Land and Environment Court

New South Wales

Medium Neutral Citation:	**Smith & Hannaford v Zhang & Zhou [2011] NSWLEC 29**
Hearing dates:	24 June 2010, 25 June 2010, 7 July 2010
Decision date:	04 March 2011
Before:	Craig J
Decision:	1. Application dismissed 2. Notice of Motion dated 23 November 2010 is dismissed 3. Exhibits may be returned 4. No order as to costs
Catchwords:	ENVIRONMENT AND PLANNING:- trees and vegetation - Trees (Disputes Between Neighbours) Act 2006 - causation - "preponderance of probability" to determine causation - tree found not to be cause of damage - not satisfied that causal connection between tree and damage established - application dismissed COSTS:- LEC rule 3.7(2) - fair and reasonable - application for departure from rule that no costs order be made - application refused - ordinary costs rule applies - no costs ordered - costs burden to lie where it falls
Legislation Cited:	Land and Environment Court Act 1979 Land and Environment Court Rule 3.7(2) Trees (Disputes Between Neighbours) Act 2006
Cases Cited:	McDonald v Director-General of Social Security (1984) 1 FCR 354 March v E & MH Stramare Pty Ltd [1991] HCA 12; (1991) 171 CLR 506 Robson v Leischke [2008] NSWLEC 152; (2008) 72 NSWLR 98; (2008) 159 LGERA 280 Swan Television and Radio Broadcasters Ltd v Australian Broadcasting Tribunal (1985) 8 FCR 291
Category:	Principal judgment

Parties:	David Smith (Applicant) Sharon Hannaford (Applicant) Jinming Zhang (First Respondent) Guichang Zhou (First Respondent) Winston Chu (Second Respondent) Connie Chen (Second Respondent)
Representation:	Counsel: M D Seymour (Applicants) G A Moore (First Respondents) S M Berveling (Second Respondents) Solicitors: Booth & Boorman Solicitors (Applicants) Dennis Wong & Co (First Respondents) Wintergate & Associates (Second Respondents)
File Number(s):	20228 of 2010

JUDGMENT

1 David Smith and Sharon Hannaford, the applicants, are the joint proprietors of land located at 12 Amaroo Avenue, Castlecove. On that land is a single storey dwelling, said to have been erected in about 1967.

2 In March 2009, Mr Smith first noticed cracks that appeared in the eastern or south-eastern wall of his home study. Cracks were observed in both the internal and external walls of that room. They were sufficient in size and extent to prompt Mr Smith to seek advice with a view to rectification.

3 In early October 2009 the applicants' dwelling was inspected by Mr G McKee, a structural engineer. Following his inspection, Mr McKee reported that the cracking to the eastern wall of the dwelling was "structural cracking" and that its cause was a large tree root observed at the surface and apparently growing under the footing of the dwelling proximate to the location of the structural damage.

4 The tree root that Mr McKee observed was from a large Sydney Blue Gum (*Eucalyptus saligna*) located a little over three metres from the damaged wall. This tree stands on the property known as 10 Allambie Road, Castle Cove.

5 At the time of Mr McKee's report, the second respondents were the owners of 10 Allambie Road. However, in October 2009 they entered into a contract to sell that property to the first respondents and in consequence of the settlement of that sale, the first respondents became the owners of that property on 15 December 2009.

6 Once they were provided with the report of Mr McKee, the applicants sought compensation for the damage to their dwelling as well as "(t)reatment of the offending root system." Compensation was initially sought from the second respondents but subsequently contact was made with solicitors acting for the first respondents. It is sufficient to record for present purposes that such attempts as were then made to negotiate a resolution of the problem came to nought.

7 On 30 March 2010 the applicants commenced proceedings in this Court by making an application pursuant to s 7 of the *Trees (Disputes Between Neighbours) Act* 2006. By their application they have sought an order for removal of the Sydney Blue Gum growing on 10 Allambie Road and also an order for payment of compensation to repair the damaged walls, estimated at the time of hearing to be $49,076.35.

