

# Island Bay Seawall

## Have your say

Information and online submission forms are available at: [wellington.govt.nz/islandbayseawall](http://wellington.govt.nz/islandbayseawall)  
Please give us your views online if you can. Alternatively, there is a FreePost Form at the back of this booklet.

Or you can:

- email us at [islandbayseawall@wcc.govt.nz](mailto:islandbayseawall@wcc.govt.nz)
- visit our information hub at the **Island Bay Community Centre, 137 The Parade**
- attend a public meeting at the **Island Bay Baptist Church, 284 The Parade:**
  - 6.30-8.30pm, Thursday 9 October 2014
  - 6.30-8.30pm, Tuesday 14 October 2014
  - 2-4pm, Saturday 18 October 2014

**Submissions close  
10 November 2014**



**The huge swells generated by the severe southerly storm that lashed Wellington in June 2013 caused widespread damage along the south coast. This included the collapse of a section of the 350-metre seawall in Island Bay, opposite Shorland Park.**

**After the storm, the Council placed a temporary rock barrier in the broken section of the seawall to protect the footpath and road, and this will remain in place for the time being.**

**Before anything else is done, we want your ideas and views.**

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**Photos:** cover: view of the crowd on Island Bay Beach, Wellington. Photo by Sydney Charles Smith in about 1930. Ref: 1/2-045879-G S C Smith Collection Alexander Turnbull Library; above: the storm-damaged seawall in June 2013.



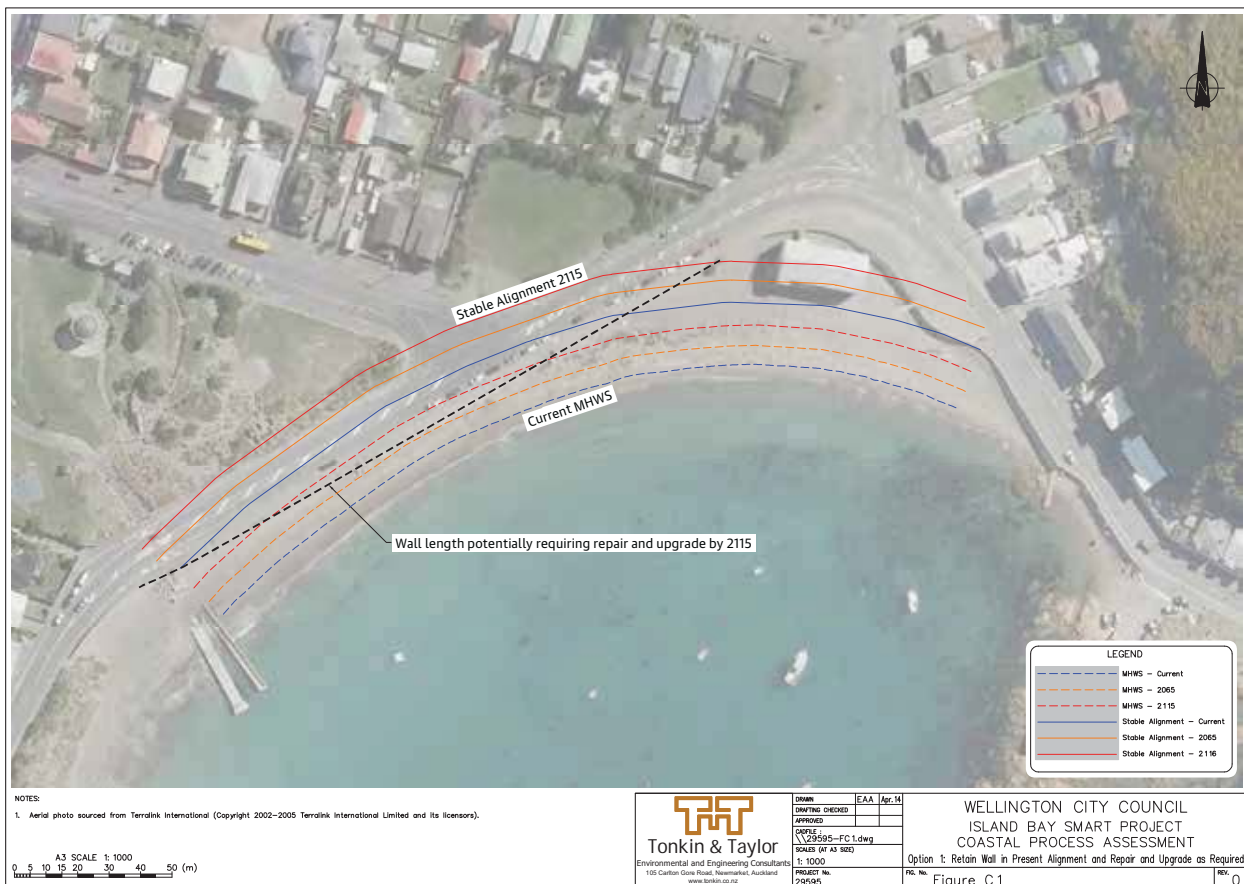
## Considering the possibilities and identifying options

