BEFORE THE GREATER WELLINGTON REGIONAL COUNCIL AND HUTT CITY COUNCIL

EASTERN BAYS SHARED PATH PROJECT

Under	the Resource Management Act 1991
In the matter	of applications for resource consents by Hutt City Council under section 88 of the Act, to carry out the Eastern Bays Shared Path Project

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SUPPLEMENTARY STATEMENT OF EVIDENCE OF FLEUR ELIZABETH MATHESON (SEAGRASS) ON BEHALF OF THE APPLICANT

17 December 2020

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INTRODUCTION

1. My full name is **Dr Fleur Elizabeth Matheson**. I am an Aquatic Biogeochemist and Research Programme Leader at the National Institute of Water and Atmospheric Research ("**NIWA**").

2. This is my second statement of evidence ("**Supplementary Statement**") in relation to the Project, following my EIC dated 30 November 2020.

3. I have the qualifications and experience set out in my EIC.

4. I repeat the confirmation given in my EIC that I have read the 'Code of Conduct' for expert witnesses contained in the Environment Court Practice Note 2014 and my evidence has been prepared in compliance with that Code.

5. The purpose of this Supplementary Statement is to respond to queries raised by the Hearing Panel during my summary of evidence at day one of the council-level hearing.[1] In particular, this Supplementary Statement will address the following matters:

   (a) the $2m^2$ area where the proposed construction zone overlaps with a very small part of the southern-most occurrence of seagrass;

   (b) the $7m^2$ area of the central seagrass bed that adjoins (and is included in) the initial adjusted beach nourishment profile in Lowry Bay; and

   (c) my assessment of the Project (in terms of effects on seagrass) against the EIANZ tables for assigning ecological value and describing magnitude of effect and level of effects.

2M^2 OVERLAP

6. At paragraph 26 of my EIC, I note that "*the proposed construction zone (5m wide at curved seawalls) overlaps with a very small part of the southern-most occurrence (2m^2) and elsewhere lies 5 to 50m away."* This was also raised during the hearing by the Panel, who queried the level of effect this overlap represented in terms of effects on seagrass.

7. As mentioned at paragraph 27 of my EIC, the risk to the seagrass in the construction zone is considered to be temporary and effects will be avoided by physically demarcating the site.

8. Nevertheless, I have discussed this matter with the Applicant and I understand the intention of the Project is to ensure that *all* areas containing

[1] On 15 December 2020.

seagrass are avoided by construction, and that the proposed conditions will be amended to clarify that no construction will take place within two metres of any seagrass bed. With that adjustment to the Project's construction zones (which will be reflected in the conditions), in my opinion the effects on seagrass will be negligible.

9. I understand this matter has been addressed by **Jamie Povall** and **Caroline van Halderen** (in terms of conditions) and will also be addressed in closing legal submissions.

7M^2 AREA OF CENTRAL SEAGRASS BED IN LOWRY BAY

10. At paragraph 29 of my EIC, I note:

> *"The toe of the proposed beach nourishment construction berm lies 2 to 4m at its closest from the largest (central) seagrass bed in Lowry Bay, and the toe of the initial adjusted profile (some weeks to months after construction) adjoins and includes a very small part (7m^2) of the central seagrass bed, see **Figure 2** above."*

11. During the hearing the Panel asked what the likely adverse effects on seagrass in that 7m^2 area may be, and I responded that smothering of the seagrass by beach material was a potential adverse effect.

12. I have discussed this 7m^2 area with **Richard Reinen-Hamill,** who advises that in terms of the beach nourishment processes, only coarse sand or larger – using grading of 10% coarse gravels, 70% medium gravels, and 20% coarse sands and fine gravels ± 2 to 3% – will be used at Lowry Bay, and the placement area of the beach nourishment material will be shifted slightly to the north, as shown in Figure 1.

13. I have discussed this with Mr Reinen-Hamill and he advises that this will ensure that beach nourishment material will not smother any seagrass beds. The material will still be distributed along the beach area, with more volume going into the deposition area identified in Figure 1, and lesser volumes towards the south. The material will be placed over two placements over the winter period.

