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TRANSCRIPT OF PROCEEDINGS

TRANSCRIPT IN CONFIDENCE

O/N H-1011835

INDEPENDENT PLANNING COMMISSION

MEETING WITH INFRASTRUCTURE NSW

RE: CROWN CEMETERY DEVELOPMENT WALLACIA

PANEL:	**DIANNE LEESON** **ADRIAN PILTON** **ROSS CARTER**
ASSISTING PANEL:	**DIANA MITCHELL**
INFRASTRUCTURE NSW:	**MAREE ABOOD** **PAUL FULLER**
LOCATION:	**IPC OFFICES** **LEVEL 3, 201 ELIZABETH STREET** **SYDNEY, NEW SOUTH WALES**
DATE:	**1.02 PM, TUESDAY, 2 APRIL 2019**

THIS PROCEEDING WAS CONDUCTED BY TELEPHONE CONFERENCE

MS D. LEESON: So thanks and welcome. Before we begin, I would like to acknowledge the traditional owners of the land on which we meet and pay my respects to their elders, past, present and emerging. Welcome to the meeting today on the development application from the Catholic Cemeteries Trust for a cemetery proposal at Wallacia in the Penrith Local Government area. The Minister for Planning has delegated his functions to the Independent Planning Commission under section 2.4 of the Environmental Planning and Assessment Act to assess this application. The Commission is responsible for the finalisation of the assessment of this application prior to directing the Sydney Western City Planning Panel, the consent authority, to determine the application.

My name is Dianne Leeson and I am chair of this IPC panel. Joining me on the panel is Ross Carter via telephone, and Adrian Pilton. The other attendees of the meeting are Maree Abood and Paul Fuller from Infrastructure New South Wales, and Diana Mitchell from the Commission Secretariat. In the interests of openness and transparency, and to ensure the full capture of information, today's meeting is being recorded and a full transcript will be produced and made available on the Commission's website. This meeting is one part of the Commission's process of providing advice. It is taking place at the preliminary stage of this process and will form one of several sources of information upon which the Commission will base its advice.

It is important for the Commissioners to ask questions of attendees and to clarify issues whenever we consider appropriate. If you are asked a question and you are not in a position to answer, please feel free to take the question on notice and provide any additional information in writing, which we will then put up on our website. We will now begin. So thanks again, Maree and Paul. As background to this meeting, the Department of Planning has managed an assessment process for the Wallacia Cemetery on behalf of the Commission. The Commission is now turning its mind to the various merits matters. We've had a public meeting last week and, in that meeting and in the department's assessment, the issue of flood-prone land was raised.

And I think, Maree, if you've opened your email, you will have seen that Diana has forwarded to you three pages of extracts from the Department of Planning's assessment report, which includes a diagram of the golf course, the layout and the proposed cemetery site, and the sections around flood-prone – flood management and stormwater, which I think are pages 17, 18, 19 and 20 of the report. So given that we had had different views – sorry – those are pages 17, 18 and 19 of the report – given the amount of submissions and commentary around flooding and stormwater management on the site, we thought it would be useful to talk to Infrastructure New South Wales, who has been managing the Hawkesbury-Nepean Flood Management

Study on behalf of government, and to take some of your commentary on the proposal. And I apologise for the short time that you've had to have a look at it.

Essentially, I think we would like to understand the work that Infrastructure New South Wales has done in terms of flood modelling and what that modelling has demonstrated, if anything, regarding this particular site that we've got. So, in a roundabout way, that's an introduction to it. Can I ask if you explain to us the flood modelling and the approach to the work that has been done by Infrastructure New South Wales?

