

Before the Board of Inquiry
Waterview Connection Project

in the matter of: the Resource Management Act 1991

and

in the matter of: a Board of Inquiry appointed under s 149J of the Resource Management Act 1991 to decide notices of requirement and resource consent applications by the NZ Transport Agency for the Waterview Connection Project

**Statement of Agreement Reached in Caucusing by Timothy Simon
Richmond Fisher, Bronwyn Patricia Rhynd and Hayden Russell
Easton.**

Dated: 2nd February 2011

Hearing start date: 7 February 2011

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STATEMENT OF AGREEMENT REACHED IN CAUCUSING BY TIMOTHY SIMON RICHMOND FISHER , BRONWYN PATRICIA RHYND AND HAYDEN RUSSELL EASTON

INTRODUCTION

- 1 This statement has been prepared to record areas of agreement to key issues raised in the submitter evidence of Ms Rhynd¹ and Mr Easton². The wording of the statement has been reviewed and agreed by the three participants.
- 2 There are no areas of disagreement.
- 3 There is one unresolved issue which is associated with the relocation of services in Sector 9. It was agreed that this aspect is outside the scope of the experts within this stormwater caucusing.
- 4 Changes to the proposed NZTA consent conditions that have been recommended as a result of caucusing are shown in green, bold and double underlined. Previously made changes made in the NZTA evidence in chief are shown in red and underlined.

GENERAL STATEMENT

- 5 The expert witnesses for stormwater agree that overall the stormwater management and streamworks proposed as part of the Project, with proposed consent condition, adequately mitigates for the effects of the Project on the environment in this specialist area. The level of stormwater treatment (quality and quantity) that has been proposed is agreed as being appropriate for the Project.

CLARITY IN CONDITIONS FOR LEVEL OF STORMWATER TREATMENT

- 6 Ms Rhynd³ recommended that the conditions of consent to include the level of treatment to be 75% suspended solid removal on a long term average basis with reference to ARC TP10's latest technical reviews in Sectors 7-9. While this was partially covered in proposed conditions SW.10, to avoid doubt it was agreed by all parties to add a summary table with levels of stormwater treatment and areas for each Sector of the Project. It was agreed by all parties that reference to ARC TP10 (2003) or subsequent revisions was not necessary because the level of treatment was the important issue, and how it was achieved did not need to be written into the consent condition. It was agreed by all parties that proposed condition SW.12 provided adequate controls over the details of the design. The agreed revised consent condition SW.10 is as follows:

¹ Rhynd statement 167 & 179-1

² Easton statement No.111-6

³ Rhynd statement, paragraphs 10.1-10.2.

SW.10	<p>The permanent stormwater measures shall be installed and operated in accordance with the plans and information submitted with this application and the information contained within Technical Report G.15 Assessment of Stormwater and Streamworks Effects. In particular this requires the construction and completion of stormwater management works to the treatment standards detailed in Table 6.1 for the catchment areas detailed in Table 1 Tables 6:24 of Technical Report G.15 Assessment of Stormwater and Streamworks Effects. <u>Stormwater treatment should also be provided for adjunct activities associated with the Project including access roads and carparks for the tunnel ventilation buildings.</u></p>
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Table 1: Catchment areas and treatment standards for Waterview Connection project by Sector.

Sector	Existing Impervious		Additional Impervious		Total		Treatment		
	Area (ha)	Percentage proposed treatment (%)	Area (ha)	Percentage proposed treatment (%)	Area (ha)	Percentage proposed treatment (%)	TSS removal*1 (%)	Flood attenuation *2	Erosion protection require*3
1	8.05	100	3.67	100	11.72	100	80	No	No
2	1.45	100	0.72	100	2.17	100	80	No	No
3	3.88	100	1.47	100	5.35	100	80	No	No
4	8.37	100	3.40	100	11.77	100	80	No	No
5	6.62	92.1	3.43	100	10.05	94.8	80	No	No
6	4.08	68.7	1.06	100	5.14	75.2	75	No	Yes
7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	1.04	100	8.49	100	9.53	100	75	Yes	Yes
Total	33.49	94.5	22.25	100	55.74	96.8			

***1 TSS removal is on a long term average basis.**

***2 Attenuation of the peak post-development runoff to the peak pre-development runoff for the 2, 10 and 100 year ARI rainfall events**

***3 Extended detention of the 34.5mm rainfall event for 24 hours in accordance with ARC TP10 (2003) guidelines.**

DESIGN OF STORMWATER OUTFALLS FOR CRITICAL DESIGN EVENT

- 7 Ms Rhynd⁴ recommended conditions of consent to reflect the need to design the outfall structures for the critical storm event. It was agreed by all parties that this was a legitimate issue and should be subject to a condition of consent. It was agreed by all parties to modify proposed condition SW.19.