The Council is looking for a long-term solution to manage coastal hazards like storm surge for the area of Island Bay Esplanade between Brighton Street and the southern end of Shorland Park. We also have traffic, heritage and road access issues to consider, and we would like to see if there are ways we can improve the space for the community.

To get discussions started, we have identified five options to try to cope in different ways with storm surges and a predicted rise in sea levels.

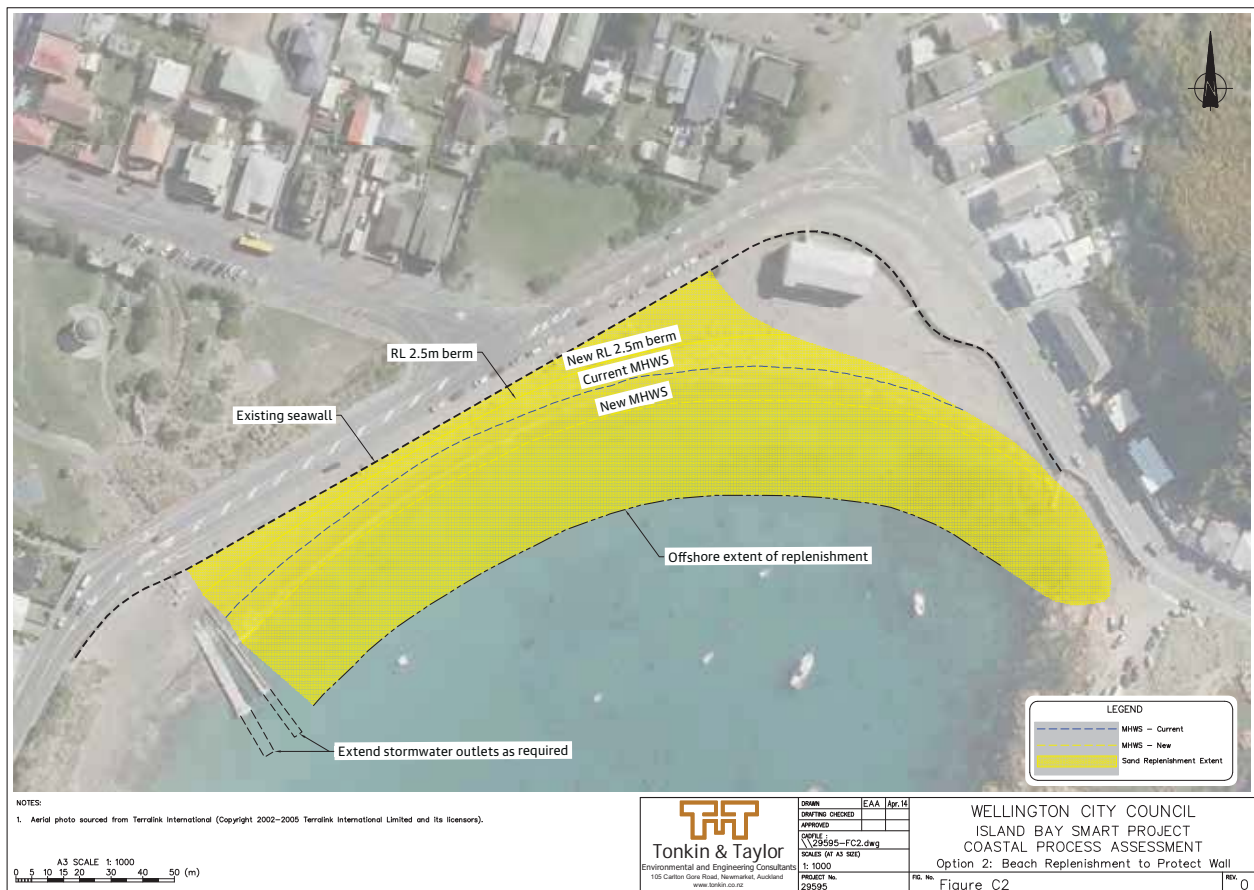
### Option 1: Status quo

Retain the seawall in its present alignment and rebuild the damaged section of the wall to meet the current building code specifications.