MS M. ABOOD: Certainly. So I head up the Hawkesbury-Nepean Valley Flood Risk Management Directorate located in Infrastructure New South Wales. We've been leading this work since 2012. The first stage of the works was a review to assess the flood risk in Hawkesbury-Nepean Valley. We made recommendations to the New South Wales Government, which were adopted and lead to the establishment of a taskforce which was responsible for looking at a mix of measures to reduce the significant flood risk in the Hawkesbury-Nepean Valley. The area that we've focused on is where the flood risk is greatest, and that's between Bents Basin down to Brooklyn Bridge.

So the outcome of the taskforce work was the development of a strategy, which we're now in the – sort of halfway in the implementation phase of those recommendations adopted by government. So the objective of the flood strategy really is to reduce the significant risk of flood risk to people's lives and to, I guess, property and the essential – critical assets of the Hawkesbury-Nepean floodplain, and that work was underpinned by – it was a strong evidence base over the last five years of where we have used cutting-edge technology and latest techniques in modelling. So, in the case of the flood modelling for the Hawkesbury-Nepean Valley, we've used what we call a Monte Carlo approach, which is really to understand the range of variability for the whole range of floods in the Hawkesbury-Nepean Valley.

Now, for those that are not aware of the flood risks in the Hawkesbury-Nepean Valley, the Insurance Council of Australia consider this valley to have the highest flood risk – single flood risk exposure in Australia basically, and that is because of the unique geography of the valley and the nature of the flooding patterns, and what happens is, because of the geography, we have very high flood depths in the valley. So I guess the traditional one-in-one-hundred flood planning level doesn't account for the full range of flood risk. The 1867 flood is the worst flood in European settlement and that would have been, in some places, at least two metres above the current flood planning level.

So the way in which we developed our database and our evidence base for understanding the risk to individual assets, and to the critical infrastructure and risk to life was – to our modelling, we looked – as I said, we ran over nearly 20,000 flood modelling – different flood modelling to look from the very smallest to the largest possible flood. And so we developed a spatial mapping layer for those and we're able to superimpose those over the individual – so we mapped all the houses, and

roads and all the critical infrastructure, so we were able to assess the flood damages for those individual assets and to look at the average annual damages, which is a technique that the insurance – a methodology that the insurance companies use.

We also – to support that, to better understand the risk to life, was to – because of the nature of the valley, the real issue in this valley is an evacuation issue, because there's only a limited number of roads that are able to get the fairly large population out of the valley in time. So there's a couple of issues in, one, that we have a large population, so there's a very significant flood risk now. The number of roads that are available to evacuate people are limited and they also get cut off very early in the flood – in a rainfall event, so – and most of the rainfall events are generated by an east coast ..... So – and there's limited, I guess, certainty around the forecast time, so we really only have around 15 hours ..... about nine hours at Penrith where the Bureau of Meteorology can say with some – a relative level of certainty that that event is going to happen.

So there's not a lot of lead time, and there's limited roads, and there's high population and incredible flood depths. So the level of damages and the level of depth are quite – very significant in this valley. So we have a fairly good understanding with the databases that we've got and for the spatial information that we've have, so we've been able to look at this particular development and we'll be able to give you some basic information about that. Are there any questions that you would like to ask me more specifically about – I guess the only other thing I would say, the flood strategy is an integrated mix of measures that combines both infrastructure and non-infrastructure measures.

So it's about building resilience is one of the key objectives and that's through behavioural change, community engagement, developing a regional planning framework to take into account the cumulative impact of growth, improving flood forecasting. So there's a whole range of different things that we're implementing at the moment to really try and make this valley more resilient and the ..... planning component of it is really a critical part of it, because that's really one of the most important, I guess, mechanisms that we have to manage future growth.

MS LEESON: Adrian.

MR A. PILTON: One of the components of the flooding, we're told, is the spillway from the Warragamba Dam. What happens when they increase the dam height, as is proposed, I gather? Will that - - -

MS ABOOD: Okay.

