



Ports of Auckland

Ports of Auckland Development Proposals

MAY 2013



Introduction

In 2012 our images of port development caused quite a stir. They were based on our old 1989 plan which, to be honest, hadn't been looked at with fresh eyes since. So we've started again. Blank slate.

We've listened.



Talked to experts.



Gone back to the drawing board.



What can we do with the land we've got?



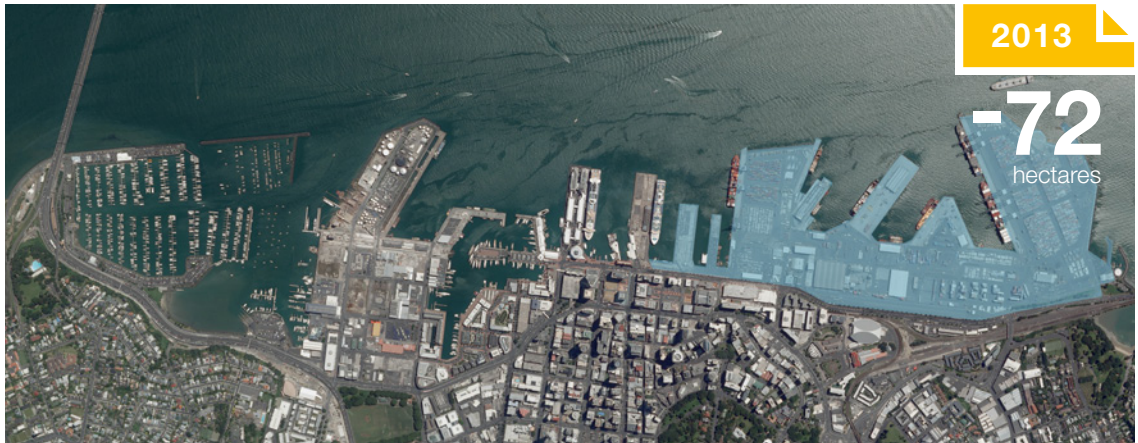
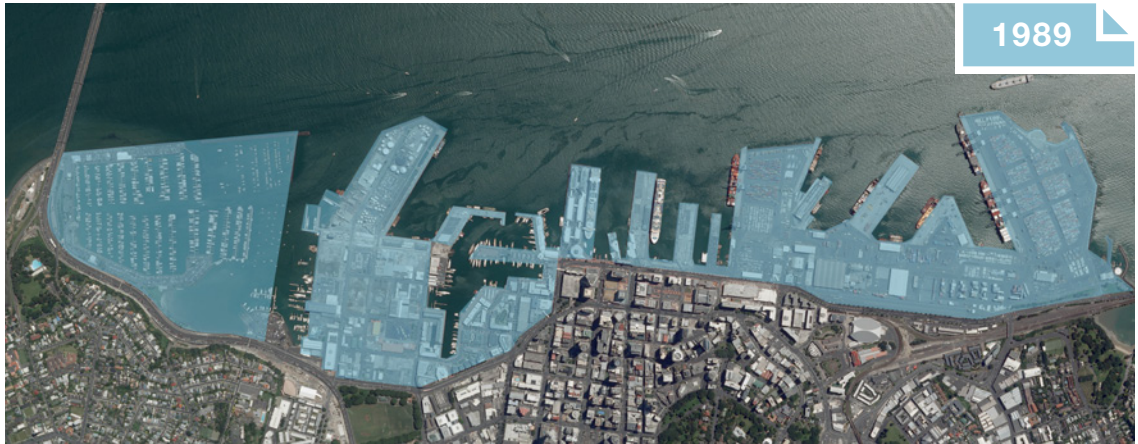
Do we need to reclaim?



How much?
How little?



