

# **NSW State Coroners' Court**

## **Inquest touching the death of: - Shannon Abby- Rose Rankin**

File: Glebe 0503 of 2006.

### **Appearances:**

Mr. C. Hoy S.C. - (With Mr B. Thomson) - Counsel Assisting,

Ms. P. Saidi - The Rankin family.

Mr. K Kelleher – Great Lakes Council

Mr. P. Dwyer, (and thereafter) Mr. O'Connor, Mr. Polin and Mr. Harrison – A1 Pools & Spas

Mr. A. Hewitt S.C.– Owners Corporation Strata Plan No.7601and Alliance Strata Group

Mr. W. Blacker – GIO Limited

Ms. M. England – Saeid Askarian

Mr. Perkins – Valerio Lilli

Mr. P Doyle – Jan Norrie and David Graham

### **Before the Court:**

9,10 February 2009 at Courthouse, Forster,  
11,12,13,16,17,18,19 February 2009 at Courthouse, Taree,  
6,7,8,9 10,13,16 July 2009 at State Coroners Court, Glebe

### **Report Delivered:**

16 February 2010 at State Coroners Court, Glebe.

### **Coroner:**

Magistrate P. MacMahon  
NSW Deputy State Coroner  
State Coroner's Court,  
44-46 Parramatta Road,  
Glebe. N.S.W 2037.

**Finding made in accordance with Section 89(1) Coroners Act 2009:**

Shannon Abby-Rose Rankin (born 22 July 1994) died on 25 March 2006 at 14-18 Head Street Forster. The cause of her death was drowning which occurred following her becoming entrapped on the cover of the main drain of the spa pool within the Apartment complex known as the *Sevan Apartments*. Her entrapment was due to the significant pressure that resulted from a blockage in the main drain that occurred during the process of the pebblecreting of the wall and floor of the spa pool during its construction.

**Recommendations made in accordance with Section 82 Coroners Act 2009:**

To the Minister for Fair Trading or such other Minister with responsibility for the regulation of the design and construction of pools and spa's in NSW:

1. That action is taken to prohibit the inclusion of an active main filter drain to in the floor of spa pools in future constructions, and
2. That media action be taken to inform the public as to the potential dangers associated with active main filter drains in the floor of spa pools.
3. That action is taken to require the certification of pools and spa's as being in compliance with statutory and other building requirements as well as being safe for proposed use by an appropriately qualified and independent expert prior to the pool or spa being handed over for use by occupants of the property on which the pool or spa is constructed.
4. That action be taken to ensure that where a pool and/or spa forms part of a property development an occupation certificate not be issued by the relevant Principal Certifying Authority unless and until that Authority has satisfied himself or herself that the pool and or spa has been constructed in accordance relevant statutory and other building requirements and is safe for proposed use.

## **Introduction:**

In March 2006 Shannon Abby-Rose Rankin (born 22 July 1994) was a gregarious eleven year old living in Forster on the mid north coast of New South Wales. She was one of three children of David and Donna Rankin.

Shannon was in the final year of her primary schooling, she loved swimming and surfing and was described as being rarely out of her swimmers. She was also described as being gentle, kind hearted, and funny with a quirky sense of humour. She had many friends and was loved and respected by her schoolmates and teachers. Shannon had her life before her.

On Saturday 25 March 2006 Shannon had attended selection trials for representative netball for the Great Lakes region after which she had lunch with her father and her friend, Madeline Barlow-Smith (Maddie). Shannon and Maddie then went to have a swim in the pool at the *Sevan Apartments* 14-18 Head Street Forster.

The Rankin family were very familiar with the *Sevan Apartments*. They were built on land that had been owned by Mrs Rankin's father, they were being sold by the real estate firm in which Mr Rankin had an interest and the onsite management rights had been bought by a company in which Mr and Mrs Rankin had an interest. The apartments had recently been completed and Shannon had swum there once or twice a week since it opened in December 2005.

At about 3.05pm witnesses at the apartment heard screaming from the pool area. Shannon was found to be lying on the bottom of the spa pool. Various people entered the spa and tried remove Shannon from the water but were unable to do so. It was found that Shannon's stomach was sucked into the spa filter at the centre of the spa floor. Water was removed from the spa and once this reached a depth of about 50cm pressure was reduced sufficiently to allow Shannon to be removed.

Following Shannon's removal from the water ambulance officers provided CPR and other support. She was then transported to the Cape Hawks Private Hospital where the management of her care was taken over by Dr Andrew Donohue, a senior medical resident in anaesthesia & intensive care medicine, who was the duty retrieval doctor for the Hunter New England Critical Care Retrieval Service. The retrieval flight was on route to the Manning Base Hospital at Taree but was redirected to attend to the care of Shannon.

On assuming her care Dr Donohue found that an ECG showed Shannon to be asystole. Dr Donohue undertook a number of procedures in an attempt to revive Shannon to no effect. It was then decided to airlift Shannon to the John Hunter Hospital at Newcastle. It was agreed that Mr Rankin would travel with Shannon. During the flight active resuscitation attempts were continued however there was no return to spontaneous circulation.