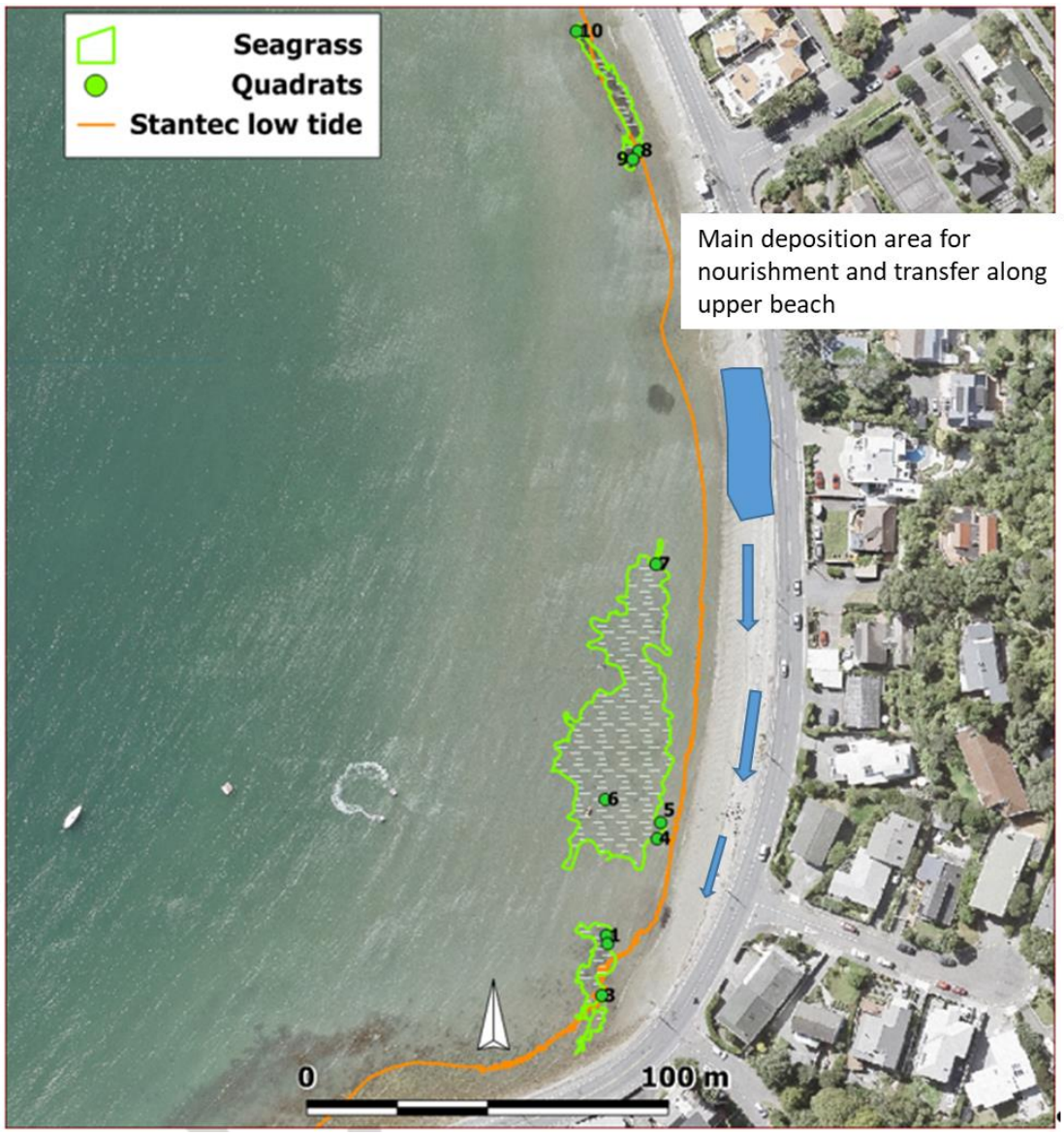

Figure 1

14. I understand this matter has been addressed by **Ms van Halderen** and that condition EM.14 will be updated to reflect the above regime of material size and placement locations to ensure that adverse effects on seagrass beds are avoided.

