

BOARD OF INQUIRY

Northern Corridor
Improvements Proposal

TRANSCRIPT OF PROCEEDINGS

BOARD OF INQUIRY

Northern Corridor Improvements proposal

Hearing held at: QBE STADIUM, Stadium Drive, Albany, Auckland

on 24 July 2017

BOARD OF INQUIRY:

Judge Melanie Harland (Chair)

Mr Conway Stewart (Member)

Mr Nigel Mark-Brown (Member)

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~Day 5, 24 July 2017 (9.06 am)

JUDGE HARLAND: Good morning.

5 Are there any housekeeping matters that we need to deal with before we start with the evidence today? No? All right, so the first witness, I understand, is to be Mr Amputch?

MS SHEARD: That's correct. And just before we start I also have Ms Amelia Watson from our office with me this morning.

10 ~ARTHUR ROBERT AMPUTCH (Sworn) (9.07 am)
~Examination in Chief by Ms Sheard (9.07 am)

MS SHEARD: Good morning, Mr Amputch.

MR AMPUTCH: Good morning.

MS SHEARD: Do you confirm your full name is Arthur Robert Amputch?

15 MR AMPUTCH: It is.

MS SHEARD: And you've prepared two statements dated 20 April 2017 and 15 June 2017?

MR AMPUTCH: That's correct.

MS SHEARD: And do you confirm you have the qualifications and experience set out
20 in section 1 of your evidence dated 20 April?

MR AMPUTCH: I do.

MS SHEARD: And do you confirm that the contents of those statements of evidence are true and correct to the best of your belief?

MR AMPUTCH: They are.

25 MR SHEARD: And did you participate in the conferencing with the landfill witnesses on 20 June 2017?

MR AMPUTCH: I did.

MS SHEARD: And can you confirm that you have prepared a summary statement of evidence dated 21 July?

30 MR AMPUTCH: I have.

MS SHEARD: Can you please read that statement?

MR AMPUTCH: This summary statement provides a summary of my Evidence in Chief dated 20 April 2017 and ...(Reads 1.1 - 3.1 of Summary of Evidence Statement)... I addressed matters raised in the evidence of two submitters,
35 Mr Jack Turner witness for Auckland Council and Ms Simonne Eldridge, Rosedale Closed Landfill witness for Auckland Council.

I also updated the Board and submitters on planned site investigations ... (Reads 3.2 - 4.6 of Summary of Evidence Statement)... Updates: I update the Board and submitters on the matters raised by Mr McGarr. Mr McGarr, the Board Planner who produced the technical advice conditions (landfill) on 14 July 2017. Mr McGarr provided further advice to the Board on Landfill Conditions including some amendments to conditions attached to the 6 July 2017 JWS - Planning.

In general, I support amendments suggested or similar which would safeguard the Project's construction workers and landfill staff.

With respect to the matters raised by Mr McGarr, I have had discussions with Mr Rumsby who was author of the landfill gas and construction odour assessment sections of Technical Report 7, otherwise referred to as assessment of effects - corridor encroachment on Rosedale Landfill.

With respect to the matters raised by Mr McGarr, I have had discussions with Ms Eldridge, landfill expert for Auckland Council.

I concur that the further amendments and restructure suggested ... (Reads 5.5 - 5.14 of Summary of Evidence Statement) ... Monitoring shall be for methane, carbon dioxide, carbon monoxide, oxygen, hydrogen sulphides, and organic vapours.

MS SHEARD: Apology here, as you have are probably noted the plans attached to his Joint Witness Statement are black and white. They are the same ones that are attached to the Joint Witness Statement, but we've handed out an extra copy for ease of reference.

~Comments from the Board 9.21 am)

JUDGE HARLAND: Thank you very much.

Now, I imagine as a result of the changes you might want to have some questions, do you, or do you not?

MR BANGMA: Well as it turns out, Your Honour, that the Council does not have any questions, and that's due to the high degree of alignment between Mr Amputch and Ms Eldridge, who you will hear from shortly.

JUDGE HARLAND: I was just wondering because there are some mentions to changes in conditions here that have been subject to the planning and landfill conferencing session. They are minor ones. Are you intending to just address those with Ms Eldridge, there's no --

MR BANGMA: That's right, Your Honour, those changes have been discussed with Ms Eldridge, and she is, broadly speaking, supportive of them; so, there is alignment between Ms Eldridge and Mr Amputch.

5 ~Questions from the Board (9.23 am)

MR MARK-BROWN: Mr Amputch, so I have been looking at Craig McGarr's 14 July report and the conditions recommend amendments associated with that. Do you have a copy of that memo at least?

MR AMPUTCH: I have a copy of the recommended amendment and memo attached
10 to it, yes.

MR MARK-BROWN: The first question I have relates to LW.1B. So, we're talking about the Landfill Management Strategy being consistent with the Project Alliance Agreement as it may be modified. So, is the reason for that -- is that because you anticipate ongoing modifications to the Project Alliance
15 Agreement, or either you do, or perhaps NZTA does? You don't see any problems with that?

MR AMPUTCH: To the best of my knowledge Commissioner, the Appendix A4, has been agreed and, if any, there should be very minor amendments. So, with a Project Alliance Agreement it differs slightly from a normal procurement where
20 the designer would prepare specifications for the constructed event or the tendered event priced on. In this case, because the Transport Agency is a partner in the Alliance then they actually develop what is by default a de facto specification, referred to as the minimum requirements. I assisted the project designer, Mr Moore to prepare that. That statement was provided to the
25 Auckland Council Closed Landfill and Contaminated Land Response team. Ms Eldridge referred to it in her rebuttal evidence and evidence and has attached it to her evidence, and discussions that we've had internally have shown that there will be -- there is unlikely to be any change to that document.

MR MARK-BROWN: Okay, thank you.

30 I'll move on to condition LW.1D, and the wording of that. So, it's talking about monitoring of the slopes and dealing with concerns of instability.

MR AMPUTCH: Yes.

MR MARK-BROWN: So I understand, I think, what the condition is trying to get at, however, I do have problems with the wording talking about "a potential risk to
35 landfill stability". It seems those words to me, and for fear of being somewhat pedantic, seem to be a tautology, in other words, a risk. The risk means that

there is a potential for something, and you're addressing that, so if you've got a potential risk it doesn't seem to me that word "potential", doesn't really help to clarify that, and I was wondering can you please explain to me how you see that working? So, for some -- the Council officers are looking to implement this condition, there's always, with a landfill on a slope, I would imagine there's always a potential risk. So, can you just help me with that, and whether -- I guess I'm interested in whether you see there might be, given my comments, whether there might be opportunity or desire to clarify that? Because it's not clear to me what it means.

5
10 MR AMPUTCH: Okay, so Commissioner Mark-Brown, this condition was developed in conjunction with Ms Eldridge and the planners. I think that the Commissioner who facilitated asked a similar question. We then re-worded this condition, so it does not actually resemble what we had originally put there. So, in terms of actually how it would work, we would put in place the monitoring that was required to assess the settlement of the landfill or otherwise. It would be assessed by someone appropriately qualified; so, we're talking about a chartered professional geotechnical engineer with considerable experience in earthfill and in landfill, and that they would then assess both visually and by way of analysis and back analysis whether there was any -- whether there were issues and then they would have to come up with remedial measures or measures to address the risk.

15
20 MR MARK-BROWN: Are you saying that you think the words are clear enough to provide direction to implementation of the conditions to meet the needs?

MR AMPUTCH: To the best of my knowledge, yes.

25 MR MARK-BROWN: Okay.

If we move on to LW.4f, it talks about measures to avoid or mitigate the impact of the works on waste stability. What is meant by "waste" there?

MR AMPUTCH: So, that is the refuse of the landfill itself, and it would be then the -- so at this landfill in, addition to the waste mass after the landfill was closed in 2002, the landfill continued to operate until around 2009 as a clean fill site. And there is clean fill material that has been placed on top of areas that were already virtually at completion in terms of the refuse fill. And this is where they've then placed -- so, I'm referring to the entire mass of the refuse, plus the clean fill layer above it and the capital above it.

30
35 MR MARK-BROWN: Would it not be helpful to have that as a definition because when I saw "waste" in there --

MR AMPUTCH: I agree it would be useful.

MR MARK-BROWN: So it's the refuse mass plus clean fill?

MR AMPUTCH: Yes.

MR MARK-BROWN: Again, coming on to LW.8, subsection H, again I wonder

5 whether it might be helpful to have a bit more clarification how the works will
achieve the factors of safety against instability and the relevant codes, perhaps
adding "acceptable factors of safety", do you think that would be helpful
clarification?

MR AMPUTCH: Yes, it would.

10 MR STEWART: I just had one question, and I think it's probably been overtaken by
events. I was looking at your Evidence in Chief on paragraph 12.4 where you
say amongst other things:

"In my view, Council's submission as it relates to the Landfill is too
prescriptive and stymies innovation in design".

15 And then you go on with a few other comments which are slightly
negative, shall we say.

Do I take it from what you've just told us this morning in your
evidence -- summary evidence, that basically that's there's a large measure, if
not almost total measure, of agreement now between you and Ms Eldridge?

20 MR AMPUTCH: There is.

MR STEWART: So there aren't any matters of any significance?

MR AMPUTCH: No matters of any significance.

MR STEWART: No doubt we'll hear about that later, but thank you for that.

JUDGE HARLAND: I don't have any questions. Are there any questions arising?

25 MR MARK-BROWN: I just have one more. Just regarding the conditions of dust. So,
for other parts of the proposed conditions for the works, the wider works, there
are quite stringent conditions on dust in terms concentrations of dust. Would
you see that those would necessarily apply to the works at the landfill as well
and wouldn't need to be more stringent?

30 MR AMPUTCH: I think they should apply to the landfill works as such. We are also
conscious of potential presence of hazardous substances, and potentially
asbestos at this landfill. So, I guess they would be more stringent than for the
general -- the rest of the Project.

JUDGE HARLAND: Is there anything arising from that? No, thank you.

Thank you very much, Mr Amputch for your very clear evidence and for the helpful way that you have attached everything we need to look at for your evidence. Much appreciated.

~(The witness withdrew - 9.33 am)

5

~SIMONNE FRANCES ELDRIDGE (Affirmed) (9.34 pm)

~Examination in Chief by Mr Bangma (9.34 am)

MR BANGMA: Is your full name Simonne Francis Eldridge?

MS ELDRIDGE: Yes.

10 MR BANGMA: Do you confirm that you've prepared a statement of evidence in this matter dated 25 May 2017?

MS ELDRIDGE: Yes.

MR BANGMA: And that you have the qualifications and experience set out in paragraphs 1.1 through to 1.5 of that statement of evidence?

15 MS ELDRIDGE: Yes.

MR BANGMA: Are there any corrections you'd like to make to that evidence?

MS ELDRIDGE: No.

MR BANGMA: Do you confirm that the contents of that evidence is true and correct to the best of your knowledge?

20 MS ELDRIDGE: Yes, I do.

MR BANGMA: And you've been involved in expert conferencing for this matter?

MS ELDRIDGE: Yes, I have.

MR BANGMA: And you've had further discussions with Mr Amputch recently in relation to the changes to the conditions which he has addressed in his

25 summary statement?

MS ELDRIDGE: Yes, I have.

MR BANGMA: Have you prepared a summary statement in this matter?

MS ELDRIDGE: Yes.

MR BANGMA: Could I ask you to please read that summary statement starting at paragraph 1?

30

MS ELDRIDGE: Yes.

My name is Simonne Frances Eldridge. I am the Sector Director - Energy - Industry - Waste for Tonkin and Taylor Limited. My background ...(Reads 1 – 13 of Summary of Evidence Statement)... I do not support cross-reference to LW.10.

35

Thank you.

~Questions from the Board (9.40 pm)

MR MARK-BROWN: In these various points that you've just made, are you saying in all of these that you agree with Mr Amputch, and you are essentially clarifying or making some changes from what the planners recommend, would that be
5 right?

MS ELDRIDGE: That's correct sir.

MR MARK-BROWN: You would have heard me ask Mr Amputch about this condition LW.1D and I'd just like your opinion on that. I guess my concern is that the
10 wording seems a little bit vague, and I guess my question is are you happy that the wording is going to be clear enough so that when the consents are implemented, the Council will be clear about what's required?

MS ELDRIDGE: Thank you, sir. The inclusion of this consent condition was in response to something in my original evidence, as obviously unacceptable
15 slope stability issues are considered to be of importance. On reflection, having listened to your question, I think "potential risk" is a similar tautology to "ensure", or other words in consent conditions. It could be modified to something like "an unacceptable risk to landfill stability", that might clarify it. And, you know, I have the benefit of being the second person, so I was able to
20 reflect on that.

I think the main thing from Council's perspective in relation to the closed landfill, in my experience with managing this particular-- or being involved with the management of this particular site, is that we need to keep it reasonably open to enable works to meet the objective, and that's what I strongly believe in
25 risk assessments, because they get to consider all the issues for the specific work that's being undertaken. So, if you're happy with that "unacceptable" I think that would be my recommendation to make it clearer.

MR MARK-BROWN: Thank you that's helpful to me. Thanks very much, that's all I have.

30 MR STEWART: I'm not sure if it's a question or a comment. Because it's fairly technical I'm trying to cross-reference between your evidence and Mr Amputch's, and I think it will require for us to go away and just quietly do this. Mr Mark-Brown will probably do it more quickly, because he's an engineer, but I think it was stated that you and Mr Amputch are basically on all fours with
35 these conditions now, or more or less, and I wonder whether we are going to

get an updated version of the conditions at some point, and I'm not sure who would be producing that?