Then and Now



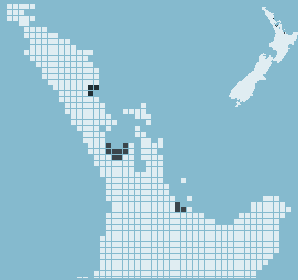
Working smarter has seen us reduce our footprint by 72.6 hectares.

The PwC report

Not long after we started our work, Upper North Island Strategic Alliance (UNISA)* commissioned Pricewaterhouse Coopers (PwC) to look at similar issues in the wider context of the upper North Island's supply chain. Click [here](#) to read the report.

Here's what PwC found:

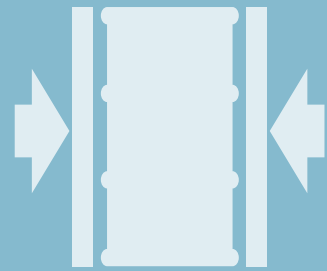
The upper North Island needs its three existing ports to become more efficient and expand.



Auckland's port has great potential to improve efficiency.



Auckland's port does not need to expand as much as once thought.



* Northland Regional Council, Whangarei District Council, Auckland Council, Waikato Regional Council, Hamilton City Council, Bay of Plenty Regional Council and Tauranga City Council.

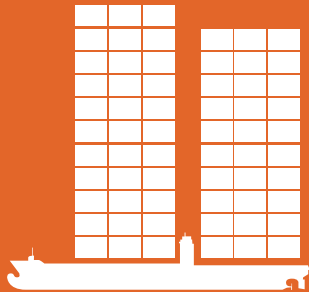
PwC study vs Port study

Both the PwC study and the Port's own study came to similar conclusions.

Based on these studies, Ports of Auckland has developed two proposals for the future of the port. Both require some reclamation, and one makes over three hectares of wharf available for public use.

We'd like to know what you think.

Huge potential to improve productivity, especially in our container terminal.



Reclamation can be kept to a minimum.



Why not move?

Auckland was founded around the Waitemata harbour and the port, and we've been at the heart of the city ever since. A recent Council resolution ensures that the Port will remain in its current position for the foreseeable future, but there are still plenty of people

who think we can just move. We have considered the idea seriously and commissioned a report into it in 1999, but we found that it was just too expensive and too environmentally damaging. You can read the report [here](#). Costs have gone up since then. Today, a new port would cost at least \$4b.

Why moving the port isn't viable:

The other upper North Island ports (Tauranga & Northport) don't have room for Auckland's growth as well as their own. The PwC study showed that clearly.



It would have to be built on pristine coastline. When we have a perfectly good port already, that's just environmental vandalism.



Building a new port would cost \$4 billion, just to replace what we've already got. That's \$8,400 per ratepayer.

\$4 bil

Moving the port out of Auckland means more trucks on the road, more carbon emissions, and more cost. Consumers will pay more for imports; our exports will be less competitive.



70% of the goods handled by Ports of Auckland come from or go to Auckland. That means less travel by truck or train and lower carbon emissions. Our location is efficient and green.



Argument:

Auckland will be at full capacity soon, so move now.

In 1989

In 1989 people thought the port would be a third bigger than it is now, and full. It's not, and that shows how port capacity can be extended by working smarter.

Technology

Based on current technology, we think we can extend the life of the port well into the second half of this century.

Innovation

In that time new innovations could extend its life even further.

Future

It is impossible to say when, or even if, Auckland's port will be full.

What are we tasked with?

Under the Port Companies Act we have to “operate as a successful business.”

Our Statement of Corporate Intent states that we should act as a: “good neighbour and as a good corporate citizen.”

A key challenge for us is balancing both these responsibilities, and that is what we hope we’ve achieved with these new proposals.

If we run a successful business we contribute to a thriving, vibrant and prosperous waterfront and...

We help our exporters compete globally



We help importers keep costs down for consumers



We support jobs in Auckland



We pay more dividends to council, which helps keep rates down



How we came up with our proposal

We listened to Aucklanders, who told us they didn't want a massive reclamation of the Waitemata. We looked at shipping trends and best-practice at ports world-wide. We considered the UNISA study by PwC and consulted a leading expert in port design.

