SHERIFFDOM OF GLASGOW AND STRATHKELVIN AT GLASGOW

[2018] FAI 3

B953/16

DETERMINATION

BY

SHERIFF LINDA MARGARET RUXTON

UNDER THE FATAL ACCIDENTS AND SUDDEN DEATHS INQUIRY (SCOTLAND)

ACT 1976

into the death of

CIARAN JAMES WILLIAMSON

GLASGOW, 22 January 2018.

The Sheriff, having considered all the evidence adduced and submissions thereon, FINDS AND DETERMINES in terms of section 6(1) of the Fatal Accidents and Sudden Deaths Inquiry (Scotland) Act 1976 that:

(a) ***The time and place of death***

Ciaran James Williamson (Ciaran), born 15 March 2007, formerly of Flat 0/1, 120 Moss Heights Avenue, Glasgow, G52 2TZ died on 26 May 2015 shortly after 1900 hours in Craigton Cemetery, Berryknowes Road, Glasgow. His life was formally pronounced extinct at 1953 hours on that same day at the Royal Hospital for Sick Children, Yorkhill, Glasgow, G3 8SJ.

(b) ***The cause of death and of the accident resulting in the death***

1. The cause of his death was head and neck injuries consistent with blunt force trauma.

2. The cause of the accident which resulted in his death was the playful activity of children on a leaning memorial gravestone – the Ross memorial - within Craigton Cemetery during which play lateral forces sufficient to topple the Ross memorial were applied causing it to collapse whereby Ciaran was struck by the pediment section as the memorial fell to the ground.

(c) ***The reasonable precautions, if any, whereby the death and the accident resulting in the death might have been avoided***

1. The carrying out of repairs to the perimeter wall at Craigton Cemetery so that the convenient but unauthorised access point opposite the flats where Ciaran lived was sealed was a reasonable precaution whereby Ciaran's death and the accident resulting in his death might have been avoided.

2. A routine inspection of the Ross memorial incorporating the application of a hand test at various heights including at the height of the pediment in order to detect concerning movement would have been a reasonable precaution

whereby Ciaran's death and the accident which resulted in his death might have been avoided.

(d) ***The defects, if any, in an system of working which contributed to the death or any accident resulting in the death***

The absence of an active system of inspection to ensure the safety and stability of memorials in Glasgow cemeteries and, in particular, in Craigton Cemetery was a defect in Glasgow City Council's system of working which contributed to Ciaran's death and the accident resulting in his death**.**

(e) ***Any other facts which are relevant to the circumstances of the death***

1. There was confusion as to the proper interpretation of industry guidance on safety management within cemeteries and the methods of inspection of memorials to determine their stability and safety. The available guidance is unclear on a number of aspects including the appropriate test to be applied to large, heavy monuments such as the Ross memorial and the circumstances in which it is appropriate to apply the industry-recognised 25 kilogramme pressure test.

2. Large, heavy, multi-part memorials such as the Ross memorial present particular dangers to the public when they begin to shift from vertical and

lean towards the ground. There is a lack of clear advice to local authorities on how to test these moving structures.

3. There is an absence of Scottish guidance on safe cemetery management with particular reference to memorial safety.

These are matters which have significant implications for the safety of the public who visit cemeteries and all who work there.

Recommendations

1. I recommend that the Scottish Government issue separate guidance on memorial safety in cemeteries for use by local authorities throughout Scotland. Such guidance should include a category of advice on how to inspect large, traditional monuments such as the Ross memorial, as distinct from lawn memorials and other smaller structures. Given the potential danger posed by large *leaning* memorials, these should be given special attention and clear guidance issued as to the procedures for testing their safety and stability in order to assess whether there is concerning movement associated with such structures.

2. I recommend that Glasgow City Council reconsider their recent 2015 guidance on memorial inspection to take account of the issues raised in this Inquiry.

3. I recommend that consideration be given by the relevant agencies and associations that the existing industry guidance on memorial safety and stability testing be re-visited with a view to producing separate guidance on the inspection of traditional memorials and, in particular, those whose centres of gravity are shifting from the vertical.

Introduction and background

[1] This is an Inquiry in terms of section 1(1)(b) of the Sudden Deaths and Fatal Accidents Inquiry (Scotland) Act 1976 (the 1976 Act) where it appeared to the Lord Advocate that Ciaran's death occurred in circumstances that give rise to serious public concern. The Inquiry commenced on 7 November 2016. The public interest was represented by Ms Gail Adair, Senior Procurator Fiscal Depute. Miss Dorothy Bain, Q.C. and Mr Mark Gibson, solicitor, appeared on behalf of Ciaran's mother, Ms Stephanie Griffin. Ms Eilish Lindsay, solicitor, appeared on behalf of Ciaran's father, Mr Ryan Williamson. Mr Mark Stewart QC and Ms Emma Toner, Advocate, represented the City of Glasgow Council. The Inquiry proceeded over 18 days. There were lengthy breaks in the evidence to allow further expert investigation. Allowing for sufficient time for the transcription of the expert evidence, submissions were heard on 21 August 2017.

[2] The Inquiry heard evidence from 17 witnesses, five of whom were experts. A list of these witnesses is contained in the attached Annexation A.

[3] Evidence from four of Ciaran's young friends who had been with him when the accident occurred was received in the form of their police statements taken shortly after the accident and the video recordings of investigative interviews with them individually in April 2016. By agreement, the children were not called to give evidence in person.

[4] Parties presented three joint minutes of agreement of uncontroversial matters of fact. Affidavit evidence was also presented from Dr Gemma Kemp, Consultant Forensic Pathologist, University of Glasgow.

The scope and purpose of a fatal accident inquiry

[5] Fatal accident inquiries are statutory proceedings. Although there is now new legislation governing fatal accident inquiries in force, as Ciaran's death occurred in 2015 this Inquiry proceeded under the 1976 Act. A fatal accident inquiry (FAI) is a public inquiry into the circumstances of a death where, as here, these are considered by the Lord Advocate to give rise to serious public concern. The Procurator Fiscal has the responsibility of investigating the circumstances of a fatal accident and the duty to present evidence at the Inquiry.

[6] The primary purpose of an FAI is to give a public airing of the facts surrounding a death or fatal accident. This affords those with a direct interest, such as the family of the deceased, the chance to hear first-hand from witnesses and learn the full circumstances of the death as they are known. Those with a legitimate interest are able to participate in the proceedings and to question the witnesses, instruct their own experts and make submissions to the court. However, it must be appreciated that the inquiry proceeds in the general *public* interest, not in the interest of any private individual or organisation.

[7] For that reason, an FAI is not the place for matters of legal culpability to be explored and determined: the sheriff has no power to make a finding of fault or to apportion blame amongst persons who might have contributed to the accident. Questions of civil or criminal liability for a death are properly matters to be pursued privately in the civil courts or by public prosecution. Concepts such as duty of care, foreseeability and negligence have no place in an FAI. Significantly, section 6(3) of the Act sets out that the determination of the sheriff shall not be admissible in evidence or be founded on in any judicial proceedings, of whatever nature, arising out of the death or out of any accident resulting in the death. Such a prohibition is designed, in part, to encourage a full and open examination of the circumstances of a death in a setting where witness should feel free to give frank evidence in the spirit of the Inquiry, untroubled by concerns about it being used in any other proceedings. Thus an FAI is not an adversarial procedure. Rather, it is inquisitorial.

[8] However, the scope of an FAI extends beyond mere fact-finding. It aims to restore public confidence and allay public anxiety where the circumstances of the fatal accident have given rise to serious public concern. To that end, its focus is towards the future. Where possible, such an inquiry seeks to prevent future accidents and deaths occurring in similar circumstances.

[9] While the evidence led at an FAI may be fairly comprehensive in an effort fully to inform relevant parties, it does not follow that every matter explored should be included

in the sheriff's determination. Like an FAI, the sheriff's determination must be finite. Only those matters which properly fall under the provisions of sub-section 6(1) of the Act are relevant.

[10] At the conclusion of the evidence and having heard submissions thereon, in terms of subsection 6(1) the sheriff must determine

(a) where and when the death and any accident resulting in the death took place;

(b) the cause of such death and any accident resulting in the death;

(c) the reasonable precautions, if any, whereby the death and any accident resulting in the death might have been prevented;

(d) the defects, if any, in any system of working which contributed to the death or any accident resulting in the death; and

(e) any other facts which are relevant to the death.

The sheriff may also make recommendations if considered appropriate in the public interest.

[11] Findings under both headings (c) and (d), involve a two-stage process. In terms of section 6(1)(c), before a determination can be made the precaution must first be established to be a reasonable one. Then the second stage requires a finding that had the reasonable precaution been taken, the death or accident might have been avoided. For a determination under section 6(1)(d), it must first be established that there was a defect in the relevant system of working at the time of the accident. Thereafter it must be proved that there was a causal link between that defect and the death or accident in the sense that the defect contributed to the death or accident.

[12] The standard of proof that has to be met before material facts can be established in an FAI is the civil standard of proof on the balance of probabilities. The rules of civil procedure apply.

Ciaran

[13] Ciaran was born on 15 March 2007. He was 8 years old when he died. His parents are Stephanie Griffin and Ryan Williamson. Ciaran spent time with his father at weekends but lived with his mother and stepfather, Thomas McGee, at Flat 0/1, 120 Moss Heights Avenue, Glasgow G52 7TZ just across the road from Craigton Cemetery where the fatal accident occurred.

[14] Ciaran was a happy boy who was in primary three at Lourdes Primary School, Glasgow. He enjoyed school and playing with his friends, some of whom were his own age, some slightly older. He loved playing outside, doing stunts on his bike and playing football.

[15] The flat where he lived was on the ground floor and had a veranda and a bit of grass immediately outside. Ciaran usually played on the grassy area just across from that or in a place known as the "Triangle" at the bottom of the hill. His mother explained that she had imposed limits on where Ciaran was allowed to play: he could play only outside at the front of the house. If he wanted to play anywhere else, the rule was that he had to come in and ask for permission; for example, if he wanted to go to the Triangle or the nearby swing park.

[16] His mother told the Inquiry that he was not allowed to go into the cemetery across the road; he knew that it was off limits. This had been spoken about. Not long before the accident, possibly during the Easter holidays, some of the younger children of Ciaran's age were outside the flat on the veranda and were overheard talking about going up to the cemetery to see a den that some older boys had made. Ms Griffin told the children that they were not to go into the graveyard to see the den. Separately she spoke to Ciaran and warned him of some of the dangers about going there: that there might be strangers there and that he could hurt himself. Anyway, she told him, it was not respectful to go there and play.

[17] Ciaran generally heeded advice but he would, on occasion, go to friends' houses and other flats or, as his mother put it, "try to sneak off to the shops" without permission. His mother described him as more of a follower than a leader. He was not particularly adventurous but was a shy, quiet boy. He was a bit timid and was not one for climbing trees as he would get stuck and have to be helped down. This was not his father's impression: he described Ciaran as "a real boy" who loved climbing trees and walls and loved exploring, just doing what boys do.

The location of the accident

[18] The accident happened in Craigton Cemetery when a large gravestone – the Ross memorial - on which the boys had been playing collapsed and struck Ciaran on the head, killing him instantly. Craigton Cemetery is a large burial ground in the south side of Glasgow. It covers some 170,000 square yards and contains over 22,000 memorials

ranging from small, modern lawn memorials to large mausoleum-type memorials of a design celebrated by the Victorians. Some of the older memorials are complex, elaborate and decorative comprising pillars, roofs, columns, cupolas and the like. Many incorporate carvings of angels, flowers and other ornamental features. Some are of particular historical interest. Indeed, the Inquiry heard evidence that the Local Authority currently advertises a specific heritage trail which includes Craigton Cemetery, encouraging visitors and tourists to view these memorials considered of particular interest. Several of these memorials are located in Craigton near to the Ross memorial.

[19] Craigton Cemetery has been operational since the late 19th century. It was privately owned until the mid-2000s when, after complaints by local residents about the lack of maintenance and the general state of the cemetery, it was taken over by the local authority. Accordingly, responsibility for the management and maintenance of the cemetery passed to Glasgow City Council, as did the responsibility for the health and safety of all who visit and work in the cemetery. At the time it was taken over by the local authority, it was in a poor state of repair- a dilapidated state - having been neglected for years. At the north end of the cemetery, there is a working crematorium which is privately owned and operates independently of the local authority. The cemetery is bounded on all sides by a brick wall approximately two metres high.

[20] There is a vehicular entrance to Craigton Cemetery at Berryknowes Road, close to the M8 motorway and a pedestrian entrance there also. A further pedestrian entrance is located on its north side.

[21] Craigton is one of 32 cemeteries run by Glasgow City Council. It is infrequently attended as there are no new burial plots there. Only 12 to 15 second interments or "re-opens" take place each year. It is unmanned - there are no Council staff permanently on duty there.

[22] The memorial stone that collapsed was erected in the early 1920s in memory of Alexander and Elizabeth Ross. It was a large, heavy memorial, standing approximately seven feet high and weighing almost two and a half tons. It was made up of four separate granite components: two base plates or plinths, an inscription plate and a triangular capstone or pediment. It was situated close to the perimeter wall of the cemetery (the wall was to the back of the memorial) and a matter of a few yards from a large hole in that wall which allowed access into the graveyard. A fairly mature tree was growing immediately behind the memorial and very close to the wall with branches that overhung the perimeter wall. On one side of the Ross memorial was a large headstone of similar age and dimensions. On the other side was a small lawn-type memorial, approximately one metre high. That part of the cemetery was directly opposite the residential flats at Moss Heights Avenue where Ciaran lived.

The circumstances of the accident

[23] The exact circumstances in which the accident occurred were not able to be established. After tea that evening, Ciaran did his homework. He was due to go on holiday the following Sunday with his grandmother and other family members. He was going to go round to his Gran's house later that evening with his holiday clothes and his case. However, before that his friends came to the door asking if he was coming out.

Ciaran asked for permission and his mother said that he could go out to play but only for half an hour. She thought he was going to play on the swings.

[24] The only eye witnesses to the accident were Ciaran's four young friends hereinafter referred to as *A, B, C* and *D*. They were local boys then aged between 7 and 10 years old. During the course of preliminary hearings, it was appreciated that the experience of giving evidence and being asked to re-live the circumstances of the accident might have damaging psychological consequences for the boys. For that reason, their evidence was admitted through the medium of video recordings of their police interviews. These interviews took place in April 2016, some 11 months after the accident. The court also had the benefit of brief statements taken from the boys on the night of the accident.

[25] The children gave divergent accounts of what happened, not only as between their own individual statements and what they said at interview, but also amongst each other. No two accounts were the same but after careful examination of their descriptions a picture emerged which, when viewed in the context of other independent facts gave a general flavour of what had happened. The following accounts are extracted from their somewhat disjointed and contradictory narratives.

[26] The youngest child, *A*, was aged 7 at the time and was clearly worried that he had done something wrong. In his initial police statement he simply said that they had been playing "catchie" near the graveyard and that Ciaran had gone into the graveyard and tripped and a gravestone fell on him.

[27] On 12 April 2016, *A* provided more detail in the course of his police interview. He described how they walked into the graveyard and were trying to climb up a tree. He explained that they were not going to play in the graveyard – they were just trying to get on a tree. He saw "them" climbing up on a wall and saw that the gravestone was shaking a wee bit. Ciaran was last and was going to climb up it but it fell over and hurt his face. The boys all ran away. He confirmed that they had entered the graveyard through the hole in the wall which he described as "the big broken wall". He himself was standing inside, but he did not climb. He saw the others climb on to the wall from the gravestone. He positioned one of the boys, *D*, on the gravestone, climbing up with Ciaran below and the other two beside each other. He described how he saw *D* use his hands and his leg to climb from the gravestone to the wall: then the gravestone fell on Ciaran.

[28] *B* was 9 years old at the time. He confirmed that the five boys had been playing "a wee game of football and keepy-ups" outside the flats and had gone through the hole in the wall into the graveyard. It was not clear from what he said whether he had been into the cemetery before – perhaps once. They went in to try and climb on the gravestone to go into the tree as a sort of game. One of the boys (*D*) wanted to do parkour because he loved it but the others did not want to. (Parkour or "freerunning" is an activity involving running against and jumping from fixed objects and structures or "street furniture" such as walls which was popular at the time.) Instead, they got bored and tried to climb on the gravestone to get on to the tree. The gravestone was wobbly. When asked what had made it wobbly he replied "us moving it by accident". Ciaran was in front of it when it was moving. His friend tried to stop it but Ciaran fell and the

top bit fell on his head. He explained they had just found out it was wobbly when all of them tried to climb on it. He agreed that all of them were trying to climb on it at the same time. They tried to get on top of it and on to the tree. However, he said that he did not actually get on it as it was wobbly. He described how Ciaran was at the front, the stone was getting wobbly and Ciaran fell. He described how he and the others had tried to push it out of the way but it was too strong for them to hold. He recalled that Ciaran was "knocked straight out" when the top bit fell on him.

[29] In his original police statement *B* had simply described how Ciaran went through the hole while the rest of them were outside and that Ciaran fell into a big gravestone but it fell on top of him.

