Eastern Bays Shared Path project
Memorandum 5 – Response to matters raised in email dated 6 March 2020

This Memorandum 5 is the fifth memorandum submitted by Stantec, on behalf of Hutt City Council, to respond to the further information request received from Greater Wellington Regional Council and Hutt City Council. This memorandum responds to matters raised in the email dated 6 March 2020 from Shannon Watson. The email summarises key issues that the respective councils have identified and summarised.

1 Coastal processes and design integrity

An extract from the email outlining the key matter is as follows:
In relation to beach re-nourishment, Dr Dawe has recommended that monitoring of the beach re-nourishment occur for at least three years and a commitment to 'top it up' if need be (monitoring shows that beach re-nourishment has not been successful) as it settles into a new equilibrium for a total of 5 years be considered by the applicant. Ms Westlake would like to see a commitment to similar monitoring and maintenance (as required) for revetments in the event design conditions are exceeded during the monitoring period (adaptive management is implemented), and endorses the recommendations of Dr Dawe for monitoring and a commitment to topping up re-nourishment material and the revetments for a period of 5 years.

Response:
Conditions are proposed that will address this issue. See particularly Conditions EM.15 to EM.17 (please refer to separate document with the latest suite of proposed conditions).

2 Landscape and natural character effects

An extract from the email outlining the key matter is as follows:
The key concern, which has been raised before but has not yet been formally addressed by the applicant, is ongoing concern regarding the heavy reliance on the LUDP process (and detailed design) to ensure acceptable outcomes are achieved in respect of visual/natural character effects without any certainty about how this process will work in practice (will it be urban design led, how will conflicts between engineering/safety requirements and landscape elements be resolved etc) or even what the design will look like.

Response:
Conditions are proposed that will address this issue. See particularly, Conditions LV.1 to LV.4 (please refer to separate document with the latest suite of proposed conditions).

3 Recreation amenity

An extract from the email outlining the key matter is as follows:
Concerns about the effects of the proposal on recreation amenity also relate to the lack of certainty in design and inability to establish an 'envelope of effects'.
The other concern is that adverse effects from crowding and busyness at beaches due to increased activity have not been adequately addressed to date. Ms Hamilton suggests there is potential to mitigate these effects through spatial design and the deliberate design of refuges (as noted above).

Response:
Conditions are proposed that will address this issue. See particularly Conditions LV.5 to LV.7 (please refer to separate document with the latest suite of proposed conditions).

We also refer to our previous comments in Memorandum 1.

4 Sub-tidal and inter-tidal ecology

An extract from the email outlining the key matter is as follows:
Dr Oliver supports the mitigation measures outlined in Dr Fleur Matheson's report to delineate and monitor the seagrass beds. However, as noted above is less comfortable with offsetting as an option and the idea of small scale transplantation should the project experience net seagrass loss.

It has also been noted by Dr Oliver and a number of submitters that recommendations or mitigation measures proposed by the applicant's experts have not translated into proposed conditions of consent. It is recommended that the applicant consider incorporating these measures into conditions or providing some other form of commitment that these recommendations and mitigations will be implemented.

Response:
Conditions are proposed that will address this issue. See particularly, Conditions EM.10 and EM.11 (please refer to separate document with the latest suite of proposed conditions).

5 Transport/safety

An extract from the email outlining the key matter is as follows:
However, the provision of a safety barrier as deemed necessary following expert interpretation and confirmation of the Building Code requirements is still outstanding and may result in changes to this conclusion. Mr Wanty endorses the approach to low level barriers on the road side of the path and notes where the shared path is sufficiently clear of hazards there need be no low/high barriers with the exception of Point Howard where it was suggested that a short fence might be considered.

Response from Jamie Povall (Stantec, Design Manager):

Assessment of heights (based on preliminary design – to be confirmed during detailed design)
In response to Dan Kellow (email dated 17 Jan 2020) as a result of David Wanty's comments.

Section	DW Comment	Stantec Response
705-1000	3.5 m, double curve (295 m)	ST800-1000 highly sporadic varying below and above 1m. Small sporadic sections of fence stopping and starting considered to be greater hazard to path users for end collision. Double curve arrangement with overhang reduces the true fall height below 1m.
1010-1080	2.5 m, double curve (70 m)	Not required for drop off (note also dynamic beach environment in part)
1115-1150	2.5 m, double curve (35 m)	Few metres in length over 1m drop off. Very small sporadic sections of fence stopping and starting considered to be greater hazard to path users for end collision. Double curve arrangement with overhang reduces the true fall height below 1m.
1260-1365	2.5 m, double/triple (105 m)	Revise section length here to 1260-1460. Acknowledge error in previous Stantec assessment here as design has changed (previously was revetment but which was then deemed to be unconsentable as within the sub-tidal area). Include barrier for 200m length.
1410-1535	3.5 m, double/triple (125 m)	See above. Revise this section 1460-1535. Barrier not required.

2275-2330	3.5 m, double curve (in effect a 55 m extension to the York Bay north section)	Barrier not required.
2420-2570	3.5 m, double curve (in effect a 150 m extension to the York Bay north section	Barrier not required (note previous work has identified highly dynamic beach environment).
3035-3340	3.5 m, double curve (305 m)	Barrier not required.
3470-3530	3.5 m, double curve (a 60 m extension to between Mahina & Sunshine section)	Barrier not required.
3690-3910	2.5 m, double curve (a 230 m extension to between Mahina & Sunshine section)	Small sporadic length (<20m) of this section assessed as having a fall height of 1m. Very small sporadic sections of fence stopping and starting considered to be greater hazard to path users for end collision. Double curve arrangement with overhang reduces the true fall height below 1m.