Some twenty minutes into the flight Mr Rankin, who had been observing the efforts of the medical staff to revive Shannon, took a very courageous, and no doubt painful, decision. He asked Dr Donohue to cease attempts at resuscitation stating:

*" I know you are just doing this for me. I want you to stop, I know she wouldn't want this."*

Resuscitation attempts were then ceased. Shannon remained pulseless, apnoeic and the ECG showed her to be asystolic. Dr Donohue certified her as being deceased at 4.20pm.

Shannon's death was a tragedy for her family and friends. The tragedy of her death was magnified by the fact that her death was avoidable.

## **Jurisdiction and Function of the Coroner:**

Section 81, Coroners Act 2009 sets out the primary function of the Coroner. That section, in summary, provides that at the conclusion of an Inquest the Coroner is required to establish, should sufficient evidence be available, the fact that a person has died, the identity of that person, the date and place of their death and the cause and manner thereof.

Section 82 of the Act provides that a Coroner conducting an inquest may also make such recommendations, as he or she considers necessary or desirable, in relation to any matter connected with the death with which the inquest is concerned. The making of recommendations are discretionary and relate usually, but not necessarily only, to matters of public health, public safety or the conduct of services provided by public instrumentalities. In this way coronial proceedings can be forward looking, aiming to prevent future deaths. It is not the role of the Coroner to attribute blame.

Section 78 (1)(b) of the Act relates to the situation where before or during an inquest the coroner forms the opinion that:

- (i) The evidence is capable of satisfying a jury beyond reasonable doubt that a known person has committed an indictable offence, and
- (ii) There is a reasonable prospect that a jury would convict the known person of the indictable offence, and
- (iii) The indictable offence would raise the issue of whether the known person caused the death...with which the inquest is concerned.

Where the requirements of the section are met the coroner is required to suspend the inquest and refer the available evidence to the Director of Public Prosecutions and advise the Director of the identity of the known person and the particulars of the indictable offence.

During the course of this inquest some of those granted leave to appear gave consideration to the applicability of section 78 (1)(b) to the evidence available. Following that consideration no party made a submission that the evidence

available required me to suspend the inquest and make a referral to the Director of Public Prosecutions in respect of any known person. The decision to suspend and refer is, however, a statutory obligation of the coroner conducting an inquest. As such I am required to undertake a similar consideration of the evidence available. Having reviewed the evidence available it is also my opinion that section 78(1)(b) has not been activated in this case.

### **Identity, Date and Place of Death and Cause of Death:**

Shannon's identity and the date and place of her death were not in contention. The evidence established that Shannon died on 25 March 2006. I am also satisfied that the evidence is that, despite the valiant attempts by those who came to her rescue, the ambulance officers and Dr Donohue and his team, it is more likely than not that Shannon had died prior to her leaving the *Sevan Apartments*, as such, I am satisfied that the place of her death was 14-18 Head Street Forster.

Following Shannon's death Dr K. Lee a Senior Specialist Forensic Pathologist from the Department of forensic medicine at Newcastle undertook a post-mortem examination. Dr Lee found that the cause of Shannon's death was drowning following entrapment and that there was no evidence of any underlying disease process that could have contributed to the incident that caused Shannon's death. Dr Lee's conclusions are completely consistent with the factual evidence in this matter and I accept his recommendation as to the cause of Shannon's death.

### **What happened on 25 March 2006?**

The events in the spa pool on the afternoon of 25 March 2006 were not in doubt. CCTV cameras captured those events. The recording of the CCTV was an exhibit in the proceedings. The publication of the images contained in the recording was prohibited during the Inquest and, for the reasons that I gave at the time I made

the non-publication order, I continue the prohibition of the publication of those images in accordance with Section 74(1)(b) of the Act.

It is not necessary to review the events recorded other than to note that Shannon and Maddie were obviously enjoying themselves in the pool and then in the spa. At various times they are seen to be, what has been described as, "duck diving." This involved diving under the water and then coming to the surface. A person (Shannon) is seen to dive under the water and not come up. The other person (Maddie) is seen to try and help her. Shortly after witnesses arrive and jump into the spa and are seen to be trying to free the person trapped. It all happened very quickly.

The evidence of the various witnesses was that they heard screaming from the pool area. When they arrived they found a young girl on the bottom of the spa and were unable to remove her until the water level was significantly reduced. When Shannon was removed she was found to have "*a large circular haematoma on her anterior abdomen.*" It was clear from the evidence of those who came to Shannon's rescue that she was unable to be released because she had become attached to a filtering drain in the floor of the spa. The shape and size of the cover of the drain was similar to the shape and size of the "*large circular haematoma*" that was subsequently found on Shannon's abdomen. I am satisfied that the entrapment of Shannon on the outlet of the spa filter caused the haematoma that was found on Shannon's abdomen.

While it was clear that Shannon died as a result of becoming attached to the filter drain it was essential to discover why this occurred. A detailed examination of the spa was therefore conducted in order to find out how and why it was that Shannon become entrapped.