MS SHEARD: We are re-visiting the conditions on Wednesday as a group, so we'll make sure that all the wording's picked up.

5 MR STEWART: Thank you. And if there are any differences still, which I detect that there almost aren't, they will be identified in that document?

MS SHEARD: We will highlight any differences, but as far as I am aware they are completely aligned at the current time.

MS ELDRIDGE: If I may just make one comment? I did actually notice, and I
10 apologise, I didn't -- I was provided with Mr Amputch's proposed changes prior to today, unfortunately it was late on Friday night and I missed the definition he's used in here of "experienced environment practitioners". My preference would be to see that related back to the same definition we've used in LW.1A where we've defined very specifically the land -- what we define as being a
15 landfill expert, it's not one person, but it's the roles of which; that would make those conditions more consistent. But as I say, I apologise I had not raised that with Mr Amputch.

MR MARK-BROWN: Which part of Mr Amputch' recent statement?

MS ELDRIDGE: 5.12. He's proposed a revised version -- some revised wording to be
20 included in LW.5 and he's said that "the landfill gas risk assessment by an appropriately qualified and experienced environmental practitioner".

MR MARK-BROWN: Yes, and you are saying that you'd prefer the definition reads?

MS ELDRIDGE: So under LW.1A, we've referred to for the purpose of the landfill conditions "a suitably qualified person (or persons) means a Chartered
25 Professional Engineer with a minimum 10 years relevant landfill gas experience who is acceptable to the Auckland Council (Team Leader Northern Monitoring)". It's just consistency, and I believe that within that definition gives you the, you know, as we said, it's not one person, it's the relevant experience to that task.

30 MR MARK-BROWN: Okay.

JUDGE HARLAND: I don't have any questions. Thank you very much for, again, a very constructive approach to this difficult topic. Could I say we have raised some issues about the conditions that you've addressed with open minds, and improved, so thank you very much.

35 ~-(The witness withdrew - 9.46 am)

SHANNON BRAY (Affirmed) (9.47 pm)

Examination in Chief by Ms Sheard (9.47 am)

MS SHEARD: Good morning. Do you confirm that your full name is Shannon Bray?

5 MR BRAY: Yes.

MS SHEARD: And do you confirm that you have prepared a statement of evidence dated April 20, 2017, and 15 June, 2017?

MR BRAY: Yes.

MS SHEARD: And do you confirm that your qualifications and experience are
10 correct as outlined in section 1 of your evidence dated 20 April?

MR BRAY: Yes.

MS SHEARD: And do you confirm to the best of your knowledge and belief that the contents of both those statements of evidence are true and correct?

MR BRAY: Yes. There is one minor amendment which I'll come to.

15 MS SHEARD: Certainly. And do you confirm you have prepared a summary statement dated 23 July 2017?

MR BRAY: Yes.

MS SHEARD: Can you please read that summary statement?

MR BRAY: Certainly. Good morning.

20 This summary statement provides a summary of my Evidence in Chief dated 20 April, my rebuttal evidence dated 15 June, and includes updates to my evidence as a result of conferencing.

I just need to make some corrections to my evidence. At paragraph
25 13.49 of my Evidence in Chief, I have provided a table assessing every property adjacent to State Highway 18, and Constellation Drive, and Rook Reserve. Unfortunately, and my apologies, there was an error in the numbering of the properties in this table, as follows.

JUDGE HARLAND: Well, just hold on please, so we can cross-reference it.

MR BRAY: Yes. So, it's on page 43 of my Evidence-in-Chief.

30 MS SHEARD: Now, Mr Bray is going to take you through what the amendments are, but if you note on page 2, he has actually produced a --

JUDGE HARLAND: Reproduced it? Thank you very much for that. I will just make a note on the Evidence in Chief, if you just bear with me for a moment.

MR BRAY: So it's near the edge of the table on page 43, I made reference to 47
35 Barbados Drive being 10 metres to Paul Matthews Road and 5 metres to the SUP; apologies, that should have been 49 Barbados Drive, 47 is actually a

property that is a front section and is screened from the Proposal by number 49, and I've got some references there where you can find that on the maps in my annexures. And so, the consequence of that is on the next row, 49 needs to be just taken out from that, so that row refers to 51 and 57 only, and
5 unfortunately my error was transposed into the conclusions at paragraph 13.60C and 16.2C. Those should both read 49 rather than 47. I confirm that I have re-checked all the other properties in my analysis and they remain correct.

Summary of my Evidence in Chief: I have undertaken a detailed
10 assessment of the proposed urban design outcomes ...(Reads 3.1 - 5.4 of Summary of Evidence statement)... records that I will make several changes to the UDLF. I will take those as read shall I, or would you like me to go through them?

15 ~Comments from the Board (9.57 am)

JUDGE HARLAND: Yes, if they are going to be tracked, or are they going to be included? Are they in the shared -- updated set of conditions?

MS SHEARD: Yes, that's correct; they're actually changes to the UDLF.

JUDGE HARLAND: Yes, and I appreciate that, but we don't want to scurry through
20 those documents and figure it out for ourselves.

MS SHEARD: No, absolutely. We are just putting off reprinting it because it's a bit of a palaver to get it printed on those great big sheets, so, if we could consolidate it all into one further issue, at the end, that would be our intention.

25 JUDGE HARLAND: All right. Well, that's fine. The other alternative is -- the way is to just print the pages that the changes are to be made to and have those noted, but what you'll appreciate, Mr Bray, is that we have a lot of information we have to collate. So, if there are things that you need to draw to our attention, you can't assume that just by reading them we've actually got
30 them. So, if they're important you need to let us know.

~Examination in Chief continues by Ms Sheard (9.58 am)

MR BRAY: Okay. Well I guess they're all there and they're documented, but if I just
35 move to 5.7, what we are suggesting to do, further to Ms Sheard, was to provide you, by the end of the hearing, a new revision of the UDLF in its entirety, and we'll give it a new revision number. So, it will be revision 3,

which means in the conditions you can then refer to the UDLF revision 3 in the confidence that all of those elements are in there.

~Questions from the Board (9.59 am)

5 JUDGE HARLAND: Right. Thank you. That would be helpful. And on that point, can I just ask that those particular changes, they've come out of, obviously, the JWS so there's no actual issue about them not being agreed or anything like that? All right. Well, that's helpful. Thank you for that.

So yes. You don't need to read through all of that paragraph 5.3.

10 MR BRAY: Okay. And that's really the same for 5.4, 5.5, and 5.6, which are all just marked changes that need to be made.

JUDGE HARLAND: Right.

~Examination in Chief continues by Ms Sheard (9.59 am)

15 MR BRAY: At 6.1 then. I have read the Joint Witness Statement prepared by the noise and vibration experts and understand ...(Reads 6.1 - 6.5 of Summary of Evidence Statement)... and reflect the original intention to use the stormwater pond maintenance area as a basketball court.

Thank you.

20

~Cross-Examination by Mr Bangma (10.02 am)

MR BANGMA: Good morning, Mr Bray. It would probably come as no great surprise to you that I'd like to ask you some questions about the Alexandra Stream Underpass, and in particular I wanted to explore with you the relationship between the underpass NZTA has proposed in the SUP, and the effects of not upgrading the underpass to the standard proposed by the Council in this hearing, and what the Council is seeking the Board is that it be upgraded in accordance with option 3, in the alternatives assessment prepared by NZTA.

25
30 Now, Mr Brown considers it would be a better outcome if the proposed shared use path along State Highway 18 was entirely on the southern side. If it was to be on the southern side, for its entirety, that would provide a higher level of connectivity to Unsworth Heights than what is proposed, wouldn't it?

35 MR BRAY: It would if you only look at that section. That section would, but the shared use path will go beyond that in time.

MR BANGMA: And you've explained in your evidence, as have other witnesses, that the reasons why that's not going to happen, due to the design of the motorway and, Your Honour, the Council accepts that's not within scope, but I understand that there would be better connectivity, wouldn't there, with
5 Unsworth Heights, if it was on the southern side?

MR BRAY: No, I don't know if there's better connectivity. I think there is already -- there is going to be connectivity from Unsworth Heights across the Albany Interchange, and through the introduction of the Paul Matthews Drive Overbridge.

10 MR BANGMA: Well, but with what's proposed, at the present, there would be connectivity, as you say, down the Albany Highway, and then through this existing underpass.

MR BRAY: The Alexandra Stream underpass.

MR BANGMA: Surely it would follow, wouldn't it though, that there would be even
15 better connectivity with Unsworth Heights, for that last portion, if it actually joined Unsworth Heights down that last portion of State Highway 18?

MR BRAY: Well, there would be, potentially, a connection at Bluebird Reserve, but that would probably be the only additional connection that I would see, because it would be connected at Albany Heights; it's connected at
20 Rook Reserve and it would be connected to Paul Matthews. So, Bluebird Reserve would be the only point that would be an additional connection.

MR BANGMA: Right. And just while we're talking about additional connections, I understand that the Greenways Plan envisages an additional connection being provided between Bluebird Rise and William Pickering Drive, but
25 conferencing has concluded that's unlikely to be feasible?

MR BRAY: Yes, I worked with Mr Moore on that. When you look at it on a planned viewed, you go, "Yeah, easy. We'll just put a bridge across there", and then you get into three-dimensional design, and you realise actually how challenging that is. It's not an easy solution. You would essentially lose a lot
30 of Bluebird Reserve with ramps, and, on the other side it's just as difficult. You'd potentially end up with lifts, which are not an ideal situation just from ongoing maintenance and also crime prevention et cetera.

So, it's possible to construct some sort of an overpass from between those two points, but it's certainly not easy, and would come with a number of
35 compromises.

MR BANGMA: So that leaves, as points of connection, travelling down Albany Highway, travelling through the underpass at Alexandra Stream, or across at Paul Matthews?

MR BRAY: Yes.

5 MR BANGMA: And I wonder, Your Honour -- I am in Your Honour's hands, I have here -- it's just a copy of page 31 of Kiwimaps. I appreciate we have all of the General Arrangement Plans before us, but I wondered if it just might be easier and more efficient in exploring the connectivity in different roads with the witness, if I provided him with a copy of this map, which I have been
10 referring to myself. I also have copies for the Court.

JUDGE HARLAND: Yes. Well, is it possible for us to get it up on the screen or not particularly?

MR BANGMA: Apologies Your Honour. I have 15 hard copies here?

JUDGE HARLAND: Well, let's have the hard copies. I think that's just the same.

15 MR BANGMA: Apologies for this low tech, which I'm proposing.

JUDGE HARLAND: No that's all right. We might struggle to find it otherwise. So, whereabouts is this from again?

MR BANGMA: Your Honour, this is a color photocopy from a hard copy of Kiwimaps 2015, path finder. It says here edition 29. And as Your Honour
20 can see from the photocopy, it's on page 31 of the maps.

JUDGE HARLAND: So are you going to produce this? What I was really asking, is this cross-referenced in the evidence somewhere so far or not?

MR BANGMA: No, apologies.

JUDGE HARLAND: Right, well that's all right. We will produce it as an exhibit. It
25 will be Council Exhibit 1.

~Auckland Council - Shannon Bray - Exhibit 1 (10.08 am)

MR BANGMA: So Mr Bray, you have a copy of this now exhibit in front of you?

30 MR BRAY: Yep.

MR BANGMA: And you can see within that the general Unsworth Heights area, which is shown in, broadly speaking, boxes Y16 and 17?

MR BRAY: Yes.

MR BANGMA: Thank you. So, look, I just wanted to explore with you the different
35 connections that people might use. Now were you here when Ms King gave her evidence?

MR BRAY: No sorry; I wasn't.

MR BANGMA: I see. Well, Ms King indicated in response, I think, to a question from Mr Willmott, that likely routes for pedestrians and cyclists were a combination of directness and pleasantness, or at least -- or attractiveness I believe. Words to that effect. So, I just wanted to explore that with you. So, for residents who are living in the, if I could call it, the western part of Unsworth Heights, so perhaps within that square Y16, now they could potentially cross State Highway 18 and travel along down Albany Highway to the various schools and businesses, Cafes, other opportunities down there, but via Albany Highway. However, that would essentially require them to travel, for instance, up Unsworth Drive, or up to Sunset Road, and then down Albany Highway to do that?

MR BRAY: Yes, that's correct. Yeah, they would.

MR BANGMA: I see. So that would be less direct than using the Rook Reserve underpass, wouldn't it? Is that fair?

MR BRAY: Depending on the destination, potentially. Yes.

MR BANGMA: And Albany Highway at present doesn't have any dedicated shared use path facilities, I understand, from driving to and from this hearing, up to the interchange with State Highway 18, does it?

MR BRAY: I'm not aware of any, but I haven't specifically looked.

MR BANGMA: So it wouldn't be a particularly attractive environment for pedestrians and cyclists, is that fair to say?

MR BRAY: I haven't assessed that, sorry.

MR BANGMA: All right. Whereas alternatively, if pedestrians and cyclists were to travel through the Rook Reserve underpass, once they'd negotiated and got through the underpass, they could, assuming this Project is confirmed, they could access NZTA's proposed shared use path on the other side?

MR BRAY: Sorry, on what side?

MR BANGMA: Sorry, on the northern side of State Highway 18? Once they had travelled through --

MR BRAY: Yes, that's correct. There's a connection from Alexandra Creek up to the shared use path.

MR BANGMA: Yes, and NZTA has offered as part of a side agreement, to extend the shared use path that's proposed right up to where it joins, as I understand it, that's with the existing shared use path on Albany Highway at Bush Road.

MR BRAY: Okay.

MR BANGMA: So as a result of that, once they were through the underpass, they could effectively stay on the shared use path, up State Highway 18 on the northern side, and then right down Albany Highway, is that correct?

