



Supreme Court  
New South Wales

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Case Name: The Owners – Strata Plan 30791 v Southern Cross Constructions (ACT) Pty Ltd (in liq) (No 2)

Medium Neutral Citation: [2019] NSWSC 440

Hearing Date(s): 29 January - 6 February; 27-28 February 2019; further submissions 8, 11, 19, and 20 March 2019

Decision Date: 18 April 2019

Jurisdiction: Equity - Technology and Construction List

Before: Stevenson J

Decision: Defendants not liable for any of the damage to the plaintiff. Proceedings to be dismissed.

Catchwords: TORTS – miscellaneous torts – right of support – application of s 177 of the Conveyancing Act 1919 (NSW) – whether loss of support caused damage to adjoining property

NEGLIGENCE – essentials of action for negligence – whether there was a failure to take reasonable care – whether any failure caused damage

NEGLIGENCE – apportionment of responsibility and damages – onus of proof

CIVIL PROCEDURE – pleadings – amendment – joinder of plaintiffs who are otherwise statute barred

Legislation Cited: Civil Liability (Third Party Claims Against Insurers) Act 2017 (NSW)  
Civil Liability Act 2002 (NSW)  
Civil Procedure Act 2005 (NSW)  
Conveyancing Act 1919 (NSW)  
Corporations Act 2001 (Cth)

Limitation Act 1969 (NSW)  
Strata Schemes (Freehold Development) Act 1973 (NSW)  
Strata Schemes Development Act 2015 (NSW)  
Strata Schemes Management Act 1996 (NSW)  
Uniform Civil Procedure Rules 2005 (NSW)

Cases Cited: City of Swan v McGraw-Hill Companies Inc (2014) 223 FCR 295; [2014] FCA 442  
Greater Lithgow City Council v Wolfenden [2007] NSWCA 180  
Greenwood v Papademetri [2007] NSWCA 221  
Hunt & Hunt Lawyers v Mitchell Morgan Nominees Pty Ltd (2013) 247 CLR 613; [2013] HCA 10  
Latteria Holdings Pty Ltd v Corcoran Parker Pty Ltd (2014) 224 FCR 519; [2014] FCA 880  
Llaverio v Shearer [2014] NSWSC 1336  
Lym International Pty Ltd v Marcolongo [2011] NSWCA 303  
Piling Contractors (Qld) Pty Ltd v Prynew Pty Ltd; Nemeth v Prynew Pty Ltd [2008] NSWSC 118  
Strong v Woolworths Ltd (2010) 246 CLR 182; [2012] HCA 5  
Sydney Water Corporation v Asset Geotechnical Engineering Pty Ltd [2013] NSWSC 1274  
The Owners – Strata Plan 30791 v Southern Cross Constructions (ACT) Pty Ltd (in liq) [2019] NSWSC 299

Texts Cited: Conveyancing Amendment (Law of Support) Bill 2000 (NSW)  
New South Wales Legislative Assembly, Parliamentary Debates (Hansard), 5 April 2000

Category: Principal judgment

Parties: The Owners – Strata Plan 30791 (First Plaintiff)  
Albert Bonansea and Ivana Bonansea (Second Plaintiff)  
Angus John Nicholas Brooks (Third Plaintiff)  
Julius Wolfgang (Fourth Plaintiff)  
Roslyn Bainton (Fifth Plaintiff)  
Michelle Anne Carruthers (Sixth Plaintiff)  
Alison Pate (Seventh Plaintiff)  
Vanessa Winley (Eighth Plaintiff)  
Southern Cross Constructions (ACT) Pty Limited (in liquidation) (First Defendant)

Pile & Bucket Pty Limited (Second Defendant)  
Allianz Australia Insurance Limited (Third Defendant)  
Northwood Pty Limited (Fourth Defendant)  
Jeffery and Katauskas Pty Limited (Fifth Defendant)  
Hughes Trueman Pty Limited (Sixth Defendant)  
NMK (Aust) Pty Limited (Seventh Defendant)  
QBE Underwriting Limited as Managing Agent for the  
Members of Lloyd's Syndicate 386 (Eighth Defendant)

Representation:

Counsel:

A Ogborne with A Avery-Williams (Plaintiffs)  
R A Cavanagh SC with S Blackman (First and Third  
Defendants)  
D Hand (Sixth Defendant)  
G Ng (Eighth Defendant)

Solicitors:

Holman Webb Lawyers (Plaintiffs)  
Thompson Cooper Lawyers (First and Third  
Defendants)  
Clyde & Co (Sixth Defendant)  
Yeldham Price O'Brien Lusk (Eighth Defendant)

File Number(s):

SC 2013/179839

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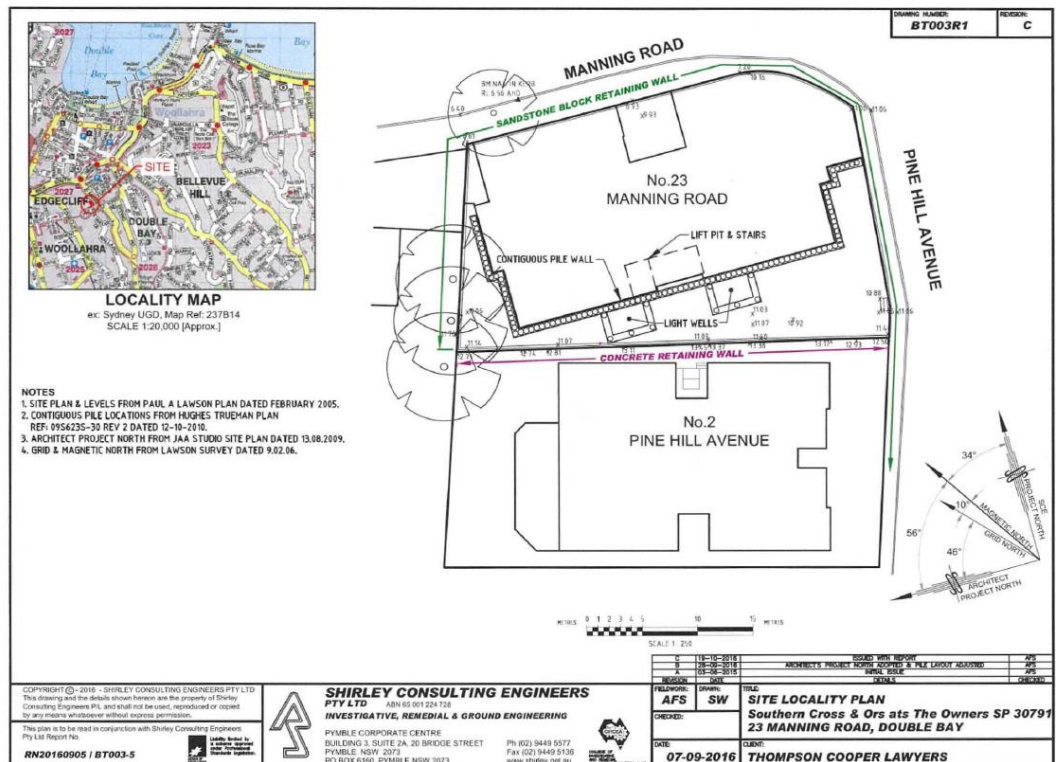
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3. The location of the foundation piles
4. The location of foundation piles at the basement level
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#### Conclusion concerning the case against Hughes Trueman

### Conclusion

## JUDGMENT

- 1 In 1927 a 3 storey block of 12 apartments was erected in Pinehill Ave, Double Bay (“the Building”).
- 2 Strata Plan 30791 was registered in respect of the Building on 11 April 1986. The first plaintiff is the Owners Corporation. The remaining plaintiffs are owners of 7 of the 12 lots in the Building. For reasons which will become apparent, I will call the land on which the Building is erected “the Affected Property”.
- 3 Pinehill Ave is a no through road rising sharply uphill in a south westerly direction from Manning Rd.
- 4 In 1937 another block of apartments was erected on the property immediately downhill from the Affected Property, on the corner of Pine Hill Ave and Manning Rd. For reasons which will also become apparent, I will refer to that property as “the Development Property”.
- 5 In about 1937, at the time the block of apartments was erected on the Development Property, a concrete retaining wall (“the Retaining Wall”) was constructed on the boundary between the Affected Property and the Development Property. The Building stands between 1.7 m and 2.4 m from the Retaining Wall. Prior to the events I am about to describe, the Retaining Wall rose some 2.4 m from the ground level of the Development Property.
- 6 Prior to July 2010, the structure on the Development Property was demolished. A new block of apartments (“the New Apartments”) has since been built on that site.
- 7 The locations of the Building in relation to the New Apartments is illustrated in the following plan:



- 8 Between July and November 2010, and in anticipation of the construction of the New Apartments, excavation, shoring and piling works (“the Shoring Works”) were effected on the Development Property close to the boundary between the Development Property and the Affected Property. The Shoring Works involved, amongst other things, construction of a shoring wall (“the Shoring Wall”). The Shoring Wall, as constructed, is the Contiguous Pile Wall depicted on the plan set out at [7].
- 9 The Shoring Works caused movement of the Retaining Wall and the Shoring Wall. One or both of these movements caused the foundation strata under the Building to move. That movement caused cracking and other aesthetic and structural damage to the Building.
- 10 A referee has determined that the cost of rectifying the damage caused to the Building by those movements is some \$5 million and that the necessary work will take 66 weeks. The work is yet to be effected. The residents of the Building will need to move out while it is done. The cost of their temporary relocation is included in the \$5 million.
- 11 Some \$500,000 of the damage to the Building has been caused to internal structural walls. There was an issue as to whether those walls comprise part of

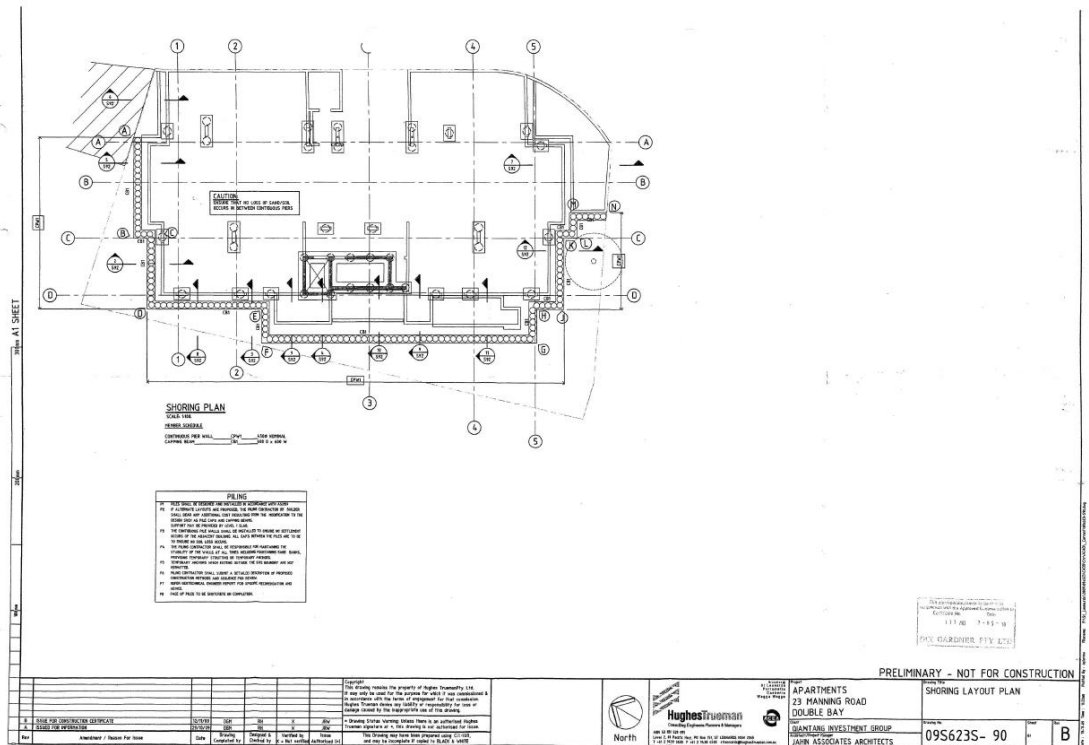


the common property of the Building. It is now common ground that they do not.

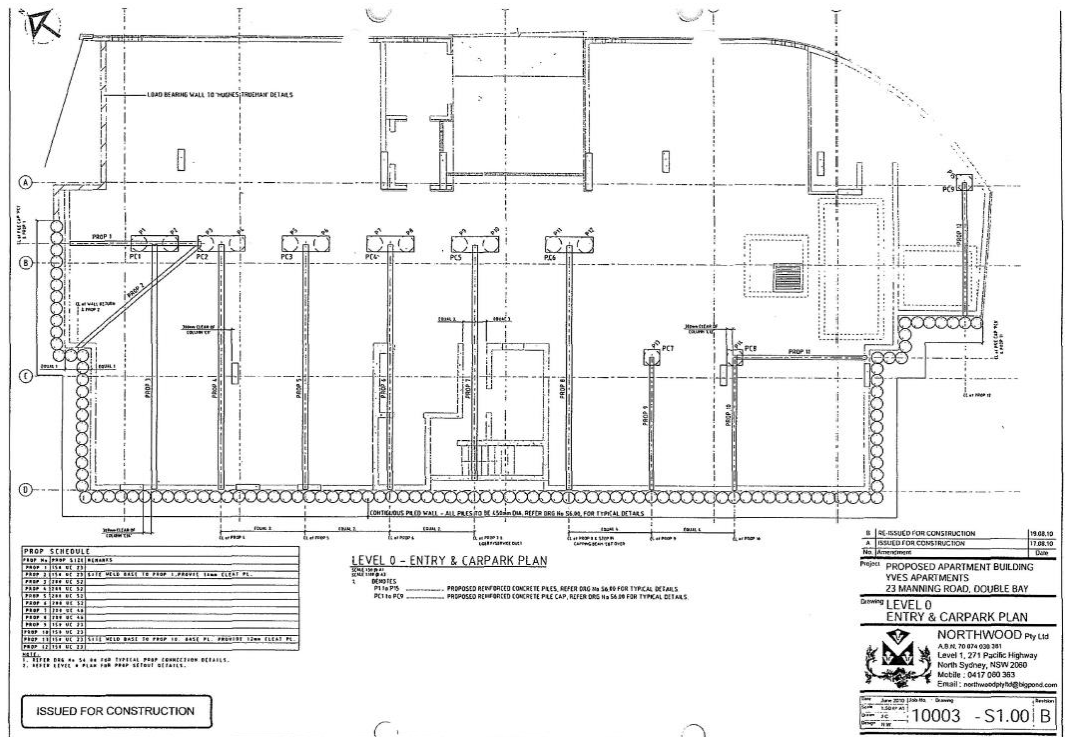
- 12 These proceedings are brought by the Owners Corporation of the Building and by the seven lot owners whose internal walls have been affected by the Shoring Works.
- 13 The lot owners were joined as plaintiffs by amendments made to the Summons and the Technology & Construction List Statement on 20 November 2018 pursuant to leave granted on 16 November 2018. Those amendments were permitted on the basis that the questions of their operative date and whether the lots owners' claims are statute barred be determined by the trial judge.
- 14 Although the seven lot owners are also plaintiffs, for simplicity, unless the context otherwise requires, I will refer simply to the Owners Corporation.

### **The parties**

- 15 The Development Property was, in 2010, owned by Qiantang Investment Group Property Development Pty Ltd ("the Developer"). The Developer obtained development approval in respect of the Development Property on 2 October 2007. The Developer is not a party to the proceedings.
- 16 Qiantang engaged Jahn Associates Architects to design the New Apartments. The Architect is not a party to the proceedings.
- 17 During 2009, the Developer engaged the fifth defendant, Jeffery and Katauskas Pty Ltd, as geotechnical engineers for the project. Jeffery and Katauskas had, in 2006, been engaged by the Developer's predecessor in title to conduct a geotechnical investigation to which I will return.
- 18 During 2009, the Developer also engaged the sixth defendant, Hughes Trueman Pty Ltd, as consulting structural engineers to the Project. Hughes Trueman prepared a "Shoring Layout Plan" in late 2009. That plan included a Shoring Wall, near the boundary between the Development Property and the Affected Property, the object of which was to provide stability to both properties during the contemplated excavation.
- 19 The Hughes Trueman Shoring Wall "stepped out" beyond the proposed structure of the New Apartments as depicted in this plan:



20 In early 2010, the Developer engaged the fourth defendant, Northwood Pty Ltd, as structural engineers, to identify possible cost savings in respect of Hughes Trueman's basement layout, including its Shoring Layout Plan. Between March and August 2010, Northwood proposed an amended shoring layout plan which integrated the Shoring Wall into the structure of the New Apartments, proceeding in a straight line along the western side of the New Apartments, as depicted in this plan:



- 21 On 25 March 2010, the Developer entered into a Fixed Lump Sum Construct Contract with the first defendant, Southern Cross Constructions (ACT) Pty Ltd to construct, not design, the New Apartments.
- 22 On 30 July 2010 Southern Cross entered into a subcontract with the second defendant, Pile & Bucket Pty Ltd, to carry out piling, excavation and capping works on the Development Property.
- 23 Southern Cross is now in liquidation. The Owners Corporation has obtained requisite leave under the *Civil Liability (Third Party Claims Against Insurers) Act 2017* (NSW) and the *Corporations Act 2001* (Cth) to proceed against Southern Cross' insurer, the third defendant, Allianz Australian Insurance Ltd. It is not necessary to make further reference to Allianz.
- 24 The Owners Corporation alleged that, during November 2010, the seventh defendant, NMK (Aust) Pty Ltd did excavation work on the site. NMK was de-registered in July 2017. The Owners Corporation obtained requisite leave to proceed against its insurer, the eighth defendant, QBE Underwriting Ltd as Managing Agent for the Members of Lloyd's Syndicate 386. On the sixth day of the hearing, Mr Ogborne, who appeared with Ms Avery-Williams for the Owners Corporation, informed me that the Owners Corporation proposed to

discontinue the proceedings against NMK and QBE. NMK thereafter played no role in the proceedings save to argue for its costs. I dealt with that matter in a judgment delivered on 21 March 2019: *The Owners – Strata Plan 30791 v Southern Cross Constructions (ACT) Pty Ltd (in liq)* [2019] NSWSC 299.

25 Prior to the commencement of the hearing, the Owners Corporation settled with Pile & Bucket, Northwood and Jeffery and Katauskas. I have not been informed of the basis of those settlements.

