

**BEFORE A HEARING PANEL
CONSTITUTED BY HORIZONS REGIONAL COUNCIL**

IN THE MATTER OF an application dated 21 December 2020
for regional consents by Grenadier
Limited to develop the Douglas Link
Golf Course at 765 Muhunua West
Road, Ohau

IN THE MATTER OF Part 6 of the Resource Management Act
1991

STATEMENT OF EVIDENCE OF JAMES DAHM

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Section A – Introduction

Name, qualifications and experience

[1] My full name is James Dahm.

[2] I am a coastal scientist and Director of Eco Nomos Ltd. I have a Master's degree in Earth Sciences from the University of Waikato specialising in coastal processes and management. I am a member of the Royal Society of New Zealand, the New Zealand Coastal Society, and the Coastal Restoration Trust (of which I am also a founding member and former national trustee).

[3] I specialise in applied coastal processes and management and have 37 years work experience in this area, in addition to various earlier post-graduate investigations.

[4] Of relevance to my present evidence, I have been extensively involved in coastal hazard assessment and management since 1990, and in coastal restoration since 1985. My experience includes:

- (a) Assessment of coastal hazards and development of coastal hazard setbacks for various districts (e.g. the setbacks currently used in all settlements of the Coromandel Peninsula, Porirua City, Otorohanga District, Waitomo District and Waikato District) and numerous (>350) individual sites.
- (b) Development and implementation of site specific coastal hazard management strategies/action at a large number of sites (>300), as well as involvement with the development of relevant policies and rules for various district and regional plans.
- (c) Initiation of Coastcare community based dune restoration in NZ and a founding member and a former national trustee of (what is now) the Coastal Restoration Trust. I have been responsible for the design and implementation of >300 dune restoration projects around New Zealand and have acted in an advisory role at many other sites. I have extensive experience with estuarine restoration.

[5] I have been involved in numerous coastal investigations and projects along the west coast of the North Island over the last 30 years, including several projects along the Whanganui-Manawatu and Kapiti coasts.

Expert Code

[6] While this is not an Environment Court hearing I have met the standards in that Court for giving expert evidence.

[7] I have read the Code of Conduct for expert witnesses issued as part of the Environment Court Practice Note 2014 (Part 7). I agree to comply with the Code of Conduct. I am satisfied that the matters addressed in this statement of evidence are within my expertise. I am not aware of any material facts that have either been omitted or might alter or detract from the opinions expressed in this statement of evidence.

Role in Project

[8] I was engaged by Grenadier Limited (through Land Matters) in early stages of the project to identify opportunities and constraints in relation to coastal processes and vegetation. In this regard, I prepared the report “*Proposed Golf Links; Mubunoa Road West, Ohau: Coastal Processes and Vegetation – Opportunities and Constraints*” dated December 2020.

[9] As part of the work in preparing my report, I collated and reviewed historical aerial photos of the site dating from the 1940’s to the present, historical surveys dating from 1890, and numerous published papers and reports produced on this coast over the last 70 years, as well as various preliminary plans and information relating to the proposed Golf Links. I also conducted a detailed site inspection on Tuesday 2 December.

Scope and purpose of Evidence

[10] My evidence briefly summarises the key points and findings from my 2020 report. I also briefly respond to and address concerns with my report raised by Dr Huhana Smith in the submission by Te Iwi o Ngāti Tukorehe Trust and other Tukorehe Mandated Authorities. I also comment briefly on the relevant parts of the Horizons (section 42A reports) and the draft restoration plan that has been

prepared by Boffa Miskell to assist the hearing process. I address the restoration activities throughout.

Section B – Executive Summary

[11] This evidence identifies constraints and opportunities in relation to coastal processes (especially erosion) and coastal vegetation.

[12] In relation to constraints, it is concluded that:

- (a) With appropriate management, no significant problems with wind erosion should be experienced. However, any beach access from the site will need to be well managed.
- (b) The Links course is not likely to be affected by coastal erosion over the next 100 years (including considering present best estimates of sea-level rise), with continued net shoreline advance (probably >100m) likely over this period.
- (c) River bank erosion occurs along the southern margin of the property, most notably on the outside banks of meander bends. Significant erosion may occur over time in some locations and the highest risk areas have been identified. Any parts of the course in these areas may need to be slowly retreated over time.
- (d) The kanuka shrubland on the property is a rare and high value vegetation community and the course has been designed to minimise disruption and loss, though some loss of individual specimens will occur (not the greater stands).