Comments in relation to 2.5m versus 2.85m
It is important to note that the proposal is a preliminary design for consenting to understand (and manage) the project's effects. There is scope within the detailed design to make small adjustments to the detailed layout. For example, amending the width of the separator and road shoulder from the combined 600mm to a narrow width to provide additional useable width to path users. Similarly, the overhang between the upper and lower curve could be reduced to provide additional width, without creating any further coastal encroachment. The design team is satisfied that there are opportunities to create extra width on the narrower section of paths in detail design as required. The design team also reiterates that the entirety of this project has sought to balance the requirements of multiple different and competing factors, as well as community inputs, whilst delivering a safe and serviceable facility. Should a width of 3.5m throughout be preferred from a path user perspective, numerous other factors have to be taken into consideration to balance these competing demands.

Response from Jeremy Walters (Stantec, Principal Structural Engineer) dated 19/2/2020:

Why a barrier has not been provided to date
From what I have read in the documentation you have provided, and from my knowledge of the project, it appears that the historical decision not to install a barrier on the Eastern Bays project has predominantly hinged around the existing York Bay section having been constructed without a barrier, and from "…consultation with the bay communities. The general feedback from the community was that barriers were not acceptable from an aesthetic point of view, and a perceived interruption between the land and the coastal edge." I also note in the correspondence sent through by HCC that "A high level edge barrier has been strongly opposed by the local community previously. Furthermore, the design of the curved wall system is such that it does not require fall from height barrier under the Building Code."

The proposed sections of curved seawall under the wider Eastern Bays project are an extension of this previous GHD design concept. The original design comprised one and two tiered curved reinforced concrete seawalls. Each tier is 0.8m high and there is a 0.6m wide horizontal landing between the nose of the lower curve and the nose of the next one above it. The new design introduces a three tier alternative using the same concept. The stepped or tiered approach has previously been interpreted by HCC as not having a fall height of 1.0m or more between intermediate projecting tiers and therefore does not invoke the requirement for fall height protection. From your recent discussion with Dan Kellow at HCC it appears that the York Bay section was completed as a 'permitted activity', so there was no resource consent required under the RMA[1]. Notwithstanding this, there should still have been a Building Consent submission and a code compliance

[1] Email from Dan Kellow (21/2/20) ……"*In regard to planning matters and the York Bay seawall there is correspondence from 2006 from a planning consultant stating the York Bay seawall did not require resource consent. The district plan rules relating to roads have completely changed since that time.*"

certificate provided upon completion of the physical works. It would be worthwhile sourcing these important documents as they are evidence for Council's previous acceptance of a 'no barrier' approach for this structure and provide a precedent to support this approach going forward. If no Building Consent or code compliance certificate can be found in Council's records then this project should be treated as if it were a new, standalone project.

The objective and functional requirements of Clause F4 of the Building Code are provided in Clause F4.1 and F4.2 respectively, which state:

- F4.1 The objective of this provision is to safeguard people from injury by caused by falling
- F4.2 Buildings shall be constructed to reduce the likelihood of accidental fall

In this instance the seawall is considered to be a 'building'.

It should be noted that Clause F4.2 does not require people to be absolutely protected from falling, only that the risk of accidental fall is reduced. The question is does the tiered approach achieve this reduction?

It is also noted that the responses draw on the associated "limits on application" within the Building Code which states:

> Performance F4.1 shall not apply where such a barrier would be incompatible with the *intended use* of an area, or to temporary barriers on *construction* sites where possible fall is less than 3 metres.

In my opinion, the "limits on application" are more suited to working wharves, jetties or similar environments where barriers would physically impede the "intended use". I would consider it hard to defend the use of the 'limit on application' for Clause F4 for the seawall scenario.

When considering the current seawall configuration I have also researched numerous Ministry of Business, Innovation and Employment (MBIE) determinations regarding Clause F4 Safety from falling cases (I can provide the unique numbers for these determinations should you wish to read them). These determinations provide useful guidance for similar safety from falling cases. In all cases researched for scenarios similar to that being considered here the determination has required the installation of an appropriate barrier.

Barrier heights 1100 vs 1200 vs 1400
Clause 5.5.3 of the Austroads Guide to Road Design Part 6A stipulates the following:

"The minimum height of fence should be 1.2m and should be used only where the severity of the hazard is considered low. A higher fence ≥ 1.4m, should be considered where the fence is protecting path users from a very severe hazard (e.g. high vertical drop from a structure to a body of water or rocks)..."

Appendix A of the NZ Bridge Manual states "Note that an additional barrier is required on the outside of a path for cyclists that should be appropriate for the usage (e.g. pedestrian barrier 1.0m, cyclist barrier 1.4m, equestrian barrier 1.8m)."