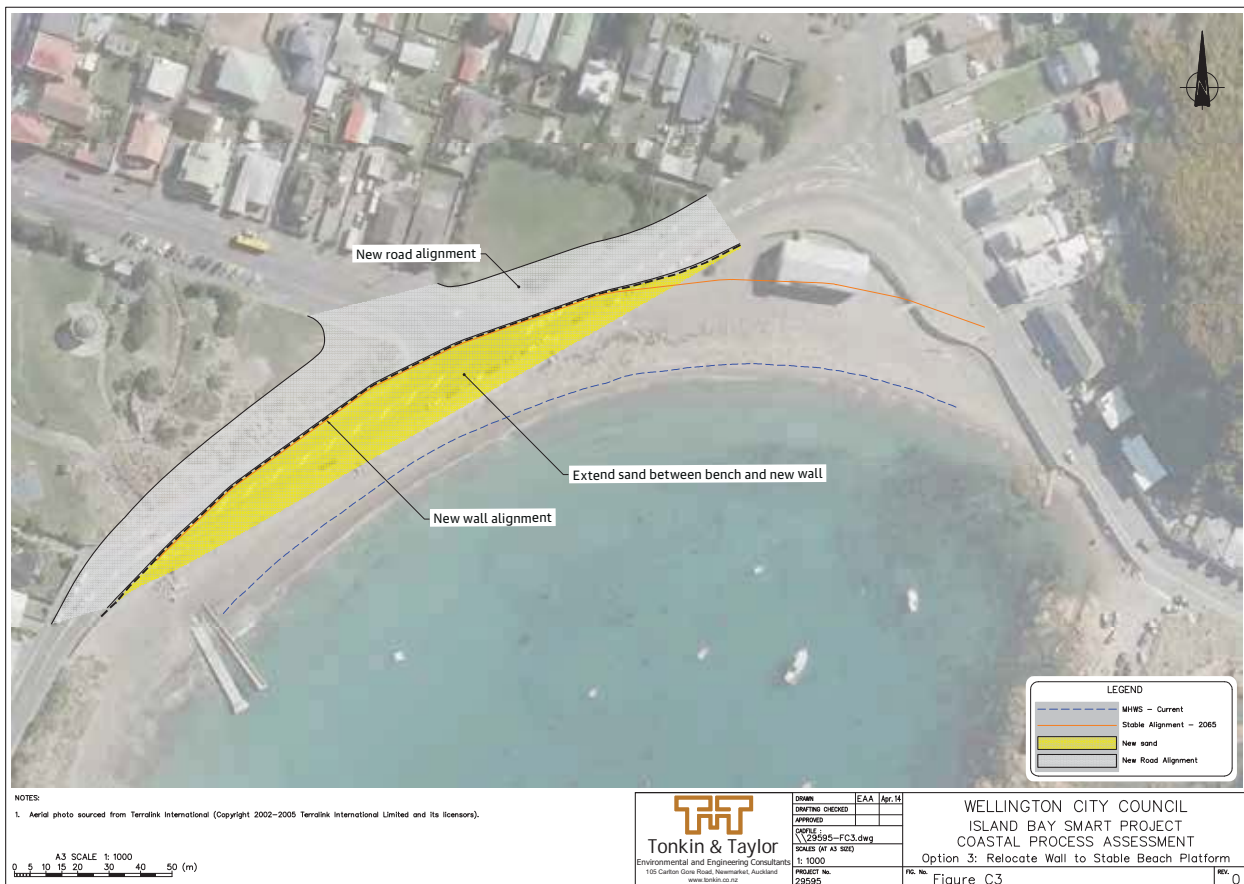
### Option 2: Fix the wall and add sand to the beach

Fix the wall and provide a buffer by adding sand to the narrowest part of the beach where the wall is most vulnerable to large waves and storm surge.



