

IN THE COUNTY COURT AT CENTRAL LONDON
TECHNOLOGY AND CONSTRUCTION COURT LIST

Claim No: E20CL002

His Honour Judge Edward Bailey

BETWEEN:

(1) THE OFFICIAL CUSTODIAN FOR CHARITIES
ON BEHALF OF THE CENTRAL GURDWARA (BRITISH ISLES)
LONDON KHALSA JATHA

(2) THE TRUSTEES OF THE CENTRAL GURDWARA (BRITISH ISLES)
LONDON KHALSA JATHA

Claimants

-and-

ROYAL BOROUGH OF KENSINGTON & CHELSEA

Defendant

JUDGMENT

1. The Claimants are and have at all material times been the freehold owners of a building and land at 62 Queensdale Road, London W11 4SG (“the Gurdwara”). The Gurdwara is a three-storey building which was originally constructed in the 1840s as a church and subsequently taken over by the Salvation Army for use as a Corps or Citadel. The building was acquired by the local Sikh community in the 1960s and converted into a Temple or Gurdwara. Shortly after its acquisition the Gurdwara caught fire and was substantially destroyed. Extensive restoration works were then carried out.
2. The entrance to the building is set well above street level, and has to be reached by steps. These steps have been altered over the years, but after the building became a Gurdwara there were two flights of steps with a landing mid-way to the front entrance. Both flights were clad in marble. This marble was re-laid in 2003.

3. In the street in front of the Gurdwara, growing in sections of the pavement, there was an Indian bean tree (“T1”) and a Turkish hazel (“T2”) for which the Defendant was responsible. Estimates of the heights of these trees and their respective distances from the steps in front of the Gurdwara vary. By 2007, when damage was discovered for which the trees were subsequently blamed, the Indian bean tree was between 13.5 and 15m tall and between 1 and 2m from the front of the steps, and the Turkish hazel was between 10 and 12m tall and between 3.5 and 4m from the front of the steps. The precise height and distance from the steps of the trees is not of particular significance. The trees were of some maturity and were reasonably close to the steps.
4. In about October 2007, at a time when the trustees of the Gurdwara were considering removing the marble cladding, cracking to the stairs was noted. This cracking is described by Mr Anand, a managing trustee who gave evidence on behalf of the Claimants, as consisting of one big crack and some smaller cracks in the marble. Mr Anand also thought that the level at the front of the steps was going down. The Claimants notified the Gurdwara’s insurers, Ecclesiastical, and the Claimants also appointed Assessing Direct to act on the claim on their behalf.
5. Assessing Direct instructed Michael Chester and Partners LLP (“Michael Chester”) (consulting and structural engineers) to investigate, and Michael Chester provided an initial report on 23 November 2007. The report confirmed the existence of cracking to the right-hand steps and right corner of the Gurdwara. Investigation under the steps, in a semi-basement, revealed significant cracking in the rendered brickwork substrate. Michael Chester recommended a series of further investigations, but he noted the presence of trees and drainage in proximity “both potentially able to adversely affect the subsoils”.
6. Ecclesiastical Insurance instructed InFront Innovation (“InFront” later the Innovation Group), and Mr James Robson, an engineer from InFront, visited the Gurdwara and provided a report dated 23 January 2008. The report stated that the marble-clad steps were noted to be sloping down towards the front right-hand corner by 5mm. Stepped cracking up to 5mm in width was noted on the right-hand side of the steps where marble cladding had been taken down. Sections of the block paving to the right-hand side of the steps were noted to be uneven with some of the blocks having been previously lifted and set aside. The damage was classified as BRE category 3 (moderate). Mr Robson

advised that site investigations would need to be carried out to determine the cause of the damage. The report notes that “the diagonal aspects of the cracks to the right-hand side of the steps, together with the fact that they increase in width with height is indicative of subsidence which may be due to a number of causes”. The report continues “similar damage appears to have occurred to the left-hand side of the steps, in an area remote from that to the right hand side. It also appears to have occurred at a different time as it was not originally picked up during Michael Chester’s original survey...There is no indication that the damage to the main building and its outriggers has been caused by subsidence”.

7. Michael Chester provided a further report, dated 6 February 2008, which concluded that the front steps had suffered subsidence due to the effects of tree roots. The report notes that the steps had brick corbeled footings 600mm deep, bearing on to silty clays of high shrinkage potential, which reduced to medium shrinkage potential with depth. Live roots were recovered to a depth of 2.2m and were identified as Hazel and an unidentified shrub. Tests on the soil revealed it not to be significantly desiccated in January (although it is noted that it might well have been in the summer). Mr Chester recommended that loose marble cladding be removed and replaced with a neat ply covering.
8. Michael Chester’s report was based on a trial pit and borehole investigation carried out by TerraSpec Investigations Limited on 20 January 2018 on which the Geotechnical Engineers Oscus had reported by letter dated 5 February 2008. The TerraSpec report identified two nearby trees, a bean tree and a fruit tree. Roots from the fruit tree were found in the course of investigation and examined. The Oscus report considered the possibility that the Gurdwara was suffering from clay shrinkage subsidence and that there was a risk of heave in the event that the trees were removed. The author’s conclusion was that the in-situ vane tests, moisture content profiles and suction tests collectively confirmed that the nearby trees were having no influence on the soil at the time of investigation and that there was no desiccation evident in the sub-soils. As a consequence the ‘offending trees’ could be removed without risk of heave, but as there was a possibility that desiccated conditions might be present in the summer months removal of trees then might be subject to ‘slight heave’.
9. Ecclesiastical Insurance also instructed Marishal Thompson to produce an

arboricultural report, and the report, dated 30 April 2008, concluded that the two trees referred to in the TerraSpec investigation, now identified as an Indian Bean Tree and a Turkish Hazel, were considered to be significant factors in the damage to the Gurdwara. Marishal Thompson recommended the removal of both trees. However, this report cannot be seen as constituting an independent opinion that the trees were responsible for the damage. It states in terms that it is

“based upon our understanding at the time of visiting the property that InFront Innovation’s engineers are satisfied that damage is due to clay shrinkage subsidence exacerbated by vegetation...”.

10. On 20 May 2008, InFront wrote to the Defendant Council informing the Council that structural damage at the Gurdwara had been found the previous year indicative of subsidence. InFront refer to the presence of “significant vegetation which we believe is your responsibility” and suggests that this vegetation may be “a significant influencing factor given the clay nature of the subsoil” which they believed had been caused by the Trees. Investigations were however ongoing.
11. The Defendant instructed loss adjusters P Dutson Associates to investigate the claim. Mr Dutson carried out no independent investigation of his own, but on the basis of the material obtained by Michael Chester was unconvinced by the suggestion that either of the two trees were responsible for the damage to the Gurdwara, so reporting on 11 September 2008.
12. As the Defendant was not prepared to remove the trees on the material presented InFront recommended that there be level monitoring. This was implemented with the first set of readings being taken on 16 January 2009. Mr Richard Rollit of InFront gave evidence at the hearing. His summary of the monitoring at paragraph 25 of his witness statement:

“... Readings over the first year were considered to be supportive of cyclical movement, albeit that they were not high in magnitude. However some issues were identified with the majority of readings taken after 6 November 2009 as these were showing downward movement when they were expected to show upward movement. Following some discussions with Mr Evans it was suggested that perhaps the issues with the monitoring was due to a change in the datum from point 7 to point 6 in July 2009. On further investigation it was confirmed by the then engineer Cyril Nazareth that the monitoring pins had been bashed around during the extension works carried out by the Claimants in 2009 and that resetting had distorted the readings which could have accounted for pin 7 showing up when it should have been showing down.

It was recommended that the datum be set to point 1 which was removed from the trees and where the influence of the trees would be minimal... Following the change to the datum it was agreed by Infront's engineer and Robert Evans that the monitoring profile looked more tree related. By which I mean that levels showed a decrease during summer months in the line with the soil being dehydrated by the trees and an increase in winter months when the trees were dormant and the soil rehydrated."

Mr Robert Evans was an engineering expert instructed by Ecclesiastical Insurance.