On 30 March 2006 Mr Phil Targett; a consulting civil and structural engineer conducted an inspection of the spa pool, its equipment and its operating characteristics. Mr Targett provided a report dated 26 April 2006 in which he expressed the opinion:

*"I have reached the conclusion that the main cause of the spa fatality was the basic non compliance with the installation with the Australian Standards and industry guidelines, specifically:*

- 1. The absence of an approved dual suction system on both spa pumps*
- 2. The use of a non-complying active main drain without a secondary suction point and a vacuum relief device.*

*In addition the installation of an emergency stop switch for the spa pumps and alarm may have avoided the fatality.*

*Quite simply the active main drain concentrated all suction to the centre of the spa that was exposed for a person to potentially cover that fitting and being forcefully attached to the base of the spa.*

*I note that only the one pump was operating and was responsible for the fatality. The increased suction of the second pump, which occurs when the spa jet button is pressed, substantially increases the hazard.*

*The purpose of the 'blocked' spa wall pipe '3' and the active main drain pipe '2' is unknown. Had either or both pipes been linked to the suction system the spa pumping would still not comply with the standards and would still have presented an extremely dangerous facility. Demolition of portion of the spa would be required to determine the purpose of these pipes.*

*The designer, the builder and the approval and certification authorities would all appear to have been unaware of the lack of compliance of the spa plumbing system."*

On 31 March 2006 Senior Constable David Trauntner, from the Police Rescue and Bomb Unit, examined the spa and its plumbing. Senior Constable Trauntner is a licensed as a plumber, drainer, gasfitter and LP gasfitter. He was also authorised to undertake electrical work that was associated with the connection and disconnection of electrical appliances relating to the plumbing trade.

Following S/C Trauntner's examination he formed the opinion that the spa at the *Sevan apartments* would need:

*"More than one functioning flow line to the filter and booster pump and that one or more of the flow lines to the spa were blocked".*

The initial examination by S/C Trauntner, and the receipt Mr. Targett's report, resulted in the decision to excavate the filter pipes of the spa pool. This occurred on 18 September 2006 under the direction of Mr. Targett and in the presence of S/C Trauntner and other police officers.

On 3 October 2006 Mr Targett provided a further report of his findings. He recorded that in the vertical pipe below the main drain of the spa pool there was found, in descending order:

*“Soft reconstituted cement slurry, solid cement, a mixture of pebble blue chip and cement, sand and dirt and finally reconstituted cement slurry.”*

As a result of this the main drain was completely blocked. Mr Targett estimated that the size of the blockage was at least 200mm in length.

Mr Targett described the effect of this blockage as follows:

*“Quite simply the active main drain concentrated all suction to the centre of the spa that was exposed for a person to potentially cover that fitting and being forcefully attached at the base of the spa. Detailed vacuum testing of the installation revealed a suction pressure of -88Kpa at the main drain. Completely covering the main drain would result in a suction force onto the drain of approximately 350kg.”*

This is consistent with what happened to Shannon on 25 March 2006. Whilst duck diving in the spa pool Shannon must have come into contact with, and apparently covered, the active main drain in the bottom of the spa. She became attached to the main drain due to the 350 kg of pressure that was applied to her. Because of the enormous pressure she was unable, and those who sought to free her were unable, to remove herself from the drain. The removal of the water from the spa had the effect of reducing the pressure and allowing the vacuum seal that had developed to be broken. By then Shannon had been under water for an extended period of time and it was too late to revive her.

I accept the evidence of Mr Targett on this point. The consequence of this is that the active main drain in the spa pool was clearly a danger to anyone who came into contact with it. Indeed, given the 350kg pressure, it is unlikely that an adult caught in the way that Shannon was entrapped would have been able to extricate him or herself from it.

### **Issues for Inquest:**

The *Sevan Apartments* had opened in December 2005 and Shannon became entrapped on 25 March 2006. The active main drain of the spa was clearly a danger to anyone who used the spa. How was it that such a dangerous situation could have existed so soon after the apartments opened? The evidence taken at inquest sought to identify what caused the danger, how long it had existed, why it had not been identified prior to the building being opened, whether there were any system failures that resulted in the danger not being identified and what, if any, recommendations ought be made pursuant to Section 82, Coroners Act with a view to ensuring that such a tragedy did not happen again.

### **History of the Development:**

In 2001 Sepan Stepanian arranged for the purchase of the site in Head Street Forster by a company of which he was sole director. That company came to be known as Velkon Developments Pty Ltd. Architects were appointed to prepare the design for a ten story block of thirty seven apartments together with a pool and spa. On 25 February 2003 the Great Lakes Shire Council approved the plans and granted Development Consent for the construction of a 10 story residential development including associated basement, car park, swimming pool and spa. Mr Stepanian's company appointed Parkline Constructions Pty Ltd as builder.

At various stages such works are required to be inspected for compliance with development and building approval requirements and building standards. Construction cannot commence without the issuing of a Construction Certificate.