MR PILTON: - - - reduce the risk of flooding or increase it or - - -

MS ABOOD: So one of the key actions in the strategy is to undertake an EIS and get a planning approval and then develop a business case, government to make its decision. So the proposal is to raise the Warragamba Dam wall by 14 metres so that

the raising – the component that's raised would be only for airspace to capture floods and to mitigate the downstream effects. So the primary goal – or the objective is to reduce the impact – so the area that we're talking about here is impacted from the Hawkesbury-Nepean through backwater effects.

MR PILTON: Right.

MS ABOOD: So the net effect of raising the dam and having a flood mitigation function would reduce the impact of the frequency of flooding occurring. So this area is – most of the property is subject to flooding inundation. The area that's near Jerry's Creek is most susceptible, ranging from what we call a one-in-10 chance per year right up to the Probable Maximum Flood, which is the worst sort of possible – reasonable possible flood, and that is almost to the extent of the whole property, but – so, obviously, the highest parts of the property are going to be inundated less frequently, very rarely, but the area down near Jerry's Creek would be flooded more frequently, but the impact of raising the dam would reduce the frequency of the – at which the property would be flooded. So it has a net – it would have a positive – a very strong positive impact. At Wallacia, there's very high – there's a very high difference between the one in 100 and the Probable Maximum Flood. There's a very high flood range. So the dam would have a net impact of significantly reducing that impact and delaying – I guess, reducing the frequency at which those events would occur.

MS LEESON: Okay. So it would – if I understand that, Maree, the frequency of flooding of this site would be reduced because of the raising of the dam wall and various other flood strategies in combination, but the severity or the impact is not necessarily different.

MS ABOOD: So, for example, for the smaller floods it's more likely to capture some of those floods and – like, a one in 10 or a one in 20 and a one in 40 – would capture those floods. So it wouldn't experience those floods, whereas with a probable maximum flood, no dam-raising would ever be able to fully – would capture that, but it would drop significantly the peak level. So whilst the – it might – it'll still flood, but it may drop it by four metres or – depending which event it might be.

MS LEESON: Okay. Okay. Because one of the things that we did hear quite a lot from the community was the notion of how these creeks back up, Jerry's Creek included, and there was a suggestion that the Hawkesbury being tidal impacts the situation as well, in that as the – as a tide's coming in, if you've got floodwater trying to get out, that causes the flooding to back up. Is that what your studies have found?

MS ABOOD: No. So it's not tidal. So the tidal limit is really – it's really at Yarramundi, but it's very small. You wouldn't even notice at Yarramundi. So most of the – it's – you would experience some tidal influence at Windsor and Richmond, which are quite a way downstream. It's very small, and it's – because it's a drowned

river valley – basically, it's a ria – the floods would, in many ways, dominate any tidal influence.

MS LEESON: Okay. Okay.

MS ABOOD: But they are correct about the backwater impact from the Hawkesbury-Nepean up Jerry's Creek. That is correct.

MS LEESON: Okay. Okay. Thank you. We have also Penrith Council's flood - - -

MS ABOOD: Study.

MS LEESON: Flood study. Flood planning map - - -

MR R. CARTER: Yes.

MS LEESON: - - - in front of us, which shows, clearly, the Jerry's Creek incursion into the golf course on the east – on the – sorry – the western side.

MS ABOOD: The west, yes.

MS LEESON: There is a staged approach to this golf course, in that that would be the last area to be developed for cemetery purposes, but we're obliged to look at the proposal over the life of it. The consultants for the proponent have then prepared some flood diagrams and some burial layout diagrams to demonstrate that the gravesites are out of these flood areas and with a buffer, I think, of 40 or 50 metres. I can't quite recall. It's short notice, but there was a diagram sent through to you. Have you had an opportunity to look at that? And if you haven't, could we ask you to provide an advice on that, to have a look at and see how it correlates from your rationaling with what's given to – the – from the consultant?

MS ABOOD: Certainly. I think we would like to take some time to look at that and provide a response to you.

