

Transcript of Proceedings

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THE HONOURABLE JUSTICE C HOLMES, Commissioner

MR JAMES O'SULLIVAN AC, Deputy Commissioner

MR PHILLIP CUMMINS, Deputy Commissioner

MR P CALLAGHAN SC, Counsel Assisting

MS E WILSON, Counsel Assisting

IN THE MATTER OF THE COMMISSIONS OF INQUIRY ACT 1950

COMMISSIONS OF INQUIRY ORDER (No. 1) 2011

QUEENSLAND FLOODS COMMISSION OF INQUIRY

BUNDABERG

..DATE 11/10/2011

..DAY 45

THE COMMISSION RESUMED AT 10 A.M.

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MR URE: I appear for the Local Government Association on behalf of the North Burnett Regional Council.

COMMISSIONER: Yes, thank you. Yes, Ms Kefford?

MS KEFFORD: The first witness for today is Mr Borg. Madam Commissioner, I call Larry Borg.

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LARRY STEPHEN BORG, SWORN AND EXAMINED:

MS KEFFORD: Is your full name Larry Stephen Borg?-- Yes.

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And you provided a statement to the Queensland Floods Commission of Inquiry. Can I get to you have a look at this document, please? Is that a copy of your statement?-- Yes.

I tender that document.

COMMISSIONER: Exhibit 760.

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ADMITTED AND MARKED "EXHIBIT 760"

MS KEFFORD: Mr Borg, you live at 313 Murdochs Road, Moore Park?-- Yes.

And you have lived there with your wife for the past 37 years?-- No, my wife has lived there for 37 years. I've been there since 1992.

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And in paragraph 1 of your statement, you tell us that during that 37 years that your wife has lived there, she has never seen as much water sit so long on your property, and that includes when the properties have been affected by cyclones?-- Yes, that's true.

Now, at paragraph 3 of your statement you mention another piece of land that is owned by your father-in-law?-- Yes.

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Is that nearby to your property?-- Yes, across the road.

And since early 2009, you mentioned that that property has become an inland lake because the water cannot get away?-- Yes, that's true.

Do you know where the water is coming from that's creating the lake on your father-in-law's property?-- That's another -

that's the centre of a drain that runs through that property. That drain also goes back north approximately another three kilometres - runs up north - so all the water is feeding down into there and then it heads south through there, and with the water sitting in that property because it can't actually head south, because it's blocked off, the water table has just risen so the water has got nowhere to go.

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So, the drain that runs south from your father-in-law's property is blocked?-- Yes.

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What's it blocked by?-- It's - from Palm View Drive through to Moore Park Road, it's been - it's blocked off with vegetation and there's some residents there that land was subdivided and they've put driveways in to get in and out of their properties, but some of the pipes in there are too small to allow the water through and one resident has actually dammed it off, so he has got a bit of a pond when he drives in, and then once you get down to Moore Park Road, from Moore Park Road through to Gengers Road is vegetation, and then you've got flood gates, which up until November last year, the pipes were actually blocked and we asked Council to have them cleaned, so they cleaned the pipes out. But from the pipes, there's about 70 metres of clean drain, and then from there through to Moore Park Creek, it's just totally silted up.

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Could you explain for us what the flood gates are that you are referring to? Is that something different to the abandoned weir that Mr Shuter-----?-- No, that's the same thing.

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Same thing?-- Yes.

And do you know what their purpose was?-- Yes, the purpose is to let the water out during the rain season, let the water run out, and then the flaps actually close and they stop the tide coming back in so you don't get no salt water up into the farms or into the land north of it.

Now, if I could take you to paragraph 20 of your statement? You mention there that the 2010/2011 floods caused flooding to your properties?-- Yes.

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Do you have a belief as to what caused the flooding?-- Yes, I do.

What do you believe caused the flooding?-- Because that water in that land across the road from us - because Moore Park is just sand - it's just sand dunes, that's all it is - that water across the road from us was a metre higher than our property because it couldn't get away at all, so that's brought the water table up, which has flooded our property - our farms.

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And is this a problem that you experience regularly, or was it limited-----?-- No, well, we've just come out of a 10 year drought, so before that, when we did have rain events and that system was working - that drainage system across from Gengers Road from Moore Park Creek was put in by the young family to

take the water out for farming land and for Moore Park. That's what it was put in for originally. And because that hasn't been working, and during the drought obviously there's no water in there so people don't worry about it, but it's just built up with vegetation and silt and it can't get away. Normally - when it was working properly, you'd have cyclones there and within three or four days, that water would escape, would go out to sea.

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If I take you over then to paragraph 24 of your statement, and there you say that the drainage system was first installed around the 1960s and at that time there were approximately 300 residents in Moore Park. Is the drainage system that you're talking about there the one you've just been describing as subject to vegetation blockages?-- Yes.

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You say now there are approximately 3,000 residents and the numbers continue to grow. You also observe that the same drainage system is used by all residents of the Moore Park township and it has never been upgraded to meet increased demand?-- That's right.

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What's the basis of that statement? Is it just your observations about the drainage that went in for the increase in residents?-- That's my opinion. Those pipes that release all this water have never been upgraded since - from when they were put in, and they're a lot smaller pipes than what has been put in when the new roads have gone in. They've got bigger pipes under the road crossings. They've got a lot more - with all the development in Moore Park, there's a lot more bitumen, a lot more roofs, and all this water has to go out - that's the only way it has got to go out. So, if that drainage system isn't upgraded, it can't handle the extra water going through it.

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If I could take you then over to paragraph 34 of your statement, you mention there what you believe will resolve the long-term flooding that was experienced this year; is that right?-- Yes.

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So, you believe that if the system is cleaned up and restored to a proper operational level, that will solve the flooding issue?-- Yes.

And do you think it will solve the flooding issue completely or will just reduce the length of time that flooding is experienced?-- I think - my personal opinion is that if that system is cleaned and restored back to its original - to what it should be, and upgraded at the other end - the pipes upgraded to suit the new infrastructure, I believe that 80 per cent of Moore Park's flooding would not have occurred in the 2010/2011 flooding because the water would have had somewhere to go.

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If I could then take you over to paragraph 38 where you make a number of recommendations including cleaning out this drainage system, and if I could just ask you about the third bullet point? You say the Council should also unblock and add a set

of flood gates at the northern end of Moore Park which is another issue they are ignoring?-- Yes.

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In terms of the northern end of Moore Park, is that - is the location that you're suggesting up around the Royal Palm Boulevard area?-- Yes.

And why do you think it would be beneficial to add a set of flood gates at that point?-- Well, there's two drains in Moore Park and they run - in the township of Moore Park, they run parallel to each other for about two and a half kilometres. One runs south and the other one runs north. They're both blocked off on the end. The one that runs north is tidal, in and out of Oyster Creek, no problem, and now there's about seven or 800 metres there where it is filled in or blocked off so that water that's just sitting stagnant there, it can't go anywhere at all. If that was opened up in Oyster Creek and a set of flood gates put there and a bottom set of flood gates filled up, Moore Park would not have a high water table, it would not have flooding during the wet season because the water would be able to escape either end.

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And finally if I could just ask you about the recommendation on the next page over. In the second bullet point you talk about the fact that the Council has little background knowledge of the Moore Park drainage systems compared to the farmers and that you believe the Council should sit down with the farmers and listen to what they have to say?-- Yes.

Have you spoken to the farmers in the area and do you know whether they're willing to participate in discussions with Council?-- Yes, yes. I've spoken to farmers that have been there, farmers that have farmed there since the '50s and '60s, and they are willing to sit down and talk to Council about how the system used to work and what happens in Moore Park, but they just don't seem to want to listen to what we've got to say.

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You need an avenue or mechanism in which to-----?-- Yes.

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Thank you, I have no further questions.

COMMISSIONER: Mr Ure?

MR URE: Thank you. Would you look, please, at this document, Mr Borg? Just so we can put some locations into the discussion we're about to have, do you accept that that's a depiction of the Moore Park drainage scheme area?-- Yes, yep.

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That's indicated in purple?-- Yes.

The Moore Park settlement we can see from the cadastral base showing the lot sizes?-- Yes.

And the lot layouts on the plan?-- Yes.

And there's also noted on there - can you just hold yours up and turn it around so I can see which particular version you've got? All right, thanks. We can also see on there what we can call the Moore Park town drain?-- Yes.

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That's the one that you have a complaint about-----?-- Yes.

-----to the east?-- Yes.

That's depicted in green highlighter - on my copy it is anyway. Is it on yours?-- Blue.

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Blue on yours?-- Yes.

And if we come a little bit to the west, on the western side of the first row of purple lots-----?-- Yes.

-----we can see two parallel lines, and that's, in fact, the agricultural drain?-- That's correct, Yes.

20

It terminates off the purple to the south with some gates, and the Moore Park town drain terminates with the pipes and the tidal flaps that you refer to in your evidence, again off to the south?-- Yeah, they don't terminate. The agricultural drain runs out to sea, which becomes - from them gates down becomes Moore Park Creek.

I accept that, but the actual drainage feature has - both of them at their southern end have control measures?-- Control gates, Yes.

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All right. I tender that.

COMMISSIONER: That will be Exhibit 761.

ADMITTED AND MARKED "EXHIBIT 761"

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MR URE: Now, I just want to ask you some questions. You may not be able to answer this, given the fact that you've lived there since 1992. Were you in Moore Park prior to that or did you arrive in Moore Park in 1992?-- I arrived in Moore Park in 1992, yes.

Are you aware historically - and I'm talking some 50 or 60 years ago - the area that's known as the Moore Park town drain that we're talking about and the areas between that and the agricultural drain was an actual wetland?-- Yes.

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It might be appropriate at this time to tender a 1972 Parish map-----

COMMISSIONER: Exhibit 762.

ADMITTED AND MARKED "EXHIBIT 762"

MR URE: Thank you. Can I hand a copy, please, to Mr Borg? If you just look at that briefly just to familiarise yourself with it. Again, we have the agricultural drain in dashed blue, I think, on that copy?-- Yes.

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Blue dashed line, and a green line again showing the town drain, and we can see the traditional indication of marshland or wetland with straight lines with little grassy tuft squiggles on it?-- Yes.