26 The proceedings before me are thus concerned only with the Owners Corporation's claim against Southern Cross and Hughes Trueman.

### **Conclusion**

27 I am not persuaded that either Southern Cross or Hughes Trueman is liable for any of the damage to the Building.

28 The proceedings against them should be dismissed.

### **The common property issue**

29 At the commencement of the hearing, there was an issue as to whether the internal walls of the Building were "common property".

30 However, in closing submissions Mr Ogborne accepted that the question was to be determined by reference to the *Strata Schemes (Freehold Development) Act 1973* (NSW), rather than the *Strata Schemes Development Act 2015* (NSW), and that it followed that the internal walls were not "common property".

31 It follows that, subject to one matter, the Owners Corporation is not entitled to bring proceedings in respect of damage to those internal walls.

32 At the conclusion of oral submissions, Mr Ogborne foreshadowed that the Owners Corporation would seek to contend that it was entitled to take proceedings for rectification of the internal walls as an "interested person" pursuant to s 228 of the *Strata Schemes Management Act 1996* (NSW). That section provides that an "interested person", such as the Owners Corporation, may take proceedings for rectification of the condition of part of a building "if that condition affects or is likely to affect the support or shelter provided by that part to any other part of the building".

- 33 I am not prepared to allow the Owners Corporation to take this course. The Owners Corporation had not, until the conclusion of oral submissions, asserted any reliance on s 228. Mr Cavanagh SC, who appeared with Mr Blackman for Southern Cross, informed me, and I accept, that had this matter been pleaded it would have been the subject of evidence directed to the question whether the cracking to the internal walls would likely have affected other parts of the Building.
- 34 In the circumstances, it would not be just to allow the Owners Corporation, and this very late stage of the proceedings, to expand its case in this way.

### **The limitation issue**

- 35 The individual lot owners joined as plaintiffs by reason of the leave granted on 16 November 2018 are, on the face of it, out of time to recover damages in respect the cracking to the internal walls to their apartments: s 14 of the *Limitation Act 1969* (NSW). As I discuss below, any such damage occurred, at the latest, by 1 November 2010; more than six years before their joinder as plaintiffs on 20 November 2018.
- 36 The leave granted on 16 November 2018 was under s 64(1)(b) and 65(2)(c) of the *Civil Procedure Act 2005* (NSW) to add a new cause of action and claim for relief, after the expiration of the relevant limitation period, arising out of the same facts as those giving rise to the existing cause of action brought by the Owners Corporation: *Greenwood v Papademetri* [2007] NSWCA 221 at [35].
- 37 Section 65 does not limit the power of the court under s 64: *Greater Lithgow City Council v Wolfenden* [2007] NSWCA 180 at [12] to [18].
- 38 By reason of s 65(3), unless the court otherwise orders, an amendment made under s 65 is taken to have had effect from the date on which the proceedings were commenced.
- 39 I am not persuaded I should otherwise order.
- 40 The case that the individual lot owners seek to bring against Southern Cross and Hughes Trueman is, in substance, the same as that already brought against those parties by the Owners Corporation, albeit in relation to the damage that has been sustained to the internal walls of their apartments, as

opposed to the common property of the Building. The causes of action that the lot owners bring arises from substantially the same facts as those giving rise to the Owners Corporation's existing causes of action and claims for relief.

41 There is no extra step that either Southern Cross nor Hughes Trueman need to take to resist the claim that the lot owners seek to bring in relation to the damage within their units.

42 Therefore, I propose to allow the amendment made to the Technology & Construction List Statement on 20 November 2018 to take effect from the date these proceedings were commenced.

43 However, in view of my overall conclusions in these proceedings, the point is moot as the lot owners' position against Southern Cross and Hughes Trueman can be no better than that of the Owners Corporation.

#### **The onus issue**

44 This is an apportionable claim governed by Pt 4 of the *Civil Liability Act 2002* (NSW): see s 34(1)(a).

45 For the reasons set out below (see [293] to [447]), I am not satisfied that the Owners Corporation has established that either of Southern Cross or Hughes Truman is liable for any damage sustained by the Owners Corporation.

46 Had I been satisfied that either of Southern Cross or Hughes Trueman was liable, it would have been necessary for me to determine the extent of their liability as reflected by the proportion of damage that I consider just having regard to the extent of their respective responsibility: s 35(1) of the *Civil Liability Act*.

47 Since I am not so satisfied, I will not make any such determination.

48 However, an issue arose in closing submissions about who bore the onus of proof in cases for apportionable claim.

49 Mr Ogborne submitted that, under the apportionment regime, a defendant must prove that someone else is liable in order to avoid or mitigate their liability. Mr Ogborne submitted that Southern Cross and Hughes Truman "must make out cases against Northwood, [Pile & Bucket] or [Jeffery and Katauskas] before the

Court can undertake any apportionment”. In support of this submission, Mr Ogborne referred to *Hunt & Hunt Lawyers v Mitchell Morgan Nominees Pty Ltd* (2013) 247 CLR 613; [2013] HCA 10 at [16].

50 Mr Ogborne also submitted that “ordinarily the defendant will have to persuade the Court of the amount by which the defendant’s responsibility for that damage or loss is less than 100%”. In support of that submission, Mr Ogborne cited the decision of Rares J in *City of Swan v McGraw-Hill Companies Inc* (2014) 223 FCR 295; [2014] FCA 442 at [48].

51 I do not accept this submission. Section 35(1) of the *Civil Liability Act* does not reverse the burden of proof so as to require a defendant to prove that a concurrent wrongdoer is responsible. Rather, it provides that a concurrent wrongdoer’s liability is limited to that which the court considers just.

52 The decision of Rares J in *City of Swan* does not support Mr Ogborne’s submission. In that case, Rares J was dealing with a Federal analogue of the apportionment regime contained in Pt 4 of the *Civil Liability Act*:

53 His Honour said at [48]:

“I am of opinion that a court needs evidence, based on an identifiable and intelligible issue, as to why an apportionable claim between concurrent wrongdoers can be made good, in order to determine...the extent of a defendant’s responsibility for the damage or loss suffered by a plaintiff. Importantly...the court can give judgment against a defendant whose liability it has found to be limited...for not more than an amount fixed by reference to the proportionate share of damage or loss for which it found that defendant liable. A defendant must show on the evidence (whether or not that evidence had been tendered or led by that defendant) that he, she or it is a concurrent wrongdoer before the court can undertake any apportionment: compare: *Hunt & Hunt* 247 CLR at 626 [16]. That is why, where the plaintiff does not sue all potential concurrent wrongdoers, [the Federal analogue of 35(1)] enables a defendant to raise the matter by giving notice of the information it has about the identity of, and the circumstances that may make the person, a concurrent wrongdoer. If a defendant wishes to establish that someone else has a concurrent liability for the damage or loss claimed by a plaintiff, ordinarily the defendant will have to persuade the court of the amount by which the defendant’s responsibility for that damage or loss is less than 100%...”.

(Emphasis added.)

54 I do not see these observations to convey that the onus of proof is reversed in apportionable claims cases. Rather, Rares J was making the point that where a plaintiff did not sue all concurrent wrongdoers, it was for a defendant concurrent wrongdoer to show what proportion of the plaintiff’s damage should

be attributed to other concurrent wrongdoers not joined as defendants, in causing the damage complained of.

- 55 As Mortimer J observed in *Latteria Holdings Pty Ltd v Corcoran Parker Pty Ltd* (2014) 224 FCR 519; [2014] FCA 880, after quoting the relevant part of Rares J's reasons, at [37]:

“[Rares J] was speaking there of what was necessary for a defendant ultimately to take successful advantage of the proportionate liability provisions, and what the intended effect of those provisions is, his Honour's observations about the operation of the proportionate liability scheme emphasise the fact-intensive exercise involved.”

- 56 It does not follow from what Rares J said that where a plaintiff sues a number of concurrent wrongdoers, it is relieved from the onus of showing what proportion of the damage it has suffered should be attributed to each wrongdoer.

### **The Owners Corporation's case as finally presented**

- 57 The Owners Corporation originally alleged that each of Northwood, Pile & Bucket, Jeffery and Katauskas, Southern Cross, Hughes Trueman and NMK acted in breach of their duty to the Owners Corporation to carry out the Shoring Works with reasonable care and that it had suffered damage as a result.
- 58 Having settled with Northwood, Pile & Bucket and Jeffery and Katauskas, the Owners Corporation, in its case against the remaining defendants, Southern Cross, Hughes Trueman and NMK, served the evidence of the parties with whom it had settled. As that evidence had been adduced in defence of the claims then made against those parties by the Owners Corporation, it is unsurprising that it purported to be exonerative of those parties.
- 59 Having on the sixth day of the hearing abandoned its case against NMK, the matter proceeded against Southern Cross and Hughes Trueman.
- 60 Each of the Owners Corporation, Northwood, Pile & Bucket, Jeffery and Katauskas, Southern Cross and Hughes Trueman served expert evidence from structural and geotechnical engineers as to the cause of the damage to the Building. Each of those experts (with one exception to which I will return) participated in a conclave and produced a Joint Report in which they



expressed an almost unanimous opinion as to the factors that had caused damage to the Building.

- 61 Amongst other things, the experts agreed, and it is common ground that:
- (a) the damage to the Building was caused by movement of the foundation strata under the Building; and
  - (b) that foundation movement was caused by a combination of the movements of the Shoring Wall and the Retaining Wall.
- 62 In final submissions, the Owners Corporation contended that Southern Cross acted in breach of its duty in respect of eight aspects of the work it did in respect of the Shoring Works and that Hughes Trueman acted in breach of its duty in respect of five aspects of the work it did.

### **The expert conclave and concurrent evidence**

- 63 Two of the experts who signed the Joint Report and gave concurrent evidence were geotechnical engineers. The other five were structural engineers. Four of the experts had been retained by Pile & Bucket, Northwood or Jeffery and Katauskas, but attended the conclave and gave concurrent evidence before me on behalf of the Owners Corporation, Southern Cross or Hughes Trueman.
- 64 The experts, their qualifications, the party that originally retained them, and the party on whose behalf they gave evidence before me are set out in the following table:

<b>Name</b>	<b>Qualification</b>	<b>Original retainer</b>	<b>Retainer for hearing</b>
Simon Matthews	Structural engineer	Owners Corporation	Owners Corporation
John Alden	Structural engineer	Hughes Trueman	Hughes Trueman
Andrew Shirley	Geotechnical engineer	Southern Cross	Southern Cross
Donald	Structural	Pile &	Owners

MacLeod	engineer	Bucket	Corporation
Roderick Broune	Structural engineer	Northwood	Owners Corporation
Simon Mortimer	Geotechnical engineer	Jeffery and Katauskas	Southern Cross
Mark Manning	Structural engineer	Jeffery and Katauskas	Southern Cross and Hughes Trueman

65 The Owners Corporation had also served reports from another geotechnical engineer, Mr Charles Marais. Mr Marais did not participate in the conclave. Nonetheless Mr Ogborne sought to read his evidence and to have him participate in concurrent evidence before me.

66 On 6 February 2019, I ruled that I should not receive Mr Marais's evidence and should not permit him to participate in the concurrent evidence.

67 I said I would give my reasons in this judgment.

68 Rule 31.26(5) of the Uniform Civil Procedure Rules 2005 (NSW) provides that where expert witnesses produce a joint report pursuant to a conclave such as occurred in this case:

“Except by leave of the court, a party affected may not adduce evidence from any other expert witness on the issues dealt with in the joint report”.

69 Mr Ogborne accepted that the effect of this rule was that, absent leave, the Owners Corporation could not rely upon Mr Marais's reports nor call him to participate in the concurrent evidence.

70 My conclusion was that such leave should not be granted.

71 Mr Ogborne informed me that the reason Mr Marais did not attend the conclave was because of a “communication error”. However, as Mr Cavanagh pointed out, any difficulty caused by Mr Marais's accidental failure to attend the conclave could have been addressed by circulating the Joint Report to him and inviting his comments.

- 72 As it was, although the other experts may well have read Mr Marais's reports, they had not had the benefit of his participation in the conclave.
- 73 Further, as Mr Cavanagh pointed out, two geotechnical engineers, Mr Shirley and Mr Mortimer, did participate in the conclave and were available to participate in the concurrent evidence. Each of those experts could be expected, Mr Cavanagh submitted, to adhere to their obligations to the Court as expert witnesses to give objective evidence with the aim of discharging their primary duty of assisting the Court.
- 74 So it turned out. I was greatly assisted by the evidence given by all seven experts during the concurrent evidence. They are to be commended for the clarity and professionalism that they brought to bear throughout the course of that evidence.

### **The events leading to the Shoring Works**

#### *The 13 March 2006 Jeffery and Katauskas geotechnical investigation*

- 75 In 2006 the then owners of the Development Property retained Jeffery and Katauskas to conduct a preliminary geotechnical and hydrogeological investigation of the Development Property.
- 76 On 13 March 2006 Mr Linton Speechley, then a senior associate at Jeffery and Katauskas, produced a report ("the Jeffery and Katauskas Report") in which he:
- (a) recorded the subservice conditions as showing a "silty sand and sand profile" with "some very loose and loose near surface soils, which are likely to extend beyond site boundaries";
  - (b) stated that the Development Property "lies relatively close to the rear south western boundary of the site" and that "demolition of existing structures and paved services will need to be carried out with care so as not to damage or destabilise nearby retaining walls or buildings";
  - (c) advised that the effect of vibration on adjoining buildings and retaining walls will need to be "carefully monitored"; and
  - (d) advised that a "properly designed in situ shoring system will be required" with one option being a "grout injected contiguous piled wall".

*The 2 October 2007 Development Consent*

- 77 On 2 October 2007 Woollahra Municipal Council issued a Development Consent for the erection of the New Apartments.
- 78 There were terms of the Development Consent that:
- (a) construction methodology, testing and excavation works were to be undertaken in accordance with the recommendations in the Jeffery and Katauskas Report;
  - (b) a hydrogeological and geotechnical monitoring program for the works was to be prepared in accordance with the recommendations in the Jeffery and Katauskas Report;
  - (c) that program was to include recommended “hold points” to allow for inspection by a geotechnical engineer during, relevantly, excavation of the site, and the installation and construction of temporary and permanent shoring and retaining walls;
  - (d) the “principal contractor” was to ensure that a professional engineer determine the possibility of any adjoining building founded on loose foundations being effected by piling, piers or excavation, and that such engineer “must assess the requirements for underpinning any adjoining or adjacent buildings founded on such soil on a case by case basis”; and
  - (e) a vibration monitoring program be prepared.
- 79 After the Development Consent was granted, the Development Property was sold. It was not until 2009 that progress of the development continued.

*The Architect’s July 2009 plans*

- 80 By July 2009 the Architect had prepared “Issued for Construction” drawings for the New Apartments. The plans depicted five levels comprising level 0 (entry and car park), levels 1, 2 and 3 (each containing two units) and level 4 (containing a penthouse).
- 81 The Architect’s plans included provision for a lift well on the western side of the building (facing the Affected Property) as well as two light wells on the western side of levels 1 and 2. The light wells were designed to allow light and ventilation into bedrooms to be erected on level 1 and to facilitate a parterre garden accessible from those bedrooms.
- 82 The light well erected closest to the Retaining Wall, which the parties referred to as “the northern light well”, assumes significance in the Owners Corporation’s case against Southern Cross.

*The July 2009 retainer of Hughes Trueman*

- 83 On 13 July 2009, Hughes Trueman submitted a fee proposal to the Developer to design and document the structural elements of the New Apartments including:
- (a) foundations and retaining walls;
  - (b) concept layouts for contiguous pile walls (i.e. a proposed Shoring Wall);
  - (c) slabs on the ground; and
  - (d) the suspended concrete structure.
- 84 The fee proposal was based on drawings prepared by the Architect. It expressly excluded the “detailed design of the piling system” and “builders’ temporary work and shoring”.
- 85 By November 2009, Hughes Trueman had prepared a “Preliminary - Not for Construction” shoring layout plan that, as I have mentioned, incorporated the “stepped out” Shoring Wall depicted at [19] above.

*The 20 August 2009 retainer of Jeffery and Katauskas*

- 86 In the meantime, on 20 August 2009, the Developer retained Jeffery and Katauskas as geotechnical consultant for the project.
- 87 On 22 September 2009, Mr Speechley, by now a principal at Jeffery and Katauskas, provided the Developer with a “Vibration, Hydrogeological and Geological Monitoring Plan” intended to satisfy the Development Consent conditions C.16 and E.18, to which I have referred above at [78(b), (c) and (e)].
- 88 In that document Mr Speechley recommended:
- (a) the establishment of survey sections to enable survey monitoring for ground movements;
  - (b) that surveys be completed prior to site works, after demolition and prior to shoring installation, on completion of shoring installation, and on completion of shoring construction, anchoring and bulk excavation; and
  - (c) that vibration monitoring occur at the commencement of demolition, and at specified stages thereafter.

*The changes made to the Hughes Trueman Shoring Layout plan by Northwood*

- 89 In February 2010, the Developer retained Northwood to assess Hughes Trueman's existing structural design and seek to achieve "possible cost savings".
- 90 On 26 February 2010, the principal of Northwood, Mr Neil Walsh, wrote to the Developer proposing services which included:

"Identify possible savings which may be won by amendment of the existing basement layout and retaining walls.

...

Carry out structural calculations to provide the size of amended structural elements for costing".

- 91 On 7 March 2010 Mr Walsh prepared a plan of a proposed "Revised Contiguous Pier Layout" which was marked "for costing only". The drawing specified:

"The basement and ground floor structure are to be as per the issued [Hughes] Trueman drawings with removed structures as noted".

- 92 Relevantly, Mr Walsh's proposal was, I have set out above, to integrate the Shoring Wall into the structure of the New Apartments and to design the Shoring Wall so that, on the western side of the New Apartments, it proceeded in a straight line. Mr Walsh's design specified that temporary support to the Shoring Wall was to be provided by metal props.

- 93 Mr Walsh accepted in cross-examination that he had ultimate responsibility for the design of the Shoring Wall.

- 94 On 16 March 2010, and again on 24 March 2010, Mr Walsh wrote to the Developer stating that:

"Hughes Truman [sic] remain responsible for all footings, columns, pits, structure [sic] outside the main wall lines forming terraces, pathways and general landscaping. Columns, foots and ground floor structure affected by the costs savings work are to be amended by Hughes Truman [sic]".