MR BRAY: Yes.

5 MR BANGMA: And for the most part that would be fairly attractive proposition, wouldn't it?

MR BRAY: Again, it all depends on where you were heading to, but --

MR BANGMA: With reference to my earlier question, so sorry if I wasn't being clear, what I'm putting to you, I guess, is that would be a more direct and attractive alternative than for instance going uphill up Sunset Road and then
10 down Albany Highway, where for sections of that there's no shared use path facilities at all at present?

MR BRAY: I guess so, yes. I mean, I guess I make the point that they can do that right now, as they want to. You know, there are routes through there that
15 those people can take currently.

MR BANGMA: Sorry, which routes are we --

MR BRAY: Well the ones -- you are talking about -- you can currently come from Unsworth Heights, go into Rook Reserve, go through the underpass and into Bush Road via Paul Matthews Road at the moment.

20 MR BANGMA: But the NZTA are, and the counsel has acknowledged, proposing shared use path facilities on the northern side of State Highway 18 that would be an improvement to that situation, aren't they? They would be more attractive than what's there at present?

MR BRAY: No, I think we're saying that the shared use path provides greater
25 connectivity overall. We're not saying that it provides direct connectivity or improvement for a small community in Unsworth Heights. We're looking at a bigger picture which is connecting, you know, creating a spine, I guess, of a shared use path that others can connect to, and in the future that would be extended. So, my view is that the connectivity is improved, generally, for a
30 wide area, not necessarily for a specific catchment.

MR BANGMA: Well, I understand that, but -- I think you've answered my question, but the question was would it -- do you accept it would be more direct and attractive for residents particularly in the western part of Unsworth's Heights, to travel through the Rook Reserve underpass and use your proposed share
35 use pathway structure as an alternative of travel for instance along Sunset Road and down Albany Highway?

MR BRAY: Potentially, yes, depending on where they were going, but yes potentially.

MR BANGMA: No thank you, that's fair. So as a result of that, and the fact that -- so we've discussed the shared use path is going to be located on the northern side, not the southern side. Do you accept that this connection at Rook Reserve, Alexandra underpass is an important connection, isn't it?

MR BRAY: I think it's as important as it is now. Yeah. I mean, yes, it provides a connection under the motorway. So yes, it is important.

MR BANGMA: But the importance of that connection will increase, won't it? As a result of the facilities that you are -- that NZTA, sorry, is proposing on the other side?

MR BRAY: Well, we're not certain about that actually. I've seen various numbers that the forecasting doesn't indicate that's going to be significant increases.

MR BANGMA: We can talk about the numbers if you like?

So, I understand the numbers that you're referring to, you can correct me if I'm wrong, I shouldn't assume, but there is a pedestrian and cyclists' movements count prepared by Flow Transportation Specialists Limited and that's attached to the Joint Witness Statement transport and traffic site specific impacts date 23 June 2017?

MR BRAY: That's correct.

MR BANGMA: And I think Mr Clark who works at Flo, I understand, has also referred to that in his rebuttal evidence?

MR BRAY: That's correct.

MR BANGMA: So this is -- this document refers to three surveys being carried out counting the number of pedestrians and cyclists who were travelling through the underpass at present?

MR BRAY: Yes.

MR BANGMA: So that survey indicates that there are people using this facility at present, doesn't it?

MR BRAY: Yeah, there are people using it, yes.

MR BANGMA: And the amounts obviously vary at different times of the day, but in some hours of the day, for instance, there is -- there might be as many 20 people. That's what it says here, in the survey. Saturday 11 May, northbound, between 12 pm and 1 pm, 20 people used it, for instance?

MR BRAY: Yes.

MR BANGMA: Now that count obviously is based on the existing situation, isn't it?

MR BRAY: It is, yeah. It's a remarkably low number, I think, but --

MR BANGMA: Well, what I want to explore with you is, it's common ground through all of the conferencing and I think as you've acknowledged in your evidence, the underpass as it exists at the moment doesn't comply with relevant urban design guidelines or CPTED principles does it?

5

MR BRAY: No it doesn't; I agree with that.

MR BANGMA: It wouldn't be regarded as best practice if we were building a new underpass today, is that fair?

MR BRAY: No, it wouldn't, no.

10 MR BANGMA: So that could -- do you accept in general terms, that could potentially limit the number of people who might use it?

MR BRAY: I expect it probably does, yes. I think that, particularly at night, I think there would be people who wouldn't want to use it.

MR BANGMA: And would it be reasonable to assume if the facilities were -- if the underpass was upgraded, so that it did comply with CPTED principles and best practice of urban design, usage of that facility might increase, is that a reasonable assumption?

15

MR BRAY: I think it's a reasonable assumption. I think the challenge, having been through the design exercises with Mr Moore, is that we actually can't get what you'd say is a perfect or a best practice design underpass. We can't get the height or the width. I think in the UDLF we've suggested 5 metres by 5 metres; it's not possible to get that size. It's also not possible to control the flooding that goes through there. So, there will continue to be flooding through the underpass no matter what changes are made. So yes, I think people will be -- if you were to increase the design, yes; I think it would be more attractive, but it certainly would still not be an ideal solution.

20

25

MR BANGMA: Well, in terms of what might be possible, in terms of upgrading this, that's something which the Council has explored through cross-examination with other witnesses. Were you here when Mr Schofield gave his evidence?

30

MR BRAY: Sorry, no. I wasn't.

MR BANGMA: Well Mr Schofield in his rebuttal evidence does refer to an options assessment undertaken by NZTA --

MR BRAY: That's correct.

MR BANGMA: -- for upgrading this. And one of the options that NZTA considered was Option 3, which would involve upgrading the underpass so that it was 3 metres by 3 metres. That's correct, isn't it?

35

MR BRAY: 3 metre by 3 metre on a diagonal alignment.

MR BANGMA: On a diagonal alignment.

MR BRAY: Yeah.

MR BANGMA: And, I understood, in response to -- I understood from answers to
5 questions from Mr Schofield, that that option is technically feasible.

MR BRAY: Yes, I think it's acceptable; I think it's technically feasible to be done, but
it can't be designed to a best practice --

MR BANGMA: I see.

MR BRAY: -- underpass design.

10 MR BANGMA: All right, well we can explore that -- we will get to that, or explore
that. I just wanted just to finish off though, on questions focusing more on
who might use this connection, well, we can come to the design standards
and what's achievable or not achievable in a moment.

So, we've explored the Albany Highway route. Now, I understand, you
15 are obviously referring to the additional connection that's being provided at
Paul Matthews Drive as a pedestrian overbridge proposed there, as part of
this Proposal?

MR BRAY: That's correct.

MR BANGMA: And I understand that you, and I think Mr Clark, are both suggesting
20 in your evidence that residents in Unsworth Heights might choose to use that
connection rather than the underpass or that might divert some users away
from the underpass to use that option instead?

MR BRAY: Yes, I think it may well do. I think one of the benefits of the Project is
that there are currently no pedestrian crossings at Paul Matthews, and so,
25 the overbridge and the shared use path alongside that creates a very safe
environment for crossing the road at that point.

MR BANGMA: So that's an improvement on the current situation?

MR BRAY: It certainly is, yes.

MR BANGMA: But just exploring with you, I guess, the likelihood that say residents
30 in the western part of the Unsworth Heights would choose to use the Paul
Matthews Road Overbridge compared to the underpass, just to explore that
with you, so that would require those residents to travel down Barbados Drive
potentially?

MR BRAY: That's correct.

35 MR BANGMA: And then obviously cross at Paul Matthews which they could do on
this proposed facility. Now that might suit some people, depending on the

direction they were headed, but for pedestrians or cyclists who wanted to head in the Albany Highway direction, for instance to the various schools located along Albany Highway, I think there's three schools along there, and various businesses, while they could travel down Barbados and cross at Paul
5 Matthews and then travel up the shared use path, you accept that would involve them effectively doubling back, wouldn't it?

MR BRAY: Yeah, I would anticipate those people would probably more likely go across Albany Highway. If you were heading down Albany Highway you would cross at Albany Highway Overbridge, I would have thought. I don't
10 know, I'm not a resident of there and I don't cycle there and walk there daily. So, I'm -- you know, we're supposing where people might go and how they might go.

MR BANGMA: Well, the first part of my question, if they were to use that route, that would involve them doubling back wouldn't it, because they would travel
15 down Barbados --

MR BRAY: Yes, it would, yes.

MR BANGMA: And coming back to Ms King's principles, that would be less direct, wouldn't it?

MR BRAY: It would be less direct, yes.

20 MR BANGMA: I see. And we've explored, haven't we, residents from Unsworth Heights using the Albany Highway? I know we're speculating, but I also put it to you that that is less direct and potentially less attractive than using the underpass --

MR BRAY: For some, yes, I suspect that's true.

25 MR BANGMA: So, in terms of the relationship between the underpass and the proposed improved shared use path facilities that NZTA is providing on the other side, for many residents living in Unsworth Heights, particularly the western side, that's going to be a more direct and attractive route than the alternatives we've discussed, isn't it?

30 MR BRAY: For some, potentially. Yes.

MR BANGMA: I'd now like to move to asking you some questions about the extent of the upgrade to this underpass that we've been talking about, the extent of the upgrade that's proposed by NZTA, and explore the differences between that and what the Council's seeking, which is Option 3.

35 So, perhaps as a starting point, if I could ask you to turn to page 21 of your Evidence in Chief, Mr Bray? And in particular, at paragraph 11.30 of

your Evidence in Chief, I believe you provide some analysis there from a CPTED and urban design perspective of the existing underpass at present. Now you say there:

5 "The current design of the underpass is less desirable from a CPTED Crime Prevention Through Environmental Design Perspective."

MR BRAY: Yes.

MR BANGMA: I imagine we're all fairly clear, but can you just explain why that is?

MR BRAY: Yeah, I mean it's -- we've been trying to determine whether it was constructed as an underpass or actually whether it was constructed as a
10 large stormwater pipe, but it sort of acts as both I guess, and it's narrow, low in height, potentially dark in the middle -- I mean it requires lighting, but with a wider and a bigger height you would have more natural light coming through the underpass, but I think part of the -- some of the critical issues with it are particularly on the northern side, as you come out of the underpass, that
15 there is a sharp sort of left-hand corner and then it sort of curves round up into Rook Reserve which reduces visibility. So, when you're in the underpass you don't know what's around the corner until you are right on that corner. So, from a crime prevention perspective, you know, you haven't got any options if somebody undesirable is hanging around there, you want to
20 get away from; you don't come across them, and yeah, no, the other thing I was going to say was lighting through the entire route. Not just the underpass itself, but right through the whole route at night, is an issue.

MR BANGMA: And in terms of CPTED, I understand, I guess none us know how safe or unsafe this part of Albany is, but I guess the point I want to make is
25 that with CPTED it's also people's perceptions of safety, isn't it, and if they can't see what's around the corner, even if in fact there's nothing around the corner, that perception that their safety could be at risk makes the facility less attractive to use or might put people off?

MR BRAY: Yeah. That's correct, CPTED is really all around perception,
30 surveillance and sight lines; that's correct.

MR BANGMA: Okay. Now going back to your paragraph 11.30, you've said there it would be beneficial to widen the facility to at least 3 metres by 3 metres. What's the current width at the moment?

MR BRAY: I haven't actually measured it, but it's probably only about 2.4 diameter,
35 I would guess.

MR BANGMA: And the width of the -- that would be at the widest point of the tunnel, the width of the path itself, would be less than that presumably?

MR BRAY: Oh, it's less than that, yes.

MR BANGMA: 1.8 metres or 1.5?

5 MR BRAY: Something like that.

MR BANGMA: So what's the benefit of widening the facility?

MR BRAY: Square to round -- sorry, round to square I should say, really, because although it's 2.4 at its widest, or approximately that, it comes down quite narrow at the top and bottom, and so by squaring that up and taking it out a little bit more you would just get more light, more visibility through there, more opportunities to pass other people.

MR BANGMA: I see. So, that's from a CPTED perspective, but also usage in terms of people being able to pass each other? So, I think you said at the moment it might be around 1.5 or 1.8 metres?

15 MR BRAY: Yeah.

MR BANGMA: I take it that's not wide enough, is it for pedestrians or cyclists to squeeze past each other?

MR BRAY: Oh, it is wide enough; it's amazing what people can get past each other -- on -- with a bit of communication.

20 MR BANGMA: All right. They wouldn't get stuck, they could fit past?

MR BRAY: Yeah, but it's more desirable to be 3 metres.

MR BANGMA: And what's the general width of the shared use path facilities that are proposed elsewhere?

MR BRAY: 3 as a minimum generally.

25 MR BANGMA: I see. And Option 3 in NZTA's alternatives assessment, which is what the Council seeks, that would in fact widen the underpass to 3 metres in width, wouldn't it?

MR BRAY: Yes, it would, yeah.

JUDGE HARLAND: Are you going on to a new topic or is this still part of the width issue?

MR BANGMA: No, I was about to move on to a new topic, I think, Your Honour.

JUDGE HARLAND: Would that be a convenient time now to take the break?

MR BANGMA: Yes, Your Honour.

JUDGE HARLAND: So you are still under questioning. So, I haven't mentioned it to other witnesses, but it's desirable that you don't speak to anyone,

35

especially people from your team during the break, and we'll adjourn for 15 minutes thank you.

~(Adjourned 10.30 am - 10.46 am)

5 ~Cross-examination continues by Mr Bangma (10.46 am)

MR BANGMA: I can indicate to Your Honour before the break that I was moving on to a slightly different topic.