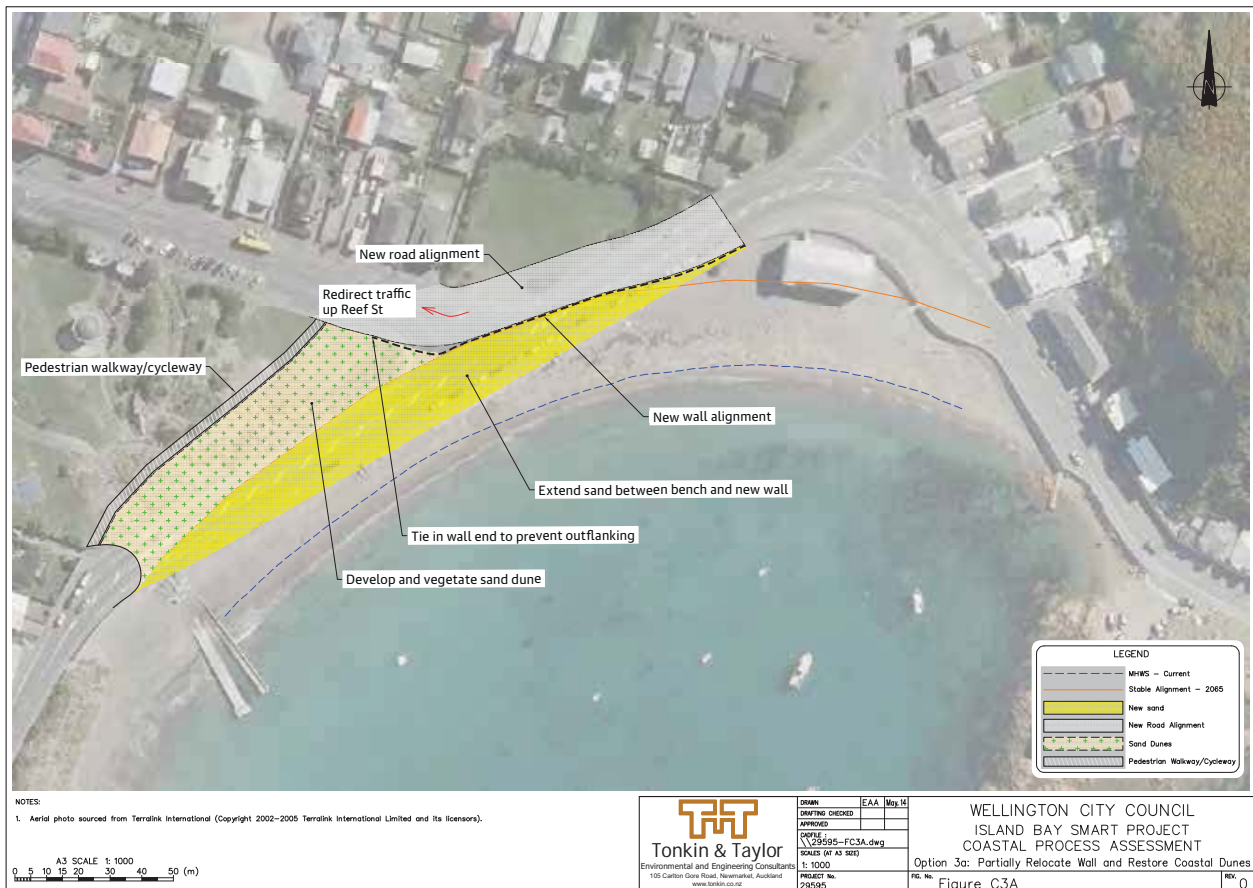
### Option 3: Increase the size of the beach

Relocate the wall and road further inland to match the natural contour of the beach.