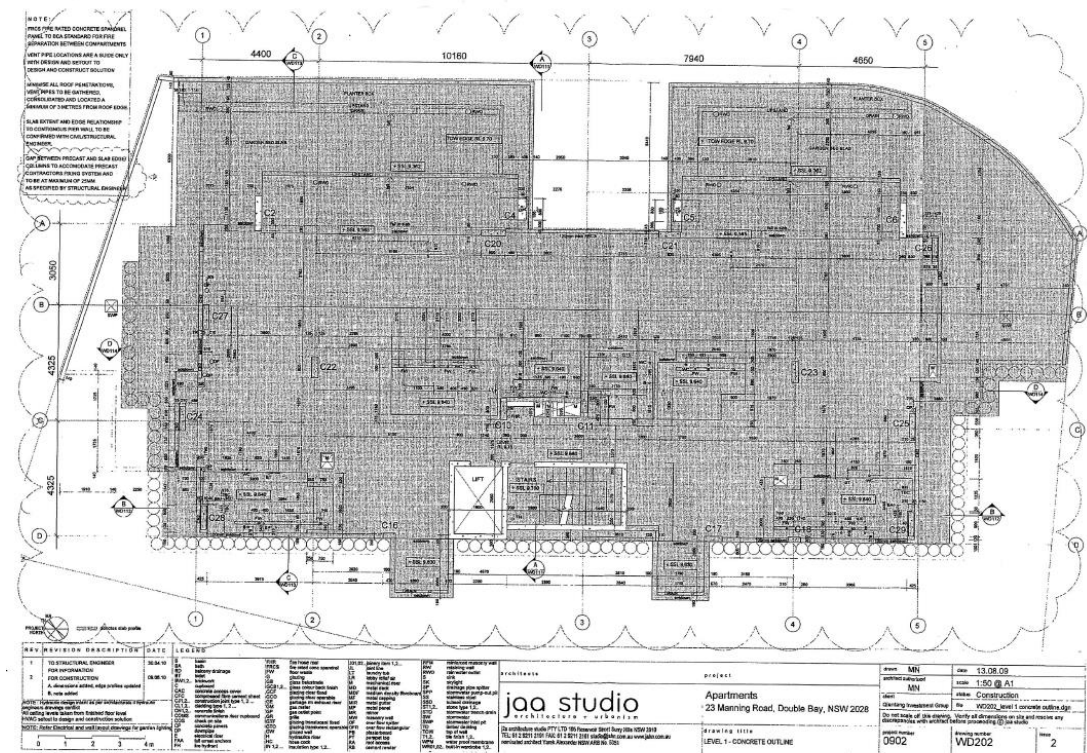
*The 25 March 2010 contract between the Developer and Southern Cross*

- 95 On 25 March 2010, the Developer and Southern Cross entered a "Fixed Lump Sum Construct Contract".

96 By that contract, Southern Cross agreed to carry out the “Works”, defined to mean the construction of the New Apartments in accordance with the relevant “Plans and Approvals”, in a proper and workmanlike manner.

*Mr Walsh’s suggestions incorporated into the Architect’s plans*

97 On 9 June 2010 the Architect prepared a construction plan for level 1 which incorporated Mr Walsh’s proposed Shoring Wall with the light well and parterre gardens to which I have referred at [80] to [81]. Thus:



98 Throughout June and July 2010 there was regular email communication between Southern Cross, Northwood (Mr Walsh) and Jeffery and Katauskas (Mr Speechley). In that correspondence, Northwood is regularly described as “the engineer designing the new piling system”.

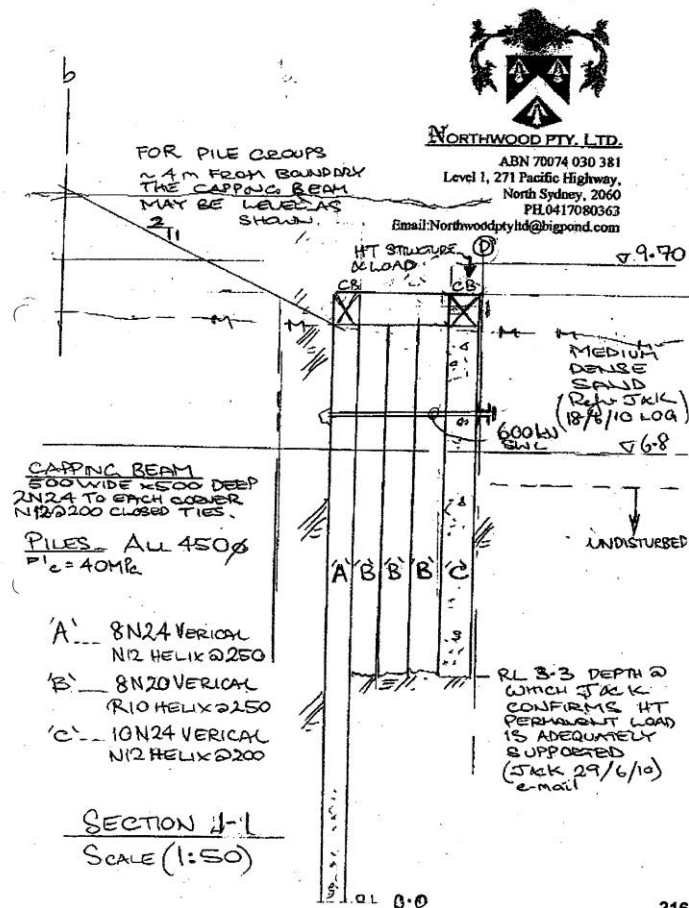
*Mr Walsh’s “for costing” drawings*

99 On 7 July 2010 Northwood (Mr Walsh) sent the Architect and Southern Cross drawings of what he described as “alternative to piles” under cover of a letter stating:

“Please find attached for issue to Alan Paterson of & Pile and Bucket for costing.

Linton Speechley of [Jeffery and Katauskas] to confirm geotechnical adequacy with modelling”.

- 100 One of the drawings that Mr Walsh prepared was a section of the proposed Shoring Wall as follows:



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- 101 That document specified that the capping beam on the proposed Shoring Wall would be at RL 9.7 m, and that there be a “batter slope” of soil from the site sloping up from the top of the capping beam on top of the Shoring Wall to the Retaining Wall signified by the angled line under the notation “For Pile Groups”.
- 102 “RL” denotes “Reduced Level” which, in surveying, refers to the elevation of a particular point, in metres, from a common datum point of 0. Mr Walsh’s specification of RL 9.7 m for the capping beam becomes significant for reasons I set out below.



103 The following day, 8 July 2010, Southern Cross forwarded Mr Walsh's sketches to Pile & Bucket stating:

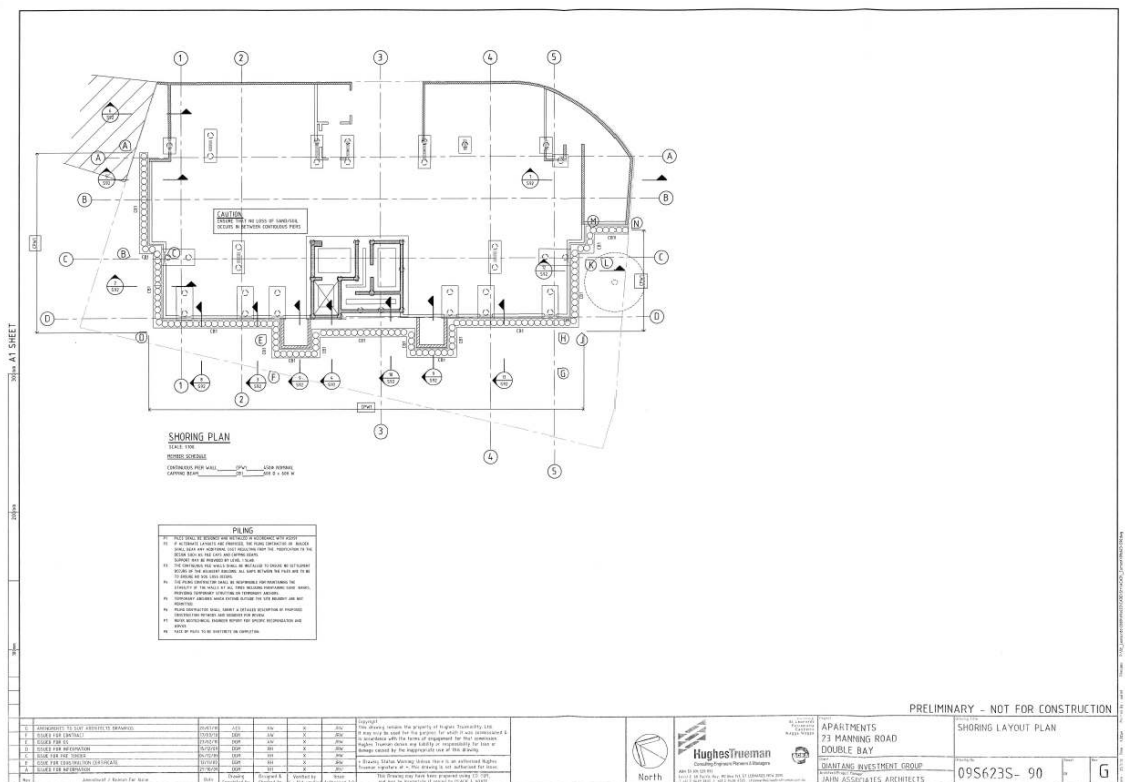
"As discussed please find attached revised piling design for [the Development Property]. Please provide your quotation as soon as possible".

104 Ultimately, Mr Walsh’s “revised piling design” in his 7 July 2010 “for costing” sketches was incorporated into the sub-contract between Southern Cross and Pile & Bucket.

105 Mr Walsh's "for construction" drawings were issued on 19 August 2010: see  
below at [141].

*Hughes Trueman's 20 July 2010 reissued draft shoring plan*

106 On 20 July 2010, Hughes Trueman reissued its draft shoring plan. In that drawing, the Shoring Wall is shown stepping around the light wells, as depicted in this extract from the drawing:



107 According to this plan, the Shoring Wall on the boundary facing the Building  
was an active system of restraint.

108 It is common ground that the Shoring Wall as depicted in these drawings was  
never constructed. Rather, the Shoring Wall was constructed in accordance

with Mr Walsh's design, with the Shoring Wall proceeding in a straight line along the western side of the New Apartments as I have described, and not stepping around the light wells. That design used a passive system of restraint. I return below to the significance of the difference between an active and passive system of restraint: see [248] to [250] below.

*Mr Speechley's geotechnical modelling*

109 On 8 July 2010 the Architect wrote to Mr Speechley asking him to review Mr Walsh's design "in regard to the geotechnical capabilities of the site" and to "confirm your sign off in writing".

110 On 9 July 2010 Mr Speechley replied that in order for him to "review the design from a geotechnical perspective" he would need to be provided with Mr Walsh's "design calculations showing me what he has adopted for his design and his calculations to confirm the overall wall stability".

111 Mr Speechley also said that, having looked at Mr Walsh's drawings, "a couple of things jumped out at me". This included whether Mr Walsh had considered the stability of the Retaining Wall because the batter slope proposed "may well remove some of the passive support" to the Retaining Wall which "appears to be quite an old wall and may have marginal stability".

112 On 12 July 2010 Mr Speechley wrote to Southern Cross:

"It has become apparent that [Mr Walsh] requires us to carry out the geotechnical design of the [the Shoring Wall]. As outlined in my email of 9 July 2010, I have some concerns about the stability of the nearby retaining wall, particularly where the batter slope [proposed by Mr Walsh from the top of the Shoring Wall to the Retaining Wall] is proposed. At this stage I would not be in favour of such a batter system unless the retaining wall can be confirmed to have adequate stability with such batter slope. Where the wall stability cannot be confirmed, the top of the piles [of the Shoring Wall] will need to be no lower than the existing ground surface levels."

113 Mr Speechley was thus foreshadowing that the capping beam on the Shoring Wall would have to be at a point higher than the RL 9.7 m that Mr Walsh had suggested.

114 Mr Justin Morgan from Southern Cross replied on 23 July 2010 requesting Mr Speechley to:

“Please carry out geotechnical modelling of Neil Walsh’s piling design (using WALLAP [a computer program]) to ensure that [Jeffery and Katauskas] can certify geotechnical properties that [Mr Walsh] has relied on his design...

Following your concerns with the proposed batter to retain the existing eastern boundary wall we agree with your suggestion that you also complete modelling with the capping beam at a higher level”.

- 115 Mr Speechley reported the results of his analysis in an email to Southern Cross of 29 July 2010. Mr Speechley reported that Mr Walsh’s proposed batter slope “is not feasible until about half way along [the Retaining Wall]” and that Mr Walsh’s proposed batter slope carried with it “an unacceptable risk of inducing instability of the adjoining retaining wall (and possibly the building beyond if it is founded on shallow footings)”.

#### *The 21 July 2010 site meeting*

- 116 In the meantime, on 21 July 2010, at a site meeting attended by representatives of the Developer, Southern Cross and the Architect, Southern Cross was directed to “finalise design with Neil Walsh” and “commence piling ASAP”.

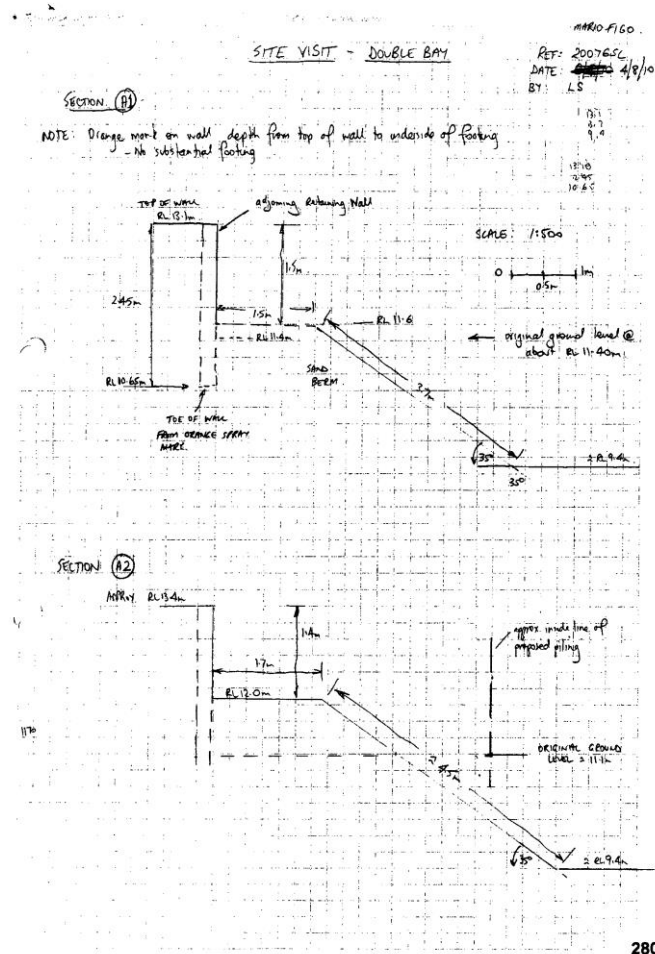
#### *The 30 July 2010 subcontract between Southern Cross and Pile & Bucket*

- 117 On 30 July 2010 Southern Cross entered a subcontract with Pile & Bucket to construct the Shoring Wall in accordance with Mr Walsh’s 7 July 2010 design.
- 118 A copy of Mr Walsh’s 7 July 2010 “for costing” drawings were annexed to the contract.

### **The Shoring Works**

#### *The 30 July 2010 excavation*

- 119 On 30 July 2010 Pile & Bucket, on instruction from Southern Cross, used an excavator to perform exploratory excavations at each end of the Retaining Wall in order to ascertain the depth of the footings of that wall.
- 120 At about that time Pile & Bucket also engaged in “benching excavation”. Prior to that excavation the ground level at the Development Property was RL 11.4 m.
- 121 The effect of the excavation was to create a “sand berm” which Mr Speechley depicted in a sketch he made on 4 August 2010 as follows:



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122 The effect of the excavation was to:

- (a) excavate the Development Property down to RL 9.4 m;
- (b) create a sand berm at an angle of around 35° to between RL 11.5 m and 12 m; and
- (c) create a horizontal crest between 1 and 1.7 m immediately adjacent to the Retaining Wall (to accommodate equipment access).

123 That work was done on the assumption that, as Mr Walsh had advised, the top of the capping beam on the proposed Shoring Wall would be at RL 9.2 m.

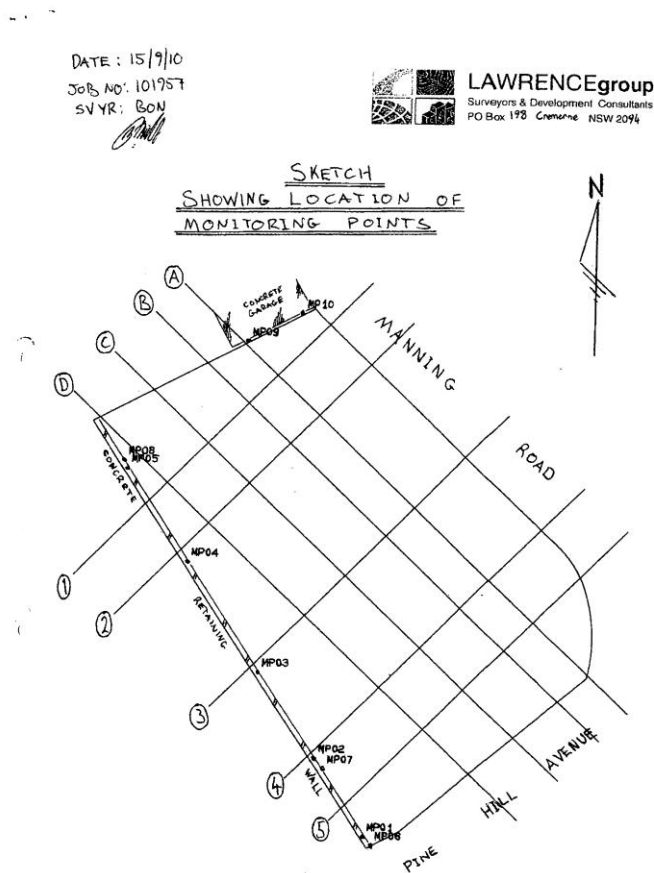
124 However, in an email report dated 4 August 2010, Mr Speechley advised that part of the capping beam needed to be raised to not lower than RL 11.1 m.