Out of that came our challenge:

“Meet future demand without major expansion”

To meet this challenge we've had to look differently at how we work.

We can meet future demand (growth) partly by becoming more efficient. A lot more efficient. We believe we can handle almost three times as many containers as we do today.

Unfortunately efficiency alone is not enough. Our multi-cargo wharves handle tens of thousands of cars, as well as heavy machinery, tractors, bulk cargo, wind turbines, steel, tropical fruit – almost anything you can imagine.

These wharves will see freight growth of up to 90% over the next 30 years. We will need more berths to meet that demand, and for that the only reasonable answer is moderate expansion.

Our challenge:

“Meet future demand without major expansion”.



Growth
=
(lots of) efficiency
+
(a little) expansion



What makes a port?

In planning for future growth we've also taken into account fundamental things like 'the ingredients for a port', environmental & social factors, and financial viability.

The resource consent process is exhaustive and expensive, so before we start we want to be sure that we've got the design right and have a reasonable chance of getting approval.

Key ingredients

Berths

(space for ships)



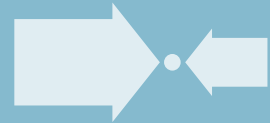
Land

(space for freight)



Access

(channel, road, rail)



Capital

(cranes, straddles, tugs, it etc)



People

(pilots, engineers, stevedores, etc)



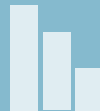
All these factors affect port development and you have to get the mixture just right. When considering expansion, you need to take into account other factors as well:



■ Environmental, cultural & social impact.



■ Is the proposed layout likely to get consent?



■ Is it efficient?



■ Can it be built while continuing to run existing operations?



■ It is worth the expense?

So what's the plan?

Step 1 – Improve efficiency

We've already made changes which have started to improve efficiency, but there is one big job left: to lift labour productivity. By working smarter we can handle 300,000pa more containers, without reclaiming a single metre of harbour. This is a huge prize and failure is not an option.

Efficiency measures

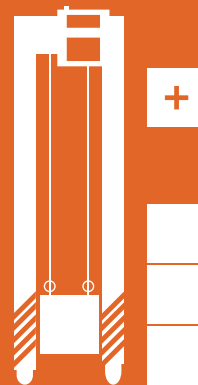
There are other simple, low cost changes we can make over time to improve productivity.

Merging the container operations to the east so containers don't need to be moved from one end of the port to the other.

Replacing current straddle carriers with ones that can stack containers one higher.

Improve our processes, and make more use of technology, for example in planning how we load and unload ships.

New



New straddle carriers can stack containers one higher creating more efficient use of land.

Step 1 – Improve efficiency (continued)



Multi-Cargo wharves
(vehicles, cement,
bulk cargo etc)

Container terminals



Step 1 – Improve efficiency (continued)

At our Container Terminals, if we can improve the way we work, we have capacity to last us to at least 2041.

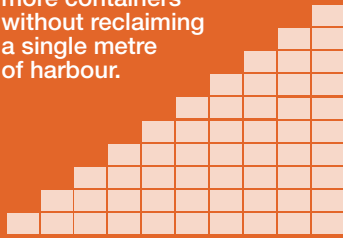
Our multi-cargo wharves are already fairly efficient and so the problem here is different. As freight volumes grow, the multi-cargo wharves will face a shortage of space to berth ships. The layout of some of these wharves is very inefficient.

Working smarter

By improving labour productivity we can handle

300,000pa

more containers without reclaiming a single metre of harbour.



Did you know?

Ports of Auckland handles around

170,000 

vehicles a year, cars, trucks, buses, tractors and more. Most of which are destined for the Auckland market.