The issue of a Construction Certificate, and the periodic inspection of the work, is undertaken either by the Local Government Authority granting the Development Approval or by a Private Certifying Authority. In the case of the *Sevan Apartments* an application was made on 26 June 2003 to Mr Saeid Askarian for the issue of a Construction Certificate. Mr Askarian was an accredited Certifier under the then Environmental Planning and Assessment Act 1979 (now the

Building Professionals Act 2005). Mr Askarian issued the Construction Certificate on 1 April 2004.

Mr Askarian appointed Mr Valerio Lilli, of DLM Certifications Pty Ltd, to undertake the function of Principal Certifying Authority with respect to the project. On 20 April 2004 a “Notice of Commencement of Building Works and Appointment of Principal Certifying Authority” was sent to Great lakes Shire Council.

The appointment of a Private Certifying Authority for the project meant that the Great Lakes Shire Council, although it was the Local Government Authority that issued the Development Approval, had no further involvement in the regulation of the work associated with the project.

During the course of construction the Principal Certifying Authority is required to ensure that the building ‘as built’ is in accordance with the Development Consent, the Construction Certificate and the Building Code of Australia. The final stage of the construction is the issue of an occupation certificate. The Principal Certifying Authority issues the certificate and certifies that they are satisfied the building is in accordance with the Development Consent and is suitable for occupation in accordance with its classification under the Building Code of Australia.

The Principal Certifying Authority can satisfy themselves by either, inspections undertaken during construction and/or by obtaining certification from the relevant engineers, tradesmen or contractors. There is, however, no requirement for the Principal Certifying Authority to obtain certification from the builder of a swimming pool and/or spa of the kind that was constructed at the *Sevan Apartments*.

Parkline, as builder appointed to complete the project, did not, in fact, provide any builders for the project. Sub-contractors, selected by tender, completed all building works. The project manager, employed by Parkline, supervised the

completion of the work. At the relevant time the project manager was Haissem (Sam) Jideh.

In the middle of 2005 Parkline, as it had done with the other components of the project, put the construction of the pool and spa to tender. A1 Pools and Spas, a local company based in Tuncurry of which Mr Les Eakin was the principal, was successful in obtaining the contract. A1 Pools and Spas were subsequently contracted to design, supply and install a concrete pool and spa in the area allocated on the site plan. Because A1 Pools and Spas was to design the pool it prepared a scope of works that was then attached to the Parkline sub-contractor agreement. The agreement to construct the pool and spa was signed on 15 June 2005 and provided for the completion of the pool and spa by 21 September 2005.

The contract between Parkline and A1 Pools and Spas contained statutory warranties that the work would be performed in a proper and workmanlike manner in accordance with the plans and specifications set out in the contract, that the work would be done in accordance with, and would comply with, applicable laws and that the work and any materials used would be reasonably fit for the specified purpose.

Although A1 Pool & Spas were responsible for the design of the pool, spa and the associated plumbing and filtration works it did not undertake all of the construction. A1 Pool & Spas sub-contracted the excavation, the spraying of the concrete and the application of the pebblecrete finish.

A building under construction may not be occupied unless the Principal Certifying Authority issues an Occupation Certificate. On 12 December 2005 Parkline applied for the issue of a certificate. Prior to that date on 24 November 2005 and 8 December 2005 Mr Lilli had undertaken a number of preliminary inspections of the building. With regards to the pool and spa he had identified a number of issues that requires rectification including the completion of the glazing of the gate, the rectification of the corners of the fencing to ensure that

the gaps were less than 100mm, the raising of the side fence to 1200mm on the south west corner to prevent climbing and the installation of resuscitation chart and pool depth markers. In an inspection report dated 8 December 2005 he required that these matters be rectified prior to an occupancy certificate being issued. He did not, however, undertake an inspection of the pool and spa to determine if it was safe for use. He was not, it seems, required to do so.

Mr Lilli issued the Final Occupation Certificate on 15 December 2005. Following the issue of the Occupation Certificate the developer was able to conclude the contracts of sale for the apartments in the building that had been sold and occupation and use of them by the owners took place. A considerable number of apartments had, in fact, been let for the summer vacation period to people for their holidays. It was after this that Shannon commenced using the pool and spa.

### **What caused the blockage?**

Sub-contractors undertook the building work associated with the construction of the pool and spa following the 'forming up' of the project and the installation of the required plumbing which was done by Les Eakin or employees of A1 Pools & Spas. Pebble Pave Pool Interiors Pty Ltd undertook the pebblecreting work on the pool at the *Sevan Apartments*. The evidence at the inquest was that it was recognised problems could arise during the concreting and pebblecreting stages if such material was allowed to enter the plumbing. As a result it was common practice for the open ends of pipes to be blocked by various material, such as bungs, sponge, cardboard or whatever other material was available, in order to prevent the entry of material into the pipes. Photographs exhibited at the inquest of the pool and spa during construction show the use of such material.