125 This necessitated Pile & Bucket redoing the “benching exercise” to increase the size of the berm to accommodate Mr Speechley’s requirements.

126 That exercise took place sometime between 30 July and 4 August 2010.

*Survey monitoring commences*

127 On 5 August 2010 Southern Cross installed monitoring points MP01 to MP05 on the Retaining Wall, as depicted in this sketch:



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128 Southern Cross took readings from these monitoring points on 8 September, 8 October, 8 November and 10 November 2010.

129 The movement of the Retaining Wall detected on those occasions is summarised in a schedule that Mr Ogborne prepared:

<b>Period</b>	<b>Point</b>	<b>Horizontal Movement</b>	<b>Vertical Movement</b>
5 August 2010 – 8 September 2010	MP04	7 mm	-
8 September 2010 – 7 October 2010	No further movement		
8 October 2010 – 8 November 2010	MP03	12 mm	7 mm
	MP04	9 mm	12 mm
	MP05	5 mm	5 mm
	MP08	-	5 mm
10 November 2010	MP03	1 mm	2 mm
	MP04	5 mm	2 mm
	MP05	6 mm	2 mm
	MP08	5 mm	2 mm
After 10 November 2010	No further movement		

130 Southern Cross did not install monitoring points before the Shoring Works started and did not more regularly take readings from the monitoring. I will return to this.

*The Architect's 9 August 2010 instruction concerning the light wells*

131 I have mentioned that the Architect's design of the New Apartments incorporated two light wells above parterre gardens outside bedrooms on the apartments to be built at the lower level, facing the Building as depicted in the plan referred to at [97].

132 As I have said, the light wells were to allow light and ventilation in those bedrooms.

133 The light well on the left of that plan is “the northern light well” to which I referred at [82] above. It was to be located very close to, if not abutting the Retaining Wall.

134 On 9 August 2010, the Architect issued an instruction to Mr Speechley, Mr Walsh and Southern Cross:

“The piles [for the Shoring Wall] need to avoid the external parterre gardens at the 9.70 relative level.

We can NOT run the piles through the gardens as they bring light into the bedrooms.

To reduce the light and ventilation to these spaces would go against BCA requirements”. (Emphasis in original.)

135 The Architect’s point was that, as light wells were to be installed to allow light and ventilation into bedrooms on the lower level of the New Apartments, the Shoring Wall could not be built so as to occlude such light and ventilation.

136 This led Mr Speechley to email Mr Walsh on 11 August 2010 that “it appears like the [Shoring Wall] will need to step around the parterre gardens”.

137 Mr Walsh replied that day:

“...the piles do not step around the parterre garden, it was just so important to get the main building going that I agreed with [Southern Cross] that we would put them [i.e. the piles for the Shoring Wall] through a straight line and sort the parterre out when we were able to strut back off the building”.

138 Mr Walsh agreed in cross-examination that the decision to put the piles for the Shoring Wall in a straight line was made by him on site in consultation with Southern Cross, and without any involvement of Hughes Trueman.

*18 August 2010 exchange between Hughes Trueman and Mr Walsh*

139 On 18 August 2010 Dr Andy Wang from Hughes Trueman wrote to Mr Walsh:

“Please send me the section of the [Retaining Wall]. I do not think we will rely on the existing garage wall at the neighbour’s property to retain the deep soil. Is there [sic] existing retaining wall against the garage wall? [O]therwise, [a] new retaining wall is required”.

140 Mr Walsh replied:

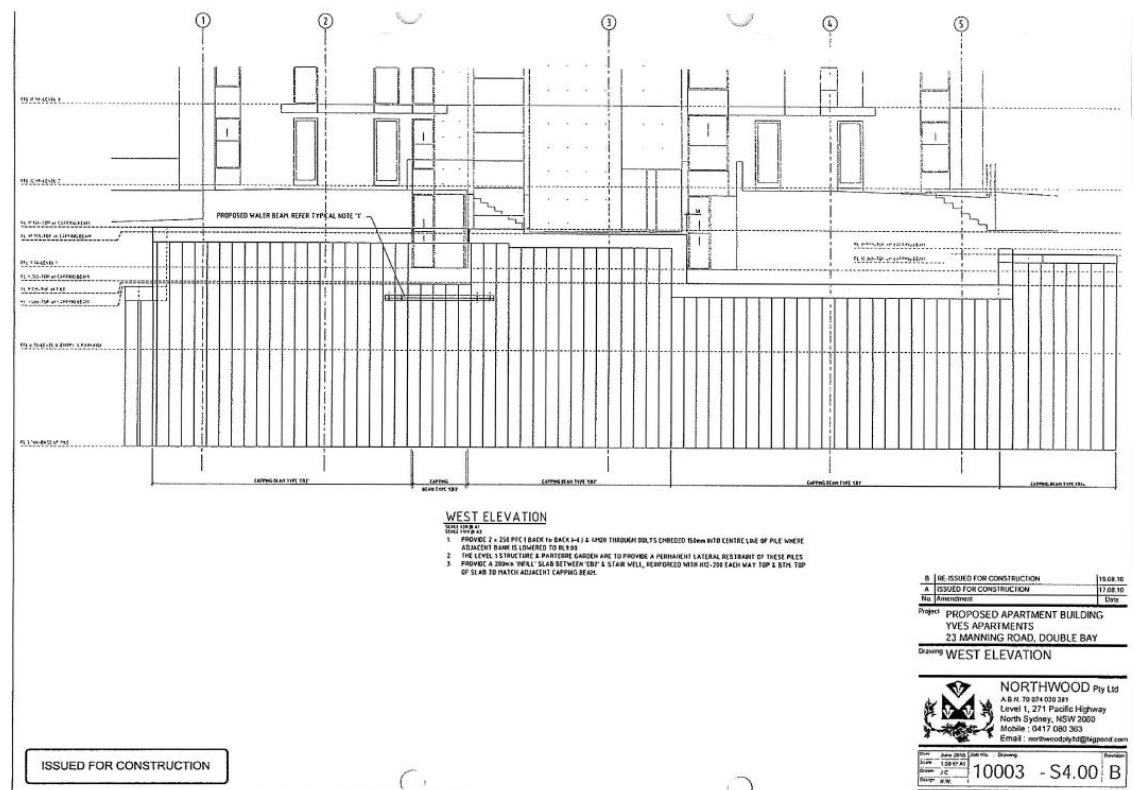
“I am not sure whether this e-mail was sent before or after our conversation so I restate the main points as follows:

- I don't have a section of the existing wall.
- All that I do know is that the height of soil retained by the garage for some 50-60 years is the same as the soil levels that are proposed.
- If you are not certain then just go to site, it will be half exposed.
- I have detailed the northern boundary which was outside my scope of work, just to point out what is, was and will be there for the [Hughes Trueman] and [the Architect's] designs as well as to confirm a reasonable end to the northern piles, which is my scope, as the extent is different between in the [Hughes Trueman] and [the Architect's] drawings. This is now complete. You should co-ordinate this via [the Architect]. For your structurals.
- Also note that the [Shoring Wall] was confirmed by [Jeffery and Katauskas] as being able to support the wall loads that [Hughes Trueman] provided. This wall is now complete. If you are now being provided with significantly higher bearing capacities for piles as you raised, then this is a serious matter that should be taken into account in the [Hughes Trueman] design, we share your concern. The extent of any effect should be confirmed by [Jeffery and Katauskas] and any construction implication raised with [Southern Cross].”

*Northwood's final drawings*

- 141 On 19 August 2010 Mr Walsh issued Northwood's final “for construction” drawings.
- 142 The Northwood drawings for “level 0 – entry and car park” depicted the Shoring Wall as well as the 12 steel props that Mr Walsh had designed to support the Shoring Wall whilst excavation took place within the Development Property.
- 143 That plan was in the form to which I referred at [20].
- 144 As can be seen, Mr Walsh's drawings provided for the Shoring Wall with a capping beam running in straight line along Grid D.
- 145 In fact, by 19 August 2010, Pile & Bucket had already installed the piles for the Shoring Wall. That work, about which no complaint is made, was done between 6 and 19 August 2010.
- 146 Mr Walsh's “West Elevation” made provision for the cutting down of the piles adjacent to the northern light well (to facilitate light ingress) and the installation of a waler beam lower on the excavated piles. That document was in the following form:





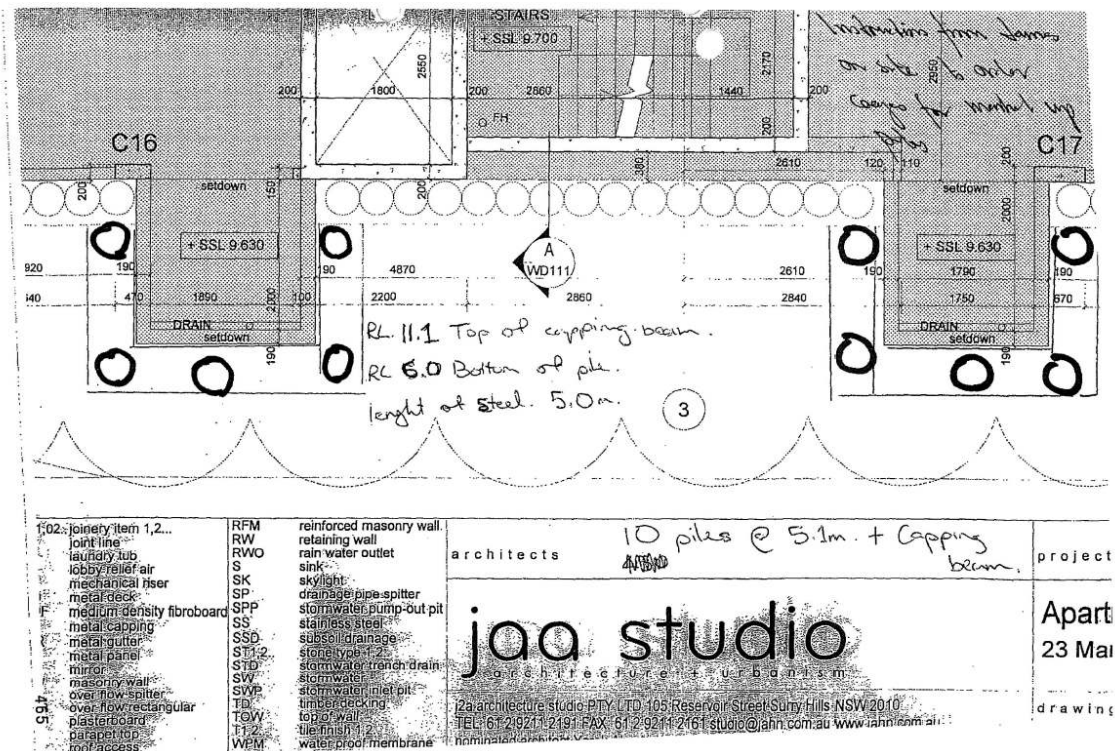
147 That provision was made because of the Architect's instruction of 9 August 2010 concerning the light wells (see [134] above).

148 That instruction led to the cutting down of the piles of that part of the Shoring Wall adjacent to the light wells in September 2010. I will return to this. Despite earlier contentions to the contrary, by the time of final submissions, Mr Ogborne accepted this activity did not cause movement under the Building.

### *Construction of piles for the light wells*

149 Each light well was created using five piles, which would be additional to the piles needed to create the Shoring Wall itself.

150 The position of the piles for the light wells, and a depiction of how the piles for the Shoring Wall were to be cut down adjacent to the light wells, is shown by annotations to the Architect's plan thus:



- 151 Mr Paterson from Pile & Bucket said that someone from Southern Cross placed the two sets of five “black circles” on the plan to show where the piles for the light well should be placed. Mr Paterson said “we put the piles where the builder marked them out for us to install them”.
- 152 Southern Cross’ site supervisor, Mr Mario Frigo, accepted that Southern Cross told Pile & Bucket where the light well piles were to be placed.
- 153 Mr Ogborne put to Mr Frigo that “Southern Cross did not have in their possession any Hughes Trueman plan showing that what was to be constructed were the five piles and capping beam as indicated on the plan [set out at [150] above]”.
- 154 Mr Frigo responded by saying “Hughes Trueman weren’t giving instructions” and “I wasn’t going off instructions from them, I was going off instructions off Northwood”.
- 155 In answer to a question from me, Mr Frigo said Mr Walsh gave Southern Cross instructions to put the piles as set out in the plan at [150] above. In answer to later questions from Mr Ogborne, Mr Frigo agreed that he could not recall a specific conversation with Mr Walsh to this effect and that he had made an assumption about Mr Walsh’s role in designing the northern light well.

However, that does not cause me to doubt the reliability of Mr Frigo's response to my question.

- 156 Mr Frigo was clear that Hughes Trueman "weren't giving instructions" about this matter and that it was Mr Walsh who gave the instructions.
- 157 On or about 20 August 2010, Southern Cross directed Pile & Bucket to construct the piles for the light well and, in due course, to install a capping beam on top of the "U" shape structure thereby created.
- 158 To facilitate installation of the formwork necessary for the construction of the northern light well capping beam, it was necessary for Pile & Bucket to excavate part of the berm created around 30 July 2010. Mr Frigo agreed that "it was necessary to excavate to at least below the bottom level of the capping beam right up to the area where the northern light well was going to abut the retaining wall".
- 159 Pile & Bucket carried out this excavation on 20 August 2010.
- 160 Mr Frigo said Southern Cross obtained no advice from Hughes Trueman, and that he was not aware of any advice obtained from any other engineer, about this excavation.
- 161 However, once the excavation was done, Southern Cross did receive advice from Jeffery and Katauskas. A representative of Jeffery and Katauskas, Mr Woodie Theunissen, visited the site on 20 August 2010. In an email of 23 August 2010 to Southern Cross, Mr Theunissen recorded:

"Whilst on site [on 20 August 2010] we noted that in places the batters formed up against [the Retaining Wall] had been removed. As discussed on site, we recommend that all batters be reinstated without delay in accordance with the recommendations provided in our [report of 4 August 2010]".

- 162 The 4 August 2010 report to which Mr Theunissen referred was Mr Speechley's report, to which I have referred at [124], which recommended increasing the height of the capping beam for the Shoring Wall from RL 9.2 m (as Mr Walsh had suggested) to RL 11.1 m. In that report, Mr Speechley had also said:

"Once the piling for the new shoring wall is completed and the capping beam formed, a berm must be maintained in front of the shoring wall until the

propping [of the Shoring Wall, as ultimately designed by Mr Walsh in his plans published on 19 August 2010: see [141] above] is in place”.

163 There is no evidence that Southern Cross did not comply with Mr Theunissen’s direction. In a note made following a site visit on 8 September 2010, Mr Speechley made some comments about the berm, but did not suggest that it had not been reinstated as Mr Theunissen had directed.

164 Between 21 and 23 August 2010 Pile & Bucket installed the five piles for each of the two light wells depicted in the plan at [150].

165 On 25 August 2010, Mr Walsh, for Northwood, sent the Developer a tax invoice that recorded “site inspection and advice” on 24 August 2010 on, amongst other things, the “temporary propping of the [Retaining Wall]”.

166 Mr Walsh did not say in his affidavit, and was not asked in cross-examination, what “advice” he had given Southern Cross about “temporary propping” of the Retaining Wall. Thus, the evidence does not reveal whether the advice Mr Walsh gave was about temporary propping already in place on 24 August 2010, or to the effect that temporary propping should be installed.

167 However, at some point, Southern Cross did install temporary propping. Mr Frigo agreed that he “had the boys put them up” as a result of an instruction from his “superiors”. Mr Frigo could not remember whether “there was no geotechnical or structural advice” about this.

168 The evidence does not reveal when the propping was installed.

*Hughes Trueman’s 30 August 2010 “for construction” drawings*

169 On 30 August 2010, Hughes Trueman issued a “for construction” Shoring Layout Plan. This document showed the Shoring Wall in the location it was installed (in a straight line along Grid D). It also showed the two light wells, including the location of the five piles that had been installed between 21 and 23 August 2010.

170 Earlier drawings issued by Hughes Trueman had shown the location of the light wells. But the 30 August 2010 drawings were the first to show the location of the light well piles.

- 171 Mr Ogborne submitted that these plans showed that Hughes Trueman, not Mr Walsh, designed the plan of the light well and that it was Hughes Trueman that was responsible for the location of the northern light well in close proximity to the Retaining Wall.
- 172 It is true that Mr Walsh did not depict the light wells in his “for construction” drawings of 19 August 2010. But Mr Frigo was adamant that Southern Cross’ instructions concerning construction of the light well came from Mr Walsh, and not Hughes Trueman (see [154] to [156] above). That is consistent with Mr Walsh’s statement to Mr Speechley on 11 August 2010 that the Shoring Wall should be in “a straight line and sort the parterre [i.e. the light well] out when we are able to strut back off the building” (see [137] above). It is consistent with the fact that Mr Walsh attended the site on 24 August 2010 to give advice about, amongst other things, temporary propping of the Retaining Wall. It is also consistent with Mr Walsh’s 18 August 2010 statement to Dr Wang at Hughes Trueman that a reasonable end to the northern piles was his “scope” (see [140] above).
- 173 Further, as I have said, Mr Ogborne put to Mr Frigo, in terms, that “there was no Hughes Trueman plan showing any relevant piling or capping beam detail of what was ultimately constructed at the northern light well”, to which Mr Frigo responded “Yes, because Hughes Trueman didn’t design that”.
- 174 A difficulty is that Hughes Trueman called no witnesses on this, or any, topic and the Owners Corporation did not adduce any evidence from Mr Walsh about this matter. The Owners Corporation simply served, in its case against Southern Cross and Hughes Trueman, the statement of Mr Walsh that Northwood had served against the Owners Corporation prior to the settlement between the Owners Corporation and Northwood. In that statement Mr Walsh did not deal with this subject.
- 175 Mr Hand, who appeared for Hughes Trueman, put to Mr Walsh in cross-examination that he designed the parterre garden to which Mr Walsh responded, “Correct. Sorry, the wall designed by me, not the parterre gardens”. The matter was not pursued further.

176 In those circumstances, I feel unable to conclude that Hughes Trueman designed the light wells as they were actually installed. The evidence of Mr Frigo and, to a lesser extent, the documents to which I have referred persuade me that it is more likely that, despite his denial, it was Mr Walsh that was responsible for the design and, more particularly, for the location of the light well piles as depicted on the document referred to at [150]. I think the fact that the Hughes Trueman 30 August 2010 Shoring Layout plan showed the light wells as installed can be explained, as Mr Frigo said, as Hughes Trueman “basically playing catch-up to identify what’s been built”.

