in the tree condition report
-  Suggested position of a new tree.





130m

Plan 2. Suggested planting positions along the western boundary

Scale 1:500 @ A3

1 The approximate location of a tree and its number

Suggested position of a new tree.





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