[30] *C* was slightly older – he was 10 years old at the time of the accident and, like Ciaran, lived in the Moss Heights flats. He explained that they had been waiting for Ciaran because he had still to eat his dinner and do his homework. One of the concierges told them off for making too much noise. There were wee children playing in the park, so they decided to go to the Triangle but then nobody wanted to go there so they decided instead to go to "the containers". They went through the graveyard because it was a quicker way.

[31] Initially, there had been three other boys with them. *C* confirmed that they had gone into the graveyard through one of two "big, massive holes" in the wall that had been there for "like, a couple of years". Their plan was to go to the "containers", while the other boys wanted to go to their "den" (not further described). Whatever they were, the

containers were located at the other end of the cemetery near to Lourdes Primary School and the children often played there. They cut through the cemetery to get there. On this particular evening, he said that the other three boys did not want to stop at the tree and so they left to go straight to the containers. *C* said that all of the others then climbed on to the gravestone and decided to go on to the wall using the tree. However, it seemed that he was describing an activity that had happened before. He related how "they tried to go on the gravestone, on the wall, grab on to the tree 'cause the branch is quite high and you can swing off it and jump on down, then they do it a couple of times then go to the containers". Thus he gave the distinct impression that he was describing something that the children had done before, describing a brief diversion that the boys sometimes made on their way to the containers.

[32] Beside the gravestone, which he described as "the big, massive black one", *C* said there was "a wee stub – a wee stone thing". From the photographs of the location that were produced in evidence he was referring to the headstone, approximately a metre high, which lay adjacent to the Ross memorial. It appeared that what he was describing was a route on to the wall whereby the children went from the small "stub" as a stepping stone on to the bottom plinth, before pulling themselves up the gravestone by holding on to the top before pushing off to the wall and hence to the tree. According to *C* he had been told how to get on to the wall by *D* who had said that the "big, massive one was okay", that "the gravestone was stable as he had tried that lots of times to get on to the wall". He described how "you could go on the gravestone and on the wall, then use the branch, the very tall branch, and swing off it and jump".

[33] That evening he recalled that *D* was first to go on to the memorial. *B* and *A* were next to go. *B* was just about to get on the wee stone trying to get up after him while Ciaran was just under the gravestone, facing it. He described how the children were standing in a line waiting for their turn. He described how *D* pushed off against the gravestone to the wall at which point the stone "just crumbled". *B* was trying to get up after him and was standing on the wee stone. Ciaran and *C* were under the gravestone, facing it. Ciaran was standing in front. *D* had gone from the wee one on to the bigger one and then from the big one on to the wall and he tried to grab the tree. *B* was on the wee stub next to the gravestone. *D* pushed off with his leg and then the gravestone fell. *C* made no mention of anyone trying to grab the stone to try to stop it from falling on Ciaran.

[34] When asked how many times he had played on the gravestone *C* replied that he had never done that. When he was then asked how it was that he knew about climbing on the Ross memorial he said that he had been told about it – he thought by *D*. When asked how many times he had been in the graveyard before he confirmed that he had been there but "not very often". However, later he changed his position and said "that is actually the first time I've been".

[35] As the monument collapsed, *C* had to jump out of the way. As he did so, the falling masonry caught him on his heel, causing injury. It was his position that he could not remember what happened after that because he experienced some sort of "black out". The next thing he knew he was running away with the others through the hole in the wall. He was later taken to hospital to have the wound on his heel dressed.

[36] *C*'s police statement was in broadly similar terms. He reported that that all the others climbed on to the gravestone – they wanted to get on to the wall. Ciaran was waiting at the tombstone to get up on it. *D* went to use the tree to get on to the wall and pushed off the tombstone. As he pushed the tombstone fell. *C* leapt out of the way but it caught his heel.

[37] *D*, who was 10 years old, said that they had just been sitting on the grass outside the flats. The concierge had told them that they could not stay there "so we just decided to go to the graveyard because it's where we used to always go". According to him, they were all standing in front of the gravestone. "I was on the wall and jumped off and then it started wobbling…and then we put our hands on top of it and we stood on it and it started to wobble. We ran away. It hit me on the back." *D* said that they used to go into the graveyard and "climb on trees and stuff and just run about". They went in through the big hole in the wall which he said had been there since before he was born. It was beside the gravestone. He described everyone running about as he jumped off the tree and the gravestone started to wobble. At no point did he say that he was actually climbing on the gravestone (in contrast to all of the others) but that he merely jumped from the wall *over* the top of the gravestone. When he landed on the ground, it started to wobble and he ran over to it. He was on the right, *C* was to the left with Ciaran in the middle. The other two were on either side but not actually on the gravestone. Then they stood on it put their hands on the top bit and it wobbled again. He, *C* and Ciaran were standing on the little ledge (the plinth) and the three of them grabbed the top bit (the

pediment). It was just about to fall so they all ran. The triangle bit fell off. It struck him on his back and caught *C* on the heel. It hit Ciaran on the face.

[38] He explained that they were climbing the tree to get over on to the wall. This was in contrast to the accounts of the others which had it the other way round – that they climbed to the wall to get to the tree to swing down on the branches. *D* denied that he had ever been on that particular gravestone before.

[39] *D*'s account was essentially the same as his police statement except that in the latter he made no mention of the boys standing on the stone and pulling it. He originally said that all three had jumped from the tree at the same time and as soon as they landed, the big stone fell.

[40] Before reaching any conclusions as to the reliability of the boys' evidence, it is worth considering what, if any, other circumstantial evidence might lend support to any of these accounts. Two sources of evidence are informative: the evidence of Dr Gemma Kemp, consultant forensic pathologist, as to Ciaran's injuries; and the agreed evidence of two structural engineers, Mr Steven Wood and Professor John Knapton, as to the forces required to topple the memorial. Both of these areas of evidence were uncontentious.

Pattern of injuries

[41] From the injuries sustained, it was Dr Kemp's opinion that they were consistent with Ciaran having been struck on the top of his head by the pediment. She concluded

that at the time the Ross memorial collapsed, Ciaran had been standing facing it; that he was positioned at least a distance the length of its memorial plate from the plinth stones; and that its pediment fell striking Ciaran on the top of his head causing him to fall backwards. As a result of being struck he sustained a severe head injury comprising a hinge fracture across the base of the skull, a ring fracture around the foramen magnum and a complete ponto-medullary laceration. The pediment fell further and progressed down Ciaran's face causing him to sustain several abrasions before landing on his chest, shoulder and abdomen causing him to sustain blunt force injuries to his aorta and his liver.

[42] *C* and *D* also sustained injury when the stone fell. *C* had a deep cut to his left heel. *D* had a minor abrasion to his back. Accordingly, at the time of its collapse, three boys *C, D* and Ciaran were positioned directly in front of the memorial.

The destabilising effect of climbing on the monument

[43] The two structural engineers confirmed that all the actions described by the boys would have caused the Ross memorial to fail. One or more boys climbing on it would have imparted sufficient lateral forces to have toppled it. Had one boy at the top pushed off against the monument to reach the tree or the wall, that action would also have been enough to overturn it. Equally, it was possible that the Ross memorial had wobbled shortly before it collapsed. The boys' efforts to halt it would have been futile given the weight of the structure. Grabbing it, as described by the children, would have been the wrong thing to do and might well have resulted in the application of a further de-stabilising force pulling the memorial in the direction of fall. However, by that stage, the

memorial was overturning and nothing would have stopped it. There was evidence that it would have reached a velocity of about twelve miles an hour as it accelerated towards the ground.

[44] As for *D's* suggestion that he had simply jumped over the memorial and landed on the ground causing it to wobble, it was considered unlikely that vibration alone would have led to its failure, unless it was already on the verge of tipping. Professor Knapton suggested that some accidental contact would still have been required. Mr Wood could not give an opinion on this and suggested that any opinion would require input from a specialist in geotechnical engineering. In any event, as will be seen, I rejected this account.

The submissions on the evidence of the boys

[45] The Procurator Fiscal Depute submitted that there seemed to be two general themes to the boys' evidence immediately prior to the accident: one boy climbing on the Ross memorial and pushing off from it with others waiting below to follow and at one point several boys standing on the plinth and holding on to the stone. It was entirely possible, she submitted, that the boys had been engaged in both modes of play during the period prior to the memorial's collapse. The fact that there were two distinct versions, each being corroborated to an extent by one other boy, lent weight to that theory.

[46] The submissions on behalf of Ciaran's mother were in similar terms: the two scenarios were that at a point where one of the boys tried to access the perimeter wall or where one or more of the boys were climbing on to the Ross memorial to get on to the

wall, a force was applied that caused it to collapse. She recognised that it was also possible that one or more of the boys went forward as the stone was wobbling to try to prevent it from collapsing and by so doing applied a further force that caused the memorial to collapse.

[47] No submissions as to the immediate cause of the accident were made on behalf of Ciaran's father.

[48] The Council's position was that the evidence of all four boys was consistent with the activity known as parkour having been attempted, The most coherent and consistent account was the description of one of the boys using the Ross memorial to "push off" to gain access to the wall. That description, it was said, was indicative of a lateral force being applied to the memorial at a height immediately prior to the point of structural failure. It was an account of significance when considering how it could be that sufficient lateral forces were generated to topple the memorial. However, the totality of the evidence of the children was confused and not sufficient to enable definitive conclusions to be drawn.

My conclusions as to the immediate cause of the accident

[49] In proceedings of this nature, I do not require to reach a *definitive* conclusion. Clearly I cannot do so here. However, I am satisfied that I can reach a conclusion as to the cause of the accident on the balance of probabilities. Before doing so, I turn to my assessment of the boys' evidence - something which I undertook with considerable care.

[50] It must be appreciated that the children were recalling a highly traumatic event. They were very young witnesses and were not always able to answer questions in a clear and cohesive way. There were internal inconsistencies within their individual accounts and obvious discrepancies amongst them. Brief statements were taken by police officers on the night. However, in the immediate aftermath of such a traumatic event, the children were clearly distressed and shocked by what they had seen. The officers confirmed this. *A*, *B* and *D* were described as very shaken and upset. Obtaining any sort of statement from them was difficult. In the end, officers simply noted very brief descriptions and did not question the boys at all. By contrast, *C* was described as much calmer and more coherent than the others.

[51] The main body of the children's evidence took the form of their police investigative interviews, recordings of which were played to the court. Prior to assessing these, several comments require to be made about some shortcomings in the procedure which undoubtedly undermined the quality of the information obtained.

[52] First, it was most unfortunate that the children were not interviewed in any depth until almost a year after the accident. Much can interfere with, confuse and contaminate memory in that time particularly where young children are concerned and where what is being recalled is traumatic. Memories can easily fade or become corrupted by the passage of time.

[53] Secondly, the quality of the interviews left much to be desired. From their own evidence, the officers conducting the interview were not familiar with the background

circumstances and had little knowledge of the incident prior to interviewing the children. They had never been to Craigton Cemetery and were not therefore immediately able to appreciate what the boys were describing. One officer had not even read the police statements and so was not in a position to clear up the discrepancies that arose. Nothing was produced in the way of diagrams, plans or photographs which might have assisted the boys when they were being asked to describe the relative positions of things, heights and distances – all difficult concepts for young children. On the recordings, two of the boys were difficult to see: one in particular wore a cap down over his face which could barely be made out. In another, the boy was side-on to the camera and the lighting hopelessly inadequate. In the course of *D*'s interview, a window cleaner made an appearance not once, but twice, which was both distracting to an young witness and added to the general unsatisfactory impression of the interview.

[54] Thirdly, there were repeated failures by the interviewing officers to clarify ambiguous answers or to probe more deeply where patently conflicting answers had been given. On occasion, the inaccurate summarising by the officer of previous answers allowed the interview to continue under a false premise, particularly where the boys simply agreed with what was said with a simple "aye". For example, at no point during *D*'s interview did he ever say that he or the others climbed on the gravestones However, the interviewing officer summarised what he said as "So youse have gone in there 'cause you used to play in the …graveyard quite a lot and you would climb on the gravestones?" Answer - "yeh". This was careless interviewing on such an important point. Often ambiguous answers were accepted without clarification. For example, the repeated references by *C* that they had "tried" to climb the memorial were not clarified

in order to establish whether they had actually climbed on to the memorial. Many such answers were left in the air instead of being resolved one way or the other. All this made the assessment of credibility and reliability unnecessarily difficult.

[55] It was also clear from the statements taken on the night of the accident, that the boys were worried that they had done something wrong and would get into trouble. That one boy apparently shouted as they were running away "we've murdered him" was eloquent of that misplaced guilt. All of the children's accounts were guarded and defensive to some extent and this reluctance to provide wholly honest and frank accounts was disappointing but perhaps not entirely surprising.

[56] *A*'s evidence was vague and at many points he simply said that he did not know or could not remember in answer to questions where one might have expected knowledge and recall. He did not strike me as a very bright boy but was rather slow and laboured in his responses. He was defensive. I reached the conclusion that he was not being entirely frank but I accepted the broad gist of his account as accurate.

[57] *B* likewise was not very articulate for his age and was slow to answer. He kept his head down during much of the interview and looked very uncomfortable. He was clearly underplaying his part in the events but, again, seemed in the main to be trying to give an account of events as he then remembered it.

[58] *C*, on the other hand, was a bright and articulate boy and at first asking provided a long and detailed account. This was in stark contrast to the others whose answers were

often monosyllabic. Of the four boys, he was the most mature and answered questions without hesitation and in a straightforward manner, except when it came to his own involvement. At times, though, I felt his attitude bordered on the precocious. However, he gave a fairly consistent and logical account. Once again, it was noticeable that he described what the others had been doing and distanced himself from what was happening. Although he repeatedly removed himself from the climbing game, suggesting that he was "standing on the outskirts", it was obvious that he was more at the centre of things than he admitted. The fact that he was struck by the Ross memorial as he jumped out of its path clearly demonstrated that he had been close to its base at the plinth, as described by the others.

[59] There was a degree of consistency between his statement and his police interview. Although he was not entirely frank and tended to minimise his involvement, I considered that his account was largely straightforward and generally trustworthy.

[60] *D's* account was in broadly similar terms to his earlier statement. On the night of the accident, he was described as very shaken and nervous. One of the police officers was particularly concerned for his well-being and took him home. He was not interviewed until much later at 11.30pm when doubtless he would have been tired as well as traumatised.

[61] I did not find *D*'s account credible insofar as he meticulously avoided any suggestion that he and his friends had been climbing on the memorial but rather had climbed the tree to get on to the wall. That was patently untrue. First, this scenario was

at odds with the other accounts. Secondly, it made sense that the children climbed on the Ross memorial to get to the wall to swing down on the branch of the tree. That was the game that was clearly described. Climbing the tree to get on to the wall meant that the children would then have to jump from a height of 6 to 7 feet to the ground – a much less likely scenario and much less fun than swinging from the tree. Furthermore, his account of jumping from the wall clean over the top of the gravestone was implausible and considered unlikely according to the experts.

[62] Accordingly, I treated the boys' denials of their individual roles with a pinch of salt but thereafter, I was satisfied from their combined accounts that the following facts were established:

- The boys went into the cemetery through the larger of the two holes in the perimeter wall. This was their regular means of access.
- At the time of the accident they had been engaged in playing around and on the Ross memorial. This involved climbing on to it using the adjacent small memorial as a stepping stone. The game was to climb on to the Ross memorial to the top, get on to the wall and from the wall grab the branch of the adjacent tree and swing down to the ground.
- This was a regular game played by children as they passed through the cemetery on their way to play at the containers.
- Children regularly played at the Ross memorial and often went into the cemetery as a short cut to go to the containers. Some older boys had a den somewhere in the graveyard.

- At the time the Ross memorial collapsed, *D* had been on it near the top and had pushed off causing the structure to wobble. I was satisfied that the memorial had not collapsed immediately at that point. I accepted that *D* must have had time to jump to the ground and go to the front of the memorial. Thus although the other accounts suggested that it had fallen as soon as he jumped off, I was satisfied that the memorial started to wobble at that point. By this time, of course, it was on the brink of collapse.
- As it wobbled, two of the children, who had been queueing for their turn to climb up to the tree, and *D* climbed on to the upper plinth and grabbed hold of the inscription plate in an attempt to stop the gravestone from falling. In so doing, they inadvertently added to the forces of destabilisation.
- When he was struck, Ciaran had been at the foot of the Ross memorial and a little distance away from it. It also seemed likely that at some point, he lost his footing as he was trying to get out of the way. This would account for the description from two of the boys that Ciaran tripped and fell into the gravestone.

[63] I have no hesitation in accepting that this was a tragic accident – there was no suggestion that there had been a deliberate attempt by any of the boys to push over or destabilise the Ross memorial. I am satisfied that, however perilous their activities were, they were simply playing and had not appreciated the dangers involved.

Emergency response

[64] Immediately after the accident, one of the boys ran to get Ciaran's mother. He went to her house. She immediately rushed to the graveyard but his stepfather, Thomas

McGee, arrived there first. He saw Ciaran lying on his back with the pediment on top of him. Mr McGee removed the pediment from Ciaran and laid it to one side. Ciaran was motionless and unresponsive. Mr McGee immediately phoned for an ambulance and started to try to resuscitate Ciaran by applying CPR. The emergency call was received at 1921 hours and paramedics responded without delay. Police arrived on the scene first with the ambulance close behind. Police officers took over CPR from Mr McGee before placing Ciaran in the care of the paramedics. All efforts to resuscitate Ciaran were futile: he had no cardiac output. Ciaran had died instantly at the scene having suffered catastrophic injures. Life was formally pronounced extinct at 1953 hours that evening at the Royal Hospital for Sick Children, Yorkhill, Glasgow.