Paragraph 11.30 of your Evidence in Chief, the last sentence of that paragraph in fact you say:

10 "At the time of writing potential options in relation to the Alexandra Creek Underpass are still being explored by the Transport Agency and I hope to be in a position to provide an update prior to the hearing."

In terms of what is proposed by way of upgrade by way of NZTA, I understand from questions to earlier witnesses that that is limited to or
15 comprises shifting the alignment of the path on the southern approach to the underpass through Rook Reserve and providing lighting and CCTV coverage, is that correct?

MR BRAY: That's correct.

MR BANGMA: So that would be an improvement to the existing situation, wouldn't it?

20 MR BRAY: Yes.

MR BANGMA: But it won't fully resolve CPTED issues, will it?

MR BRAY: No.

MR BANGMA: Option 3, which is favoured by the Council, would better address CPTED issues wouldn't it, do you accept that?

25 MR BRAY: It would go a little bit further, I don't think it fully resolves the issue of the underpass -- well the underpass when you look at it just as the underpass might be a better situation, but holistic for that length of shared used path.

MR BANGMA: All right, but I mean on that point specifically Mr Schofield has given evidence about the findings of NZTA's alternatives assessment for the

30 underpass, are you familiar with Mr Schofield's evidence?

MR BRAY: Yes.

MR BANGMA: And his evidence on the options assessment in Option 3 concludes that would be preferable from a CPTED, as well as a user safety experience, perspective because it would have better sight distances and visibility.

35 MR BRAY: That's correct.

MR BANGMA: And as we've already explored, Option 3 would be 3 metres by 3 metres, wouldn't it?

MR BRAY: It would.

MR BANGMA: Which is wider than what's proposed by NZTA.

5 Moving now to the UDLF for this project, I understand from your evidence that you were not involved in the preparation of the UDLF, but you have become familiar with it and extensively reviewed it?

MR BRAY: That's correct. I came onto the Project after it had been notified. So I have made some changes to the UDLF, hence the revision 2 that was put out
10 with my Evidence in Chief. But the core writing of the UDLF was done prior to my involvement in the Project.

MR BANGMA: And your evidence to the Board is fairly clear, isn't it, the principals set out in the UDLF are appropriate for this Project, aren't they?

MR BRAY: Yes, I've been involved in a number of Transport Agency projects of this
15 nature and I think that the UDLF captures the overall intent of sort of longer term objectives for this corridor. Some of those will be delivered through this Project and some of those will be delivered at later dates.

MR BANGMA: And, in your view, does the UDLF represent best practice?

MR BRAY: Generally speaking, yes.

20 MR BANGMA: I think at paragraph 10.7 of your evidence you say it's consistent with best practice?

MR BRAY: Yeah, yes I think so.

MR BANGMA: In fact, if I could just get you to turn to paragraphs 10.7 and 10.8 of
25 your Evidence in Chief. I think we've already touched on paragraph 10.7 where you say the UDLF is consistent with best practice.

Paragraph 10.8 of your evidence you expand on that a little bit more and say that "the UDLF is informed by the Transport Agency's own published documents Bridging the Gap and Landscape Guidelines". And you go on to say it "recommends outcomes that provide more than just the minimum
30 required mitigation of urban design of landscape and visual effects."

MR BRAY: Yes.

MR BANGMA: So that all sounds very commendable Mr Bray, very high minded, if I could say so, in terms of what's been proposed as part of this Project for the upgrade of the underpass, do you consider that upgrade is consistent with your
35 UDLF?

MR BRAY: Probably -- no I think it could -- more could be done to the underpass, but it would not be just the underpass itself. As I said before, it would need wider review of that area. And I go back to what I said before, is I think that there are constructional challenges with the underpass that would prevent it from really
5 ever being able to provide what the UDLF sets out.

MR BANGMA: All right, I mean we understand your evidence that there are issues beyond the underpass perhaps, but did I understand you to say you don't consider what -- the upgrade that's proposed isn't consistent with the UDLF?

MR BRAY: Well it's not actually, no. In the UDLF in section 5.6 of the UDLF, which is
10 on page 36 --

MR BANGMA: Thank you that was where I was headed.

MR BRAY: -- really set out there that an underpass should be 5 metres height by 5 metres wide.

MR BANGMA: Would it be helpful if we paused for the Board to find that?

15 JUDGE HARLAND: Well if that's just the evidence, it's the evidence, we can understand there's a difference, 5 metres, 5 by 5 is the preferable?

MR BRAY: Yes, it's set out in page 36 of the UDLF, section 5.6, that would more desirable. So, 3 by 3 doesn't meet that requirement, but it's a compromise given the situation.

20 MR BANGMA: So 3 by 3 would be closer to meeting the NZTA's UDLF?

MR BRAY: Closer than it is currently.

MR BANGMA: Then what's currently proposed.

At 5.6 of the UDLF, I think it's page 36, there's also reference there to providing an open environment, it says for the subway for clear lines of sight in
25 all directions for as far as possible. You would accept, wouldn't you, that Option 3, which is the option proposed by the Council, would better achieve that than what's proposed by NZTA?

MR BRAY: Yes it would.

MR BANGMA: And lastly, just at 5.6, there is reference there to in relation to
30 underpasses providing an environment which is attractive and stimulating. You would accept wouldn't you that Option 3 sought by the Council would be more attractive in broad terms than the option proposed by NZTA?

MR BRAY: It would be, yes.

MR BANGMA: I just want to take you to one other part in the UDLF, one other
35 reference, Mr Bray. I believe it's page 22, of the UDLF. It's headed up 3.8.2, "key opportunities that are identified". Then there is a subheading

"connectivity" and there is a reference there to, third bullet, the third bullet point down "facilitating safe high amenity pedestrian and cycling links across the corridor and to the surrounding communities".

5 Now I explored with you in questions that the underpass obviously provides a link to the community at Unsworth Heights and the shared used path on the other side, doesn't it?

MR BRAY: Yes.

MR BANGMA: But it's not a particularly -- how consistent do you think that link is with those principles there? I mean, it's not particularly high amenity and I think
10 you've said that there will be some CPTED principles which will be improved but not entirely resolved. Is that fair?

MR BRAY: Yeah, 3.8.2 of the UDLF actually identifies opportunities not principles, and so what it's suggesting there is look, in an ideal world if everything can't -- if everything aligned wouldn't it be great to do those things? What happens
15 following that is some practical realities about what can you actually construct and how far does your project go and how far does the budgets go? And so no, we can't achieve everything that's on that opportunities list. That's the nature of the Project.

MR BANGMA: No I understand that. But you've identified two things, constraints and
20 what can practically be done. Now, questions from Mr Schofield and other witnesses, Option 3 which is favoured by the Council is technically possible, isn't it?

MR BRAY: It is.

MR BANGMA: The other matter you addressed was a funding constraint and there
25 was questions from other witnesses that the cost of Option 3 would be \$5 million. So that's the funding cost of that option, are you familiar with the overall cost for the entire Project?

MR BRAY: I'd rather not get into funding, that's not my area, that's really for Mr Glucina.

30 JUDGE HARLAND: The other side of that, Mr Bangma, is that your witnesses will be asked about why the Council hasn't offered to put some extra money into this.

MR BANGMA: Yes, Your Honour's indicated that.

All right, but to summarise my understanding of the answers, the evidence that you've given, the underpass upgrade proposed by NZTA; so,
35 improving the alignment on the southern side, providing lighting, CCTV, that's an improvement on the existing situation, isn't it?

MR BRAY: It is.

MR BANGMA: But it's not best practice in terms of urban design, what we'll be left with is it? Is that fair?

MR BRAY: Is it best practice? Best practice would be to build a 5 by 5 underpass
5 through there, realign all of the routes to it and from it and create a much better connection through there. We've looked at it, it's not possible. So, no, it's not best practice, because it's not achieving that.

MR BANGMA: And what's proposed won't -- it will be an improvement but it won't fully resolve CPTED issues?

10 MR BRAY: It won't.

MR BANGMA: And it's not consistent with the principles that you've helped develop in the UDLF, is that fair?

MR BRAY: No it's not.

MR BANGMA: Just one last topic of questions --
15

~Questions from the Board (10.58 am)

JUDGE HARLAND: Sorry, I need to clarify that point, when you say "principles of the UDLF", we already had some evidence that your reference to 3.8.2 "key opportunities" was not part of that, do you want to ask that question a little more
20 specifically?

MR BANGMA: Yes thank you Your Honour. Yes, appreciate the clarification, 3.8.2 you did say were identified as opportunities, it's not consistent though with 5.6 at page 36 of the UDLF underpass and underbridges outcomes sought, is it?

MR BRAY: Neither the current or any of the three options would be consistent with
25 that, no.

~Cross-examination continues by Mr Bangma (10.58 am)

MR BANGMA: But I think as we've explored Option 3 would be more consistent, wouldn't it?

30 MR BRAY: It's getting closer.

MR BANGMA: Just one last topic, that's just looking at the objectives that have been set by NZTA for this Project. That includes an objective to provide safe walking and cycling facilities adjacent to State Highway 1 and 18, I think that's the first part. And connections to local transport networks. Now you would accept that
35 the underpass at Rook Reserve is a connection, isn't it?

MR BRAY: It's an existing connection.

MR BANGMA: And this shared used path is going to be, the last portion of it on State Highway 18 will be on the northern side, rather than the southern side.

MR BRAY: Yes.

MR BANGMA: So the underpass will provide the connection for residents in
5 Unsworth Heights to the shared used path, won't it?

MR BRAY: Well, we explored that before, for some people, yes it might do.

MR BANGMA: The objectives refer to providing safe walking and cycling facilities. What's proposed in terms of the underpass won't achieve that will it, because it's too narrow and doesn't fully comply with CPTED?

10 MR BRAY: No, I don't -- I don't think it does, but I think you have to look at this as a Project perspective. We are providing safe connections across State Highway 18. It's not at the underpass, admittedly, but it is Paul Matthews Overbridge where there are no current safe connections. So, in terms of -- I think, meeting the Transport Agency's objectives in terms of connectivity, we are meeting
15 those objectives and improving the situation that is there currently.

MR BANGMA: So, what's proposed by NZTA will in the round achieve that objective overall?

MR BRAY: Yes.

MR BANGMA: But specifically in relation to the underpass it wouldn't achieve that for
20 that specific part of the Project?

MR BRAY: For that specific part of the project, no.

~Re-examination by Ms Sheard (11.01 am)

MS SHEARD: Mr Bangma's touched on the issue of the sight lines into the underpass
25 and I'd just like to ask you a couple of quick questions about that.

The issues in relation to CPTED on the approach of the underpass from both sides is quite significant, aren't they?

MR BRAY: Yeah there are a number of issues. The northern side, as I explained before, sort of sharp corners that you come into, and on the southern side the
30 presence of retaining walls and vegetation that comes up quite high, and for some length before you get to the underpass.

MS SHEARD: And both those areas of land are Council reserve, aren't they?

MR BRAY: That's my understanding.

MS SHEARD: And the lighting in those areas would also need to be improved?

35 MR BRAY: Yeah, I don't think there's any lighting in those areas, there's only lighting at the entrance to the underpass.

MS SHEARD: And again that's within Council control?

MR BRAY: That's my understanding.

MS SHEARD: So in terms of the approach from the north it would be very difficult, wouldn't it, to undertake the amount of earthworks required from a practical
5 perspective to actually provide any useful sight lines into that area?

MR BRAY: Yeah it is, it would be very difficult. The topography of Rook Reserve is very challenging and it drops down to Alexandra Creek quite steeply, particularly at the bottom of the reserve. And so, trying to manage creating a safer underpass with that and the gradients that you'd need in order to achieve
10 that, and to make it usable, start becoming quite a constraint.

MS SHEARD: So those issues in relation to the northern approach, they'd be the same for Option 3, wouldn't they?

MR BRAY: They would.

15 ~Questions from the Board (11.03 am)

MR MARK-BROWN: Sorry, can I just clarify that, you were talking about the northern approach, but Mr Bray was talking about from Rook Reserve, which is the southern approach.

MR BRAY: Sorry the northern approach, sorry, yes you were.

20

~Re-examination continues by Ms Sheard (11.03 am)

MS SHEARD: Sorry I did skip back to the northern approach, the northern approach would be problematic, wouldn't it?

MR BRAY: Yeah, the northern approach is challenging as well, partly because of the
25 need to try and connect back up to the shared used path and the narrow width of the corridor, the stream that's right there, again topography; so, it's not easy on either side.

MS SHEARD: And those problems would exist for Option 3 as well.

MR BRAY: They would.

30

~Questions from the Board (11.04 am)

MR MARK-BROWN: Good morning Mr Bray.

MR BRAY: Good morning.

MR MARK-BROWN: I have a question regarding your 4.3 and we've heard you say
35 that the overall Project is going to improve connectivity, but I guess my question is, regarding to effects, one of the things we have to consider is whether the

Proposal NZTA's Proposal at the moment, including the Proposal with the underpass, adequately mitigates any effects due to severance. So, I'm asking your view on that for those particular words.

MR BRAY: Yes, I think it does. I think the connection across Paul Matthews Road is significant. I have stood on the side of Rook Reserve and looked across that intersection and I've also stood by the Carl's Junior there and looked the other way and thought there's no way I'm going to get across this road in this situation. And I have, when I've stood there, looked at grass -- or markings in the grass where people are making that crossing. And those markings in the grass carry all the way down to Constellation. And so, we're taking -- you know, so that's a strong desire, people are making that journey, they are crossing the road at Paul Matthews and they are walking down the side of State Highway 18 down to Constellation or in reverse. It's clearly evident. So, we are rectifying that by putting in a safe 3 metre wide path along the length of that and a safe crossing across Paul Matthews Drive.