[13] There are significant opportunities for coastal restoration, including:

- (a) Dune restoration seaward of the course and enhancement of the areas of kanuka shrubland within the course
- (b) A localised area of estuarine wetland along the river margin

- (c) Restoration recommendations have been identified for these areas and are covered by Dr Keesing and the draft restoration plan prepared by Boffa Miskell.

Section C – Evidence

Coastal Processes and Land Use History

[14] The coastal lowlands of western Manawatu are one of the driest areas of the North Island, typically receiving less than 900mm of rainfall per year. The coast is subject to strong onshore winds, particularly from the west-northwest, with winds capable of initiating sand transport (>16 kph) blowing for approximately 33% of the time. Net southwards longshore drift along the coast also supplies large volumes of sediment derived from rivers and cliff erosion further north.

[15] These and other factors favour the development of transgressive (i.e. inland migrating) dunes. Historically, the coast has experienced significant periods of wind erosion and inland migrating sands over the Holocene, associated with both natural and (over the last 500-1000 years) human disturbance of stabilising dune vegetation. Transgressive dunes have characterised the Manawatu dunefields over the last 7500 years, though with periods of stability during which the dunes were vegetated (including forests).

[16] These periods of inland migrating dunes have formed an extensive transgressive dune field that extends approximately 190 km along the coast and up to 19 km inland, covering an area of approximately 900 km². The coastal dunes comprising the site of the proposed Golf Links are part of this extensive dune field.

[17] The earliest aerial photography for the property indicates widespread wind erosion in the 1940's, with only pockets of vegetation. In the more landward areas of the property, the migrating sand sheets persisted until at least the early 1980's.

These areas were later stabilised and established in pines, with the pines subsequently replaced by pasture circa 2013-14.

Wind erosion

[18] While the dunes on the property have experienced serious wind erosion in the past, the site is now well vegetated and techniques for sand stabilisation are well established. Accordingly, no significant wind erosion problems are likely to be experienced on site provided planting is undertaken soon after earthworks, and any blow-outs that do develop are attended to rapidly.

[19] However, wind erosion problems may develop over time with any poorly managed access over the frontal dune seaward of the site. Accordingly, any access from the site to the sea will need appropriate management and maintenance to avoid significant disturbance of stabilising dune vegetation.

Coastal erosion

[20] Over the past 7500 years since sea level stabilised at or about existing elevations, the shoreline has consistently advanced seaward, reflecting the large volumes of sand derived to the coast from rivers and cliffs further north.

[21] Existing rates of seaward advance were assessed for the period since 1975, the year that the property and the reserve to seaward were surveyed. These measurements show that the shoreline has typically built seaward by 65-75m since 1975, indicating an average rate of shoreline advance of 1.5-1.6 m/yr. This is very similar to estimates for other beaches on this coast as assessed by other workers.

[22] In the longer term, projected future sea level rise may exacerbate erosion and slow the rate of shoreline advance. It is difficult to reliably estimate this effect with existing techniques. However, approximate calculations using various standard techniques suggest 20-50m erosion could occur for every 1m of sea level rise, similar to estimates obtained by other work for beaches on this coast.

[23] Present national guidelines suggest adopting a planning period of 100 years and a sea level rise of about 1m (RCP 8.5M) to estimate coastal hazards for developments of this nature. At this site, these parameters would suggest that accretion will continue over the next 100 years, but seaward advance may be

reduced (averaging 1-1.3 m/yr over the 100 years period). Consequently, even with 1m sea level rise, significant shoreline advance (probably 100-130m) is likely to occur over the next century.

[24] Accordingly, coastal erosion is not likely to pose a threat to the proposed Links course over the next 100 years, based on best present information on projected future sea level rise over that period.

River erosion

[25] The western margin of the property borders the Ohau River. Over much of this length, the property essentially lies on the outer bank of a large meander loop in the river. Over the 120 years since the first survey in 1900, this river bank has been subject to considerable erosion, with the river channel having moved significantly (in places >200-300m) northwards over the period.

[26] In recent decades, the erosion appears to be continuing, with the highest erosion (as expected) near the apex of meander bends. In the period since 1975 (when the current property boundaries were surveyed), there has been moderate erosion on the outside of the two river bends adjacent to the property; with average erosion of about 80m (over 235m length) on the upstream bend and about 50m (over 375m length) over the length of the downstream bend.