Step 2 – reclamation: the options

Here's the old plan. In hindsight, it wasn't a good option. Too expensive, too big, too slow to build and totally unacceptable to the community. It's in the bin.

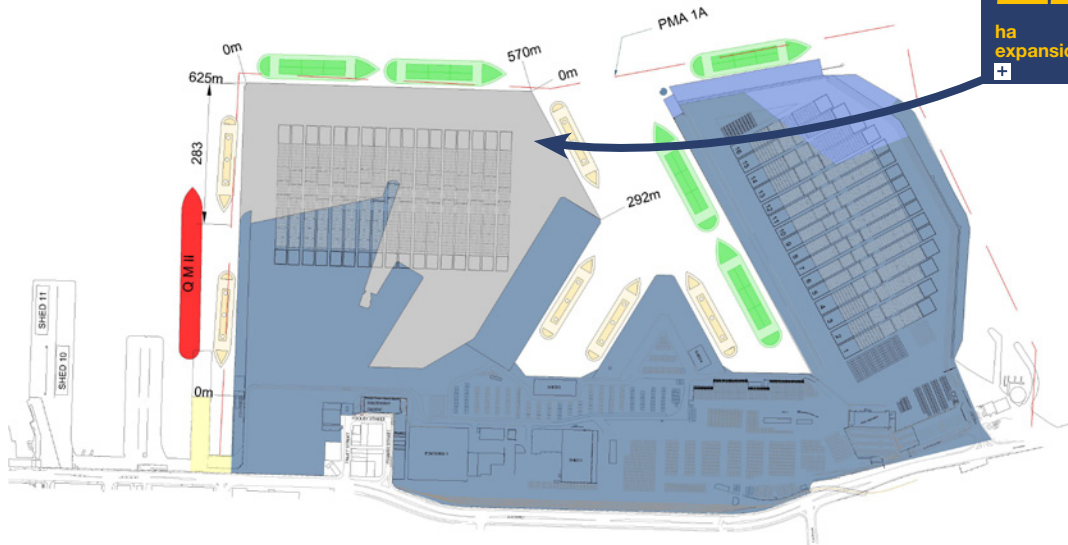
Rejected



22.6

ha expansion

+



KEY

- | | | | |
|--|--|--|-------------------------------|
| | Existing Infrastructure | | Container Ship Berth |
| | Proposed Reclamation and Wharf Extension (22.6 Ha) | | Multi-Cargo / Bulk Ship Berth |
| | Consented Reclamation, Pavement and Wharf | | Queen Mary 2 |
| | | | Port Zone |

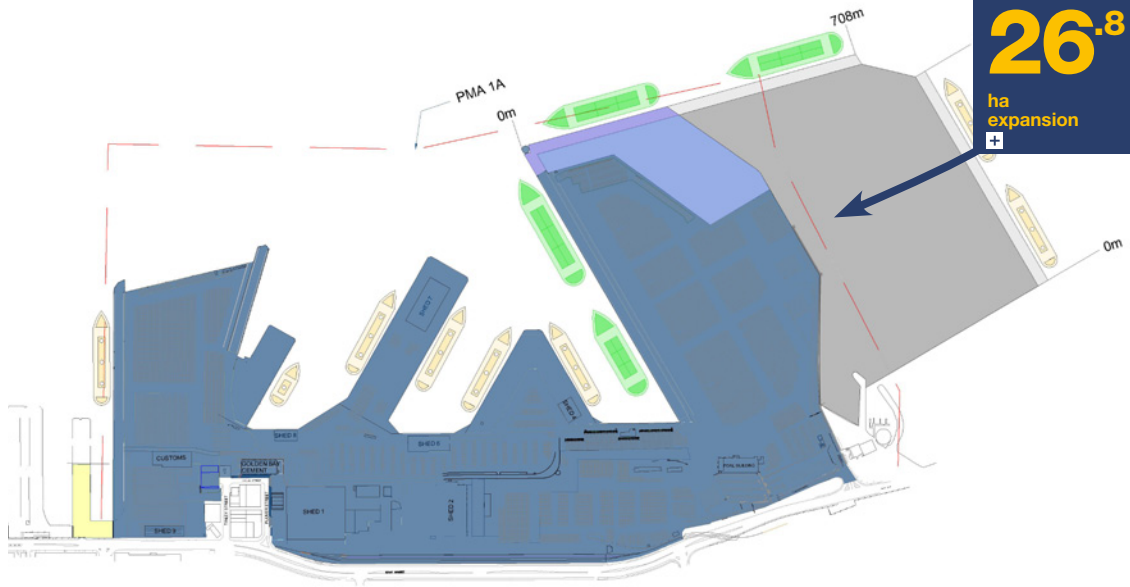
Step 2 – reclamation: the options (continued)