### Option 4: Close part of The Esplanade and connect Shorland Park to the beach

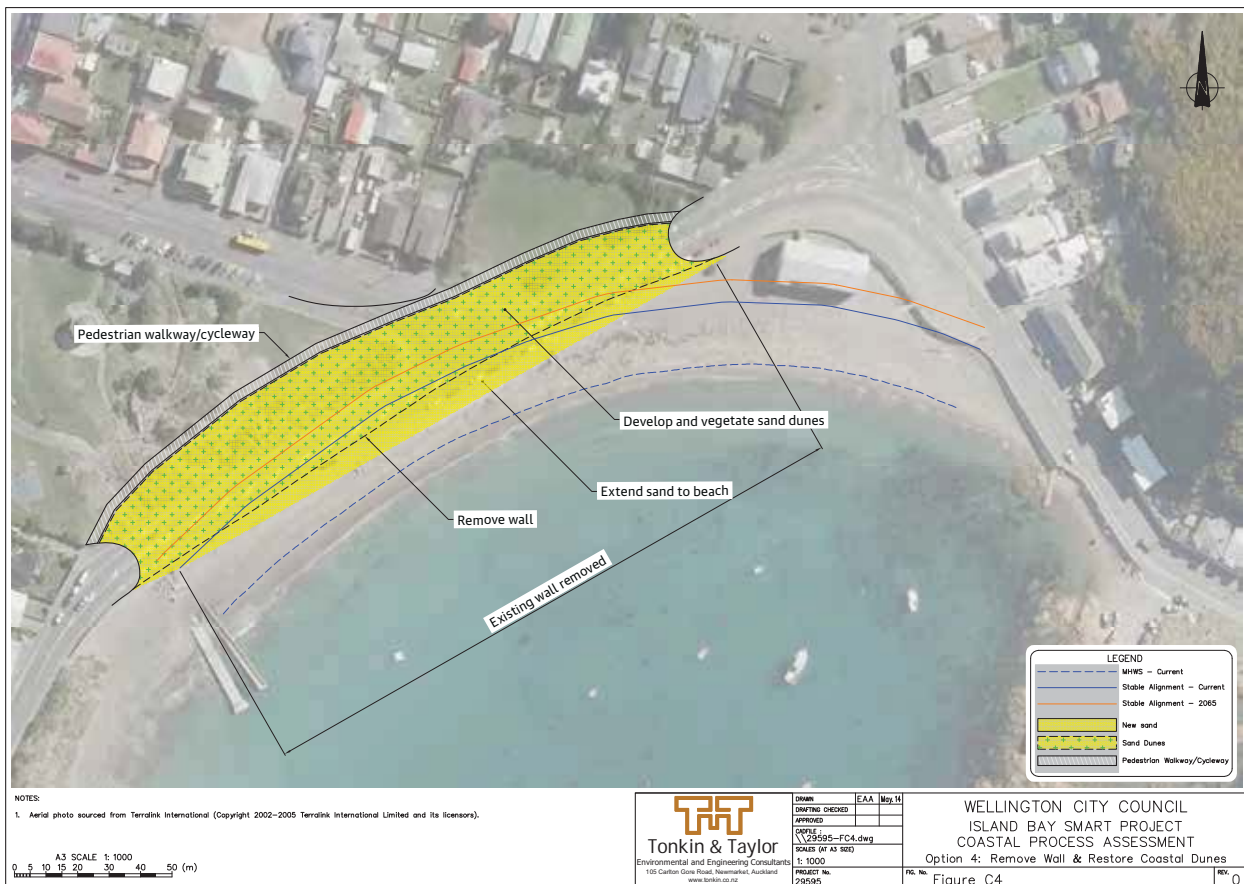
Remove a section of seawall, close a part of the road and restore some coastal dunes - this option closes part of The Esplanade in front of Shorland Park.





### Option 5: Close part of The Esplanade and the intersection between Reef Street and The Esplanade and connect the beach to Shorland Park

Remove a section of seawall, close some local roads and establish some coastal dune systems linking the beach with Shorland Park - this option closes part of The Esplanade and the intersection of Reef Street and The Esplanade.



## What do you think?

We would like to hear your views on these options. Tell us what you like and what you don't. We would also like to hear any new ideas you have. **Submissions close Monday 10 November 2014.**

## How can you have your say?

Further information and online submission forms are available at: [Wellington.govt.nz/islandbayseawall](http://Wellington.govt.nz/islandbayseawall). Send us your feedback using the FreePost Form provided at the back of this booklet.

Join us for a discussion at one of our public meetings. You will be able to hear from subject-experts, ask questions, discuss issues and put forward your ideas and preferences. These meetings will be held at the Island Bay Baptist Church, 284 The Parade:

- **6.30-8.30pm, Thursday 9 October 2014**
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Or you can:

- email us at [islandbayseawall@wcc.govt.nz](mailto:islandbayseawall@wcc.govt.nz)
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- access information at the **Island Bay Library, 167 The Parade.**

## What will happen next?

We will listen and collate your views, comments and ideas. These will guide the Council as it considers what it should do next. In December, the Council's Environment Committee will make a decision on what options will be investigated in detail.

There will be further opportunities to provide your views and comments on the detailed options as part of the Long-term Plan consultation and deliberations in early 2015.



# Island Bay Seawall: SUBMISSION FORM

## Section one - your details

We are keen to get your views on the options for the Island Bay seawall.

You can have your say by:

- submitting online at Wellington.govt.nz
  - emailing a submission to islandbayseawall@wcc.govt.nz
  - completing this form and posting it using the FreePost form at the back of this booklet
  - phoning us on 499 4444.
- Submissions close at 5pm, Monday 10 November 2014.**

## Enter your name and contact details

Mr     Mrs     Ms     Miss     Dr

First name\*

Last name

Street address\*

Phone/mobile

Email

\* Mandatory fields

I am making a submission     As an individual     On behalf of an organisation

Name of organisation

Number of people whose views are represented by this submission:

How have you gathered these people's views?