The cause of death

[65] A post mortem examination carried out on 29 May 2015 by Dr Kemp, Consultant Forensic Pathologist at the University of Glasgow, noted injuries to the head and neck which involved traumatic separation of the two parts of Ciaran's brain stem. An injury of that severity would have been associated with immediate cardiac arrest. There was also evidence of injuries to his chest and abdomen. These injuries were consistent with blunt force trauma to the head, chest and abdomen as a result of impact and crush forces from a heavy object. A death certificate was issued in those terms. Death would have been instantaneous and painless.

The post-accident investigations

[66] In the days immediately following the accident, certain steps were taken by Glasgow City Council: the upper and lower plinths of the Ross memorial were separated

and laid flat while the pediment and inscription plate were removed to Linn Crematorium for storage; the holes in the perimeter wall were repaired; the tree next to the Ross memorial was cut down; and the adjacent leaning memorial was laid flat.

[67] Within a matter of days, between 400 and 900 memorials in Craigton Cemetery alone were made safe and laid flat. No records were kept noting the exact numbers or reasons why these memorials had been considered to have been unsafe. No further explanations were forthcoming at the Inquiry.

[68] Glasgow City Council sought assistance from the National Association of Memorial Masons (NAMM) and asked them to provide a technical report on the structural integrity of the Ross memorial at the time of the accident and an opinion as to why it might have failed. Mr Peter Hayman and Mr David Greenhalgh, both experienced memorial masons, carried out investigations on behalf of the Association. In July 2015 they visited Craigton Cemetery and Linn Crematorium to inspect the remains of the memorial. They produced a report and Mr Hayman gave evidence at the Inquiry in which he incorporated the terms and conclusions of that report. Their findings were significant as they were based on observations recorded very shortly after the accident.

[69] Later, as part of the investigations in preparation for this Inquiry, further expert opinions were obtained. The Procurator Fiscal commissioned a report from Mr William Revie, director of Construction Materials Consultants Limited, a company that engages in the analysis, examination and testing of construction materials with reference to investigations into these materials where structures have failed. The company focuses

mainly on historic materials. Mr Revie was asked by the Procurator Fiscal to examine the remains of the Ross memorial and to provide a report on the materials used in its construction and their relative contribution to the stability of the monument. Mr Revie also gave evidence at the Inquiry and spoke to the conclusions in his report dated 29 September 2016.

[70] The Procurator Fiscal also instructed an opinion from Mr Jim Thomson, a director of Teleshore UK Ltd, a company involved in the inspection of memorials, the training of inspectors and the assessment of risk associated with the management of graveyards throughout Britain. The expert opinions of two structural engineers were obtained in relation to the mechanics of the structural failure of the memorial: Mr Steven Wood was instructed by the Procurator Fiscal and Professor John Knapton was instructed on behalf of Ciaran's mother.

[71] Thus in reaching conclusions on a number of important issues the court was assisted by evidence from these skilled witnesses. Certain conclusions depended on that evidence and therefore it is important at the outset to explain the scope and purpose of expert evidence and my assessments of the various experts who appeared before me.

Expert evidence

[72] Where it assists the court, evidence of opinion may be led from experts in the relevant field (or skilled witnesses as they are known in Scotland). In this Inquiry, it was necessary to have the benefit of the evidence of experts who could advise on the condition of the stonework, memorial masonry, structural engineering and the risk

assessment and inspection processes involved in safe cemetery management. Although, as here, skilled witnesses can also provide evidence of fact, the role of the expert is to assist the court and to offer an opinion on issues before the court. This is different from witnesses to fact, whose evidence is restricted to matters of fact and who are precluded from stating their opinions on the issue. The court is not bound by expert evidence and, like any other witness, it is open to the presiding judge to accept or reject parts of an expert's evidence. It is the judge who is the final arbiter: the expert witness cannot usurp the function of the court. The expert witness must act independently and without bias.

[73] In considering the evidence of any expert, what the court is testing is the expert's reasoning in reaching a conclusion. It is the logic and cogency of such reasoning – both internally and externally when set against other evidence in the proceedings - that allows the court to decide the weight to be attached to the particular expert opinion. Moreover, the court must be satisfied that the expert reaches his opinion on the basis of an accurate and correct factual matrix. The opinion of an expert, however eminent, is worthless if it rests on supposition or speculation.

[74] Before the court can receive the evidence of a witness presented as an expert, the court must be satisfied of his ability to do so. Five skilled witnesses gave evidence before the Inquiry. All were presented by the parties as being able to give evidence in an expert capacity. I was satisfied that they each had the necessary qualifications, relevant knowledge, skills and experience. However, three stood out from the others as particularly qualified to comment on the matters which arose in the course of this Inquiry: Mr William Revie, Professor John Knapton and Mr Jim Thomson.

[75] Mr Revie is highly regarded within his profession and is recognised both nationally and internationally as a leading expert in his field. Indeed this was touched upon by one of the other experts, Mr Wood, who knew Mr Revie's reputation and spoke highly of him. He was a most impressive witness.

[76] Professor Knapton, like Mr Revie, enjoys international standing and repute and is held in high esteem within the profession. He has accrued an impressive *curriculum vitae* and in the course of a distinguished career, has worked as engineer on several major projects throughout the world and has advised many governments, agencies and professional organisations. He has an impressive research and development history with many leading publications to his name. His principal expertise is in pavement design. He was Professor of Structural Engineering at Newcastle University from his appointment in 1991 until he retired in 2001. He is Principal of a civil and structural engineering practice and now focuses upon expert witness work. Thus he has considerable experience of giving expert testimony in court and did so with confidence and gravitas.

[77] Of particular relevance to this Inquiry was Professor Knapton's advisory work on issues of memorial safety. He experience is particularly associated with lawn memorials, the small, modern memorials such as are seen in war graves. Indeed, it was he and his team at Newcastle University who designed the prototype anchor for lawn memorials (known as the Newcastle Anchor). He has advised several local authorities in England and abroad on memorial construction and safety and has given evidence on the subject

of memorial safety to, among others, the Local Authority Ombudsman. His advice on lawn memorials formed the basis of the British Standard that is discussed later. He was a very impressive witness.

[78] I was, however, concerned that Professor Knapton – perhaps as a result of his obvious enthusiasm for his subject and his eagerness to help – had a tendency to stray beyond the bounds of his area of expertise. For example, following an objection, I excluded evidence from him on matters to do with risk assessment on the basis that he was not an expert in this field. However, the fact that he had been willing to present opinion evidence on that subject concerned me and put me on guard lest he strayed beyond his particular skill and into other areas. Likewise, it was important to note that his practical experience in memorial safety, although impressive, had been almost exclusively in relation to modern small lawn memorials and not with larger structures such as the Ross memorial. As far as the hands-on inspection of larger memorials was concerned, he readily admitted that had limited experience in that field having inspected these quite rarely – perhaps on three or four occasions. He did not regularly assess larger memorials.

[79] In contrast, the witness with by far the most experience and skill in the area of risk assessment and memorial safety inspection was Mr Jim Thomson. He was an outstanding witness on whose evidence I relied heavily. His evidence was given in a most engaging and modest way eloquent of an impressive amalgam of theoretical expertise and extensive practical experience combined with a tangible enthusiasm for his subject. He had a lot to say. He answered each question head-on with the ease of

someone entirely comfortable in his field. His answers were measured and thoughtful and supported by sound logic. His evidence demonstrated clear, informed thinking imbued with qualities of common sense and pragmatism. Although occasionally he qualified his answer with "I'm not an expert in this…" I was nevertheless impressed with the fact that the answers he gave entirely reflected the opinion of the relevant experts thereby demonstrating the breadth and depth of his knowledge. For example, some of his answers on matters to do with the structural characteristics of the Ross memorial echoed those of Mr Revie and although he prefaced some answers with the caveat that he was not a structural engineer, his understanding of the mechanism of failure of the Ross memorial was sound. He had many years of experience as an inspector of memorials, an assessor of risk and as a trainer on memorial stability inspections. He is also a Registered Memorial Mason Inspector and a Registered Inspector and Fixer of Memorials. His firm is extensively involved in both the inspection and repair of memorials: Mr Thomson estimated that they have been involved in the repair of 50-60,000 older memorials and the inspection of somewhere in the region of 20,000. He himself has many years of hands-on experience of stability inspection, risk assessment and testing although he focuses now mainly on training. He was most impressive professional and an all-round man of skill. Where there was disputed opinion among the experts, in general I preferred his opinions.

[80] Mr Peter Hayman is an experienced memorial mason and is currently NAMM technical advisor, trainer and education officer. He was recently involved in the revision of the NAMM Code of practice and he sits on the British Standard Committee and the Burial and Cemeteries Advisory Group. I considered him well qualified to report on the

condition of the Ross memorial and to comment on the meaning, interpretation and application of the plethora of existing industry guidance on memorial safety and stability inspection. On the subject of memorial inspection, I accepted that he was qualified to give an opinion but that he had limited experience. He was a witness who knew the bounds of his expertise: for example, he was not a structural engineer and was careful not to stray into that area of skill. Although confident in his opinions, he gave his evidence in a measured way. In most matters I found him reliable.

[81] Mr Steven Wood is a Chartered Structural Engineer and Conservation Accredited Engineer with over 25 years of experience in the design of building structures. He gave clear and convincing evidence. I had the impression that he was not particularly comfortable or experienced in the role of giving expert testimony in court. In this connection he was considerably less experienced than Professor Knapton. He adopted a careful and conservative approach to his evidence in line with his scientific discipline. Perhaps not surprisingly, as a scientist he appeared reluctant to stray into the realms of legal concepts such as the balance of probabilities.

The Ross memorial

[82] There was general agreement as to the nature and structure of the Ross memorial. It was a large, heavy, multi-part memorial. Its construction was wholly in accordance with the practice at the time it was erected which was during the early part of the 20th century. It was composed of four individual parts, all made from granite. The base of the memorial was made up of two plinths (a lower and an upper plinth) on which rested

the inscription plate. At the top, it was finished off with a triangular capping stone or pediment which overhung the inscription plate.

[83] The physical features of the Ross memorial were described variously in imperial and metric measurements. It was just under seven feet in height (2.17 metres) and its total weight was approximately 2.4 tons. The pediment weighed 360 kilogrammes and the inscription plate weighed 720 kilogrammes. The foundations were not fully excavated for the purpose of close examination. However, on digging to the side of the memorial base, Mr Hayman saw brick and lime mortar foundations. Based on his observations of nearby memorials of a similar age and size where the brick foundations were exposed, Mr Hayman considered it fair to assume that the Ross memorial also sat on similar foundations consisting of three to four courses of standard red clay building brick and lime mortar. However, as Mr Thomson pointed out, they might have been deeper and more substantial.

The structural integrity of the Ross memorial

[84] Consideration of the structural integrity of the Ross memorial can be conveniently divided into three parts: (i) the design of the memorial and its condition; (ii) the presence and impact of external influences on the structure; and, (iii) in this case, the consequences of the fact that the memorial was leaning at an angle at the time of the accident. This last feature was central to the establishing the mechanism of failure of the stone and thus was one of the main causes of the accident.

(i) The design and condition of the Ross memorial

[85] The memorial depended on its mass for its stability and on its base stones being laid and remaining flat and level. As a structure, Professor Knapton likened it to children's building blocks simply stacked one on top of the other. Mr Hayman explained that the considerable weight of the memorial sections in union with its balanced design created a central downward force providing solidarity. So, provided it remained vertical, the structure was inherently stable requiring very considerable forces to overturn it, forces well beyond accidental impact.

[86] The joints on this memorial did not contribute to its stability. Mr Revie explained that although made up of four separate parts, the joints between each part played little or no function in its stability. The bed faces (the outside edges of the component parts) had been hammer dressed to roughen their surface and reduce their level below the edges of the joints. Mason's putty or ashlar mortar had been placed around the perimeter of each bed joint. This mortar appeared to have been placed in the form of a discontinuous bed – perhaps as pats of mortar – on to each bottom bed surface, with this extruding around and through the joint, as the weight of the upper piece of stone came into contact with and compressed the mortar into the joint. The excess ashlar mortar that thereafter extruded from the face of the joint as the upper stones were placed was struck off and the joint face smoothed with a jointing iron. This had the effect of compressing the mortar on the face of the joint, smoothing the face to the profile of the stone and thus ensuring that the joint was filled continuously along its length. This mortar formed a compression bed or mechanical support for the transfer of loads or stresses. As such it levelled out unevenness and allows stresses to be borne across the

joint. It would not have had any tensile strength. Although initially it would have provided a weak adhesive bond around the perimeter of the stone, that was not its purpose. This type of peripheral mortar was *not* designed to provide stability and therefore was of no direct relevance to any consideration of the causes of the failure of the structure.

[87] As well as having an aesthetic purpose, the main function of the mortar was to form a tight joint to inhibit the ingress of water to the joints. Thus it provided a degree of waterproofing.

[88] Significantly, there was no evidence of any physical restraining fixings in the structure such as dowels or joggings which are concrete, wooden or metal pins that fit into holes and thus hold two parts together. Dowels had not been used in any part of the construction. Dowels and full mortar bedding would have provided adhesion and additional support to the structure. However, these were not commonly used at that time the Ross memorial was erected, except in even larger memorials.

[89] By the time Mr Hayman and Mr Greenhalgh visited Craigton Cemetery, the two base plinths had been separated. However, from their examination, they were able to conclude that the foundations had played no part in the failure of the structure. It had failed between the inscription plate and the upper plinth.

[90] In the course of their visual examination, the NAMM inspectors noted that the granite was in good condition. However it was evident that the joints had deteriorated

over time. There were signs that the mortar pointing in the memorial had undergone shrinkage and that cracks had appeared. Cracking and discolouration of the mortar had been caused by the shrinkage of the mortar over a long period. This was confirmed by Mr Revie who also carried out a microscopic examination of the mortar. He explained that such shrinkage came about as a result of the drying out of the mortar associated with the processes of oxidation and consequent loss of oil components and carbonation of the lime-based putty causing the mortar to harden and shrink. That process resulted in the introduction of cracks into the bedding and caused local separation of the mortar bed from the stone. Cracks and discontinuity between the mortar bed and the stone allowed water to gain access to the joints.

[91] The discolouration and water staining suggested that water percolation had been occurring between the mortar and the stone surfaces over a period of time. Mr Revie explained that once cracks appear in the joints as a result of shrinkage, capillaries develop in the crack path and rain water is sucked in by capillary action into the joints. Moisture will transport fine particles of dust and other particulate matter into it.
That this had occurred in the Ross memorial was confirmed by microscopic examination.

[92] Mr Revie described another weathering feature known as "ice jacking". This phenomenon occurs when moisture penetrates the small pores and freezes. Ice lenses then grow within the joint planes. This in turn allows the joint to expand and has the potential to lift or jack up the joint slightly. When that happens further water and soil infiltrate the joint and when the ice melts the soil remains trapped within the joints.

[93] Over time, or under severe frost conditions, ice jacking can loosen and displace elements within a multiple part memorial and thereby introduce a degree of instability, particularly if the memorial is additionally affected by localised subsidence in the supporting soils. The effects remain from previous occurrences of frost. As frost melts, the monument will eventually settle but the mortar and its joints may have been disturbed.

[94] Mr Revie concluded that the mortar in the Ross memorial had decayed and had lost some of its properties over time. It had lost adhesion properties and accordingly there had been cohesion failure within the mortar. Mr Hayman's visual findings reflected Mr Revie's more detailed examination.

(ii) External factors

[95] There was evidence that at the time of the accident and for a very long time before, the Ross memorial had moved from a vertical position and had been leaning forwards, away from the wall. The primary reason for this was the ingress of the root system from an adjacent tree. This was the tree on which the boys had been climbing and which had been cut down after the accident. It was a well-developed, self-seeded tree situated to the side of the Ross memorial. It had clearly been growing for many years. The infiltration of the root system around the base of the memorial was evident from the photographic evidence produced.

[96] Inspection after the accident revealed that the roots of this tree had undermined the foundations of the Ross memorial and grown around them. As it grew larger over the years, the tree had progressively caused the lower base plinth to move and become off-level so that the whole memorial leaned forward. The base of the tree trunk was growing over and clamping part of the memorial base. Mr Hayman concluded that the fact that the tree was clamped across the back of its plinth neither added nor removed any stability but was simply a factor in the lean. It was generally accepted that at the time of the accident, the Ross memorial was leaning forwards at a noticeable tilt.

The holes in the perimeter wall

[97] Post-accident inspection confirmed the presence of a large hole and a second, smaller hole in the perimeter wall. These gaps in the wall were positioned directly opposite the flats where Ciaran lived and very near to the Ross memorial.

[98] At least one of the children said that the big hole had been there for a couple of years. Another child clearly thought it had been there for a very long time – he thought it had been there since before he was born. The children said the concierges at the flat knew about the hole but did nothing about it. Glasgow City Council also knew about the breaches in the perimeter wall.