We've explored dozens of other options, for example expanding out east but that was never going to fly, it's a huge reclamation with a major external impact.









Rejected



26⁸
ha expansion
+



KEY

- | | | |
|--|--|--|
|  Existing Infrastructure |  Proposed Reclamation (24.8 Ha) |  Container Ship Berth |
|  Consented Reclamation / Pavement |  Proposed Wharf Extension (2.04 Ha) |  Multi-Cargo / Bulk Ship Berth |
|  Consented Wharf |  Port Zone | |

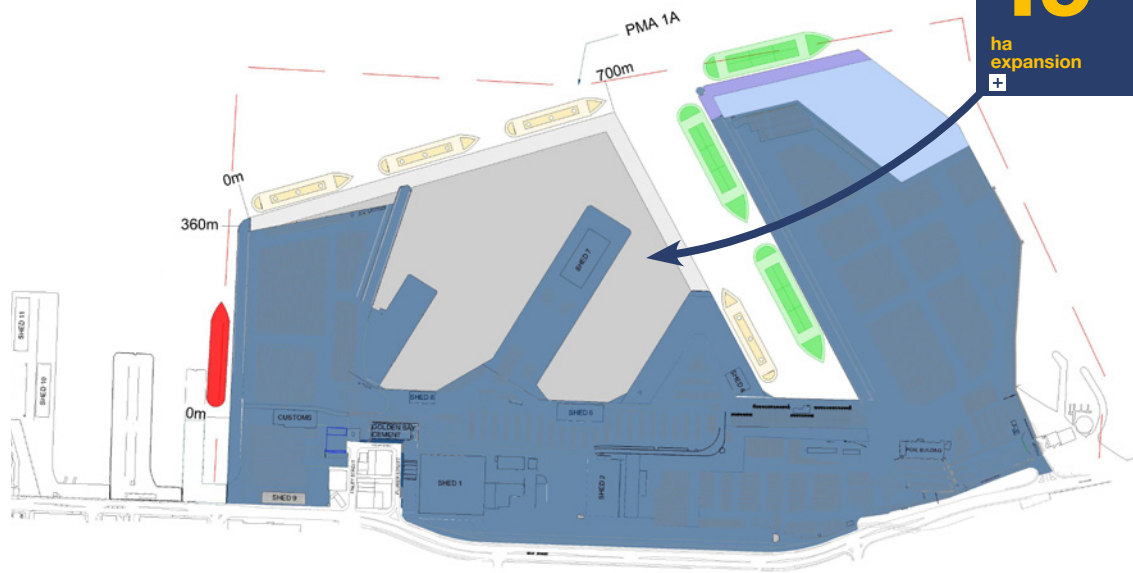
Step 2 – reclamation: the options (continued)

We've also looked at suggestions put forward by others, for example this idea put forward by lobby group Heart of the City. That was no good either, too much reclamation and not enough berth space.



