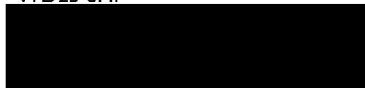


**Simon Pryce Arboriculture**

CP House,  
Otterspool Way,  
Watford,  
WD25 8HP



Kernahans Property Consultants  
4 Englands Lane,  
London,  
NW3 4TG

Date: 30 July 2016  
Your ref:  
My ref 15/063/2  
FAO Brian Kernahan  
By e mail

Dear Sirs,

**Birch tree in front of 51 Belsize Park Gardens, NW3**

1. Thank you for sending the more recent photographs of the damaged wall while the crack was being patched last April. I revisited the site on 7 July and I hope this report is helpful. This updates my previous report of 24 September 2015, based on an inspection on 6 August that year.
2. You originally asked me to advise because the tree is damaging the side wall between the front garden and that of no.49 to the right. In April this year the owners of no.51 had the crack on that side repaired by chipping off and replacing the render and repainting the wall.

**Background**

3. The report prepared by Andrew Papworth in June 2014 contains a description of the tree and the damage to the side boundary all between nos.49 and 51 and he advised that this is being caused by direct pressure from the tree's trunk on the wall foundations. He also comments that, if the tree was retained, the damage to the side wall would worsen as it continued to grow and that it could also affect the retaining wall between the raised bed and the light well. He advised that it should be felled and that there were numerous species that would be suitable as replacements.
4. The site is in Belsize Park Conservation Area and Camden objected to the proposal to remove it (their reference 2014/4169/T and their letter states that they have made a tree preservation order (TPO), no C1126 2014, with the stated reasons:

*It is considered that the birch tree provides significant visual amenity to this part of the conservation area and adds to the character of the streetscape. The tree is in the front garden and is highly visible from the public realm. The tree appears to be in good condition both structurally and physiologically with no apparent significant defects. It is considered that the tree has a long safe useful life expectancy.*

*The arboricultural report submitted alleges that the tree is implicated in damage to a wall between gardens at the front of the property. It is considered that an engineering solution could be sort (sought) to allow for the tree to be retained and the wall to be repaired. A tree preservation order has been served to protect the character of this part of the conservation area.*

Simon Pryce, B.Sc., F.Arbor.A, C.Biol, MSB, MICFor, CEnv  
Arboricultural Association Registered Consultant



5. I gather that Camden have subsequently refused TPO consent for an application to reduce the tree by 40%, made by the resident of Flat 1, ref 2015/2644/T. Camden's web site lists that application, with copies of the application form and Mr Papworth's report. However there is no copy of the decision and a recent enquiry to their legal department indicates that the TPO has not been confirmed. Orders have to be confirmed within six months of being made so it has now lapsed. It is not clear why it was allowed to lapse, a possible reason is that it was considered that the TPO could not be justified in the light of the damage to the wall.

#### **The tree**

6. The tree is a well established birch growing in a raised planting bed formed in the front part of the light well in front of the lower ground floor flat. The retaining wall is clad in new looking timber, but has clearly been present for some time and might be original, as there is a similar raised bed of almost exactly the same dimensions in front of no.49.
7. The tree is about 15m high and has a single vertical trunk about 270mm in diameter at about 1.5m above ground. The crown has a radial spread of 3 - 5m, reducing on the side facing the house where it has been pruned in the past to create clearance and to the right due to the proximity of the lime in front of no.49. There is some minor dead wood in the crown, but the foliage is of normal density and healthy looking. The base of the trunk is touching the side boundary wall, which is preventing normal root buttress development on that side.

#### **Damage**

8. This is shown on the photographs. The side wall next to the tree has been displaced laterally towards no.49 by approximately 30mm, so there is a crack in the coping on the top and a diagonal crack that ascends from near the base of the tree towards the house. This goes right through the wall as the crack is mirrored by one on the side facing no.49. That crack is wider due to the wall being displaced towards no.49.
9. The trunk was also damaging two plastic electrical cable conduits attached to the wall just above ground level.