Underlying that area and portion 18 on RP124068 - it looks like - off to the west and further north, all right?-- Yep.

It's also the case, isn't it, that at the present time, Moore Park is experiencing the highest levels of ground water in history; are you aware of that?-- I've been told that, yes.

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And it's the case, is it not, that in places the ground water is above the surface level of the land in Moore Park at the present time?-- Only when the water can't get away. At the agricultural drain, which - where the water runs out, the back of our property, we monitor the water every day, we measure the water table every single day for DERM and while-ever that water can get away, the water table fluctuates up and down. At the moment it is down to 50 centimetres down below ground level, where at the front, where this other drain is, the water is sitting on top of the ground because it can't get away.

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I suggest there's more to it than that, Mr Borg. You are aware that DERM has dozens, if not hundreds, of bores in the vicinity of Moore Park?-- I am aware of that.

All right. We'll hear about those shortly. These high water tables have occurred, I suggest to you, in Moore Park in the past. Were you aware of that?-- Yes.

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Where the water table came to or above the natural surface of the land?-- That's right, Yes.

And, historically, although not recently, the predecessor to DERM, which was then the Department of Natural Resources and Water, I suspect, issued permits permitting cane farmers to dewater their properties?-- That's right.

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By pumping out the ground water?-- That's right.

Because of the negative impact that a high water table level can have on cane stalks?-- That's right.

And, in fact, the sugar cane crop in this area was significantly adversely affected, I suggest, in '83, '85, '89 and '92 as a consequence of water table levels at surface

level, correct?-- Yes.

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And those instances occurred prior to the significant development that's been - well, earlier in the development history for Moore Park, obviously?-- Mmm.

All right. If you can go, please, to your statement, just in paragraph 8? You, I think, have corrected it to some extent, but I just want to deal with a couple of other matters. You say in paragraph 8 that the Council - look, I'll withdraw that. We can come to it more quickly. You accept that in October 2010 the Council, at the request of locals, put a sewerage worm cleaner down the pipes-----?-- Yes.

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-----at the downstream end of the town drain that we're talking about. These are the three by 75 mil pipes that have the tidal flaps on them?-- Yes.

Whilst we're on that, the function of the tidal flaps is to close - the flaps are on the outside of the pipes?-- That's right.

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So if there's a positive head pressure on the seaward side of the pipes, the flaps close to prevent the salt water intruding upstream, if I can call it that?-- That's correct.

With the attendant damage that saline water would have to agriculture?-- Yes.

That's the philosophy behind that?-- Yes.

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All right. So, in October 2010, they cleaned out the pipes with a pipe boring machine?-- Yes.

I suggest to you also that immediately to the east and adjacent to the pipes in what you've called the abandoned weir, which is, in fact, the embankment in which the pipes are situated, isn't it?-- Yes.

They, the Council, on three occasions, dug a bypass channel?-- That's right.

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In fact - I don't know if we can get it up - but if we can look at Mr Shuter's statement, Exhibit 758 before the Commission, Attachment A1, reference 2. Is that document - I think it is A1. It is difficult to see. The writing is not particularly neat. It might be A4. It looks like that. Whilst we are seeking to get that up, if we can just go on? If I can suggest that on three occasions they dug a bypass channel?-- They reached the pipes, yes.

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And on the final occasion, the one that will be depicted on the screen - I think it might be one either side - that's it, thank you - and that particular channel that we can see there was dug in February 2011 with dimensions - it's trapezoidal - it's dimensions are 6.5 metres at the top, two metres at the bottom and a height of 1.4 metres. Do you see that?-- Yep.

And do you recall that was-----?-- Yes.

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One of the reasons I suggest, Mr Borg, why the Council did that, was to see whether or not, as was suggested, the pipes and the tidal flaps were having any effect on creating the problem that the residents perceive existed in Moore Park; do you understand what I'm saying?-- Yes.

If the pipes are a problem and you bypass the pipes and nothing changes, that suggests pretty strongly that the pipes aren't a problem; would you accept that? Forget that for a moment. Do you accept in principle that if you think there's a problem with the pipes and you bypass the pipes-----?-- Yep.

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-----and there's no change-----?-- Mmm.

-----it suggests that the pipes aren't causing a problem?-- That's right.

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I suggest to you this was done by the Council - it was left open through a series of tides for two and a half weeks and the engineers concluded there was no tangible difference to the hydraulic performance in the vicinity?-- The reason there's no tangible difference is because seven metres down below from there it's clear. The next 900 or 800 metres from there down is silted up and blocked and no water can get through.

The tide comes up there, doesn't it?-- No, it doesn't. The tide can't make it to there. It's silted up.

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You're saying the tide never gets to the immediate downstream end of the flood gates?-- Never. It's impossible for it to get there.

All right. We'll come to that shortly then. All right. I understand your proposition now. You're saying this system is completely isolated and no matter where the tide comes from it can't get to the flood?-- It can't get to the flaps because it's silted up.

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All right. I understand. That shortens things dramatically. All right. A couple of other matters then: in a number of places in your statement you suggest that the Council has been unable to gain access to Mr Robinson's property, who was an employee of the Council-----?-- Yes.

-----to carry out inspections and any necessary clearing works?-- Yes.

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I suggest to you, with respect, that's incorrect, and in October 2010, and then again in December 2010, after a survey that had been carried down the total length of the drain in November 2010, the Council entered on to Mr Robinson's and other property and undertook clearing works. Can you comment on that?-- Yes, I can, and that is incorrect, because-----

You disagree?-- Yes, I totally disagree. They entered one property and cleaned out some vegetation, but no vegetation was cleaned out off Mr Robinson's property.

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Are you saying that they entered - you accept they entered Mr Robinson's property or not?-- I was there at a meeting with Mr Robinson and Council works engineers-----

When?-- It was - I couldn't give you the exact-----

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Is this the meeting you refer to in your statement?-- At Palm View Drive, yes, with Mr Griffiths and Mr Samuels.

12th of October 2010?-- Yes.

If you focused on what I'm saying, I suggested to you in October 2010 and then again in December 2010, the Council entered on to Mr Robinson's property and cleaned it?-- I disagree.

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All right. In paragraph - may Mr Borg see Exhibit 759? That's the invert level exhibit, please. We can see that this is a plan of the area of concern, we can see the Moore Park agricultural drain that's nominated; you see that?-- Yes, yes.

And we can see Murdochs drain - the town drain. You know what I'm talking about?-- Yes.

There has been a debate in the statements, and you suggest in your statement there's some difference of opinion about the relative levels of the town drain?-- Yes.

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The suggestion is - of the Council - that there's a three mil difference?-- That's right.

You have criticised and suggested that somebody has said it's in excess of a metre?-- Yes.

I just want to run you through a few things here?-- Yes.

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I suggest to you that if one looks at Palm View Drive - do you see where that is?-- Yes.

About point 6 of a way across the page from north to south-----?-- Yes, I see that.

-----we can see there's some pipes there?-- Yes.

And there is an invert level of 0.847. You see that?-- Yes.

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Upstream in the levels, 0.847?-- Yes.

If we then go to the tidal flaps downstream of the pipes to the south at Gengers Road, we can see the invert level upstream is 0.85 and downstream 0.83. See that? These are surveyed levels, Mr Borg?-- Yes.

See it says pipes at point H, invert I.L, invert level upstream 0.85, downstream 0.83. The distance between point B - A-B - at Palm View Drive and Gengers Road would be in the order of three kilometres?-- Pretty close to it, yes.

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In essence, there is no difference in those levels, would you accept that?-- No.

So, you suggest these are wrong?-- Yes.

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All right, okay. I suggest to you also that for about 300 metres from point B near Palm View Drive downstream along the drain, the drain is actually - the surface of the drain is actually below sea level. Can you comment on that proposition?-- I don't know that.

If we look, however, at the agricultural drain, we can see at point K the invert level is 0.771 and the invert level at the culvert at point J is - sorry, the invert level downstream at point K is 0.625; see that?-- Yes.

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That's a positive, and the invert level at point J at the Moore Park Road end is minus 0.605; do you see that?-- Yes.

And as a matter of mathematics, I suggest that suggests a fall in the agricultural drain from north to south over that distance in the order of 1.3 metres?-- Yes.

I suggest to you that the town drain over the distance from Palm View Drive to the tidal gates in essence is completely flat?-- I disagree.

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I tender the 1972 Parish map.

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COMMISSIONER: I think you already did. Anyway, I have given it a number, 762.

MR URE: I was told I hadn't.

COMMISSIONER: I might have just been psychic, Mr Ure.

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MR URE: Thank you, Madam Commissioner. Thank you.

COMMISSIONER: Ms McLeod?

MS McLEOD: No questions.

MR ROLLS: No questions, thank you.

COMMISSIONER: Ms Kefford?

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MS KEFFORD: No further questions. Might this witness be excused?

COMMISSIONER: Thanks very much, Mr Borg, you are excused.

WITNESS EXCUSED

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MS KEFFORD: The next witness will be taken by Ms Wilson.

MS WILSON: Thank you, Madam Commissioner. I call Peter Byrne.

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PETER JOHN BYRNE, SWORN AND EXAMINED:

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MS WILSON: Is your full name Peter John Byrne?-- That is correct.

And you are Chief Executive Officer at the Bundaberg Regional Council?-- That is correct.

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You have provided a statement to the Queensland Floods Commission of Inquiry in response to requirements from the Commission dated 10 August 2011?-- That is correct.

Can you have a look at this document, please? Now, that is your statement?-- That's correct.

Attached to that statement are points that are referred to in your statement?-- That is correct.

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Madam Commissioner, I tender that statement with attachments.

COMMISSIONER: Exhibit 763.

ADMITTED AND MARKED "EXHIBIT 763"

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MS WILSON: Mr Byrne, if I could just take you to a couple of matters that I am seeking some clarification in your statement? The first is the adoption of the planning scheme. If we can go to paragraph 3.3 where you refer to a letter from the Minister of Local Government and Planning advising that council may adopt the Bundaberg City Plan Scheme?-- Yes.

And that letter is attached to your statement at attachment F?-- Yes.

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If we can go to that third paragraph where "The Minister has considered the State interests and is pleased to advise that council may adopt the proposed scheme subject to two conditions in attachment 1"?-- Uh-huh.