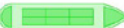






Rejected



19^{.9}
ha expansion
+



KEY

- | | | |
|--|---|--|
|  Existing Infrastructure |  Proposed Reclamation (16.9 Ha) |  Container Ship Berth |
|  Consented Reclamation / Pavement |  Proposed Wharf Extension (3 Ha) |  Multi-Cargo / Bulk Ship Berth |
|  Consented Wharf |  Port Zone |  Passenger Ship Berth |

Step 2 – reclamation: the options (continued)

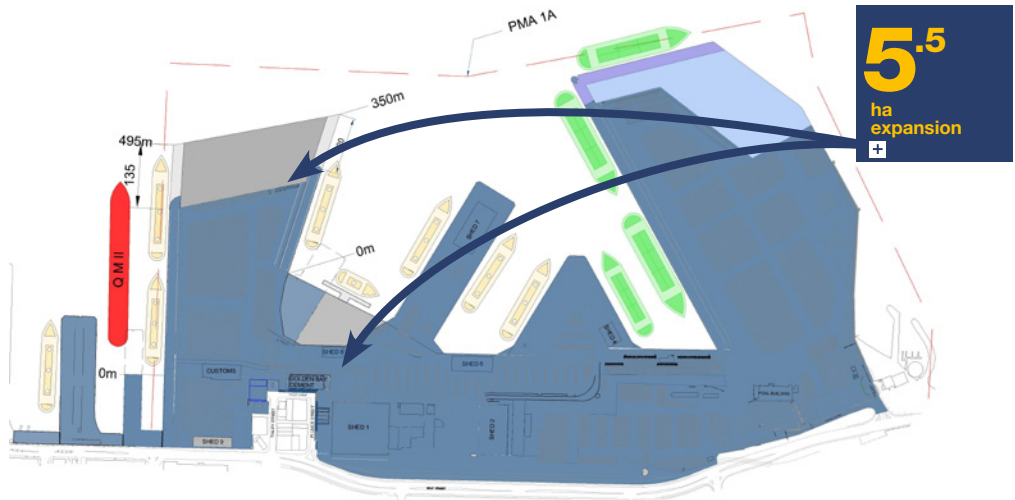
In the end we narrowed it down to two. Design doesn't stop here, we'll no doubt refine these ideas further, but they show what's possible given the information we have available to us right now.

These are more compact, more efficient and cheaper to build than any of the others. They build on existing infrastructure and allow us to meet demand for the foreseeable future – thirty years or more.

Option 1



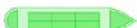






- Demolish some of the old structures on the east of Bledisloe wharf, to create one long straight berth, making it more efficient.
- Remove the piled structure at the northern end of Marsden wharf and deepen the berth in that area. This combined with a 135 metre extension gives us two berths on the west of Bledisloe.

This is a good, efficient layout, but assumes we keep the use of Captain Cook & Marsden wharves.