8 The respondents oppose the making of any order under the *Trees (Disputes Between Neighbours) Act.* They contend -

(i) that the jurisdiction of the Court is not engaged because the requisite satisfaction cannot be had that the damage occasioned to the applicants' dwelling is a consequence of or is caused by the Sydney Blue Gum;

(ii) that it is not reasonable in the circumstances to require the respondents to be the insurer of damage occasioned to the applicants' dwelling;

(iii) for their part, the first respondents contend that damage since 15 December 2009, when they became registered proprietors of 10 Allambie Road, has not been proved by the applicants, with the consequence that they should not be required to make any payment of compensation;

(iv) the second respondents (but not the first) contend that no compensation should be paid because no notice in accordance with s 8 was given to them and further that no reasonable effort has been made to reach agreement with them as is required by s 10.

For their part, the first respondents indicate that they do not object to removal of the Sydney Blue Gum growing on their land, but oppose any order requiring that they bear the costs of removal.

9 For the purpose of determining this matter I have had the benefit of a site inspection with the parties and their experts. I have also been assisted by Acting Commissioner Hewett whose assistance I gratefully acknowledge.

THE SITES CONCERNED

10 12 Amaroo Avenue is an irregularly shaped allotment of land. Its long axis runs north/south. The dwelling erected on the land is located towards the southern and eastern boundaries. It appears that the wall that is the subject of the structural damage described by Mr McKee forms part of an extension to the original dwelling, that extension having been completed in 1976.

11 The orientation of the Allambie Road lot is generally east/west with its eastern boundary along Allambie Road. The lot rises gently from Allambie Road for about two thirds of its length and then rises steeply to its western boundary, part of which is a common boundary with the applicants' land. This section of common boundary is in the north-western corner of the Allambie Road lot and it is in that corner that the Sydney Blue Gum is located.

12 The base of the trunk of the Sydney Blue Gum growing on the Allambie Road lot is only a little lower than the level of the applicants' land. However, immediately to the east of the trunk of the tree the land falls steeply toward Allambie Road. In part, that steep fall comprises a rock face and is a change in level that has been described in the evidence as a cliff or ridge with the tree located at the cliff's edge. About one metre to the west of the base of the tree is a sandstone rubble wall standing about one metre in height. This wall runs parallel to the dwelling on the applicants' land and probably approximates the common boundary between that land and the Allambie Road lot. The sandstone rubble wall retains earth that, in turn, abuts the wall of the applicants' dwelling which has sustained structural damage.

THE SYDNEY BLUE GUM

13 The Sydney Blue Gum is estimated to have been growing in its present location for over 40 years. An examination of historical aerial photographs indicates that the tree is likely to have commenced growing between 1961 and 1965. It has a height of between 14 and 18 metres and a canopy that extends over the applicants' dwelling. The tree is described by experts called in the course of the hearing as being structurally sound, free from insect predation and disease with a relatively intact canopy showing less than five per cent of dead wood.

14 The arborists and ecologist who gave evidence all agree that the Sydney Blue Gum is not a remnant tree as it is unlikely to occur naturally in its present location. This conclusion is apparently drawn because the tree is growing in shallow sandstone derived soils among sandstone rock boulders and ledges. Endangered communities of the Sydney Blue Gum are generally found in shale derived soils.

15 The tree has a trunk diameter at breast height of approximately 540mm. This dimension given is based upon a measured circumference of 1700mm. The centre of the trunk has been measured at 3.4 metres from the damaged brick wall of the applicants' dwelling. The closest point of the trunk to that wall is said to be 3.125 metres.

16 At the base of the tree there is a root, described as a "first order root", travelling in a westerly direction across bare sandstone and then between two sandstone rocks before passing beneath the sandstone rubble wall that I have earlier described. It is a structural root said to be approximately 350mm in diameter. It was this root to which Mr McKee referred when reporting to the applicants in October 2009 that the cause of structural damage to their dwelling was the Sydney Blue Gum.

EXPLORATORY TRENCHES ARE DUG

17 In June 2010, at the suggestion of experts retained by the parties and with the agreement of the applicants, two trenches were dug and excavations undertaken adjacent to the eastern wall of the applicants' dwelling. The first trench (**trench 1**) was in the vicinity of the cracking that was observed in the exterior wall of the applicants' dwelling. The excavation proceeded beneath the footing of the building and extended to bedrock so as to reveal the geological profile beneath the dwelling. Excavation in the second or northern trench (**trench 2**) was undertaken to a similar level and for a similar purpose.