13. Mr Evans engaged Listers Geotechnical Consultants Ltd to carry out further ground investigations in October 2009 when three boreholes were excavated:

- (1) WS1; a control borehole situated some distance from any vegetation.
- (2) WS2; on the lower section of the steps and immediately adjacent to the Indian bean tree. The description of strata indicates a marble slab on 300mm of concrete. Immediately beneath the concrete is a 1.5m deep layer i.e. extending to 1.8m below ground level, described as firm dark brown clay with fragments of brick and concrete and small ash deposits indicative of made ground. Beneath the made ground, at a depth of 1.8m below ground level, is a layer of Langley Silt extending for a total thickness of 1.0m, and under this are River Terrace Deposits consisting of sand and gravel.
- (3) WS3; on the centre right hand side of the steps. This contained made ground consisting of soft to firm dark clay with brick concrete slate, ash and china to a depth of 2.4m below step level. Immediately beneath the fill material is Langley Silt at a depth of 2.4m, extending to a depth of 3.7m below step level. Immediately beneath this is River Terrace Deposits.

Soil suction tests were carried out to all three boreholes. No roots were found in the boreholes but the arboricultural experts are agreed that the soil tests confirmed that tree roots had caused moderate to severe desiccation during the summer of 2009.

14. As a result of the investigations the Defendant came under pressure to remove both the trees, and it proposed to do so. There was however a great deal of resistance from the local community to the removal of the trees. The local MP was involved and injunction proceedings threatened. In the event the decision was taken to fell the Indian Bean tree but leave the Turkish Hazel pending further monitoring. The Indian Bean tree trunk had grown at a marked angle to the vertical such that it interfered with easy passage along

the pavement outside the Gurdwara. Mr Angus Morrison, the principal arboricultural officer of the Defendant, excused its removal to angry residents by styling it a health and safety issue (and for this political excuse is perhaps harshly castigated by Ms Nolten, counsel for the Claimants, for a ‘lie which does him no credit’), but in due course the Indian bean tree was removed in two stages on 14 and 17 February 2011.

15. Monitoring continued after the removal of the Indian bean tree. This monitoring indicated that the Turkish hazel was not having an adverse effect on the sub-soil. Following a technical review of the claim, InFront, on 14 June 2012, concluded that there was negligible movement being demonstrated and that, “taking into account the age of the tree, evidence is lacking to support that the Hazel is having any affect and causing damage”. InFront therefore rejected the suggestion from Michael Chester that piling would be necessary to overcome any movement in the subsoil and that therefore “the repair scheme needs to omit any substructure proposals”.
16. On 16 July 2012, Michael Chester provided three further options for remedial works: (i) omit piling and design the pavement level slab as a raft; (ii) omit piling and omit the pavement level raft – construct new ground bearing steps onto the existing fill and reinforce the steps to better accommodate small movements; and (iii) undertake simple repairs to the existing unreinforced structure and grout any local voids under the Steps. Michael Chester continued to recommend his piled raft proposal warning that all his three options carried with them the risk of further movement and damage.
17. InFront and Michael Chester were unable to agree on the appropriate way forward, and Michael Chester indicated that he would approach the Claimant to suggest that they fund the greater expense resulting from a piling scheme for the remedial works. Michael Chester was not impressed by the argument that since the removal of the Indian bean tree there had been negligible movement. His concern was the fact that the steps were bearing on some two metres of made ground. Such ground would not necessarily provide a reliable base for the reconstruction of the steps, work which the Claimants might wish to carry out irrespective of the claim for subsidence damage.
18. The repairs commenced on 4 December 2013. On 6 December 2013, after the structure had been exposed, Michael Chester sent an email stating “The landings are formed of screed over 200mm of unreinforced concrete. The steps appear formed of screed over

100mm concrete. These bear onto clayey fill material which is presently quite soft under the steps. I would advise that some measures be taken to improve the fill material and have asked Uretek to make a proposal". InFront did not agree that Uretek would be a suitable for the site, but evidently shared Michael Chester's concern that the steps were not adequately supported. The InFront contractor manager recommended some localised shuttering and concrete fill.

19. Mr Dutson inspected the Property on 6 December 2013 when he noticed the poor and inconsistent manner in which the steps had been constructed. He noted the existence of a substantial void at the right-hand side of the steps, which was believed to have been between the marble and the concrete. He instructed Mr Chick of JP Chick & Partners, consulting civil and structural engineers, to attend site and investigate.
20. Mr Chick inspected the steps to the Gurdwara on 10 December 2013 and he sent his notes of site inspection to Mr Dutson the following day. Mr Chick found a series of disconcerting features. There was poor workmanship in placing the marble over the concrete screed. The concrete was not reinforced and was therefore prone to movement. There were significant gaps and loss of continuity in the horizontal and vertical components, giving an uneven load distribution. A trial pit had been excavated which revealed evidence of a previous concrete step and beneath this step was a very loose soil/fill material. There was a large upstand towards the rear right of the left-hand side section. It was evident that water had been penetrating this area and there had been freeze thaw attack on vertical sections of the marble. At the right-hand side section there was significant void beneath the marble, and it was apparent that the entire area had been suffering from settlement, not subsidence.
21. The solid retaining wall was found to be in a poor condition and repairs had been made to it in the past. Mr Chick considered it likely that the repairs were made as a consequence of movement in the wall. Such movement would have also affected the steps thereby causing damage to them. The cracking in the wall, in his view, was not consistent with it being tree related because the movement indicated vertical settlement towards the rear of the wall, as opposed to movement at the front where the Indian bean tree had been situated. In addition, the area of brick paving to the right-hand side of the retaining wall also suffered from consolidation movement which was towards the rear of the steps away from the trees.

22. Michael Chester also commented on what had been exposed by the works. In a letter dated 12 February 2014 to Assessing Direct Michael Chester noted ‘several difficulties’ including the poor condition of the screed on the steps, large areas of screed being found to be debonded or with voids between them, voids under the concrete of the steps, the soft nature of the clayey fill material under the left hand entrance steps which needed improvement to provide a reliable base for new works, a large fracture in the left hand wing wall, earlier poor repair at the right hand wing wall and so on. Michael Chester expressed concern that “the current subsidence damage, to what is now known to be a parlous base, may not be capable of repair”, and he strongly recommended that “we revert to the original scheme to demolish and build new steps on a reinforced concrete slab supported on piles through the underlying 2 metres of fill above the Langley Silts”.
23. On 20 February 2014 Mr Kevin Phillips of InFront met Mr Robert Evans and Michael Chester at the Gurdwara to inspect the works in progress after the removal of the granite (marble) steps and risers on the left-hand side. The Visit Report notes that
- “..while the steps were being repaired it became evident that there was loose fill and voids beneath the steps and concerns were raised by Mr Chester that to replace the granite steps with no consideration for any foundation works could result in further distortions and damage to the steps in the future. To the right hand steps, a section of supporting wall has been removed from the right hand flank. This has revealed that another old set of steps is evident below the current steps in use, with further voids and loose fill material.”
- Mr Chester repeated his proposal for piled foundations, although Mr Evans considered that the piled scheme was extreme.
24. It would appear that his site investigation had led Mr Phillips to consider the possibility that there had indeed been settlement as well as subsidence. In his report dated 4 March 2014, Mr Phillips stated that the front steps had been damaged by “the influence of a nearby Local Authority street tree ... since removed and possibly a combination of settlement of the made ground beneath the steps”. Mr Phillips suggested that the most effective solution was to grout the voids beneath, adding “such voids have probably been created by inadequate compaction of the fill material prior to constructing the steps initially”.
25. Although Jo Bell of InFront held to the view that monitoring had not supported the view that the voids had influenced the damage, she nevertheless, in an interim payment report

dated 11 March 2014, advised Ecclesiastical that insurers should pay for the cost of filling them. Miss Bell suggested that the filling of the voids should be with cement grout.

26. The cement grouting was to be carried out by Morcon Foundation Ltd. However, on 6 May 2014 Morcon's contracts director emailed to say

“We note ... that there is a very large cavity beneath the stairs. This we believe would be too large to fill with grout and would not solve the problem of the movement of the stairs. We believe that the extra weight of the grout, if used, would exacerbate the problem by adding tonnes of extra weight to the problem. We apologise for this change, but we do not want to carry out a scheme that would not only not work, but has the possibility of making matters worse.”

Mr Chester forwarded this email on to Mr Evans and Infront with the comment that “Morcon consider that the weight of grouting the large void will cause settlement to occur and will not adequately support the steps and will make matters worse. They recommend demolition and rebuilding”.

27. Morcon's concerns as to the weight of the proposed cement grouting made the use of Uretek, a much lighter material, the more attractive and its use was recommended to insurers by Jo Bell of InFront, in an interim payment report dated 20 June 2014. The comment is made in this report that “whilst the voiding is reasonably large both sides, it would appear that this will have been evident from the original construction albeit some subsidence of the infill will have occurred”.