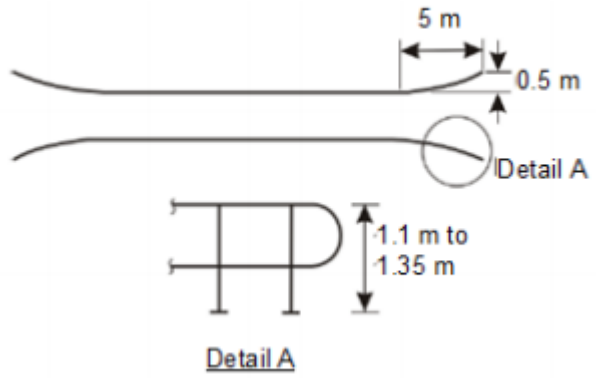
Table 1 of Clause F4 of the NZ Building Code is typically written for foot traffic and does not specifically differentiate for cyclists, but states a minimum barrier height of 1.1m for "all other locations".

As you can see from the above references current best practice for cycleways is to provide a 1.4m high barrier. This is primarily due to the higher centre of gravity and average speed of a cyclist compared to a pedestrian. 1.4m may appear excessive considering the communities preference for the 'no barrier' option. If this height is unpalatable then it is recommended that the above information in taken into consideration and a risk assessment carried out to identify the hazards, determine the likely number of vulnerable users and likely consequences and from this determine appropriate barrier height requirements.

Spearing hazard/end collision hazard
The proposed intermittent barrier approach at high wall sections potentially introduces an increased likelihood of spearing or end collision hazards for pedestrians and cyclists. It also presents similar risks for errant motor vehicles particularly considering a significant proportion of the project has a speed limit of 70km/h. Careful consideration should also be given to the bicycle rail system terminal end details to ensure that the required protection of the roadside hazard is either continuous, or where intermittent, meets the design intent and does not overly compromise shared path width or introduce hazards that could prove more hazardous.

Figure 5.13 of Clause 5.5.3 of the Austroads Guide to Road Design Part 6A recommends the following typical detail for flared bicycle rail terminal ends:

Figure 5.13: Example of flared bicycle rail terminal

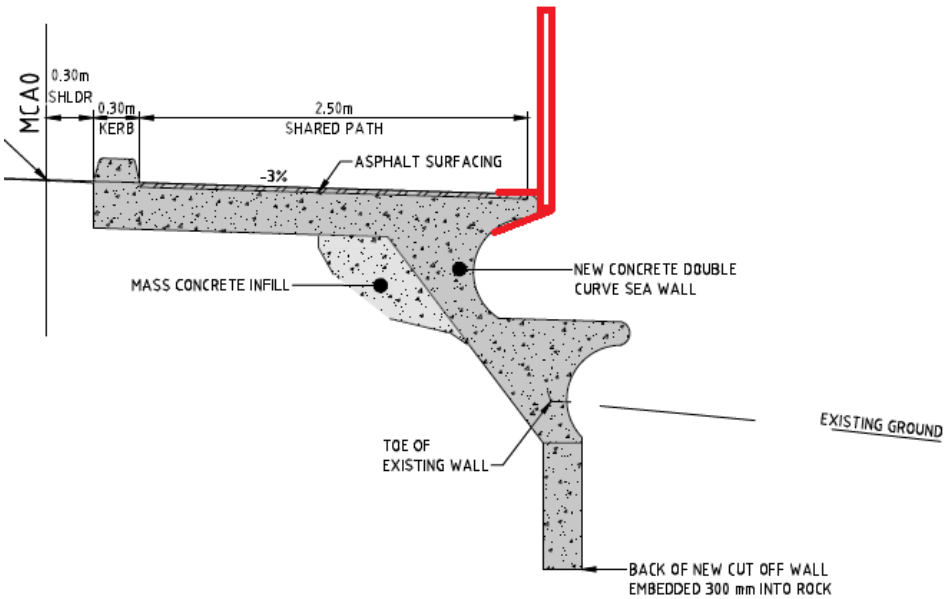


In order to accommodate the above terminal flares on intermittent barriers lengths along the top of the seawall would result in a significant reduction in available shared path width over localised sections of the shared path. A careful balance will need to be struck between user safety from falling and safety from collision due to a less than desirable overall shared path width.

If a completely purist approach were adopted then other hazards present along the seawall route present equally, if not more, hazardous situations than the safety from falling issue. It could be argued that a 150mm high intermittent precast concrete kerb provides inadequate protection to shared path users, particularly along sections of the route where the maximum speed limit is 70km/h. Is the risk of shared path user injury greater from errant motor vehicles than from the fall from height issue? Furthermore, the kerb presents a potential vaulting hazard, which at 70km/h has the very real potential to launch errant vehicles across the shared path and onto the foreshore. Considering these comments should a w-section barrier also be installed between the shared path and the road perhaps? Has a motor vehicle ever ended up in the sea? These factors would need to be assessed as part of the barrier risk assessment mentioned above. As a closing comment on this matter the NZ Bridge Manual states the following guidance: "if the shared path is two-way, or where pedestrian or cyclist traffic may be tempted to stop on the structure (e.g. a lookout), then consideration should be given to separating this facility from the highway by placing a road safety barrier system at the back of the shoulder."