MS LEESON: Okay. No. That would be helpful because I think I would rather that you looked at the consultant's flood modelling, and we can provide some of the questions based off the community input at the meeting to make sure that we cover the issues that were raised more comprehensively, and I wouldn't like to rush that and have you ask – put you in a position to try and answer that today. So we will get you that information. Ross, do you have any questions that you'd like to raise?

MR CARTER: Look, just a couple of things, Maree. You mentioned that the 1867 flood was the greatest on record, and that was about two metres above the 1% AEP.

MS ABOOD: That's correct.

MR CARTER: We had – yes. We had quite a lot of community representation around the 1978 – I think it was – flood event and some photographic material sort of provided to us on that. Was that a similar scale to the 1867? I mean, given there'd obviously been a lot of catchment change as well.

MR P. FULLER: Yes.

MS ABOOD: No. It was a much, much smaller – it was, like – it would've been about a one in 30 or one in – I'll have to double-check the – I'll give you the – we can give you the exact frequency of that event, but it was certainly less than a one in 50.

MR FULLER: Yes. We'd have to look at the frequency of that event at Wallacia because the '64 event is the flood of record at Camden, further up the Nepean River.

MR CARTER: Yes.

MR FULLER: The 1867 is the flood of record certainly for Penrith and Windsor, but as you get north of the ..... which is between Wallacia and Warragamba, we'd have to see what the probabilities are there. The only flood study of this area that was done before our study was the study done by Camden Council. So I'd have to go through that to get the details on the floods of record in that area.

MS ABOOD: But – yes. That'd be - - -

MR CARTER: Okay. Well – if - - -

MS ABOOD: The 1978 was not flood of – like, it was nowhere near the flood of record.

MR FULLER: No.

MR CARTER: Yes. So if that – yes, I do think someone mentioned it might've been a – about a one in 40. Because we have sort of aerial and other photos presented, we couldn't really see how that would map onto the site itself and how it related to the 1% AEP mapping that the proponent's consultant had done. So if you – if – in looking back through the material you've got, if there's anything that sort of gives us an indication of how the – that one-in-40 event might compare to the mapped 1% AEP, that would be good because from the photographs it looked like the one in 40 was more extensive than the 1% AEP that's been mapped.

MS ABOOD: Okay. We will have a look at that for you.

MR FULLER: Yes.

MR CARTER: Yes. It's a bit hard to tell obviously from the photos, but, yes, if you can find anything on that, that would be great.

MS ABOOD: Certainly.

MS LEESON: Okay. So I think they're the couple of tasks that we would appreciate some advice on and we will get you whatever information we can to help you in that that we've been provided with. Adrian, do you have anything else?

MR PILTON: Only – is any of this information available online, like flood maps and all this kind of stuff?

MS ABOOD: Not at the moment, but it will be very soon. So if there's specific maps, we could probably provide you with at least a PDF version at this point.

MR PILTON: That would be good if you could. Thank you.

MS LEESON: And just on the evacuation route issues – this is at the intersection of Mulgoa Road and Park Road in Wallacia – are either of those major flood evacuation routes?

MS ABOOD: Absolutely. And I think that was one of the issues that I was going to raise, is that the Wallacia population is reliant on those evacuation routes at Park Road and I guess the evacuation route on Park Road gets cut roughly around a one-in-twenty-year flood. So that means that once the roads get cut, then they have to be redirected through quite a circuited – through a farm paddock and quite a difficult pathway to get people out. So I guess, for me, one of the things that we may need to consider is maybe the positioning of entrance B. At some point in the future, if - - -

MS LEESON: Sorry. The location of entrance?

MR FULLER: B.

MS ABOOD: B.

MS LEESON: B for Bob?

MR PILTON: Yes.