Please let us know if you would like to make an oral submission. Dates and time for this to be confirmed.     Yes     No

**Disclaimer:** all submissions [including name and contact details] are publicised and made available to elected members and the public. Personal information will be used for the administration of the consultation process. All information will be held by Wellington City Council, Wakefield Street and submitters have the right to access and correct personal information.

## Section two - questions

The Council has identified five options to resolve the damage to the Island Bay Seawall. Please indicate how you feel about each option below:

	Strongly agree				Strongly disagree
Option 1	1	2	3	4	5
Option 2	1	2	3	4	5
Option 3	1	2	3	4	5
Option 4	1	2	3	4	5
Option 5	1	2	3	4	5

**Section two - questions (*continued*)**

Do you have any feedback or comments on the five options that have been identified?

(\*please indicate which option you are referring to)

**Section two - questions (continued)**

Do you have a preferred option and can you tell us more about why you chose your preferred option?

What are the things that are important to you in making your decision?

Do you have any alternative ideas about how to manage long-term coastal hazards in the area of the Island Bay Esplanade between Brighton Street and the southern end of Shorland Park?



Do you have any other comments you would like to make?

*1st fold here - fasten here once folded*

**Thank you for your comments. Please  
return this submission form by 10 November 2014.**

*2nd fold here*

FreePost Authority Number 2199

**Absolutely Positively  
Wellington City Council**  
Me Heke Ki Pōneke



FreePost Island Bay Seawall (COP001)  
Wellington City Council  
PO Box 2199  
Wellington 6140





## Greater Wellington Regional Council: Submission

To:	Wellington City Council
Submission on:	The Island Bay Seawall Project

### 1. Reason for submission

Thank you for the opportunity to comment on the Island Bay Seawall Project options document. We commend Wellington City Council (WCC) for taking the opportunity to consider alternatives to the rebuild of the existing seawall. The options outlined in the analysis are clear and well considered.

This project is of interest to Greater Wellington Regional Council (GWRC) both in relation to policy direction provided by the Regional Policy Statement for the Wellington Region, 2013 (RPS), and because there is potential to impact on GWRC's operations in and near the project area, including the delivery of public transport services and harbour navigation and safety.

GWRC is keen to ensure that any options being considered as part of this project are consistent with the direction and policies set out the RPS. The RPS is a document required by the Resource Management Act, which identifies resource management issues within the region and sets out the objectives, policies, and methods to achieve the integrated management of natural and physical resources for the whole region.

### 2. Island Bay beach

Island Bay is a pocket sandy beach that has formed between two rocky headlands behind Taputeranga Island. This landform has allowed sediment to accumulate to form a sandy beach. The sand comes from the nearshore seabed and is transported onshore under wave and current activity. As waves break on a beach the water runs up the foreshore and the energy is dissipated over the length of the beach as it absorbs into the sand. In stormy conditions this process is overwhelmed by wave activity and sand is eroded from the beach and deposited on the nearshore (i.e. the sub-tidal part of the beach below low tide). Over the ensuing weeks the sand is transported back to the beach face, replenishing the beach in time for the next storm. This sediment transfer cycle is common on all sandy beaches and is the way in which beaches absorb and dissipate wave energy making them extremely resilient to storm events.

A further characteristic of the Island Bay beach, though significantly reduced in extent, are the dune ecosystems. Dune plants bind the sand and prevent it from being blown away. They are thus another important characteristic of the natural resilience of the beach in this location. Despite the severity of the June 2013 storm the planted dune systems at the western end of the beach remained largely intact.

### 3. Natural hazards and climate change

Policy 52 of the RPS promotes the use of non-structural and soft engineering methods, such as restoration projects for dunes, as the first option for hazard mitigation. GWRC considers that the Island Bay situation presents an opportunity to start planning for the inevitable impacts of sea level rise and to rehabilitate the beach, which is a major community asset, so that it is resilient to the effects of climate change.

Building hard structures on a beach interferes with the natural process outlined above and reduces the ability of a beach to absorb incoming wave energy. The hard structure prevents the beach from absorbing the wave energy and it reflects back on the beach creating turbulence and scouring and preventing sand from depositing on the beach.