Attachment 1 to that letter. Now, attachment 1 was not provided to that letter. So that's the issue of clarification that I am seeking, is whether you could advise us whether the conditions in attachment 1 related in any way to the provisions in the scheme of respective flooding?-- I don't have it before me and I can't clarify that.

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Could that information be provided to the Commission?-- It can.

The communication of information regarding flood risk to residents, the Bundaberg City Planning Scheme is acknowledged as reflecting the State Planning Policy 1/03?-- That is

correct.

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SPP 1/03. And the Bundaberg City Planning Scheme adopts a flood line based on the two per cent annual exceedence probability for a Burnett River flood?-- That's correct.

The terminology that is sometimes used in relation to that can be a Q50?-- Yes.

Or a 50 year ARI?-- Right.

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And that scheme was adopted in early 2004?-- Yes.

And from reading your statement, a letter was sent to the residents by the council in 2005 advising them - advising the residents of that?-- Yes, to the residents that were affected by that.

Now, you have provided a copy of a generic letter that was sent to residents?-- Yes.

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And we can see that at attachment P, if I could go there?-- That is correct.

Now, attached to that letter is a glossary of terms, we can see that?-- Yes.

And it sets out what the 50 year average recurrence, the ARI flood is?-- Uh-huh.

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Council has also seen fit to provide a note about what the 50 year ARI does not mean and does mean. Do you see that below that-----?-- Yes.

-----where it is noted that this is an average period and that the actual period is random; that is, it is possible, though unlikely, for two floods of 50 year ARI to occur in sequential years?-- That is correct.

Do you know why council went this extra step to provide this information?-- Bundaberg City Council at the time were very concerned in relation to development, that we needed to do another flood study. We did a detailed flood study undertaken by GH&D to update our flooding because it affected from - when we came across, had an amalgamation in '94, and the old Gooburrum Shire section came into Bundaberg City, and there was a disparity in some of the flood levels that came across from the old Gooburrum to the Bundaberg City. A new flood study was done, but when that new flood study was done, it did indicate a slightly higher flood level to some areas and council felt it was very, very important that we fully inform the public so that they had a full understanding of what the implication is of what those new - what that new information provided.

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Have you had any feedback from residents whether it is clear to them what a 50 year ARI means to their property?-- We held a public meeting whereby - at the North Progress Hall - it was

packed out, the hall, that evening - at the time when this was released and we explained it in detail. Mr Andrew Fulton, who will give evidence today, was the Director of Planning and Environment at the time and he actually did an extensive presentation on that night to make sure that the community were fully informed.

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If you could put away your statement? I have got some questions that I wish to ask you in relation to the submission that the Bundaberg Regional Council made to the Queensland Floods Commission of Inquiry. We will provide you with that submission. Now, are you aware of the contents of this submission?-- I am.

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If I could just take you to several matters that are raised in this submission? If you can go to page 13. That is the planning provisions. The flood overlay is discussed and set out-----?-- Yes.

-----and the council makes some recommendations. One of the recommendations is that the State legislation be amended to facilitate the necessary amendments to incorporate results of updated flood studies?-- Uh-huh.

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Which legislation are you referring to?-- What we're referring to there is when we do the updated flood studies and we have that information, it is quite an expensive process to go through under - to get that included in the planning schemes, and our concern is that that legislation either needs to be amended or changed in some way so to effect a more timely recognition of that work into our planning scheme. So what we're asking for is that the State legislation be of such a manner that we're able to get that information into there a lot more quickly than the legislation now provides for.

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So the situation is that the council already has a planning scheme that reflects SPP 1/03?-- Yes.

But when an updated study is done, is the council seeking for that process to be simplified?-- It is. Yes.

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And how could that process be simplified from the council's perspective?-- I would have to defer to my Director of Planning and Development in relation to that to look at the technical details.

We're just looking at the process, really. The process is quite expensive for council?-- It is not the expense. There is two components to the recommendation there. The first one was in relation to council having the resources to undertake a study of those areas. We haven't waited for that. Our council has committed to undertake in those flood studies. In relation to the second component of the recommendation, it is more in relation to, I suppose, the operational procedures behind the legislation to facilitate the timeliness of the inclusion of the information into our planning scheme.

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In terms of process, can you tell us what sort of processes

you want cut out or what sort of processes you want included to make it easier for the council?-- I would defer to our Director there on that one.

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And if you can turn the page, this submission sets out some flood mitigation strategies?-- Yes.

We can see in that second paragraph that the Burnett River rose to 5.76 metres resulting in the inundation of a number of premises for a second time?-- Uh-huh.

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And the removal of residential premises below the 6.5 flood level would address some minor flood level issues?-- Yes.

So is that the council's view, that there should be a buyback scheme in relation to that?-- It is council's view that we would be very keen to have discussions with both State and Federal Governments relating to a collaborative program where we would look at some of those low homes located in low areas on some type of buyback scheme. There has been a scheme in place over time where we have, in the form of Bundaberg City Council, acquired some properties along drainage lines, et cetera, and turned that area back into parkland and it was on a third from the Federal, third from the State, and a third from Local Government, and we found that scheme to be very effective.

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And you're wanting to reflect that scheme again in relation to these residences?-- Yes, we were. Naturally we would have to look at what commitment we were able to make from council on an annual basis, but we would see that as being very effective for the long-term cost effectiveness of dealing with situations such as we've just had.

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If we can see your - the first recommendation that is set out here, it refers to "funding provisions be made for the construction of levee banks on the Burnett River in the Bundaberg City area"?-- Uh-huh.

Whereabouts would it be proposed for these levee banks to be constructed, in the council's view, at the moment?-- Yes. One of the main areas that we have is the water comes in on the western side of the rail line back probably a kilometre or so and goes through the North Bundaberg area, through the Botanic Gardens, and then crosses right through the North Bundaberg, which then cuts off our two main accesses into Bundaberg City. So the main area for the levee we would see would be in the area along Hanbury Street where the water comes off - out of the Burnett - breaks out of the Burnett River and goes through into there.

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And what size of levee banks would be considered?-- I don't have the technical expertise, and we haven't gone into any detail in relation to sizes.

Have you had any discussions with DERM about the construction of any levee banks in that area?-- I haven't had any personally myself.

Is this just a concept that the council is considering?-- It is a concept council would like considered.

And do you know whether this concept has progressed in any way?-- I am not aware of it having progressed.

Thank you, Mr Byrne. They are the only questions I have.

COMMISSIONER: Mr Ure, should I come back to you last?

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MR URE: Thank you.

MS McLEOD: No questions, thank you.

COMMISSIONER: Mr Rolls?

MR ROLLS: No questions, thank you.

COMMISSIONER: Mr Ure?

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MR URE: Just one matter, Mr Byrne. We've heard from this morning a resident of Moore Park with respect to some concerns about the drainage. Is the council taking steps to keep the Moore Park residents in the loop, in a sense, with respect to the investigations that are currently going on into the groundwater problem that's being experienced in Moore Park?-- Well, Bundaberg Regional Council has always taken the request of the Moore Park residents very seriously. I, myself, personally, have been down to at least two community meetings down there and discussed in detail, together with the engineers, matters relating to flooding. We also provide information through a local magazine they put out, Shorelines Magazine, for the Moore Park community, which I understand is delivered to every resident and also into other areas of the division as well, and it does include an update on drainage, et cetera, and I believe that goes out every couple of months. And I also will take, as will all my officers if anyone wishes to speak to us in relation to those matters, will always make ourselves available.

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Mr Byrne, would you look, please, at this document? They're, I think, four items clipped together. Are the first three the council news sheet that's provided by the council that you've just told us about, and is the final document the local newsletter into which that council news sheet is inserted prior to circulation?-- That is correct.

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I tender that.

COMMISSIONER: Exhibit 764.

MR URE: Thank you, I have nothing further.

MS WILSON: Madam Commissioner, I should tender that

submission that I referred Mr Byrne to.

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COMMISSIONER: Actually I will make it 764 to go with the statement, and the news sheet will be 765 - newsletter and news sheets.

ADMITTED AND MARKED "EXHIBIT 764"

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ADMITTED AND MARKED "EXHIBIT 765"

MS WILSON: And I have no further questions for Mr Byrne. May he be excused?

COMMISSIONER: Thanks, Mr Byrne, you are excused.

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WITNESS EXCUSED

MS KEFFORD: I call Andrew Fulton.

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ANDREW WILLIAM FULTON, SWORN AND EXAMINED:

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MS KEFFORD: Your full name is Andrew William Fulton?--
That's correct.

And you are the Director of Infrastructure and Planning
Services of the Bundaberg Regional Council?-- That's correct.

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You have provided three statements to the Queensland Floods
Commission of Inquiry in response to four requirements from
the Commission?-- Yes.

Can I ask you to have a look at these documents, please? Is
that a copy of your statements?-- Yes, they are.

Just before I tender those documents, can I ask you to turn
directly to paragraph 5.6 on page 19 of your first
statement?-- Yes.

20

Do you have that?-- Yes, I do.

Do you see there that it lists specific outcome SO 33 and a
related probable solution?-- Yes.

In terms of the probable solution, the probable solution set
out there is 82.1. It appears there may have been a
transcription error. Do you-----?-- I would agree there
appears to be a transcription error there. Whether it is a
transcription error or an error in the scheme, I am not aware.

30

Well, we can show you a copy of Specific Outcome 33 from the
scheme. I will give you a chance to make a correction if you
like. Would you like to make a correction at paragraph 5.6 of
your first statement?-- Yes, I would. The-----

I will provide you with a pen?-- There is no probable
solution identified.

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No probable solution. I will ask you to make that correction
and if you could initial it also. I tender those statements.

COMMISSIONER: I think you said there were three, is that
right?

MS KEFFORD: Three statements, that's correct.

COMMISSIONER: Exhibit 766.

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ADMITTED AND MARKED "EXHIBIT 766"

MS KEFFORD: Now, in your first statement you tell us at
paragraph 1.1.5 - I will let you turn that up - that's on page

2 of your first statement?-- Yes.

1

That the flood height data used in assessing a development comes from two different sources, and at this point you're talking about the Bundaberg Planning Scheme, is that correct?-- That's correct.

And the two different sources are the Burnett River flood and the local flood?-- Yes.