Moving barrier out to extreme nose of seawall

Fixing the barrier support posts to the outside edge of the nosing on the upper curved section would provide the maximum shared path width. The sketch below is a typical arrangement that could be explored in more detail during the detailed design phase:



Mr Wanty recommends the provision of additional conditions to maintain the integrity of the design as it relates to safety as the design progresses. These include:

- *a condition requiring the undertaking of an independent road safety audit at the detailed design stage and prior to the path opening; and*
- *a condition requiring Council to regularly monitor usage and report safety/incidences along the shared path within the first 1-3 years of operation.*

Response:
A safety audit is integral to the design of the project and will form part of the detailed design process. It is not considered necessary or appropriate for this, or the provision of monitoring/reporting on safety in the nature suggested, to be covered by the conditions of consent.

6 Penguins and Avifauna

An extract from the email outlining the key matter is as follows:
I understand that a productive meeting with relevant stakeholders and community representatives was held earlier this week related to the mitigation and offsetting of effects on penguins…

To be able to provide more guidance Dr Uys confirms he requires (I understand he also raised this in the meeting):

- *Confirmation on the number of confirmed penguin nests within the project footprint*
- *More detailed information/methodology on how penguins will be managed during construction – this could be incorporated into a CEMP, as suggested in the comments on sub/inter-tidal ecology.*

I emphasise that the focus when considering penguins and avifauna must be on avoidance and mitigation (and getting effects to an acceptable level) before offsetting and compensation measures are able to be considered. Offsetting and compensation measures cannot be considered if avoidance and mitigation measures cannot get the level of effects down to a point where they are consistent with P39A of the PNRP (which mimics P11 of the NZCPS).

Response:

Facilitated Workshop on penguins
A facilitated workshop was held on 2 March 2020 to bring all the parties with an interest in penguins together with the focus "on the long term wellbeing of penguins and shore birds in the vicinity of the proposed shared pathway project". The Meeting Notes are attached as **Annexure 1** of this memo.

A number of offset and mitigation measures were suggested. These included possible sites for penguin havens (Whiorau Reserve, Northern End of Bishop's Park, Windy Point, HW Short Park, Esplanade - further south than HW Short Park). There were actions from this workshop that are currently underway however site visits have been put on hold until the Covid-19 movement restrictions have been lifted.

Proposed conditions have been put forward to address the concerns around penguins (please refer to separate document with the latest suite of proposed conditions).

Number of penguins
Appendix C-1 of the resource consent application sets out the assessment of the proposed shared path on penguins. The following map shows the location of the nests. This information was not included in the assessment given that it would be in the public domain and it was considered by the author to pose a risk to the nests.