28. Michael Chester sought an opinion from Benefil, the manufacturers of Uretek, as to whether their product might be a suitable application to fill the voids. In his email of 24 July 2014 to Benefil Mr Chester stated

“Obviously filling the small voids immediately under the steps concrete would be beneficial and could be achieved by various forms of grouting through shallow holes drilled through the concrete on say a metre grid. Filling the large voids under the original steps is more problematical. The ground under the voids is very poor/variable. Filling these large voids could prevent collapse of the underlying Victorian steps but settlement would occur if load were to be transferred through the filler onto the ground below, unless it were improved.”

29. In a review of the case by Robert Evans in a note sent to Michael Chester, dated 7 August 2014, he states “in the absence of any external influence on the soil below the walls supporting the steps (for which Ecclesiastical provides cover) any movement that might occur in the future would be due to settlement (for which Ecclesiastical does not

provide cover). However, I am of the view that the risk of settlement is low. The reason I say this is that although the findings from WS3 (Listers' investigation) shows some layers of weak soil, which could be subjected to settlement if loaded, because of the weight imposed by the steps over many decades, the soil below the foundations to the supporting wall have been compacted; this is probably why cracks formed in the walls at the right-hand side.”

30. Michael Chester remained concerned that insurers proposed to fill the voids with Uretek rather than ensure that the repaired steps were supported by piled foundations. In an email to Nigel Thompson, dated 4 September 2014, Michael Chester stressed “This installation is being undertaken at the insistence of InFront Innovation (on behalf of Ecclesiastical who are the Insurers) as a ‘safety net’ against catastrophic collapse. Michael Chester and Partners have advised that it is not a substitute for repairing any subsidence damage to the underlying structure which In Front Innovation have refused to include in the context of Central Gurdwara’s insurance claim and which Central Gurdwara have declined to pay for.”
31. The first Uretek injection took place on 19 September 2014, with further injection work undertaken on 3 February 2015. In all about 24 cubic metres of Uretek was injected into voids beneath the steps. Whether it was or would have been effective or not is a matter for debate. At paragraph 6.48 of his expert report Mr Chick expressed the opinion that it did not work, an opinion supported by photographs. The Uretek extended down to a certain depth but left a quantity of very loose material which was heavily voided. The main contract works were eventually completed in around May 2015 and the remedial works as a whole were finished in October 2015. Even then there were problems with pooling of water at the bottom of the steps, and a surface drain was installed to allow a better flow of rainwater.
32. In this instance time will not tell whether the injection of Uretek was effective to fill the voids and support the steps. For in the event the Claimants undertook extensive remedial works to the steps at the Gurdwara during 2017 well within two years of the completion of the remedial works. The steps were entirely demolished and rebuilt on a piled foundation.
33. The final account met by insurers was £261,718.53. There are a number of invoices and

reports in the bundle which identify particular payments made in respect of the works. It is not however possible to formulate a breakdown of all the works carried out, and ascertain the cost of each particular item. The sum claimed by the Claimants in these proceedings is £220,763.91. This is an assessment of the cost to make good the damage to the steps and is agreed by the Defendant, subject to liability.

34. The fact that the steps were entirely rebuilt and on a new foundation within two years of the completion of the remedial works is plainly a matter of interest. It raises the possibility that the remedial works failed to remedy a serious underlying problem with the steps, and that the cause of the damage discovered 10 years earlier was not subsidence through tree root desiccation but some other cause.
35. Understandably the Defendant has been keen to have disclosure of documents created in respect of the 2017 works, and in particular the files on these works kept by Michael Chester, the engineer with overall responsibility for the works. The Claimants have resisted giving such disclosure, apparently on the ground of relevance, and although the Defendant pressed them it was not to the point of an application for specific disclosure. It is most unfortunate that disclosure of the 2017 works documents was not given. The only evidence the court has had as to the reason for the works has been given by Mr Anand, a managing trustee who had an involvement in the 2017 works but is in no position to answer detailed questions on the works and, more importantly, what was revealed when the steps were removed. Michael Chester, it will have been noted above, was throughout the period during which the remedial works were being carried out more than anxious to ensure that the remedial works involved a new piled foundation, expressing a live concern that the structure carrying the steps would not have sufficient strength to support them. It would indeed have been instructive to see Michael Chester's files relating to the 2017 works.
36. In his second witness statement, dated 1 June 2018, Mr Anand states that in early 2017 there were areas of damp found in the ladies' and men's toilets at the Gurdwara, both situated under the steps, and that this damp was accompanied by drainage smells and water pooling on the stairs. A structural survey report was commissioned from Mr Ameet Bhamra, a surveyor with links to the Gurdwara. This report, dated 20 March 2017 identified damp penetration through the steps and a lack of ventilation. The report recommends that there be tanking to the underside of the top landing and to the external

walls of the toilets, that the integrity of the concrete supporting the granite stone laid as the surface of the steps be checked, and that provided the concrete is found to be satisfactory channel drains are to be installed. There is no suggestion in that survey report of a wider settlement problem, but it is probable that the scope of the investigation (despite being broadly stated in the report as being ‘to identify the issues and remedial works required to rectify any issues raised’) was limited to immediate problem of damp. There is in fact no reference to drainage problems in the report of 20 March 2017.

37. Mr Anand’s second witness statement further explains that following receipt of the survey report the Virdee Foundation (“the Foundation”), who were paying for the renovations works to the Gurdwara, decided that in addition to providing tanking to protect the under-steps toilets, it would carry out works involving changing the layout of the steps to remove the central platform so as to free up space below the steps. Furthermore, after these works had commenced the Uretek foam which had been applied to fill the voids was encountered and, not being ‘happy’ with the use of the foam, the Foundation decided to expand the works to a complete demolition and reconstruction of the steps with new foundations.
38. Mr Anand was naturally pressed about the reasons behind the great increase in the scope of the works, and he did not deal with the questioning at all satisfactorily. Mr Anand was determinedly adamant that the steps were not rebuilt on account of structural problems. This evidence sits uneasily with comments he made in Facebook videos posted on 6 May 2017 and 2 September 2017 while the works were being carried out. These videos were posted for the purpose of keeping the Gurdwara faithful informed as to the works, their purpose and likely duration (and were given in evidence by the Defendant’s solicitor in her witness statement of 17 May 2018):

“...the stairs are gone. How do we get in? Okay, so we had major issues with the stairs with water ingress and they really needed to have their foundation re-done. Sadly on previous attempts to repair the stairs, work just hadn’t been done properly. You can see on the last attempt, there were voids under the stairs. It was known about and they were filled with expanding foam which isn’t really ideal but one interesting thing you can see here is you can actually see the original stairs from which were built in 1849 when it was opened as the Salvation Army, Norland Castle Citadel.”

“...these are the new stairs. So, we’ve built the stairs totally from scratch, taking everything right down to the ground and actually building brand new stair

foundations so they will be strong and good for many, many, many decades....”

39. These comments are rather more consistent with a need to replace the steps for structural reasons than a need to deal simply with water penetration and damp issues, Mr Anand’s line in oral evidence. A settlement cause for the poor state of the steps might have been a matter covered by insurance, and Mr Anand did suggest that if the problem was more than water ingress they would have been ‘knocking on the door of insurers’. But he explained away the failure to press insurers on the question of settlement on that basis that the Foundation ‘could not care less’ about a claim against insurers, being anxious to get on with the work. After all, Mr Anand pointed out, the previous claim had taken 6 years to resolve and ‘no responsible trustee would wait another 6 years for rebuilding’.
40. In the event however the Foundation did refer the matter to insurers, not on the basis of a new claim but that the works undertaken to remedy the previous claim had proved insufficient and defective. A new contract manager for InFront, Chris Pridmore, attended the Gurdwara on 21 April 2017 and met Harminder Singh and Ameet Bhamra. Mr Pridmore was told that the steps had suffered from further subsidence after completion of the remedial works (in 2015). It is difficult to see how any such subsidence could have been related to tree root desiccation. Mr Pridmore was evidently unimpressed with the use of Uretek and expressed the opinion that “the previous repairs had not addressed the problem”. He proposed however to resist a claim for further payment by insurers on the basis that the work carried out had been agreed with the Claimants’ assessor. Such a defence would have been difficult to maintain, not least because the (limited) scope of the remedial works was pursued in the teeth of opposition from the Gurdwara’s engineer, Michael Chester. In the event the Foundation proceeded with the work of completely rebuilding the steps at its own expense without further involving insurers.
41. The Claimants commenced proceedings on 6 January 2017, a subrogated claim brought by insurers to recover the sums paid to the Gurdwara under the policy. The Particulars of Claim pleads a standard tree root subsidence claim. Relying on both trees, the Indian bean tree and the Turkish hazel, the Claimants assert that the trees posed a real risk of damage to the Gurdwara, such a risk was or ought to have been reasonably foreseeable

to the Defendant, and that the Defendants should have taken steps to prune, reduce or remove the trees so as to prevent the damage.