MR MARK-BROWN: So you've seen evidence where people at the moment are crossing across, pedestrians are crossing across State Highway?

MR BRAY: I haven't witnessed a pedestrian crossing, but I've seen --

MR MARK-BROWN: No, you've seen evidence that people do cross?

MR BRAY: I've seen the marks in the grass yeah, yeah the worn tracks that people leave when they walk down a route a lot.

MR MARK-BROWN: Right. Regarding your expertise on urban design, has that been obtained through your experience with NZTA and other projects?

MR BRAY: Yeah it has, I've lost track of how many roading projects I've got on at the moment, there's a number. I've been heavily involved with the Southern Corridor Project, which is from Manukau down to Papakura, which involves a shared used path there, overbridges et cetera. And I've been involved with shared used paths across Auckland and also elsewhere in the country.

MR STEWART: I've got a few questions. First of all, if we turn to -- this is your Evidence in Chief, and at the back of the evidence you've got some very nice photographs which are very useful and I'm looking particularly at the ones which show plans, cross sections and photographs in 3D model, those ones, in residential properties adjacent to State Highway 18.

MR BRAY: My Annexure C I believe that is?

MR STEWART: Yes. Now, I notice in response to another previous question that we're going to get an updated version of the UDLF and I'm not sure whether

this needs to go into it or not, but on page 5 you will see there's photographs there taken looking towards Cabello Place, are you with me?

MR BRAY: Yes, I am.

MR STEWART: The bottom one, on the right-hand side it's got the numbers of the
5 houses there, and it's got 21 and 23 and it's got 33, I think -- I just wanted you to check and see, just confirm for me that's not actually 33, it's 30?

MR BRAY: It wasn't an easy exercise doing that, I have to admit, but I think you might well be right, I apologise for that. Just referring back to my page 1 we roll along and it's got the numbers there, 29, 31 and yes you are correct, it's 30, so my
10 apologies.

MR STEWART: It's not a big point, but I think just in the case of accuracy it would help to change it if we're going to get a new copy.

JUDGE HARLAND: Is that instead of 33?

MR BRAY: Yes, that's correct.

15 MR STEWART: And, as I said, previously, just to prove that I've looked at your diagrams too.

Then one of the things I picked up in your evidence today, this morning, and correct me if I got it wrong, but I think I heard you refer to a side agreement with Auckland Council relating to the SUP, continuation of the SUP from the
20 intersection with Upper Harbour Highway, State Highway 18 to the north leading past the petrol station in Bush Road. Did you refer to a side agreement?

MR BRAY: I didn't, no. Actually, I have to admit that was news to me, sorry I wasn't aware of that.

25 MR BANGMA: I might have referred the witness to it, Your Honour?

JUDGE HARLAND: You might have put the question as a side agreement.

MR STEWART: Okay, so I can't ask you. But I was assisted to hear that and I wondered -- I hadn't heard that before.

30 ~Comments from Ms Sheard (11.09 am)

MS SHEARD: You will recall that we are in the process of producing that table which outlines all of those connection and whether we've agreed to do them and if so, whether they're a condition, as mitigation, or a side agreement and it's just something which we've agreed with Auckland Transport.

35

~Comments from Mr Bangma (11.10 am)

MR BANGMA: And sir, there was reference in the Council's opening submissions to the general nature of those connections under the side agreement, in words, and hopefully there was a reference there also to the connection you were referring to under the side agreement.

~Questions from the Board (11.10 am)

MR STEWART: Thank you.

Also in your evidence Mr Bray there was in your paragraph 3.4(c), there were reference to four properties in Barbados Drive and further properties. I'm just wondering, are any of those properties owned by NZTA? I think that at Wren Place, which perhaps isn't in this paragraph you're referring to, I think NZTA owns a couple of properties, in Wren Place is that right, or have I got that wrong?

MR BRAY: I might need some help just to remind me.

MR STEWART: Well maybe you're not the right person.

MR BRAY: Yeah, who owns NZTA properties. I know that there are two in Colliston Rise that I specifically looked at. And I was aware that one in Wren Place had been purchased, but I don't know where that's currently at.

MS SHEARD: I'm not sure which property in Wren Place, but it was also my recollection that there might be one there, I can confirm that for you during the break.

JUDGE HARLAND: I recall there might have been one, but the person that submitted wasn't that person. Anyway, you can look at it.

MS SHEARD: I'll check that one.

JUDGE HARLAND: Thank you.

MR STEWART: Thank you.

In the joint witness conferencing, and I've got a reference here to page 6 but now I can't find it, but anyway, that the walkway opposite Jumento Place should be reopened, do you recall that?

MR BRAY: Yes, that's correct, it's a small relatively narrow walkway. If you go to -- which is the best place to see it? Have you got a copy of the UDLF in front of you?

MR STEWART: Yes.

MR BRAY: If you go to -- no actually sorry, that's got a label over the top of it, that doesn't help. Sorry bear with me a second and I'll find you a map that we can

look at. The annexure that we were referring to before with the numbers on it which was my annexure C to my Evidence in Chief where you corrected me on the photographs.

MR STEWART: Yes?

5 MR BRAY: If you have a look at page 2 of that.

JUDGE HARLAND: Is that photos C and D, or which photos is that?

MR BRAY: It's that (indicates), that spread there.

JUDGE HARLAND: Oh okay.

MR BRAY: And if you have a look at properties 17 and 19.

10 MR STEWART: Yes, I see that.

MR BRAY: And there is a little narrow little stretch there, that's what we're talking about.

MR STEWART: Yes. And that's the one that both of you agree should be reopened is that right?

15 MR BRAY: Yeah, that would be an ideal situation. We've had a look at it -- well, I understand Mr Brown has had a look at it, I've had a look at it and Mr Moore's had a look at it. It's pretty overgrown at the moment, it's got a concrete path there which is a bit cracked in places, and it's got a makeshift, but effective, wooden fence or gate at the Barbados end of it clearly indicating don't come in
20 here. And it doesn't end anywhere, it doesn't go anywhere at the other end. And so, we said well it's there, let's allow for that to be connected to the shared use path if it's possible.

I have had a conversation with Mr Moore who's indicated that it's just not as easy -- again, not as easy as it looks. There is actually a topography
25 difference between the shared use path and that connection. And so, doing a ramp might not be possible. I suggested to him that we could do stairs with a bike ramp or something like that, and that would still be an improvement on what we could do. Where we've got to is to say well let's make a note of it, and then during the detailed design phase let's see what solutions we can find that
30 improves that -- allows that connection to be reopened.

MR STEWART: Okay so, what then is the obvious conclusion, I suppose, that if that was to be reopened, there wouldn't be a lot of point of reopening it unless it was connecting to something. Now, I notice that Mr Brown in his evidence referred to shared use pathway along the -- what's that, the southern side --

35 MR BRAY: That's the southern side.

MR STEWART: -- as far as Rook Reserve and that obviously would allow the possibility of linking in for that Jumento Place SUP. I believe I understand that you are not supporting any shared use pathway along the southern side, that is right? Is that a point of difference between you and Mr Brown?

5 MR BRAY: It's a point of difference. I think the -- I haven't said I don't support a shared use path along the southern side as a long-term goal. What I have looked at is the practicalities of this situation and what we are able to deliver. We can deliver a path on the northern side or on the southern side. We can't do both. And I have come to the conclusion that it is best to put the northern
10 side in now, because if we put it on the southern side now we will never put one on the northern side. It eliminates that opportunity.

So, no, I agree that at some point in the future, and we're not eliminating that option, that a shared use path on the south side could be possible. And we've also looked at the connection from Paul Matthews Drive to Rook,
15 Mr Moore and I had a look at that and it's currently not possible to be connected within the designation that we've applied for. It would require further purchasing of houses to squeeze that in there.

MR STEWART: The second question is in paragraph 6.2 of your statement this morning, you're talking about the new noise wall and there's some interesting
20 details about that. And I was wondering whether -- there are walls of various kinds along there, as I think you pointed out when we went on our site visit, would the intention be to replace the boundary fences which already exist or would you build new boundary fences, a straight structure on the motorway side of the boundary?

25 MR BRAY: Best practice would be to replace all of the fences that are there.

MR STEWART: Would this require the permission of the residents?

MR BRAY: Yes it may well do, yes. If it was built just on the NZTA side then it wouldn't. And I'm just thinking of about situations in our Southern Corridor
30 Project where we've having exactly this situation and actually we've, in a number of places built the wall you know a few hundred millimetres on the NZTA side and, therefore, it doesn't require land owner permission. And then you allow a licence to occupy or something like that for the other side, so that portion of land can be used by the resident.

MR STEWART: So one way or the other you don't see any difficulties in achieving
35 that design element?

MR BRAY: No, I don't. NZTA do have processes for managing the situation, you know, it's not uncommon across all of the motorway network when you're dealing with boundary treatments to try and, you know, negotiate with land owner as to when it can be constructed. I've only met one person to date that
5 hasn't wanted a noise wall on their boundary and he was an interesting character who liked to see the trucks on the motorway. It is rare. And, you know, negotiation that's happened, it's been built. So, yeah, my experience is that it's pretty straightforward. You go through a process and -- or NZTA has a process, that is when we'll do it, this is what it will look like, here's when it's
10 going in. Normally everybody is pretty happy about that going there because they can see the immediate benefit they're going to get as a result from it.

MR STEWART: Thank you. The last question, I think, I wonder if you could tell me what the up-to-date position is, because I might have missed it somewhere in the papers regarding the provision for a connection to the SUP to the Spencer Road -- proposed new Spencer Road Bridge. I gather there are some grade differences and difficulties getting up I think it is to the bridge? What's
15 the -- and I think you and Mr Brown have been conferencing on this, what is the latest position?

MR BRAY: My understanding, and hopefully I'm correct in this. You are right there is some difficulties. I think it's between 8 and 10 metres in vertical height. And so, the Proposal is for stairs with a track on one side that you can put a bicycle wheel in and roll it down the stairs. I understand that Mr Brown's view was, I don't know what it is now, but it was that he would prefer a ramp. And I do have some sympathies in that, I think, you know, generally ramps are more
20 beneficial. However, in this situation you're chasing a slope. So you start at Spencer Road Bridge and as you bring that -- you know, if you have to go -- I can't remember the distance, but you have to go several hundred metres to get your slope down to where you need it; what's happened at that point is the hill's already gone down, so you have to go some more in order to catch it, and you
25 have to keep going, in fact, you have to go quite some distance almost to McClymonts Road in order to then get the connection into the shared used path.
30

So, my argument is that, for a cyclist, if you are going to cycle all the way to McClymonts Road to then get a ramp back up to Spencer Road, it's just as
35 easy to take the off-road or the on-road cycle way around the road network, which isn't appreciably longer to get onto Spencer Road. And the benefit of

doing that is for a pedestrian you have a much quicker route that you can literally walk down some stairs or walk up the stairs. And so, it's really about weighing the difference between a pedestrian benefit and a cycle benefit, and I vote for the pedestrian in this situation.

5

~Comments from the Board (11.22 am)

JUDGE HARLAND: Can I just clarify, Spencer Road though is a separate agreement is it not, it's not within the scope of this Project?

10

~Comments from Ms Sheard (11.22 am)

MS SHEARD: That's correct, it's entirely separate, yes, and construction of that is proceeding in September, so quite close.

~Questions from the Board (11.22 am)

15 JUDGE HARLAND: Mr Bray, I've only got two questions. One is to do with just an observation that the acoustic walls that have been designed for the Southern Project that I have observed, and the ones that are in place for part of the Western Ring Route that's just been completed are different and seem to include different design elements. Is the acoustic wall element also a
20 significant design element? Or how does that all work?

MR BRAY: Yeah, it's a challenging thing and unfortunately I think the -- dare I say it, the Transport Agency's contractors haven't done urban design any favours along the Northwestern Motorway with the plethora of noise walls there and different designs. And so, that is probably very likely the reason I had a phone
25 call from the urban designer at NZTA just last week to say can we do a review of the Southern Corridor walls to make sure we've got a more cohesive approach to the corridor walls in that instance, which we actually do because we were very conscious of it. And I think that's the same here. And so, the UDLF sets out desires to incorporate good urban design in noise walls and it is
30 a place where you can have a bit of artistic impression, sometimes some cultural references and I think that's all beneficial. But let's do it with a corridor approach in mind. And I think the agency have become very very aware of doing that, and achieving that outcome.

JUDGE HARLAND: So, for this particular Project you are confident that the UDLF is
35 more robust in that regard?

MR BRAY: Yes.

JUDGE HARLAND: And, again, you might disagree with this just very general statement but sometimes it's easy to compromise the design where cost becomes a problem. And what I want to establish is where the cost decision is going to be made about that kind of thing, is that with the alliance or is that something that we should be strengthening somewhat at this stage? Because it's a very visual element isn't it, they're solid visual elements that it might pay to do them well?

MR BRAY: Yes, it does. But interestingly it doesn't actually cost a lot more to do them well than it costs to do them badly. You know, if you take the main elements which are the foundation work, which you don't see, it's under the ground, the amount of concrete and steel that go into the actual construction, well that's going to be the case no matter what sort of wall you do. And so, what we're really talking about is the cream on the top, the nice sort of little artistic pieces or the painting or the final pattern, which in the scheme of the noise wall, and certainly in the scheme of the Project, is a small element.

I'd also add that, again in my experience of working with various contractors, for example, the Southern Corridor Project is a design and construct contract which means let's goes for the cheapest possible option at all costs.

There's still a pride by the contractor to deliver a job well done because they want the next one. And noise walls is a really good way of showing that pride and it's a very visible element that, yeah, okay we've got to look after the surface of the road and all of that sort of thing. But people driving down the road and getting that experience then relate it back to well, actually, you've done a good job here. And so, there is that pride element that happens.