5.5
ha
expansion
+

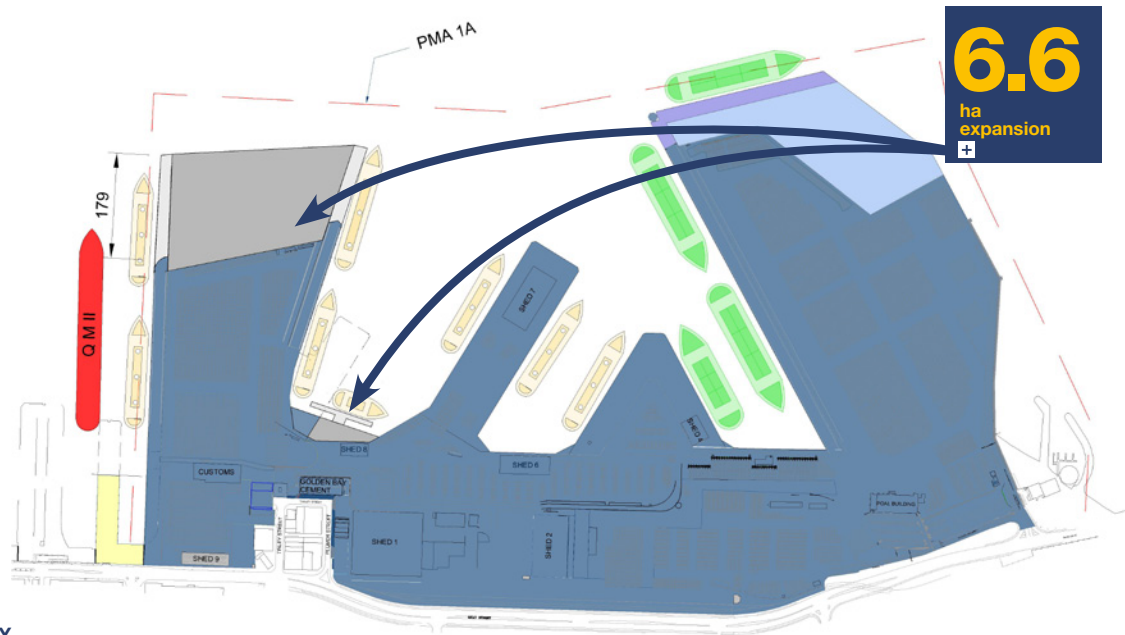
KEY

	Existing Infrastructure		Proposed Reclamation (4.9 Ha)		Container Ship Berth
	Consented Reclamation / Pavement		Proposed Wharf Extension		Multi-Cargo / Bulk Ship Berth
	Consented Wharf		Port Zone		Queen Mary 2

Step 2 – reclamation: the options continued

Option 2

- Extend Bledisloe wharf by 179 metres and demolish the old structures on the east of the wharf to create two efficient berths each on Bledisloe east and west.
- This layout is very efficient, and the extra 1.1 ha of reclamation over option 1 allows the release of 3.1 ha (Captain Cook & Marsden wharves) for public use. Total port area for option 2 is actually smaller than for option 1. This is our recommended option.



KEY

Existing Infrastructure	Proposed Reclamation (5.8 Ha)	Container Ship Berth
Consented Reclamation / Pavement	Proposed Wharf Extension	Multi-Cargo / Bulk Ship Berth
Consented Wharf	Port Zone	Queen Mary 2

6.6
ha
expansion
+

Timing

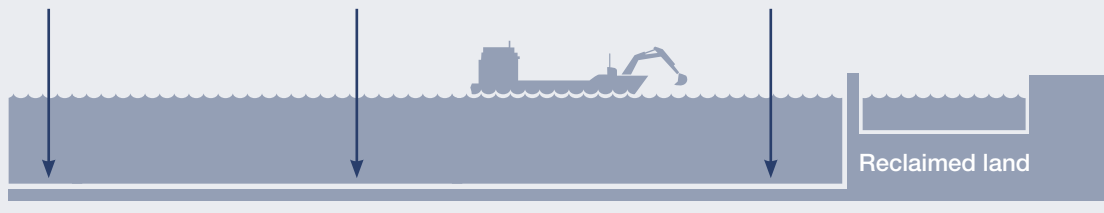
We don't need to reclaim straight away, but we need to know that we can apply for resource consent when we need to. That's because reclamation and wharf construction is slow process. We build new land using mud from our own maintenance

dredging, and from other harbour users like Westhaven Marina. Using just that material, it would take anywhere between 20 to 25 years to build a 6.6 ha reclamation.

Current Layout	Design/ consent construction	Remaining construction phase	Final Layout
▶	4-5 years	20-25 years	■
	Start	Release Captain Cook Wharf	

Land fill from:

- Maintenance dredgings from the main port area
- Boat Marinas such as Westhaven Marina
- Other Marina facilities such as Viaduct Harbour



If Aucklanders decide there's no rush to get Captain Cook wharf, then we'd only reclaim land when we need it, and it's hard to say when that will be. If Auckland grows more slowly than forecast or we find new ways to be more efficient it could delay the need for years.