42. The Defendant denies that the trees posed a real risk of damage. No risk was foreseeable and the Defendant came under no duty to more than maintain the trees by a general prune every three years, a cycle they maintained. Furthermore, the Defendant suggests that no reasonable system of maintenance would have prevented tree root desiccation damage to the Gurdwara. In any event the Defendant denies that the trees did in fact cause the damage that was suffered by the Gurdwara.
43. As identified in the Claimants' opening skeleton the main issues before the court are the following:
 - (1) Did the Trees pose a foreseeable risk of damage to the Gurdwara (meaning a "real" as opposed to a notional risk)?
 - (2) If they did, what steps ought D to have taken in light of that risk?
 - (3) Whether those steps, if taken, would have prevented the damage.
 - (4) Were the Trees a substantial and effective cause of the damage to the Gurdwara?
 - (5) What was the reasonable cost of carrying out the repair work to the Gurdwara which were undertaken between December 2013 and October 2015 (whether this damage was caused by the Trees or by any other mechanism)?
44. The final issue, that of the cost of the repair work, has been agreed between the parties at £220,763.91.
45. The effect of tree root desiccation is fertile ground for litigation. There is no shortage of appellate decisions in this area which, as the Court of Appeal has reminded us is governed by the application of the general principles of the law of negligence and nuisance and not by some specific set of principles of its own. I set out a summary of the application of these general principles below.

- (1) The cause of action for a C whose property has been damaged by action of roots from his neighbour's tree is in nuisance rather than trespass, *Lemmon v Webb* [1894] 3 Ch 1 CA. There must be damage; mere encroachment of roots without adverse effect on the load-bearing qualities of the sub-soil is not enough to found a claim in nuisance.
- (2) The claim is in nuisance but liability is not strict. Damage must be foreseeable. The person responsible for the tree and its maintenance must either know or be in a position where he ought to know of the encroachment of roots and that the encroachment is such as to give rise to a reasonably foreseeable risk that such encroachment will cause damage, per Stocker J. cited with carefully considered approval by Dunn LJ in *Solloway v Hampshire County Council* [1981] 1 WLR 1 at page 3. In *Solloway* Stephenson LJ adopted the formulation: "Was there a foreseeable risk that the encroachment of these tree roots would cause damage to the respondent's house?"
- (3) Impairment of the load-bearing qualities of residential land by the encroachment of roots dehydrating the soil and inhibiting rehydration constitutes damage and is an actionable nuisance *Delaware Mansions v Westminster City Council* [2002] 1 AC 321 at [33] where the House of Lords stressed that the cause of action in tree root cases was based on the concepts of reasonableness between neighbours (real or figurative) and reasonable foreseeability. It follows that the claim may be brought in negligence, per Lord Cooke at [31] 'The label nuisance or negligence is treated as of no real significance'.
- (4) It is general principle that foreseeability involves appreciation of a risk of harm. There must be a risk which, within the context of activity under consideration, a reasonable man, careful of the safety of his neighbour, would consider it appropriate to take steps to eliminate or sufficiently reduce it occurring and causing harm, *Wagon Mound (No.2)* [1967] 1 AC 617. Factors such as the social utility of the relevant activity, the inconvenience, difficulty and expense of elimination or

minimising the risk have to be considered. In this regard matters such as the social utility of trees in residential areas, the maintenance of a safe and sound housing stock, the incidents of inspection routines, the cost of felling or lopping trees, the cost of trimming shrubs and bushes have to be brought into the equation.

- (5) Whether damage was foreseeable is in each case to be determined on the basis of all the evidence before the court. There is no principle of notification. Any landowner or person responsible for the maintenance of trees is to be taken to know that trees have roots and that roots may cause damage to property either by physical interference or by abstraction of water. Accordingly such a person may be expected to foresee damage in the appropriate circumstances without it first being notified to him, *Kirk v London Borough of Brent* [2005] EWCA Civ 1701 [37].

- (6) Notification may be relevant to the extent of damage recoverable. *Delaware Mansions v Westminster* [2001] 1 AC 321 [34] “If reasonableness between neighbours is the key to the solution of problems in this field, it cannot be right to visit the authority or owner responsible for a tree with a large bill for underpinning without giving them notice of the damage and the opportunity of avoiding further damage by removal of the tree . . . as a general proposition, I think that the defendant is entitled to notice and a reasonable opportunity of abatement before liability for remedial expenditure can arise. In this case Westminster had ample notice and time before the underpinning and piling, and is in my opinion liable”, per Lord Cooke of Thorndon.

- (7) To succeed in his claim the Claimant needs to prove that the particular tree or other plant about which he complains was an effective and substantial cause of the damage, or to put it another way ‘did desiccation from the tree roots under consideration materially contribute to the damage’. It is not necessary for the Claimant to prove that the tree complained of was the sole, or even the predominant cause of the damage, *Loftus-Brigham v London Borough of Ealing* [2003] EWCA Civ, per Chadwick LJ, at paragraphs 12; 24.

- (8) It is not fatal therefore to the Claimant's claim therefore that in addition to the material contribution to the damage by the tree or trees complained of, other trees or vegetation, inadequate foundations or construction methods, or the nature of the subsoil, may have played their part in the damage. As with a thin skull, the roots must take their victim as they find it, *Paterson v Humberside County Council* [1993] M74A at page 38 (1996) 12 Const LJ 64 (Mr Roger Toulson QC) at p 68 "...the fact that the property had shallow foundations and was therefore more susceptible to damage from soil shrinkage caused by invasion of tree roots is no more relevant to liability than the fact that the plaintiff has a thin skull". It should be observed however that shallow foundations might, in appropriate circumstances, be a relevant factor on an issue of foreseeability.
- (9) The extent of the risk which should reasonably be foreseen by the owner of a tree was considered by Tomlinson LJ in *Berent v Family Mosaic Housing* [2012] EWCA Civ 961, [2012] BLR 48. At [19] the Learned Lord Justice quotes from the well-known passage of Lord Reid in *Overseas Tankship (UK) Ltd v The Miller Steamship Co. Pty* [1967] 1 AC 617:

... In their Lordships' judgment *Bolton v. Stone* did not alter the general principle that a person must be regarded as negligent if he does not take steps to eliminate a risk which he knows or ought to know is a real risk and not a mere possibility which would never influence the mind of a reasonable man. What that decision did was to recognise and give effect to the qualification that it is justifiable not to take steps to eliminate a real risk if it is small and if the circumstances are such that a reasonable man, careful of the safety of his neighbour, would think it right to neglect it. ..

Tomlinson LJ continued:

[20] There are at least two points to note about this important passage. First Lord Reid uses the expression "a real risk", which was the expression used by the judge in this case. Secondly one cannot in this context separate the enquiry as to reasonable foreseeability of damage from the related enquiry what is it reasonable to do in the light of the reasonably foreseeable risk. It may be reasonable to take no steps to eliminate a risk which is unlikely to eventuate and which will be of small consequence if it does. The social utility of the activity which gives rise to the risk falls to be considered. ...