[99] The hole had been the subject of a complaint to the Council in 2014. Persons attending a burial nearby had made a formal complaint about rubble from the damaged wall which was lying around the graveyard. The witness David MacColl, the Bereavement Services Operations Manager, was asked about this and from records was

able to confirm that in response to this complaint details had been passed to the relevant repair teams to carry out the necessary remedial work within the Council's target of ten days. The action was thereafter passed between departments. However, despite reminders having been sent, no repairs were done and the hole was never sealed.

[100] The hole was situated about 200 yards from the main pedestrian entrance to Craigton Cemetery which entrance was always open, day and night. It was his mother's belief that Ciaran would not have entered the cemetery but for this hole – he would not have walked round to the main entrance which she said was about a ten minute walk from the flats. A well-worn path leading from the larger hole away from the direction of the Ross memorial towards the access road was evidence that it was regularly used by members of the public as a means of access to the cemetery. The grass outside the wall near to the flats was also worn into a path. It was clearly being used as a convenient short-cut. Mr Alex Stewart, a former Bereavement Services Operations Manager, gave evidence that the cemetery was used as a short – cut from the Moss Heights area to Hillington and was also used by dog walkers. He had no knowledge of it being used by children. However, it was clear that the worn path showed that it was being used as an unofficial thorough-fare leading in a direction away from the Ross memorial thereby demonstrating increased footfall at that part of the cemetery.

(iii) The mechanism of structural failure

[101] In order to understand how this accident came about, it is necessary to understand how the memorial failed. As has already been noted, when it was erected, the Ross memorial was stable in its vertical position. The weight of its components was such that

in the upright position with its gravity fully centred through the middle of the structure, it was a solid mass which would have taken very considerable forces to overturn it. It would have required a deliberate and concerted effort to do so, probably well beyond the strength and ability of children.

[102] However, as a structure of this nature begins to lean, the centre of gravity shifts. The weight of the memorial itself performs a stabilising function as long as its centre of gravity remains inside what is variously called the bending moment, the tipping point or the point of rotation. If the structure leans outside that point, then it will rotate and fall.

[103] It is important to note that the Ross memorial was top-heavy as it had a pediment that weighed 360 kg (half the weight of the memorial plate). The pediment overhung the inscription plate. This was important because, as Professor Knapton explained, the pediment created more mass at the height of about 2.1 metres: that is, more weight high up the memorial. The pediment made it susceptible to lean and the effect of the weight of the pediment, although it weighed only half as much as the main plate, was more severe. The weight of the pediment cantilevered outwards from the inscription plate. When two forces pull against each other they create a pivot.

[104] The extent to which the Ross memorial was leaning was a critical factor in the mechanism of failure. The court had the benefit of various diagrams to assist in demonstrating the point at which it would topple. This is the all-important "overturning

moment": the point at which the structure's centre of gravity moves beyond and outside the pivot point at the joint between the inscription plate and the base plinths.

Monolithic action

[105] The engineering experts agreed that the pediment and the memorial plate would have fallen together as one rather than separately. Professor Knapton considered that the friction between the pediment and the memorial plate would have been sufficient for the two to rotate as one initially. As the pair of them progressively rotated downwards, they would separate at some point. Mr Wood agreed: the two pieces behaved monolithically as a single entity. The pediment would not have fallen off on its own – the force required to turn the pediment over was more than the plate would have withstood and so that could not have happened. Thus although it appeared from the boys' evidence that the pediment fell first, I am satisfied that it did not and that what they saw was the pediment after it had separated from the main plate as it accelerated towards the ground.

The angle of lean of the Ross memorial

[106] The NAMM inspectors measured the angle of lean manually by applying a straight edge to the bottom base plinth and projecting it upwards to a height of a metre. This revealed an angle of lean of 150mm from the vertical at one metre. These measurements were converted into diagrammatic form and from this they extrapolated an angle of 8 to 8.5 degrees from vertical.

[107] This calculation was the subject of much debate during the Inquiry. Professor Knapton and Mr Wood concluded that at that angle, the memorial would already have fallen. Some months after the accident, they took measurements independently and calculated the angle using different measuring techniques.

[108] Much evidence was heard about the methods of calculating the angles and suggestions for the reasons for the discrepancy of some two degrees. This was a matter of some importance as the calculations were designed to inform the court as to the likely angle of lean of the Ross memorial at the time of the accident, itself a critical factor in determining the forces needed to de-stabilise it.

[109] On 31 January 2017, Professor Knapton measured the angle of the horizontal upward surface and the accessible vertical surface of the memorial using a digital surveying instrument which incorporated an inclinometer allowing measurement of angles from both the vertical and the horizontal. He placed the device on several places on the vertical face and then checked that the horizontal face was actually 90 degrees to the vertical face. He measured the angle at 6.5 degrees from vertical.

[110] Mr Wood took measurements in September and October 2017. Like Mr Hayman, Mr Wood used a manual method to measure the lean but adopted a different technique. He measured the top surface of the plinth, applied a horizontal line across it and measured by how much the top surface had dropped down. He calculated the level of lean at 6.2 degrees.

[111] It is not necessary to rehearse that evidence in any further detail. It was Mr Wood's firm opinion that, had the memorial been leaning at 8 to 8.5 degrees as measured by the NAMM inspectors, it would already have overturned spontaneously. At that angle, Mr Wood was able to demonstrate with the aid of computer-aided drafting that the centre of gravity had moved beyond the tipping point. Mr Wood deduced that the overturning moment would have occurred at an angle of 7.6 degrees. I accepted his evidence. Thus I concluded that the calculation of an angle of 8 to 8.5 degrees described in the NAMM report must have been wrong. Although their method of measuring was theoretically sound, some error had occurred in the practical application of that method by Mr Hayman and his colleague. I accepted Mr Wood's evidence that at such an angle, the Ross memorial could not have remained standing and would already have fallen. Professor Knapton agreed.

[112] As to the later measurement of the angles by the two structural engineers, I was satisfied that the lean of the Ross memorial at the time measurements of the plinth were recorded in September 2016 and February 2017 was between 6.2 and 6.5 degrees. The difference between these two measurements was inconsequential and did not affect the engineers' final conclusions.

[113] Thus it was clear that the maximum angle of lean of the Ross memorial in May 2015 was just under 7.6 degrees. Mr Wood concluded that owing to the passage of time between the dates of the accident and the time at which he made his findings it was not possible to determine with any degree of certainty or accuracy what the actual lean of the memorial was then. There were too many variables in the equation.

[114] Some things might have caused the angle of lean to increase while others might have reduced it. In the intervening period, the adjacent tree had been cut down but by the time the later measurements were taken there was evidence of vigorous regrowth around the stump so that it had become a bush. Both the cutting down and the regrowth might have affected the angle of the plinth. In addition, certain actions might have caused compression of the ground immediately in front of the plinth. For example, when the stone had fallen, its weight might have compressed the ground underneath where it fell. If heavy lifting gear had been used, that too might have compressed the ground and a digger had been brought in to lay down the adjacent large memorial. Perhaps the actual fact of it falling pressed the toe of the Ross memorial into the ground. In the intervening period, some of the effects of compression might have been reversed as the soil re-settled. These were all factors which had a potential influence on the angle (increasing it or reducing it) depending on whether the plinth moved forwards or backwards and about which there was no evidence one way or the other. Mr Wood was pressed as to whether he would be prepared to give a range of figures as to what the lean was at the time of the accident. He steadfastly refused to be drawn on this. He maintained that he simply could not give a lower range figure as that would involve making a range of assumptions.

[115] Professor Knapton, on the other hand, did feel able to give a range of lean. He considered it very unlikely that the memorial was leaning more than 8 degrees. Equally, he considered that it was very unlikely that it was at an angle of less than 6 degrees. Beyond that, he said, he would be speculating. It was his opinion that the Ross memorial

had been slowly but progressively leaning away from vertical for a number of years as the adjacent tree and its roots grew. He would, he said, have been astonished if there had been no lean ten years ago.

The submissions on the likely angle of lean of the Ross memorial at the time of the accident

[116] The Crown submitted that the angle of lean of the Ross memorial on 26 May 2015 and prior to the accident could not be stated reliably, other than to say that it was leaning at a maximum of 6.5 degrees. This position was reached having taken account of the intervening factors that might have affected the lean between the accident and the later measurements and the fact that these were possibilities but unlikely. Given that the evidence did not favour these actions being at all likely, the Crown submitted that the maximum angle of lean was as measured by the engineers, that is, 6 to 6.5 degrees.

[117] On behalf of Ciaran's mother, I was invited to accept Professor Knapton's range of angles of lean. It was submitted that he had based his conclusion on a number of factors. He had taken into account that rotational failure did occur and that had to be the result of the overturning moment being sufficient to overcome the stability. He was influenced by the fact that the memorial next to the Ross memorial was also leaning in the same direction as the Ross memorial and was similarly very close to the wall. He also had regard to the fact that a tree could have an impact on the Ross memorial, it being well known that tree roots could disturb even foundations of heavy buildings.

[118] No specific submissions were made on behalf of Ciaran's father as to the method of calculating the likely angle at the time of the accident. What brief submissions were

made simply adopted the angle of lean as 6.5 degrees being the basis on which the experts had agreed to work.

[119] On behalf of Glasgow City Council, it was submitted that the calculation of the angle of lean by both Mr Wood and Professor Knapton was to be preferred over the larger angle calculated by the NAMM representatives on the basis that at 8 to 8.5 degrees, the memorial would already have passed its tipping point and collapsed. Moreover, a number of factors suggested that the angle of lean of the Ross memorial had not significantly altered by September 2016. There was no evidence to suggest that the difference between the joint calculation of the engineers and the NAMM representatives was consequent upon any settlement of the plinth. In fact, if the initial displacement of the plinth were as a result of tree growth, then it was evident that the tree was continuing to grow and that the plinth was clamped by the tree root. That, it was submitted, would suggest that if there were any movement it would have the effect of continuing to increase and not decrease the angle of lean over that time. Speculation on matters such as soil type and behaviour was based upon no credible inquiry. Therefore, it was submitted that the angle of lean of the Ross memorial, as agreed by Professor Knapton and Mr Wood as being in the order of between 6.2 and 6.5 degrees was the angle at which the stone was standing as at May 2015.

My conclusions

[120] There was no evidence on which to conclude that external influences had in fact affected the angle of lean one way or the other in the intervening period between the accident and the later measurements by Professor Knapton and Mr Wood. Several

examples were given of possible influences but these were said to be unlikely or highly unlikely. I was satisfied that I could disregard them as having any material relevance. The tree was still actively growing and any settlement that might have been caused by the overturning of the Ross memorial or the lifting of the stones was likely to have been temporary. Significantly, the lower plinth was firmly anchored by the tree root infiltration and there was nothing to suggest that the plinth had moved. Although Professor Knapton was confident in his assessment of the likely minimum angle of lean at the time of the accident, the basis on which he had reached the lower figure was not entirely clear from his evidence. However, I took into account his earlier evidence that the Ross memorial would have been moving gradually from vertical over many years. I was satisfied that there was no evidence before me to suggest any significant or sudden movement in the months between the accident and the recording of the measurements.

[121] The maximum lean was just short of 7.6 degrees. At 7.6 degrees it would have overturned and approaching that would have been on a knife edge. Obviously it had not already overturned spontaneously but was standing when the boys started to play on it. From their evidence, I was satisfied that they had probably been playing for at least some time before the memorial collapsed. Therefore I have concluded that it was not standing on a knife edge. Accordingly, I am satisfied, on the balance of probabilities, that the evidence supports a reasonable finding that the Ross memorial was standing at a lean of between 6.2 and 6.5 as measured by the structural engineers.

The forces required to overturn the Ross memorial at a lean of 6.2-6.5 degrees

[122] Leaning at an angle of lean can drastically affect stability and the forces required to de-stabilise a structure. Any lean will reduce the static stability. As the lean increases, the forces required to overturn the structure reduce significantly. These toppling forces were worked out by Professor Knapton and Mr Wood. Again, the differences between their conclusions were agreed to be minimal and of no import. The following calculations were based on the application of a standard overturning analysis of the monument under horizontally applied static loads i.e. loads applied gradually and continuously. The calculations also assumed that there was no connectivity or adhesion between the different components of the memorial - that nothing was sticking them together.

[123] Mr Wood calculated the static loads required to topple the monument if it had been leaning at 6.2 degrees while Professor Knapton used a lean of 6.5 degrees. The level of loads required to topple the memorial at various heights in metres are:

At 1.0 m : 73 kg or 89 kg.
At 1.2 m: 45 kg or 49 kg.
At 1.5 m: 29 kg.
At 2.0 m: 18 kg.
At 2.1 m: 16 kg.

Stability of the Ross memorial at the time of the accident

[124] At an angle of 6.2 - 6.5 degrees, Mr Wood concluded that the Ross memorial would have been theoretically stable i.e. it was not a structure that would have collapsed spontaneously. It would have stood up at the time of the accident as long as it was not

subjected to any unusual loads and as long as the joint between the memorial plate and the upper plinth was in good condition. He considered that children playing on it constituted an unusual load. In terms of the condition of the joints, Mr Wood was referring to the possibility of a "hard spot" of material having ingressed through a crack. Such a spot inside the joint may have allowed it to rock and fall over more easily that might have been the case. However, he conceded that there was no evidence of any such spot and that his opinion on that matter incorporated some conjecture.

[125] Mr Wood also concluded that the Ross memorial would have been stable under a range of horizontally applied static loads generally in excess of those applied in industry accepted tests for smaller lawn memorials, that is, a static load of 25 kg at a height of 1.2 metres.

[126] Both experts agreed that very little pressure would have been required to destabilise the Ross memorial if that pressure had been applied at the capstone or near the top of the capstone. Even the levels of static force sufficient to destabilise the memorial when applied at height were not high and were perfectly within the capabilities of a child to generate. Both agreed that these forces were well within the capabilities of young children. A 10 year old boy weighing on average 45 kg could apply half his weight simply by leaning at 45 degrees. Mr Wood commented that a 10 year old boy on the wall and just leaning on the Ross memorial would easily have knocked it over.

[127] Professor Knapton, while in agreement with the mathematical calculations of the level of forces required to overturn the Ross memorial, did not consider that it had been stable at the time of the accident. Mr Wood's assessment reflected purely the mathematical calculations whereas, as will be seen later, in reaching his conclusions, Professor Knapton adopted a broader approach that took into account the industry guidance and other factors involved in memorial inspection in reaching his conclusion on its stability.

[128] The figures produced related to the application of static forces to the leaning Ross memorial. However, the forces exerted by the children in the course of playful activity were not static forces but *dynamic* forces. These behave in a very different manner and therefore when considering the mechanics of this accident it is important to understand their essential properties, albeit at a fairly basic level.

[129] Mr Wood explained the difference between the two types of force. A static force is the equivalent of hanging a weight from something whereas a dynamic force would be something that varies – increases and/or decreases over the time of application. A static force is a slow, steady gradually increasing pressure which remains constant. Dynamic or inertial forces are changeable and occur where force is applied, withdrawn and re-applied. Mr Wood explained that when a thing starts to move, strange things happen. This is known as "the excitement of the thing": once the thing builds momentum, the forces required to move it more change. Calculation of dynamic forces is very complicated and in circumstances, as here, where there is uncertainty as to the type of activity being engaged in immediately prior to the failure of the Ross memorial, in Mr

Wood's opinion, it would not be possible to calculate a dynamic force with any degree of accuracy. Such a calculation would be tenuous and involve too many assumptions. The exact circumstances would need to be known in order to be able reach a reliable conclusion. In any event, the calculation of dynamic forces was beyond Mr Wood's area of expertise.

[130] "Wobble" was yet another phenomenon to be considered. Mr Wood explained that a static force would not induce wobble because the force remained constant. Wobble occurred when a dynamic force was applied and then removed. The whole structure would try to right itself. Depending on the amount of the original force applied, it would have leant over by a certain amount. It had to come back by the same amount and therefore its momentum was increased. An induced wobble could cause a structure to lean further forward. Professor Knapton agreed that a wobble would change the angle of lean. A wobbling memorial that is top-heavy is very dangerous. He was of the opinion that it was entirely possible that this could have led to failure. If the Ross memorial had been close to its tipping point, a wobble of any degree could have destabilised it.

My conclusions

[131] It was clear from the evidence that in the course of their play, the children exerted easily sufficient dynamic forces at a point high up on the memorial to cause its collapse. It was equally clear that but for the application of these forces the Ross memorial would have remained upright. Mr Wood confirmed that the simple act of children playing around the memorial, without contact at its height, would not have destabilised it.

[132] Although the exact mechanism of the accident could not be established, climbing on the top part of the Ross memorial would have caused it to fall, as would climbing up on the plinth and placing hands on a wobbling memorial. Accordingly, I am satisfied that the primary cause of the accident was the playful activity in which the children were engaged on the evening in question, which playful activity involved climbing on and around the memorial which was already leaning at between 6.2 and 6.5 degrees.

Findings in terms of section 6 of the 1976 Act

[133] In order to establish whether any findings are appropriate in terms of section 6, two fundamental questions need to be answered: first, was the activity of the children something which should have been guarded against in terms of the assessment of risk? Secondly, in terms of general stability was this memorial in a dangerous condition which should have been evident to the local authority as part of their inspection process? This requires an examination of the general duties and responsibilities of cemetery managers as defined in the industry good practice guidance.