Evidence was also given at the inquest that it was the practice at the end of the concreting and pebblecreting work to test the pipes to ensure that no material had entered the plumbing. It was suggested that a hose was placed in each pipe and water sent through the pipe. If water emerged from the other end of the pipe it was thought to confirm that there was no material in the pipe causing a

blockage. If it did not then presumably the matter would be further investigated. Several witnesses at the inquest gave evidence of such tests being undertaken in the building of the pool and spa at the *Sevan Apartments*.

In this case however there is no doubt that there was a blockage in the vertical pipe below the main drain of the spa pool. That blockage was comprised of material that was consistent with, and I am satisfied was, material of the type that was used during the pebblecreting stage of construction. I am satisfied that the only reasonable conclusion available is that the material that constituted the blockage entered the pipe during the pebblecreting of the spa. That was only possible if the entry to the main drain was open, or substantially open, at the relevant time. I am satisfied that it was.

The evidence given at inquest was that the pebblecreting of the pool and spa occurred in the following way:

- The concrete shell is cleaned with a pressure cleaner in preparation for the pebblecrete application,
- Pebblecrete is mixed on the scene and applied to a depth of about 10mm to the interior surface using a trowel,
- Sponges or other blocking material are removed from pipe ends after the pebblecrete has started to dry,
- Surface is pressure cleaned using a high-pressure water source (Gerni) to remove the grey coloured concrete surface and expose the coloured pebble. (The grey coloured concrete forms slurry when washed off and mixed with water),
- The concrete slurry washed from the surface collects in the lowest part of the pool or spa and is then removed by a submersible pump,
- Once dry the exposed pebblecrete surface is subjected to an acid wash which is applied with a watering can and broom to remove cement film from the pebblecrete surface
- The pool and spa is then filled with water.

Mr Targett on his examination of the vertical pipe below the main drain found that the blockage consisted of a number of layers. He described these in descending order as being:

*“Soft reconstituted cement slurry, solid cement, a mixture of pebble blue chip and cement, sand and dirt and finally reconstituted cement slurry”*

It can be seen from this summary that the material that constituted the blockage found in the pipe below the main drain of the spa was consistent with what might be expected if the various waste material produced during the pebblecreting process was allowed to enter the drain. Because of the various layers of material that have settled at different times the drain must have been open throughout the process. I am satisfied that the main drain at the bottom of the spa could not have been blocked to prevent the waste concrete and other material entering it. I am satisfied that such material was allowed to enter the plumbing where it settled and solidified causing the blockage found by Mr Targett.

The blockage was thus caused by the contractors undertaking the pebblecreting work failing to abide by the procedures that they say they follow to prevent such problems. As to whether or not there was ever any material placed in the drain to prevent entry of waste material or whether material was placed in the drain and became dislodged is now impossible for me to determine however if at any stage there was an attempt to block the drain that attempt failed at an early stage and material was allowed to enter the drain at various stages of the pebblecreting process with the resulting layers of material causing the blockage that was subsequently located.

### **When did the spa become dangerous?**

Because of the blocked main drain the spa was inherently dangerous from the time of its construction however the pool and spa at the *Sevan Apartments* were operating for some three months prior to the tragic events of 25 March 2006. The spa was clearly dangerous on 25 March 2006. Was it actually dangerous

from the time that it was handed over to the builder by A1 Pools & Spas or did the actual danger emerge at a later date?

The design of the spa pool provides for a filtering system separate to that of the pool together with a facility that allows for jets of water to be forced from the walls of the spa. An independent motor operates each of these. The CCTV footage of the day shows that at the relevant time the spa-jet facility was not operating. The motor that was used to operate the spa filter system caused the suction pressure that entrapped Shannon. The blockage that was found in the pipes below the main drain of the spa was there from the time of the completion of the spa. Was it just good fortune that no one had been entrapped prior to 25 March 2006 or did the danger become manifest at a time later than the date of handover in December 2005? I am satisfied that the danger became effective at a later date.

The inherent danger of the spa caused by the blocked drain became effective when the spa filter became operational. This did not finally occur until a heat pump was installed for the spa filter. There was a dispute as to whether or not the provision and installation of such a pump was part of the contract entered into by A1 Pools & Spas. As a result at the time the pool and spa was handed over the spa filter was not operational. The filtering of the spa water was thus initially undertaken through the pool filtering system. There was thus no water being drawn from the spa's main drain and the existence of the blockage had no consequence.

In late February 2006 or early March 2006 however the water heater was plumbed into the spa filter system by an employee of A1 Pools & Spas and on 20 and 21 March 2006 Stowe Australia, who had the electrical contract for the Sevan Apartments, were contracted to install the electrical wiring for the water heater attached to the Spa filtration system and pump. I am therefore satisfied that after 21 March 2006 when the spa's separate filtering system was used the danger that was inherent from the blocked main filtering drain in the spa became actual after the electrical work for the installation of the spa filtering heat pump

was completed. If Shannon and Maddie were not the first users of the spa after the danger became actual; they were certainly one of the first.

### **Could Shannon's death have been prevented?**

The simple answer to this question is clearly yes. The fact that she was able to use a facility that was from the beginning inherently dangerous and certainly from about 21 March 2006 actually dangerous can be attributed to the actual failure of some and the failure on the part of others to take the opportunities available to them to discover the danger that, if acted on, might have identified the danger and thus prevented Shannon's death.