[22] We can see this balance being struck in the cases concerned with tree roots or allied matters. I need mention only two. *Leakey v National Trust for Places of Historic Interest or Natural Beauty* [1980] 1 QB 485 was concerned with falls of earth and rubble from a mound onto adjacent land and buildings. The falls were due to natural weathering and the nature of the soil. The Defendant owners of the land on which the mound stood knew that the instability of their land was a threat to the adjoining properties. The question arose as to the scope of their

duty to their neighbours. Having noted, at page 518, that “the mere fact that there is a duty does not necessarily mean that inaction constitutes a breach of the duty”, Megaw LJ giving the leading judgment in this court, said at page 524:-

“The duty is a duty to do that which is reasonable in all the circumstances, and no more than what, if anything, is reasonable, to prevent or minimise the known risk of damage or injury to one’s neighbour or to his property. The considerations with which the law is familiar are all to be taken into account in deciding whether there has been a breach of duty and, if so, what that breach is, and whether it is causative of the damage in respect of which the claim is made. Thus, there will fall to be considered the extent of the risk; what, so far as reasonably can be foreseen, are the chances that anything untoward will happen or that any damage will be caused. What is to be foreseen as to the possible extent of the damage if the risk becomes a reality? Is it practicable to prevent, or to minimise, the happening of any damage? If it is practicable, how simple or how difficult are the measures which could be taken, how much and how lengthy work they involve, and what is the possible cost of such works? Was there sufficient time for preventive action to have been taken, by persons acting reasonably in relation to the known risk, between the time when it became known to, or should have been realised by, the Defendant, and at the time when the damage occurred? Factors such as these, so far as they apply in a particular case, fall to be weighed in deciding whether the Defendant’s duty of care requires, or required, him to do anything and, if so, what.”

(The second case to which Tomlinson LJ referred was *Solloway v Hampshire County Council* [1981] 1 WLR 1.)

46. The essential questions on the issue of liability are:
- (1) Did the tree(s) pose a foreseeable risk of damage to the Gurdwara (ie a “real” as opposed to a notional risk)?
 - (2) If they did, what steps ought D to have taken in light of that risk?
 - (3) Whether those steps, if taken, would have prevented the damage.
47. Both parties called experienced expert arborologists to give expert evidence, Dr Martin Dobson by the Claimants and Dr Dealga O’Callaghan, by the Defendant. On the issue of foreseeability Dr O’Callaghan referred to his four criteria, to which I will return. For his part Dr Dobson referred to the well-known and widely available guidelines from the Kew Tree Root Survey (1981), the Building Research Establishment (BRE) (1985)

and (1996), the National House Building Council (1985, revised 1992), and the Arboricultural Association (1993) to reach his opinion that the two trees posed a recognisable risk of subsidence damage to the Gurdwara.

48. Before considering Dr Dobson's evidence I note that in their joint statement the arboricultural experts agreed that the soil tests demonstrated that tree roots had caused moderate to severe desiccation during the summer of 2009, that the steps were within the zone of influence of both trees, that removal of both trees would have prevented any ongoing subsidence movements, and that following the removal of the Indian bean tree in February 2011 the cyclical movements slowed significantly, with some continuing downward movement probably caused by the Turkish hazel. The Defendant was plainly aware that there was shrinkable clay soil in the area where the Gurdwara was situated as this is stated in its published Tree Strategy at paragraph 2.2.37.
49. Dr Dobson noted that the Kew Tree Root Survey stated that the maximum tree-to-damage recorded for a hazel tree was 3 metres. Indian bean trees are not common, and no distances were reported but three instances of subsidence damage from the species were noted. The BRE guidance on safe distances between trees and buildings recommended that a safe distance on shrinkable clay soils should be considered to be equivalent to 0.5 to 1 x the tree's mature height, although the advice was given against a context of a tree reaching full size and there being a drought. The NHBC guidelines, which are based on extensive monitoring work by Dr P.G.Biddle, suggest appropriate foundation depths for buildings close to trees, calculated on the basis of whether the relevant tree has a high, moderate or low water demand. The Hazel is a low demand tree. There is no data for the Indian bean tree, and this being the case the guidelines indicate that it should be considered to be a moderate water-demanding tree. On this basis the front of the steps was well within the zone of influence of both trees, and this zone stretched well into the depth of the steps. Both the Arboricultural Association 1993 Practice Note and the BRE 1996 Good Repair Guide give influencing distances sufficient to place the steps within the zone of both trees.
50. The steps being within the zone of influence of both trees and the existence of monitoring showing cyclical movement is sufficient in Dr Dobson's opinion to make it foreseeable on the part of the Defendant that there was a real risk of damage to the

Gurdwara posed by these trees. Dr Dobson drives home his point by comparing the distance from the Gurdwara of the Indian bean and Turkish hazel trees and that between the plane trees and the relevant building in the case of *Berent v Family Mosaic*. Dr Dobson allows for the fact that the bean and hazel trees are properly considered to be low water demand trees whereas plane trees a moderate water demand trees. Even with this allowance Dr Dobson points out that the bean and hazel trees are closer than the plane trees to their respective adjacent buildings. However the usefulness of this exercise is much reduced, as Mr Sharpe, counsel for the Defendant, points out, by the fact that Dr Dobson has ignored foundation depth. In the present case the ‘foundation depth’ of the steps is a vexed question, there being no information at all as to any foundation at the front of the steps and all the uncertainty of the position underneath the steps as they rise toward the entrance of the Gurdwara.

51. Dr O’Callaghan’s four criteria for determining whether a particular tree or combination of trees pose a real risk are
 - (1) Whether the Property was known to be founded on a shrinkable clay soil;
 - (2) Whether tree-caused subsidence damage is a frequent occurrence in the locality;
 - (3) Whether the species/genus of tree was one that had been frequently implicated in subsidence claims;
 - (4) Whether the tree was within influencing distance of the property.
52. In the present case Dr O’Callaghan accepted that the first of the four criteria was met. Strictly, the Gurdwara had been built over Langley silt with medium to high shrinkability and high plasticity. The National Soils Resources Institute suggest that the soil was of low shrinkability. This latter data was however never consulted by the Defendant.
53. With respect to the third of the criteria, Dr O’Callaghan pointed out that there were virtually no records of either Indian bean or Turkish hazel trees causing subsidence damage. It seems that the relative rarity of the tree means that there is only the reference to three cases of the Indian bean tree being ‘associated’ with subsidence damage. It was therefore essentially an unknown quantity and to be approached as a tree with a moderate risk of causing subsidence damage.

54. The doubts attending the third of the criteria are not present with the fourth. Dr O’Callaghan readily accepted that the steps of the Gurdwara were within the zone of influence of both the trees.
55. The presence of the second of the criteria, whether the history of claims in the locality may be described as frequent for the purposes of foreseeability in the present context, was a matter of some dispute. Fourteen possible claims were raised for consideration. The experts agreed on ten of these claims being related to tree-caused clay shrinkage, these being set out in a table at paragraph 3 of the experts’ second joint report. Of these ten two claims relate to adjoining properties being damaged by the same birch tree in 2004 and 2006, and two claims relate to the same property (19 Portland Road) damaged in 2005 and again in 2007. Realistically, these four claims should be seen as two for present purposes. It is also apparent that two of the claims (121 Freston Road and 60 Sirdar Road) were subsidence claims caused by clay shrinkage in made ground. Made ground presents its own uncertainties and increased risk of subsidence or settlement, and these claims cannot properly be taken into account when considering the claims history of the area.
56. Three claims (70 Holland Park Avenue, 123 Blenheim Crescent, 30 Elgin Crescent) are agreed by the experts to involve subsidence of London clay rather than Langley silt. This is not comparing like for like, but as Langley silt can demonstrate the same properties as London clay these claims cannot be discounted altogether. Incidentally the British Geological Survey suggests that the Portland Road claims should properly be considered to be London clay rather than Langley silt claims. Two of the London clay claims (70 Holland Park Avenue and 123 Blenheim Crescent – together with the later of the two 19 Portland Road claims) arose in 2007 and Mr Sharpe argues that they should be discounted as they were too proximate in time to the claim and no monitoring evidence would be available at any time when it might be suggested that action should have been taken with regard to the trees. There is some force in that argument. But as the exercise (as I understand it) is one of looking at tree root claims in the previous 10 years, the rejection of 2007 claims on the basis that the details would not have been known to the Defendant at the relevant time should be accompanied by inclusion of any claims in 1996. The court has no evidence in this respect one way or the other.