18 The excavations revealed that the first order 350 mm diameter root which emanated from the tree buttress on its western side, had been severed at some time in the past. The point of severance was approximately 400mm to the east of the applicants' dwelling and there was no evidence that this severed root had extended beneath the footing of the dwelling.

19 The excavation of trench 1 revealed a strip footing having a depth of about 280mm. Beneath that was loose sandstone fill for about 500mm in depth overlying generally large boulders of weathered sandstone. These weathered sandstone boulders varied between what the engineers described as Pells class IV (weak sandstone being fractured with allowable defects of 10 per cent) and Pells class V (very weak sandstone being highly fractured and having defects comprising a soft rock able to be pulled apart by hand). Beneath these large weathered boulders was Pells Class II (massive sandstone being medium to strong slightly fractured sandstone with allowable defects of 3 per cent). Each of these classes of rock had different bearing capacities and shear strengths.

20 Examination of the strip footing showed a visible crack in the vicinity of wall-cracking above. The crack was about 1.5mm wide at the top of the footing and extended vertically down through the footing for a total length of about 200mm. Beneath the footing as exposed in trench 1 was a layer of foam. An explanation for the installation of this foam could not be proffered by the engineers who gave evidence in the course of the hearing.

21 The trench 1 excavation also revealed that three concrete piers had been installed beneath the footing. It seemed to be accepted by the engineers that these piers had been installed at sometime after the dwelling had been constructed. This assumption was made having regard to the manner of construction of those piers.

22 Each of the piers was described as being of massive concrete construction founded upon class IV sandstone as earlier described. Between the base of the 300mm footing and the top of each of these piers was a dry pack grout varying in depth between 50 and 75mm. The existence of that grout was one of the indicators that each of the three piers had been installed after the building had been erected.

23 Further, the three piers were irregularly spaced. A distance of 1900mm was measured between the centre line of the southern pier (pier 1) and the centre pier (pier 2). However, the distance between the centre line of pier 2 and the northern pier (pier 3) is 2700mm. This variation in spacing was again identified as a factor in suggesting that these piers were a post construction installation.

24 No piers were discovered in the northern trench that was excavated adjacent to the eastern wall of the applicants' dwelling. The engineers giving evidence in the proceedings were, once again, unable to offer any explanation for the installation of the three piers observed within trench 1. However, there was agreement among them that the piers explain the position of observed cracks. This has occurred because the central pier or pier 2 has been pushed upwards by about 10mm relative to piers 1 and 3. This is described by the engineers as the development of a plastic hinge at this central pier.

25 Two tree roots were observed in the trench 1 excavation. Both were accepted as being roots from the Sydney Blue Gum. The first of those two roots was located at a distance of about 300mm below the base of the footing and below the foam layer underlying that footing. It was described as having a diameter of about 60mm and was growing in the moist loosely packed sandstone fill material overlying the sandstone boulders. There was no apparent compaction of soil between the top of this root and the base of the footing.

26 The second root discovered in trench 1 was at a depth of about 790m below the base of the footing. It is described as being approximately 120mm wide and 100mm deep. It was growing into a fissure or joint in the sandstone boulders.

27 The footing depth observed in the northern excavation (trench 2) was a little shallower than that which had been observed in trench 1. It was only about 250mm in depth. However, there were no visible cracks in the footing, no foam layer beneath the footing was observed and, as I have already indicated, no piers were installed beneath this section of footing.

28 Three tree roots from the Sydney Blue Gum were observed in trench 2. Each was located about 500mm below the top of the footing and the diameter of these roots was 12mm, 16mm and 35mm respectively. All three were growing in the moist fill.