10

The Burnett River flood, the adopted annual exceedence probability is two per cent?-- Yes.

And for the local flood it is one per cent?-- Yes.

I will just ask you to speak up a little when you answer?-- Okay.

Now, if I could ask you a few questions about the selection of that defined flood event for the Burnett River flood, that is the two per cent, obviously the selection of two per cent is a defined flood event other than the one expressly preferred in the State Planning Policy; that's correct?-- That's correct.

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In your statement you explain at pages 10 to 15 why that probability was chosen, and is it fair to summarise those reasons as predominantly related to two factors, being firstly the community acceptance of the historical 1942 flood levels?-- That's one factor.

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And the second predominant factor was a series of GHD reports received by council?-- I think those series of GHD reports identify that the - there was a range of flows possible for a two per cent AEP and the two per cent AEP flow was adopted, which is based on 15,000 CUMECS, is at the high end of the range of flows, therefore the two per cent AEP flood levels that were adopted are conservative.

And are they the two factors that caused the council to select the two per cent-----?-- The other factor is the issue that with Burnett River flooding there is adequate time to enable evacuations. We consider that time is in the order of 24 hours and that was reflected in the 2010 event.

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At paragraph 3.1.1.2 of your first statement you refer to the issue of community acceptance and say that historically the community considered the 1942 flood levels were reasonable for floodplain management. Is it the case that the 1942 flood level is similar in magnitude to the 50 year ARI flood event for the Burnett River?-- The 1942 flood levels in the CBD area of the city are about 400 millimetres below the two per cent AEP flood that was adopted by council.

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Are you aware whether there is any location where the 1942 flood level is above the 50 year ARI flood?-- Yes. As you travel downstream on what we call the North Bundaberg floodplain, the levels were actually less than the historical recorded 1942 levels. Mind you, in saying that, there was a

fair degree of doubt as to whether the historical records were an accurate record of the 1942 flood.

1

Did that doubt factor into the decision to adopt the two per cent or the Q50?-- That doubt factor initiated the first flood study back in 2000 because it was difficult to manage, from a planning perspective, where you had inconsistencies in historical flood data.

In terms of your reliance on the community acceptance of the 1942 flood levels, how was community acceptance investigated or how did it come to be accepted by the council?-- I might give you some history on that to explain that. In the year 2000 we commenced a flood study to look at flooding in the Burnett River. That was - the results of that were carried forward into a draft planning scheme which was put out for public notification. There was significant public reaction to that flood map in that planning scheme. That included demonstrations outside the front of the Council Chambers and a fairly fiery public meeting in North Bundaberg. Subsequent to that, council withdrew that map out of the planning scheme because we wished to get a planning scheme through. They required two further drainage studies to be done to, I guess, have a greater confidence about the flood mapping. The 2004 planning scheme went out without a flood map. It had a flood overlay map but not a flood map defining flood heights and it wasn't until 2005 that council felt that they themselves had confidence to express to the public that a two per cent flood was reasonable.

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20

The negative public reaction to the map that was in the display copy of the draft scheme, was that - were the levels on that map similar to the 1942 flood levels?-- No, they were higher than the 1942 flood levels. They were a Q50 or two per cent AEP flood. They weren't mapped to the same resolution as the final map, and there was significant further studies done between that original map and the final map in terms of the sensitivity of the model to the various parameters.

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Was the public given an opportunity to comment on the subsequent maps?-- The final map was just adopted by council. No, the public didn't have comment on that final map.

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Are you able to say whether there has been any feedback from the public in terms of acceptance of the final map?-- Council went to considerable efforts to advise people of the final map. They wrote to every affected land owner advising of the habitable floor area. Within a fairly short time after adopting that map, the issue basically declined.

50

Now, the final map which you talk about the council having adopted, that is at attachment P of your first statement, if you could have a look at that? Now, this has got the flood map which is incorporated into the planning scheme?-- Okay.

From what you have just explained there was only a flood overlay map incorporated into the scheme. And the flood overlay map in the scheme is map 3.11 from the planning

scheme?-- Yes.

1

Do you have a copy of that there with you?-- I don't but-----

The scheme is - we have a copy of that we can show you. This is the flood management overlay map 3.11 from the Bundaberg Planning Scheme. If we just keep the two per cent map up on the screen and you at the same time have a look at the map 3.11 from the planning scheme, I just want to ask you a few questions about the differences between the two maps. The map from the scheme has a green area which is the area of the city where the application of the flood management code is triggered, is that correct?-- That's correct.

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And there is also a red hatched area which triggers application of the flood management code?-- Yes.

The flood management code contains a number of performance criteria which refer to a defined flood event?-- Yes.

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And the defined flood event is the two per cent annual exceedence probability for the Burnett River flood?-- Yes.

And the one per cent local flood event, whichever is higher?-- Yes.

Is that where the map that we see on the screen, attachment P of your first statement, comes into play?-- Yes, attachment P is the defined flood event map.

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And it is not contained in the scheme?-- It is not contained in the scheme.

In terms of the attachment P, the two per cent map, are all of the coloured areas areas which are subject to flooding in the two per cent AEP event?-- No. The-----

I am talking about the attachment P?-- On attachment P?

Yes?-- The coloured areas are flooded in a two per cent AEP flood event.

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Right. And do the different colours on that map depict differing depth of flooding across the area?-- The different colours reflect different water surface height.

Water surface height.

COMMISSIONER: Sorry, what's the difference between water surface height and depth, effectively?-- Water surface height is basically a level of the top of the water as distinct from the depth of water, which is the distance between the top of the water and the ground underneath it.

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I'm grappling with it.

MS KEFFORD: So the water surface height is given a measure by Australian-----?-- Australian height data.

-----height data. So it doesn't necessarily have a relativity based on depth to - of the top of the water-----?-- No.

-----to ground level?-- No.

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And to ascertain the depth would compare the Australian height data provided on the map to the ground level on a particular site and that would give you the depth of water?-- That's correct.

Are there areas which are coloured on the two per cent AEP map, that's attachment P and which is on the screen for those in the gallery, which are not coloured on the scheme map?-- There shouldn't be. The scheme map is - is cadastre based and is not a flood map. It's a map of properties that are subject to assessment against the flood management code and assessed against the flood map.

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The scheme map was incorporated into the scheme prior to the production of the two per cent map?-- That's correct.

Do you know whether at any time a check was done to compare whether the scheme map captured all of the land that was the subject of the two per cent event as shown on attachment P?-- I could - I wasn't - I'm not aware of whether a check was done or not.

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Do you think it would be beneficial to undertake that assessment?-- It may have been, yes.

And would it be beneficial moving forward to undertake that assessment?-- Yes.

And is that because the application of the flood management code in the scheme will only be triggered if you are mapped in the scheme map?-- That would be correct.

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Now, if I could ask you to go to the final report that was produced by GHD. I think that's an attachment to your statement. Attachment K - J, sorry. I'm going to ask you to turn to page 84 of that report where there's a section titled Flood Hazard Assessment. Incidentally, is this report, is it the genesis of the two per cent AEP map?-- It's 2000 - yes, it is.

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Firstly, 23, if I could just ask you a few questions about flood hazard as a concept. Do you understand flood hazard to be a product of not just the depth of flooding, but also the velocity of the water?-- That's correct.

So an area may be hazardous during times of flood because the water is very deep. You have to answer?-- Yes, yes.

But it also might be hazardous because of the velocity of the water?-- Yes.

Now, at page 84, with respect to urban development a velocity depth product in the range of a 0.4 to 0.6 has generally been considered to define the upper limit of pedestrian vehicle safety. And that report then attaches figures 8.6 and 8.7 which show a flood hazard map with the velocity depth product for each of the 50 year and 100 year ARI events; do you see that?-- Yes.

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And if we just take the 50 year ARI event in figure 8.6. We can see that large sections of the study area exceed the safe limit that was referred to at page 84?-- Yes.

And that's obviously the case even in the 50 year ARI?-- Yes.

And if we compare a figure 8.7 which deals with the 100 year ARI, the situation is much worse?-- Yes.

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Given what is said in that report about those ranges of 0.4 to 0.6 defining the upper limit of pedestrian and vehicle safety, what actions did council take to deal with the identified flood hazard that would occur through a large part of Bundaberg during a 50 year or a 100 year flood event?-- Basically the area we're dealing with is - has been historically developed many years ago. So it exists there. We rely on evacuating people to protect them from a situation such as this map there.

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And this is the fact you were referring to earlier, was it about the warning time?-- Yes, we're relying on the fact that we have 24 hours to determine when the peak is coming and in that 24 hours we need to evacuate north Bundaberg.

Given the reliance on evacuation what mechanisms are in place to alert the council of - or to trigger a warning, alert the council of the need to evacuate?-- Basically we rely on flood gauge readings upstream and predictions by the Bureau of Meteorology in terms of flood heights.

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In terms of the flood gauge readings how is that information communicated to the council and how frequently is it communicated?-- Just from experience with the 2010 event, we relied on the walla gauge mainly and we were getting regular updates from the Bureau of Meteorology. When I say "regular" at least probably three hourly and I'm aware that the disaster coordinator had the phone number of the Bureau of Meteorology and could just ring them and discuss the issues with them.

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And in terms of the walla gauge, how is the information from that gauge received, in electronic form or does someone have to go out and look at a physical gauge?-- I understand it's an automatic gauge, but during the 2010 event at one point it stopped operating automatically and we had to get someone out there to manually read it.

And when it's determined that there is a need to evacuate how is that warning communicated to occupiers of affected premises?-- Through the SES doing door-to-door type door knocking.

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You tell us at paragraph 4.2 of your first statement that the planning scheme does not specifically identify evacuation routes nor does it address early warning systems. Given the reliance on those early warning systems and evacuation do you think that the scheme should address those issues?-- I don't think a planning scheme is the right document to address emergency management issues. I think there are other mediums available to do that. A planning scheme is basically about land use planning.

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COMMISSIONER: What about plans for evacuation routes, though? In other words, if you have a new development shouldn't you be making sure there is an evacuation route with the development?-- Yes, you could incorporate that facet into - into a planning scheme, yes, but bear in mind that in north Bundaberg where this is an issue the developments there. So really a planning scheme is probably not the ideal mechanism to identify evacuation routes.