Before I embark on an analysis of the matters that contributed to Shannon's death I should indicate from the outset that it is my view that there was no credible evidence presented at the inquest to suggest any person or persons had actual knowledge of the danger that existed in the spa at the *Sevan Apartments* prior to 25 March 2006.

### **Pebble Pave Pool Interior Pty Ltd**

Pebble Pave Pool Interiors Pty Ltd contributed to the circumstances that resulted in Shannon's death in their failure to undertake the pebblecreting work on the spa in a manner that would prevent the waste material from the pebblecreting process entering the main drain of the spa where it solidified and caused the blockage. I am satisfied that the danger of blockages in the plumbing occurring was a recognised danger of the pebblecreting process and that there were known systems reasonably available to prevent such dangers. I am satisfied that the failure of the company and its employees to effectively use such systems resulted in the blockage occurring. I am also satisfied that following the completion of the pebblecreting process no, or no effective, testing of the plumbing was undertaken to ensure that waste material that could cause a blockage in the plumbing was undertaken by the company.

## **A1 Pools & Spas**

A1 Pools & Spas was the company responsible for the design and construction of the pool and spa at the *Sevan Apartments*. Employees of the company undertook the design, installed the plumbing and managed the various sub-contractors that were employed to undertake the work necessary to complete the project. When the project was completed it was A1 Pools & Spas that handed the completed project over to Parkland.

A1 Pools & Spas actions, or inactions, contributed to Shannon's death in a number of ways:

- In the design of the spa by the inclusion of an active main drain in the spa pool at the *Sevan Apartments*,
- In failing to adequately ensure that the spa was safe for use prior to handing it over to Parkline, and
- In failing to adequately respond to concerns as to the safety of the spa that were raised following the commencement of use of the spa.

### **Design:**

The installation of an active main drain in the spa at the *Sevan Apartments* contributed to Shannon's death by making it more difficult for her to be freed once she had become attached to the drain due to the suction caused by the blockage of the pipe below the drain. The evidence available at the inquest was that an active main drain in the bottom of a spa was unusual although not unknown. It is, and I accept that it is the case, that in a spa it is more common to locate the outlets through which water is sucked into the filter in the wall of the spa. There was no explanation as to why the main filter drain was placed in the floor of the spa pool at the *Sevan Apartments*. In a spa the size of that at the *Sevan Apartments* it is necessary for there to be two such outlets and they must be set

no closer than 600mm apart so that if one outlet becomes blocked the other is available for use by the filter. This is to prevent items such as hair and other such material becoming entrapped.

Were a blockage to occur where the filter suction outlet was in the wall of the spa it would be possible that the victim, although entrapped, would not necessarily be under the water and would therefore have more time to free themselves or be freed by others. In Shannon's case this was not the case. She was trapped on the bottom of the spa and the time available to free her was extremely limited. The design decision that located the main drain in the floor of the spa was a decision that contributed to Shannon's death. On the evidence available there was and is no good reason for the location of an active main drain in the floor of a spa pool. Its existence could indeed result in builders being tempted to use it for the disposal of waste material from the building process. I am satisfied that the location of such drains in the base of a spa is inherently dangerous and I propose to make a recommendation, in accordance with Section 82 of the Coroners Act 2009, that action be taken to prohibit the inclusion of active main drains in the floor of spa pools.

#### **Assessment of Safety:**

A1 Pools & Spas was the company that received the contract for the design and construction of the pool and spa at the *Sevan Apartments*. It handed the project over to the builder in late 2005. On handover the evidence was that employees of A1 Pools & Spas gave the building manager instruction as to the operation of the pool and spa and the maintenance of the water quality within the pool. No evidence was available that there was any comprehensive examination of the project to ensure that it was safe for use, in particular there was no examination of the plumbing system to ensure that there were no blockages that might affect its operation. Although A1 Pools & Spas was seen by Parkline as being a self-certifier as to the quality, suitability and conformity with statutory obligations of the work there was no system in place, and apparently no examination was conducted, to ensure that this was in fact the case. As a result the project was

handed over by A1 Pools & Spas, and accepted by Parkline, without any assessment on their own part and without any independent assessment being requested. I consider that the concept of self-assessment is one that is fraught with difficulties and is inappropriate within the pool construction industry. In this case the failure to assess the spa for safety before handover contributed directly to Shannon's death. I propose to make a recommendation pursuant to Section 82, Coroners Act 2009, that prior to a pool builder handing over pool and spa to a customer they be required to have the project independently assessed to ensure that the pool and spa complies with all statutory obligations and is safe for its intended use. I also propose to recommend that the inherent danger of such filtration systems where these currently exist be communicated to the public.