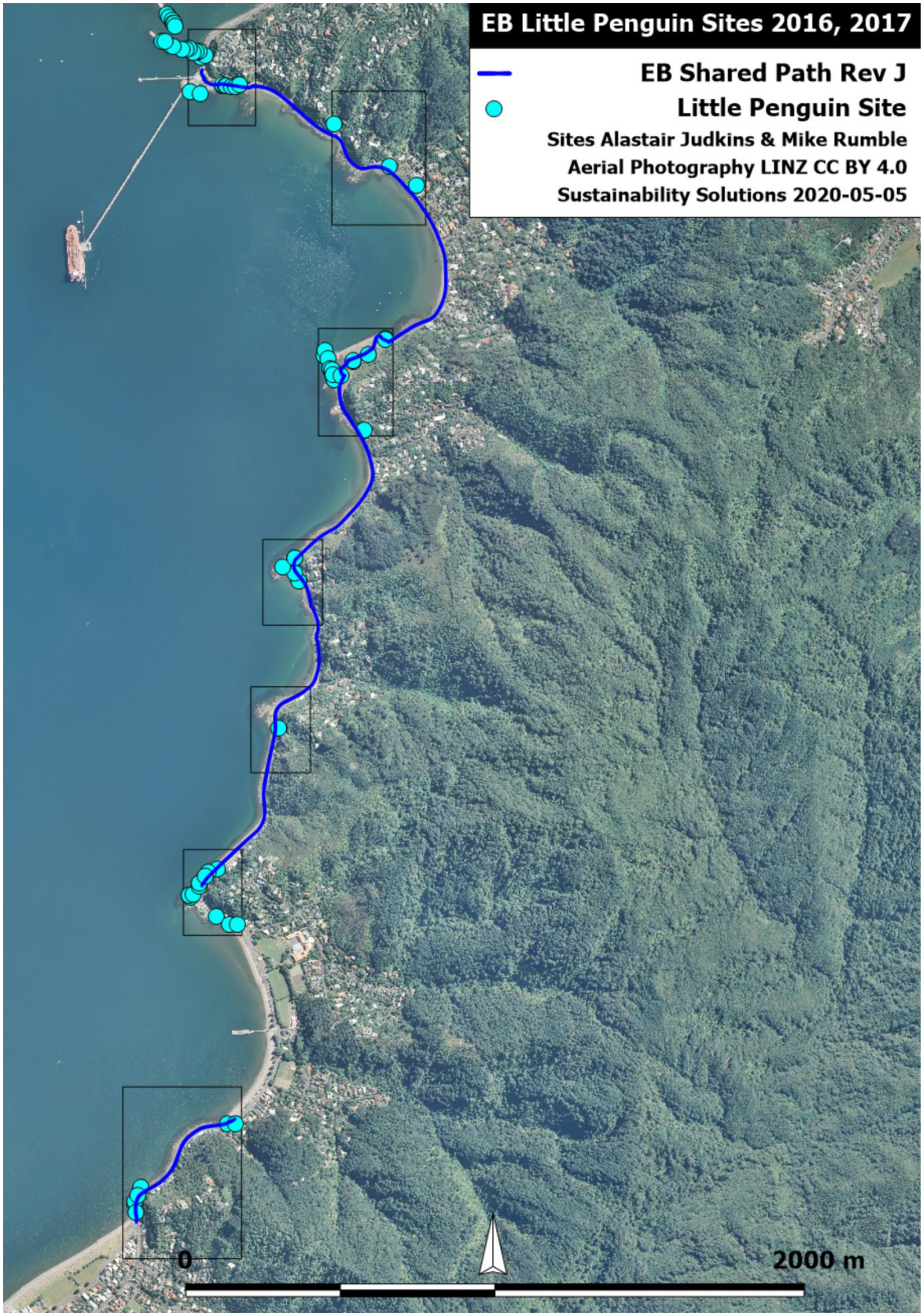


Table 8-1 of Appendix C-1 of the resource consent application summarises results of the penguin surveys undertaken. There is a total of 35 nests within the Shared Path project area (2017 data) which includes those on both the landward and seaward sides of Marine Drive. Those that are within the 'project footprint" (seaward side of Marine Drive) are estimated to be 29 nests. It is noted that there are **no nests within the footprint of the shared path**.

(Read in conjunction with Table 8-1)

Bay location	Landward side of Marine Drive	Seaward side of Marine Drive	Within path footprint	Proposed seawall treatment	Comments
Point Howard/Sorrento Bay		5	none	No change to seawall	Works in close proximity of nests
		1	none	Proposed new revetment	Nest within area earmarked for revetment - avoid works during nesting
		1 (in rocky outcrop in road corridor)	none	Proposed new revetment	Proposed shared path separate nest from sea
	1		none	Existing seawall to be replaced	Sorrento - site 2017-A Road separates nest from sea
Lowry Bay	2		none	Existing seawall to be replaced	Sites 2017-53 & 54 Road and existing seawall separate nest from sea
Whiorau Reserve		10 (within reserve area to be traversed by path)	none	No change to seawall at the reserve and rock pier	Existing parking area and proposed shared path separate some nests from sea. Other nests in rock pier away from shared path
York Bay	1		none	Existing seawall – to be replaced	Existing seawall and road separate nest from sea
Mahina Bay		1	none	Proposed new revetment	Nest within area earmarked for revetment - avoid works during nesting
		1	none	No change	Works in close proximity of nest
Sunshine Bay	2		none	No change	Road separates nest from sea
		6	none	No change	No works, only road markings
Windy Point		1	none	Existing seawall to be replaced	Nest on rocky outcrop away from works
		3	none	No change	No works, only road markings
SUB TOTAL	**6**	**29**			
TOTAL	**35**				

Effects management hierarchy

As required by Policies P32 and P41 (and Schedule G) of the Proposed Natural resources Plan for the Wellington Region (PNRP)[2]. The effects of the project on avifauna (penguins and shorebirds) have been assessed in accordance with the effects management hierarchy below:

Effects	Assessment
Avoiding significant adverse effects	There are nesting penguins along this coastline as identified through the penguin survey. There are no nests within the footprint of the shared path. Most of the nesting sites (those on the landward side of Marine Drive and those located in rocky hollows off the proposed shared path footprint) will be avoided. There are however some nests that are located within the existing rock seawalls that will be affected by the replacement of the seawalls. There are also shoreline foragers the occur along this coastline and their habitat may be potentially affected by the project.
Where significant adverse effects cannot be avoided, minimising them	Where penguin nests are located within the existing rock seawalls that will be affected by the replacement of the seawalls, the adverse effects will be minimized. Works in the vicinity of known nesting sites will be managed through a Little Penguin Management Plan (LPMP) during construction. This will include undertaking a penguin detection dog survey prior to construction to identify active burrows and nests within the construction area; managing construction works between 1 July and 31 April (the Little Penguin breeding and molting period) within 10m of any active burrows or nests identified under certain conditions as outlined in the suite of conditions; undertake a programme for monitoring Little Penguins. A shoreline forager nesting survey within the relevant construction area will be undertaken to identify any nesting shoreline foragers within that area. If any nesting shoreline foragers are identified, the expert will advise the consent holder on the management of the works and make recommendations to mitigate any adverse effects of construction works.
Where significant adverse effects cannot be avoided and/or minimised they are remedied, and	Nesting boxes will be placed in suitable places to provide safe environments for eggs. Design features such as access steps and ramps, and revetment design to facilitate penguin access to nests have been incorporated into the design. Penguin havens will be fenced to protect nests from dogs and other predators.
Where significant residual adverse effects remain, it is appropriate to consider the use of biodiversity offsets.	Sites have been identified that are suitable for penguin havens and safe areas for shoreline foragers. A workshop was held with parties with an interest in penguins and shoreline foragers where suggestions were made for suitable offset/compensation options. This workshop has formed the basis for further work that will continue during the implementation of the project. As a result, HCC is proposing an enhancement fund through the consent conditions of $100,000 incl GST to mitigate, offset and compensate adverse effects of the Project on Little Penguins and Shoreline Foragers that cannot be avoided or mitigated. The fund will be broken down into pest management activities ($40,000 incl GST) and the establishment of Little Penguin breeding areas ($60,000 incl GST), in consultation with the Little Penguin Expert Group. Any money not spent, will go towards habitat enhancement opportunities identified through detailed design in the LUDP. See the proposed conditions EM.1 to EM.9 for further details.
Proposals for biodiversity mitigation and biodiversity offsetting will be assessed against the principles listed in	1. <u>Adherence to the mitigation hierarchy</u> The mitigation measures are considered to be a "package of mitigation measures" and not all effects, such as loss of habitat can be offset through the replacement of "like for like". Some measures can be supported through conditions of consent.