CAUSE: THE STATUTORY REQUIREMENT

29 It is accepted by all parties that before any order can be made under the *Trees (Disputes Between Neighbours) Act* , the Court must be satisfied as to the existence of a causal connection between a tree that is the subject of an application and the damage or injury claimed by an applicant (*Robson v Leischke* [2008] NSWLEC 152; (2008) 72 NSWLR 98; (2008) 159 LGERA 280 at [176]). Subsection (2) of s 10 is relevant in this respect. It provides as follows:

> "(2) The Court must not make an order under this Part unless it is satisfied that the tree concerned:
>
> (a) has caused, is causing, or is likely in the near future to cause, damage to the applicant's property, or
>
> (b) is likely to cause injury to any person."

30 The nexus mandated by s 10(2) does not require satisfaction that the tree which is the subject of an application be the sole cause of the damage alleged. It is sufficient if a conclusion can be reached that the tree is a cause of the damage claimed. Such an approach is consistent with the principles of causation reflected in the common law. The seminal statement to this effect by Mason CJ in *March v E & MH Stramare Pty Ltd* [1991] HCA 12; (1991) 171 CLR 506 bears repetition (at 509):

> "The law does not accept John Stuart Mill's definition of cause as the sum of the conditions which are jointly sufficient to produce it. Thus, at law, a person may be responsible for damage when his or her wrongful conduct is one of a number of conditions sufficient to produce that damage [case citations omitted]."

31 The principle so articulated has been held to be applicable to the provisions of s 10 by Preston CJ in *Robson v Leischke* [at 179]). As his Honour there

observed, applying the ordinary principles of causation to the provisions of the section is corroborated by s 12(h) and s 12(i) of the *Trees (Disputes Between Neighbours) Act* which, in substance, require consideration before making any order of any other factor that might have contributed to any damage.

32 These principles were accepted by the respondents as being relevant to the determination of the causation issue. However, they submitted that by reason of the provisions of ss 7 and 10 of the *Trees (Disputes Between Neighbours) Act* an onus was cast upon the applicants to establish, on the balance of probabilities, that the Sydney Blue Gum was a cause of the damage claimed by the applicants to their dwelling and that the applicants had failed to discharge that onus.

33 Mr M D Seymour, who appeared for the applicants, contended that it was erroneous to approach an application made under s 7 on the basis that his clients were required to bear an onus of proof. He submitted that the decision of the Court, being administrative in nature, did not attract the principles of onus, as those principles are understood in a common law context. He cited two authorities of the Full Federal Court in support of his submission.

34 In *McDonald v Director-General of Social Security* (1984) 1 FCR 354, the Federal Court determined an appeal from the Administrative Appeals Tribunal which had affirmed a decision of the Director-General of Social Security to cancel an invalide pension. An issue in the appeal was whether the Tribunal had committed an error of law by making its decision on the basis that the applicant bore the onus of proof. In addressing this issue, Woodward J said (at 356):

> "The first point to be made is that the onus (or burden) of proof is a common law concept, developed with some difficulty over many years, to provide answers to certain practical problems of litigation between parties in a court of law ... .
>
> The use outside courts of law of the legal rules governing this part of the law of evidence should be approached with great caution. This is particularly true of an administrative tribunal which, by its statute, 'is not bound by the rules of evidence but may inform itself on any matter in such manner as it thinks appropriate'".

The latter observation is applicable to a matter of the present kind: s 38(2) of the *Land and Environment Court Act* 1979.

35 Woodward J continued as follows (at 357):

> "Obviously someone must set in motion the process which establishes the entitlement, and that will normally be done by or on behalf of the person concerned, but the Act does not create a legal onus to prove all relevant aspects of a claim of permanent incapacity such as, for example, the state of the labour market for disabled persons. Certainly if no material is available for the decision-maker, or if available material leaves the decision-maker quite uncertain whether the person is permanently incapacitated, the claim must fail. But I think it would be artificial to describe this situation in terms of the legal onus of proof."

36 In the same case, Jenkinson J also addressed the question of onus. In so doing his Honour said (at 368):

> "The 'actual persuasion' of the occurrence of a past act or event, which Dixon J stated to be required if proof, in a civil curial proceeding, of the act or event were to be achieved, does not involve necessarily any greater confidence than a bare preponderance of probability may engender [citations omitted]. No different standard is applicable to a finding as to a future act or event, in my opinion; nor does an administrative 'decision-maker' apply any different standard unless special legislative direction be given."