177 Also, on 30 August 2010, Hughes Trueman issued a “for construction” Flooring Plan. This document depicted the location of the permanent structural piles and caps for the New Apartments. This plan was not used for shoring purposes. It still showed the Shoring Wall stepping outside the light wells, consistent with the earlier design prepared by Hughes Trueman prior to Mr Walsh’s involvement. But, by that time, the Shoring Wall had already been installed in a straight line along Grid D, and the light wells constructed as I have described.

178 That plan was subsequently revised on a number of occasions. I will discuss those revisions when considering the Owners Corporation’s case against Hughes Trueman concerning the lift pit excavation (see [407] to [424] below).

*Mr Speechley’s site visit on 8 September 2010*

179 Mr Speechley attended the site on 8 September 2010. He took this photograph of the “temporary propping” of the Retaining Wall installed following construction of the light wells:



180 The “temporary propping” of the Retaining Wall, comprising timber props, can be seen between the Shoring Wall capping beam on the left of the photo, and the Retaining Wall on the right. The props are placed above the light well. The capping beam over the Shoring Wall and northern light well can be seen. The light well, although by now created by the piling, was not yet excavated. That did not occur for several months, and after the events with which these proceedings are concerned. As the props, on the left of the photograph, appear to abut the Shoring Wall capping beam, it seems likely they were installed after that capping beam had been set. There is no evidence as to when, precisely, this occurred.

181 In an email Mr Speechley sent Mr Morgan of Southern Cross on 8 September 2010, Mr Speechley recorded:

“Some timber bracing has been placed against the [Retaining Wall] at the northern-most [light well]. We understand that the capping beam on the northern-most [light well] has been poured up against the [Retaining Wall], and the timber bracing was put in for precautionary means only”.

182 I infer that Mr Speechley’s stated understanding that the capping beam on the northern light well had been “poured up against” the Retaining Wall was a

result of something someone from Southern Cross, probably Mr Morgan, told him.

183 Mr Speechley's remarks about the "timber bracing" show that he was aware of the manner in which Southern Cross had, as a "precautionary" measure, sought to provide support for the Retaining Wall. There is no suggestion in Mr Speechley's email that he detected any inadequacy in the steps Southern Cross had taken.

184 Mr Paterson from Pile & Bucket, who constructed the capping beam on the northern light well, did not agree that it actually abutted the Retaining Wall. He said in cross-examination that this was one thing about this project that he remembered "very well". The Hughes Trueman plans showed the north east corner of the light well to be very close to, but not abutting the Retaining Wall. I think it likely that, in these circumstances, Mr Paterson's recollection is correct.

185 In the same email, Mr Speechley commented on the sand berm adjacent to the Retaining Wall. Mr Speechley said that "an irregular sand berm exists against the [Retaining Wall] between the [Retaining Wall] and the new [Shoring Wall]". He said the "current berm supporting the [Shoring Wall] was not in accordance with our recommendations presented in our email to you of 4 August 2010" and specified how the berm should be modified.

186 However, Mr Speechley did not suggest that the batters formed up against the Retaining Wall, that Mr Theunissen had on 20 August 2010 observed had been removed, and which Mr Theunissen then recommended "be reinstated without delay", had not been so reinstated.

187 Mr Speechley's email concluded:

"After the [Shoring Wall] has been strutted, bulk excavation must not extend deeper than RL 6.6 m".

188 This instruction is relevant to the Owners Corporation's claims against Southern Cross concerning later excavation for the lift pit and the foundation piles: see [374] to [397] below.



*The 8 September 2010 survey monitoring*

189 On 8 September 2010, Southern Cross took readings from the five monitoring points on the Retaining Wall.

190 A horizontal movement of 7 mm was detected at point MP04. This was the point closest to the northern light well.

*Construction of laterally loaded piles for props to the Shoring Wall*

191 An aspect of Mr Walsh's design for the Shoring Wall was that, once the Shoring Wall was erected, it would be temporarily supported by steel props that would be placed and secured from the capping beam on top of the Shoring Wall to loaded piles within the Development Property; that is on the Manning Rd side of the Shoring Wall.

192 Those loaded piles were constructed by Pile & Bucket on 11 September 2010.

193 The struts themselves were installed between 21 and 28 September 2010 and were taking the load of the Shoring Wall by the latter date.

*Hughes Trueman's 9 September 2010 re-issued "for construction" plans*

194 On 9 September 2010, Hughes Trueman reissued its "for construction" footing plan, again showing the Shoring Wall stepping outside the light wells.

195 On 15 September 2010, Hughes Trueman again reissued its "for construction" footing plan. This drawing now showed the Shoring Wall going in a straight line across the light wells, with the areas of the light wells "clouded", denoting changes from the earlier drawing.

*Cutting of the capping beam and piles at northern light well*

196 On 20 September 2010 those parts of the capping beam on the Shoring Wall as were adjacent to the location of the light wells were removed and the piles which spanned the width of the light wells were "cut" (using a jack hammer and like equipment) as specified in the Architect's email of 9 August 2010 to which I have referred above at [134].

197 Ten days later, on 30 September 2010, a waler beam was installed in that part of the Shoring Wall below the point to which the piles had been "cut".

198 The installation of the waler beam had been specified by Mr Walsh. Its function was to provide extra stability to the Shoring Wall to compensate for any diminution of stability caused by the cutting down of the piles.

*Mr Speechley's site visit on 6 October 2010*

199 On 6 October 2010 Mr Speechley visited the site "to inspect and provide geotechnical advice for the support of the two parterre garden areas as well as a general geotechnical review of site progress".

200 In an email sent the following day, he observed, that the capping beam on the northern light well was "poured up against" the Retaining Wall.

201 It will be recalled that, at this stage, although the light well piles and capping beam had been installed, the soil within the light wells had not been excavated down to the level of the proposed parterre garden: see [179] to [180] above. That excavation occurred after the events with which these proceedings are concerned.

202 Mr Speechley recommended that, before that excavation took place, there should be a survey of the Retaining Wall "to check that it is performing as expected".

203 Mr Speechley also recommended:

"The structural engineers should inspect the propping of the [Retaining Wall] in the area of the northern [light well] and should provide written confirmation that the propping is suitable to support the [Retaining Wall]. Co-ordination between the structural engineers from Hughes Trueman and Neil Walsh will be required as additional loads may be placed on the shoring systems which requires additional propping".

204 When Mr Speechley recommended that "the structural engineers" should inspect the temporary propping of the Retaining Wall, he evidently had in mind Hughes Trueman, rather than Mr Walsh. Thus, on 8 November 2010, by which time cracking in units within the Building had been reported and movement detected at three monitoring points on the Retaining Wall, he wrote to Mr Morgan at Southern Cross:

"...you have advised that...Hughes Trueman have not inspected and approved the existing propping. You should therefore cease works in the area of the [Retaining Wall] and install additional support works immediately".

205 However, before me Mr Speechley agreed that, on 7 October 2010, when he had recommended inspection and approval of the temporary propping, he was speaking of such inspection and approval taking place in the future; when the soil within the proposed light well would be excavated. Thus Mr Speechley gave this evidence:

“Q. And so, what was planned of course, when you got there on 6 October, you had as it were the structure of the light well in place with the piling around the outside of the light well with the capping being in place; yes?

A. I couldn't see the piling around the outside, I could only see the capping beam, but I was told where the piles were, yes.

Q. And the next stage in the process was going to be digging out of the light well, excavating the light well to in effect create the light well; is that right?

A. That's right.

Q. And what you were doing in your recommendations of as set out at Court book 1924, was making recommendations in respect what needed to happen when that excavation took place; is that right?

A. That's right.

Q. And we know - you know don't you that that excavation did not take place prior to the neighbour's complaining of cracking in their building in early November 2010; you know that don't you?

A. I think that's right, yes.

Q. These recommendations that are contained on page 1924 apply to something that was going to happen in the future but did not happen before the cracking was happened; is that right?

A. That's right.”

206 In his 7 October 2010 note, Mr Speechley said that “all works in this area should be carried out without delay”.

207 Finally, Mr Speechley said:

“Now that excavation is approaching bulk excavation level of RL 6.6 m, particular care must be taken not to over excavate or disturb the soils below the bulk excavation level. If any over excavation occurs it must be backfilled immediately. This requirement must be communicated by yourselves to [Pile & Bucket].”

*The 7 October 2010 survey monitoring*

208 Further readings from the monitoring points were taken on 7 October 2010. Those readings showed there had been no movement of the Retaining Wall since 8 September 2010.

209 Thus, although it may have been bad practice to have left the cut down part of the Shoring Wall relatively unrestrained for the 10 day period between 20 and 30 September 2010 as I have described at [196] to [198] above, the survey monitoring on 8 October 2010 showed no movement in the Retaining Wall between 8 September 2010 and 7 October 2010. This indicates that neither the cutting down of the piles, nor the delay in affixing the waler beam had any causal potency.

210 In final submissions, Mr Ogborne accepted this and did not press this aspect of the Owners Corporation's case against Southern Cross.

*Hughes Trueman's 8 October 2010 re-issued footing plan*

211 On 8 October 2010, Hughes Trueman issued a further footing plan stated to be a "reissue for construction to suit builder's requirements". On the drawing, the light wells were "clouded", to show they had been amended, and the five piles around each of the light wells were shown in their "as constructed" state, in the locations depicted on the 19 August 2010 document to which I have referred at [141] above.

212 As I have mentioned, Mr Frigo said that, as Southern Cross' foreman, he understood that the Hughes Trueman drawings were "basically paying catch up to identify what's been built": see [176] above.

*Removal of the props*

213 By 8 October 2010, the 12 props to the Shoring Wall referred to in Northwood's 19 August 2010 drawings had been installed. These were the steel props on the Manning Rd side of the Shoring Wall, and are not to be confused with the wooden props to the Retaining Wall that Southern Cross had installed in the circumstances I have described.

214 A difficulty arose. The spacing between the props was insufficient to allow Pile & Bucket's piling rig access to this part of the site.

215 Mr Paterson referred to the difficulty in an email he sent on 8 October 2010 to Mr Frigo and Mr Morgan at Southern Cross. In that email, Mr Paterson said:

"Further to our telephone discussion of earlier today I confirm that the matter of the prop layout installation as it relates to the foundation piles installation was raised with all concerned including Northwood at the time of the receipt of the

initial sketches of the props. The main concern was the spacing between the props and it being too narrow for the piling rig to travel between and manoeuvre to install the piles. Pile & Bucket requested that the spacing be increased to 4.5m minimum to install the piles. I understand that this was considered but not accepted by Northwood and therefore the only alternative was to remove props on a staged basis to get the required access. I also acknowledged that consideration was given to installing the foundation piles prior to installing the props. This was discounted on the basis of the batter that would have to be maintained in the absence of the props and the extent to which the piles would be 'over length', the cost and the extent of trimming required. The generally accepted consensus was that the only real option was to remove individual props as required to install the foundation piles and it is on this basis that the prop installation has proceeded."

216 This email represents Mr Paterson's contemporaneous record of how this problem arose and I see no reason to doubt its accuracy. Mr Paterson's point was that, knowing how much space Pile & Bucket's machinery would need to access the relevant part of the site, the props that Mr Walsh was proposing to support the Shoring Wall would need to be spaced at least 4.5 m apart. In this email Mr Paterson recorded his understanding, which was not challenged, that this had been "considered but not accepted by Northwood".

217 In cross-examination, Mr Walsh said that, had he known there was to be a problem with Pile & Bucket's machinery gaining access to the relevant part of the site, he could have altered his design accordingly. I think Mr Paterson's contemporaneous note to be a more reliable guide as to what happened. I think it likely that Mr Walsh insisted that the piles be spaced as they were originally installed, notwithstanding Mr Paterson's misgivings.

218 I am thus satisfied that the need to remove and replace these props was a product of Mr Walsh's design. This is significant because all the experts agreed that the "removal and replacement of props" was a significant cause of the movement in the Shoring Wall, and thus of the Retaining Wall and the foundations under the Building. It also occurred very shortly before the significant movement detected on 8 November 2010 (see [129] above, and [237] below).

219 On 8 October 2010, Mr Walsh sent to Mr Frigo:

"[D]esign sketches which will allow the temporary removal of props 1, 2 and 3 then after their reinstatement the removal of prop 5, then after its reinstatement the removal of prop 7".

220 Prop 7 was removed on 19 October 2010. On 26 October 2010, after prop 7 was restored, prop 5 was removed. On 2 November 2010, after prop 5 had been restored, props 1, 2 and 3 were removed.

221 Later on 8 October 2010, Mr Walsh sent a further email to Mr Frigo:

“Please find attached design for your propping removal to allow drilling works. The total materials required [are] not large and may be re-used from position to position.

No stiffening of the capping beam is required as it was constructed 100 wider than designed due to piers being out of alignment.

The other saving grace was your decision to make the capping beam continuous around the parterre gardens and the use of ‘return piers’ to the north eastern end of the walling”.

*11 October 2010 “neighbour concerns” about cracking*

222 On 11 October 2010 the Architect sent Hughes Trueman an email:

“The builder is encountering some neighbour concerns with regard to cracking.

It would be of help if you could forward a disc with all dilapidation reports for the project to Justin Morgan at [Southern Cross].”

223 There is no evidence of what “neighbour concerns” Southern Cross was “encountering” prompted this email. Mr Ogborne did not ask Mr Frigo any questions about it.

224 The email does suggest that some cracking had occurred that caused a “neighbour” – I infer one or more of the residents of the Building – to have “concerns”. That would explain why the Architect called for the dilapidation reports which, I infer, recorded details of an inspection of the Building made before work started on the Development Property; it being common ground that some cracking was evident in the Building before the commencement of the Shoring Works.

225 This is certainly how Mr Ogborne characterised matters. In his submissions he said that “the plaintiffs first reported cracking on 11 October 2010”.

226 This has implications for the Owners Corporation’s case. If, as Mr Ogborne submitted, cracking had occurred in the Building as early as 11 October 2010, it follows that the Owners Corporation suffered loss at that time. That damage must have been caused by some underground movement prior to that date.

227 It may be that later activity on the Development Property caused further movement and further damage. But there is no evidence identifying what part of the damage to the Building was caused by events to, say 11 October 2010, as opposed to later events; for example the lift pit excavation of 29 October 2010, which I mention below.

*29 October 2010 excavation for the lift pit*

228 On 29 October 2010, Pile & Bucket carried out excavation for the lift pit to approximately RL 4.65 m.

229 This was done at Southern Cross' direction. This excavation was below "bulk excavation" limit of RL 6.6 m that Mr Speechley had specified (for example on 8 September 2010: see [187] above).

*1 November 2010 direct observation of cracking*

230 The first direct report of cracking was from Ms Roslyn Bainton, the owner of unit 8 of the Building.

231 On 4 November 2010, Ms Bainton's solicitor wrote to Southern Cross:

"Our client has been overseas for about one month and on her return on 1.11.10 she discovered damage to her unit. The damage includes cracking to walls, cracking to timber door architraves and the separation of cornices and skirting boards from the walls. Our client has spoken to the occupants of several other units in her block and they also report damage to their units. In addition there is damage and cracking to the exterior of the building".

232 Thus, whatever conclusions may be drawn from the Architect's email of 11 October 2010 to Southern Cross about "neighbour concerns with regard to cracking", by 1 November 2010, the Building was affected by the Shoring Works and the Owners Corporation had suffered damage.

233 Ms Bainton had been overseas from early October to 1 November 2010. She said that, on her return, she "immediately" noticed damage in her unit. Her solicitor described that damage as including cracking to walls and door architraves, and separation of cornices and skirting boards from the walls.

234 There is no evidence of when, precisely, that damage occurred. But it must have been some time before 1 November 2010.

*5 and 6 November 2010 excavation for foundation pile caps*

235 On 5 and 6 November 2010, Southern Cross directed NMK to excavate three foundation caps on the Manning Rd side of the Shoring Wall.

236 I have not been directed to evidence as to precisely how deep this excavation was, save that it was something below Mr Speechley's "bulk excavation" limit of RL 6.6 m.

*8 and 10 November 2010 survey monitoring*

237 Further readings from the monitoring points on the Retaining Wall were taken on 8 and 10 November 2010. Those readings reveal that between 8 October and 10 November 2010 there had been movement in the Retaining Wall as follows:

<b>Period</b>	<b>Point</b>	<b>Horizontal movement</b>	<b>Vertical movement</b>
8 October – 8 November 2010	MP03	12 mm	7 mm
	MP04	9 mm	12 mm
	MP05	5 mm	5 mm
	MP08	-	5 mm
10 November 2010	MP03	1 mm	2 mm
	MP04	5 mm	2 mm
	MP05	6 mm	2 mm
	MP08	5 mm	2 mm

*Retaining Wall propped – no further movement*

238 Following the reports of cracking, the Developer retained another engineer, Mr Graeme Deaker. On 11 November 2010, Mr Deaker advised that props should be installed between the Shoring Wall and the Retaining Wall.



239 These were installed on 11 November 2010.

240 Thereafter, no further movement was detected in the Retaining Wall or the foundations under the Building.

**What caused the movement of the Building's foundations?**

241 In the Joint Report the experts agreed that:

- (1) the damage to the Building was caused by the movement of the foundation strata under the Building;
- (2) that foundation movement was caused by a combination of movements of the Shoring Wall and the Retaining Wall;
- (3) the movement of the Shoring Wall was caused by:
  - (a) its inadequate design by Northwood;
  - (b) the removal and replacement of the props to the Shoring Wall as advised by Northwood that I have described at [213] to [221] above;
  - (c) the cutting down of the piles in the Shoring Wall that I have described at [196] to [198] above; and
  - (d) the excavation of the lift pit and pile caps north of the lift pit to a level deeper than RL 6.6 m, the "bulk excavation" level prescribed by Mr Speechley that I have described at [228] to [229] and [235] to [236] above.
- (4) the movement of the Retaining Wall was caused by:
  - (a) the movement of the Shoring Wall;
  - (b) inadequate temporary propping of the Retaining Wall after excavation for the northern light well: see [165] to [168] above.

242 In the Joint Report the experts, other than Mr Shirley, also agreed that the movement of the Retaining Wall was caused by the site and benching excavation carried out on or about 30 July 2010 referred to at [119] to [126] above. In concurrent evidence, the experts agreed with Mr Shirley that this was not so: see [343] to [347] below.