57. The remaining four claims relate to properties at 34 St Ann's Villas and at 18, 35 and 49 Addison Avenue. In all four cases Dr O'Callaghan considered that subsidence was not the cause of the claim, although the Defendant's assistant head of insurance treated the 34 St Ann's Villas and 49 Addison Avenue claims as subsidence on the simple basis that they were settled for more than £5,000. Dr Dobson considered that there was insufficient information to form a view on the claims relating to 18 and 35 Addison Avenue but that the claims at 34 St Ann's Villas and 49 Addison Avenue were probably subsidence claims.
58. Some time was spent in evidence considering these four claims, and in particular whether they arose from direct interference by tree roots as opposed to root-induced subsidence, but I see no useful purpose in considering the detail. No confident conclusions can be drawn, but given the nature of the current exercise it seems to me wrong to rule out the possibility that at least two of the four claims were subsidence related. Accordingly, at worst 10 claims over 10 years within a kilometre of the Gurdwara, and treating the two sets of two claims as being only two claims given that only two trees were involved, 8 claims over 10 years. Of these claims three were on London clay rather than Langley silt and there should be caution as treating them as three equivalent claims.
59. Removing the 2007 claims, and rejecting all the four claims Dr O'Callaghan is unhappy with, allows Mr Sharpe to argue that there were only 2 claims within 10 years. This is unrealistic but a fair assessment of the number of equivalent claims leaves far fewer than the headline figure. None of the claims incidentally related to bean or hazel trees but to lime, plane, cherry, birch and acacia, all but the last being trees more liable to cause damage than the bean or hazel. Furthermore, none of the claims were settled for more than £12,000, the average claim being a little over £7,000. The seven claims on Langley silt (which include the two pairs of claims) were within 545m of the Gurdwara.
60. Ms Nolten is rightly critical of the fact that the Defendant did not carry out a systematic review of claims, did not for instance have a map or plan of the borough identifying the location of claims and adopted a restricted access policy to the claims history database. This database was kept by the insurance officer and was accessible by tree officers only on specific request. Such an approach to arboricultural claims is surprising and, as Ms

Nolten suggests, unappealing. However the Defendant did not foresee a real risk to the Gurdwara being posed by either of these two trees. Accordingly the exercise to be conducted is a consideration of whether the Defendant should have foreseen such a risk, and for such an exercise it is necessary to consider the material that was available to anyone at the Defendant minded to adopt a proper approach to the question.

61. Taking the matter in the round I accept Dr O'Callaghan's evidence that there were not a significant number of tree root claims in the vicinity. Certainly there could be no suggestion of anything approaching a 'hot spot' as the court has regularly encountered in other areas of London. Whether there was a real risk of damage to the Gurdwara posed by the roots of these two trees, the Indian bean and the Turkish hazel, must be considered in the context of the locality and the multiplicity of trees that there are in the northern end of the Defendant borough, as well as the claims information.
62. Having regard to all four of Dr O'Callaghan's factors, and Dr Dobson's evidence, I am satisfied that these two trees did not pose a foreseeable risk of real damage to the Gurdwara or the steps leading up to the building.
63. As to the question what steps ought the Defendant to have taken in light of a perceived risk, the answer must be to do what it did, remove the bean tree and reduce the hazel tree by about 30%, a reduction it could have tolerated even though it might have been too much for the bean tree. The Defendant's evidence was that it engaged in a three-year cycle of pruning the trees in Queensdale Road. There is a record of the trees being pruned in 2001 and 2007, but no record of a 2004 prune. That may well be a missing record and not a missing prune, but for the purposes of this litigation that is of no consequence.
64. Had the Defendant removed the bean tree and reduced the hazel tree, and had either tree or both in conjunction been responsible for the damage, the damage would have been avoided.
65. Issue (4): Were the Trees a substantial and effective cause of the damage to the Gurdwara?
66. In support of its case on causation the Defendant relies on the expert evidence of Mr

Jonathan Chick of J P Chick & Partners who had been instructed to inspect and report by the Defendant's loss adjuster in December 2013. Mr Chick's report and evidence is conveniently considered against the backdrop of the Joint Statement of Engineering Experts. There was only limited agreement between the expert, Mr Chick and Mr Robert Evans, Mr Evans being the engineer instructed by Ecclesiastical Insurance in 2009. The scope of agreement was:

- (1) The cracking damage found in 2007 did not identify any mechanism other than downward movement;
- (2) There was evidence of localised consolidation settlement to the brick paving to the right of the retaining wall that cannot be attributed to the trees;
- (3) The right-side wall to the steps had been subjected to historic movement;
- (4) Terraspec's trial pit and borehole investigation in January 2008 confirmed that the underside of the wall foundation was at a depth of 0.6m, that a clay soil existed to a depth of 4.2m and that there was no desiccation of the soil through tree root action;
- (5) Listers' findings from boreholes WS 2 and WS3 excavated in October 2009 show that there was made ground below the steps overlaying Langley Silt which overlaid gravel;
- (6) Listers recorded a void between the marble with its bedding material and the underlying concrete;
- (7) There was no evidence of soil desiccation in the soils retrieved by Listers in October 2009. (Mr Chick agreed with the proposition that desiccation would be at its maximum in October, Mr Evans suggested that maximum desiccation would be in around Mid-September 'although it can vary');
- (8) The steps were in the zones of influence of both the trees;
- (9) No root samples were retrieved from the Lister boreholes. Mr Chick considers that it would be normal for ground investigation to recover traces of roots in clay soils suffering tree-related subsidence, whereas Mr Evans states that while the probability of finding traces of roots is 'generally high' root traces are not always found;
- (10) Monitoring. There was no deep datum point used which would made the monitoring results more accurate, and there was interruption to the monitoring readings that were taken;

- (11) The level survey results “would be affected” (Chick) “were possibly affected” (Evans) through inconsistencies of the fill and material and nature of the marble slabs used on the steps;
- (12) The level-monitoring readings indicate seasonal movements between January 2009 and February 2013 with a stabilising following the removal of T1 in February 2011. However, there is considerable disagreement between the experts as to the extent of such movement and accuracy of the monitoring data;
- (13) The subsoil is recorded as susceptible to washout from a leaking drainage system causing subsidence movement;
- (14) There were defects in the underground drainage, but no agreement as to the significance of these defects;
- (15) Uretek was a reasonable material to use to fill the voids;
- (16) No subsidence damage has been experienced at the right-hand neighbouring property to the Gurdwara.

67. The Claimants’ (subrogated) claim in these proceedings is in respect of crack damage to the steps discovered in October 2007 for the remedying of which works were carried out between December 2013 and October 2015. The parties have been able to present evidence relating to both the damage and the works for its remedy. But in considering the cause of the damage it is noteworthy both that the steps were reclad in marble during 2003, only four years before the damage was discovered, and that the remedial works were completely discarded with the steps demolished and reconstructed with new piled foundations in 2007 within two years of the completion of the remedial works.

68. One way or the other it is probable that a thorough investigation into the cause or causes of the October 2007 crack damage would be greatly assisted by detailed evidence as to the reasons for, scope and nature of the 2003 works, and what was discovered during the course of the 2017 works and the reason why the rebuilt steps were on piled foundations. Unfortunately the court has no evidence of any detail on either the 2003 works or what was discovered in the 2017. As for the reasons for the piled foundation to the rebuilt steps, the court may only infer from the fact that Michael Chester was the engineer responsible for the 2017 works that his concern, clearly and repeatedly expressed during the 2013-2015 remedial works that the state of the structure beneath the steps was insufficient to found a secure structure on which to construct new steps,

held sway and resulted in a piled foundation. The court has not heard evidence from Mr Chester.

69. Mr Anand's oral evidence was not at all convincing. He maintained a dogged determination not to accept the possibility of structural defects beneath the steps, while not appearing to have had any close involvement with either the marble recladding works in 2003 or the 2017 reconstruction works, or even the 2015 remedial works sufficient to justify him being able to maintain any convincing position on the cause or causes of the damage encountered with the steps.
70. In his discussion of the available material Mr Chick was able to point to photographic evidence from 2008, photograph A, which shows that the marble cladding undertaken in 2003 was applied over significant crack damage to the left-hand side wall. A further photograph, photograph B, shows the presence of small cracks along the front boundary wall. Mr Anand's evidence was that the marble was re-laid in 2003 because it had become 'slippery due to wear and tear and there was a concern over health and safety as people were slipping down the steps'. This marble had been in place since the 1960s, and doubtless was not in the same condition as when it was laid. But, Mr Chick suggests, the presence of significant cracking behind the re-laid marble indicates the likelihood of there being crack damage to the marble steps and that such damage would have been a factor in the decision to replace the marble. A third photograph, photograph C, shows an area on the right-hand side of the steps having sustained a downward vertical movement, with associated non-uniform settlement to the steps in that area. It appears that, unfortunately, when the Gurdwara made its claim on insurers in 2007 no attempt was made to discover what evidence might be available from the 2003 works which might assist in a determination of the cause(s) of the 2007 damage.
71. Mr Chick argues that on the limited evidence available from these photographs there was clearly damage to the steps in 2003 and that it is unlikely that this damage was the result of desiccation of the sub-soil through the action of the tree roots. More likely is that the 2003 recladding works covered over cracks caused by settlement rather than subsidence, but no works were undertaken to remedy the cause of the cracks.
72. There was plainly a risk, to put it at its lowest, that the voids and loose fill underneath

the steps and the existence of the old steps might be a cause of settlement damage. The discovery of the state of the structure, such as it was, under the steps resulted in the works being held up. The difficulty the court now faces is that those advising insurers had decided that the crack damage reported in 2007 was the result of tree root desiccation and were unwilling or unable to consider that this decision might not necessarily be correct. Mr Chick's opinion is that an engineer learning of the voids and loose fill material found under the steps in the course of the works should have instigated additional investigations, in particular deeper trial pits, to establish the extent and nature of the fill so that an appropriate remedial scheme could be put in the place. Such an engineer would not necessarily, perhaps, have shared Mr Chick's view that the primary cause of movement under the steps was loose fill material as opposed to tree root desiccation, but he would have had a sufficiently open mind to consider the possibility and ensure that proper investigation took place.