37 The approach reflected in *McDonald* , was reiterated by the Federal Court in *Swan Television and Radio Broadcasters Ltd v Australian Broadcasting Tribunal* (1985) 8 FCR 291. The Court was there required to consider a direction given by the Tribunal for the publication and restricted publication of documents required to be produced by the appellant. After referring to the decision in *McDonald* , the Court said (at 297):

> "In the present case s 19(2) provides that the Tribunal shall make directions in relation to confidentiality where it 'is satisfied that' it is desirable that it should do so. The Tribunal may reach that state of satisfaction by reason of matters put before it by a person seeking a direction under the subsection. It may reach that state of its own motion and by reason of the content of the relevant material. There is, in the strict sense of the word, no 'onus' on anyone."

38 I am prepared to embrace the approach articulated by the Federal Court in the cases cited. However, that does not relieve me of the obligation cast by s 10 to be "satisfied" of the causal nexus between the Sydney Blue Gum and the damage claimed by the applicants. That will require an assessment of the totality of the evidence adduced before me. When considering that evidence, it will, nonetheless, require a "preponderance of probability" that the causal nexus exists. Anything less would not be tantamount to the satisfaction required by the section. So much, I think, was acknowledged by Mr Seymour when he concluded his submission in reply on this issue by saying "its just simply a state of belief, on the balance of probabilities."

CAUSE: EVIDENCE OF ARBORISTS AND ECOLOGIST

39 Evidence was received from Ms Melanie Howden, Mr Peter Richards and Mr Hugh Taylor, all of who were arborists. Dr AnnMarie Clements, a plant ecologist, also joined the arborists in giving concurrent evidence concerning the Sydney Blue Gum.

40 Ms Howden was retained by the applicants. She provided a statement of evidence dated 31 May 2010. Prior to the preparation of that statement she had inspected the site along with the Sydney Blue Gum and was provided with the report prepared by Mr McKee in October 2009 together with a further report that he had prepared in January 2010. Those reports, together with the report of Ms Howden were prepared prior to the excavation of trenches 1 and 2. In her report Ms Howden records the opinion contained in the McKee report of 10 October that the eastern wall of the dwelling is constructed on footings that bear directly on sandstone bedrock; that it is an upward movement that has caused cracks in the walls and the upward movement has occurred as the result of a root emanating from a tree on the Allambie Road lot. Under the heading of her report addressing cause, Ms Howden wrote:

> "With the upward movement of the footing on the eastern wall of the dwelling (McKee & Associates, 10/10/09) and cracking of the brickwork, unless there is some geotechnical reason to state otherwise, it is highly likely that the upward movement of the footing has been caused by the tree roots expanding in radial (cross-sectional) girth as the tree developed.
>
> Tree roots are known to lift concrete pavements and footpaths and tree roots have also been known to fracture concrete foundations and concrete road curbs."

41 All of the arborists and Dr Clements examined the trenches following excavation in June 2010. It was accepted by all that the first order root observed prior to excavation could not, despite the initial opinion expressed, be the cause of cracking the footing of the applicants' dwelling by imposing upward pressure beneath it. This was for the obvious reason that the root had, at some time in the past, been severed at a distance of about 400mm east of the wall.

42 Based on their observations of material within the trenches that had been excavated, each of Mr Taylor, Mr Richards and Dr Clements expressed the opinion that they were unable to identify any evidence of tree roots likely to be causing upward pressure so as to occasion the lifting of the footing that had occurred. This opinion was expressed for several reasons:

(i) the size of the roots observed;

(ii) the fact that roots near the building were growing in the moist layer of soil near the bedrock in loose sandstone fill material;

(iii) there was no evidence of soil compaction caused by the observed tree root and consequently no significant pressure being applied to the footing above;

(iv) the largest of the roots observed, namely that with dimensions of approximately 100mm by 120mm was likely to be confined to soft material in the sandstone bedrock, growing at a depth of 790mm below the footing and having a shape that suggested adaption to the confines of the soft material in which it was growing, and

(v) the root was not likely to increase in size unless suitable softer rock layers were encountered in the bedrock.