SW.19	Any stormwater outfalls authorised by this Consent shall incorporate <u>energy dissipation and/or</u> erosion protection measures to minimise the occurrence of bed scour and bank erosion. <u>The design of stormwater outfalls shall assess various rainfall events and tailwater levels (stream and sea levels) to ensure the critical storm event is considered in the design.</u>
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- 8 Ms Rhynd⁵ noted, but did not recommend a consent condition, for the consideration of the aesthetic design of the outfall structures. It was agreed by all parties that this concern could be addressed by strengthening condition STW.1 to include a reference to the Oakley Creek Re-alignment and Rehabilitation Guidelines⁶. This will benefit the design of the streamworks and stormwater outfalls generally by linking it to the vision and principles for the design that are expressed in the guidelines.

STW.1.	The streamworks <u>and associated works (such as stormwater outfalls)</u> shall be undertaken in accordance with the plans and information contained within Technical Report G.15 <i>Assessment of Stormwater and Streamworks Effects</i> and Technical Report G.22 <i>Erosion and Sediment Control Plan</i> , submitted with this application. <u>The design of streamworks and associated works shall follow the principles expressed in the Oakley Creek Re-alignment and Rehabilitation Guidelines, Appendix C of Technical Report G.6 Assessment of Freshwater Ecology Effects.</u>
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⁴ Rhynd statement, paragraphs 10.3-10.4.

⁵ Rhynd statement, paragraphs 10.3-10.4.

⁶ Appendix C to Technical Report G.6 Assessment of Freshwater Ecological Effects.

OFFSET MITIGATION FOR STREAM REALIGNMENT

- 9 Ms Rhynd⁷ recommended that offset mitigation for the loss of Oakley Creek stream bed is to be undertaken both upstream and downstream of the re-alignment works. It was agreed by all parties that this issued should be considered by the ecological caucus group as it considers mitigation for ecological effects.

WASTEWATER MAINS REQUIRING RELOCATION IN SECTOR 9

- 10 Ms Rhynd⁸ noted that wastewater mains and overflows to the Oakley Creek need to be maintained during and post construction. In discussion, the stormwater expert group determined that the issue of service relocations was a wider issue than just the wastewater services in Sector 9. Ms Rhynd wants to record that she cannot assess the effects of the service relocations without seeing more detail on these. Alternatively, she would like to see a condition of consent covering service relocations and limiting the environmental effects of these activities. It was agreed by all parties that the relocation of wastewater mains and other services is outside the scope of the experts in the stormwater caucusing. This issue has been communicated to Andre Walter at NZTA for his consideration.

REHABILITATION PLAN FOR SUB SOIL STRATA

- 11 Ms Rhynd⁹ recommended the Urban Design and Landscape Plan include a rehabilitation plan for sub soil strata within construction yards to mitigate for hydrological effects. It was agreed by all parties that this required a condition of consent to mitigate the potential effect. Dr Fisher noted that while the effect is hydrological, the best place to include this condition is in the conditions associated with landscape issues, and for the work to be included in the proposed Urban Design and Landscape Plans. The experts have agreed on the following condition LV.9.

LV.9	<p><u>The NZTA shall ensure that open space areas affected by construction activities have sub-soil rehabilitated and top-soil replaced so that the hydrological response including the volume of stormwater runoff generated is as close as practicable to the predevelopment situation. The methodologies to achieve this shall be documented in the UDLP.</u></p>
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⁷ Rhynd statement, paragraphs 10.5-10.6.

⁸ Rhynd Statement, paragraphs 10.7 -10.8

⁹ Rhynd statement, paragraphs 10.9-10.10.