73. In the event however the documentation shows that those advising insurers engaged in a dispute over some time with Michael Chester as to the need for a piling solution to the need to support the steps but did not undertake further investigation. Michael Chester, on behalf of the Gurdwara, had reported back in 2008 that the damage to the front steps was the result of tree root subsidence, and the debate that arose between him and InFront for insurers in 2012 when attention was focused on a remedial scheme involved a disagreement as to whether piled foundations were necessary to combat the effects of tree root subsidence. It is not at all surprising that proceeding on the basis that the sole cause of the damage was tree root desiccation InFront were not prepared to accept that piled foundations were required to the repaired steps once the offending tree had been removed. The damage plainly required remedy but it was not on the face of it of sufficient structural significance to justify piling. Removal of the tree and refurbishment of the steps would appear the obvious answer; in contrast inserting piled foundations would be wholly unnecessary.
74. It seems very possible that Michael Chester's advocacy for a piled foundation scheme for remedial works, a scheme which could properly be rejected on what was known in 2012, stood in the way of an objective and investigative approach to the potentially entirely different conditions which were exposed in early 2014 after the remedial works were under way. Michael Chester had reason to be concerned that the damage to the

‘parlous base’ might not be capable of repair, but, unfortunately, the solution was to ‘revert to the original scheme’ which, previously inappropriate, was now the correct way to ensure a safe and secure scheme of repair in the light of the exposed conditions under the steps of which the professionals had not previously been aware. InFront’s approach should have been to institute further investigations in an endeavour to discover the full extent of the problems in the ground under the steps, investigations which may have indicated a different cause for those problems. But in the circumstances the dispute as to the need for piled foundations continued along its original (pre-remedial works) lines with the voids and loose fill treated as a minor complication that could be dealt with by inserting Uretek.

75. Not only had InFront failed to carry out further investigation, their personnel appear to have given no or no proper consideration to the implications that arose, or might arise, from the refusal of Morcon Foundation Ltd to carry out cement grouting works. It is surely unusual for a contractor to refuse work. For a contractor to refuse work on the basis that filling the cavities under the steps with cement grout would not solve the problem of the movement of the steps, and might even make the problem worse, might be thought to merit some careful consideration.
76. The remedial works proceeded as proposed with the addition of Uretek injection and these were completed in October 2015. By January 2017 there were problems with water penetration to the toilets beneath the steps. The structural report of March 2017 required the removal of marble cladding to the steps to investigate the stability of the concrete supporting the staircase with a view to a relatively minor remedial repair involving drains and tanking. However on the basis that what was in fact uncovered was very loose fill and an absence of proper support to the steps (as indicated in photos 20 to 25 of Mr Chick’s report) the natural conclusion would be the complete replacement of the steps on a piled foundation, which is what in the event occurred.
77. Alongside the damage to the steps was the damage to the brickwork paving to the right of the steps. This was plainly not damage caused by tree root desiccation. It may have been just wear and tear, as Mr Evans suggests, exacerbated by the fact that large waste bins were wheeled to and fro over that area. If so, it does not say much for whoever laid the bricks. More likely this damage was the result of drainage issues. Either way this

aspect of the damage has no real bearing on the damage to the steps themselves.

78. Expert engineering evidence for the Claimants was given by Mr Robert Evans. He was involved in advising InFront from early on in the claim made against insurers and has the advantage of the knowledge he gained as a result. But he also has the disadvantage of having been part of the team that decided that the damage to the steps was the result of tree root desiccation and in not revisiting this decision after the start of the remedial works uncovered the state of the conditions underneath the steps.
79. Not that it is entirely clear that Mr Evans always held to a tree root desiccation thesis. Mr Evans had been reported by Mr Dutson, in an email of 27 January 2010, as having agreed with Mr Dutson that the presence of made ground beneath the upper section of the steps and the absence of tree root activity suggested that the damage was a settlement problem rather than a tree root issue. In oral evidence Mr Evans did not accept that he had ever held such a view. He stated that it was his opinion all along that the damage was a tree root problem, and the obvious approach was to take away the cause (ie remove the tree) and repair the damage. On this basis Michael Chester's piling suggestion was 'totally disproportionate'. Mr Evans also rejected the suggestion made by Michael Chester in his letter of 12 February 2014 that he, Mr Evans, had ever suggested a piled raft and new steps structure by way of remedial works. This too, in Mr Evans' view, would have been disproportionate. But there is at the very least an indication that, contrary to his evidence at trial, Mr Evans did not always consider that all that was in play was tree root subsidence.
80. It may be thought to be odd for Mr Dutson, and then Mr Chester, to make such significant mistakes as to Mr Evans' views. Neither email (to Jonathan Bingham of Beachcrofts LLP) or letter (to Mrs Balcombe of Assessing Direct) were sent or copied to Mr Evans however and so there was no opportunity at the time for Mr Evans to comment on the statements. It is interesting to note however that Mr Chester's letter reads "You will recall that the subsidence remediation scheme proposed by Robert Evans (expert appointed by InFront Innovation) was to renew the entrance steps on a new piled slab and that this formed the basis of MCP's original design for a pile raft and new steps structure."

81. When the voids were discovered Mr Evans did crawl into one of them. He could not recall any great amount of loose fill. Mr Evans was evidently little concerned about the voids or any areas of loose fill, although he did not dissent from the voids being grouted or filled with Uretek. In June 2014 Michael Chester understood that Mr Evans had carried out calculations showing that the underlying original steps were an adequate support for the existing steps, and Mr Chester was interested in seeing such calculations, making the point that it might be difficult to carry out any assessment of the support a stone tread might give to the structure above having viewed the tread only from underneath. It seems however that there were no such calculations, neither did Mr Evans respond favourably to the suggestion from Michael Chester that it would be sensible for there to be overall load testing of the entire area of the then present steps.
82. Throughout his oral evidence Mr Evans remained confident that this was a straightforward case of tree root subsidence. He accepted that the monitoring left much to be desired (the absence of a deep datum point and the change to reference points) but held to the view that it was sufficient to demonstrate his case. This despite the fact that there was no monitoring at the half-landing where the main damage took place. The monitoring indicated a cyclical pattern of movement and “that was all I needed to know”. Mr Evans accepted that the crack behind the marble cladding in photograph A indicated that there was damage to the concrete by 2003, and that its greater width at the top than the bottom was indicative of foundation movement, but he did not accept that damage could have been caused to the steps by consolidation of fill material.
83. In maintaining its case that the cause of the damage was not tree root subsidence but rather consolidation settlement of the made ground below the steps, the Defendant relies essentially on five matters.
84. First, that the main damage encountered at the steps was to the landing between the two flights of steps, as demonstrated in photograph C in Mr Chick’s report. This was agreed by the experts in the course of the evidence. The only evidence of what was beneath the area of damage comes from borehole WS3. This shows that there is a marble slab over made ground consisting of soft to firm dark brown clay with fragments of brick, concrete, slate, ash and china. Such confidence as Mr Evans had that the old concrete steps were sufficient to support the more recent steps was misplaced. What appears to have happened is that the marble forming the top of the steps, with a layer of sand and

cement screed, was laid directly over 2.4m of made ground consisting of materials that could not possibly form a firm base. The Defendant's case was that this made ground consolidated causing the material damage. The photograph P7 in Mr Evans' report shows that effect of the consolidated movement, a marked gap between the screed and the material beneath it. There was a suggestion by Mr Evans that the gap shown in the photograph was the result of sand being washed away. But that is most improbable. Marble might be laid on sand rather than a concrete screed, but there would be no purpose served putting sand underneath a screed. There is a strong probability that the gap was the result of consolidation of the made ground beneath it.