The duties and responsibilities in relation to the maintenance and safety of burial grounds

[134] The Local Authority, in this case, Glasgow City Council, has the duty to maintain Craigton Cemetery and to have regard to the safety of all users, be they visiting members of the public or employees working there. Important among their duties is ensuring the safety and stability of the various monuments, from simple modern lawn memorials to older ornate, Victorian or Edwardian structures. A lawn memorial is a small marble gravestone, typically about 500mm in height, comprising a memorial plate

and a small base connected by dowels. They are nowadays anchored in place. The older traditional monuments are estimated to represent about 40 per cent of the total stock of headstones across the country.

[135] In observing these duties, councils have a rich source of guidance and advice on which to draw. The Inquiry heard about this guidance in great detail and was referred to five principal sources: the Ministry of Justice guidance "Managing the Safety of Burial Grounds: Practical Advice for Dealing with Unstable Memorials" (2009) which followed upon the Special Report from the Local Authority Ombudsman "Memorial Safety in Local Authority Cemetery's (2006); the Association of Memomrial Masons ("NAMM") Code of Working Practice (2014); the Institute of Cemetery and Cremation Management (ICCM) "Guidance on the Management of Memorials" (2012); and the British Standard Directive "Monuments within the Burial Grounds and Memorials Sites – Specification" BS8415 (2012). The NAMM guidance and the British Standard incorporate the Ministry of Justice Guidelines. There is no specific Scottish guidance but the Ministry of Justice Guidance for England and Wales has been adopted by most if not all councils throughout Scotland. The guidance is not mandatory but advisory and represents accepted good practice in the management of burial grounds and memorial safety.

[136] In terms of the available guidance, local authorities and cemetery managers are encouraged to adopt a risk-based approach and to develop a sensible, proportionate and sensitive response to managing those risks. It is worth noting that the Ministry of Justice guidance came about following complaints from the public about the application of over-zealous risk assessment policies. A special joint report was commissioned by the

Public Services Ombudsman in Wales and the Commissioner for Local Administration in England entitled *Memorial Safety in Local Authority Cemeteries* and published in 2006. In the foreward, the subject was introduced as follows:

> *In recent years a number of local communities have been shocked and aggrieved by the actions of councils laying flat hundreds of grave memorials as a result of health and safety inspections. To people visiting after the event it has looked as though vandalism on a large scale has desecrated their cemeteries.*

[137] It was evident from this document that there had been an increasing awareness of the dangers which unstable memorials in burial grounds could pose to those who work there and to members of the public who may be there as mourners, relatives or friends visiting a grave, or to those present for recreational purposes such as children playing. Memorial safety had aroused widespread public concern. A small number of tragic accidents and deaths, in particular to children, had raised public awareness. Local authorities in England and Wales began to carry out safety checks starting with the oldest sections of their cemeteries. However, alarm was generated when huge numbers of lawn memorials in post-war sections were laid flat.

[138] Thus the primary focus of the report was on lawn memorials. The appendix dealing with testing likewise relates exclusively to lawn memorials. References to larger more traditional memorials appear to have been included as an afterthought and the two have become conflated in subsequent practical application.

[139] The 2006 Report concluded that there was a balance to be struck between public safety and public outrage. The Ministry of Justice guidance followed from the publication of this report and reflected a similar ethos guarding against over-zealous

safety practices. It recommended a sensible, proportionate and sensitive approach to managing gravestones.

[140] It is well-recognised that the risk of injury from memorials is extremely low. That said, of course there is a greater risk of serious injury occurring in an accident involving an old, large memorial rather than a modern lawn-type headstone. It is also generally recognised that even where all reasonably practical precautions have been taken, accidents may still occur.

[141] The Inquiry heard evidence from a number of witnesses about the methods of assessing risk associated with memorials and their inspection. Mr Alex Stewart gave a hands-on practical account from his experience with Glasgow City Council. The court heard from Mr David McColl and Mr Alistair Brown as to the specific responsibilities of Glasgow City Council.

Risk assessment

[142] In order to assess the reasonable precautions whereby Ciaran's accident might have been prevented or whether there were any defects in the system of working which contributed to the accident in terms of section 6(1)(c) and (d) of the 1976 Act, it is important to understand industry standards and best practice. Although it is not mandatory to do so, most if not all local authorities draw up their own procedures using the available industry guidance. While there are some differences in emphasis, the content of the various sources of guidance insofar as it relates to risk assessment is broadly similar and specify staged procedures based on established general principles.

All follow the widely recognised Five-Step approach enshrined in risk assessment principles promoted by the Health and Safety Executive. These are:

Step 1: Identify the hazard
Step 2: Identify who might be harmed and how
Step 3: Evaluate the risk
Step 4: Record significant findings
Step 5: Review periodically.

In general terms, the risk assessment is based on protection from harm to members of the public going about their legitimate business when visiting the cemetery and to employees while working there. It is universally recognised that children visit cemeteries and that children sometimes play in cemeteries.

Children in cemeteries

[143] Some reference is included in the publications as to the presence of children in cemeteries. There was a recognition that, when visiting cemeteries with their parents or other family members, children might resort to playful activity by running about in between and near to memorials. Reference is included in the general guidance to the sad fact that children have been killed by falling memorials whilst playing in cemeteries. Nevertheless it is recognised that statistically the risk of such injury (to adults as well as children) is very small. Beyond that, the industry guidance makes no reference to children in particular.

[144] The Inquiry heard from Mr Thomson that in considering the general level of risk in cemeteries, the potential for children to run about and play around the memorials whilst visiting the cemetery would be a recognised risk in any assessment. There were other specific risks that might be identified: for example, it was generally accepted that there

would be increased risks in children's cemeteries where it was likely that family members would visit often taking with them other children in the family. Also, certain memorials such as small tiered crosses were recognised as a climbing hazard to young children. Otherwise, unless there was a specific known problem of children playing on gravestones in a particular location, the risks posed by children climbing on to and jumping from large memorials were beyond the type of activity that could reasonably be anticipated and therefore would not form part of the general risk assessment.

The submissions on risk assessment

[145] It was submitted on behalf of Ciaran's mother that it made no logical sense to include children playing around memorials in risk assessment and yet exclude from that assessment the risk from children playing on or near a memorial in the sense that they might gain access from it to the perimeter wall. It would be unrealistic to say that perhaps because conduct was not approved of it should be legitimately excluded from an adequate risk assessment. The industry guidance, the Health and Safety Executive guidance and the Ombudsman's Report all acknowledge the presence of children in cemeteries and the potential for children to play there. It was submitted that the conduct of the children involved in this accident was entirely foreseeable and the danger presented by the memorial and the breached security perimeter was entirely predictable.

[146] For Glasgow City Council it was submitted that the evidence of Mr Thomson should be accepted. Suitable risk assessment, according to him, was one which identified the risk of actions which could reasonably be anticipated. These included children who visited cemeteries running around. Specifically, it did not cover playing

games on the top of a tall memorial. Actions which fell to be excluded from such assessments included children playing or climbing on memorials or climbing on nearby walls and in his view it would be unnecessary for such risks to be addressed in any memorial safety assessment.

[147] The Crown's submission was in much the same terms. Given his extensive experience in risk assessment, Mr Thomson's evidence that any appropriate risk assessment would intend to cover accidental impact by children playing around memorials but not climbing on them (and not climbing on walls) should be accepted as an entirely reasonable and proportionate approach.

My conclusion

[148] It was clear from industry guidance that the presence of children in cemeteries should be recognised and this includes them engaging in playful activity around memorials. However, it seemed equally obvious that what was being described here were the types of situations where children visiting the cemetery might run off and play among and around the memorials. Such activity would take place at ground level and therefore come within the category of the risk of falling accidentally into or against a memorial in the course of that play. Climbing and jumping from tall memorials is something completely different. Cemeteries are not playgrounds and children should not be engaging in that type of activity there, no matter how enticing the prospect and notwithstanding that "boys will be boys". Generic risk assessments are not intended to cover more adventurous play such as climbing to the top of large heavy memorials,

whether standing at a lean or not. This type of activity is clearly beyond the proper scope of a reasonable and proportionate risk assessment.

Memorial safety

[149] The industry guidance on best practice in relation to memorial safety can be distilled into a three-stage process: a general zoning risk assessment; a visual inspection and a physical inspection. The second and third stages relate to the assessment in terms of risk of instability of individual memorials. Mr Thomson stressed the importance of having a simple, straightforward method of inspection in place, an inspection routine that relies on common sense and one which is flexible allowing an operator to respond to the particular circumstances of individual headstones and memorials.

Stage 1 Risk Assessment: Zoning Survey

[150] The first stage in any risk assessment is to build up a profile of the relevant estate. This is designed to prioritise the inspection process. Surveys should be carried out to establish knowledge of the types of memorials currently installed in the various burial grounds, their age, designs and material used, the historical and social importance, the general environment and, in particular, the likelihood of members of the public visiting or walking passed them. This process should be informed by local knowledge. In general terms, memorials associated with a higher footfall – for example, those within a short distance of paths - are more likely to present a risk to visitors than those in less accessible areas. Memorials of well-known people, those of social or historical interest or ones with particular aesthetic or architectural qualities may be more frequently

visited. Memorials associated with more recent burials are more likely to be visited by relatives, as are the graves of children.

[151] In this way, councils can build up a profile of memorials in their burial grounds which provides a reliable knowledge base. Such site surveys are recognised as an essential first step to enable the prioritisation of an inspection and assessment process. Such a procedure allows councils to identify a profile of risk from memorials in their estate.

Stage 2 Risk Assessment: Visual Inspection

[152] The second stage of the process involves a visual assessment or check of all memorials for obvious signs that a memorial is likely to be unstable. This is the first step in any stability check. It is recognised that this is a process which is easy to do using simple common-sense judgment and yet it acts as an effective early warning system to help councils identify and prioritise memorials that need a more detailed inspection.

[153] An inspection methodology is required to ensure that such a visual check is meaningful. Again, the elements of a visual check are set out in slightly different terms in the various guidance documents but clear common principles can be identified. Things to look out for include:

- damaged or eroding bonding
- the condition of any joints
- movement of parts of a memorial from its original position
- kerbstones breaking apart

- undermined or unstable foundations
- leaning memorials – particularly if there is evidence of movement
- evidence of structural damage or disturbance (e.g. – cracks)
- the presence of vegetation, which may cause cracks to widen or the intrusion of vegetation
- whether the monument is made of hard or soft stone
- the general condition of the ground and other topographical features (e.g. slopes)

Each of these features indicates a potential danger to the trained naked eye and provides an effective and reliable means of assessing a memorial prior to any physical inspection.

Stage 3 Risk Assessment: Physical Inspection

[154] Where any concerns are identified, actual physical testing of monuments is required in order to determine their degree of stability, provided, of course, that it is safe to do so. Even where there are no obvious concerns from a visual inspection, a physical test can be carried out to confirm the position. This involves a hands-on test applied by a suitably trained person. In the course of the Inquiry, fundamental divergences of opinion emerged among the experts which demonstrated that there existed within the industry as a whole profound confusion and disagreement as to how the guidance should be interpreted. These conflicting opinions raised important matters of public interest. Again, the source of the problem seemed to be the conflation of guidance for lawn memorials with other, very different, structures.

[155] According to the relevant British Standard, the hand check is carried out by standing to one side of the memorial and applying a firm but steady pressure in

different directions to determine to what degree, if any, the headstone is loose. A pressure of 25 kilogrammes is applied at shoulder height. This is the load specified in the British Standard 8415 used in the construction of parapets, balconies, etc. It is the load designed to withstand accidental impact at shoulder height of 1 to 1.2 metres which is deemed to be the height of any anticipated accidental impact.

[156] Much evidence was led about mechanical devices known as dynamometers which are used either as confirmation of the hand test or as a primary means of testing. These devices are heavy metal boxes which the operator holds against the surface and applies pressure until a pre-set level of force is reached. Although the device records the pressure applied, it does not itself generate any force but relies on the operator to apply the pressure manually. The devices are heavy and are not generally applied above shoulder height: Mr Thomson explained that the tester would not physically be able to push such a load at that height. Mr Thomson demonstrated the use of such a device in the courtroom. It was clear that 25 kilogramme is not an insignificant amount of force but one that required considerable exertion. The guidance issued by the ICCM and Ministry of Justice do not recommend the routine use of such devices. Their use tends to be limited to confirmation that the appropriate pressure has been applied. Mr Thomson considered mechanical devices a "bit of a red herring" and confirmed that their real relevance was in relation to the application of the 25 kilogramme test on lawn memorials. I considered that the use of mechanical devices was irrelevant as far as larger memorials such as the Ross memorial were concerned. Again, the fact that so much evidence was led about these was yet another illustration of the confusion of larger memorials with lawn memorials.

[157] According to the ICCM guidance, a memorial that is in "immediate danger" is one that fails the testing procedure and will not withstand a force of approximate 25 kilogrammes. The monument only fails if, as a result of the continuing application of 25 kilogrammes or less, the memorial would continue to move and eventually fall to the ground. Once again, as will become clear, the 25 kilogramme test applies to lawn memorials only.

[158] The results of each assessment require to be recorded and a record kept of the action to be taken following inspection. Each memorial should be categorised according to its stability rating. Again, the various guidance sources describe the categories in different terms but three categories are identified. These are variously described as categories 1, 2 and 3, high risk, medium risk or low risk or red, amber (or yellow) and green. Those memorials in category 1 – high risk – pose an immediate danger and should be made safe with a sign or laid down. This should generally be achieved urgently, within 24 hours. A category 2 – medium risk – requires re-inspection or repair within 12 months due to concerns about a hazard posed in the longer term. Category 3 – low risk – applies to memorials in good condition requiring no attention. They should be re-inspected within five years. (The British standard includes a fourth category: re-inspection in 18 months but this additional category does not appear to have been adopted elsewhere in the various sources of guidance.)

[159] Two aspects of guidance in connection with the physical testing of larger memorials raised issues of public concern. The first provoked the most stark

disagreement among the experts: whether a hand test was appropriate for certain types of monument, including structures such as the Ross memorial; the second concerned the relevance of the application of a 25 kg pressure test to larger memorials.

Hand testing on memorials such as the Ross memorial

[160] The basic issue was whether such memorials could safely and competently be tested by local authority employees or whether their structural complexity required the professional input of experienced memorial masons or structural engineers in order to determine their stability. Clearly not all memorials are suitable for a physical hand test. This was not disputed. Some memorials are deemed too complex for the application of a routine hand test. There are obvious ones, common in the Victorian and Edwardian eras which include large, complex structures such as mausolea, those with roofs and cupolas, and ornate structures with pillars, columns and the like. These are structures which require the specialist attention of structural engineers or competent memorial masons.

[161] However, expert opinion clashed when it came to categorising a structure such as the Ross memorial. Mr Thomson considered the written guidance on this to be vague and unhelpful. The Ministry of Justice Guidance acknowledges that *much larger, heavier memorials such as older columns or obelisk types* ***may*** *require assessment by a specialist engineer or a competent memorial mason (*emphasis added). The British Standard, which bears to be based on that guidance, translates this in terms that are, at once, less clear and yet more strict: *Large heavy memorials e.g. multi-component structures such as columns or obelisk types,* ***shall*** *be assessed by a specialist engineer or a memorial mason* (emphasis added). The

ICCM guidance recognises that hand tests should only be used on *non-complex memorials within the height category of 1.5 to 2.5 metres*

[162] Professor Knapton and Mr Hayman relied heavily on the British Standard. It was their clear position that a structure such as the Ross memorial should be referred to a specialist for assessment. There was, according to Mr Hayman, no room for any other interpretation. First, it was a large heavy memorial. Secondly, it was complex in terms of assessment: it was a multi-component structure with a pediment. Therefore, it c*ertainly* fell within the category as defined by the British Standard.

[163] Equally, Professor Knapton was in no doubt that the Ross memorial qualified for specialist assessment: in his opinion, a memorial of that size and shape brought it into the realms of civil engineering structures. He agreed that the British Standard applied the hand test to lawn memorials and thereafter simply divided memorials into two categories: lawn memorials and those that were not lawn memorials. The focus of the Standard was squarely on the former.

[164] He was clear that a structure such as the Ross memorial required to be dealt with, not by pushing it over, but by the application of civil engineering calculations. In the course of a physical inspection, he would have been very wary of the possibility of an accident caused by the pediment falling. It is one of the principles of structural work that when things fail it is very difficult to predict exactly how they are going to fail. Thus he would consider applying pressure during a hand test a very dangerous thing to do.

[165] Mr Thomson disagreed. As far as the Ross memorial was concerned, it was really just four pieces of stone, one on top of the other. It was not an inherently complex structure. Such monuments were very common and there was a huge stock of Victorian and Edwardian structures which were stones of a similar size and design to the Ross memorial. They represented a significant proportion of the total stock – about 40% of an estimated 10 million memorials throughout the UK. If every memorial of this design required to be referred to specialists, Mr Thomson doubted whether inspections could be achieved within the recommended five-year cycle. Moreover, there would be a huge back-log of memorials cordoned off and waiting to be tested. In practice, these were monuments which were commonly assessed by hand tests carried out by local authority employees, even where they were leaning at an angle. Such inspections were part of routine training.

[166] Mr Thomson advocated what could be described as a "hierarchy of measures": those trained to carry out basic inspections must be able to appreciate when they were in a situation that might be dangerous and therefore beyond their competence. It was at this stage that they should call in the assistance of others more experienced or refer to qualified professionals such as memorial masons or structural engineers. He described this as a hierarchical approach. In this way the inspection process could be safely carried out without risk to Council employees. Council employees had to be able to recognise when something was beyond their competence and this was all part of their training.