#### **Response to Concerns:**

In May 2003 Heather Elliott exchanged contracts to purchase apartment 603 with in the *Sevan Apartments*. In December 2005 her solicitor received a notice that required her to complete the purchase in January 2006. Her solicitor suggested that she obtain a pre-purchase building report and suggested that she engage Ken Collins of Integral Building Investigations to prepare the report. Acting on Ms Elliott's instructions on 12 January 2006 Mr Collins undertook a preliminary building inspection of the apartment and the common areas. Having done so Mr Collins recommended that Ms Elliott commission him to undertake a more detailed examination of the common areas of the building including the pool area. Ms Elliott agreed. Mr Collins undertook a detailed inspection on 13 January 2006 and produced a report for Ms Elliott dated 17 January 2006. This report was provided to Ms Elliott on 19 January 2006.

Mr Collins identified for Ms Elliott a number of defects in the apartment that she was contracted to purchase as well as the common property of the building. The defects identified in the pool and spa area of the common property are relevant to these proceedings.

When examining the filtering system relating to the spa on 13 January 2006 Mr Collins observed that:

*“There were two pumps connected to the spa. One was a simple circulatory pump which was not attached to the filter but to pipes drawing from the spa and returning water via the spa jets.*

*The other was a pump associated with the spa filter which would draw water through a pipe directly from the spa, push it through the spa filter thence back to the spa via a second pipe.*

*I noted that the spa filter pipe work was not yet connected to an adjacent heater and therefore the spa filter had probably not yet been commissioned. Neither the spa jet pump nor the spa filter pump were operating at the time”*

Of relevance to safety Mr Collins in his report of 17 January 2006 expressed the opinion that:

*“4.00 Safety*

*AS 2601.1 at Clause 2.19 requires the following safety measures to be implemented.*

- (i) Depth markers as prescribed by the standard*
- (ii) Provide handrails at entry points*
- (iii) Safety notices listing*
  - *Location of nearest telephone & emergency numbers*
  - *Resuscitation instruction chart*
  - *A cautionary sign containing recommendations for use of the spa*

*Clause 2.8 requires an emergency stop switch alarm device to be fitted in close proximity to the spa and be suitably labelled to indicate its purpose*

***None of these safety requirements currently exist.***

*5.00 Pump outlets*

*There are currently two pumps drawing water from the spa. One circulates through the filter. The other is a jet booster pump.*

*AS 2610.1-1993 Clause 2.10 requires that each pump must be connected to at least two outlets from the spa by means of a common line. No two outlets connecting to a common line shall be closer together than 600mm and each must be fitted with safety outlet covers. Given the capacity of the jet booster pump more than two outlets may be required.*

*The spa as constructed has only 2 outlets from which both pumps draw water. It is essential that at least two more outlets be installed to comply*

*with safety requirements. This may prove to be a monumentally difficult task given the need to access around the outer edge of the shell for re-manifolding purposes.*

*The Spa*

*1.00 Heating*

*1.01 No heating is currently fitted to the spa. There is a heat pump adjacent to the equipment but it is not operational.”*

The numerous issues that Mr Collin’s report raised resulted, as one might expect, in extensive correspondence between Ms Elliott and her solicitors, the developer and the builder. The report questions the compliance of the pool and spa as well as the safety of the pool and spa. It does not however identify the blockage in the pipe below the main drain of the spa that was to result in the circumstances giving rise to Shannon’s death. Mr Collins did not undertake the tests that would have disclosed the blockage.

I cannot be satisfied that A1 Pools & Spas, or any of its employees, received a copy of the report prepared by Mr Collins however the general issues of compliance that it raised were, I am satisfied, brought to the attention of Mr Eakin. I am satisfied that in late February or early March 2006 Mr Stepanain, as developer, had a conversation with Mr Eakin in which he was asked whether or not the pool and spa complied with the various building and other statutory requirements. I am also satisfied Mr Eakin assured Mr Stepanain that it did. There does not, however, appear to be any evidence that Mr Eakin, or anyone on behalf of A1 Pools & Spas, took any action to confirm that the assurance given was correct.

In addition there were a number of events associated with the spa, which individually were perhaps of minor consequence but together, ought to have suggested to Mr Eakin that the operation of the spa should have been examined in more detail. Those events were:

- The need to replace the broken main drain cover on 26 January 2006,
- The need to replace the broken main drain cover again on 13 February 2006, and

- The development of a vortex in the spa in either late February 2006 or early March 2006.

The breaking of the main drain covers did not, itself, suggest that there was a likely blockage in the main drain however the development of the vortex, which appears to have commenced at about the time the plumbing of the spa filter occurred was, in hindsight, more worrying. The evidence available is that Mr Eakin suggested that firstly the spa jets be adjusted and then that the spa filter not be used until the heater was connected. I accept this evidence. This meant that the spa filter was not then used until after 21 March 2006 as previously discussed.

On the evidence available I am not able to conclude whether or not the vortex was caused by the blockage however it is certainly a possibility that it might have. No serious investigation, or indeed any investigation at all, appears to have been undertaken to determine the cause. This was thus another opportunity that, if taken, might have resulted in the discovery of the blockage and thus the prevention of Shannon's tragic death.