[2] https://www.gw.govt.nz/assets/Proposed-Natural-Resources-Plan/Web-update-docs/Chapter-4-Policies.pdf

Schedule G1 (biodiversity mitigation) and Schedule G2 (biodiversity offsetting).	2. Limits to what can be mitigated or offset A "package of mitigation measures" may include initiatives that are outside the scope of the project and are dependent on the commitment of Council to support these activities. An example is that of dog control which is managed under a Council By-law and will rely on Council to amend to safeguard nesting birds in certain areas.
	3. Additional conservation outcomes The development of penguin havens and safe areas for shoreline foragers have the potential to involve the community in conservation projects. Schools and community groups are actively involved in current penguin projects and pest control initiatives, and further opportunities will come out of the project. While it is recognized that the aim is to protect the avifauna, the educational opportunities are also very important. The workshop identified the possible use of webcams to track bird movements – these are not only for educational purposes but also have a tourist spinoff (e.g. Albatross Colony on Otago Peninsula).
	4. Landscape context Measures to protect avifauna are compatible with the values that are considered important in the context of landscape. A number of measures such as the use of signage to educate the public (around the occurrence of nests and dog control) will require landscape input.
	5. Long term outcomes The development of safe haven for avifauna will have long term benefits for the species. Given that the havens also address the risks of losing habitats as a result of sea level rise, the long term outcome are significantly positive. Without safe places, the nesting sites and habitats are likely to be lost.
	6. No net biodiversity loss The "package of mitigation measures" offer a combination of actions aimed at creating opportunities for the protection of species through the construction stage and into the future. While some habitat will be lost as a result of the project, it offers opportunities to re-establish habitat in other areas for avifauna to make up for the loss of biodiversity.
Concluding comments	The Project has been carefully designed and developed with expert assistance to ensure that adverse effects on indigenous biodiversity have been avoided or remedied/mitigated/offset/compensated to low levels, in line with Policy 11 of the NZCPS, and the relevant lower order policies (including Objective O35 and its relevant policies within the Proposed Natural Resources Plan). Significant effort, and cost, has been applied to achieve an outcome whereby all effects on indigenous biodiversity are assessed as low. There are also a number of positive effects that the Project will provide, such as the establishment of new ecological habitat, that the Project through enhancing the existing environment. The beach nourishment, while carefully avoiding affecting seagrass beds, will ultimately prolong their existence in the face of sea level rise. The effects of sea level rise, irrespective of the Project, will result within 1-2 decades result in the same, and greater (total beach loss), effects on indigenous biodiversity within the Project area. Methods to avoid adverse effects on rare and threatened species have included design refinements to avoid and reduce any impact on sensitive areas such as feeding, breeding or nesting areas, and mitigation measures where areas could not be avoided to manage the temporary construction effects on natural habitats. Through the design process and the mitigation measures proposed to appropriately protect indigenous biodiversity, the Project is consistent with the relevant objectives and policies of the relevant planning documents and also with the relevant provisions in Part 2 of the RMA.

Rev. No.	Date	Description	Prepared By	Checked By	Reviewed By	Approved By
1	12/6/20	Final	Caroline van Halderen, Jamie Povall, Jeremy Walters	Caroline van Halderen	Buddle Findlay	Jamie Povall

FURTHER TO AN APPLICATION BY HUTT CITY COUNCIL FOR THE EASTERN BAYS SHARED PATHWAY

RECORD OF A MEETING TO DISCUSS EFFECTS ON PENGUINS AND SHOREBIRDS

HELD 2 MARCH 2020

RECORD OF MEETING: **Held 2 March 2020 at 9.00 am in Meeting Room 3, Events Centre, 30C Laings Road, Lower Hutt**

IN ATTENDANCE:
Sally Bain (Eastbourne Pest Control)
Amelia Geary (Forest and Bird)
Mike Rumble (Penguin Specialist, Eastbourne)
Brent Tandy (Senior Ranger Biodiversity, Department of Conservation)
Janet Lawson (Parks, Gardens and Reserves, Hutt CC)
Jonathon Freriks (Ecologist, Hutt CC)
Simon Cager (Senior Project Engineer, Hutt CC)
Roger Uys (Senior Terrestrial Ecologist, Greater Wellington Regional Council)
John Cockrem (Penguin Specialist, Massey University School of Veterinary Science, advising the Hutt CC Project Team)
Christine Foster (Facilitator)

CIRCULATION: **All above**

At the outset of the meeting, it was agreed that discussion would proceed on a 'without prejudice' basis. However, at the conclusion of the meeting, the participants agreed that this meeting record could be released from the 'without prejudice' restriction and can be circulated beyond the parties represented at the meeting.