[27] The Ohau River was straightened and stop-banked further upstream in the early 1970's to facilitate improved flood release and drainage. These works probably increased flood velocities on the outside of the river bends. Accordingly, it is not clear whether the erosion rates since 1975 are typical or reflect a period of accelerated river channel change following the diversion.

[28] However, if the erosion since 1975 is typical it indicates spatially and time-averaged erosion rates in the order of 1-2m/yr (approximately) on the outside of the meander bends. If these average erosion rates persist in the longer term future, erosion of 100-200 metres could be expected in some areas over the next century.

[29] River erosion is episodic and occurs primarily during high flow events. Accordingly, even if the average erosion rates persist, any future erosion is likely

to be irregularly distributed in time; with potential for significant bank erosion in major floods, interspersed with long intervals in which there is little erosion. Similarly, the erosion will not be regularly distributed spatially, tending to be most serious near the apex of the meander bend and areas just downstream.

[30] The areas assessed as being most likely to be affected by river bank erosion on the basis of existing channel morphology are shown in Figure 6 of my December 2020 report.

[31] Obviously, any parts of the Links course (fairways, tees etc.) located close to the river margin may periodically need to be retreated due to erosion and this should be provided for in any management plan for the course.

[32] The river entrance area is also subject to significant shoreline change. With the dominant southwards net littoral drift, the river entrance tends to migrate southwards over time, with a spit formed on the northern side. The respected amateur geologist, historian and photographer, George Leslie Adkin produced a map in 1935 indicating that the Ohau River entrance has in the past extended as far south as the entrance of the Waikawa River.

[33] This longshore migration of the river entrance primarily affects areas to the south. However, there is potential for the river to break out more directly to sea during major floods, which could potentially affect near entrance areas of the property. Historic surveys indicate the river has periodically broken directly seaward in the past, temporarily turning the spit into an island. Accordingly, any proposed future land use on the northern side of the river entrance should either be located to avoid such periodic erosion, or accept periodic damage and retreat.

Dune vegetation

[34] Field inspection indicates the dunes along the seaward margin of the property show a general shore-normal vegetation sequence (i.e. zonation) from spinifex to more complex backdune communities.

[35] The most seaward dune area is characterised by a spinifex-dominated frontal dune, which can be broadly subdivided into the following two zones.

- (a) **A seaward area (typically varying in width from 12-20m),** dominated by vigorous spinifex (*Spinifex sericeus*), a native coastal sand binder. Notably, only limited areas of pingao (*Ficinia spiralis*) presently occur in this area, though it was likely a more significant (possibly up to 10-20%) component of the spinifex zone prior to human settlement. The present absence likely reflects historic degradation by human activities, including grazing by stock and introduced animal pests (pingao is very palatable species). There are also isolated patches of the exotic marram grass (*Ammophila arenaria*), which is widespread on the Manawatu coast from earlier dune stabilisation work.

While in reasonable condition, restoration opportunities in this seaward spinifex area include removal of the isolated marram plants and planting of pingao to increase the area of this species.

- (b) **A more landward area (which commonly extends up to 30m inland from the seaward toe of dune)** in which spinifex remains dominant but generally becomes less vigorous with distance inland. There is increased native diversity in this area, reflecting early successional replacement of the spinifex (a pioneer stabiliser). Other native dune species noted in this area were most commonly tauhinu (*Ozothamnus leptophyllus*) and knobby clubrush (*Ficinia nodosa*), though both species are typically sparse. Patches of sand daphne (*Pimelea villosa*) also occur, an “At Risk – Declining” species. In a previous inspection of this area in 2010, I also noted occasional occurrence of *Carex testacea*. Other native species also likely occurred historically. This area is now increasingly being invaded by exotic species, most notably yellow tree lupin (*Lupinus aborens*), a serious dune weed species derived from earlier dune stabilisation and forestry practices. Marram is also common.

Opportunities for useful restoration in this area include removal of the more invasive exotics (e.g. marram and lupin), complemented by planting of appropriate native species (e.g. tauhinu, sparse knobby clubrush, sand daphne)

[36] Further landward, knobby clubrush gradually becomes the dominant native plant community and extends back to the seaward edge of the macrocarpa shelter belt (shown in Figure 10 of my December 2020 report). This native plant community is very extensively invaded by lupin, markedly more widespread than observed in my earlier October 2010 site inspection. Removal of the lupin and any other invasive exotics would be a significant enhancement of this area.