EIANZ ASSESSMENT

15. The Hearing Panel has requested that I provide an assessment of the Project's effects on seagrass against the EIANZ tables for assigning ecological value and describing magnitude of effect and level of effects. That assessment is provided below.

16. As an initial point, I note that at Table 1 (page 12) in my EIC I have assessed the magnitude of potential effects on seagrass as moderate. Having now

undertaken an assessment against the EIANZ tables, that assessment has been updated, as below.

Table 1 - Factors to consider in assigning value to seagrass for Ecological Impact Assessment

Determining factors	
Nationally Threatened species, found in the ZOI either permanently or seasonally	Very High
Species listed as At Risk — Declining, found in the ZOI, either permanently or seasonally	High
Species listed as any other category of At Risk, found in the ZOI either permanently or seasonally	Moderate
Locally (ED) uncommon or distinctive species	Moderate
Nationally and locally common indigenous species	Low
Exotic species, including pests, species having recreational value	Negligible

17. As an At Risk - Declining species, seagrass is assigned a *High* ecological value.

Table 2 - Criteria for describing magnitude of effect

Magnitude	**Description**
Very high	Total loss of, or very major alteration to, key elements/features/ of the existing baseline conditions, such that the post-development character, composition and/or attributes will be fundamentally changed and may be lost from the site altogether; AND/OR Loss of a very high proportion of the known population or range of the element/feature
High	Major loss or major alteration to key elements/features of the existing baseline conditions such that the post-development character, composition and/or attributes will be fundamentally changed; AND/OR Loss of a high

	proportion of the known population or range of the element/feature
Moderate	Loss or alteration to one or more key elements/features of the existing baseline conditions, such that the post-development character, composition and/or attributes will be partially changed; AND/OR Loss of a moderate proportion of the known population or range of the element/feature
Low	Minor shift away from existing baseline conditions. Change arising from the loss/alteration will be discernible, but underlying character, composition and/or attributes of the existing baseline condition will be similar to predevelopment circumstances or patterns; AND/OR Having a minor effect on the known population or range of the element/feature
Negligible	Very slight change from the existing baseline condition. Change barely distinguishable, approximating to the 'no change' situation; AND/OR Having negligible effect on the known population or range of the element/feature

18. I consider the magnitude of effect, in terms of the Project's effect on seagrass, is *Negligible,* with *Negligible* being classified as *Very slight change from the existing baseline condition. Change barely distinguishable, approximating to the 'no change' situation; AND/OR Having negligible effect on the known population or range of the element/feature*. I come to this conclusion in light of:

    (a) the requirement in condition EM.11(c) to avoid any adverse effects on the seagrass effects at Lowry Bay;

    (b) the new proposed change to condition EM.11(c)(iv) to ensure the nourishment material does not smother any part of the seagrass bed;

    (c) the new proposed change to condition EM.11(c)(v) to ensure that construction will not take place within two metres of any seagrass beds (meaning there is no longer the $2m^2$ overlap); and

(d) the new proposed change to condition EM.14(e)(xii) to ensure that at Lowry Bay, only coarse sand size or larger will be used for beach nourishment (avoiding adverse effects on the previously affected 7m^2 area).

Table 3 - Criteria for describing level of effects

Ecological Value	**Very high**	**High**	**Moderate**	**Low**	**Negligible**
Magnitude					
Very high	Very high	Very high	High	Moderate	Low
High	Very high	Very high	Moderate	Low	Very low
Moderate	High	High	Moderate	Low	Very low
Low	Moderate	Low	Low	Very low	Very low
Negligible	Low	Very low	Very low	Very low	Very low
Positive	Net gain	Net gain	Net gain	Net gain	Net gain

19. Therefore, given seagrass has a *High* ecological value (in accordance with Table 1 above) and I have assessed (conservatively) the magnitude of effect as *Negligible*, in accordance with Table 3 the overall level of effects is *Very Low.*

Fleur Elizabeth Matheson

17 December 2020