By agreement, the meeting proceeded on the basis that its focus would be on the long term wellbeing of penguins and shore birds in the vicinity of the proposed shared pathway project. Everyone agreed that, in this respect, success for penguins would mean an increase in fledgling penguin numbers.

John Cockrem and Roger Uys had, prior to the meeting, circulated the discussion document attached to this meeting record which provided a helpful basis for discussion at the meeting. Roger and John expanded on the suggestions in the discussion paper. Roger noted that GWRC will be looking to apply the 'mitigation hierarchy' included in the proposed Natural Resources Plan for the Wellington Region (broadly, that effects should be first avoided, then mitigated or remedied and where they cannot be avoided, remedied or mitigated must be offset). Importantly, John's and Roger's discussion document agrees that the earlier mooted offset of establishing penguin habitat on the Seaview Marina breakwater is not recommended.

In addition to the suggestions recorded in the attached document, discussion at the meeting generated other suggested ways in which adverse effects on penguins and shorebirds could be (1) offset and (2) avoided or mitigated. The collected suggestions are listed below, together with a brief summary of the merits, implications and support for each. The table below also records the agreed next steps for each suggestion (where applicable). The intention is that the below list will inform the

applicant's further thinking about project design, offset and mitigation measures and the content of any Management Plan to address effects on penguins and shorebirds.

PARTICULAR ISSUES AND CHALLENGES FOR PENGUINS:

Discussion highlighted the following particular issues and challenges:

(a) Increased pressure on Whiorau Reserve from dogs (due to limited options for dog exercise elsewhere nearby);
(b) Exclusion of dogs is imperative for penguin protection and needs to be incorporated into any haven offset proposal and into mitigation for the project generally;
(c) Rubbish, food waste, discarded bait and dog droppings are problematic (a potential food source for rats) and will need to be specifically managed throughout the shared pathway project because the project will invite more people activity and movement and greater potential for this waste;
(d) Freedom camping is increasing at Whiorau Reserve – there are mixed views on this: John's view is that penguins can co-exist with humans present even at night; others are concerned about the possibility of freedom campers having dogs at night which could be a risk to penguin safety;
(e) Feral cats are a problem at Whiorau Reserve and generally along this coastline (Roger would like to see Hutt CC's pest management strategy address feral cats and pointed to Wellington City Council's programme of micro-chipping of pet cats;
(f) To make penguin nesting viable, vegetative cover needs to be established before the stage of the project commences;
(g) Any penguin management plan needs to address:
    i. the design of sea walls – eliminating gaps in these that could invite penguins to cross the road (risking death or injury);
    ii. the design and materials used in rock walls – to incorporate potential nesting sites;
    iii. the timing of construction (in relation to nesting);
    iv. predator control (including all predators – cats, dogs, rats);
    v. how birds will be managed in the construction area;
    vi. construction effects including noise.

(h) Roger noted that there remain information gaps in relation to the number of penguin nests that will be affected and the area of shore bird habitat that will be lost; acknowledged that it is very hard to quantify the impact but that he would be happy with a desk-top assessment based on aerial photograph information on tidal habitat.

OFFSET AND MITIGATION SUGGESTIONS:

	Suggested Offset or Mitigation:	**Merits, Implications, Next Steps:**
1.	**New Penguin Haven at Base of Hill on Landward Side of Road (potential offset):** Establish a penguin haven at the base of the hillside on the landward side of the road approximately opposite Whiorau Reserve; supported by the construction of a 'penguin subway' achieved by placing a suitably sized pipe (minimum 500mm) above (not below) the road and creating a hump in the road; also involving protective fencing. All agreed	The preliminary view is that implementation of this would be challenging and that the benefit/cost of the work is likely to stack up poorly compared to other options. Hutt CC is unlikely to progress this suggestion in the design.

	Suggested Offset or Mitigation:	Merits, Implications, Next Steps:
	that any culvert below the road would likely suffer tidal and stormwater issues that interfere with the intended penguin access function.	
2.	**Consolidate a Penguin Haven Based on Existing Nesting Sites Within Whiorau Reserve (potential offset):** Establish at Whiorau Reserve a fenced-off penguin haven (as an offset) perhaps involving part of the reserve, acknowledging its recreational and boat launching uses. This would require: i. fencing, ii. establishment of suitable vegetative cover, iii. pest control, iv. management of human behaviour (signage and information circulated to the community to achieve behaviour change), v. closure of the entry gate at night and control of dogs (and prevention of access by dogs at night).	All broadly agreed that this has merit, although not without its challenges in relation to dog control. Roger confirmed that he would consider this favourably as part of an offset package in his advice to the GWRC reporting officer. It would require a management plan. Roger would accept a management plan developed post-consent (required as a condition of consent). Others would prefer that a management plan is presented to the hearing so that they can see and be satisfied that it addresses all relevant issues. Roger advised that he would expect any management plan to address all shore birds in the vicinity of the shared pathway. **Simon confirmed that Hutt CC will consider this option and will investigate further with its team of consultants.** **Simon and Janet will investigate the status of Whiorau Reserve** (Roger recalls that it may have been vested as mitigation when the oil storage tanks were installed and it would be prudent to check whether there are any constraints on its use as a penguin haven).
3.	**Pre-Development Monitoring of Whiorau Reserve (towards creation of potential offset):** Set up monitoring at Whiorau Reserve to properly characterise the activity of penguins, humans, dogs and predator pests; perhaps including installation of a camera to record activity.	**Simon will investigate this option and will report back to the workshop participants by the end of March 2020.**
4.	**Pest Control (mitigation):** On-going funding for pest control as a means of mitigating the on-going potential adverse effects of human activity along the shared pathway.	All agreed this is essential and is a practicable form of mitigation. All agreed that this needs to be established well ahead of the establishment of any new haven at Whiorau Reserve and before commencement of the project. Roger and Amelia consider this needs to also address feral cats. However, it was acknowledged that any feral cat initiative