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MS KEFFORD: The planning scheme is nevertheless triggered for any new developments-----?-- Yes.

-----in north Bundaberg. Would it not be appropriate for new developments to be considered against criteria that relate to adequacy of evacuation routes and early warning systems?-- I think there could be an improvement to the planning scheme, yes, and in those instances.

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Are there applications received with respect to north Bundaberg?-- Yes, there are.

So if there was something in the planning scheme you would - it would cater to those new developments?-- Yes.

The GHD report at page 84 recommended preparation of additional maps which indicate the hazard on the basis of the exceedence of any one of the three different threshold values. Do you know whether council has undertaken that exercise?-- Council is just commencing that exercise. For the time being we have very recently gone back to get a quote from GHD to undertake that kind of work.

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And has there been any resolution to proceed or is it just dependant on the quote?-- It is being budgeted in this current year's budget.

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Now, earlier on we spoke about the fact that the flood height data use in assessing development comes from the two sources, the Burnett River flood and the local flood and we've been talking about the Burnett River flood. In terms of the local flood the one per cent AEP has been used. Why did council choose that probability when two per cent was chosen for the Burnett River flood?-- The local flooding represents flooding

originating from rainfall basically falling on the catchments in Bundaberg. There are very short timeframes in terms of the time from rain to when the flood comes down the creek and, therefore, we felt the one per cent was appropriate.

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And do I take that's because there is the evacuation time that is associated with Burnett River flow by way of comparison?-- That's correct.

In terms of local flooding, the local flooding model at paragraph 1.1.6 of your first statement which is at page 2, you say that due to the nature and scale of local flooding the characteristics of local flooding can be altered by works taken within a particular catchment and you refer to a model that council maintains in respect of that. Do I understand you correctly to be saying that the council has a model and that as works are undertaken within Bundaberg, data with respect to those works are included progressively into the model so that any - at any particular time the model reflects the position on the ground?-- That's correct.

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What's involved in keeping that model up-to-date?-- It's quite hard because in catchments where a significant amount of development is going on developers will put in detention basins, developers will fill areas and all that needs to be carried forward into those models and to keep them update - updated. Those changes to the upper part of the catchment also, of course, affect or may affect downstream flood levels.

In terms of it being quite hard in what sense is the task-----?-- It's just an ongoing process to make sure that any development that is approved is then carried forward into those models.

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Is it particularly time consuming or costly or-----?-- There are a number of issues. One is the development might be approved of certain works, but those works aren't constructed for a number of years. At what point do we include those works because other developments in the catchment are also being approved on the basis that certain works have already been approved, but not yet constructed and there's all these kind of interplay issues as to, you know, managing the model so that it is a useful model and we have some certainty about controlling flood levels.

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Do you find the model to be beneficial?-- We use the models regularly to determine development assessment conditions.

So the benefit obtained from keeping the model up-to-date outweigh - in a sense they outweigh the difficulties associated with the task?-- Yes. The models are critical to us being able to manage storm water issues as a result of development.

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Do you know how difficult it was to create the model in the first place?-- I don't say it's difficult to create the model in the first place. That's just general engineering practice.

Do you think this type of facility would be beneficial for other councils to adopt?-- I would have thought that to have models - if a council's in a rapidly developing area, it's essential to have stormwater models of the development areas to be able to manage them.

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Obviously the model that Bundaberg Regional Council currently has is one for Bundaberg. Now that Bundaberg Regional Council has other towns with this jurisdiction do you know whether the council intends to adopt a similar model for those other towns?-- There is actually more than one model just for the Bundaberg city. There's seven or eight models to cover the Bundaberg city. We last year developed models for coastal streams between Elliott Heads and Burnett Heads. That work is almost complete. We have this year budgeted for a model of the Kolan River which we don't have at the time being and we just see that it's an ongoing process that we undertake this modelling and expand it and also keep it up-to-date.

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Why are there seven or eight models just for Bundaberg?-- Because the models are catchment specific and there's a model for each catchment.

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And in terms of use of the model to assess development how does the model come into play in the assessment of the development applications?-- Basically the model is provided to a consultant and they adjust it to reflect their development proposal and supply it back to us for checking.

If I could ask you now a few questions about the non-urban zone in paragraph 1.1.7 of your statement, that's your first statement, you make reference to land which has been included in the non-urban precinct in the Bundaberg City Planning Scheme and you say that the local area planning intent for the non-urban precinct is expressed in the scheme as the precinct includes areas of land unsuitable for urban development because of physical constraints such as flooding and local drainage issues. If I could just ask you a few questions about that. Do you understand what land might be mapped as non-urban? Can we look at map 3.5 from the planning scheme. It's the Bundaberg Planning Scheme which is attachment R to your first statement and that's a map for local area for higher density residential?-- That's not the right map.

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Do you have that there? Now, the brown colour on that map is used to denote land of a non-urban precinct?-- Yes.

So we see a few of the brown coloured parcels pretty much in the centre of the map?-- Yes.

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If one compares those lots as shown on that map to the two per cent AEP map, those lots don't have significantly deeper or significantly higher water levels than the lots surrounding them in the Burnett River event, do they?-- No, they're - the reason they're non-urban is that they are - what the map doesn't show is there's a creek through there, a salt water creek and they're inundated by salt water creek.

And so is that why they are designated non-urban and the lots around them are not?-- Yes.

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If I could move now to the Isis Shire Planning Scheme and ask you a few questions about that. It records that it appropriately reflects the state planning policy one of 2003?-- That's correct.

And in paragraph 11.10 of your first statement you note what you considered to be an anomaly within the Isis scheme in that a dwelling proposed within a rural zone is exempt development. And you say that the consequence is that proposed dwellings in the rural zone are not assessable against any flood provisions. Is that a correct summary of your concern?-- Yes, but - yes.

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And that's the position regardless of whether there is historical flood information on the site or not; is that correct?-- Yes.

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When did you first become aware of the anomaly?-- Well, I guess basically when we became Bundaberg Regional Council we inherited this scheme.

And do you know whether there are any steps being taken to address that anomaly?-- There will be in the new planning scheme which we have commenced drafting.

Is there any intention to address the anomaly prior to the new planning scheme-----?-- No.

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-----being adopted?-- No.

COMMISSIONER: Ms Kefford, would that be a convenient time for the morning break?

MS KEFFORD: Certainly.

COMMISSIONER: We'll come back at 25 to.

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THE COMMISSION ADJOURNED AT 11.20 A.M.

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THE COMMISSION RESUMED AT 11.38 A.M.

ANDREW WILLIAM FULTON, CONTINUING:

MS KEFFORD: Mr Fulton, if I can move on to the Kolan Shire Planning Scheme? Unlike other ones the Bundaberg Shire Council administers, that does not appropriately reflect the State Planning Policy, does it?-- That's correct.

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Do you know why that is?-- No, I don't.

In your first statement, you identified that even though it doesn't reflect the scheme - the scheme doesn't reflect the State Planning Policy, it does, nevertheless, include an infrastructure overlay map which identifies a flood and drainage liability area. There are only 12 properties in the town of Gin Gin which are identified on that overlay; is that correct?-- That's correct.

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And you say that they are known historically to have flooding and drainage issues?-- That's correct.

What do you mean by that?-- Basically local knowledge says that - or has a memory that those blocks were affected by flooding.

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And is it a quite confined pocket of blocks?-- Yes, it is, yes.

And are they somehow significantly lower than other blocks around them?-- They are. They're basically in the vicinity of creeks and are low.

And in your statement at paragraph 1.4.2, you indicate that where a development application is made with respect to one of those 12 sites, it must comply with specific outcome S082 which requires an acceptable level of flood immunity to be provided?-- Mmm.

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And the associated probable solution states that habitable rooms are to have a floor level not less than 300 millimetres above the 1 per cent AEP flood level. Does counsel have information with respect to the 1 per cent AEP flood level?-- No, there's no 1 per cent AEP flood map for the Kolan Shire.

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How then do applicants demonstrate compliance with this probable solution?-- It's basically impossible to demonstrate compliance.

In terms of the compliance with, instead, the specific outcome, how do applicants demonstrate compliance with that outcome that there be an acceptable level of flood immunity?-- We have had, I think, one or two applications on those blocks

and what we did was set floor levels similar to the levels in adjacent homes.

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And would that take it above the level of the historical flooding as known-----?-- We considered that a reasonable solution. We don't even have historical flood heights in those areas.

So, in terms of the fact that the overlay is based on knowledge that those sites flooded in the past, is there no information about the levels that the floods reached on those properties?-- That's correct.

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There's simply knowledge that they did flood?-- Yes.

Well, to explore something I touched on earlier, in terms of that absence of data and the fact that there's historical knowledge about flooding, do you know whether the Council has made any inquiries with locals to capture the knowledge that the locals have with respect to flooding in the area?-- No, I don't know that we have done that; however, I would tend to prefer to do a model of those creeks and base our flood decisions on modern hydraulic models rather than historical data which can be not consistent.

20

Are any processes in place to undertake modelling of those areas?-- We intend before completing our new planning scheme to have a flood map for those areas.

In terms, then, of just issues relating to planning schemes generally, you tell us at paragraph 12.3 and 12.4 in your first statement that due to the absence or limited nature of the flood information available to Council, many dwellings are not assessed for potential flooding. Is that something that there is a community awareness of in terms of the absence of assessment?-- I don't know, to tell you the truth. Basically because there are no flood maps, neither the community nor Council really understand the nature of flooding in the Kolan Shire.

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So, in approving development on land, does Council notify that the approval has not been subject to a flood assessment?-- No, it doesn't.

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Do you think such notification would be advisable?-- It may be. The issue is that I can see some people considering it irrelevant when, in some instances, flooding is clearly not in issue.

In terms of it clearly not being an issue in some instances, why do you say that?-- You know, a block of land-----

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On a hill?-- -----might have a hill, for example, and people put their house on the hill. It probably is reasonable to expect that that's not going to flood.

Does Council have a means of examining when it perceives that there might be a risk of flooding?-- The latest mapping

released by the Queensland Reconstruction Authority may be of some use in identifying when we need to start thinking about flood issues with a development in the Kolan Shire.

