Coromandel Pier + Rail

The Concept

PRESENTATION TO TCDC 28 OCT 2014

› AQUATIC GATEWAY
› ICONIC LANDMARK
If you build it, they will come.

[Ray Kinsella, Field of Dreams]
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IMAGINE
INTRODUCTION

The Coromandel Pier + Railway Project Presentation to TCDC 28.10.2014
The Coromandel Pier + Railway > Aquatic gateway > Iconic landmark
Providing an all tide ferry, tourist/rail gateway and future proofed marine area

A Versatile and Sustainable Solution

The Coromandel Pier is an inherently flexible solution to the challenge of providing practical, attractive and environmentally sound access to the Coromandel Harbour. The Pier structure reaches into the deep water of the harbour, treading lightly on the seabed and allowing water flow and sediment patterns to remain unrestricted. The main structure would be a resilient, functional, multi-purpose platform for marine based activities, providing invaluable recreational and commercial space for all people to interact with the harbour in a variety of ways.

The pier is about diversity and culture. It will facilitate the creation of unique and meaningful employment based on outdoor education and recreation, marine based cottage industries and art and entertainment. The Pier will be designed to cater to existing industries including charter boats and commercial fisherman. It will be a draw-card for tourism, making Coromandel Town a destination in its own right and providing a unique and iconic aquatic gateway to the entire Peninsula.

A marina and breakwaters will provide all tide access and sheltered berthing/anchorage for recreational and commercial vessels and a functional all tide ferry terminal with a proven light rail transport system into town. The Pier will have light vehicle access and will be cyclable and walkable. It will provide valuable fishing, swimming, play, picnic, relaxation and cooking facilities and will act as a platform for local art and local businesses, marine culture, Maori culture, and conservation. It has already attracted significant support from within the local community with over 500 people in town having signed a petition for it.

Users Needs

Any development in the harbour inevitably has implications for all of Coromandel, not only those actively using the harbour at present. This vision avoids the economic and environmental risks and costs associated with dredging in a contaminated and fluid harbour. It offers a solution that is inclusive of all active users, all other people, and the environment. Flexibility of design and diverse income streams lay the foundation for a resilient local economy. With the proposed developments at Sugarloaf and Furey’s Creek, the current marine users’ needs will be met. This vision goes beyond just meeting needs – it looks at creating an iconic landmark befitting our unique environment and town’s character, which will become an asset for the town, community, and wider region.
Viability

There are many much-loved and well used piers around the world, with trains often used as a vital service for the transportation for goods and passengers to large vessels. The combination has proven highly successful in boosting sustained growth and development in a similarly remote setting in Busselton Australia, making it one of most popular tourist destinations in Western Australia with over 400,000 visitors per year. South-End Pier and Railway in England attracted over 5.7 million visitors in 1949 alone. The success of DCR railway in Coromandel Town, with around 70,000 visitors per year and over a million train tickets sold to date, is testament to the commercial viability of this proposal. The combination of the long pier, ferry, train, marina development and marine based businesses will greatly encourage international and national visitors to explore the Coromandel for day or weekend experiences, on private boats, on the ferry or by land, significantly benefiting businesses on the Peninsula as a whole. The increased ferry patronage should make the ferry timetable more consistent year round and reduce the price, further helping to increase patronage.

The Pier will be relatively low cost to build and maintain, with a low environmental risk factor and small environmental footprint. It will be operated by a charitable trust, with all profits used for improvements and local environmental and community based projects. The Pier will enhance the character of the town with widespread cultural, social and economic benefits.
CONCEPTUAL PLAN — NOT TO SCALE
SUBJECT TO DETAILED DESIGN ENGINEERING

This is a visual representation of a conceptual plan. While much detailed consideration has gone into all aspects of the various components of the proposed solution, it is merely a concept, and as such still in the concept phase.

1. **Train**
   - A narrow gauge railway running the length of the pier from a railway station in town to the covered platform/ferry terminal on the pier in the harbour.
   - Two or more trains can operate simultaneously with each train able to carry approximately 40 people.
   - When the train is not present the entire 4m deck is available for pedestrians and service vehicles.
   - The railway also has a highly practical reason: it allows pier engineering to be much less involved than for heavy weights like tour buses.
   - Flexible approach allowing berthing facilities to be added as demand and finances allow, reducing risk and initial capital input.

2. **Breakwater 1**
   - 2 x 200m curved breakwater barriers to the South and South West creating a sheltered anchorage on both sides of the platform and end of the jetty.

3. **Breakwater 2**
   - 400m metre curved breakwater to the North West.

4. **Breakwater 3**
   - 4m x 800m wooden or concrete post & beam structure with open wooden decking, wooden safety rails along either side.

5. **Dock House**
   - Dock House potential future marine education facility and event centre.