[37] Within and landward of the macrocarpa shelter belt, the vegetation is generally dominated by exotic species; predominantly yellow tree lupin and exotic perennial grasses.

[38] Further landward, in isolated, low-lying areas there are notable patches of kanuka (*Kunzea ericoides*) shrubland. Limited flax (*Phormium tenax*) and cabbage tree (*Cordyline australis*) also occur in association, reflecting the relatively damp environment (at the time of my field inspection, the ground was quite wet in some of kanuka areas).

[39] The areas of kanuka shrubland are the primary dune vegetation constraint within the area of the proposed course. Native dune shrubland is now very rare on this coast. It is desirable to maintain and enhance these areas and minimise loss and disturbance. Considerable attention has been given in the design of the course to minimise loss and disruption of the kanuka shrubland, though some limited loss of individual plants will occur. This aspect is discussed by Dr Keesing in his evidence.

[40] The kanuka shrubland has been significantly modified by historic stock access but can be readily restored. Restoration opportunities include plantings of kanuka to infill gaps, and plantings of additional species appropriate to the shrubland.

[41] Apart from the kanuka shrubland, most dune areas landward of the macrocarpa are strongly dominated by exotic vegetation, even though some isolated native plants (e.g. isolated knobby clubrush) occur.

Dune and Coastal Restoration

[42] In my opinion, restoration work to remedy adverse effects on dune vegetation should focus on the dune vegetation seaward of the proposed course, and on protection and restoration of the remaining kanuka shrubland not affected by the course. The ecological benefits of restoration seaward of the course will increase over time as the shoreline continues to extend seaward, widening the area of native dune vegetation and habitat by around 15-16m every decade. There are other aspects of inland restoration dealt with in the evidence of Dr. Keesing. His brief was to ‘cut the numbers’ so to speak in relation to overall restoration and he anticipates there is an overall benefit from an ecological perspective.

[43] As noted in the “dune vegetation” section above, the dunes seaward of the course have significant native dune vegetation communities but are also invaded by exotic species. Accordingly, the following priority dune restoration opportunities are identified:

- (a) Removal of significant exotic species from the dune areas seaward of the course, including marram, lupin, and gorse. If found present (either now or the future), *Acacia sophorae*, should also be removed, as it is a serious invasive species on this coast.
- (b) Planting of appropriate native dune species in each of the various dune sub-environments – as discussed in the “Dune Vegetation” section above.

[44] In addition, the following ongoing work will be required to minimise any potential adverse effects on the frontal dune seaward of the course:

- (a) Appropriate management of any pedestrian access across the frontal dune to prevent disruption of vegetation and associated wind erosion. Ideally, vehicle access across dunes between the course and the sea should be excluded. This has been dealt with through the District Council approvals and appropriately vehicles will be prevented from travelling any further than the end of Muhunua West Road with only pedestrian access resulting from

the proposal. My understanding is there will also be no pedestrian or vehicle access to the sea from the course.

- (b) Careful management of any interface between grassed areas of the golf course and the native dune vegetation to seaward to prevent exotic perennial grasses invading the native dune vegetation.

The shade provided by the macrocarpa presently provides a natural barrier limiting seaward invasion by exotic perennial grasses. However, there is potential for seaward invasion of exotic grasses once the macrocarpa are removed.

Appropriate management is best determined by monitoring, but may require spraying of the seaward edge of the grassed course 3-4 times per year with a grass-specific herbicide. Ideally, a 1m wide sprayed buffer should be maintained between grassed areas of the course and any native dune vegetation. Any grass invasion of native vegetation should be treated promptly using a grass-specific herbicide.

[45] The dune restoration and ongoing maintenance will likely require a range of activities including plant pest control, planting, ongoing maintenance, and management of human use and disturbance. It will require preparation of a detailed restoration plan as a strategic approach is critical to success in difficult sites like this and a draft plan is presently in front of Council. The restoration plan will also need to be a living document so it can be updated based on experience. An 'experimental approach' will likely be required for some elements of the work given the very limited experience to date with successful restoration of native dune communities along the Manawatu coast. I do not say experimental to suggest the current proposal won't work, but rather any failure in planting will need to be monitored and evaluated by the course managers and project ecologists. This coast has unique characteristics which mean that lessons from dune restoration elsewhere, while valuable, may not be adequate to address all issues likely to be faced.