On the other hand, if Aucklanders tell us they want access to Captain Cook wharf as soon as possible, we would need 4-5 years to get consent and build a replacement berth.

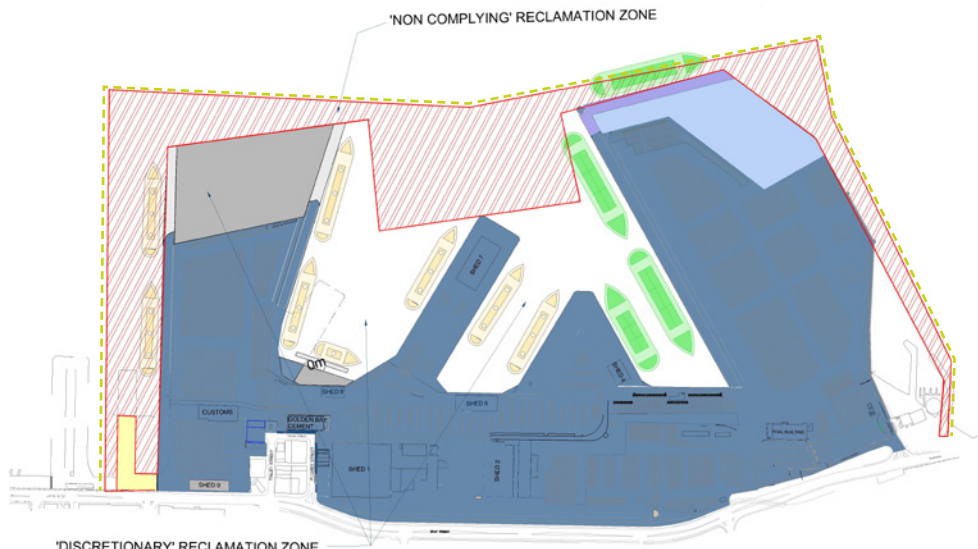
Port Zone

There is no need to decide on either option right now. Every port development plan since 1989 has been modified as we've found new and better ways of doing things, and there is no reason to think that this time will be different. What we do need to think about is the port zone.

The port zone is the area set aside for port activities, and where we are allowed to apply for resource consent for reclamation. Click [here](#) for Council Officer's report on Port Zone.









Our new proposals show what we think is the smallest port we can build that will meet future demand. It shows, in effect, where the reclamation boundary could be drawn. Based on this, we are proposing that council re-draw the port zone as shown.

The existing zone is shown by the green dashed line. Our proposal is to create a sub-zone, which sets a limit on how far north the port can expand but allows it to continue operating.



KEY

'DISCRETIONARY' RECLAMATION ZONE

	Existing Infrastructure		Proposed Reclamation (5.8 Ha)		Container Ship Berth
	Consented Reclamation / Pavement		Proposed Wharf Extension (0.86 Ha)		Multi-Cargo / Bulk Ship Berth
	Consented Wharf		Port Zone		

What about things like road and rail, or bigger ships?

Some people think we need to spend billions on new road and rail links and channel deepening if we expand the port. That's not true. Here are a few facts.

As Auckland grows our port will handle a lot more freight, even without reclamation.



Over 90% of traffic to and from the port use the Grafton Gully.



PwC found that this represents only around 7% of the total traffic volume at the Grafton Gully.

7%

The existing rail line to the port has more than enough capacity to handle the port's freight need. There is no need for a third rail line to the port.



PwC forecast no major issues for land transport infrastructure from growing port demand.



We don't need to deepen our channel to take bigger ships.



What's next?

Tell us what you think. We've put some images of the options on our website for you to have a look at (click [here](#)), and follow this [link](#) for a short survey and to give us your feedback.

Feedback is open until June 9, after which we'll share your comments with Council. We'll then work with council officers to finalise a port development plan.

Thanks for taking the time to read our story.