### **Saeid Askarian and Valerio Lilli.**

As outlined above Mr Askarian was the Private Certifying Authority who issued the Construction Certificate and Mr Lilli was the Principal Certifying Authority who issued the Occupation Certificate. Mr Askarian did not ever visit the site. Mr Lilli did not undertake an independent assessment of the compliance of the pool with the various statutory requirements nor its safety. The evidence available at the inquest was that this was not a part of the function of the Certifying Authority. I accept that this was the case.

In the construction of a project such as the *Sevan Apartments* there are numerous aspects of the construction that relate to the safety of those who are to eventually occupy or use the amenities of the building. For the grant of the Certificate of Occupation each such item is required to be certified as being

compliant with the relevant building standards and safe for purpose. In many, if not all cases, such certification is required to be undertaken by an expert who is independent of the party that built or installed the item. It would seem to be an aberration that such a requirement does not apply to a swimming pool and spa. It would also appear to be an aberration that the Occupation Certificate can be issued and the pool and spa used by the occupants without such certification. In the circumstances I propose to make a recommendation pursuant to Section 82 that where a pool and spa are part of a development the Occupation certificate for the project not be issued until such certification is provided.

### **The Building Managers, the Strata Manager and the Owners Corporation.**

During the course of the inquest there was some concern as to whether or not the existence of what has been described as the “Collins Report” and the dissemination of parts of that report might have placed an obligation on the Building Managers, the Strata Manager or the Owners Corporation to take some action that had it been taken might have resulted in the discovery of the danger and thus saved Shannon’s life.

The evidence was that Mrs Elliott had paid a substantial amount of money for her report. She wished to recover some of that money and no doubt hoped that other owners, or the Owners Corporation itself, would assist her as such. The matter was raised at the first General Meeting of the Owners Corporation as an item and it was subsequently decided that the Owners Corporation would engage its own expert to examine the building and provide advice as to defects and other compliance issues.

An examination of the “Collins Report” makes it clear that although Mr Collins raises concerns as to matters relating to the compliance and safety of the pool and spa the matter that resulted in Shannon’s death was not identified. There was nothing in Mr Collins’ report that would suggest that the pool or spa was actually unsafe for use. Mr Collins certainly indicated that there were potential safety issues but did not suggest that it was actually unsafe. In those

circumstances the decision of the Owners to commission their own report appears, in my view, to have been an appropriate and timely response to the matters raised by Mr Collins.

### **Great Lakes Council.**

On 12 January 2006 Mr Collins contacted Simone Sheppard the Environmental Officer, Great Lakes Council by phone. On 23 January 2006 Mr Collins forwarded a copy of parts of his report to her. On 7 February 2006 Ms Elliott attended the Council offices and spoke to Ms Sheppard. Following these discussions on 2 March 2006 Ms Sheppard undertook an inspection of the pool and spa area of the *Sevan Apartments* in accordance with her powers under the Public Health Act to ensure that the facility met the requirements of the NSW Health Public Swimming Pool & Spa Pool Guidelines, June 1996. As a result of her inspection on 15 March 2006 she ordered that certain work be undertaken to comply with the Guidelines and in addition recommended that an emergency stop switch be installed in the spa.

Ms Sheppard did not undertake an examination of the operation of the pool filter function system and as such did not undertake any examination that would have been likely to identify the blockage in the main drain of the Spa. Indeed Ms Sheppard was not qualified to undertake such an inspection, she was an environmental officer, nor did she have the authority to do so as an officer of the Council once a Private Certifying Authority was appointed. I am satisfied that in the circumstances the Council and its officers took all reasonable steps within their power with regard to the construction of the pool and spa at the *Sevan Apartments* and no action or inaction on their part contributed to Shannon's death.

### **Developer and Builder.**

Velkon Developments Pty Ltd, controlled by Sepan Stepanian, was the developer of the *Sevan Apartments*, whilst Parkline Constructions Pty Ltd, controlled by Demitri Patetsos, was the builder. I am satisfied that both Mr Stepanian and Mr Patetsos became aware of the concerns raised by Mr Collins. This occurred as a result of disputes that arose during what is known as the defects stage of the development. It is common for contracts for the sale of properties within a new development to allow a period of time for buyers to give notice of defects that they have found to exist to their property and require rectification. This right applies equally to defects found to exist within the common property. This was why the Owners Corporation decided at the first general meeting to engage an expert to provide it with advice on this issue.

As has already been noted Mr Collins did not identify in his report the defect that led to the death of Shannon. I do not consider that any action or inaction on the part of either the developer or the builder contributed to Shannon's death.

### **Education:**

During the course of the inquest evidence was led as to the training of persons engaged in the construction of swimming pools and spa's. That training is designed for persons at every stage of the process from the design phase through to the construction phase. Relevant to the cause of Shannon's death there was amongst those who were involved a general understanding that a blockage in the filtration plumbing could be dangerous. In this case the blockage resulted from the failure to follow procedures that were said to be in place and understood. The failure was a failure to implement procedures that those involved were already trained to undertake and not a failure in the training as such. In the circumstances I do not consider it appropriate to make any recommendations concerning the training of pool and spa builders.