43 Mr Taylor indicated that, based on American research, the likely maximum pressure that a tree root would impose upon rock in which it was growing would be about 860kPa. He further indicated that, based on his experience, while tree roots can damage curbs and footpaths, pressure from tree roots is not known to damage foundations. As pressure is exerted on the roots themselves they will flatten or change shape rather than grow so as to cause uplift. Mr Taylor did add that he had observed movement of sandstone foundation in very old homes where the foundations had not been keyed into rock. He distinguished that position from what he observed in the footing constructed beneath the applicants' dwelling.

44 For her part, Ms Howden did not resile from the opinion expressed in her report of 31 May. As I understood her evidence, she did not assert, in terms, that the roots observed in the excavated trenches were themselves imposing pressure so as to cause the uplift to the footing that had been occasioned, Rather, she indicated that those roots were simply evidence of the fact that other roots of the Sydney Blue Gum were likely to be growing beneath the applicants' dwelling and exerting sufficient pressure so as to occasion uplift. Quite where these unobserved roots might be was not stated although Ms Howden did agree that she would expect them to be close to the footing if they were to apply the requisite pressure. She acknowledged that if tree root pressure was being applied then she would expect the loose fill beneath the footing to be compacted. It was not suggested that such compaction was detected.

45 In the course of cross-examination by counsel for the first respondents, Ms Howden accepted that her evidence attributing damage to the applicants' building from tree roots was based upon Mr McKee's evidence that there was upward movement of the footings. Contrary to the evidence given by Mr Taylor, she asserted that tree roots from Eucalyptus species and other species have been known to fracture concrete foundations. She therefore opined that unless there was a geotechnical explanation for the uplift she could only conclude that tree roots were the cause.

46 I find the generality of Ms Howden's evidence to be unpersuasive. While her explanation of cause prior to excavation of trenches 1 and 2 may have been appropriate, faced with the observations able to be made following excavation, her conclusion was based upon generalities. It did not address the observations made by all and the detailed reasoning able to be applied to this observation by Mr Taylor, Mr Richards and Dr Clements. At its highest, Ms Howden's evidence does no more than hypothesise that by reason of the few, relatively small roots observed in the trenches that were excavated, there must be a large number of roots some of which, either individually or in combination, are sufficient to create the pressure necessary in order to lift the footing of the applicants' dwelling.

47 The reasoning of the other experts that I have earlier summarised seems to me to be more persuasive, based, as it is, upon the application of arboricultural and ecological training to the particular observations in the excavated trenches. There can be no doubt that the site of these trenches were selected because, in the opinion of those endeavouring to establish whether the tree was a cause of damage, these were the locations most likely to reveal the presence of roots supporting the thesis advanced. Based on the evidence of those experts, I could not be satisfied that there was a causal nexus between the Sydney Blue Gum and the damage occasioned to the applicants' dwelling.

CAUSE: THE ENGINEERING EVIDENCE

48 Engineering evidence was given by Mr McKee, retained by the applicants, Mr Mark Lawrie, a civil and structural engineer retained by the second respondents and Mr David Dickson, a geotechnical and structural engineer also retained by the second respondents. Each of the engineers had inspected the two trenches that were excavated in June 2010. They had also inspected the applicants' dwelling together with the measurements of level and plumb carried out by Mr McKee.

49 All agree that the applicants' dwelling has rotated upwards at the south-eastern corner, but not at the south-western corner. This is explained because the southern and central piers constructed beneath the eastern wall have lifted by about 30mm whereas the northern pier or pier 3 has not. This has resulted in the strip footing being raised in the south-eastern corner. The raising of the footing is attributed to the relative displacement of the rock boulders upon which the piers are bearing.

50 All engineers agree that the force required to create the uplift that had occurred is about 4 .5 tonnes or 45kN plus the weight of the boulder upon which the piers bear. This force may be reduced by other factors such as leverage.

51 Furthermore, all engineers agree that within the excavation that they inspected there was no obvious explanation for displacement of the boulders upon which the piers were bearing. They all acknowledge that the tree roots able to be observed, including the largest of those measuring 100mm x 120mm observed in the rock crevice at the base of the excavation, could not provide the force required to provide the uplift that has occurred. It is at this point that the opinions of the experts differ.

