

1 SUMMARY

This report has been commissioned to assess the condition of a Common Lime tree (*Tilia x europea*) located outside the entrance of Coleridge Primary School East, N8 8DN. This detailed inspection follows on from a routine visual inspection in March.

The inspection and report have been carried out for Woodland Tree Surgery by Alasdair Nicoll who holds a level 4 diploma in arboriculture, LANTRA professional tree inspection and IML masterclass training in the use of the IML Resi PD-400.

I have concluded that although the tree could be safely retained, with pruning for a further 5 – 10 years, given the location I would recommend felling the tree and replacing it with a suitable species.

2 INTRODUCTION

The Lime tree was the subject of a routine visual tree assessment (VTA) on the 7/3/23. Use of a sounding mallet revealed resonance consistent with internal decay and hollowing. Given the location of the tree and its amenity value, a thorough investigation using a micro drill was recommended to assess the structural condition of the stem.

3 OBSERVATIONS

The tree is one of a row of five trees located on an external boundary approximately 2m from Crouch End Hill (A103), 5m from the school building. There is an area to the northwest where parents congregate before and after school to collect their children. Given the usage of the area around the tree, there is a high level of occupancy around it.

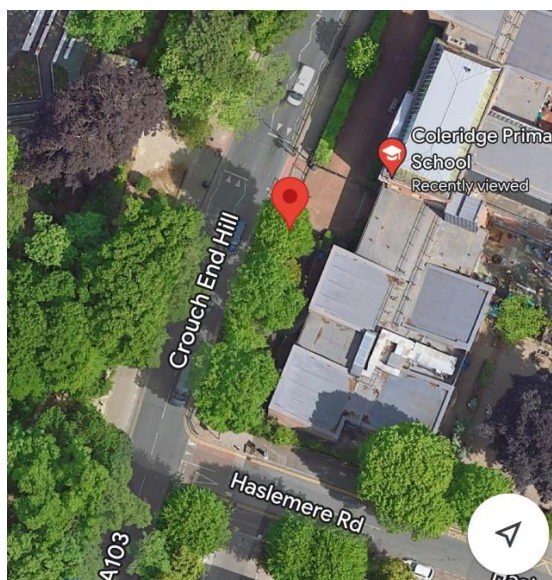


Figure 1: The location of the Lime tree



Figure 2: The location of the tree

The tree is rooted in an area of raised ground less than 2m wide with an old stone wall on the outside boundary to the west and a sleeper retaining wall to the east. It is likely that rooting area of the tree on the inside of the boundary is likely have been subject to level changes in the past.



Figure 3: The base of the tree on the school side

The base of the tree has no pronounced buttressing.

The stem diameter was measured at 1.5m as being 650mm.

There is a historic wound on the west of the stem at about 1m measuring approximately 53cm high by 31cm wide. Decayed and dysfunctional wood is visible. No fungal fruiting bodies were visible at the time of inspection. The callus formed around the wound is good, indicative of normal vitality.



Figure 4: Historic wound on the west side of the stem

The tree is approximately 16m high. It has been pollarded historically at approximately 9m. The stem and base of the tree are covered in epicormic growth which has been cyclically removed.

The vitality of the tree is normal for it's age and species with normal leaf colour and size, and normal canopy density.

4 RESULTS OF THE THOROUGH INVESTIGATION

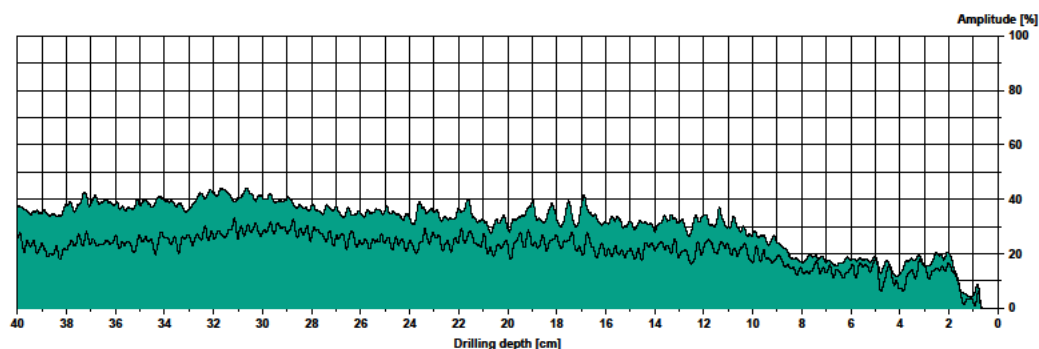
The micro drill used is an IML PD-400 micro drill. This measures the torque and penetration resistance to a 3mm probe up to 40cm into the stem. The readings give an indication of how much of the radius of the stem is decayed or undecayed.