85. Second, there is no evidence of cyclical movement at the location of the damage. The monitoring that was undertaken was around the perimeter of the steps. The location of the monitoring points may be seen in the Geo-Serv Limited report of 18 May 2018. No monitoring was undertaken where the main damage was located. The Claimants rely heavily on the presence of cyclical movement, despite concern as to the overall reliability of the monitoring, but that cannot be the whole story and does not conclude any argument on factual causation.
86. The reliability of the monitoring was called into question for various reasons; (i) there was no deep datum; (ii) there is evidence of studs being damaged throughout the monitoring; (iii) uplift could have been caused by the marble slab displacing in one location which may well rotate giving the appearance of uplift elsewhere; (iv) points 4,5,6 were temporary wax marks; (v) points 1,2,3 and 8 were missing for readings undertaken on 12 May 2009, on account of unrelated repairs being carried out by the Claimants, and hence a reduction of 5.5mm in the readings had to be made; and (vi) there were inconsistencies in the readings. The failure, for whatever reason, to ensure that there was accurate monitoring might not invalidate the readings altogether but gives cause for concern. That there is a need for caution with the reading is confirmed by the readings taken after the Indian bean tree was removed. The removal of a tree responsible for cyclical movement should result in recovery of moisture levels in the soil. But the readings do not show the recovery that would be expected. In turn this suggests that the movement cannot have been as much as the readings suggest. Accordingly, while the Defendant's primary case that the monitoring is of little assistance in any event, as there was no monitoring where the damage was located, the

Defendant's secondary position is the extent of the movement shown by the results has to be treated with some considerable care. The Defendant contends that Mr Evans was (inappropriately) comfortable in adopting a careless approach to monitoring and was not concerned if the results were a few millimetres out. The Defendant suggests that this was symptomatic of Mr Evans' evidence which may be summarised as being once the monitoring data was received, there was no need to consider other possible causes of the damage.

87. Third, the location of the damage is important for one further reason. The greatest cyclical movement was the front of the steps, at points 4,5 and 6, nearest the tree(s). But no damage was noted at the front. There is only Mr Anand's evidence that there appeared to be a lowering of the level at the front. Mr Evans made the point that damage will often occur at the weakest point, and that the front of the steps may not have been that point. True as this doubtless is, it is necessary to consider why there was no damage at the place of greatest movement and how it is that the main area of damage was weaker than the front. Mr Chick's evidence was that if damage had been caused through tree root subsidence, it would have been more significant at the front of the steps near the trees.
88. In this connection it is of note that Dr O'Callaghan, who through seniority as well as well-regarded expertise has seen a great many tree root subsidence claims, expressed the view that the movement that might be seen from the monitoring results was insufficient to have caused the extent of damage to the steps that was recorded. This view relied on Mr Chick's opinion, and Dr O'Callaghan will not have seen many, if any, other claims with the particular features of this one, but it is a factor which adds some small support to Mr Chick's thesis.
89. Fourth, there is no evidence of desiccation. The experts agreed that the shear vane tests and Driscoll method did not show that the soil was desiccated. Their difference focused around the soil suction and soil moisture tests. The relevant ground investigations were carried out by Listers Geotechnical Consultants in October 2009, with three boreholes being excavated:
 - (1) WS1: a control borehole situated some distance from any vegetation. It consisted of made ground to 0.9m, Langley silt for 1.9m and River terrace deposits for 0.2m.

- (2) WS2: on the lower section of the steps, immediately adjacent to the Indian bean tree. The description of strata indicates a marble slab on 300mm of concrete. Immediately beneath the concrete was a 1.5m deep layer i.e. extending to 1.8m below ground level, described as firm dark brown clay with fragments of brick and concrete and small ash deposits, ie made ground, which as Mr Chick states tends to be very susceptible to consolidation movement. Immediately beneath the made ground, at a depth of 1.8m below ground level, is a layer of Langley Silt extending for a total thickness of 1.0m. Below the Langley Silt are River Terrace Deposits consisting of sand and gravel.
- (3) WS3: a borehole undertaken to the centre right hand side of the steps. This contained made ground consisting of soft to firm dark clay with brick concrete slate, ash and china to a depth of 2.4m below step level. Immediately beneath the fill material is Langley Silt at a depth of 2.4m, extending to a depth of 3.7m below step level. Immediately beneath this are River Terrace Deposits.

90. The Defendant's case is that the soil suction and soil moisture tests did not evidence desiccation. Three matters are relied on. First, that the make-up of the boreholes was significantly different. In WS2 and WS3, there was a greater weight of made ground on thinner layers of Langley silt. Mr Chick explained that this dead weight of made ground will apply a compressive force. It is significant that there is a layer of River terrace below which is porous and acts as a drain for water. Therefore, the clay is compressed as a result of the vertical load from the made ground above and as the clay is 'squeezed' allowing the water to have a free drainage path into the gravel. In contrast, WS1 has a thin layer of made ground on a thicker layer of Langley silt. Secondly, the soil was disturbed. This can double the measured desiccation of undisturbed samples which would explain the readings in respect of both the soil suction and soil moisture tests. Thirdly, more probative evidence is found in the moisture content v depth graph which both experts agreed shows no desiccation in either WS2 or WS3.

91. Connected with the issue of desiccation is the discovery of roots. The experts agreed in their joint report that the probability of finding roots was high, although in oral evidence Mr Evans suggested that the odds were actually 50/50. The absence of a finding of roots from the Indian Bean tree cannot be conclusive but it is a clear pointer.

92. Fifth, the steps were demolished and entirely rebuilt in 2017, and on a piled foundation. The only evidence before the court as to why work was undertaken to the steps a little over a year after completion of the remedial works is that there was damp penetration to the toilets under the steps. It would ordinarily be possible to deal with damp penetration with tanking. Demolition and reconstruction with new foundations suggests a much more fundamental problem.
93. The Claimants' case on causation is, as Ms Nolten their counsel submits, very simple. For all its faults the level monitoring showed cyclical movement which ceased after removal of the Indian bean tree. This is a mechanism for damage. As for the Defendant's mechanism "It would be extraordinary if the made ground beneath the Gurdwara was continuing to consolidate more than a hundred years after it had been constructed". So it might be if the case rested on made ground in the 1840s under a significant load settling only in the 21st century. But it is evident that the ground underneath the steps has not lain untouched for over 160 years. Works have been undertaken to the structure(s) under the steps on more than one occasion since the building was first completed. Extensive work was undertaken in the 1960s, and this work included work to the structure(s) under the steps. Further work was undertaken after then, in 2003, and there is no compelling evidence that there was no work in between then. The downward movement in the underlying structure shown in the photograph of borehole WS3 cannot realistically be explained by local creation by the 'flush' of the core drill washing out sand or other weak bedding material as Mr Evans argues.
94. I much preferred Mr Chick's evidence to that of Mr Evans. While Mr Evans' initial view, in common with the others in the InFront team, that this was a simple case of tree root desiccation was not unreasonably arrived at when the claim was first made, sticking firmly to this view without further investigation following receipt of the borehole and soil data and in particular after the revealing of part of the structure below the steps in early 2014 is unimpressive and unfortunate. I remain unconvinced on the basis of the contemporary 'mistaken' correspondence and, having heard Mr Evans give oral evidence, that he did in fact hold throughout 2008 to 2012 the adamant 'tree root subsidence only' views that he now expresses. In any event, whatever view Mr Evans took beforehand, a full investigation should have followed the discovery of the voids

and loose fill material in early 2014. Disclosure of the Claimants' records and documents associated with the 2017 works might well have made clear the real cause behind the demolition and reconstruction of the steps so soon after completion of the remedial works. Evidence from Michael Chester, the Claimants' own engineer, who pressed for piled foundations, perhaps prematurely in 2012, but with added cogency in 2014 would also have been instructive. Proper investigation would, or should, have lead Mr Evans and the InFront team to revise their views as to the cause of the damage to the Gurdwara.

95. Some damage from tree root desiccation may well have occurred, as Mr Chick concedes. But on the evidence before the court I am satisfied that such damage was minor and was not a material contribution to the damage for which the Claimants seek compensation.
96. Accordingly, I find for the Defendant both on the issue of liability and causation. I therefore give judgment for the Defendant. The claim must be dismissed.

HHJ Edward Bailey

7 May 2019