52 Mr McKee maintains the position reflected in his report of October 2009 and repeated in a report that he prepared in January 2010. As I have earlier indicated, each of these reports was written at a time when the first order root of approximately 350mm in diameter was thought to pass under the buildings footing. In the light of the excavations revealing that the root had been severed some time in the past, Mr McKee no longer maintained that this root was the cause. Nonetheless, he maintained that the only possible cause of uplift was tree roots from the Sydney Blue Gum.

53 For their part, both Mr Lawrie and Mr Dickson acknowledge two possibilities for displacement of the rock boulders upon which the piers bear. First, they acknowledge the possibility of unseen tree roots within the interbed layers and crevices of the rock stratum. This was described by Mr Lawrie as a "philosophical" alternative, that is, it could not be ruled out and therefore needed to be acknowledged as a possibility. Their alternate explanation for displacement was relative movement of boulders caused by variations in the in-soil water pressure. A further explanation of relative movement of boulders was proffered by Mr Dickson in oral evidence.

54 Both Mr Lawrie and Mr Dickson were of the opinion that uplift of the footing from the pressure of tree roots was not likely. When asked whether the cause was more likely to be the relative movement of boulders than unseen tree roots, Mr Lawrie responded:

> "Yes. If I look at it - if I can answer your question say like a risk analysis, I would probably put the tree root from my understanding of it down not particularly likely so you're looking at 15, 20%. With movements in those areas I would probably put an expectation if I were doing a design or visiting a site of probable, so up around the - sort of - 60 -75% chance."

55 Later on in his evidence Mr Lawrie indicated that tree roots moving rocks was not likely whereas movement due to the geology of the area was "most probable".

56 For his part, Mr Dickson indicated that the likely cause was a consequence of rock movement close to the edge of the cliff which ran roughly parallel to and just beyond the eastern boundary of the applicants' land. He explained that in Hawkesbury sandstone close to the edge of cliffs or steep drops, negative stressors build up in rocks "due to undermining of the rocks towards the front

face." He indicated that as these rocks are undermined and negative stressors develop towards the edge, larger blocks underneath tend to tilt. The tilting of those rocks in turn tends to push boulders up above, thus creating upward pressure.

57 In rejecting the proposition that tree roots were the likely cause of the footing uplift, Mr Dickson draws upon the evidence given by Mr Taylor, the arborist, of the force of 800kPa exerted by a tree root. In that context he points to two matters. First, the force needed to raise the footing by 30mm is much greater than the force predicted from the tree root. Secondly, he points to the fact that if a larger force was to be applied the shear strength of the sandstone would be exceeded with the consequence that a sheer pattern should be available on the rock surface. No such pattern was detected. His observation was agreed in by Mr Lawrie.

58 Mr McKee dismissed the rock movement described by Messrs Dickson and Lawrie as being even a possible explanation for the uplift that had occurred. He described such an explanation as being speculative only. While debating matters advanced by Messrs Lawrie and Dickson, Mr McKee maintained his position that there was no possible cause for uplift other than roots from the Sydney Blue Gum, notwithstanding that he was unable to point to any such roots that were visible within the excavations. In that sense, his evidence is also within the realm of speculation.

59 I prefer the evidence of Messrs Lawrie and Dickson. In particular, Mr Dickson impressed me as a careful witness who had been thorough in his investigations and who was prepared to approach his assessment on an objective basis. His concession that the tree root cause was a possibility accorded with reality. Notwithstanding that concession, he maintained his opinion that the likely cause was rock movement by reason of local geology. His explanations were plausible. He had the advantage over the other two engineers that he was a geotechnical engineer with an understanding by training and experience of geology. This extended to the rock stressors that he had identified within the sandstone rock matrix adjacent to cliffs and their impact upon foundation stability. Mr McKee acknowledged that he had no such experience.

60 In contrast, I could not help but gain the impression that Mr McKee was anxious to maintain the opinion initially expressed in his report of October 2009, notwithstanding the subsequent discovery that the tree root attributed as being the cause of failure had long since been severed. His unwillingness to concede even the possibility of a cause of damage other than tree roots tended to detract from the objectivity of his evidence. His statement that the probability of uplift having been caused by tree roots was 99 per cent, despite no such roots being observed and no test undertaken to detect their existence

was, again, an approach that detracted from an objective appraisal of the available evidence.