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If we can move now to the topic of hazardous materials and ask you a few questions about that? At paragraph 6.1 of your first statement, you indicate that Council has not imposed any conditions on development approvals to ensure that hazardous materials affected by flood water do not affect public safety or the environment. Does Council have a set of standard conditions that it uses when approving developments?-- Yes, it does.

10

Does the template include a condition with respect to - or the set of conditions include a condition with respect to storage of hazardous materials?-- No, it doesn't.

Why not?-- We would have reason to use it fairly rarely. Most of our new industrial development is in areas that is not subject to flooding. The only time when that arises is when there is a redevelopment of old industrial land, basically to the east of the CBD, and that occurs on - it's an irregular event. Our standard conditions are basically conditions that we would regularly use.

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Is there a checklist or something that Council would use to ensure that a condition that does address storage of hazardous materials is at least considered in applications where it might be appropriate?-- I would rely on the planners undertaking assessment against the planning scheme to trigger that issue.

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And there is a trigger on the planning scheme, is there?-- Yes.

If I could also just ask you about levee banks? Is there any Council regulation of levee banks?-- No.

Who do you think should regulate such matters?-- They are probably a community issue in the sense that they're protecting the community as a whole, then the responsibility should fall to Council. In this local government area, though, there are very few significant levee banks protecting the community from Burnett River flooding. The only ones that I'm aware of are downstream, and they protect land owned by Bundaberg Sugar from flooding and, hence, Bundaberg Sugar maintain those levee banks.

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Another topic I wish to ask you a few questions about relates to skills within the Council for assessing development applications, and at paragraph 13.1.1 of your first statement, you say that Council has difficulty in attracting and retaining engineers with experience and skills in stormwater modelling. Does that impact on the Council's ability to properly assess development applications it receives when stormwater design is an aspect of that development application?-- Yes, it does. I would say that there's a general shortage of appropriately skilled engineers in

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stormwater. Both the consultants and Council face that issue. One of the concerns that I have seen is that with the development of computer models, there needs to be some skills applied to the use of those models to ensure that the outputs of those models do truly reflect the real flood situation.

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Well, how does Council deal with that in practice?-- Council employees - engineers within the sustainability section whom we train, we pay for their training in the use of the necessary models, and they're the ones that check what has been submitted to us by consultants.

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In terms of what is submitted by consultants, is the general shortage which you've referred to causing sub-standard reports to be submitted as part of the application?-- I have seen reports that I don't consider are a true reflection of the flood situation, yes.

And when you receive such reports, how do you deal with that situation in assessing development applications?-- It's the role of the sustainability engineers to go back to the consultants and refuse the report and identify the shortcomings in those reports.

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And does that generally resolve the issue, do you find?-- If it doesn't, we don't approve it.

At paragraph 13.1.3 of your first statement, you say that in recognising the importance of stormwater drainage planning, Council is in the process of reallocating the current technical position to focus on stormwater drainage planning. What has triggered that action at this point in time?-- When I was referring previously - earlier to the managing of all these stormwater models, I think there is a - we could do that better, and one of the - or the major role of this particular position is to undertake the development of new models, together with managing the models that we have currently.

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And the new models, are they for areas which don't have models or confined-----?-- They are for both. They are for areas which don't have models as well as new models, better models for the areas that we do have current models for.

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Could I just also ask you a few questions about preparation of the new planning scheme? Obviously the Sustainable Planning Act requires that the planning scheme be based on the Queensland Planning Provisions. But in terms of preparation of such a scheme, the current version of the Queensland Planning Provisions makes it optional for councils to include overlays. Does Council intend to include an overlay dealing with flooding?-- We haven't actually formally made that decision, but I would expect that we will.

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And do you know whether it's Council's current intention that the overlay for Bundaberg City will continue to use the two per cent annual exceedence probability for the Burnett River flooding?-- That decision hasn't been made.

Would you recommend that they use the two per cent, or do you have a view as to what level should be used?-- We are currently - as I said, we are getting quotes from GHD to extend and recalibrate the model that we have for the city and that will also include a model for a 1 per cent AEP flood.

1

Finally, if I could just ask you a few questions about Moore Park? Now, are you aware that local residents of Moore Park have expressed concern about drainage problems in the area contributing to flooding?-- Yes.

10

And are you aware that they're of the view that the drainage system, if cleaned up, would improve the flooding situation?-- Yes.

Have you looked into that at all?-- Yes, the Council has, yes.

Have you been involved in that?-- I am aware of the works done.

20

Are you aware of whether the Department of Environment and Resource Management has provided details of ground water levels data to the Council?-- Yes, I am.

Do you know what was done with that information?-- That information has been used basically to try and understand the operation of that town drain that flows centrally through Moore Park.

30

There's been talk of a high ground water table in the area. Do you know how that high ground water table interacts with the issue of flooding?-- I would consider that the majority of flooding in Moore Park is directly related to the high water table.

There are a number of further developments proposed for Moore Park; is that correct?-- Council currently has one application from Bundaberg Sugar for a development at Moore Park. I'm aware there's another large development that requires operational works to proceed at Moore Park.

40

Is the existence of a high ground water table being factored into the considerations in terms of the appropriateness of those developments proceeding?-- It will be, yes.

Do you know is there a provision in the scheme that triggers consideration of that issue?-- We would utilise the stormwater provisions to achieve that.

50

I have no further questions at this stage.

COMMISSIONER: Ms McLeod?

MS McLEOD: No questions, thank you.

COMMISSIONER: Mr Rolls?

MR ROLLS: Thank you, Commissioner. Mr Fulton, I'm just curious about the contents of your first statement, the one dated the 6th of October 2011 where you deal with a consideration of the flood plain overlay that's been provided to the Council by the Queensland Reconstruction Authority. Is it fair to say that you're not totally familiar with how that operates at this stage?-- That's a fair statement.

But you might be better informed after your meeting with the Queensland Reconstruction Authority which I believe is scheduled for the 18th of this month?-- I'm not sure of the date, but I'm sure that by discussing it with them, we could better understand what that mapping represents.

10

You're unaware that there's a meeting apparently going to be conducted between officers of the Council and the Queensland Reconstruction Authority on the 18th of October?-- I was unaware of that.

20

But you are aware that the Queensland Reconstruction Authority do intend at some stage to speak to the Bundaberg Regional Council about the contents of that flood plain overlay?-- I would expect that's the case, yes.

All right. It's true, is it not, perhaps on the rudimentary knowledge that you have - is it fair to say it is a rudimentary knowledge?-- Yes.

But it's true, isn't it, that the Reconstruction Authority flood plain overlay is not intended to replace sophisticated flood mapping that the Regional Council might have in relation to parts of the old Burnett Shire and in relation to the Bundaberg City?-- Based on what's presented at the time being, I think that's a fair statement, yes.

30

But I understand - and correct me if I am wrong - that the Regional Council has, in effect, no flood plain mapping for the areas of the old Kolan Shire - or Kolan Shire - is that the correct pronunciation?-- That's it, Kolan.

40

Kolan; is that right?-- That's correct.

And you have no flood plain mapping for a large portion of the old Isis Shire?-- That's correct.

But it is true, is it not, that the flood plain overlay would, in respect of those areas, provide the Bundaberg Regional Council with information that they would not otherwise possess?-- That's correct.

50

That is, it would alert the Council to those areas where flooding may be a live issue in considering development applications?-- That's correct.

And it's also true that the information provided contains references to gauging stations that are operated by the Bureau of Meteorology or the Department of Environment and Resource

Management? Do you know about that?-- I wasn't aware of that.

1

Because you do say in your statement that you're not aware of the heights in relation to the material. Could I suggest to you that the gauging stations are noted in relation to the overlay and that you can reference the facts on flood heights at various gauging stations maintained by the Bureau of Meteorology or DERM to ascertain the various heights; do you know about that?-- I wasn't aware of that being incorporated in that data.

10

That might be something that you might learn when you come into contact with the reconstruction agency people. But it is true, is it not, that it provides at least some information to the Regional Council where previously none existed in relation to matters of flooding?-- Yes, as I identified earlier, if a development was in that yellow shaded area, we would at least have to think about what are the flooding issues there and how we can deal with it.

20

And, in fact, the tool kit even provides - do you know this - provides you with a series of questions that you might want to ask a proponent of a particular development as to matters that they ought provide information to Council on in relation to issues of flooding?-- I wasn't aware of that.

Perhaps there's a little bit to learn on the 18th of October or whatever other time, Mr Fulton. I have nothing further, thank you, Commissioner.

30

COMMISSIONER: Mr Ure?

MR URE: Thank you. Mr Fulton, do you have a copy of Exhibit 759 before the Commission?-- I do.

And if we focus on particularly what's variously called the town drain or the Murdochs Road drain? The invert levels that are shown in red alongside the points identified by letters of the alphabet, are they identified by survey?-- They are.

40

What's the significance of the fact that we can see, for example, from Palm View Drive to the egress point at point H that the invert level varies between 0.847 and - downstream - and zero point - the upstream level - but downstream 0.85, effectively flat. In the hydraulic regime of Moore Park, what's the significance of that?-- The significance is that there is three mil height difference over a distance of about 3,000 metres, which is a gradient of about one in a million. A drain at one in a million will not flow because there's a grade there. The only reason that that drain flows is that water builds up at the head of it and basically pushes the water through the drain and out.

50

Is it also the case that parts of that drain between Palm View Drive and the tidal gates or tidal flaps have - or has an

invert level below zero - below sea level?-- That's correct. I'm aware that part of the drain between 230 and 216 Murdochs Road is below zero metres AHD.

1

May Mr Fulton see Exhibit 759, the actual exhibit, please? I'll just get you to mark it on the Commission exhibit the section of the drain that is, in fact, below sea level. Do you have a highlighter?-- I do.

And just for the record, what colour highlighter are you using?-- I'm using blue, for water.

10

And whereabouts does it commence?-- It commences at 230 Murdochs Road.

By some of the photographs, you should have used green.

COMMISSIONER: There's a bit of brown about, too.

MR URE: May I see that, please? Just for clarity's sake, we can see to the top left of the exhibit - which is, in fact, the north-east - points L, M, N, O and P. The drain associated with those points, which way does that flow?-- That flows out to the north.

20

So, we can ignore it for the purposes of our considerations of the town drain?-- Yes, we can.