	Suggested Offset or Mitigation:	Merits, Implications, Next Steps:
		would need political support as part of a wider campaign and that community resistance could be expected. **Simon will make contact with Myfanway at Wellington City Council who manages a cat micro-chipping programme and will investigate the implications and report back to the workshop participants by the end of March 2020.**
5.	**New Penguin Haven at Northern End of Bishop's Park (potential offset):** There are known to be penguins nesting in the area. This would require: i. fencing off a dog exercise area separate from the penguin nesting area; ii. controlling access to the beach with a gate; iii. establishing appropriate vegetative cover (which would also achieve dune restoration).	All agreed this has merit. Roger advised that he would consider this favourably as part of an offset package. Simon confirmed that Hutt CC will investigate the potential for dune restoration re-vegetation and the potential for creation of penguin habitat. **Simon will report back to the workshop participants by the end of March 2020.** The suggestion of a dog exercise park will require more extensive investigation, consultation and political support and is unlikely to be able to be reported back by the end of March.
6.	**New Penguin Haven at Windy Point (potential offset):** There is already thick marram grass cover that is effective in keeping dogs out. Although the marram grass does not provide suitable habitat for penguins, it could be enhanced by dune re-vegetation with suitable species. Also requires fencing to keep people (and dogs) out.	All agreed this has merit. Roger advised that he would consider it favourably as part of an offset package. Roger also suggested that this site could provide an offset for shorebirds if dogs could be excluded from the stretch of beach from Rona Bay Wharf to Marine Drive. Simon confirmed that Hutt CC will investigate the potential for dune restoration re-vegetation and the potential for creation of penguin habitat. **Simon will report back to the workshop participants by the end of March 2020.**

	Suggested Offset or Mitigation:	Merits, Implications, Next Steps:
7.	**New Penguin Haven at HW Short Park (potential offset):** This is a rocky coastal habitat potentially suitable for penguins.	**Simon will arrange for a site visit and invite Janet, Mike, Brent. After the site visit, Simon will report back to the workshop participants by the end of March on the prospects for this site as part of an offset package.**
8.	**New Penguin Haven on the Esplanade (further south than HW Short Park – potential offset):** This area includes a wetland.	**As above - Simon will arrange for a site visit and invite Janet, Mike, Brent. After the site visit, Simon will report back to the workshop participants by the end of March on the prospects for this site as part of an offset package.**
9.	**Artificial Near-Shore Reef (potential offset):** Sally suggested establishment of an artificial reef in Sorrento or Mahina Bay to protect the road from wave inundation and erosion and as a new predator-free penguin haven.	There was no support from the wider group for this option, given its likely resource consent, cost and construction challenges.
10.	**Seawall Design (mitigation):** The design should minimise 'holes' in any seawall (e.g. ramps and steps must have penguin stops or self-locking gates). Mike suggests they should also incorporate concrete penguin boxes on the outer edge of the wall to facilitate penguin nesting. Roger advised that Megan Olliver at GWRC is currently investigating options for improved seawall texturing design to promote the recovery of intertidal communities.	**Simon will set up a meeting to discuss the finer detail of seawall design; will invite Mike, Brent, Amelia, John and Roger; and will send them a meeting invitation in the 3rd week of March.**
11.	**Rock Rip-Rap Design (mitigation):** This must incorporate key holes for penguin nesting of an appropriate depth (<300mm) to allow penguins to enter and exit between the rip-rap and including flat-bottomed areas below the rip-rap to allow penguins to build nests.	**Simon will get the designers to design a concept to achieve this and will circulate to Mike, Brent, John and Roger by the end of March, inviting their feedback.**
12.	**Prevent Penguins Crossing the Road (mitigation):** This requires penguin stops (similar to cattle stops) at any holes in the seawall. Another suggestion is a low barrier (not necessarily a fence – just something at least 400mm high that penguins can't jump over – and particularly in the vicinity of known nest sites. These barriers will not be required along the entire project length – only where penguin access is still available (noting that	**Simon will get the designers to design a concept to achieve this and will circulate to Mike, Brent, John and Roger by the end of March, inviting their feedback.**

	Suggested Offset or Mitigation:	Merits, Implications, Next Steps:
	only 22% of the coastline would be accessible for penguins after construction).	
13.	**Dog Control (mitigation):** Suggestions include: i. Enhanced dog control (dog exclusion or active enforcement of leash-only dog access) at all beaches, at Whiorau Reserve, at Bishops Park and at any new haven proposed as part of an offset package; and ii. Establishment of a dedicated off-leash dog exercise area somewhere nearby that is accessible to the community.	**Simon will discuss the issues with Hutt CC's Animal Services and report back to the workshop participants by the end of March.**

The meeting closed at 12.30 pm.