FINAL DESIGN PLANS TO THE COUNCIL FOR APPROVAL

- 12 Mr Easton¹⁰ recommended the submission of wetland final design plans to the Council for approval. Mr Easton's specific concern is that the best selection of wetland plants is made to reduce plant mortality during periods of drought. The experts have agreed that this was partially covered by proposal consent condition SW.12, but could be strengthened by the following amendment:

SW.12	<p>The NZTA shall submit the final design of the operational stormwater system to the Auckland Council prior to the commencement of construction works on the permanent stormwater system. This shall include, but not be limited to:</p> <p>(a) Design calculations for the following:</p> <ul style="list-style-type: none"> i) flow attenuation devices, ii) stormwater treatment device sizing, iii) bypass device design, iv) stormwater treatment device efficiency; <p>(b) Design drawings, including all structures, outfalls, treatment devices, bypass devices, wetlands and ponds;</p> <p>(c) <u>Planting plans and schedules for all stormwater treatment devices;</u></p> <p>(d) Catchment plans detailing the area draining to each device; and</p> <p>(e) Outfall locations.</p> <p>Any amendments to these designs shall be approved in writing by the Auckland Council prior to implementation.</p>
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INSPECTION OF WETLANDS TWO YEARS AFTER CONSTRUCTION

- 13 Mr Easton¹¹ recommended an inspection of all proposed wetlands two years after construction to determine the health of plants in the wetland. The concern of the expert panel was that wetlands take several years to become fully established and there can be mortality of wetland plants during this initial period potentially affecting the treatment efficiency of the wetland. All parties agree that an additional condition of consent SW.21 requiring an inspection in the

¹⁰ Easton statement No.111-6, paragraph 3.2.

¹¹ Easton Statement No.111-6, paragraph 3.2.

second year of operation of the wetland would provide greater certainty on this issue.

SW.21	<p><u>In the second year of operation of stormwater treatment wetlands, during the months of December to February, the NZTA shall arrange and conduct a site meeting between the Auckland Council and NZTA, including the design stormwater engineer, in order to assess plant health of the stormwater treatment wetlands. Any resulting amendments to the wetland design may be reviewed at that time and shall be approved by the Auckland Council.</u></p>
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POST CONSTRUCTION MONITORING OF HYDROCARBONS

- 14 Mr Easton¹² recommended post construction monitoring of total hydrocarbons and Polycyclic Aromatic Hydrocarbons (PAH). Mr Easton and Dr Fisher have concurred that the request for manual grab sampling of Polycyclic Aromatic Hydrocarbons (PAH) post construction is not warranted. This agreement has been achieved through discussion of literature and findings from Moores et al. (2009)¹³, presented by Dr Fisher during the caucusing session. Agreement has been made by all parties that PAH concentrations within the stormwater discharge from the proposed stormwater treatment devices are not anticipated to have a more than minor environmental effect.

REVIEW CONDITION FOR TSMP

- 15 Mr Easton has noted¹⁴ that the proposed stormwater condition SW6 requiring amendments to the Temporary Stormwater Management Plan (TSMP) to be approved by Auckland Council was included in the evidence in chief of Tim Fisher, but was struck out (deleted) in the compiled proposed conditions¹⁵. Tim Fisher has clarified that this was done deliberately in the compiled conditions because the intention of SW6 to allow for a process for making amendments was already provided for in proposed conditions CEMP.12 and CEMP.13¹⁶. These conditions provide for the CEMP and all sub plans including the TSMP. All parties agree that the proposed conditions CEMP. 12 and CEMP.13 adequately address the concerns raised by Mr Easton.

¹² Easton statement, section 4.

¹³ Moores J, P Pattinson and C Hyde (2009) Enhancing the control of contaminants from New Zealand's roads: results of a road runoff sampling programme. New Zealand Transport Agency research report 395. 161pp.

¹⁴ Easton statement, paragraph 3.3.

¹⁵ Refer to evidence in chief of Amelia Linzey, Annexure B, page 68.

¹⁶ Refer to rebuttal evidence of Amelia Linzey



Timothy Simon Richmond Fisher
February 2011



Bronwyn Patricia Rhynd
February 2011



Hayden Russell Easton
February 2011