All right. What's the grade or the height differential between the upstream and downstream levels of the agricultural drain? Does it fall into the same category as the town drain or not?-- No, the Moore Park agricultural drain has significantly more grade on it. The fall between points K and J, there's between 1.2 and 1.3 metres of fall.

30

You may have been present when Mr Borg gave some evidence and he accepted that there have been a significant number of bores maintained by DERM and that ground water information has been provided to the Council?-- It has.

40

Have a look, please, at this document. Is that a copy of the information provided by DERM which has a legend identifying the location of the bores and also has bore logs from two of the bores, one we can see from its identity number proximate to Moore Park, over a period of time?-- Yes.

And what does that indicate or what do those records indicate, Mr Fulton?-- What those indicate is that there has been a trend of increase in ground water over a number of years, peaking in 2011.

50

All right. And how does the 2011 ground water level compare to historical records as far as you're aware?-- Basically the 2011 levels are higher and, as these bores show, basically up at about 1.6 metres AHD on bore 13500085.

What level is sea level AHD in this vicinity?-- Nought metres AHD.

I tender that document.

COMMISSIONER: Exhibit 767.

ADMITTED AND MARKED "EXHIBIT 767"

MR URE: Are you familiar with the tidal flap system that exists at the end of the pipes of the downstream end of the town drain?-- I am.

Was there a test done to test the efficacy of the gates or the flaps in excluding saltwater from intruding to the north up the pipes and into Moore Park?-- Yes, there was. Council installed water height gauges on the upstream and downstream of those pipes and they are attached to data logs.

10

Look, please, at these documents. Would you tell the Commission, please, Mr Fulton, what that document depicts?-- I'd refer the Commission to the Gengers Road tide gates graph that has the green and red on it which is the plots of the data loggers. The green is the upstream logger and the red is the downstream logger.

Pause there. When you say the upstream logger, how far upstream of the downstream logger?-- It is - the upstream logger is just upstream of the tide gates and the downstream logger is just downstream of the tide gates.

20

How far spacious separation would there be?-- Six metres.

All right. What does this depict?-- What you can see is that if you are looking at the downstream data logger, the red one, you will see that there were high tides between - which are the spikes on the graph - indicating that the fluctuations of the high tide between the 24th and 30th of September this year, if you look at the corresponding data logger upstream, the green line, you will see that there is absolutely no reflection of those spikes on upstream water levels, which indicates that the tide gates are functioning perfectly.

30

Mr Borg gave evidence to the Commission that the tide didn't reach the tidal gates in this location at any time. Is that consistent with what's depicted on this or not?-- No, that's not consistent. Those spikes on the downstream logger are basically tidal fluctuations of water immediately downstream of the tide gates.

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I tender that document.

COMMISSIONER: Exhibit 768.

ADMITTED AND MARKED "EXHIBIT 768"

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MR URE: Mr Shuter gave some evidence yesterday - his statement was Exhibit 758 before the Commission - and in paragraph 29 he discussed a 128 lot residential development by Bundaberg Sugar. You have touched on that today in an answer to Ms Kefford. Mr Shuter was of the view that that

application had been approved by the Bundaberg Regional Council, is that correct?-- No, it is not approved, it is still - it hasn't reached decision stage yet.

1

Mr Shuter was also of the view in paragraph 30 of Exhibit 758 that the council was considering a drainage feature between Ohlaf Road and the Pacific Ocean, is that correct?-- No, the particular concept that he was referring to is from Maultby Road out to Moore Park Creek and the Pacific Ocean.

10

Just a couple of final matters. Are investigations being undertaken with respect to the groundwater problem that you've heard about that exists at Moore Park?-- Council's constantly monitoring those groundwater issues.

Have consultants been engaged to consider these matters?-- Council has engaged Cardno hydraulic engineers to undertake three studies: one at Sandpiper Grove, another at Royal Boulevard, and the third on the town drain.

20

Is it also the case that the council, in the wider context, is undertaking flood investigations as a consequence of the events that have occurred recently?-- Yes, council has a number of studies going on - or about to go on. As I previously said, we're about to commence a new Burnett River Flood Study. We intend to undertake a model of Kolan River. We've just completed a new model at Saltwater Creek in the Bundaberg City area, the coastal small stream study between Burnett Heads and Elliott Heads is almost complete. We have undertaken significant storm surge modelling of our coastline for the local government area and that is approaching completion in addition to the studies being undertaken at Moore Park.

30

Look, please, at this document. Does this helpfully just collect the studies being undertaken or about to be undertaken by the council?-- Yes, it does.

I tender that.

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COMMISSIONER: Exhibit 769.

ADMITTED AND MARKED "EXHIBIT 769"

MR URE: Thank you. I have nothing further.

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MS KEFFORD: I have no further questions for this witness. Might he be excused?

COMMISSIONER: Thanks, Mr Fulton, you are excused.

WITNESS EXCUSED

MR CALLAGHAN: I call Robert Savage.

ROBERT JOHN SAVAGE, SWORN AND EXAMINED:

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MR CALLAGHAN: Would you tell the Commission your full name and occupation, please?-- Robert John Savage. I'm the Director of Development and Environment at North Burnett Regional Council.

Mr Savage, you've provided a statement to the Inquiry in response to a requirement, is that correct?-- I have, yes.

I will have you take a look at this. That's a copy of your statement?-- That's correct.

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Yes, I tender that.

COMMISSIONER: Exhibit 770.

ADMITTED AND MARKED "EXHIBIT 770"

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MR CALLAGHAN: I wish to ask you a couple of questions about one or two things that you've already spoken to in the statement. Firstly, just on the topic of some essential services, such as water treatment, and so on, there were some particular issues in your area, is that the case, especially perhaps in Gayndah and Mundubbera?-- Gayndah and Mundubbera, yes.

40

Can you just give us a bit more information about that?-- It may be a question that's more appropriate for the engineer but my knowledge of that is that in Gayndah our water intake was a bore into the bed sands of the Burnett River. During the flood event, that bore equipment was destroyed and washed downstream which caused significant problems for the - as far as water supply for the Gayndah community. In Mundubbera - I am not familiar with the infrastructure that was in Mundubbera.

50

Do I understand from your statement, perhaps, that the issues raised from that still persist?-- They do.

And what's actually happened with that at the moment?-- Both lots of infrastructure have approval through the NDRRA for reinstatement. There are current engineering and planning works being carried on at the moment to design the replacement of the infrastructure.

Is that - do you know - you may not - but is that infrastructure going to be relocated in the same position?-- I don't know. Mundubbera, I believe, will. Gayndah, the - during the course of the flood, the stream of the river has changed.

I see?-- So the location of that bore will be relocated.

All right. Look, the other thing I wanted to ask you about arises from page 10 of your statement, the second bullet point from the bottom, where you talk about public education assisting in the prevention of further road damage. Can you just tell us what you are talking about there? Was this public education during the event or before the event?-- Sorry, this was the second last dot point?

10

Yeah?-- My statement contains information provided to me by the Director of Technical Services. The process that we went through at the time of looking at damage to our roads was to inform the public in the best way possible, given that we're a widespread rural community. Those methods were by phone, by newsletter and by newspaper advertisements.

20

So it was during the course of the event?-- Correct.

All right?-- And subsequent to the event.

More broadly then, it is true, is it, that in terms of planning for flooding, the council's planning schemes are not recorded as reflecting the State Planning Policy?-- Not for flooding, that's correct.

30

But council has been investigating the issue of flooding in the local government area-----?-- In-----

-----over a period of time?-- Yes, in Gayndah in particular.

In Gayndah in particular. Specifically it engaged BMT WMB to complete a flood study for Gayndah?-- That's correct.

40

And I take it the purpose of that was to better understand the behaviour of the Burnett River?-- To better understand and to set a defined flood event.

That was completed in February 2008, is that right, that study?-- That's correct.

Can I get a copy of that shown to you? That's a copy of the flood study completed February 2008?-- Yes.

50

Yes, I will tender that.

COMMISSIONER: Exhibit 771.

ADMITTED AND MARKED "EXHIBIT 771"

MR CALLAGHAN: Mr Savage, there is much of interest in there, and we can read much of it for ourselves. The questions that follow are for particular interest in the topic of climate change. The report includes a design flood assessment which provided council with information on a range of flood events, that's correct?-- That's correct.

10

And that included the one per cent AEP -----?-- Yes.

-----event. But the report notes that those defined flood events as modelled in your report do not take into account potential future impacts of climate change, is that correct?-- That's correct.

I think if we look at page (vii) of the document, you will see the heading "Climate Change" there, is that right?-- Yes.

20

If you move right through the report to page 8-3, the section 8.4 which is down towards the bottom of the page, there is the heading "Defined Flood Event"?-- Yes.

And it is said there that the recommended defined flood event is the one per cent AEP flood event plus allowance for potential climate change impacts?-- That's correct.

If you go over the page, it is suggested that the appropriate allowance for climate change on Burnett River at Gayndah is considered to be a peak flow discharge increase of 20 per cent?-- That's right.

30

That relates to developments with a designed life cycle of 50 years. I suppose we can see it there. Now, if we go back to your statement at paragraph 30, you extract a report which was presented to council's Policy and Strategy meeting on the 3rd of February 2009-----?-- That's right.

-----in respect of the flood study which we've earlier looked at?-- Yes.

40

And it is noted in the first paragraph that there had been no determination of a defined flood event to replace that and adopted by the Gayndah Shire council, that is the 1942 flood levels, is that right?-- That's correct.

And then the report goes on to note that advice had been sought from the Local Government Association of Queensland?-- Yes.

50

Perhaps you can just give us a little background. What was the nature of the Inquiry, or just tell us how the Inquiry was made?-- The study completed by BMT WBM, as you've stated, recommended that council adopt a 20 per cent climate change factor. When discussed that would effectively take a defined flood event in Gayndah from a one per cent AEP to a .5 per cent AEP-----

Yes?-- -----council had reservations about adopting such a defined flood event, particularly given the uncertainty at that time of the research behind the determination of that 20 per cent climate change factor. We also took into account, through various phone calls to many other councils in Queensland, whether - well, we investigated whether other councils had adopted any climate change factor at all, and, if they had, what was it, and we could not find an inland council in Queensland that had adopted any defined flood event that took into account a climate change factor. So given those circumstances, it was determined that we would seek the advice of LGAQ, and the inland flood study project was born from that approach.