243 The experts' views about the role played by the temporary propping appears to have been borne of a misunderstanding of Mr Speechley's 7 October 2010 note. I return to this at [365] to [367] below.

244 As I mentioned at [148], by the time of final submissions, Mr Ogborne accepted that the cutting down of the piles in the Shoring Wall was not causative of any damage to the Building, and could be put to one side.

245 The experts also agreed that the monitoring of the Shoring Wall, the Retaining Wall and the Building was “inadequate, particularly bearing in mind the use of a ‘passive’ system of excavation support”. The experts continued:

“As a consequence, the opportunity to mitigate/minimise the damage was lost.

Note: the lack of sufficient survey and vibration monitoring limits our ability to fully assess the structure and wall movement history”.

### **Inadequate design**

246 Before turning to the Owners Corporation’s case against Southern Cross and Hughes Trueman, it is important to understand the role played by Northwood in these events.

247 Mr Walsh, from Northwood, was retained by the Developer to assess Hughes Trueman’s “existing structural design and documentation for possible cost savings”.

### *A passive, rather than active design*

248 A key feature of Mr Walsh’s revision to Hughes Trueman’s design was to incorporate a “passive”, rather than “active” shoring or excavation support system.

249 Mr Shirley explained the difference between an “active system” and a “passive system” as follows:

Active System	A system of excavation support [e.g. rock bolts, prestressed anchors, anchored retaining walls, etc.] that is designed to press against the ground to be supported and resist at least ‘at rest’ earth pressure loads to ensure minimal movement of the adjoining ground.
Passive System	A system of excavation support [e.g. gravity & cantilever type retaining walls] that is designed to support adjoining ground where small movements [viz: sufficient to allow development

	of the lower 'active' earth pressure] are tolerable.
--	--

	Note: Small movements of the adjoining ground is implicit in a Passive excavation support system.
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250 Mr Cavanagh took the matter up with Mr Speechley in cross-examination:

“Q. And what is the main difference between an active and a passive shoring system?

A. Well an active shoring system is when you actually put load on to the shoring system to hold it in place, such as if you were anchoring the shoring system. A passive system means that to actually take any load in a strut or something like that, you need a small amount of movement just to activate that load, that will be a passive system.”

And

“Q. ...inherent in the design of this passive shoring system is some movement of the contiguous pile wall, as you've said, up to 8 or 9 millimetres and it said in the taking away of the supports which happened in, I think, mid to late October 2010 in this case, it would probably lead to move movement of the contiguous pile wall, is that right?

A. It probably would, yes.”

And:

“Q. Just to confirm it again, the analysis you did during the course of the project was consistent with your consideration before the project, that is, there would on - with this passive shoring system there would likely be movement of the shoring wall; yes?

A. Yes.

Q. And consequently likely some settlement under the plaintiff's building; yes?

A. Very small, yes.”

251 In the Joint Report and in concurrent evidence, the experts were agreed that Mr Walsh's design was inadequate.

252 Mr Mortimer put the matter succinctly:

“...I think the problem with the design was it's more vulnerable to misdemeanours on site causing you know unexpected problems on site; let's say for example; excavation below previously agreed levels of the retaining wall and you know removal of the props and that sort of thing. The design that was adopted is not particularly robust to things going wrong on site. And things usually go wrong on just about any site I've worked on to be honest. So, you need to be more careful with the type of design that was put forward. And clearly, that was not the case. So, inadequate design in my interpretation of [sic] is that it was not as robust as it should have been considering everything that went on, on site, that should not have happened.”

253 Mr Shirley agreed and gave this evidence:

“I agree with Mr Mortimer that the design was not as robust. When we talk about a robust design, we mean one that is strong and able to prevent ground movement behind it in this context. The lack of robustness in my view, is due to firstly; the adoption of a passive system, that is, a system that will flex and has to flex and move to accommodate the load. As opposed to an active system--

HIS HONOUR: I've been told by someone last week that a passive in a passive system there is bound to be some movement; isn't that all--

WITNESS SHIRLEY: Yes, absolutely your Honour. Absolutely. The basic proposition of a passive system is you build steel and concrete and as the load comes on, it must move. The consequence of that movement is ground the ground then moves to accommodate that and in this case it caused the foundation strata under the plaintiff's property to move. But, that's the first aspect is passive versus active.”

254 In concurrent evidence three of the seven experts, Mr Manning, Mr MacLeod and Mr Shirley, agreed with Mr Cavanagh's proposition that the most significant factor that caused damage to the Building was Mr Walsh's inadequate design and the removal and replacement of the props to the Shoring Wall directed by Mr Walsh in October 2010.

255 Mr Broune and Mr Matthews disagreed. Mr Broune disagreed “because of the lack of data, it is not possible to identify exactly which of the likelihoods actually occurred”. Mr Matthews disagreed because “I don't think we know enough information to be able to put with any certainty which are the major ones”.

256 Mr Alden said “I would say, yes, probably, given that we can't be absolutely certain about anything”.

257 The remaining witness, Mr Mortimer said “I'm inclined to disagree but it's a very marginal call”.

258 Thus the weight of the expert evidence was, as Mr Cavanagh had suggested, that Mr Walsh's inadequate design, and his direction concerning the removal of the props (which, as I have found, was caused because he did not heed Mr Paterson's suggestion that sufficient space be allowed between the props to allow access by Pile & Bucket's machinery: see [\[215\]](#) to [\[218\]](#) above) were the major factors leading to the movement of the foundation under the Building.

*A design that did not show design excavation depth*

- 259 A particular shortcoming of Mr Walsh's design of the Shoring Wall identified by the experts was its lack of provision for the excavation immediately adjacent to the Shoring Wall necessary for the lift pit and the foundation piles adjacent and to the north of the lift pit.
- 260 The Architect's drawings, as well as those of Hughes Trueman, had clearly identified, from well before commencement of the works, the location of the proposed lift pit and foundation piles.
- 261 In the Joint Report, the experts agreed that the Northwood design "should have incorporated accurate information on the site excavations, lift pits etc".
- 262 During concurrent evidence Mr Alden elaborated on this criticism. Mr Alden said "the primary input" into shoring design was "excavation depth" and that a shortcoming with Mr Walsh's design of the Shoring Wall was that it did not show "design excavation depth". Mr Alden said that the designer of a shoring wall "would need to make all possible endeavours to find out the actual level of the excavation required" and, if necessary, "make a conservative assumption" about that matter.
- 263 Mr Alden said that a significant shortcoming in Mr Walsh's design of the Shoring Wall was that it "didn't allow for the deeper excavations for pile caps and the lift shaft".
- 264 Mr Alden said that provision for such deeper excavations would include specification of larger diameter piles or embedments for the Shoring Wall. He also said that "I haven't tried to do a design that would work for that".
- 265 As Mr Hand pointed out in final submissions, Mr Alden's explanation of the joint position of the experts was consistent with the opinions he had expressed in his reports. For example, in his report of 7 April 2016, Mr Alden was critical of the Northwood design drawings, in the form in which they were issued for construction on 19 August 2010, for not correctly showing the required depth of the piles of the lift pit. Mr Alden wrote:

"As the pile embedment depth below the base of any excavation is a critical design parameter, I would have expected the [Northwood] drawings to have clearly shown the excavation level that the design was based on and the

minimum permissible pile embedment depth at the critical stage when excavation has reached the maximum depth”.

266 These matters become significant when considering the criticisms offered by the Owners Corporation against both Southern Cross and Hughes Trueman concerning the excavations on 29 October 2010 for the lift pit and on 4 and 6 November 2010 for the foundation piles north of the lift pit (see [374] to [391] and [426] to [433] below).

### **The Owners Corporation’s claims**

267 The Owners Corporation claims that each of Southern Cross and Hughes Trueman acted in breach of the duty of care they owed at common law and under s 177 of the *Conveyancing Act 1919* (NSW) and that the Owners Corporation had suffered damage as a result.

#### *Negligence – general principles*

268 As the Owners Corporation’s claims are “for damages for harm resulting from negligence, regardless of whether the claim is brought in tort, in contract, under statute or otherwise”, they are regulated by Pt 1A of the *Civil Liability Act*: see s 5A.

269 To make out a claim in negligence, a plaintiff must establish the existence of a duty of care, breach of that duty, that such breach caused damage, and what that damage is.

270 Neither Southern Cross nor Hughes Trueman disputed that, speaking generally, they owed the Owners Corporation a duty of care, nor that the Owners Corporation had suffered damage by reason of the movement of the foundations under the Building.

271 What was in contention was whether either Southern Cross or Hughes Trueman acted in breach of such duty and whether any breach caused the movement in the foundations.

#### *Breach under s 5B*

272 When considering the scope of the duty of care that Southern Cross or Hughes Trueman owe to the Owners Corporation, it is necessary to have regard to s 5B of the *Civil Liability Act* which is in the following terms:

### **“5B General principles**

(1) A person is not negligent in failing to take precautions against a risk of harm unless:

- (a) the risk was foreseeable (that is, it is a risk of which the person knew or ought to have known), and
- (b) the risk was not insignificant, and
- (c) in the circumstances, a reasonable person in the person's position would have taken those precautions.

(2) In determining whether a reasonable person would have taken precautions against a risk of harm, the court is to consider the following (amongst other relevant things):

- (a) the probability that the harm would occur if care were not taken,
- (b) the likely seriousness of the harm,
- (c) the burden of taking precautions to avoid the risk of harm,
- (d) the social utility of the activity that creates the risk of harm.”

273 As I outline below, the difficulty with many of the impugned acts of Southern Cross and Hughes Trueman is that it has not been established that a reasonable person in their respective positions would have taken particular precautions or indeed done anything differently.

274 The other difficulty is whether, where a breach is established, that breach was causative of the Owners Corporation's damage.

### *Breach under s 177*

275 A similar but distinct inquiry is required by s 177 of the *Conveyancing Act* in order to make out a claim for negligence under this statutory duty.

276 Section 177 is, relevantly, in the following terms:

### **“177 Duty of care in relation to support for land**

(1) For the purposes of the common law of negligence, a duty of care exists in relation to the right of support for land.

(2) Accordingly, a person has a duty of care not to do anything on or in relation to land (the supporting land) that removes the support provided by the supporting land to any other land (the supported land).

(3) For the purposes of this section, supporting land includes the natural surface of the land, [and] the subsoil of the land...

...

(8) Any right at common law to bring an action in nuisance in respect of the removal of the support provided by supporting land to supported land is abolished by this section.”

277 Section 177 does not, on its face, purport to or abrogate any existing common law duty of care in negligence. Rather, in a case where support for land has been removed, it imports the common law of negligence to replace the strict liability of nuisance, so that the duty imposed is an obligation to take reasonable care: *Piling Contractors (Qld) Pty Ltd v Prynew Pty Ltd*; *Nemeth v Prynew Pty Ltd* [2008] NSWSC 118 at [48]; *Llaverio v Shearer* [2014] NSWSC 1336 at [38]; *Lym International Pty Ltd v Marcolongo* [2011] NSWCA 303 at [198].

278 The Minister's Second Reading Speech for the bill that introduced s 177 suggests that it was not Parliament's intention to constitute s 177 a code or to exclude any liability a defendant might otherwise have at common law.

279 Thus, in the Second Reading Speech for the Conveyancing Amendment (Law of Support) Bill 2000 (NSW), the Minister said:

"A new section, being section 177, is inserted into the Conveyancing Act. It creates a duty of care so that every person must not do anything, or omit to do anything, on land that supports other land, so as to cause damage by removing the support provided to the supported land. As I explained previously, there is no such duty of care at present and therefore this reform cures an existing defect in the present law.

Furthermore, this new duty of care is created as an addition to the common law of negligence. By the common law of negligence, I mean the general duty that each person must take reasonable care not to do anything that might cause harm to anyone else. The common law of negligence is constantly evolving as decisions by courts are made that define the extent of the duty. Making the duty to support adjoining land part of the common law of negligence ensures that the duty will remain in parity with the general duty of care that applies to all people, and will have the benefit of modifications made to that duty, as declared by the courts from time to time." (New South Wales Legislative Assembly, *Parliamentary Debates* (Hansard), 5 April 2000. Emphasis added.)

280 In *Piling v Prynew*, Macready AsJ, after an extensive review of the extrinsic materials that led to this legislative reform, interpreted s 177 as follows:

"As is apparent from the second reading speeches and clauses 4.7, 4.8 and clause 4.10 of the Law Reform Commission report, the clear intention of Parliament was to abolish the rule in *Dalton v Henry Angus* and provide for compensation for the damage caused by removal of support for land and buildings on neighbouring properties. The criticism of the rule in *Dalton v Henry Angus* prompted this report. It seems therefore that to the extent that the provision is ambiguous and having regard to the purpose and underlying object of the Act, one would construe reference to the 'support for land' as including support for land and the buildings erected upon it." (At [55].)



281 As I have already mentioned, the Owners Corporations claims at common law and under s 177 are regulated by Pt 1A the *Civil Liability Act*: see s 5A. This means that the inquiries regarding breach and causation set out at [272] above and [287] below apply equally to the s 177 claim.

282 There are, however some additional elements involved in a claim under s 177.

283 In *Lym International Pty Ltd v Marcolongo* at [209], Campbell JA, with whom Basten JA and Sackar J agreed, articulated the relevant inquiry under s 177(2).

284 Adapting Campbell JA's formulation to the facts here, to establish a breach of the duty of care under s 177, the Owners Corporation must show that:

- (1) Southern Cross or Hughes Trueman did something on or in relation to the Development Property;
- (2) the act of Southern Cross or Hughes Trueman in fact removed the support provided by the Development Property to the Affected Property; and
- (3) in so doing Southern Cross or Hughes Trueman failed to exercise reasonable care in doing that particular thing.

#### *Causation*

285 The Owners Corporation must also show that any breach of duty by Southern Cross or Hughes Trueman caused it damage: that is caused the foundations under the Building to move.

286 The Owners Corporation "always bears the onus of proving, on the balance of probabilities, any fact relevant to the issue of causation": s 5E of the *Civil Liability Act*.

287 The inquiry required by the *Civil Liability Act* requires more. Section 5D has two elements, which can be posed as the following questions:

- (1) Was the breach a necessary condition of the harm suffered?
- (2) Is it appropriate that the defendant be held liable for the damage?

288 Mr Osborne drew attention to the observations of French CJ and Gummow, Crennan and Bell JJ in *Strong v Woolworths Ltd* (2010) 246 CLR 182; [2012] HCA 5 at [20]:

"A necessary condition is a condition that must be present for the occurrence of the harm. However, there may be more than one set of conditions necessary for the occurrence of particular harm and it follows that a

defendant's negligent act or omission which is necessary to complete a set of conditions that are jointly sufficient to account for the occurrence of the harm will meet the test of factual causation within s 5D(1)(a)."

289 However, it does not follow from their Honours' observations that it is sufficient that the Owners Corporation point to a factor agreed by the experts to have caused damage to the Building and then show that one or other of Southern Cross or Hughes Trueman participated in that factor.

290 As I have outlined at [241] to [245] above the experts came to a joint view about what caused the movement of the Building's foundations. However, evidence of a physical cause does not necessarily establish causation for the purposes of negligence. A causal connection between a defendant's breach and a plaintiff's damage must be proved.

291 Mr Ogborne referred to the decision of Campbell J in *Sydney Water Corporation v Asset Geotechnical Engineering Pty Ltd* [2013] NSWSC 1274 at [25]. In that case, a joint expert report identified a number of causes of the loss complained of. However, Campbell J, after finding that those were the causative factors (at [33]) went on to determine that some breaches of the various defendants caused the damage while others did not (at [173] to [206]).

292 The critical question here is whether it was a failure to exercise reasonable care by Southern Cross or Hughes Trueman that caused the movement of the foundations under the Building.

### **The Owners Corporation's case against Southern Cross**

293 As developed in closing submissions, the Owners Corporation contended that Southern Cross breached its duty of care in eight ways. I will deal with each in turn.

#### *1. Failure to comply with the Development Consent conditions*

294 The Owners Corporation's first allegation of breach is that Southern Cross:

"[F]ailed to comply with the conditions of the Development Consent which required that the principal contractor must ensure that a geotechnical engineer determine the possibility of any adjoining building founded on loose foundation materials being affected by piling, piers or excavation on the Development Property and assess the requirements for underpinning the adjoining buildings founded on such soil".

295 As I have set out above (see [78]) one of the conditions of the Development Consent, to be satisfied “prior to the commencement of any development work” was that Southern Cross, as “principal contractor”:

“...must ensure that a professional engineer determines the possibility of any adjoining buildings founded on loose foundation materials being affected by piling, piers or excavation. The professional engineer (geotechnical consultant) must assess the requirements for underpinning any adjoining or adjacent buildings founded on such soil on a case by case basis...”.

296 The Building was an “adjoining or adjacent building” and was “founded on loose foundations”.

297 Mr Ogborne’s submissions focussed on the question of underpinning the Building. He submitted that Southern Cross did not comply with the condition of Development Consent as it did not ensure that a geotechnical engineer “assessed the requirements for underpinning” the Building prior to demolition of the block of apartments formerly erected on the Development Property.

298 Having settled with Jeffery and Katauskas, in the proceedings before me the Owners Corporation read the affidavit of Mr Speechley that Jeffery and Katauskas had served on the Owners Corporation. But Mr Ogborne did not read the concluding paragraphs of that affidavit which appeared under the heading “The Need for Underpinning”.

299 However, Mr Cavanagh cross-examined Mr Speechley about those paragraphs including asking him this:

“Q. ... At the time that you prepared the affidavit, you were aware that there was a possible issue in this case that there always should have been underpinning of the adjoining property as part of the shoring works, is that right?

A. I was aware that that was an issue, yes.

Q. Yes, and so what you've dealt with in paragraph 235 and following is in essence your response to any suggestion there should have been underpinning?

A. That's correct.”

300 That cross-examination had the effect of causing the paragraphs in Mr Speechley’s affidavit, which Mr Ogborne had not read, to be introduced into evidence.

301 In those passages Mr Speechley said that “I did give consideration as to whether the [Affected Property] required underpinning or some other form of soil stabilisation (such as grouting) as part of my usual practice”.

302 Mr Speechley also said that:

“241 Underpinning is an expensive measure and is also very inconvenient to the occupiers of the adjoining property. Additionally, the process of installing underpinning runs the risk of weakening the existing foundations especially where, as in the case of the [Affected] Property, the structure is founded on a deep sand profile.