Under a rising sea level beaches respond by adjusting inland to accommodate a higher tide limit. If a hard structure prevents this from happening the beach begins to erode and becomes narrower over time. After a time, there is no longer a beach at high tide (such as has happened at Paekakariki) and eventually the beach is lost entirely – as we see from many places around Wellington where seawalls have been used alongside roads. Placing coastal protection structures on the foreshore does not stop erosion - the natural processes continue - rather, it protects assets behind the structure and affects how the erosion occurs.

The Wellington region, like the rest of New Zealand, is experiencing a rising sea level. Wellington is undergoing the fastest rise of any of the main centres in New Zealand due to tectonic subsidence which is adding a relative component to the sea level trend i.e. the land is going down whilst the mean sea level is rising.

Current predictions of sea level rise due to climate change in this area are for around 1.0 m rise over 100 years.<sup>1</sup> The long-term rate is 2.1 mm/yr since records began in the 1890s, which equates to 0.25 m. This rate has increased over time. Since 1990 it has been more in the order of 3.1 mm/yr. In addition, it has been shown that there is regional tectonic subsidence in the order of 1.7 mm/yr for Wellington City. We need to be planning for a 80-125 mm sea level rise within a 20-30 year design life of a coastal structure.

This is significant, because the tidal range is only in the order of 0.86 m above mean sea level and these increases in average sea height have been pushing up the reach of the tides over time. This has a big impact during storm events, allowing waves to penetrate higher up the shore. Local sea level is elevated with low barometric pressure and during storm events when the sea is blown up against the shore (an effect known as storm surge). For Wellington city, this can result in sea level being raised by close to 1.0 m during a storm. Large waves and wave run-up add on to this and consequently, wave activity can reach 2-3 times higher up a beach than normal during a storm at high tide.

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<sup>1</sup> National Institute of Water & Atmospheric Research Ltd. June 2012. Sea-level variability and trends: Wellington region. Prepared for Greater Wellington Regional Council. <http://www.gw.govt.nz/assets/About-GW-the-region/News-and-media-releases/2012-images/SeaLevelVariabilityandTrendsIntheWellingtonRegion2012REPORT.pdf>



We have seen the impacts of this three times already in the past 12 months along the Wellington south coast with large damaging waves overtopping seawalls, damaging roads, boatsheds, houses and other utilities infrastructure. The Island Bay seawall was damaged in the largest of these events in June 2013.

Sea level rise will continue for the foreseeable future and will be exacerbated by the tectonic subsidence that is currently at rates of 1-2mm/yr downward. We might expect that the events of June last year, where large waves easily overtopped seawalls and roads and encroached into waterfront property, to become a much more frequent and regular occurrence. These storm tide events can be damaging because they result in a temporary rise in the local sea level for 24-72 hrs from a combination of low air pressure, strong onshore winds and high waves. When this coincides with high tide, these storm events can be destructive to infrastructure and waterfront properties.

#### 4. Natural character and indigenous ecosystems

Policy 23 of the RPS provides criteria to identify ecosystems and habitats with significant indigenous biodiversity values. Ecosystems and habitats will be considered significant if they meet any one of five criteria, including rarity. Rare ecosystems or habitat have biological or physical features that are scarce or threatened in a local, regional or national context. The Ministry for the Environment Statement of National Priorities<sup>2</sup> notes that only 21,300 hectares of dunelands are left in New Zealand, comprising only 11.6 percent of their original extent. The dune system within the area of the existing seawall and Shorland Park is classified as ‘acutely threatened’<sup>3</sup>. We note that the protection of this ecosystem type is supported by National Priority 1 of the Statement of National Priorities, which is ‘to protect indigenous vegetation associated with land environments<sup>4</sup> that have 20 percent or less remaining in indigenous cover’. As nationally threatened ecosystems, the dune systems at Island Bay therefore meet the criteria for rarity under the RPS.

Policy 47 of the RPS provides guidance on managing the effects of activities on ecosystems and habitats with significant indigenous biodiversity values. It notes that particular regard should be given to ‘maintaining connections within, or corridors between, habitats of indigenous flora and fauna, and/or enhancing the connectivity between fragmented indigenous habitats’. Through the planting of native species, the soft engineering options would reconnect a significant area of dune ecosystem, restoring the connection between the dune

<sup>2</sup> Ministry for the Environment. April 2007. Protecting our places: Introducing the national priorities for protecting rare and threatened native biodiversity on private land. <http://www.doc.govt.nz/Documents/getting-involved/volunteer-or-start-project/funding/biodiversity-funds/protecting-our-places-priorities-brochure.pdf>