CAUSE: NO NEXUS IS DEMONSTRATED

61 Having considered both the arborists' evidence and that given by the engineers, I am not satisfied that the Sydney Blue Gum has caused or is causing the damage that has been occasioned to the applicants' dwelling. I express this conclusion having considered all of the evidence given before me and without applying common law notions of onus of proof.

62 As the respondents submitted, something more than a theoretical possibility is required in order to engage the power under the *Trees (Disputes Between Neighbours) Act* to make an order to remedy, restrain or prevent damage as a consequence of a tree. In the language of Jenkinson J in *McDonald* , confidence on a "bare preponderance of probability" has not been engendered on the evidence adduced that the Sydney Blue Gum was a cause of damage to the applicants' dwelling. Embracing the language of the applicants' submission, I have not been left in a state of belief, on the balance of probabilities, that the tree is a cause of that damage.

NOTICE OF MOTION TO RE-OPEN

63 The applicants have applied by notice of motion to re-open their case in order to supplement their evidence as to the cost of repairing the damage occasioned to their dwelling. They claim that further damage has been occasioned as no remedial action has been taken.

64 In light of my finding that no causal connection between the tree and that damage has been demonstrated, the notice of motion must necessarily be dismissed.

COSTS

65 In the event that they were successful, the second respondents seek an order that the applicants pay the costs of these proceedings. Such an order would be unusual in a case of this kind.

66 By LECR 3.7(2) the Court is enjoined from making an order in proceedings of the present kind unless it determines that the making of an order is "fair and reasonable in the circumstances." The second respondents contend that they are entitled to costs in this case for three reasons:

(i) the proceedings were commenced "on an incorrect and underexplored basis" being the allegation by Mr McKee in his report of October 2009 attributing the cause to the first order tree root ultimately found to have been severed some time ago;

(ii) there was a failure to give 21 days notice of the lodging of the application and terms of any order sought; and

(iii) the applicants' case is based on speculation.

67 I do not accept that in the circumstances of this case it is fair and reasonable to depart from the usual position that no order for costs be made. It is a matter of some concern that a case involving a claim for compensation in a sum of less than $50,000 required three sets of solicitors, three counsel and nine experts over a three day hearing to resolve this dispute. It seems to me that the costs burden should lie where it falls.

68 While it is correct, as events have turned out, that Mr McKee's initial basis for assigning cause has been found wanting, it was an opinion upon which the applicants were entitled to rely in maintaining their proceedings. As I have recorded, Mr McKee steadfastly maintained his initial opinion and although I have preferred the opinion of others, it was nonetheless an opinion which he was entitled to agitate.

69 There was dispute as to the notice given to the second respondents of the lodging of the s 7 application. What is apparent is that the second respondents were well aware of the claim for compensation made by the applicants long before proceedings were commenced but they denied any liability to meet that claim. Once proceedings had been commenced they became aware of them and were ultimately joined, well in advance of the hearing. They maintained their denial of any obligation to pay compensation and appeared unwilling to engage in any process of negotiation. Even if it be the case that there was not strict compliance with the requirement of s 8(1) of the *Trees (Disputes Between Neighbours) Act* I do not see how, in the circumstances, that fact should influence the making of any order for costs.

70 Finally, it is true that the case ultimately made by the applicants was based on speculation as to the existence of tree roots sufficient to cause uplifting of the footings in their residence. In effect, the "speculation" really sought the drawing of an inference from observations made. The drawing of such an inference from proven facts is not unusual in any form of litigation. As it happens, I was not prepared to draw the requisite inference, sufficient to reach the satisfaction required by s 10(2). However, that circumstance ought not to weigh against the assumption required by the rule that no order for costs be made.

ORDERS

71 The orders that I make are therefore as follows:

1. Application dismissed.

2. Notice of motion dated 23 November 2010 is dismissed.

3. Exhibits may be returned.

4. No order as to costs.

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Decision last updated: 07 March 2011