242 It is my opinion that underpinning of the [Affected] Property would likely have induced greater movements than if the works at [the Development Property] and [Shoring Wall] had been constructed appropriately.”

303 Mr Speechley gave further evidence:

“Q. Are you able to say when you considered, and by that I don't mean the precise date, but do we take it that you considered that around the time of preparation of your 2006 report?

A. I wouldn't have considered it, not in great deal around that time, but as the project went on I would have considered it more when you start to know exactly what they're going to build.”

304 And later:

“Q. Your considered opinion was that underpinning was not required, is that right?

A. That's right.

Q. It follows that if anyone had asked you at any relevant time as the geotechnical engineer whether underpinning was required, you would have answered in the negative, is that right? You would have said, ‘No, I have considered that. Underpinning is not required’?

A. That's correct.”

305 Although Mr Ogborne called Mr Speechley in the Owners Corporation's case, Mr Ogborne submitted:

“Mr Speechley's evidence as to what he would have concluded had he undertaken the formal assessment as required by [the condition of the Development Consent] is of little weight given his self-interest in the question. In this respect, his evidence is in a similar position to evidence governed by s 5D(3)(b) of the *Civil Liability Act*...and would be given little weight except as against his interest.”

306 I do not see why I should give “little weight” to Mr Speechley's opinion. He may have given his evidence about underpinning at a time when Jeffery and Katauskas was an active defendant. But, having settled with Jeffery and

Katauskas, the Owners Corporation called Mr Speechley in its case against Southern Cross and Hughes Trueman. Mr Speechley had nothing to gain by giving self-serving evidence.

307 Mr Ogborne referred to s 5D(3)(b) of the *Civil Liability Act*. That subsection provides:

“[A]ny statement made by the person after suffering the harm about what he or she would have done is inadmissible except to the extent (if any) that the statement is against his or her interest.”

308 That section has no application to Mr Speechley. It only applies to a statement made by “the person who suffered harm”.

309 In concurrent evidence all the experts agreed that underpinning of the Building would not have been advisable. Some experts opined that it may have been wise to consider stabilising the soil under the Building.

310 But that is not what the condition of the Development Consent required the “principal contractor” (that is the Southern Cross here) to engage a geotechnical engineer to investigate. The condition was directed, in terms, to underpinning. One of the experts, Mr Mortimer, speculated that the author of the condition of Development Consent “wasn’t a geotechnical engineer and he was just way too specific in picking the word underpinning”. Mr Mortimer would have construed the condition as meaning to “put a system in place that ensures damage does not occur on the plaintiffs’ property”.

311 I do not consider that I should take into account Mr Mortimer’s speculation about those matters. The fact is that the condition is directed, in terms, to underpinning, only.

312 The Developer engaged Jeffery and Katauskas as its geotechnical engineer. Jeffery and Katauskas, through Mr Speechley, considered and rejected the idea that there should be underpinning of the Building. In those circumstances I am not able to conclude that Southern Cross, as the builder, owed a duty of care to the Owners Corporation itself to consider the question of underpinning, or to obtain advice from a geotechnical engineer other than Mr Speechley.

313 In any event, as all of the experts called by the parties agreed with Mr Speechley that underpinning would not be recommended, it seems likely that

any alternate geotechnical engineer that Southern Cross may have consulted would have expressed the same opinion. I am not persuaded that, had Southern Cross engaged another geotechnical engineer, the loss suffered by the Owners Corporation would have been mitigated or prevented.

314 Accordingly, in relation to this allegation, my conclusion is that the Owners Corporation has failed to establish that Southern Cross owed it the duty contended for, that there has been a breach of any such duty or that any such breach has caused it loss.

*2. Failure to obtain advice prior to the 30 July 2010 excavation*

315 The Owners Corporation's second allegation of breach was that Southern Cross:

"[F]ailed to ensure there was no undermining or destabilising of the Retaining Wall and, in fact, directed and took part in the excavation in front of the Retaining Wall on about 30 July 2010 without first obtaining any geotechnical engineering advice on that excavation".

316 As I have mentioned (see [119] above) on 30 July 2010, Southern Cross directed Pile & Bucket to carry out localised excavation at each end of the Retaining Wall to determine the depth of the footing of the Retaining Wall.

317 It appears that the excavation was first suggested by Mr Morgan from Southern Cross but endorsed by Mr Walsh from Northwood. On 29 July 2010 Mr Walsh sent an email to Mr Morgan, Mr Speechley and to the Architect:

"Finally, it might be advantageous as suggested by Justin [Morgan] to investigate the bearing level of this existing retaining wall".

318 Although Mr Speechley was copied in on that email, it appears that he was not present when the excavation took place.

319 Mr Frigo from Southern Cross, in cross-examination, described the excavation as being "the size of the bucket to localise to identify where the footing was". Mr Frigo said that the instructions to carry out that excavation came from Jeffery and Katauskas.

320 In concurrent evidence, some of the experts expressed misgivings as to the size of the excavation made with some experts suggesting that the extent of the excavation might indicate "poor practice".

321 However, each of the experts agreed that he could not say that this excavation led to any damage to the Building.

322 Accordingly, this aspect of the Owners Corporation's claim fails as a matter of causation because, even if there were a want of reasonable care by Southern Cross, there is no evidence that that failure caused the damage.

### 3. *Failure to execute the Monitoring Plan*

323 The Owners Corporation's third allegation of breach was that Southern Cross:

“[F]ailed to carry out any adequate site survey monitoring and, indeed, failed to implement the [Jeffery and Katauskas] geotechnical monitoring plan”.

324 Jeffery and Katauskas prepared a Monitoring Plan to satisfy conditions of the Development Consent (see [87] to [88] above). That plan required the survey monitoring be carried at various stages of the works, including prior to site works, after demolition, prior to the commencement of shoring, at each stage of excavation prior to installation of the shoring supports and after each shoring support was installed.

325 Southern Cross received a copy of the Monitoring Program but did not implement it.

326 I find that Southern Cross did fail to take reasonable care in this regard.

327 The experts agreed that the monitoring was inadequate and that “as a consequence, the opportunity to mitigate/minimise the damage to the building was lost”.

328 Mr Cavanagh accepted that one could perhaps be critical of Southern Cross for not installing the monitoring points before the works started.

329 Had the monitoring been carried out prior to site works, and more frequently during those works, particularly between 5 August and 8 September 2010, it may have been possible to isolate the movement that occurred between those dates.

330 However, it is a matter of speculation as to what the readings on those monitoring devices would have been, what conclusions could have been drawn in that hypothetical circumstance and what action might have been taken as a result.

331 Mr Ogborne submitted that, had survey monitoring been carried out in accordance with the Monitoring Plan:

“...it is probable that the significant movement or movements of the Retaining Wall that occurred in the month prior to 8 September 2010 could not have been dismissed as an anomaly...and would have been investigated by a geotechnical and structural engineers, with remedial steps being taken to ensure the stability of the Retaining Wall”.

332 Had that occurred, Mr Ogborne submitted, it is probable that the worsening of the cracking in the Building would not have taken place.

333 I see no basis upon which I could come to any of these conclusions. It is a matter of speculation as to what would have been revealed had monitoring been undertaken more frequently between 5 August and 8 September 2010. And there is no expert or other evidence as to what steps could or would have taken place if the survey monitoring had permitted a more precise conclusion to be drawn as to when, during that period, the movement detected on 8 September 2010 took place.

334 I accept Mr Cavanagh's submission that there is no evidence that any departure from the Monitoring Plan caused damage to the Building.

335 Further, Mr Speechley who had devised the Monitoring Plan was on site on regular occasions and agreed that he was “comfortable” with the frequency of monitoring undertaken. He gave this evidence:

“Q. You went out there on a number of occasions during the earthworks work; didn't you?

A. A few occasions, yes.

Q. And at no time did you ever raise any concerns with the builder about how the survey monitoring was being undertaken; did you?

A. No, except that he hadn't set it up until quite late in the project.

...

Q. But from 5 August until mid-November you didn't have any concerns about the way it was being done, is that right?

A. No, I didn't have any concerns. I asked them to do it a few times so I reminded them.

Q. And you are aware, of course, that it was done and it showed it was done monthly?

A. Yes.



Q. And it showed results in early September, early October and early November, is that right?

A. That's right.

Q. As far as you were concerned, doing it monthly at that time was appropriate?

A. I was comfortable with that, yeah."

336 In view of the experts' agreement that the work done on the site prior to 5 August 2010 had no effect on the Building, the absence of monitoring prior to 5 August 2010 is of no consequence.

337 It follows that the Owners Corporation has not established that the failure of Southern Cross to implement the Monitoring Plan in fact caused any damage to the Building.

#### *4. Failure to take steps to maintain support of the Retaining Wall*

338 The Owners Corporation's fourth allegation of breach was that Southern Cross:

"[D]irected works to be undertaken, which included the benching excavation for piles, without taking steps to maintain support to the Retaining Wall by directing [Pile & Bucket] to commence work on the construction of a shoring wall in accordance with the Northwood sketches issued on 7 July 2010".

339 As I have mentioned, on 7 July 2010 Mr Walsh produced drawings, to be issued to Pile & Bucket, showing that the top of the capping beam of the Shoring Wall was to be constructed at RL 9.7 m (see [100] above). Mr Walsh said that these drawings were to be issued to Pile & Bucket "for costing" and that Mr Speechley was to confirm the geotechnical adequacy of the drawings "with modelling".

340 As I have mentioned, Mr Walsh's "for costing" drawings were incorporated into the subcontract between Southern Cross and Pile & Bucket as part of the specifications of the excavation and shoring works which Pile & Bucket commenced on 30 July 2010 (see [104] above).

341 Mr Ogborne submitted that in view of the concerns expressed by Mr Speechley on 9, 12 and 29 July 2010 (see [110], [112] and [115] above) a reasonable person in the position of Southern Cross would not have directed Pile & Bucket to commence the excavation works on 30 July 2010 to create a batter slope in accordance with the Northwood sketches.

342 However, the fact is that, at the 21 July 2010 site meeting, Southern Cross was directed by the Developer and the Architect to “commence piling ASAP”.

343 In the Joint Report all the experts, except Mr Shirley, agreed that the benching excavation done by Pile & Bucket down to RL 9.2 m had been the cause of movement to the Retaining Wall and hence damage to the Building.

344 However it appears that that opinion was expressed as a result of a misconception by the experts, other than Mr Shirley, as to the nature of the benching excavation that Pile & Bucket had carried out.

345 The benching excavation carried out by Pile & Bucket was as depicted in Mr Speechley’s 4 August 2010 diagram which I have set out at [121]. Relevantly, that diagram showed that the sand berm from the level to which Pile & Bucket had excavated (RL 9.4 m) to the Retaining Wall was at an angle of 35°. Evidently the experts, apart from Mr Shirley, had, prior to the concurrent evidence, understood that the sand berm created by Pile & Bucket was at a far greater angle, close to vertical.

346 Mr MacLeod agreed that:

“If the diagram by Jeffery and Katauskas represented the initial excavation by Pile & Bucket would be no cause for concern”.

347 The other experts agreed with that conclusion.

348 Mr Mortimer did say that there would be a “cumulative effect” and that the excavation on or about 30 July 2010:

“...amplifies the effect of the light well excavation. Anything that disturbs the soil supporting the retaining wall is going to have a negative effect, and it doesn’t redress itself; it accumulates. So, you know, the first loosening of the soil adjacent to it would have had an effect and then subsequent further loosening would have had an added effect and so on and so forth, so, yes.”

349 However it was the unanimous opinion of the experts in concurrent evidence that the benching excavation carried out by Pile & Bucket on or about 30 July 2010 had no effect on the Retaining Wall or the Building; rendering moot any criticism that might be made of Southern Cross for directing Pile & Bucket to proceed with the excavation in accordance with Mr Walsh’s “for costing” sketches.

350 I am unable to find a failure to take reasonable care on the part of Southern Cross, nor that its conduct caused any damage to the Owners Corporation.

*5. Failure to implement a lateral support system for the Retaining Wall*

351 The Owners Corporation's fifth allegation of breach was that Southern Cross:

"[D]irected the construction of piles and a capping beam to form the northern light well, which required the carrying out of excavation within the zone of influence for the footings of the Retaining Wall, without putting in place any shoring system to provide lateral support to the Retaining Wall or obtaining any engineering advice. Further, or in the alternative, [Southern Cross] installed propping of the Retaining Wall in the vicinity of the excavation of the earth supporting the Retaining Wall for the length of the northern light well that was inadequate and was installed without obtaining any engineering advice."

352 This point relates to the next. It is convenient to deal with them together.

*6. Failure to implement Mr Speechley's recommendations*

353 The Owners Corporation's sixth allegation of breach was that Southern Cross:

"[F]ailed to adhere to the recommendations in the [Jeffery and Katauskas] geotechnical report dated 7 October 2010 to carry out all works in the northern light well area without delay, including the works specified in the report, being to rectify the removal of the capping beam, carry out a survey of the Retaining Wall and have the project structural engineer inspect the propping of the Retaining Wall and provide written confirmation that the propping was suitable".

354 The Owners Corporation's contention is that by:

- (1) directing Pile & Bucket to carry out the excavation on 20 August 2010 to install the formwork necessary to install the capping beam on the northern light well (which I have described at [157] to [159] above); and
- (2) itself installing the temporary timber propping of the Retaining Wall (which I have described at [165] to [168] above),

Southern Cross was in breach of the duty of care it owed to the Owners Corporation.

355 The Owners Corporation also contends that each of these breaches was causative of the damage that has been sustained to the Building and thus to the Owners Corporation.

356 I do not think that the Owners Corporation has made out any of these propositions.

### **The 20 August 2010 excavation**

- 357 There is no suggestion in the evidence that it was not necessary for Southern Cross to direct excavation in the immediate vicinity of the Retaining Wall in order to accommodate the formwork necessary to construct the capping beam in the northern light well.
- 358 Nor is there evidence that it was not necessary, in order to carry out that excavation, to remove the batters along the Retaining Wall as Mr Theunissen observed on 20 August 2010. Indeed, Mr Ogborne's submissions concerning Hughes Trueman proceeded on the assumption that excavation of the berm was "required" by Hughes Trueman's "for construction design of the structural elements of the northern light well" (see [\[401\]](#) below).
- 359 Mr Alden opined in his report that the batters "should not have been removed without alternate shoring first being installed". I will return to this when considering the Owners Corporation's contention that the temporary propping that Southern Cross installed was inadequate.
- 360 But there is no evidence that Southern Cross did not promptly comply with Mr Theunissen's direction to reinstate the batters "without delay" (see [\[161\]](#) above). Mr Ogborne did not ask Mr Frigo about this. Mr Speechley made no suggestion in his 8 September 2010 note that this had not been done (see [\[186\]](#) above).
- 361 And the experts did not suggest in their Joint Report that this excavation caused movement in the Retaining Wall or damage to the Building.

### **The temporary propping of the Retaining Wall**

- 362 There is no evidence of when, precisely, Southern Cross installed the temporary propping to the Retaining Wall. Mr Walsh gave advice about "temporary propping" on 24 August 2010 (see [\[165\]](#) to [\[166\]](#) above). There is no evidence as to what that advice was. The evidence does not reveal whether the propping was in place by then. More particularly, there is no evidence that it was not. It was in place when Mr Speechley attended the site on 8 September 2010. On that occasion, Mr Speechley directed his attention to the propping and expressed no misgivings about it: see [\[181\]](#) to [\[183\]](#) above.

363 There is no expert evidence directed to any particular shortcomings in the temporary propping Southern Cross installed. There is no evidence of what different or other propping a competent builder in Southern Cross' position would have installed.

364 None of the experts stated in his report that the temporary propping was inadequate. And Mr Shirley said that any deficiency in the propping had no impact on the Building because of the "deep seated mechanism" by which damage to the Building probably occurred.

365 In the Joint Report, the experts did describe the temporary propping as "inadequate". Their stated reason for this conclusion was:

"[Jeffery and Katauskas] recorded their concern as to the temporary propping on 7/10/2010 and communicated their concern to [Southern Cross]".

366 The experts were referring to Mr Speechley's 7 October 2010 note set out at [206] to [207] above. But, as I have explained, and as Mr Speechley agreed, Mr Speechley was not in that note expressing any "concern" about the existing state of the propping. Rather, he was advising that, before the soil within the proposed northern light well was excavated, Hughes Trueman should inspect the propping to confirm it was "suitable to support" the Retaining Wall in light of the "additional loads" that "may be placed on the shoring system" during that future excavation.

367 The experts' conclusion that the temporary propping was "inadequate" appears to have arisen from their misunderstanding of Mr Speechley's note. This was not a matter taken up in concurrent evidence. The experts were not asked about the temporary propping during the concurrent evidence.

368 Further, there is no evidence linking the 7 mm movement detected at MP04 between 5 August and 8 September 2010 to any shortcoming in the temporary propping.

369 The geotechnical experts agreed that, because of the sandy nature of the subsoil under the Development Property and under the Building, that the underground impact of any activity on the Development Property would be "immediate and once off" and would occur "almost instantaneously".

370 There were many activities taking place on the site between 5 August and 8 September 2010, including near MP04: for example the installation of the piles for the northern light well and indeed for the Shoring Wall itself. Any one of them may have caused the movement that was detected.

371 No movement was detected between 8 September and 7 October 2010.

372 By the time further movement was detected, on 8 November 2010, the temporary propping had been in place for at least two months. I cannot conclude it was causative of that movement.

373 In these circumstances, I am not satisfied that the Owners Corporation has established that Southern Cross' actions in relation to the 20 August 2010 excavation and the installation of temporary propping was negligent, nor causative of damage to the Building.

*7. Directing Pile & Bucket to excavate below RL 6.6 m*

374 The Owners Corporation's seventh allegation of breach was that Southern Cross:

"[F]ailed to ensure that the recommendations made by [Jeffery and Katauskas] in its geotechnical reports were followed in relation to not excavating below RL 6.6m and directed [Pile & Bucket] to excavate the lift pit in front of the Shoring Wall, which involved excavation below RL 6.6m and compromised the toe depth of the Shoring Wall".

375 On 2 August 2010, 8 September 2010, and again on 7 October 2010, Mr Speechley referred to "bulk excavation" and mentioned RL 6.6 m.