[167] Mr Thomson explained that there were other features built in to the testing process which protected the tester. Such monuments tended to be fairly broad and

relatively narrow. If they were going to collapse, they were going to fall forwards or backwards, not sideways. That was why tester stood to the side in applying a hand test and why pressure on a leaning monument was applied in the direction of lean. Thus the danger was reduced. In practice, testing a memorial to the point of collapse was very rare. The whole point was to feel movement before that. Mr Thomson did not consider it reasonable to refer all such monuments to a specialist automatically. For example, he explained that without applying a hand test there was no way to determine whether there was any movement and whether the structure was pinned. Even if standing at a lean, a structure might be pinned so that it would be prevented from collapsing. The only way to determine that was by a hands-on test.

[168] To demonstrate his point, Mr Thomson referred to the headstone adjacent to the Ross memorial which although standing at an alarming lean estimated at about 30% had actually been pinned and was stable - so much so that it took considerable effort and, eventually, a JCB digger to take it down. A hand test would have determined the stability of that monument and sifted it out from those that required to be referred on. Thus a hand test should be used to determine whether or not, if something started to move, it was actually catching on dowels. He agreed with Mr Hayman that the presence of dowels could not be guaranteed. That, he said, was exactly why he would want to apply a hand test. If all such monuments were to be referred to a specialist, in Mr Thomson's view it would take years to test them all and, in his words, "you might as well shut the gates".

[169] Mr Thomson described how an inspector should check a monument like the Ross memorial. Such a stone should be examined from the ground up. The first hand test should be applied on the inscription plate about half way up or slightly above. It should not be applied at a specific height but at a point relevant to the particular monument - at a place where it was most likely to generate any potential reaction. He would also want an inspector to check the pediment by putting his hand on the edge at the bottom of the radius and pushing upwards and outwards in the direction of the lean. That would be at a height of about 1.82 metres. If the inspector could use the heel of his hand, he could exert more pressure and feel any movement.

[170] He would still expect an inspector to test at the higher height even if he had detected some movement on the inscription plate but in that case he would expect him be very cautious throughout the second test. Movement from the pressure test on the pediment would be felt, not on the pediment itself, but further down on the inscription plate.

[171] Thus Mr Thomson strongly advocated hand testing on such a memorial and to a higher point. The hand test and the subjective feel of the thing was the most informative: *it's all down to what you feel when you lay your hands on the stone*. Each memorial had to be considered on its own merits. This was a basic part of the training. Beyond the obvious categories of complex memorials, it was clear that Mr Thomson considered hand tests to be a vital part of the testing regime.

[172] In complete contrast, Mr Hayman was adamant that he would not touch such a memorial explaining that to do so would be too dangerous to any operative and anyone else in the vicinity. What was important was to ensure that such a monument was able to support itself. A hand test would not confirm stability. If he *had* to hand test he would certainly not touch the capping stone – that would be inherently dangerous. He would test the inspection plate no higher than shoulder height. When asked what he would do in carrying out the inspection of a leaning memorial such as the Ross memorial, he confirmed that would not lay hands on such a monument. Instead he would carry out a visual inspection in much the same way as the Council employee and would probably reach the same conclusion that the memorial could not be assessed as safe and able to be left in that condition. It would require to be cordoned off pending a decision as to what further action might then be instructed to make it safe in some way e.g. by removing the capping stone, dismantling and reconstructing the stone in due course.

[173] The role of the structural engineer was different. Professor Knapton explained that if he were to inspect a leaning structure such as the Ross memorial, he would assess stability by assessing first the level of the lean. He would then estimate the weight of the parts and, from that information, make a calculation of the overturning moment.

[174] This stark divergence of opinion amongst the experts illustrated the shortcomings of the written guidance when applied in practice. The description of the memorial types contained in the guidance is vague and open to very different interpretations. The application of a hand test on memorials in the height category of the Ross memorial is recommended within the ICCM guidance and implied in their advice against the use of

mechanical testing devices on structures over 1.5 metres: *certain memorials over 1.5m can fail a hand test yet pass a mechanical test due to the hand test being carried out at a higher point on the memorial than a mechanical test which takes place at shoulder height.*

[175] The apparently mandatory terms of the British Standard do not, as they purport to do, accurately reflect the Ministry of Justice guidelines. The different terminology used is neither highlighted nor accompanied by any explanatory note. This has simply added to the confusion.

The relevance of the 25 kilogramme test

[176] The application of the 25 kilogramme test in the context of stability testing was a matter on which the experts agreed but which likewise demonstrated a lack of clarity within the industry advice at a fundamental level. All of the experts (and Mr MacColl too) agreed that the 25 kilogramme test was meaningless as far as the Ross memorial was concerned. Its relevance was in relation to lawn memorials only. That being so, it was surprising that so much time was spent leading evidence about the 25 kilogramme test. Indeed, that test was used as a measure against which the opinions of the structural engineers were sought as to potential stability of the Ross memorial at the time of Ciaran's accident. The confusion only became apparent as the evidence unfolded. This was a matter of some importance as it affected the likely outcome of any inspection that might have been carried out.

[177] Professor Knapton had been closely involved in the work that had been undertaken to enhance the stability and safety of lawn memorials and in drawing up the

British Standard. He had given evidence to the committee and his submissions were reproduced in an annex and adopted in the later guidance. His work formed the basis of the 2012 British Standard. Thus he was able to speak with authority. The origin of the 25 kilogramme test was in fact a 35 kilogramme test which he had proposed – for lawn memorials. That was somewhat random but at least it had some logic in that it represented half the body weight of an adult. It was later reduced to 25 kilogrammes although the basis of that reduction seemed somewhat arbitrary. He explained that it was the level at which it was considered would protect against accidental damage. However, in relation to structures such as the Ross memorial, it was the wrong test because a stone of that size and design brought it within the realms of civil engineering.

[178] Mr Hayman agreed. A hand test on a headstone such as the Ross memorial would not give a definitive result as to its continuing safety. That had more to do with structure. Hand tests were not appropriate on larger types of stone. The 25 kilogramme hand test related to lawn memorials only and had no meaning for larger structures such as the Ross memorial: there would be no point in subjecting it to a maximum 25 kilogramme test. It was too light a force.

[179] Likewise, Mr Thomson agreed that the 25 kilogramme hand test was not relevant to larger memorials. While he did advocate a hand test, he did not advocate applying a specific pressure. He would certainly expect a minimum of 25 kilogrammes to be applied but that really was the starting point. Pressure beyond 25 kilogrammes would need to be applied and at different levels. Only then would the tester be able to get a feel for movement and stability.

[180] There was, then, fundamental disagreement on several aspects of the recommended testing procedures. However, it was clear that, without exception, all sources of guidance place a robust system of memorial inspection at the heart of good practice in the safe management of burial grounds. Thus an examination of Glasgow City Council's inspection regime at the time of Ciaran's death became a critical aspect of this Inquiry and fundamental to determining whether there were any reasonable precautions that might have prevented the accident or whether there was an unsafe system of working that contributed to the accident. It is necessary to consider Glasgow City Council's safety inspection regime at the time of Ciaran's death.

Glasgow City Council inspection programmes at the time of the accident

[181] It was established from evidence before the Inquiry that at the time of Ciaran's accident, there was no adequate system of inspection of memorials in cemeteries being carried out by Glasgow City Council. The Inquiry heard evidence about this from three Council employees: Mr David MacColl, Bereavement Services Operations Manager between 20013 and now; Mr Alastair Brown, then Head of Land and Environmental Services with responsibility for bereavement services; and Mr Alexander Stewart, Operations Manager from 2006 to 2010. Mr Stewart had a wide breadth of practical experience having, over a career that spanned some 32 years until his retirement, progressed from grave digger to charge hand, supervisor and, ultimately, to operations manager for the relevant bereavement services. Indeed, he recalled being sub-contracted to dig graves in Craigton Cemetery when it was still privately owned.

[182] Mr Stewart was a fairly straightforward witness although at times I found his manner somewhat glib. However, given his experience, he was well qualified to explain how the system worked in practice. Mr MacColl gave his evidence in an open and direct manner. He struck me as an honest witness who spoke with candour. In contrast, Mr Brown was a singularly unimpressive witness. He was evasive and defensive and could barely give a straight answer. He repeatedly tried to deviate from the questions, deliberately going off at a tangent in the hope that he could avoid answering the question asked. He was a master of obfuscation. I found him to be unreliable and unhelpful, so much so that I attached little weight to his evidence. This was a disappointing performance from a senior official at a public inquiry and it reflected badly on the Council.

[183] Mr Stewart explained that, as grave digger, it was part of his function to carry out stability checks on monuments. There was not a specific squad of men to do this work. It was simply done in between grave digging as and when time allowed. For the whole of Glasgow – 32 cemeteries with something in the region of 400,000 memorials - there were only 12 grave diggers doing this work. None of these inspections included Craigton Cemetery. The focus of the work was in the north of the city where most of the burials took place. Craigton was only visited if burials were on. Mr Stewart did not describe the actual inspection process in any detail.

[184] The Inquiry heard that the only checks on existing memorials at Craigton Cemetery occurred when there was a second interment in an existing lair. Five or six gravestones on either side of the active burial site were checked for stability in the

interests of the safety of those persons attending the graveside. No records were kept of the results of these inspections or where in the cemetery they had been carried out.

[185] What limited inspections that had been taking place over the city as a whole seemed to have stopped by 2011. No records were available after that. Mr Brown accepted that record keeping had been poor. No records existed in relation to the Ross memorial itself. Mr MacColl gave evidence that when he took up his position as Operations Manager in 2013 he was concerned to find that there was no programme in place for the routine stability inspection of memorials city-wide. He had come from another local authority were there were systems in place for such inspections and which were being carried out. While it appeared that there had been such as system up to about 2010, by the time he arrived such inspections were not taking place. Mr Brown was asked why the inspections were no longer being carried out to which he replied that he had no idea. There was, he said, no-one left to ask as Council employees who were around then and might have known had all left. I considered that a wholly inadequate response by a senior officer on a matter of profound importance.

[186] Mr MacColl was so concerned about this lack of a proper inspection regime that he raised the issue with senior managers, including Mr Brown. At various meetings he advised them of the situation and declared his opinion as operational manager that the Council needed to review the situation and come up with something more substantive. He was looking for some formal process to carry out memorial inspections. He was told, however, that there were resource implications: the resources required were disproportionate to those available and to other work being carried out. Mr Brown

denied having been at the meetings where this was raised by Mr MacColl – he said it would have been rare for him to have been at meetings with someone of Mr MacColl's grade. He denied having been made aware of this. His position was that in 2013 he would have been aware that headstone checks were being carried out but would not have been aware that these were not following guidance. The first he knew of this was after the accident in 2015. He was never made aware of any complaints about memorials other than complaints - which were common - about the general state of the cemeteries. I did not find his evidence convincing and accepted Mr MacColl's account that he had been so concerned that he had brought his concerns to the attention of senior managers, including Mr Brown.

[187] At about that time, in 2013, the Glasgow City Council were approached by the Scottish Prison Service (SPS) to see whether they might participate in an SPS initiative for long-term prisoners coming up for release. With a view to acclimatising them to life in the community, it was hoped that they could do some training as part of the *Preparing for Release Programme.* The plan was for the Council to train up to six prisoners at a time. They would be trained by the local authority in memorial inspection and would work under the supervision of trained Council staff. They would spend the day on site before returning to prison.

[188] The SPS proposal was set out in a report prepared by Mr MacColl and approved by Mr Brown. The proposal was explained in the following terms:

> *Glasgow City Council was approached during May 2013 by SPS Barlinnie with a request to seek an appropriate workplace for the Prepared for Release programme in the City Council's cemeteries. At present there is a limited inspection and maintenance*

programme in the interests of memorial safety/amenity within Glasgow City Council cemeteries. A broad assessment of concerns raised by the public demonstrates a significant number of these relate to the condition of memorials in our cemeteries.

The extent of the works carried out by the SPS Team would include the initial assessment of memorials, turning over and laying flat of unsafe memorials and upprighting memorials where possible. This is not work which is carried out as a core function of GCC staff at present.

[189] The document went on to explain that initial training would be provided by an external source, covering, among other things, memorial inspection and the effective recording of results. The prisoners were to be supervised by GCC staff with additional supervisory support from SPS and there would be up to six prisoners in one group.

[190] In the course of the Inquiry there was some debate as to what was meant in the document about what it was that was not then being carried out by Glasgow City Council as a core function. It was suggested that the documents clearly showed that the Council were not carrying out routine memorial inspections as a core function and, indeed, that would appear to be the case on a straightforward reading of its terms. However, Mr Brown interpreted it differently. According to him, the core function that was not being carried out related, not to the stability inspections of memorials, but simply to the up-righting of fallen memorials. At the time, he said, what was very much in his mind had been the look and feel of cemeteries. This scheme was about maintaining the cemeteries and enhancing the amenity. It was not about third parties coming in and carrying out basic health and safety responsibilities.

[191] I found Mr Brown's evidence about this completely unconvincing. His interpretation of the wording of the proposal was somewhat disingenuous. Furthermore, it was not borne out by the fact that the prisoners were to be trained to inspect the memorials – and were so trained – and that no evidence was led that any fallen memorials had been re-instated in the process. Moreover, at the conclusion of the Inquiry, the SPS initiative was referred to in support of the Council's submission as evidence that a system of inspection, albeit limited, was actually in place at the time of Ciaran's death. Thus it seems obvious that the prisoners were indeed being used to carry out the core work of memorial safety inspection.

[192] The SPS project went ahead. Mr MacColl's proposal went to the Council's Policy Development Committee for approval in March 2014 and work started shortly thereafter. In fact, little was achieved. Mr MacColl explained that, at the end of the day, only a handful of prisoners took part and their attendance was fairly sporadic. No prisoners ever attended Craigton Cemetery.

[193] Thus it was clear from the evidence that Glasgow City Council had no structured system of inspection of memorials was in place at the time of Ciaran's accident. Specifically, no such inspections had taken place at Craigton Cemetery in the months and years before.

The findings in relation to the lack of a system of inspection of memorials

[194] In order to consider whether the lack of such an inspection regime gives rise to any findings in terms of section 6, the question arose whether it was necessary to consider what the likely outcome of a stability inspection of the Ross memorial would have been. For the purposes of a finding under section 6(1)(c) it was argued by Ciaran's mother that the court need not reach any conclusion as to whether or not the Ross memorial would have passed such an inspection. All that was required for a determination was a finding that a reasonable precaution might have avoided the death.

[195] The Crown, on the other hand, argued that whether the Ross memorial would have passed or failed an inspection was central to the findings under section 6. No direct submissions were made on this by Ciaran's father. The position of the local authority echoed that of the Crown.

[196] I am satisfied that in order to consider whether an inspection might have avoided the fatal outcome, it is necessary to consider what the result of an inspection was likely to have been: not what it might have been but what, on the balance of probabilities, it would have been. There must be a proper factual basis upon which to determine whether the accident might have been avoided and that factual basis requires to be proved to the civil standard on the balance of probabilities. Otherwise, as the Crown put it, to conclude that the memorial *might* have failed a test and therefore Ciaran's death *might* have been prevented was to layer one might on top of another. That, the Crown submitted, was "one might too many". I agree with that analysis. Accordingly, it is

necessary to consider the expert evidence as to the likely outcome of the inspection process had it been in place at the time of Ciaran's accident.

What, on the balance of probabilities would an inspection of the Ross memorial have revealed?

[197] First, (taking account of local knowledge) the zoning inspection of the Ross memorial would have revealed the following:

- Craigton Cemetery is a large graveyard bounded by a high wall with pedestrian and vehicular access gates.
- It is in a general state of disrepair and dilapidation with evidence of trees encroaching on the foundations of memorials and headstones standing at a lean.
- It is un-manned.
- The stock contains a large proportion of old traditional memorials such as the Ross memorial.
- Few new interments take place – about 10-12 secondary interments each year. On these occasions, headstone checks are carried out – 5 or 6 on either side of the new grave.
- There is a busy working crematorium at the north end of the cemetery.
- There were two large holes in the perimeter wall close to a part of the cemetery where large leaning memorials were situated. One of the holes was easily big enough to admit adults and children with evidence of it being used as a means of access to the cemetery and as a shortcut.
- Glasgow City Council were aware of a significant problem with vandalism at Craigton Cemetery.
- The cemetery was regularly used by dog-walkers.

- Craigton Cemetery is part of a city heritage trail with memorials of social, historical and architectural interest.

[198] It is important to note that although there was evidence before the Inquiry that children often played in the cemetery, there was no physical evidence of the presence of children that would have informed any preliminary risk assessment. There was no evidence that Glasgow City Council knew that children played in that part of the cemetery. Specifically, there was no evidence to suggest that the Council were aware that children played at and on the Ross memorial.

[199] A visual inspection of the Ross memorial would have highlighted the following features:

- It was a top-heavy structure with a pediment overhanging the inscription plate.
- It was a large, heavy granite memorial consisting of 4 parts stacked on top of each other approximately 7 feet tall.
- It was an old memorial erected in 1920s.
- The stone was in good condition.
- Roots from an adjacent tree were encroaching beneath and lifting the lower plinth pushing the memorial from vertical. The tree roots were clamped over the corner of the base plinth.
- The joints were filled with a thin layer of mortar and showed evidence of deterioration and weathering.
- The memorial was situated close to the boundary wall. The top of the memorial was just above the level of the wall.