#### **Discussion**

##### ***Cause of the problem***

10. The local subsoil is London clay, which creates a potential for trees to cause subsidence if the roots cause significant soil drying below foundations. However in this case the wall is being displaced sideways with no signs of vertical movement and I agree with Mr. Papworth that this is due to direct pressure from the expansion of the lower trunk and main roots as the tree grows. Birches are not particularly large growing, but can develop trunks 400 - 500mm in diameter at maturity. As the tree is currently about 300mm diameter at ground level and touching the wall it could push it up to another 100mm, if the tree is left to continue growing, so the damage will worsen significantly and it is likely that it will affect the retaining wall as well.
11. Subsidence is an indirect form of damage caused by fine absorbing roots taking water, so it can sometimes be alleviated by pruning if trees are not too close to the affected structure. However the damage here is being caused by direct pressure from the growing trunk; reduction and regular recutting might slow that slightly, but would not stop it.

#### ***Remedial options***

12. Camden Council's refusal notice refers to seeking an engineering solution as an alternative to felling the tree, but they do not go into any detail on that. That can work with subsidence cases where trees are typically some distance from the wall not in direct contact like this one. Any long term solution that allowed the tree to be retained would inevitably involve rebuilding the wall. It forms the boundary between the properties, so would need to be built back onto the correct line. It might be possible to install a lintel to allow root spread into no.49 but, as photograph 4 shows, the wall would have to be made narrower or built with a gap to accommodate future trunk growth as well. Birches do not tolerate ground disturbance and, even with a small scale building operation like this, it would be at a high risk of severe damage. Minor wounding might be survivable in the short term, but could lead to colonisation by decay fungi that would make the tree unstable and shorten its safe life expectancy.
13. In view of these points the most appropriate option here is to remove the tree, so that the wall can be rebuilt in its existing form and on the correct property boundary. The problems with the tree are due entirely to its location next to the wall and a suitable new tree elsewhere in the raised planting bed would make a similar or better contribution to the conservation area without these problems.
- Mr. Papworth lists several species that would be well suited, including another birch.

#### ***Local amenity***

14. Any modification to the wall sufficient to accommodate the tree's growth would alter its appearance considerably, so would probably need conservation area consent. Camden's decision would need to make a balance between that and the tree's amenity value. Its contribution to the street scene is limited, as the lime at no.49 hides it almost completely when approaching from the right and the other trees in this section of the street make it much less noticeable as an individual than it would otherwise be and would mitigate the effect of removing it until a better sited replacement established. The regular pruning to clear the building makes its branch structure unnatural and leaves it asymmetrical when seen from the other direction.
15. It is in fair health at present, but not a naturally long lived species with a typical life span of 50 - 80 years. That tends to be lower in urban sites and it is probably 30 - 35 years old at present, so might make some contribution to local amenity for another couple of decades at most, provided it is not damaged. Any modification to the wall could be reversed once the tree had died, but it is hard to see any point in that approach, given the limited and short term benefit. The lime and other trees in this part of the street would mitigate the immediate visual impact of removing the birch and a new tree in a slightly different location would make a comparable or better contribution to local amenity without the problem with the wall.
- cont...

**Summary and conclusions**

16. The local subsoil is London clay, which creates a potential for subsidence, but the damage here has been caused by direct pressure from the main roots and lower trunk displacing the boundary wall towards no.49.
17. The side facing no.51 has been repaired, but the base of the trunk is in contact with the wall and the tree is not fully grown, so the damage will worsen significantly if it is retained.
18. The tree makes some contribution to local amenity, but that is reduced by the other trees nearby and by the pruning to clear the building.
19. Pruning will not alleviate the problem with the wall and any engineering solution would carry a high risk of damaging the tree. Birches are not naturally long lived and, while it might survive minor wounding in the short term, its safe life expectancy would be reduced further.
20. Any engineering work that did not harm the tree would involve major changes to the wall and would probably need conservation area consent. It could be reversed once the tree had died but, given the tree's modest amenity value and life expectancy, there would be no point in that approach.
21. A suitable new tree planted farther from the wall would avoid this problem in future.
22. I hope this is helpful but if you have any queries or wish to discuss the matter further please do not hesitate to contact me.