MS ABOOD: Yes. For Bob. So I guess – and I guess it really depends on the outcomes of, I guess, what happens with Warragamba Dam, but, at some point, we may have to apply to have some sort of bridge near ..... or something to ensure, I guess, looking at the evacuation route for Wallacia – for the population of Wallacia. So I guess having some consideration for that would be quite useful. So maybe the entrances – the position of entrance B for the flood paddock a little bit further may not preclude, I guess, that issue around the community to do something in the future.

MS LEESON: Okay. Maree, do you know whether the RMS would be across that issue? We have another proposal where the RMS had an issue on access points,

particularly around site lines, but if the RMS has been involved in some of this evacuation route planning, would they have a mind to this site as well?

MS ABOOD: I don't know specifically about this site, but we are certainly working with them with the evacuation modelling and looking at potential routes and ..... we will be looking more closely at the Wallacia area, but we're not at a point yet, I guess, where we've, you know – in terms of the options. So I guess just having a – looking at this specific issue here, it would certainly be something that we would just want to make sure that the Park Road access wasn't, I guess, inhibited or any future upgrades that may be required wouldn't be precluded from the work that we do.

MR FULLER: Yes. Because there seems to be an easement widening at Jerry's Creek, so it looks like they were considering some type of bridging across Jerry's Creek, which would be – if you raised that to enable – because Wallacia gets isolated. In a one-in-twenty-year event, they have – other than going through a farm of paddock, which is uncertain how it would stand up - - -

MS LEESON: Is that – sorry to interrupt – is that to the northern side of the golf course site?

MR FULLER: No. To the southern side.

MS LEESON: To the southern side. Okay.

MR FULLER: Because the roads – Greendale Road is to the north and south and the crossing of the river – all get cut.

MS LEESON: Okay.

MR FULLER: So from one-in-twenty and above, Wallacia is effectively isolated except for a road through a farm of paddock. So what – any raising of Park Road in the future would have significant benefit for resupply and for evacuation of Wallacia at any event rated at one-in-twenty. And so making – entrance B is now an entrance into the greenkeeper's shed for the golf course.

MS LEESON: Yes.

MR FULLER: If that was then, you know, through the memorial park, turned into a permanent entrance with, you know, additional facility, it would make it difficult to raise a bridge across Jerry's Creek into the future. There's no reason for it to be maintained – entrance B – just because there's an entrance there now when it will be totally reworked over the next 100 years or more.

MS ABOOD: So that's something we've just, you know – I mean, we haven't discussed this with the ..... but, certainly, this is just looking at it from a flood perspective and from evacuation perspective. In terms of trying to build in resilience into these areas, that would be something we might consider in the future.

MS LEESON: Then if we could ask you, in providing advice on those other couple of matters around the flood levels and the information that Ross sought, if you could summarise that for us around the potential near entrance B or the constraints around entrance B, that would be very helpful for us as well to take into account.

MS ABOOD: Certainly will.

MS LEESON: Thanks, Maree. I don't think I had anything much beyond that. I think we've asked you to do a couple of things for us. Ross, is there anything else that you would like to cover today?

MR PILTON: No. That was all for me.

MS LEESON: Okay. Then, look, Maree and Paul, thanks very much for your time and at such short notice. I know you've only just come back from leave. If we can ask you to do that. Diana will be in touch around timeframes, but we're in your hands to some extent. If Diana can close our program around that, we will just thank you very much for your time today and wait for your information.

MS ABOOD: That would be great. So Diana, will she be able to provide specifically the exact things that you require from us just - - -

MS LEESON: Yes.

MS D. MITCHELL: Yes.

MS ABOOD: All right. So – yes.

MS LEESON: Yes.

MS ABOOD: Okay. That's fine. And we will get that done fairly quickly.

MS LEESON: That's great. Diana will be in touch. So thanks, Maree. Thanks, Paul. We will be in touch.

MS ABOOD: Okay. Thank you very much.

MR PILTON: Thank you.

MS LEESON: Thanks. Bye-bye. Bye.

MS ABOOD: Bye.

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