- It was leaning at a discernible angle of approximately 6.5 degrees.

[200] At that point in an inspection, the only issue would have been whether this memorial was put into the amber category or the red. The lean, the intrusion of the tree roots and the weathering of the joints would undoubtedly have meant that at best it would have been a monument that was considered unstable but not an immediate danger. All the experts agreed that a memorial of such a lean would never have been put into the green category to be left for 5 years. So it was a monument that either required to be dealt with immediately or kept under review on an annual basis to monitor the lean. The remaining question is whether it would have failed an inspection as an immediate danger. If so, the accident might have been avoided as it is likely that the memorial would have already been made safe or laid flat.

[201] Notwithstanding their position about the classification of the Ross memorial, had they been asked to inspect it both Professor Knapton and Mr Hayman would have declared it unsafe. Professor Knapton was "pretty sure" that he would have declared it unsafe because of the lean and the pediment. He would have advised the local authority to take steps to make it safe. Likewise, Mr Hayman would immediately have fenced off the memorial: he would have considered it a potential hazard and a danger. He would not have passed it as safe. He explained that there required to be an exit strategy whereby the memorial was made safe. Once designated a danger it could not be left as a danger. As an indication of his level of concern about such a memorial he commented that he would not have been happy for his family to sit under it and have a picnic. This

was not a frivolous comment but one meant to demonstrate how unsafe he felt it to have been.

[202] Mr Thomson was reluctant to say whether, in his opinion, the Ross memorial would have passed or failed an inspection: "it might very well have passed, it might very well have failed. I don't know". He considered it impossible to recreate the conditions retrospectively and to reach any conclusion without having seen the memorial and formed a subjective opinion based on a hands-on assessment.

The submissions as to the likely outcome of an inspection of the Ross memorial

[203] In light of the evidence of the experts and the uncertainty about the angle of lean at the time of the accident, the Crown submitted that no safe conclusion could be drawn about the likelihood of the Ross memorial passing or failing an inspection.

[204] The submissions on behalf of the Glasgow City Council focused solely on the 25 kilogramme test. It was argued that the evidence of the joint calculations by Professor Knapton and Mr Wood as to how, from an engineering perspective, the Ross memorial would have been predicted to react had it been made subject to the BS8415 25 kilogramme pressure test showed that it would have been deemed stable. Thereafter, it was submitted that had the Ross memorial been subjected to the appropriate stability inspection it would have survived the application of 25 kilogrammes of pressure at 1.2m and would have passed the required inspection.

[205] Notwithstanding her position that the Court did not need to make any finding as to the likely outcome of any inspection of the Ross memorial, Ciaran's mother was firmly of the view that it would have failed. It was submitted on her behalf that from the evidence of Professor Knapton together with the evidence of Mr Hayman, it was reasonable to assert that, if this memorial had been subject to an inspection in line with the industry guidance – in particular the BS 8415 - in a period of about 10 years before the accident, it was a memorial that would not have passed a visual inspection and, it was a memorial that would have required careful and specialist assessment by a recognised professional in the field before it was passed as safe to leave as it was. Thus it would have failed the necessary inspection according to the British Standard. The evidence of Professor Knapton and Mr Hayman was to the effect that they would have considered it unsafe and that evidence should be accepted.

[206] This submission was broadly adopted in the submissions on behalf of Ciaran's father.

My conclusions as to the likely outcome of an inspection

[207] The purpose of a zoning risk assessment is to allow local authorities to prioritise their inspection programmes. I am satisfied that from the findings already identified, that an initial zoning inspection of Craigton Cemetery would have placed it high on Glasgow City Council's list of priorities for inspection.

[208] At this point, it is relevant to take into account the presence of the hole in the boundary wall which would have featured in any preliminary zoning risk assessment. There was general agreement that the presence of this large hole would have impacted negatively on the zoning assessment and would have enhanced the risk category and placed Craigton Cemetery high up on the list of priority. Moreover, two of the experts stated that at that stage they would have recommended that the holes were repaired. Not only did Mr Hayman say that he would have recommended that the access be sealed, he also considered that if a potential danger existed such as the hole that was being used persistently by members of the public to access the cemetery, there was in addition a need to make sure that any memorials in the vicinity of the hole were safe. This was because of the increased footfall in that area. As the whole purpose of an inspection was to reduce or eliminate risks, had the presence of the hole or holes been recorded as part of the zoning assessment as evidence of an unauthorised means of access into the cemetery, it seems entirely likely that the Council would have taken steps to repair the wall.

[209] Had the Ross memorial been subjected to a visual inspection, the various problems identified would have been noted. Being a large, heavy memorial standing at a discernible lean with roots encroaching and lifting its base, it certainly would have been assessed as unstable, in terms of the guidance. The issue was whether it would have been safe to leave for another year at the most. In the case of the Ross memorial, because no safety inspections had been carried out for several years before the accident, there was nothing to inform any inspector as to whether there had been any progression in the lean over a specific period of time.

[210] Professor Knapton demonstrated that at a lean of 6 degrees, the centre of gravity of the Ross memorial would have travelled vertically almost through the corner of the inscription plate. As it remained inboard of the rotation point the inscription plate was adding stability. However, at that lean the weight of the pediment would have missed the base of the memorial and passed well outside the point of rotation. That represented a destabilising force meaning that the whole weight of the pediment was trying to overturn the memorial. With its centre of gravity outside of the rotation point, the pediment would have been pulling the structure over towards the ground. The Ross memorial was therefore leaning ever closer to its tipping point.

[211] On the evidence before the Inquiry, and having regard, in particular, to the opinions of Professor Knapton and Mr Hayman, I have concluded that the Ross memorial was likely to have been classified as unstable and dangerous which required immediate action to make it safe in terms of Category 1. This was a large, heavy monument with a tipping point of 7.6 degrees which was progressively leaning and had moved from its original upright position to an angle of at least 6 degrees. As we now know, it was not pinned and therefore it is likely that concerning movement would have been felt by a diligent inspector applying a hand test. Moreover, had the Ross memorial been referred for specialist assessment, as an experienced memorial mason, Mr Hayman would have condemned it as dangerous. As a structural engineer, Professor Knapton would have likewise classified it as unsafe. I have therefore concluded that it was likely that the Ross memorial would have failed a stability inspection at the time of Ciaran's accident.

Would an inspection of the Ross memorial have amounted to a reasonable precaution whereby the accident might have been avoided?

[212] As has already been noted, there are two aspects to any finding in terms of section 6(1)(c) - (1) that any precaution which might have avoided the accident and the death under inquiry must be reasonable and (2) that such a reasonable precaution was one whereby the death might have been avoided. I accepted the description advanced on behalf of Glasgow City Council that "reasonable" falls to be given its ordinary meaning which connotes both concepts of balance and moderation. It seems to me that neither of these concepts applies to the testing regime endorsed by Professor Knapton and Mr Hayman. While I acknowledge that theirs was a legitimate interpretation of the guidance, I consider that the automatic referral of a monument such as the Ross memorial for specialist inspection without a hand test having been applied would not have been a reasonable course for the Council to have adopted. Such a course would have been a disproportionate response and therefore unreasonable for the reasons already mentioned: it would be unnecessarily expensive for the local authority; it would have resulted in large numbers of memorials which were not a danger being cordoned off; it would have delayed the testing of unstable and potentially dangerous memorials because there would have been no sifting out of those structures which were dowelled or otherwise considered to be stable; it would have caused a backlog of inspections and jeopardised the completion of inspections within a five-year cycle.

[213] The same cannot be said for the testing regime advocated by Mr Thomson which appeared to be one that was pragmatic, proportionate and practicable – and therefore

reasonable. It seemed to me that a physical hand test was the logical and sensible way to determine if, on a leaning structure such as the Ross memorial, there was concerning movement. By leaving matters to the subjective assessment of the trained tester such a system allows for the design and characteristics of individual memorials to be taken into account so that meaningful hand tests are applied. Structures that are apparently hazardous but which have been pinned so that they are stable could thereby be filtered out from those that properly require to be referred on to specialists.

[214] Accordingly, I am satisfied that the first part of the test is met: that applying a hand test to the Ross memorial as described by Mr Thomson would have been a reasonable precaution, notwithstanding the conflicting opinions as to what the guidance says. Such a reasonable precaution would include an inspection regime that included a subjective hands-on test commensurate with the individual monument under scrutiny carried out at a higher height than 2.1 metres and applying pressure greater than 25 kilogrammes. The purpose of such a physical inspection would be to test the general stability of a monument with particular reference to whether any concerning movement is detectable.

[215] It follows that I have also concluded that the application of a 25 kilogramme hand test at a height of 2.1m would have been inappropriate for a structure the size and weight of the Ross memorial. A test which involved of the application of an irrelevant amount of pressure at an irrelevant height would be pointless and would establish very little. Furthermore, there is an obvious danger that on the basis of such an inspection an unstable and dangerous memorial might wrongly be passed as safe.

[216] Having established that there was a reasonable precaution that the Council could have adopted at the time of Ciaran's accident, it is necessary to turn to the second component of the test under section 6(1)(c) and that is whether such a reasonable precaution was one whereby the accident and death might have been avoided.

[217] The word *might* is an unusually vague term to be included in a legal statute. It has given rise to debate as to its precise interpretation for many years. However, it is accepted that it means something less than probable but more than a simple possibility. It has been described as a lively possibility, a real possibility in the sense of something that might well have happened. It is instructive to note that in the new legislation governing fatal accident inquiries the term has been changed so that the reasonable precaution must be one whereby the death "might realistically" have been avoided (Inquiries into Fatal Accidents and Sudden Deaths etc. (Scotland) Act 2016, section 26(2)(e)(ii)). Accordingly it is clear that this has to be a meaningful concept capable of supporting a positive legal finding, not merely a theoretical or academic possibility.

[218] I have already determined that had the Ross memorial been subjected to an appropriate stability test, it would probably have failed that test. In these circumstances the monument would either have been made safe immediately by being laid flat or cordoned off as unsafe pending for urgent remedial action within 24 hours. Given that, according to Mr Brown, Glasgow City Council were not repairing, restoring or uprighting problem memorials at the time of the accident and having regard to the Council's response in the immediate aftermath of the accident in flattening hundreds of memorials, it seems likely that the action taken would have been to lay the Ross

memorial flat. On that basis it is an obvious conclusion that the accident resulting in the death and the death itself might have been avoided.

[219] Turning to consider section 6(1)(d) it is clear that after 2010/11, Glasgow City Council had no active system of memorial stability inspection in place. There was no structured or systematic inspection process being carried out. Records of previous inspections were poor or non-existent. The *ad hoc* inspections of headstones on either side of new burial sites did not ensure the general safety of members of the public visiting the cemeteries nor did they adequately protect Council staff working there. Specifically, there was a lack of any structured and reliable system of memorial safety inspection in Craigton Cemetery. The issue was whether the lack of a proper inspection regime supported a finding under section 6(1)(d) that there was a defect in a system of working that contributed to the accident and to Ciaran's death. Again, there are two elements inherent in such a finding: (1) there must be a defect in a system of working and (2) that defect must have contributed, in a causal sense, to the death or any accident resulting in the death.

The submissions in connection with Glasgow City Council's system of inspection

[220] It was the Crown's submission that Glasgow City Council should have had a system of inspection and that if such a system had been implemented prior to May 2015, the Ross memorial should have been inspected. There was, therefore, a defect in their system of working in that there was no comprehensive policy in relation to routine memorial inspection and that no such process was being carried out. However, the

Crown stopped short of seeking a finding under (d) arguing that the uncertainty over the likelihood of the Ross memorial passing or failing an inspection, had one taken place prior to May 2015, meant that it could not be established in terms of section 6(1)(d) that this failure to implement a policy of routine stability inspection causally contributed to Ciaran's death.

[221] On behalf of the Council, it was likewise submitted that a finding under section 6(1)(d) would not be appropriate. It was argued that in 2014 a programme of inspection was re-established and was still on-going as of May 2015. This was the programme involving the prisoners from Barlinnie. It had not yet reached Craigton Cemetery. It was estimated that as at May 2015, around 400,000 graves were to be assessed, city-wide. The priority had been to focus on those cemeteries in which there was the greatest amount of pedestrian traffic. Craigton was not prioritised as being a cemetery necessitating earlier inspection. Thus it was submitted that Glasgow City Council's memorial stability risk assessment which was in place as at May 2015 was sufficient and appropriate in terms of identification of hazards and the control measures designed to mitigate against such hazards. It was, however, accepted that there was a gap in the continuity of the rolling programme of inspection with the result that Craigton Cemetery had not featured in any routine inspections since some time prior to 2010. It was the Council's position that had the Ross memorial been subject to the appropriate stability inspection prior to the accident, it would have survived the application of 25 kilogrammes of pressure. In these circumstances it was submitted that there was no basis in the evidence upon which to contend that deficiencies existed in either the Council's risk assessments or memorial

inspection arrangements, such as they were, that could be said to have any causal connection to the accident or Ciaran Williamson's death.

[222] Ciaran's mother sought a positive finding as did his father. On her behalf, it was accepted that as a precondition of making a finding under section 6(1)(d) the court had to be satisfied that the defect in question did in fact cause or contribute to the death and that the level of contribution must be material. The court was invited to make a finding that there was a defective system of working in relation to the inspection system and reporting of memorial safety issues and a defective system of working relating to the system of repair to the perimeter wall. Both these factors combined to contribute to Ciaran's death. They contributed in the sense that they failed to manage the risk of injury which these systems were designed to prevent and thus created and contributed to the circumstances that enabled Ciaran's death to occur.

Submissions in connection with the hole in the boundary wall

[223] Furthermore, Ciaran's father and his mother argued that had the Council repaired the hole in the wall in accordance with their repair policy, the accident might also have been avoided. They invited me to make a finding under both subsections (c) and (d). First they argued that it would have been a reasonable precaution to have repaired the wall and secondly, that the Council's failure to carry out instructed repairs constituted a failure in their system of working which had contributed to Ciaran's death by failing to close off the easy access to the cemetery for the children.

[224] Glasgow City Council, on the other hand, rejected such a submission. They argued that the purpose of the wall was not to keep people out of the cemetery. Indeed, there was no requirement to have a boundary wall at all. Public access to the cemetery could not be said to be causative of the accident. As the gates to the cemetery were open 24 hours a day to the public, whether or not the public chose to access the cemetery through a hole in the wall had no bearing in this case as free access was not an issue. It was submitted that no findings should be made in this connection.

[225] The Crown agreed that the existence of the hole in the wall and the failure by the Council to repair it could not be said to have contributed to Ciaran's death. The cemetery was a public place to which pedestrians enjoyed unrestricted access. While this hole in the wall was undoubtedly tempting to the boys as a means of easily accessing the cemetery, this did not, in itself, invite play on nearby gravestones. Certainly, access through the hole in the wall placed the boys near to the Ross memorial, but their decision to play on or around it could not be causatively linked to the existence of the hole. In these circumstances, the Crown made no submission in terms of a reasonable precaution or a failure in the system of working.

My conclusions

[226] The children's evidence established that they routinely went into the cemetery through the larger of the two holes in the boundary wall. It was also evident from their statements that they had done so many times before: "we went into the graveyard because it's where we used to always go". I believed them. They had regularly gone into the graveyard through the hole in the wall and had previously played on the tree

beside the Ross memorial which was about three graves away from the hole. The hole in the perimeter wall was certainly a most convenient entry point from the Moss Heights flats and as such encouraged easy access to the graveyard. To little boys looking for somewhere to go and something to do, it was an obvious enticement into the cemetery to play. It seemed a reasonable inference that what had taken them into the cemetery in the first place was this conveniently located large hole. They simply nipped in as it was almost literally on their doorstep. It was, after all, being used by others, including adults. The children would not have been going in there to visit graves or pay their respects to the dead. It is therefore it is reasonable to conclude that they were going in to play and to use the cemetery as a short cut.

[227] I accepted Ciaran's mother position that it was unlikely that Ciaran and his friends would have walked round to the official entrance in order to gain access to the cemetery. The large hole offered a convenient enticement to him and the others to enter the cemetery as somewhere to play. Like the convenience of the hole to their homes, the Ross memorial with its access to the wall and to a nearby tree from which children were able to swing to the ground was conveniently located close to the hole. The boys would not have had far to look for somewhere to play.

[228] Notwithstanding the fact that members of the public were allowed unrestricted access to Craigton Cemetery, I am satisfied that timeous repair by Glasgow City Council of the hole in the perimeter wall would have been a reasonable precaution whereby the accident and Ciaran's death might have been avoided. The Council were aware of the breech in the perimeter wall and had failed to carry out the necessary repairs that had

been instructed in November 2014. In reaching this conclusion, I also have regard to the evidence concerning the relevance of the hole in the wall to the zoning risk assessment: that it would have been recorded as a hazard adding to the risks assessed and that advice would have been given to Glasgow City Council to repair it. Although I have determined that a finding under section 6(1)(c) is justified in all the circumstances, I am not persuaded that the failure to repair the wall supports a finding that there was a defect in their system of working that contribute to Ciaran's accident. There was no evidence before the Inquiry of any systemic failure in the system of carrying out repairs. Accordingly, I make no finding in terms of section 6(1)(d).