10

In your statement I think you say - it is over on the next page, I think - that council had given adequate consideration to climate change impacts. Is that what you're talking about, these investigations that were made with-----?-- Yes, the consideration council gave to climate change was revolved around the uncertainty and the desirability to adopt a factor that was uncertain and unproven at that stage.

20

And can I ask was this the subject of formal deliberations by council? Is it reflected in minutes of meetings or anything like that, or it was just-----?-- My recollection is that it was in a formal council meeting.

Okay. Well, moving on from that, there is a further document that I can show you, and this is the final report on the inland flooding study also known as the Gayndah Inland Flood Study, is that right?-- That's correct. Excuse me, formerly referred to as the Inland Flood Study not the Gayndah Inland Flood Study.

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All right. I tender that.

COMMISSIONER: Exhibit 772.

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ADMITTED AND MARKED "EXHIBIT 772"

MR CALLAGHAN: We know just by reading, for example, the executive summary on page 1, that the Local Government Association of Queensland approached the Queensland Government to provide a benchmark figure for taking climate change into account when assessing inland flooding risk. Are you - do you know whether this project came about as a consequence of the advice that you sought from the Local Government Association?-- I believe it did.

50

Okay. And as we can tell from the document, it is a joint project of DERM, the Department of Infrastructure and Planning, and LGAQ, is that correct?-- That's correct.

Now, if I can ask you to turn to page 2 of that document?
And, again, this is still in the summary - certain policy options are recommended for the North Burnett Regional Council, is that right?-- That's correct.

1

And I will show you a further document. Can you identify that one? You will be familiar with it?-- Yes.

That is the policy options for incorporating climate change into the Flood Risk Management Framework in Gayndah, is that right?-- That's correct.

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I tender that as well.

COMMISSIONER: Exhibit 773.

ADMITTED AND MARKED "EXHIBIT 773"

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MR CALLAGHAN: Perhaps in that latter document we might turn to page 6 of that one. There are two policy options for council, is that correct?-- That's correct.

And when we go through the document, we can see there is an explanation of those options and we can see that the strengths and limitations of each option are canvassed?-- Yes.

30

Can you tell us the status of these as far as council is concerned?-- Both of these reports and some further attached reports have been provided to council for information made this year. Both reports are currently also with our consultant planners who are drafting our planning scheme, and both reports are being considered by our internal staff. Between our consultant planner and ourselves we have some reservations about the complexity of the recommendations and are working to look at simplifying those recommendations. At this stage no consideration has been given by council to the recommendations, though.

40

Okay. Can you - are you able to share with us the concerns about the complexity? The options do seem to the lay observer to be fairly well explained. Is that the sort of complexity that-----?-- If I could make an example-----

Please?-- -----say we take a residence in matrix A, if we look at a residential dwelling.

50

Which page are you on?-- Page 9.

Yes?-- Residential dwelling of less than seven units.

Yes, the top of the page there?-- It refers us to map 2, flood extent in future climate scenario 27, 70. If we then refer over to the maps on page 16 and 31, the resolution - one of our problems is the resolution in these maps is not good

enough for us to be able to make determination on an individual lot. So we need to talk to LGAQ and the drafters of the report to get better mapping. We also have a concern in the next line down in matrix A, a residential dwelling of seven or more units with a planning period or anticipated asset life of 60 years. That refers us to map 3, which more correctly reflects the .2 per cent AEP rather than a .5 or 1 per cent AEP, which takes us into the realms of a 1:500 year flood event which we have some concerns about.

1

I see. All right. Are there any other concerns that you have with this issue? Perhaps even-----?-- Our staff have difficulty explaining this to the layperson that comes in to make an inquiry, and given that these documents ultimately would end up in a planning scheme or a planning scheme policy, we would like our documents to be understandable by the general public, and we feel it is a little bit complex at the moment.

10

So that's an obvious concern, that any of the information has to be able to translate to the public?-- Yes.

20

All right. Thank you. They are all the questions I have.

COMMISSIONER: Ms McLeod?

MS McLEOD: If the Commission pleases, there are some matters raised in the council's submission that we were provided with on Sunday that I haven't yet had a chance to get instructions on. They specifically relate to the Bureau forecasts, and so on, and there is also an issue raised in recommendations by the council about communications with the council between the Bureau and the council. So I think-----

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COMMISSIONER: You can put in a written response, can you?

MS McLEOD: Yes, I think a written submission would be the best way to go.

COMMISSIONER: All right. Thank you. Mr Rolls?

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MR ROLLS: Mr Savage, just in relation to the increasing Queensland resilience to inland flooding and the changing climate Inland Flood Study and the policy options documents, which are the last two you have been given, which are Exhibit 772 and 773?-- Yes.

50

Is it true to say that those documents built on the 2008 flood study that you had - or the council had arranged for Gayndah?-- Yeah, I believe that was the source document for the study.

All right. Can you give us a little bit of geography? Gayndah is how much of the North Burnett Regional Council?-- One sixth.

One sixth. And Gayndah was formerly in what shire?-- Gayndah was formerly in a shire - Gayndah Shire Council.

Gayndah Shire. And that was amalgamated with six others?-- Five other shires.

Five other shires to form the North Burnett Regional Council?-- Correct.

10

So one sixth of the North Burnett Regional Council has been the subject of a flood study, is that the case?-- No, only the - basically the CBD area.

So not even the entire Gayndah Shire, the residential area, if I can call it that?-- That's correct, only the residential area.

Well, if that's so, then it is less than a sixth of the North Burnett Regional Council; would that be right?-- That would be right.

20

Can you help me with a figure?-- Well, Gayndah is a town of - well, sorry, the North Burnett region is the region of approximately 12,000 square kilometres. The Gayndah township maybe 25 to 30 square kilometres.

So is it true to say that the flood study that's been undertaken is a - is of a relatively small area of the North Burnett regional shire?-- Absolutely correct.

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Do you know the cost of what that price-----?-- The original - the original flood study was financed from - I believe - I'm not sure whether it was a State grant or a Federal grant. It was in the vicinity of 60 to \$70,000.

And the further studies that have been undertaken to have produced these two flood - these two policy options and the final report; do you know what the total cost of those were?-- I'm not aware of that. There's been no cost to council for that.

10

Could I suggest to you, and you can comment on this, that the total cost of the flood study and the preparation of these two documents is in the vicinity of \$300,000?-- No, I couldn't comment on that. I know that the cost to Gayndah or to the north Burnett for the initial flood study. I'm not aware of any costs associated.

If that was a correct figure or a figure in that vicinity certainly the north Burnett Regional - the Regional Council wouldn't have the funds to undertake copies of a flood study?-- No.

20

They wouldn't have the funds to undertake a flood study of that intensity over the entire area?-- Not under a normal operating budget scenario.

You would require a considerable injection of funds to undertake that process?-- Yes.

30

And it's true, is it not, that notwithstanding the money that the local authority has spent in relation to that matter just on the 2008 flood study, that hasn't been picked up in any planning scheme adopted by the council; is that right?-- Not at this stage, no. Apart from the adoption of the recommended one per cent AEP that came from the study.

How much of the north Burnett Regional Council has not had a flood study undertaken in relation to it?-- The balance of the north Burnett region.

40

Mr Savage, is it true that today offices of the north Burnett Regional Council are meeting with offices of the Queensland Reconstruction authority to discuss the flood plain overlay?-- That's correct.

Nothing further. Thank you.

COMMISSIONER: Thank you, Mr Ure?

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MR URE: I have nothing.

COMMISSIONER: Mr Callaghan?

MR CALLAGHAN: May Mr Savage be excused?

COMMISSIONER: Thanks, Mr Savage. You're excused.

WITNESS EXCUSED

MR CALLAGHAN: That's the conclusion of the oral evidence to be adduced here in Bundaberg, Madam Commissioner, but there are a number of documents to be tendered in relation to preparation of planning issues within this region and it would be appropriate to tender them now.

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COMMISSIONER: Yes.

MR CALLAGHAN: Can I tender a statement of Rowan Thomas Bond. He's the disaster coordinator, dated 9 March 2011.

COMMISSIONER: Exhibit 774.

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ADMITTED AND MARKED "EXHIBIT 774"

MR CALLAGHAN: A statement of Michael John Clerke, that's C-L-E-R-K-E, local disaster coordinator of the Bundaberg Regional Council.

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COMMISSIONER: Exhibit 775.

ADMITTED AND MARKED "EXHIBIT 775"

MR CALLAGHAN: A statement of Councillor of Wayne Arthur Honour in relation to the Gin Gin local disaster management subgroup dated 6 September 2011.

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COMMISSIONER: Exhibit 776.

ADMITTED AND MARKED "EXHIBIT 776"

MR CALLAGHAN: And there are some documents to be tendered in relation to the north Burnett Regional Council area that is, firstly, a statement of Ronald Jeffrey Smith who is the director of technical services on the north Burnett Regional Council. That statement is dated 12 September 2011.

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COMMISSIONER: Exhibit 777.

ADMITTED AND MARKED "EXHIBIT 777"

MR CALLAGHAN: And there are two statements from the Chief Executive Officer of the north Burnett Council, Mr Mark John Pitt, P-I-T-T. One dated 1st of April 2011 and the other dated the 12th of September 2011.

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COMMISSIONER: I'll make them one exhibit, 778.

ADMITTED AND MARKED "EXHIBIT 778"

MR CALLAGHAN: And, finally, Madam Commissioner, you'll recall Mr Barry Underwood gave evidence yesterday. He has provided a brief clarification in the form of a letter addressed to Ms Wilson dated 11 October 2011. I tender that.

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COMMISSIONER: Exhibit 779.

ADMITTED AND MARKED "EXHIBIT 779"

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MR CALLAGHAN: That's the conclusion of the material we have for Bundaberg. We should submit now, adjourn to Maryborough at 10 o'clock tomorrow.

COMMISSIONER: The commission is adjourned to Maryborough 10 o'clock tomorrow.

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THE COMMISSION ADJOURNED AT 12.35 P.M. TILL 10 A.M. IN MARYBOROUGH THE FOLLOWING DAY

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