JUDGE HARLAND: All right, but I'm interested in bottom lines and I'm interested in what if you get to the point where there is a lot of little things that could be gotten rid of and cost saving, and I just want to understand how robust the conditions or the proposals about the overall design, integration of design is?

MR BRAY: Yeah, I think very good. The conditions require that, you know, section 5 of the UDLF is adhered to. And if you turn to section 5.7, which outlines noise and retaining walls outcomes sought, there are some pretty specific elements there about requiring consistency. The proposed design should be abstract, simple, repeatable, specific meaning to the area. You know, these are pretty direct requirements that require design thought to go in mind. So, I'm confident.

JUDGE HARLAND: Right. So, they are an improvement on the Southern Corridor position?

MR BRAY: They are. In fact, I wrote those outcomes sought for the Southern Corridor Project and then they've been reconsidered for this Project based on not only Southern Corridor, but some other projects that I've been involved in. And also, other experiences that the Transport Agency's had since that time.

JUDGE HARLAND: That's helpful. And are you anticipating that there would also be a link with all of the integrated design elements that as well as the hard elements, there would be integrated landscaping as well to match the particular elements along the way? I know that you've put a lot of work into that.

MR BRAY: Yes.

JUDGE HARLAND: And you don't need to go into that again, I'm just wanting a broad overall understanding.

MR BRAY: Yes, I consider there is. Again, it's in the UDLF section 5.9 which has to be given effect through the conditions. And it talks a lot about that. I mean it's a -- it's short and concise but it's very clear about the objectives that are required.

And that's backed up not only by this document but its references to the landscape guidelines that the agency have and stick to, and also the P39 standard, don't ask me why it's called that, but it's a specification by the agency on how to undertake planting and the requirements around planting which all contractors must adhere to.

JUDGE HARLAND: Right. So again, to come back to the point of integration between the landscaping that's planned and the hard elements, that you're confident that that's been done better?

MR BRAY: Yes.

JUDGE HARLAND: Good. And the last, but very vexed, question of maintenance. So, I read somewhere that there is a plan for a two year maintenance programme, is that correct?

MR BRAY: I think that's correct, yes.

JUDGE HARLAND: And that's when the agency takes responsibility for that do they, who takes responsibility for the maintenance?

MR BRAY: It will be the Auckland Motorway Association, which is a combination of the agency and Auckland Transport.

JUDGE HARLAND: All right, well, I know the theory is that with the dense or type of planting that there's unlikely to be a problem after two years. But I wonder how

realistic that is and what's going to happen, because they can end up looking particularly, to use a colloquial phrase, "manky", not very nice. You know, weeds, things growing, rubbish, all the rest of it, which somewhat detracts from all the work that's gone in in the first place. So, what's the plan for that and
5 where is it reflected in the various documents?

MR BRAY: Well the P39 specification that I referred to before is the planting specification and that's where those requirements are really quite clearly set out. That's referred to in the UDLF. Not certain if it's specifically referred to in conditions. But it's in section -- yeah as I say, it's in section 5.9 which has to be
10 given effect to, so therefore by default it would have to be given effect to.

That does get updated now and then.

I'd also suggest, and I will be interested in Mr Brown's views on this, but I think it's taken a while, I think, for the agency and the Motorway Association to understand that planting is actually better. We used to be in a mindset that
15 planting everything in grass was the cheapest and easiest thing to do and it wasn't until some people started looking at costs of doing that, the lane closures that are required to do certain mowing et cetera. And it's been a slow mind set change that actually planting is a better outcome and provides for better whole
20 of life costs. And so, as a result with that change in mind shift, there's been a change in mind shift to the way plants are put in the ground and maintained;
than perhaps it was ten years ago. So, it's getting better and better, yep.

JUDGE HARLAND: All right, well that's wonderful but I want to know where it is actually reflected? You've said the UDLF, and I'll have a good look at that again. So that might be something that there's a bit of work in progress that
25 you can come back via counsel through me. And that's "counsel", about I don't know that it needs to come back through you and if you think there's some improvements that can be made well obviously there is now going to be time for that to occur.

MR BRAY: Sure.

30 JUDGE HARLAND: Does it become a question of who pays for maintenance?

MR BRAY: No I think that's pretty clear, it becomes the Auckland Motorway Association after the two years.

JUDGE HARLAND: Thank you very much Mr Bray. Any questions arising from the questions that we have asked? No.

35 ~-(The witness withdrew (11.33 am))

~STEPHEN KENNETH BROWN (Affirmed) (11.34 pm)

Examination in Chief by Mr Bangma (11.34 pm)

MR BANGMA: Is your full name Stephen Kenneth Brown?

MR BROWN: Yes.

5 MR BANGMA: Do you confirm that you have prepared a brief of evidence in this matter dated 25 May 2017?

MR BROWN: Yes, I do.

MR BANGMA: And your qualifications and experience are as set out in paragraphs 7 to 9 of that brief of evidence?

10 MR BROWN: That's right.

MR BANGMA: Are there any corrections you'd like to make to that evidence?

MR BROWN: No.

MR BANGMA: Do you confirm that that evidence is true and correct to the best of your knowledge?

15 MR BROWN: Yes.

MR BANGMA: I understand you've prepared a summary statement in this matter?

MR BROWN: Yes, I have.

MR BANGMA: Could I ask you to please read that to the Board starting at paragraph 1?

20 MR BROWN: This statement provides a summary of my evidence on the landscape and urban design effects ...(Reads 1 -part way through paragraph 3 of Summary of Evidence Statement) ... as well as a cluster of residences on Barbados Drive near the proposed Paul Matthews Drive Interchange.

I should just add there, also Wren Place.

25 The first grouping of lots is yet to be fully developed and sold, while screen fencing is now proposed next to the Barbados Drive properties ...(Reads from partway through paragraph 3 - 6 of Summary of Evidence Statement) ...even so, it remains my view that NZTA should modify the project to incorporate the changes to the State Highway 18 SUP and
30 Rook Reserve Underpass outlined above.

MR BANGMA: Mr Brown, were you here when I asked questions of Mr Bray in relation to the upgrade of the underpass?

MR BROWN: Yes.

MR BANGMA: I asked Mr Bray a question in relation to the level of facilities for
35 pedestrians and cyclists travelling along Albany Highway from Sunset Road down to the Albany Highway Interchange, and I think Mr Bray was a little bit

tentative or unsure answer on his answer on that level of facility, so are you able to comment to assist the Board?

MR BROWN: Yes, there is a conventional footpath, around about 1.5 to 1.8 metres wide, though it does vary a bit, between Sunset Road and Unsworth Drive.

5 Between Unsworth Drive and the interchange with State Highway 18 there is no footpath, and no cycle way facility on either side of the highway.

MR BANGMA: I also asked Mr Bray some questions in relation to the current level of usage of the Alexandria Rook Reserve Underpass and how that would be effected if the underpass was upgraded and there were shared use path

10 facilities on the other side in the future. I think he accepted that that might increase usage. Are you able to comment, provide views on that?

MR BROWN: Yes, I mean, this is really a chicken and egg situation. If a facility or utility doesn't exist at present, such as the current SUP, then obviously that has a bearing on the amount of usage that for instance the adjoining -- the

15 underpass connected to it would have. Without the SUP, I'm not surprised that current usage is quite limited. At present, the Rook Reserve Alexandra Stream walkway is sort of like a sort of nature walkway. The SUP is designed to provide a much wider range of functionality and it would cater to commuting. But, it would also cater to both local and more strategic

20 recreational use, for instance bicyclists. So, I would see the potential use of the SUP and connections to it being very significant in the future and they would continue to expand as the population of the North Shore continues to grow.

MR BANGMA: And the standard of the access provided through the underpass and whether it complied with CPTED or amenity would that effect the likely

25 usage?

MR BROWN: Absolutely. At the moment it's -- the floor -- the pathway is about 1.8 metres wide. It's encased in a circular corrugated iron tunnel. It's not particularly attractive. Landscape architects and urban designers talk about

30 the space needed for people, for instance, to pass one another. And you're looking at needing around about 1.2 metres of what's not so technically known as "wobble space" for pedestrians, and you probably need around 2 metres for safe passage of cyclists. So that really means that you're already fairly limited -- that the space that is there at the moment is already

35 substandard. And in order to facilitate future use and safe passage through an underpass there it needs to be considerably expanded.

MR BANGMA: I explored in questions with Mr Bray, I guess, the differences between the upgrade that NZTA has proposed and Option 3, which is what the Council seeks. I understood Mr Bray to say that with the upgrade proposed by NZTA that would not entirely address CPTED issues, but Option 3 proposed by the Council would do that better, do you have any comment?

MR BROWN: I think it would do it better. It would still be considerably less than optimal.

MR BANGMA: And similar question really in relation to the UDLF, of, I understood from Mr Bray's responses that what's proposed by NZTA would not be consistent with at least parts of the UDLF, but Option 3 would be more consistent, what are your views on that?

MR BROWN: I think in terms of sight lines and better visual and physical access, Option 3 has some advantages, some -- it offers some improvements. My biggest concern with Option 3, however, is that it simply doesn't achieve a pathway that's really wide enough. And I say this because I actually think that you need more than 3 metres for this -- for a safe underpass. And so, Option 3 doesn't offer that. So, in some respects I find myself torn a little bit between option 2 and Option 3.

MR BANGMA: And from memory the standard referred to in the UDLF for underpasses is 5 metres by 5 metres?

MR BROWN: Yes, that's correct.

~Cross-examination by Ms Sheard (11.47 am)

MS SHEARD: Good morning, so surprisingly, probably, I'm going to ask you some questions about the underpass.

Firstly, you'd accept that there are currently no pedestrian crossings on State Highway 18 at Paul Matthews or Caribbean are there?

MR BROWN: No.

MS SHEARD: So do you accept the statement in Mr Clark's evidence, I think it was in his rebuttal, that State Highway 18 currently presents a very hostile environment for cyclists?

MR BROWN: "A very hostile environment", it's almost -- it almost doesn't offer any sort of environment for cyclists.

MS SHEARD: Thank you. So, the project's going to provide new pedestrian and cycle connections across State Highway 18 at the Paul Matthews Overbridge, isn't it?

MR BROWN: Yes.

MS SHEARD: And those crossing facilities will be better for both cyclists and pedestrians, won't it?

MR BROWN: Yes.

5 MS SHEARD: So do you accept Mr Clark's statement that some of the walking and cycling trips that might have otherwise gone under the underpass are likely to be re assigned to that new connection?

MR BROWN: Well, some of the existing ones might. But the difficulty -- or the matter that's not addressed there is that of the trips that actually are
10 generated by the presence of the SUP. And that's where I think I have a -- probably a different view from Mr Bray and perhaps from Mr Clark, because I think the SUP will simply by its presence attract -- or generate more traffic and that has to be accommodated as well.

MS SHEARD: And which suburbs or areas are you basing that opinion on?

15 MR BROWN: Well, you only have to look at the scale of the Unsworth Heights catchment. But also the catchment, the broad catchment extending towards Glenfield across the other side of Albany Highway which could easily feed down through Caribbean Drive, through Unsworth Drive and make connection with the SUP and, therefore, utilise it both in terms of daily
20 commuting, but also recreational use.

Now, there's a third category that I haven't talked about, which is also quite important, and that's the recreational cyclists who on a most weekends traverse -- do the circuit basically around the Upper Harbour. And if there are additional SUP facilities available, they will also utilise the likes of this
25 connection.

MS SHEARD: And do you have any numbers on the information of cyclists using that route?

MR BROWN: No.

MS SHEARD: Have you done any surveys of those cyclists?

30 MR BROWN: No, but I'm one of them. So, I'm very conscious of the number of people who do that on a regular basis.

MS SHEARD: But you have no figures to support that opinion?

MR BROWN: No, I don't.

MS SHEARD: And have you looked at Mr Clack's evidence where he's looked at
35 the numbers of existing users and made projections in terms of what he thinks will be the number of users?

MR BROWN: Yes.

MS SHEARD: And do you accept his evidence in that regard?

MR BROWN: Insofar as it goes, yes.

MS SHEARD: You've also mentioned about the, if the underpass is improved, that
5 you consider the numbers will increase. But you'd also accept, wouldn't you,
that if the underpass isn't improved that that will be detraction for the number
of cyclists and pedestrians going through that underpass?

MR BROWN: If it isn't improved?

MS SHEARD: Correct.

10 MR BROWN: Well I don't think -- it's already a detraction, and for some people it
will remain as such. However, if there are more people using the SUP, then
it may still be subject to an increased level of use.

MS SHEARD: But you don't base that on any particular modelling or figures, and
there are alternative crossings available at Paul Matthews Drive?

15 MR BROWN: Well that's it, that's the one that's available.

MS SHEARD: Alternatively those same cyclists could also head back up to Albany
Highway as mentioned before.

MR BROWN: Yes, but once they get to Albany Highway if they want to travel south,
for instance if they want to travel into the Unsworth Heights catchment or to
20 Glenfield or anywhere around there, there is no ability to do that at present
because there is no -- there's not even a walkway. There is no cycle way.

MS SHEARD: Turning towards the options that we do have for the upgrade.
You've been slightly equivocal as to whether you prefer Option 2 or Option 3.
I think your evidence was though that you marginally prefer Option 2, is that
25 correct?

MR BROWN: Well I'm not actually sure. I feel a little -- I feel in a state of conflict
over this, because I would prefer to see the greater width of the underpass.
But I can also see that there would be some benefits derived from
realignment of the underpass.