[229] Before turning to consider whether findings should be made under section 6(1)(e), there is one further issue which requires to be addressed in connection with section 6(1)(c) and (d). For the purposes of this Inquiry, limited evidence was allowed of an earlier incident in Craigton Cemetery some five years before Ciaran's accident. For the sake of completeness, some reference requires to be made to this as it formed the basis of submissions on behalf of Ciaran's parents.

Earlier incident in 2010

[230] It was agreed by joint minute that an earlier accident involving a falling gravestone had occurred in Craigton Cemetery. This happened on 29 July 2010. It involved a 14 year old boy who had been struck on the back by a falling pediment from a large memorial some 25 yards from the Ross memorial. The boy's mother had been told that one of her son's friends had been climbing on a tree and had put his foot on the higher part of the

pediment. It seems that the pediment section had become dislodged and fell striking the child who had been sitting on top of the plinth below. The child had been injured.

[231] Police and an ambulance had been called to the incident but had some difficulty getting into the cemetery because the gates had been locked at 6:45pm to keep youths from running through the cemetery at night. One of the officers who had dealt with the incident – then Sergeant, now Inspector, Kirk gave evidence. His evidence was vague. He could remember little about it and could only make assumptions as to what he "would" have done. One issue was whether he had contacted Glasgow City Council to advise them that there were other gravestones in Craigton Cemetery that might be dangerous. Again, he could only assume that he would have done so. I did not find his evidence on this point reliable and, in so far as it related to his alleged communications with the Council, disregarded it.

[232] It seemed that the principal reason that the police pursued this matter with Glasgow City Council arose from the fact that they had experienced difficulty gaining access to the cemetery and had been forced call out the fire services to cut open the lock. They wished to identify a named keyholder from the Council should similar out of hours access be required in future.

[233] An official Council report of the incident was raised dated 3 August 2010. It was produced in court and spoken to by Mr Stewart who had in fact completed it as Operations Manager. Mr Stewart had submitted copies of the form to Glasgow City Council Corporate Health and Safety Group and the Service Health and Safety Personnel during August. However, no action had been taken. It appeared that the form had simply been filed without further enquiry or investigation or follow up. Mr Stewart candidly admitted that he should have followed this up but at the time he had been distracted by other matters at Lambhill Cemetery where there had been £80,000 worth of damage done by vandals. He accepted that he would normally have followed up such an incident by visiting the scene. Mr Brown also accepted that the matter was not dealt with as it should have been. He would have expected further investigations to have been made.

[234] On behalf of Ciaran's father, it was submitted that the earlier incident demonstrated awareness on the part of Glasgow City Council of the presence of children in the cemetery five years prior to the Ciaran's accident. It was submitted that the failings of Glasgow City Council in dealing with unsafe memorials in Craigton Cemetery at that time materially contributed to Ciaran's death.

[235] Ciaran's mother invited me to make a finding that, in terms of section 6(1)(c), it would have been a reasonable precaution whereby Ciaran's death might have been avoided had the Council followed up the recorded incident in 2010.

[236] Glasgow City Council argued that taking account the gap in time between the two incidents, that the earlier incident had no relevance to the consideration of any determination under section 6(1)(c) of the Act and it was submitted that any contention that the fact of the previous incident highlighted or ought to have highlighted to the Council a risk of people being injured in Craigton Cemetery should be dismissed. The purpose of the Inquiry was specifically not to assess questions of foreseeability of risk but, rather, was concerned with the existence or otherwise of reasonable precautions which existed at the time of death whereby the accident and death might have been avoided.

[237] The Crown did not make any specific submissions in respect of this matter but from the Procurator Fiscal's earlier opposition to the admission of evidence about this previous incident as collateral and irrelevant, it can safely be assumed that the Crown's position echoed that of the Council on this matter.

My conclusion as to the relevance of the 2010 accident

[238] The relevance of this earlier accident some considerable time prior to the one under investigation is limited. This was the second example in this Inquiry of procedures not having been properly acted upon by Council staff. Like the instruction to repair the hole in the wall, there was no appropriate follow up and no investigation by the Council into

the accident itself. Be that as it may, it is a considerable leap to say that the 2010 accident causally contributed to Ciaran's accident five years later or that it might justify a conclusion that would have highlighted potential dangers from gravestones and thereby form the basis of a reasonable precaution whereby Ciaran's accident might have been avoided. I did not accept the evidence that the police had advised the Council of other dangers in the cemetery from gravestones. In the absence of other evidence to suggest that the Council were aware of children regularly playing in Craigton Cemetery and of the presence of dangerous gravestones – and there was no evidence of either of these before me – it cannot be said that this incident alone should have alerted the Council to specific dangers from children climbing on monuments. Accordingly, no finding falls to be made under section 6(1)(c) or (d) in this connection.

Section 6(1)(e): any other facts relevant to the death

[239] There are matters which are relevant to the circumstances in which Ciaran died which have significant implications for the public interest and future public safety and therefore fall within the scope of section 6(1)(e). They arose from the evidence as to the proper interpretation of the industry guidance. Two aspects of this gave rise to serious public concern: the conflicting evidence as to how a structure such as the Ross memorial should be checked for stability; and the apparent mis-application of the 25 kilogramme hand test on such larger monuments.

[240] In light of the starkly different interpretations among the experts as to whether a structure such as the Ross memorial should be physically hand-tested during a stability inspection or referred automatically for specialist inspection, there is a need to clarify the

advice provided to local authorities. Accordingly, I recommend that the various sources of guidance be revisited so that the matter of the inspection of those large, traditional memorials such as the Ross memorial be specifically addressed. Likewise, there is a need to clarify the limited circumstances in which the 25 kilogramme test is appropriate (in respect of lawn memorials and the like) and to provide instructions on how to test larger memorials where, in the unanimous opinion of the expert witnesses before this Inquiry, the 25 kilogramme test has no application.

[241] Mr Hayman, Professor Knapton and Mr Thomson all agreed that the purpose of the 25 kilogramme test was to protect against accidental impact. That was the anticipated danger that formed a fundamental part of the risk assessment and stability test. The force of an accidental impact against a smaller memorial and a large memorial must be the same (although the effect may be different). Logic suggests that the 25 kilogramme test should apply equally to both types of memorial and that, in fairness, seemed to be the basis of the Council's submission. However, the fact that all experts shared the view that the 25 kilogramme test was not applicable to larger memorials meant that some other considerations must be at work. These were not explored in the course of the Inquiry. All that was said was that the force was too light. What is it about structures such as the Ross memorial that brings into play the need for more robust, meaningful stability testing as promoted by Mr Thomson?

[242] The answer must surely have to do with the presence of a lean in such memorials. They are structures that weigh several tons and rely on gravity for their stability. In the upright position, very considerable forces would be required to topple them. They are

inherently stable. A fully upright memorial of this construction would need very little in the way of testing and it could certainly not be suggested that to apply a hand test would be dangerous. The danger arises if the structure has begun to move. Once they shift from a vertical position, they become increasingly unstable. Like the Ross memorial, many have pediments at the top which overhang the inscription plates which add to their instability as their centre of gravity shifts.

[243] Having started to lean, these memorials will continue to move away from the vertical to a point where either they are caught on pins or they pass their point of rotation and collapse spontaneously. Unless pinned or dowelled, these structures will continue to move. The issue is not *whether* they will collapse but *when*.

[244] As has been illustrated most tragically in this Inquiry, a large, heavy memorial has the potential to cause serious injury and death if it strikes someone as it topples to the ground. It is entirely different from a lawn memorial in terms of the potential hazard it poses. Once such a large memorial starts to lean, it becomes a hazardous structure with danger increasing as the lean progresses towards its tipping point. That, then, is the obvious reason for the need to test such leaning memorials beyond the application of a mere 25 kilogrammes of pressure and to apply a meaningful test that determines whether there is a degree of movement that is concerning. It must be stressed that these are structures which are *moving* (however slowly) and will overturn if steps are not taken to make them safe. Appropriate testing is designed to determine whether the movement and the lean is worrying to the extent that it cannot confidently be left for a further twelve months without some intervention to make it safe. That is where the

hand test and the hierarchical testing system as described by Mr Thomson come into play.

[245] It is a matter of some surprise that there appears to be no official government guidance to local authorities in Scotland on the management of safety in cemeteries. The only existing official guidance appears to be that produced by the Ministry of Justice for England and Wales. As memorial safety is a matter that affects councils throughout Scotland and concerns the safety of the Scottish public, I recommend that appropriate advice and guidance be prepared by the Scottish Government. Such guidance should include a category of advice on how to inspect large traditional monuments such as the Ross memorial, as distinct from lawn memorials and other smaller structures. Given the potential danger posed by large *leaning* memorials, these should be given special attention and clear guidance issued as to the procedures to be adopted in order to carry out meaningful stability checks to assess whether there is concerning movement associated with such structures. To this end, I have instructed the Clerk of Court to forward a copy of this determination to the Cabinet Secretary with responsibility for Local Government so that she may consider how best to take this forward.

[246] Mr Thomson agreed that it would be helpful if the industry guidance were to include a distinct category of large traditional memorials such as the Ross memorial. However, it seems to me that what is required is clear, distinct advice on how to test memorials which are already standing *at a lean.* These are the memorials which present certain challenges to the tester and for which there should be separate, clear guidance. There are very many such memorials throughout Glasgow and the rest of the country.

[247] Accordingly, as a matter of courtesy, I have instructed the Clerk of Court to forward a copy of my determination to the relevant industry associations. A list of the organisations identified is produced in Annexation B. It is a matter for them to consider whether their guidance should be reviewed to take account of the issues raised in this Inquiry and, in particular, to consider whether separate guidance should be produced on testing procedures to be adopted for traditional-type memorials which have started to move from the vertical position and which, at the stage of visual inspection, are noted to be standing at a discernible lean.

The post-accident response of Glasgow City Council

[248] As explained earlier, an important outcome of a fatal accident inquiry is the restoration of confidence in public authorities where serious matters of public concern have been raised. This is particularly so when the Inquiry has examined and found shortcomings in the performance of a public body in discharging its duties and responsibilities. It is therefore important to consider the local authority's response to the accident and steps taken by them to rectify those shortcomings.

[249] In the immediate aftermath of the accident, Glasgow City Council carried out an inspection of memorials in Craigton Cemetery. This was completed within four days. Cemetery staff were given swift "tool box" training in order to carry this out. The court was told that between 400 and 900 memorials were laid flat or "made safe" during this process. It was most surprising that the Council could not provide accurate information

of the numbers of memorials taken down or the reasons why it was felt necessary to take such action but no records were kept of these actions and decisions.

[250] In the days following Ciaran's accident, Mr Brown set up and chaired a Council-wide working group to determine how the local authority should respond. The group considered whether cemetery management needed to be reviewed. Key issues considered by the group included a programme of headstone checks, issues concerning wall repairs, risk assessments and the keeping of documentation in relation to cemetery management. Various management sub-groups were set up to consider these issues and report back. In particular, Mr MacColl was instructed to find out what guidance was available and to select which parts might be applicable to Glasgow City Council.

[251] A senior management action group was established to look at memorial safety across the city as a matter of urgency. Twenty staff were seconded from the Parks Services for a limited period in order to assist in the inspection process. Two–day training courses were delivered by Teleshore UK Ltd. A prioritisation programme was drawn up following the criteria set out in the ICCM guidance.

[252] Mr MacColl was tasked to draw up new guidance for Glasgow City Council as a matter of urgency. He did so and in June 2015 guidance entitled *Inspection of Memorial Monuments and Headstones within GCC Cemeteries and Churchyards* was produced. The

guidance sets out that Glasgow City Council have adopted the Ministry of Justice guidelines and also incorporated good practice as indicated in the ICCM advice. This includes the 5-step risk assessment process. The first three are of relevance to this Inquiry.

[253] In terms of this guidance, the Bereavement Service Management Team must complete a *Memorial Risk Assessment Site Profile* for each of the 32 cemeteries on an annual basis to determine the inspection priorities. The results of that assessment should identify perceived hazards and risk which, in turn, will allow the Bereavement Services Manager to profile the 32 cemeteries so they can be ranked in order of perceived risk. This list will determine the order in which each of the locations should be inspected. This forms Step 1.

[254] As Step 2, a second Memorial Risk Assessment Site Profile will then be undertaken to determine the priority locations (plots) within individual cemeteries. Thereafter, based on a risk assessment process, monuments will be assigned to one of three categories of assessed risk.

Category 1 – the memorial is deemed dangerous and requires immediate attention. A dangerous memorial is defined as one which is likely to fall over with minimal force and therefore poses an immediate danger to cemetery staff and to visitors.

Category 2 – The Memorial is unstable but is unlikely to cause immediate danger. More specifically the memorial will show a degree of movement but will not fall over without the application of greater force. A small, but visible, warning sign will be placed on the stone, to the side of the inscription and the Memorial will be inspected within 12 months to establish whether it has deteriorated.

Category 3 – The Memorial is not deemed dangerous. It will be re-inspected in five years.

The results of all inspections will be recorded on Headstone Safety Inspection Sheets.

[255] Step 3 sets out the manner of evaluating memorials according to three size groups: up to 500mm; between 500mm and 2.5 m; and over 2.5m. In this second category (into which the Ross memorial would have fallen) the guidance specifies a hand test only (on non-complex structures) and repeats the ICCM warning that certain memorials over 1.5m can fail a hand test yet pass a mechanical test due to the hand test being carried out at a higher point than a mechanical test which takes place at shoulder height.

[256] The Inquiry did not consider the new Council guidelines in any depth. Mr Thomson was asked to comment on the guidance which generally met with his approval. Certain amendments suggested by Mr Thomson have now been included in the guidance.

[257] However, the criticisms that have been made of the relevant industry guidance apply equally to the new guidance produced by the Council although it is recognised that they were produced quickly and were based on the accepted guidance that was available at the time. Unfortunately Glasgow City Council have produced guidance which is still open to misinterpretation and perpetuates the confusion with lawn memorials. The 25 kilogramme test has been replaced by a "minimum force" test which seems vague and still does not address the problems associated with large memorials which are progressively leaning from the vertical position. Accordingly, notwithstanding their efforts in producing revised guidance, I recommend that Glasgow City Council revisit their policy document in light of this determination.

[258] Additional information was brought to the attention of the Inquiry at a late stage after the evidence had been completed. In the event, no objection was taken to the court being made aware of this and taking account of the up-dated position. I am satisfied that in the interests of allaying public concern – one of the aims of a fatal accident inquiry – that this information should properly be included.

[259] Glasgow City Council have now concluded their inspection process. All cemeteries have been assessed and safety inspections carried out across the city. Proper records are now being made and retained. A methodical, rolling system of stability inspections has been re-instated. Glasgow City Council should be commended for their swift response following the fatal accident. Their actions will undoubtedly have enhanced the safety of employees and members of the public visiting Craigton Cemetery and other cemeteries

across the city. That has been an important outcome of this Inquiry and, as such, may offer some crumb of comfort to Ciaran's family.

[260] In conclusion, I express my appreciation to those who represented the various parties to the proceedings. I am grateful, in particular to the Procurator Fiscal Depute, Miss Adair, who presented the evidence in the public interest. Written and oral submissions from parties were particularly valuable and I express my gratitude to all for their assistance.

[261] Finally, I would like to express my deepest condolences to Ciaran's family and in particular to his mother, Ms Stephanie Griffin, his father, Mr Ryan Williamson and his step-father, Mr Thomas McGee. It was a harrowing experience for them to listen to parts of the evidence in this Inquiry and they did so with great fortitude and dignity. These were profoundly sad proceedings inquiring into the tragic death of Ciaran, a little boy of eight whose whole life lay before him.

ANNEXATION A

Witnesses to the Inquiry

Family members

1 Stephanie Griffin, Ciaran's mother.

2 Thomas Alexander McGee, Ciaran's stepfather

3 Ryan Williamson, Ciaran's father.

Police officers

4 Neil Galbraith, Constable, Police Scotland

5 June Cool, Acting Detective Sergeant, Police Scotland

6 Alison Barr, Constable, Police Scotland

7 Jacqueline McColl, Detective Constable, Police Scotland

8 Michelle Miller, Detective Constable, Police Scotland

9 John Kirk, Inspector, Police Scotland

Glasgow City Council Employees

10 David MacColl, Operations Manager Bereavement Services

11 Alistair Brown, formerly Head of Environment and Sustainability/ Trading Standards Manager

12 Alexander Stewart, retired Operations Manager Bereavement Services

Expert witnesses

13 William Revie, Director of Construction Materials Consultants Ltd

14 Jim Thomson, Director Teleshore UK Ltd

15 Peter Hayman, Memorial Mason

16 Steven Matthew Wood, Chartered Structural Engineer, Director, David Narro Associates.

17 John Knapton, formerly Professor of Structural Engineering, University of Newcastle

ANNEXATION B

1. The Ministry of Justice of England and Wales
2. The National Association of Memorial Masons
3. The Institute of Cemetery and Crematorium Management
4. The Federation of Burial and Cremation Authorities
5. The British Standards Institution
6. Local Government Ombudsman for England and Wales
7. Public Services Ombudsman for Wales