On the 25th July 2023 total of 15 measurements were taken including 1 control drill into a neighbouring tree. One reading was discarded as an incomplete reading.

4 readings were taken at ground level, 1m and 1.6m and one reading at 2m. The most relevant readings have been included.

The reading at 2m is consistent with normal wood to 32cm and then minor degradation of the wood structure after 32cm.

Measuring / object data			
Measurement no.:	15	Speed :	2500 r/min
ID number :	Col lime 2m W	Needle state:	—
Drilling depth :	39.95 cm	Tilt :	—
Date :	25.07.2023	Offset :	115 / 251
Time :	15:08:45	Avg. curve :	off / off
Feed :	200 cm/min	Location :	
		Name :	



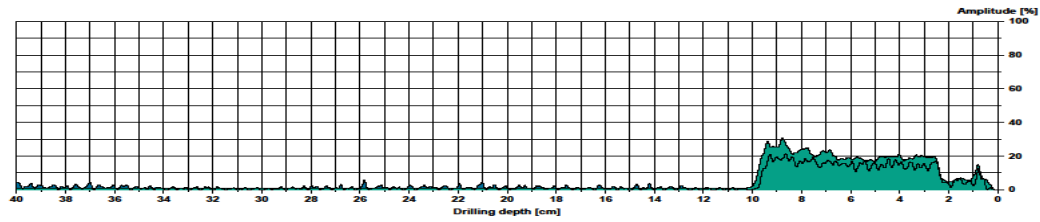
At 1.6m the reading to the north, east and west were normal or acceptable. The reading taken on the western side, taken just above the historic wound, showed a thin residual wall of 4cm and then 20cm of decay before the needle auto retracted on hitting sound wood. These readings are consistent with a strong residual wall of sound wood on three sides of a cavity.

At 1m the four readings are consistent with a residual wall ranging between 6cm and 12cm. At this point the stem may have a reduced wind load capacity.

At ground level the measured residual walls are much reduced, ranging from 5cm to 14m which is likely to reduce wind load capacity.

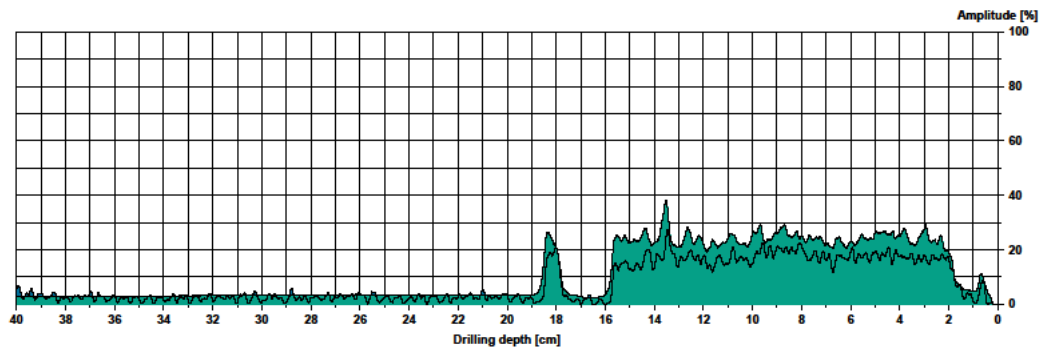
Measuring / object data

Measurement no.:	3	Speed	: 2500 r/min	Diameter:	
ID number	: Col lime ground N	Needle state:	—	Level	:
Drilling depth	: 39.96 cm	Tilt	: —	Direction:	
Date	: 25.07.2023	Offset	: 114 / 250	Species	:
Time	: 14:38:34	Avg. curve	: off / off	Location	:
Feed	: 200 cm/min			Name	:



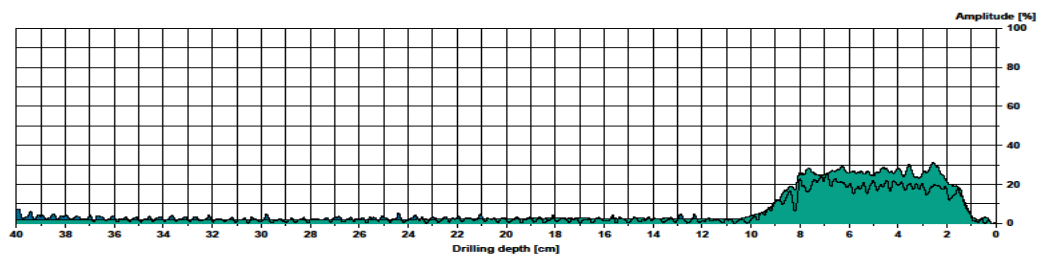
Measuring / object data

Measurement no.:	2	Speed	: 2500 r/min	Diameter:	
ID number	: Col lime ground E	Needle state:	—	Level	:
Drilling depth	: 39.96 cm	Tilt	: —	Direction:	
Date	: 25.07.2023	Offset	: 121 / 262	Species	:
Time	: 14:35:20	Avg. curve	: off / off	Location	:
Feed	: 200 cm/min			Name	:



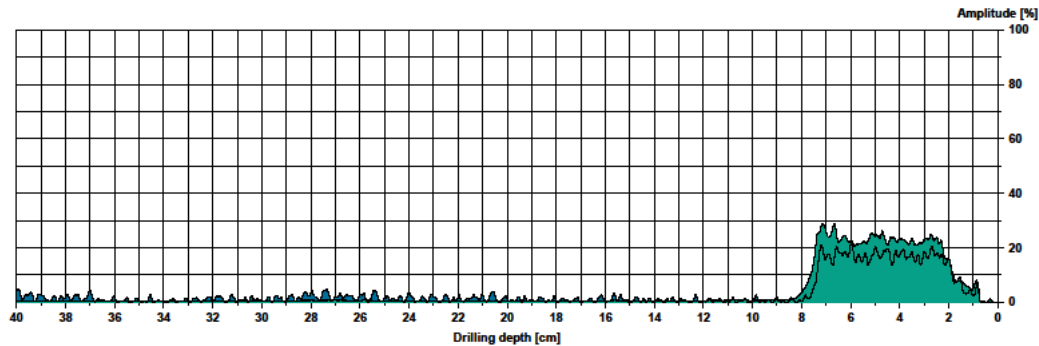
Measuring / object data

Measurement no.:	4	Speed	: 2500 r/min	Diameter:	
ID number	: Col lime ground S	Needle state:	—	Level	:
Drilling depth	: 39.96 cm	Tilt	: —	Direction:	
Date	: 25.07.2023	Offset	: 112 / 251	Species	:
Time	: 14:39:34	Avg. curve	: off / off	Location	:
Feed	: 200 cm/min			Name	:



Measuring / object data

Measurement no.:	12	Speed	: 2500 r/min	Diameter:	
ID number	: Col lime ground W	Needle state:	—	Level	:
Drilling depth	: 39.96 cm	Tilt	: —	Direction	:
Date	: 25.07.2023	Offset	: 118 / 247	Species	:
Time	: 15:04:36	Avg. curve	: off / off	Location	:
Feed	: 200 cm/min			Name	:



5 DISCUSSION

The Resi readings are consistent with a column of decay which starts between 2m and 1.6m. This column widens as it extends down to 1m and ground level. The extent of decay below ground is unknown.

Hollowing is a normal part of tree aging and does not necessarily result in loss of strength.

The tree does not have any big side branches that would subject it to torsional wind load. Torsional load greatly increases the risk of tree failure.

Mattheck (1995) states that a full canopy tree with a residual wall less than 30% of it's radius can be vulnerable to failure. The thinnest residual wall measured was at ground level on the western side as being 18.5%. This will reduce the wind load capacity if the tree has a full crown.

The condition of the tree below ground is unknown and given that there may have been excavation in the rooting zone and the decay column widens towards the base and the lack of any pronounced buttressing, I don't have a high degree of confidence in the wind load capacity of the base of the tree.

In my opinion the tree could be safely retained for a further 5 – 10 years if it is re-pollarded regularly, however, given the location I would recommend that the tree is removed, and a suitable tree planted in it's place.

6 RECOMMENDATIONS

The recommended option is to fell the tree within 3 months.

If there is a strong desire to retain the tree, re-pollard to the previous pollard point within 3 months.

Re-inspect annually.