30 MS SHEARD: So, in terms of that entrance and alignment to the new Option 3 or 2,
you've got significant issues on both sides in term of sight lines, haven't you,
for both options?

MR BROWN: Yes, you do.

MS SHEARD: And would you say that the CPTED issues are particularly bad on
35 the northern side?

MR BROWN: No not at present. If anything, there's slightly better alignment of the present underpass in relation to the northern side, your eye as you're coming through the tunnel follows the line of that pathway more directly than is the case on the southern side.

5 On the southern side there's more of a sharp bend and you go past the steel revetments which are used as a retaining wall. So that's actually got -- if anything, that's got slightly worse sight lines than the northern side at present.

MS SHEARD: But turning towards -- if you're coming through towards the north,
10 there's very little surveillance, or absolutely no surveillance in terms of overlooking buildings, or anything like that, is that?

MR BROWN: Well no, there is a series of residential buildings on the eastern side of the creek that overlook part of it. But, I agree, that surveillance is limited because of the amount of bush that also encloses the stream. On the
15 southern side you have some houses, again on the eastern side, that overlook part of Rook Reserve. But they're some distance from the actual entry point to the underpass.

MS SHEARD: But in terms of improving, particularly on the north side, the sight lines and the surveillance into that area, it would be quite difficult, wouldn't it?

20 MR BROWN: Yes.

MS SHEARD: And would require quite extensive earthworks?

MR BROWN: It could do. I think, though, as I said, there's a reasonable alignment between the present tunnel and that northern pathway that then continues on down next to the Alexandra Stream. In many ways the more difficult issue to deal with, or area to deal with, is that southern connection where you get a sharp S-bend and you sort of have to wrap around past the vegetation coming up out of stream corridor. So that's actually quite difficult. And I did actually wonder if in fact a better approach, or possibly a more cost-effective approach might be look at -- might be achieved by looking at for instance
25 cantilevering part of the pathway out over the edge of the stream bank; so that you then get a more gentle approach to the underpass entrance.

MS SHEARD: I'm not sure, are you talking within the designation at that point or outside --

MR BROWN: It might be just outside it.

35 MS SHEARD: And has Council goes any plans to do any of those works within the reserves, as far as you're aware?

MR BROWN: Not that I'm aware of.

MS SHEARD: And are you aware also that the existing underpass is subject to flooding?

MR BROWN: Yes, though I was there on Saturday and it was not pleasant, I can
5 assure you, it was teeming down. And there was water in the underpass, but it was pretty small scale. I think even if there had just been a drainage channel, that would have easily addressed that issue.

MS SHEARD: So have you reviewed Mr Hughes' evidence which shows the extent of the flooding in the ten year ARI event?

10 MR BROWN: Yes I have.

MS SHEARD: And you'd accept that during that event the existing underpass is unusable?

MR BROWN: That's correct.

MS SHEARD: And have you viewed his evidence in relation to the replacement
15 options and what the flooding would do under those options?

MR BROWN: Oh?

MS SHEARD: Perhaps I can help in assisting jogging your memory? His evidence is that under both those options the flooding would be about the same.

MR BROWN: I understood that was the case, but I can't honestly imagine that
20 anybody, I mean it was bad enough being there on Saturday, I can't imagine anybody using the underpass under those circumstances.

MS SHEARD: So, if you're not going to improve the sight lines into the underpass by the new options and you're not going to improve the flooding, then the
25 only thing you're really going to improve as a result of the replacement underpass is the width of it, correct?

MR BROWN: Well no, because increasing the width of it would in fact assist with that issue of the approach to the underpass.

MS SHEARD: So you'd marginally improve the sight lines, because you've still got issues on either side of the underpass, don't you?

30 MR BROWN: That's correct. And that's exactly why I've said I'm torn between the two options.

MS SHEARD: And if you were going to -- do you accept that the installation of CCTV cameras will improve surveillance within the underpass itself?

MR BROWN: Well it will do, but it's sort of the ambulance at the bottom of the cliff
35 scenario, you know, it's sort of after the event, it's not preventing the event.

MS SHEARD: And do you also accept that putting some additional lighting within the existing underpass would improve the feel of the underpass?

MR BROWN: I think you'd need more than -- you'd need more than improved lighting to improve the quality of the underpass as it presently stands.

5 MS SHEARD: But the additional lighting would make a positive improvement?

MR BROWN: I think it would be marginal.

~Questions from the Board (11.59 am)

MR STEWART: In your opinion, does the underpass need to be upgraded to
10 mitigate severance effects of the Proposal?

MR BROWN: Yes I think it does. And I think too, that there's an additional effect that arises here, which is that in a sense the other mitigation proposed, in this case the SUP, would actually create pressure for the improvement of that current connection as well.

15 So, you can't look at one effect without looking at the other.

MR MARK-BROWN: So, if I could just check what you mean by that. So that because there's more people using the SUP it means as there's more people using the underpass and it's substandard, that's an adverse effect?

MR BROWN: Yes, it is.

20 MR MARK-BROWN: Just going back to the question of severance; we've heard evidence from the Applicant that they'll have the Paul Matthews Bridge, which albeit you have to, I guess, cycle up over a bridge, but it is safe and that is adequate severance. So, you disagree with that essentially? So, that's adequate mitigation against severance?

25 MR BROWN: I think it helps. I don't think there's any question about that. I think the SUP is a positive outcome, or an SUP is a positive outcome of the Proposal. And it does help to address this issue. But, I think it's also going to create issues that need to be addressed as well.

MR MARK-BROWN: Just going back to the severance, so at the moment there's
30 only the underpass essentially, between Albany Highway and Constellation Station where one can safely -- a pedestrian or a cyclist can safely cross under. So, taking quite a simplistic approach, providing Paul Matthews could you not argue that that is dealing with that severance? As distinct from what you're saying about the other effect, we're trying to isolate effects. Can we
35 do that, or are you saying that we have to look at it in the round, the effects and you don't want to distinguish them?

MR BROWN: It's very difficult, because we get into an issue of a sort of apples and oranges argument here, because there are unquestionably other amenity effects than just physical access that relate to the issue of severance. Now, one of them, for instance, is the fact that there's going to need to be provision of a whole sequence of noise walls, or even if not noise attenuation walls, then just visual screens that reinforce the isolation, as it were, of State Highway 18 from Unsworth Heights.

And so, that's certainly something which, you know, I've been very conscious of. I'm also conscious of the fact that Rook Reserve -- the very nature of Rook Reserve or part of it is going to change in that it's going to go from being essentially a recreation facility to one which is accommodating a quite substantial stormwater pond. So, there's another loss of amenity there.

So, when I talk about -- when I think about the issue of severance, it's having a wider -- it's having regard to these wider effects than just to physical access.

MR STEWART: Mr Brown, in part of your evidence, and I can't remember exactly where it was, it might have been in your evidence in chief, you were talking about the possibility of an SUP along the southern side from the intersection of Caribbean Drive along the south to Rook Reserve?

MR BROWN: That's correct.

MR STEWART: And you were thinking that that -- I think you thought that would be an improvement in terms of accessibility and flexibility, and I think also it might have been that you had in mind, although I don't want to put words in your mouth, that that could tie in to the walkway from Jumento Place.

Well, when you look at the plan I just wonder whether you'd like to comment on the idea that a path already exists, of course, along Barbados Drive, and would you not see -- or would you agree that cycling along Barbados Drive to the intersection of Caribbean Drive would be pretty much the same as having -- as an SUP along the motorway edge, and possibly a quieter and more pleasant environment?

MR BROWN: Well look, I don't think that will be the case. First of all, there's going to be probably -- I mean, there's going to be a traffic reduction in terms of that frontage, the State Highway 18 frontage. Because of the greater amount of traffic that is shifted onto the actual interchange area.

And so, I think that the amenity hard up against their -- hard up along that edge, could in that regard improve somewhat.

But the bigger issue is that if you have people travelling along a dedicated cycle way or walkway path, there's a logical route for them to use. And the best thing that it can offer is a sense of continuity. The last thing you want to do is to break it up into a whole lot of little pieces that sort of go from a dedicated path back onto a road, back onto a dedicated route, back onto a road and so on. It becomes quite fragmented. And in this case, I think that continuing the route along next to State Highway 18 makes a lot of sense. It also provides a more direct connection to Rook Reserve and, for those who might want to use it, the underpass.

5

10

So, I would rather see that approach adopted than one where there's reliance upon people knowing that there is also a route they can use within the Unsworth Heights catchment.

MR STEWART: Very difficult from the scale of these plans obviously --

MR BROWN: Yes.

15

MR STEWART: -- but do you have any idea whether what you're proposing in terms of that SUP between Caribbean and Rook would actually be able to be fitted in with the land that we've got available here?

20

MR BROWN: Well, I understand there is one pinch point. Originally in discussions with Mr Bray he was uncertain whether that pinch point, which is roughly at the chainage mark around 1400, I think it is, so if you look at, number 9.

MR STEWART: Would that be at Wren Place?

MR BROWN: Yes, and that was the one area of concern, whether it was possible to get past that one residential property. As you can see, right at the -- near that chainage point at 1400.

25

Mr Bray mentioned today that he didn't think that was feasible. But at the time when I wrote my evidence, there was a lack of clarity about that and I thought it was still potentially an option that should be looked at.

MR STEWART: I think actually that you've answered the other question I might have had, from other people.

30

And obviously there is a concentration of attention on the underpass, because that appears to be the main thing that you are now debating -- it's about the only matter in contention between you and the other landscape witnesses?

35

MR BROWN: Well that's not strictly true. I mean, obviously I've raised issues that relate to the location of the SUP next to State Highway 18 as a whole.

I think you have to be very conscious of the type of environment that will be created for those using the SUP down the northern side of State Highway 18. It's going to be not that pleasant. I mean, essentially cyclists or pedestrians will be jammed in between the edge of the highway and effectively a line of commercial buildings, service yards, carparks and also noise attenuation walls either side the Alexandra Stream. It's not going to be an environment that has a high level of appeal. So that, together with the issue of the potential connectivity of an SUP on the southern side of the highway, via Rook Reserve, Bluebird Reserve, and a number of local streets, led me to come to the view that the SUP should realistically -- or should really be located on that side of the highway.

But I also have to acknowledge that that's me perhaps taking a more, I guess, integrated approach to different types of travel and modes of transportation. And, in this case, I accept that the current Project is primarily focused on vehicle use. It has some very real advantages for pedestrians and cyclists, but I don't believe that the location of the SUP on the northern side of State Highway 18 is appropriate.

JUDGE HARLAND: I just wanted to ask, because I had not recalled whether there was anything in the evidence that established the history of this particular underpass and perhaps provided some explanation as to what, if anything, the Council's done about trying to ameliorate over the period it's been in existence the problems that are now pretty obvious to do with it.

Because it's very convenient it's been raised now; I'm not being critical, because it's appropriate it's raised when the focus is on this, but regardless of all the CPTED issues and difficulties with it, nothing seems to have been done about it for how long?

MR BROWN: A long time. And I think the problem is too, that it's always been seen as a low priority. And, as I said, before, it's almost regarded as a sort of nature walk next to the Alexandra Stream. The problem is, from my point of view, that the location of the SUP either side of the highway suddenly throws much more focused light on this very issue, because it is going to be subject to more pressure for use. And people will either want to use it and be prepared to use it or they won't. But, I think that's where it can't be looked at in isolation from the SUP, the two go together.

JUDGE HARLAND: All right, but clearly it's been a low priority in the past?

MR BROWN: I think so. I mean, I'm not aware of the history of the underpass either, I'm afraid.

JUDGE HARLAND: All right. So, the very brief survey that's been done, and bearing in mind that it was only over a week at the most, and how much one
5 can extrapolate from that is a real issue. But what are your comments, if any, and if you feel it's within your expertise, about the numbers of people that were using it, were you surprised to see the breakdown, or you don't -- you can't comment on that?

MR BROWN: No, well, I think the real problem, from my point of view, is the fact
10 that it's a week long survey.

And I'll give you an example of another location where -- that brings that into -- that highlights that issue. And that is related to the current use of the Mangere walkway and cycle way. Now, if the weather's as it has been over the last several months actually, pretty awful, the use there is nearly
15 always quite limited. But if you are there on a fine day, there are three areas of park that are heavily used by people coming from all over Auckland, just so that they can use that trail, both for walking and for cycling. And on Saturdays and Sundays it will be absolutely jammed with everything from families to groups of cyclists to just locals walking along that particular trail.

Now that's an extreme example, because it obviously has -- you know, it's seen as having a highly level of amenity because it looks out over Mangere inlet.
20

This doesn't have that same appeal. But at the same time, you're start from a much lower base here. And the SUP has the potential in conjunction
25 with its connections to the main SUP running along State Highway 1 to generate very considerable amounts of traffic intermittently. And that's what I don't think Mr Clark's figures quite capture.

JUDGE HARLAND: But in order to do that, you'd probably need to do a holistic survey over the summer period as well as winter and various conditions
30 et cetera?

MR BROWN: Yes, you would.

And I think the other factor that you can't -- it is very difficult to take into account, is that of local versus more strategic use, recreational use versus more commuter type use. I think personally or professionally that
35 both would grow very significantly with the development of the SUP.

JUDGE HARLAND: Are you aware of any surveys that the Council's done?

MR BROWN: No I think -- though I am aware that AT it has got a small section which deals specifically, for instance with cycle use, and they've been putting a lot of efforts into trying to quantify this, but I don't believe they've got information on this area.

5 JUDGE HARLAND: Now, to ask the same questions that I put to Mr Bray to put to you, and the first one is the easy one, that's to do with maintenance -- well I don't know if it's as easy, but do you agree that that's an important matter that needs to be addressed?