[46] The elimination of the yellow tree lupin seaward of the course is likely to be particularly difficult and require a sustained effort over time. Fortunately, the lupin suffers from Lupin blight (*Colletotrichum gloeosporioides*) and is also a relatively short-lived species, both of which factors will aid a well-planned elimination strategy. However, the species also produces large numbers of long-lasting seeds and is a rapidly growing species. It is also taller than the native species it is competing with in this area, and so tends to shade out the knobby clubrush and other natives over time. Collaboration with neighbours to the immediate north of the site and on the southern side of the Ohau River would also be valuable and help reduce or minimise re-invasion from lupin in adjacent areas.

[47] In my opinion, if conducted well, this ongoing restoration work has the potential to create one of the more ecologically valuable stable native dune communities on this coast. Unfortunately, the frontal dunes along the Manawatu coast are presently almost entirely dominated by exotic species, apart from the narrow spinifex-dominated community in the most seaward areas. The golf course includes restoration activities that I envisage.

Estuarine wetlands and restoration opportunities

[48] The majority of the original saltmarsh and wetlands (including freshwater wetlands) in the Ohau River originally occurred on the lower-lying southern side of the river, as the northern side is largely characterised by elevated dunelands. Most of the extensive historic wetlands in lower areas of the river were lost due to various historic human activities (e.g. river engineering and management, drainage, encroachment of pastoral farming), well detailed by Dr Smith in her 2007 PhD thesis. Accordingly, remnant areas of these critical ecosystems are of considerable value and need to be protected and, ideally, restored.

[49] A small but useful area of saltmarsh wetland occurs along the Ohau River margin of the property, discussed in more detail by Dr Keesing in his earlier report. This wetland area occurs in a small embayment formed by an historic meander bend.

[50] The wetland area is gradually being diminished by slow river erosion along the river edge and, more particularly, by ingress of windblown sand from the

seaward side. The ingress of windblown sand is partly natural, but appears to have been considerably exacerbated by vehicle use which has disturbed dune vegetation in areas to seaward.

[51] The area of saltmarsh and surrounding native and exotic vegetation is not impacted by the proposed Links course, though ongoing natural erosion along the northern side of the Ohau River may gradually reduce the wetland area over time. However, present indications are that it is likely to persist for many more decades and accordingly provides a further useful restoration opportunity. It is recommended that any restoration in this area focus on:

- (a) Ideally, exclusion of vehicles from the area. Alternatively, if vehicle use is to be maintained then improved management is required, containing any use to a narrow defined track landward of the estuarine area and associated riparian vegetation, and avoiding dune areas further seaward.
- (b) Restoration of a native riparian vegetation sequence around the landward margins of the small wetland using appropriate species (e.g. oioi, saltmarsh ribbonwood, knobby clubrush and flax)
- (c) Removal of exotic vegetation, particularly around the riparian margin and also the exotic grass invasion of some parts of the saltmarsh.

Response to submission by Te Iwi o Ngati Tukorehe Trust

[52] In comment on my December 2020 report, the submission notes that the report is focused on erosion and lacks discussion of wider climate change impacts (e.g. increased fire weather, extreme weather events, increased rainfall and inland flooding, and sea-level rise).

[53] In terms of coastal processes, I agree that the report is focused on erosion (wind erosion, coastal erosion and river bank erosion), including the effects of sea-level rise. The reason for this is that it is a constraints and opportunities

report focused on hazards that could directly impact the proposed Links golf course.

[54] I concur that climate change will have wider effects on the Manawatu Region. Horizons Regional Council note “*Climate change is one of the biggest environmental challenges we face. While we are uncertain about the pace and scale of change, we do know that our region is already being affected by increasing temperatures, changes to rainfall patterns, river flows, increased drought, and ongoing sea-level rise. A changing climate will also affect our economy, and way of life.*” (<https://www.horizons.govt.nz/managing-natural-resources/climate>).