<sup>3</sup> [http://www.landcareresearch.co.nz/\\_data/assets/image/0003/21747/Threatened\\_Environments\\_NZ\\_WellingtonCity\\_A3.jpg](http://www.landcareresearch.co.nz/_data/assets/image/0003/21747/Threatened_Environments_NZ_WellingtonCity_A3.jpg)

<sup>4</sup> ‘Land environments’ refers to the Land Environments of New Zealand (LENZ) which is a national classification system used to map areas that are similar to each other, regardless of where they occur. LENZ uses 15 climate, landform and soil variables that can influence the distribution of species to identify areas with similar environment or ecosystem character.

systems in Shorland Park and the beach, and potentially between Shorland Park and the re-vegetated dunes at the western end of the beach<sup>5</sup>.

Policy 47 also states that particular regard should be given to ‘protecting the life supporting capacity of indigenous ecosystems and habitats’. This is supported by Policy 35 of the RPS, which promotes ‘maintaining or enhancing biodiversity and the functioning of ecosystems’ in the coastal environment specifically. Policies 35 and 36 in the RPS further emphasise the need to both preserve and pursue ‘opportunities to remedy or mitigate previous damage to the natural character’, including the value of dune systems. GWRC therefore supports the development of options that seek to employ soft engineering approaches to managing the Island Bay coastline and provide an opportunity to restore previous damage to ecological functionality and natural character.

## **5. Operational matters**

### **5.1 Public transport operations**

The Island Bay community is currently served by bus routes 1, 4 and 32 which give residents access to Wellington CBD.

Route 1 is a frequent core service operating an average of every 10 minutes throughout the day. Routes 4 and 32 are peak services which also operate an average of every 10 minutes during peak times.

While none of these services use The Esplanade as a through route while in service, the current road layout allows buses to use Reef Street, The Esplanade, and The Parade to re-position and turn around. Any roading change that affects use of these streets would mean an alternative re-positioning route, or method, will be required.

Options 1, 2, 3 and 4 will have little impact on current public transport services as they do not alter the ability for bus services to use The Esplanade. However, ongoing discussion between GWRC and WCC would be required to ensure that any roading design which maintains The Esplanade as a through-route would meet the design requirements for bus services to operate on them.

As The Esplanade remains a through route under options 1-3, it is unlikely that general traffic patterns would significantly change to cause congestion on Reef Street and The Parade where bus services currently operate.

Option 5 impacts the ability for traffic to through route along The Esplanade. There would be an impact on the operation of the peak time Route 32 Houghton Bay bus route which travels along The Esplanade, Reef Street and The Parade.

In addition, the out of service buses that currently also position between Kilbirnie bus depot and the Island Bay Terminus on The Parade using The Esplanade and Reef Street would be impacted by losing the link between The Esplanade and Reef Street.

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<sup>5</sup> Planted by the Island Bay Coast Care Group in the 2000s.

As The Esplanade could not be used as a through route by general traffic under options 4 and 5, there is also the potential that this traffic would migrate to roads currently used by bus services and cause congestion.

It is important that public transport considerations are taken into account as work progresses on the Island Bay Seawall Project. Island Bay is a key terminus for bus services in the public transport network and the ability to turn a bus at this terminus is crucial.

**5.2 Harbour navigation and safety**

GWRC currently has poles located on either side of The Esplanade to provide lead lights for vessels coming and going from the Bay in darkness. If the seawall and/or parts of the road are removed or realigned and it becomes necessary to move the poles from where they currently stand, GWRC would like to work with WCC to ensure that they are relocated to a position:

- near to where the current poles are positioned;
- where power is available; and
- where there are no bright lights facing out to sea, to ensure the navigation lights are visible to vessels entering and leaving the Bay.

**6. Recommendations**

In summary, GWRC:

- supports the further development of options that seek to employ soft engineering approaches to managing coastal hazards and indigenous ecosystems, consistent with the direction provided the RPS
- requests that harbour safety and navigation, including the possible need for relocation of navigation lights, be given appropriate consideration in the evaluation of options
- invites ongoing discussion with WCC as the options are further developed to ensure that public transport considerations are taken into account
- requests that Traffic Management Assessments be undertaken once the list of shortlisted options is known.

**7. Conclusion**

Thank you again for the opportunity to comment on the Island Bay Seawall Project options paper. GWRC would welcome the opportunity to work with you as the options are further developed and assessed.

Fran Wilde  
Chair  
Greater Wellington Regional Council

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