MR BROWN: Absolutely. And a very good example that immediately springs to
10 mind is part of the Point Chevalier Interchange. Which of course has only just opened, or the least the tunnel component of it has only just opened, some of the planting there is flourishing, but some of it's in a terrible state. It's a real mixed bag. And a lot of that just comes back to maintenance.

JUDGE HARLAND: All right, so in relation to what's proposed here, what do you
15 think needs to be put in place to ensure an effective response?

MR BROWN: I think perhaps the period -- the maintenance period that NZTA takes responsibility for should be lengthened.

JUDGE HARLAND: To what?

MR BROWN: I think at least three years. I mean, ideally I think it should be closer
20 to five, but I think at least three years. And that would take us through a number of periods when, for instance, the summers are highly variable in Auckland; so, it might take us through one or two quite dry summers and one that's quite the opposite.

JUDGE HARLAND: So with your knowledge of Auckland motorway projects over
25 the period -- a period of time, the effect of Mr Bray's evidence is that everyone's learning and it's improving gradually. I'm going to invite you to comment on that, again, in a general kind of a way where it's been done well; where it hasn't been done well; where you think there's been an incremental approach to improving outcomes.

30 MR BROWN: It's an interesting question because the results vary sometimes even within individual projects. For instance, the planting might be great but the noise walls might not be so good.

In fact, this issue of design and design integration I refer to it as a design narrative was a key issue in my review of the Proposal. And I raised
35 a lot of concerns about the proposed planting, just the extent of the planting but also what types. I raised particular concern about the bridges as sort of

key structures that would become almost like landmarks in their own right across the State Highway 1 corridor especially.

And I raised concern about some of the large retaining walls, up to 13.3 metres high.

5 And I was really quite disturbed that there appeared to be no coherent design philosophy expressed through the Project. And, in fact, what the UDLF did, was provide a very sort of generic response to design issues.

10 Now, that has changed, or at least the promise of what will be addressed and how it will be addressed has changed with the new UDLF and the conditions that now require the UDLP to be in conformity with that document. And that other issues such as Maturanga Maori, for instance, are taken into account. So, I feel a level of comfort now about the process that I didn't feel before. There's still uncertainty however, about the outcomes and exactly what that will mean. But the conditions provide
15 opportunity for Council input to the UDLP and -- as part of the outlined plan of works process, and I think that that's been a major positive step. So that's given me a degree of comfort that I didn't feel before.

20 In terms of the past history of Auckland's various motorway projects, as I said, it's a real -- it's a really mixed bag. Some of the outcomes are truly utilitarian and not so good. And I hope we're not going to see tyre treads on orange walls promoted as we did for one part of the motorway system.

JUDGE HARLAND: Well, what I'm interested in is degrees of certainty, all right?

MR BROWN: Yes.

JUDGE HARLAND: And whatever they are and whatever people agree on, I want
25 to know how certain it is that what they've agreed on is actually reflected in what we're being asked to agree to or authorise. So, picking up on your design narrative point, there's the opportunity for input, but does that translate into anything further than just a consultation let's discuss process? Does it go further than that?

30 MR BROWN: Well yes it does, because I think the revisions to sections 4, 5 and 6 of the UDLF are quite critical in that regard. And that does require that effectively a design narrative is developed, and we haven't had that -- we didn't have that at the outset of this Project.

35 And then as -- and that includes the requirement for a design korero to be developed to take into account Mana Whenua values and other cultural

issues and also the Mautauranga Maori Project is to be incorporated in it as well.

Now, Mr Bray set out at his paragraph 10.13 -- or he refers to actually Mr Burns' evidence, the requirement that the UDLP must give effect to the UDLF. Now, from that point of view, to me, it makes it much clearer that the UDLF, as now prepared, is in fact the defining document in terms of design.

JUDGE HARLAND: Right.

All right. So just to summarise, you're comfortable now that there is a design narrative; that it's reflected in the UDLF and that the UDLP must give effect to what's been agreed?

MR BROWN: That's right.

JUDGE HARLAND: And you're happy about that?

MR BROWN: Yes I am.

JUDGE HARLAND: And in relation to the maintenance you think that two years is too short, it should be three, but preferably five years?

MR BROWN: Yes.

MR MARK-BROWN: Just going back to the underpass and you were saying that the existing space is sub-standard?

MR BROWN: Yes.

MR MARK-BROWN: And considerably less than optimal mall, so just for a cycling point of view, noting that you are a cyclist who uses that, is it possible that in the future the existing underpass, if not changed, may not be a significant obstruction to wider use of the SUP if cyclists can get used to it, if you like, so that people coming up, "oh here's this old underpass, I know I've got to be careful here, I've got to slow down, and if there's a cyclist coming the other way I might actually have to dismount." I guess my question is how much do you think cyclists and pedestrians could adapt to that looking into the future?

MR BROWN: A lot of crystal ball gazing involved there.

MR MARK-BROWN: Yes.

MR BROWN: And the reason I say that is yes you're right, you know, commonsense tells you that people will adapt to difficult conditions. But it might be the first time they've been there, or you might have people who aren't always that confident on a bicycle in a confined space and they see other people that they've got to go past, you know, and they get the wobbles, literally, they just -- they find it difficult to actually safely go through the gap between the wall and the other people using the underpass. It's not -- it's not

always an issue of speed, it's just sometimes that some people have more competence than others, and so you've got to make a sort of safety allowance for that.

5 And that's where I just have concerns about 3 metres, I think it's fine if you're thinking about just "a" cyclist going through there, or perhaps two pedestrians. But what if they meet a cyclist coming the other way? Or there's two cyclists trying to get past each other? And they each need around about 2 metres of wobble space.

MR MARK-BROWN: Or somebody with a dog walking the same way?

10 MR BROWN: Yes. Or a family going through there, you know, there might be the two parents on cycle and a child on trainer wheels and they're all trying to safely negotiate it and it all just gets a bit messy. So, there's no hard and fast rules here.

MR MARK-BROWN: So essentially, going back, you think it needs to be upgraded
15 just to facilitate the overall use of the SUP.

MR BROWN: Yes, yes, I do.

JUDGE HARLAND: Questions arising?

MS SHEARD: No further questions.

20 ~Questions arising by Mr Bangma (12.27 pm)

MR BANGMA: One very brief point of clarification, Your Honour, Mr Brown you're indicating a potential concern, as I understand it, with 3 metres in width for the underpass accepting that would be better. And I think you're saying
25 5 metres would be better again. I wasn't sure, with a shared use path that's proposed generally outside of this underpass situation what's the width which is used --

MR BROWN: Generally 3 metres. But the reason that it doesn't work so well in an underpass or a tunnel, is because you're hemmed in. So, there isn't any room to move. Often if it's narrow and you're trying to get past someone,
30 people can go to the edge of a path and their handlebars and that can overhang. You don't have that opportunity when you're in a tunnel or a confined space situation.

MR BANGMA: I see, thanks for clarifying that.

~(The witness withdrew - 12.28 pm)

35

~(Adjourned 12.28 pm – 1.31 pm)

MS SHEARD: So we now have Mr Hughes for stormwater.

~DAVID WILLIAM HUGHES (Affirmed) (1.32 pm)

~Examination in Chief by Ms Sheard (1.32 pm)

5 MS SHEARD: Do you confirm that your full name is David William Hughes?

MR HUGHES: Yes.

MS SHEARD: And do you confirm that you have the qualifications and experience set out in section 1 of your Evidence in Chief?

MR HUGHES: Yes.

10 MS SHEARD: And do you confirm that you have completed two briefs of evidence dated 20 April 2017, and 15 June 2017.

MR HUGHES: Yes.

MS SHEARD: And do you confirm that the contents of those statements of evidence are true and correct to the best of your knowledge behaviour?

15 MR HUGHES: Yes, I do.

MS SHEARD: And have you prepared a summary statement of evidence dated 23 July?

MR HUGHES: Yes I have.

MS SHEARD: Can you please read that statement?

20 MR HUGHES: Sure.

This summary statement provides a summary of my Evidence in Chief dated 20 April and my rebuttal evidence, dated 15 June 2017...(Reads 2 - 5 of Summary of Evidence Statement)... are appropriate from a technical point of view to mitigate the potential adverse stormwater effects from the Project.

25 MS SHEARD: Just a couple of questions before I turn you over to questions from the Board. You took part the Alexandra Creek Underpass options assessment, didn't you?

MR HUGHES: I did.

MS SHEARD: And did you assess the option that involves a 5 metre wide underpass?

30 MR HUGHES: Yes we did.

MS SHEARD: And can you please tell me what the results of what was in terms of flooding in relation to I think it's Option 2, isn't it, of those assessment options.

MR HUGHES: Yes, we found that opening up that underpass to a larger width, if you like, increased the flooding downstream, significantly.

35 MS SHEARD: And whereabouts did it increase the flooding downstream?

MR HUGHES: It was between the underpass itself and Paul Matthews, Paul Matthews Drive, the bridge, further downstream.

MS SHEARD: And was that level of flooding evident for Option 3 as well or is that just particular to Option 2?

5 MR HUGHES: It was the 5 metre wide underpass that caused that evidence of flooding. The 3 metre underpass was similar to the existing.

~Questions from the Board (1.39 pm)

MR STEWART: There was just one point of clarification, I suppose, in paragraph 2.6
10 you say:

"This has resulted in small (up to 80 mm) localised increases in peak flood levels, but has also improved the existing flooding issues at some locations."

15 So, I take it from that that although there has been a very small increase and a local effect overall, if I take it from your evidence there has been improvements to the situation.

MR HUGHES: That's right, so yeah, there is a number of little increases along the downstream environments typically contained within the channels themselves and the size of channels. But there are also a number of improvements along
20 those channels at various locations as well, yes.

MR MARK-BROWN: Mr Hughes, in the evidence of Mr Rama, I'm just trying to find the exact words which I can remember, but he referred to results of consultation with Mana Whenua and Mana Whenua had requested I think that a standard in excess of TP10 be done if possible. And I think Mr Rama said that your
25 evidence set out why you couldn't do that because of the constraints of the project. Can you address that issue?

MR HUGHES: Yeah, sure. So, we had a lot of discussions with Mana Whenua through the Project and we kept them abreast of the treatment performance of the Project through the design, and it went up pretty much weekly, if you like,
30 with the refinements we made. So, on that basis we landed on a pretty significant benefit to the existing situation. We used TP10 as the guideline the entire way through the Project. Suffice to say the guideline doesn't allow for too much improvement above it. Although, in terms of the level of the amount of impervious area that we're treating we think there are significant benefits to the
35 project, correct.

MR MARK-BROWN: So when you said you're not providing more benefit than TP10, are you saying that be providing TP10 for the whole impervious area that's a significant benefit.

MR HUGHES: Yes, it is correct, yes, significantly.

5 MR MARK-BROWN: Are you saying that that was explained to Mana Whenua and they were happy with that?

MR HUGHES: Yes, I mean they were pretty practical through the way through like we were in terms of what we could and couldn't do, and I think at the end of the consultation they were happy with the level of service that was being provided.

10 MR MARK-BROWN: And would it be fair to say that the ponds that you put in, there are constraints in terms of how much you can provide in terms of area and cost, would that be true and you sort of -- or do you think, yeah it's not justified to make them any larger than TP10 requires, would that be your evidence?

MR HUGHES: Yes, that's right, so we did a lot of options assessment in terms of the
15 types of devices as well, you know, what fit in the spaces we had available. The design eked out all of the opportunities, if you like. And I feel the design they've ultimately landed on did provide best benefit for the environment, I guess for the space constraints that we had to work with and obviously the costs as well.

20 JUDGE HARLAND: I don't have any questions. Anything arising?

MS SHEARD: No thank you.

~(The witness withdrew - 1.43 pm)

~Timetabling matters discussed (1.43 pm)

25 JUDGE HARLAND: That takes us to the end of today and we then look towards tomorrow; so, the only expert witness we are having in the true sense of the word is Mr McGarr later on in the afternoon, or perhaps morning, as the case may be. So, can I just check we've still got cross-examination of Mr Willmott Ms Sheard by you?

30 MS SHEARD: Yes, we still have cross-examination of Mr Willmott, but not of Mr McGarr.

JUDGE HARLAND: I see. So, you'll clearly be more up-to-date with where the planners have got to than we might be, is he intending -- do you know whether he is intending to provide some updated -- have you had any information from
35 Mr Berry?

MS SHEARD: No, I haven't actually, now I come to think of it.

JUDGE HARLAND: Perhaps I will ask the EPA, Ms Robertson have we had any update on whether Mr McGarr is to provide and updated supplementary statement.

5 MS ROBERTSON: I understand he has to involve a short summary statement of his involvement in the conferencing sessions.

MS SHEARD: I guess, also, just with Mr McGarr's evidence we are meeting with the planners and the lawyers on Wednesday.

JUDGE HARLAND: Yes, well it might be quite a short session then. So, you're not intending to cross-examine him at all?

10 MS SHEARD: Not at this point, no.

JUDGE HARLAND: And one with of the things we had been talking about is, because of his availability issues, if there was anything that arose it would need to be probably preferably prior to closings. But in that last week that we provided for. So, I guess you will know by the end of this week whether that's likely or not, will you?

15 MS SHEARD: Yes, that's correct.

JUDGE HARLAND: All right. Well if a message could go out to Ms Robertson to that effect that would be very helpful, so we can see where we're heading next week.

20 MS SHEARD: Certainly.

JUDGE HARLAND: Is there anything else we need to cover?

MR BANGMA: No, Your Honour.

JUDGE HARLAND: All right. Thank you very much. Another early finish. And we'll see you again tomorrow morning at 9, thank you.

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~(The hearing adjourned at 1.45 pm)