[55] By way of general comment on these wider climate change impacts, I note:

- (a) Summer droughts are likely to be more common and severe. Horizons notes that summer flows in local rivers are also likely to decrease – with, for example, the summer flows in the Manawatu River projected to decrease by about 14% by 2090. This will undoubtedly have significant implications for many existing land uses in this area, including the proposed Links golf course. The potential implications for the Links golf course and possible adaptation are best addressed by Ms Alexandra Johansen. However, any effects on the Links golf course are likely to be considerably less severe than the effects on alternative land uses in this area such as intensive dairying which has very high summer water demands.
- (b) Sea-level rise and both increased rainfalls and river flows are also projected to accompany future climate change. These changes will undoubtedly exacerbate both coastal and river flooding of low-lying areas, especially near the river entrance where these effects will combine in some events. Sea-level rise will also lift water tables which could also exacerbate drainage and flooding in low-lying areas. However, the dunes over the site of the proposed Links golf course are well above the elevation of both existing and potential future coastal storm and river flooding.

- (c) Increased winds and an increase in very high and extreme fire risk days are also both projected future impacts of climate change for most of New Zealand. Research by Scion indicates these changes will have significant implications for pine forestry,¹ a common alternative land use on the coastal dunes of the Manawatu. The implications for the proposed Links golf course are likely to be less severe, but some adaptation (e.g. water storage for firefighting) may be required longer term.

[56] Overall, this brief consideration suggests that climate change is likely to be very challenging for the Manawatu and will probably require adaptation for most land uses, including the Links golf course. However, the brief considerations noted above suggest that challenges for the proposed Links golf course are likely be less severe than current alternative “as of right” land uses such as pine monoculture forestry or intensive dairying. The small scale infrastructure and construct of a golf course of this nature (Links) means it is a very appropriate land use in this coastal setting. Moving holes and parts of fairways is likely to only require dealing with vegetation and small scale contour change.

[57] The submission also notes that climate hazards can have impacts upon both the tangible and intangible values of taonga sites and associated tikanga practices. I concur with this as it relates to tangible taonga sites. I cannot comment on the intangible or spiritual realm. I also agree that the various research projects of the Deep South National Science Challenge (referred to in the submission) are valuable and will considerably aid our understanding of such impacts and help identify and action appropriate adaptation solutions. However, these issues were outside the scope of my report which was focused on constraints to the proposed Links golf course. They are also outside of my areas of expertise and are better addressed by Mr. Phillip Tautarangi and Ms Mary O’Keefe. However and overall it is my opinion that the Links course can appropriately adapt to climate change pressures if they eventuate over time.

¹ <https://www.scionresearch.com/about-us/news-and-events/news/2018-news-and-media-releases/how-will-climate-change-affect-plantation-forestry-in-new-zealand>

Section 42A Reports

[58] I have read the reports prepared by Dr Garden, Mr Whitely and Ms Morton on behalf of the Council. I have also reviewed the reports and evidence of Dr Keesing and Ms Johansen on behalf of the Applicant.

[59] At paragraphs 31 – 37 of his Statement Dr Garden considers there is some uncertainty around the potential effects of the golf course activities (water abstraction and management) on the salt marsh next to the Ohau River. Mr Whitely also makes mention on these aspects at paragraphs 51 and 52. In light of those concerns Ms Morton has recommended a Wetland and Lagoon Monitoring plan is prepared. The Grenadier project team collaborated on a paper to provide information to assure the Council that those issues would not eventuate. Dr Keesing (ecologist), Ms Johansen (Hydrogeology), Mr Allan (Golf Course Construction and Management) and I prepared information considering each other's specialisations to ensure the information was comprehensive. We do not consider there will be the uncertainty about the effects and there will be little or no effect on the salt marsh from the proposal.

[60] Although there will be no discernible effect on the salt marsh from the activities, the Applicant still proposes to undertake pest management and improvement planting at the Salt Marsh. The application material has been further defined to give better substance to the original RBT restoration plan and through more recent work by Boffa Miskell. I do not comment on the ecological matters, but provide an opinion that the geomorphic and coastal processes that influence the current form of the salt marsh will not change as a result of the golf course activities. The only concerns I raised in my report were in regard to existing vehicle traffic through this area, which is damaging the salt marsh and associated riparian vegetation. I understand that vehicle access through this area will be closed off with the proposed Links golf course, a course of action I support. A monitoring regime at the golf course site could not measure other external factors (natural or human) that have any influence on the salt marsh. For those reasons I concur with Dr Keesing that the suggested condition should be removed. The success of the planting in the area can be monitored, and Boffa Miskell has provided mechanisms in the draft restoration plan.

Dated 12 April 2022

James Dahm