376 On 2 August 2010 Mr Speechley said:

"Bulk excavation to not deeper than RL 6.6 m for basement floor slab. We stress that over-excavation will produce a lower factor of safety, higher bending moments, higher shear forces, higher prop loads and greater wall deflection. Over excavation must be avoided. If excavation to greater than RL 6.6 m is to be carried out then further wall analysis must be carried out prior to wall construction, as wall embedment's may need to be greater".

377 On 8 September 2010, Mr Speechley said:

"After the [Shoring Wall] has been strutted, bulk excavation must not extend deeper than RL 6.6 m".

378 As I have mentioned, on 7 October 2010 Mr Speechley said:

"Now that excavation is approaching bulk excavation level of RL 6.6 m, particular care must be taken not to over-excavate or disturb the soils below

the bulk excavation. If any over-excavation occurs it must be backfilled immediately. This requirement must be communicated by yourselves to the excavation contractor [i.e. Pile & Bucket]”.

379 In those circumstances Mr Ogborne submitted:

“Based on these matters, [Southern Cross] should not have directed or permitted [Pile & Bucket] to carry out the lift pit excavation, which it knew or ought to have known involved excavation below the depth advised to [Southern Cross] by [Jeffery and Katauskas] as the maximum excavation depth. A reasonable person in the position of [Southern Cross] would have not have directed or permitted that excavation to take place without obtaining further advice from [Jeffery and Katauskas]”.

380 In the Joint Report, the experts agreed that one cause of movement of the Shoring Wall was “additional excavation depth over the general excavation level at the lift pit”.

381 However, in cross-examination, Mr Speechley agreed that his reference “bulk excavation” was not intended to be a reference to excavation that might be needed for particular services. He gave this evidence:

“Q. And bulk excavation is not a reference to, for example, excavation localised excavation where it might be necessary for services and so on at a particular time, is it?

A. Well it depends on where they are, but, yes, you are generally correct, yes.”

382 A short time later:

“Q. But you knew there was a lift pit though, didn't you?

A. It was on the drawings, but I had no details of a lift pit and that's why I made it perfectly clear not to excavate below that 6.6 level unless we looked at it again.

Q. But, sir, you've just agreed that bulk excavation refers only to the bulk excavation, not services excavation, haven't you?

A. Yes, but it's different. If there's a footing against the retaining wall or a lift pit against the retaining wall, that has an impact on the retaining - or will have an impact on the retaining wall. That needs to be considered.”

383 And then, in answer to a question from me:

“Q. Do you see the excavation to construct the lift pit as being bulk excavation?

A. No, look I still see that as being more detailed excavation, but when we're talking about excavation when you are doing a wall analysis, any excavation next to a wall is going to have an impact on the wall.”

384 And then, in answer to a question from Mr Cavanagh:

“Q. So you were aware as of June 2010 that there would be some additional excavation below the level of the bulk excavation, weren't you? It's not a criticism, I am just asking whether you were--

A. Potentially there always is, yes, that's right.

Q. Yes, okay. And that's, of course, why you answered his Honour's questions in effect to say, well there's bulk excavation and then there's more detailed or specific or services excavation, is that right?

A. Yes, that's right.”

385 The effect of this evidence is that Mr Speechley did not intend, by his references to not conducting “bulk excavation” below RL 6.6 m, to direct that in no circumstances should there be excavation below that level. Rather, his point was that, if there was to be excavation below that level for a particular purpose, the impact on the Retaining Wall needed to be considered.

386 I have referred to the fact that the proposed location of the lift pit was long known and to the experts' conclusion that a significant shortcoming of Mr Walsh's design of the Shoring Wall was its lack of provision for the excavation necessary for the lift pit (see [259] to [266] above).

387 There is no expert or other evidence to suggest Southern Cross was not entitled to assume the Shoring Wall was designed so as to accommodate the excavation necessary for the lift pit. Nor is there any evidence of a different course Southern Cross would have taken, or that a reasonable builder in Southern Cross' position would have taken, had Mr Speechley's opinion been sought prior to the lift pit excavation. Nor is there any evidence that the excavation itself was undertaken otherwise than in accordance with competent excavation practice.

388 The lift pit excavation took place on 29 October 2010. Three days later, on 1 November 2010, Ms Bainton returned from overseas to notice the damage to her unit that I have described. It seems unlikely that the damage Ms Bainton noticed occurred only on the day she saw it. As I have said, it must have occurred sometime before. Indeed, the Architect reported “neighbour concerns” about cracking on 11 October 2010 (see [222] above), which suggest that the damage had occurred sometime before Ms Bainton's return.

389 In those circumstances, I cannot be satisfied that it was only the lift pit excavation that caused that damage. It is likely that there had been some



earlier movement, especially considering there were reports of cracking as early as 11 October 2010, more than two weeks earlier.

390 This highlights a difficulty with the Owners Corporation's case. If, as it contends, cracking in the building attributable to the Shoring Works first occurred during October 2010, it suffered damage and loss then. There is no evidence enabling me to reach any conclusion as to what further damage occurred by reason of later events; including the lift pit excavation.

391 For these reasons, my conclusion is that the Owners Corporation has not shown that any want of reasonable care by Southern Cross with respect to the excavation of the lift pit has caused it damage. Nor has it shown what, if any, additional damage has been suffered because of the lift pit excavation.

#### *8. Directing NMK to excavate below RL 6.6 m*

392 The Owners Corporation's eighth allegation of breach is that Southern Cross:

“[F]ailed to ensure that the recommendations made by [Jeffery and Katauskas] in its geotechnical reports were followed in relation to not excavating below RL6.6m and directed NMK to excavate foundation pile caps north of the lift pit, which involved excavation below RL6.6m and compromised the Shoring Wall”.

393 The Owners Corporation's case against Southern Cross concerning the foundation piles is similar to its case concerning the lift pit, namely that Southern Cross directed NMK to carry out this excavation below Mr Speechley's "bulk excavation" level of RL 6.6 m in circumstances where, to use Mr Ogborne's words:

“A reasonable person in the position of [Southern Cross] would not have directed NMK to carry out the excavation without obtaining further advice from [Jeffery and Katauskas]”.

394 As I have outlined, any damage that may have occurred as a result of this excavation was caused by the failure of Mr Walsh's design of the Shoring Wall to accommodate the excavation necessary to install the foundation piles.

395 Once again, the difficulty is that there is no evidence of what difference obtaining Jeffery and Katauskas' advice at this stage would have made.

396 In any event, this work was carried out on 4 and 5 November 2010. By then cracking was manifest and the Owners Corporation's loss had occurred.

397 There is no evidence which enables me to come to any conclusion as to what further or different loss was caused as a result of NMK carrying out this excavation.

*Conclusion concerning the case against Southern Cross*

398 For these reasons, my conclusion is that the Owners Corporation's case against Southern Cross fails.

**Owners Corporation's case against Hughes Trueman**

399 As developed in closing submissions, the Owners Corporation contended that Hughes Trueman had breached its duty of care to it in five respects.

*1. The design and location of the northern light well*

400 The first alleged breach concerns the northern light well and was particularised in the Owners Corporation's Technology & Construction List Statement as follows:

"[Hughes Trueman's] design provided for light wells...in areas between the [Shoring Wall] and the [Retaining Wall] which removed support to the [Retaining Wall] and the [Affected Property] (and without specifying adequate precautions to provide replacement support)".

401 Mr Ogborne submitted that:

- (1) "Hughes Trueman breached its duty of care to the plaintiffs by preparing structural plans for the northern light well in the area between the Shoring Wall and the Retaining Wall, which removed support to the Retaining Wall without specifying adequate precautions to provide replacement support"; and
- (2) "A reasonable person in the position of Hughes Trueman would not have created the for construction design of the structural elements of the northern light well, which required excavation of the berm providing support to the Retaining Wall, without taking precautions or seeking advice so as to ensure that the Retaining Wall did not lose support".

402 In my opinion there are a number of answers to these submissions.

403 The first is that, for the reasons I have explained, I am not satisfied that Hughes Trueman did in fact prepare structural drawings from which the northern light well was constructed. I think it more likely that the northern light well was built in accordance with Mr Walsh's instructions (see [153] to [156] and [172] to [173] above).

404 That is consistent with the terms of Hughes Trueman's proposal of 13 July 2009 which excluded "detailed design of piling systems" from the services to be provided (see [84] above). It is also consistent with the terms of Hughes Trueman's general structural notes, that accompanied its drawings, which stated:

"The builder is responsible for the adequacy of all temporary works including shoring, propping and bracing and where necessary is to engage a structural engineer to design and certify his temporary works".

405 Second, there is no evidence of what precautions a competent structural engineer in Hughes Trueman's position would have specified. Nor is there any evidence of how effective such precautions would have been to prevent such movement to the Retaining Wall and the Building as might have occurred as a result of the excavation and subsequent installation of the light wells.

406 Even if Hughes Trueman was responsible for the design of the piling of the northern light well and the excavation that subsequently occurred, I am not satisfied that those activities were a breach of its duty to take reasonable care or were causative of any damage to the Building. As I have already stated in connection with the Owners Corporation's claim against Southern Cross, the experts agreed that they could not say that the excavation carried out at the site of the northern light well caused damage to the Building (see [361] above).

## *2. The design of the lift pit*

407 As particularised in its List Statement, the Owners Corporation's case is that:

"[Hughes Trueman's] design provided for a lift shaft adjacent to the [Shoring Wall], which removed support to the [Shoring Wall] and consequently the [Retaining Wall] and [the Affected Property] (and without specifying adequate precautions to provide replacement support)".

408 The short answer to this is that Hughes Trueman's design did not provide for a lift shaft adjacent to the Shoring Wall.

409 Hughes Trueman's original drawings, at the time of Northwood's retainer, showed the Shoring Wall stepping outside the light wells. Thus, according to Hughes Trueman's design, the wall of the proposed lift well was not adjacent to the proposed Shoring Wall.

410 It was Northwood's shoring design (a straight line along Grid D) that had the effect that the Shoring Wall was to be adjacent to the wall of the lift shaft.

411 An allied particular in the List Statement asserted a failure by Hughes Trueman to:

“...provide advice as to the need for modification of its design, or sequencing of the works on the Development Property to account for [Northwood's] design of the [Shoring Wall]”.

412 In the light of this particular, I do not think Mr Hand was correct to submit that “the plaintiffs have not alleged in the List Statement that Hughes Trueman was somehow negligent in failing to integrate its structural design with Northwood's shoring design”.

413 However, I am not satisfied that the Owners Corporation has shown that it was within the scope of Hughes Trueman's duty of care to question whether Northwood's shoring design was adequate.

414 Northwood had assumed responsibility for the design of the Shoring Wall. The proposed location of the lift well was determined long before Northwood altered the design of the Shoring Wall in the manner I have described. The experts' criticism of the Northwood design is that it did not make provision for the excavation necessary for the lift pit (and also the foundation piles) which excavation would inevitably have to take place immediately adjacent to the Shoring Wall as built in accordance with Northwood's design.

415 Mr Ogborne submitted that Hughes Trueman was “negligent in the preparation of structural plans for the lift pit” because it did not specify “adequate precautions to provide replacement support” for the Shoring Wall. But I am unable to see that it was within the scope of Hughes Trueman's duty of care towards the Owners Corporation to prepare structural plans for the lift pit on the assumption that Northwood's design of the Shoring Wall was inadequate and did not accommodate the excavation that would inevitably be necessary.

416 On 8 October 2010 Hughes Trueman issued a revision to its 30 August 2010 “for construction” footing plan which, for the first time, included a “Typical Lift Pit Detail”. That detail stated that “depth of lift pit” was to be “to lift

manufacturers details". The detail did not otherwise give an indication of the depth of the lift pit.

417 Mr Paterson said in cross-examination that the depth of the base of a lift pit is "not normally detailed on the structural drawings because different lift manufacturers have different overrun requirements, the depth that they need below the bulk excavation".

418 I see no reason to conclude that it was necessary for Hughes Trueman to go further. Nor that a reasonable person in Hughes Truman's position would go further.

419 There is certainly no evidence before me that a competent structural engineer in the position of Hughes Trueman would have made more precise specification than this concerning the lift pit.

420 Nor is there any evidence of what further precautions a competent engineer in the position of Hughes Trueman would have specified, nor the effect that implementation of such precautions would have had.

421 Mr Ogborne submitted:

"No evidence has been adduced that there is an accepted practice that an engineer in the position of Hughes Trueman is entitled to simply assume that the shoring system designed by another engineer has been designed to cope with any loss of support that may be caused by Hughes Trueman's further structural design that integrates with the shoring design".

422 But it was not for Hughes Trueman to adduce evidence that it was entitled to assume that Northwood's design of the Shoring Wall was sufficient to accommodate the lift pit (and foundation pile) excavation. It was for the Owners Corporation to adduce evidence that it was not.

423 I see no basis upon which I could conclude that a reasonable person in Hughes Truman's position should have understood that the Northwood design had any shortcoming and would have taken precautions to compensate for that shortcoming.

424 Further, as I discussed when considering the Owners Corporation's case against Southern Cross, there is in any event a question of what further

damage can be said to have been caused to the Building by the lift pit excavation, which occurred on 29 October 2010 (see [388] above).

425 This aspect of the Owners Corporation's claim fails for want of evidence regarding breach and causation.

### *3. The location of the foundation piles*

426 This alleged breach relates to foundation piles that Hughes Trueman specified be installed adjacent to, and on the Manning Rd side of, the Shoring Wall.

427 As is the case with the lift pit, the location of the foundation piles was determined long before Northwood was engaged to redesign the Shoring Wall.

428 Mr Ogborne's submission on this point was similar to his submissions concerning the lift pit excavation. Mr Ogborne submitted

“A reasonable person in the position of Hughes Trueman would have used the Northwood plans to assess whether the excavation for the pile caps north of the lift pit would remove support to the Shoring Wall so as to compromise the stability of the Shoring Wall and then take appropriate precautions to ensure that replacement support was provided during the excavation”.

429 Again, the difficulty I have is that I see no basis upon which I could conclude that Hughes Trueman had a duty to question whether the Northwood design of the Shoring Wall was adequate to accommodate the excavation necessary for the foundation piles.

430 To repeat, the experts have concluded that the Northwood design was not adequate in this regard as it did not make provision for that excavation.

431 There is no expert or other evidence to show that a competent engineer in the position of Hughes Trueman would have detected this inadequacy and taken appropriate precautions.

432 There is also no evidence of what those appropriate precautions were or what effect implementation of them would have had.

433 Further, the excavation for the foundation piles took place on 4 and 6 November 2010. By then, on any view of the evidence, movement of the foundations under the Building had already occurred. There is no evidence enabling me to determine what further loss occurred as result of any further movement attributable to the foundation excavation.

*4. The location of foundation piles at the basement level*

434 As particularised in its List Statement, the Owners Corporation case is:

“[Hughes Trueman’s] design provided for excavation works for the foundation piles on the Development Property without regard to [Northwood’s] design of the [Shoring Wall] and the location of the shoring props”.

435 Mr Ogborne submitted, without elaboration:

“Hughes Trueman breached its duty of care by designing structural drawings for the foundation piles at the basement level without regard to Northwood’s design of the Shoring Wall and the location of the supporting props, so as to require the removal and replacement of props to construct the foundation piles...”

A reasonable person in the position of Hughes Trueman would have designed the basement footing plan by reference to the position of the props shown in the Northwood design so as to enable easy drilling access for the construction of the piles”.

436 From as early as October 2009, Hughes Trueman’s footing plan specified that foundation piles be located adjacent to the Shoring Wall to the north of the lift pit. The proposed location of those piles, and their dimensions, never altered. Mr Walsh knew where these piles were to be located from as early as 26 February 2010, when he was provided with a copy of Hughes Trueman’s plans.

437 As I have set out, the experts agreed that Mr Walsh’s design of the Shoring Wall should have catered for the need for the excavation necessary to install these piles. Part of Mr Walsh’s design of the Shoring Wall involved the temporary props, the removal and replacement of which was one of the factors causing the Shoring Wall to move.

438 Hughes Trueman’s design may not have adverted in terms to the location of those props. But cannot see why it should have.

439 And I cannot see how it could be said that Hughes Trueman’s design had any connection with, let alone caused, the replacement and removal of the props to the Shoring Wall. The replacement and removal of the props was primarily caused by Mr Walsh’s failure to heed Mr Paterson’s requirements concerning that access (see [213] to [218] above).

440 Nor can I see why Hughes Trueman’s design should been informed by a need to provide “easy drilling access for construction of the piles”. Mr Ogborne’s submission to this effect was not developed.

441 Thus, no breach on the part of Hughes Trueman regarding the location of the  
foundation piles has been established.

5. *Failure to take action when informed of reports of cracking*

442 Finally, Mr Ogborne submitted that “Hughes Trueman were negligent in failing  
to take appropriate action when informed of reports of cracking in [the Building]  
on 11 October 2010”.

443 The reference to 11 October 2010 is a reference to the email that the Architect  
sent Hughes Trueman requesting that Hughes Trueman send Southern Cross  
“a disc with all dilapidation reports” (see [222] above).

444 Hughes Trueman replied to that email on the same day saying “no problem, we  
will arrange that”.

445 Mr Ogborne submitted that Hughes Trueman were aware, or ought to have  
been aware, that the survey monitoring had recorded a 7 mm movement at  
MP04 between 5 August 2010 and 8 September 2010 (not “in early September  
2010” as stated in Mr Ogborne’s submissions) and that:

- (1) “A reasonable person in the position of Hughes Trueman would have  
investigated the complaints and, on substantiating the cracking, would  
have commenced an investigation of potential causes of the movement  
revealed by the survey monitoring”; and
- (2) “Given the speed with which movement issues were resolved in  
November 2010, there is a strong probability that the temporary shoring  
would have been recommended to the Retaining Wall and/or the  
Shoring Wall, which would have prevented the further damage from  
occurring”.

446 But there is no evidence that Hughes Trueman knew of the monitoring results  
recorded on 8 September 2010.

447 And I see no reason why Hughes Trueman should have itself initiated an  
investigation into the reported cracking. The Architect did not ask Hughes  
Trueman to do anything other than send Southern Cross the dilapidation  
reports, which it did. Hughes Trueman was entitled to assume that the matter  
was being dealt with between the Architect and Southern Cross.

448 Thus, this aspect of the Owners Corporation’s claim fails.



*Conclusion concerning the case against Hughes Trueman*

449 For those reasons, my conclusion is that the Owners Corporation's case against Hughes Trueman fails.

**Conclusion**

450 The parties should bring in short minutes to give effect to these reasons.

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