Yours sincerely,

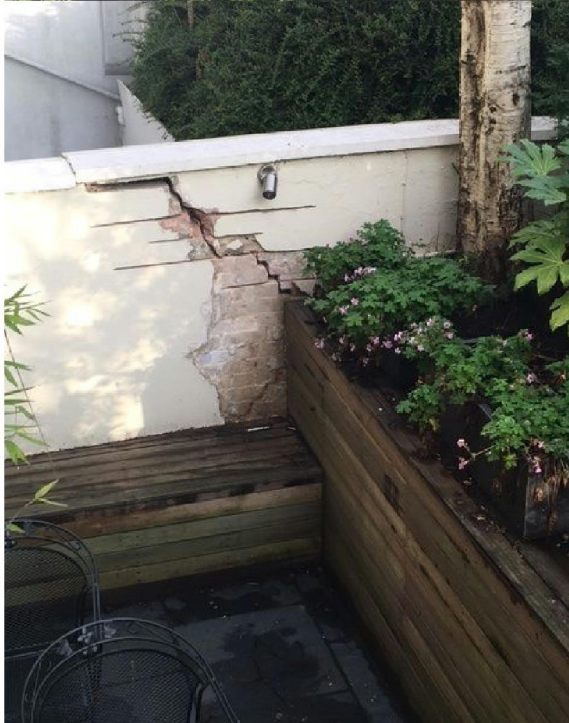


Simon Pryce

## Photographs



1) Crack from no.51  
August 2015



2) Same crack in April 2016, while being repaired, showing the full extent of the distortion and damage that had been hidden by the render and paint. This has now been filled and re rendered, but the distortion cannot be remedied.





3) View from no.49, September 2015, wider on this side due to the wall being pushed in this direction.

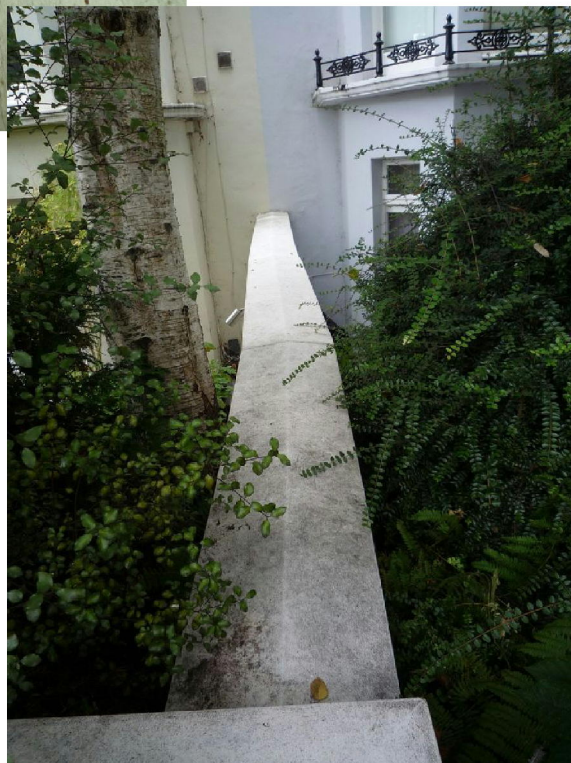


4) Same crack in July 2016, wider although the other side of the wall has been repaired



5) Lower trunk showing base touching the wall, vertical crack and broken conduit. September 2015

6) View along the top of the wall towards the house showing the degree of lateral distortion, September 2015.







7) View along the street from the L, birch indicated by the arrow.



8) View from the R, birch is hidden by the lime, arrow indicates its location.