6. **Clip-on Pier**
   - Wooden board and pile extension to existing wharf will create adequate space for all users.

7. **Public Space**
   - Auckland ferry
   - Auckland train terminus
   - Auckland old wharf

8. **Maritime Museum**
   - Maori Maritime Heritage Exhibition
   - Cottage Industries Boat Building
   - Workshop Facility (Carving, Boat Building, Sail-making)

9. **Shore House**
   - Local Multisporters’ Kayak & Gear Storage
   - Kayak/Rowboats Adventures
   - Sea Scouts

**Detailed Representation:**
Please refer to individual pages for more information on various components.

ILLUSTRATION: DANIEL M. KIRSCH, OCTOBER 2014
A concept for the economic and social development of part of the Coromandel Harbour. This concept is several years in development and is still subject to modifications based on the advice and input of other interested parties.

Introduction
Coromandel Harbour is shallow and tidal in its upper reaches, as one approaches Coromandel Town from the harbour and up Furey’s Creek. The harbour bed consists of silts and muds washed down the creek from 150 or more years of deforestation, gum digging, gold mining and farming. This process continues to this day, as the result of heavy rain events on steep clay soils not yet recovered from vegetation loss. Furey’s Creek drains a large catchment and is subject to flooding and silt carrying during heavy rain storms.

Coromandel Harbour is the only sheltered harbour on the west side of the Coromandel Peninsula that is accessible to shipping and practical road access. The others such as Te Kouma and Colville have no or poor road access. As such, Coromandel Harbour is the only potential economic maritime gateway to the entire northern half of the peninsula.

The Concept
To construct a long wharf built on piles out into the northern end of the harbour to a point where boats of up to 2 metres of draught can berth at all tides. Access along the wharf to allow for a narrow-gauge railway, vehicles, pedestrians and cyclists. The wharf to be of sturdy construction to allow for any future developments that may depend on it, e.g. charter boat facilities, recreational fishers, marina development, other marine based businesses, and most importantly, an all-tide berth for fast ferries from Auckland. A vehicle turnaround and a passenger exchange area would need to be built at the end of the wharf. Provision for emergency services, fire-fighting etc. would need to be included, but the question of fuelling facilities at the end is still an open one at this stage. Any temptation to provide substantial commercial structures here (e.g. food outlets, entertainment etc.) should be avoided lest it detract from the already largely underused facilities within the town during winter and ‘shoulder’ months.

Pier Construction
Following the findings of test bores into the harbour bed along the route of the wharf, timber piles would be driven in. For a deck width of 4-5 metres, three piles per trestle should be sufficient but such details would be decided by an appropriate engineer. There is an argument for the whole structure to be built in concrete but again, engineering consultants would be required to do comparative costing for this.

The Railway
My original concept for an extended wharf in 2010 was very different from the one now being proposed because of consultations I have had with its potential users. The original scheme had rail and pedestrian access only which would have limited its use to ferry passengers and fishers. We now need to cater for charter and fishing boats, marina facilities and visiting yachts and launches in order to justify some of the costs involved with the project and cater to the needs of various user groups. After much discussion with these interested parties, I have had to settle on the structure mentioned above. It must be realized that in order to provide all-tide ferry access, the wharf would need to extend out for more than one kilometre. While a shuttle service could be used to transport passengers from the ferry into town to reduce capital outlay, a light railway to a terminus close to the town has always been part of my vision, a distance of 2.5 - 3 km. The present hard-fill area opposite Hauraki Road beside Furey’s Creek would make an ideal terminus with a foot bridge across the creek. Alternatively the old Moehau Tearooms site on the town side of the bridge could be purchased. Both sites could accommodate buses, rental cars etc., In the
long term. I can envisage the railway becoming an attraction in its own right and becoming a benefit to local businesses. A fully reversible rail-car similar to those at the Driving Creek Railway would run between the ferry berth and town, eliminating the need to use buses along the wharf including the need to turn them around at the end.

Conservation
This is a major issue on the Coromandel Peninsula as we all know. In selecting the extended wharf concept, my concerns as both a conservationist and a local beneficiary should be recognized. Driving piles into the harbour bed would disturb very little contaminated silt compared with more extensive dredging. It would also allow for silt-laden water from heavy rain events washing down Furey’s Creek to dissipate in the harbour thus minimising maintenance costs.

Some discussion is still required to ascertain the wharf departure point from the road around Jack’s Point or from the existing wharf. It would be preferable to keep clear of the existing hard-fill wharf as it is in need of repair and its present users would not be inconvenienced. Also, a sharp curve around Jacks Point would be eliminated and the proposed lightly dredged channel serving as a boat haul-out ramp adjacent to the wharf from this point would be more accessible to recreational fishers than the present one further up the creek and allow for the full extent of the pier to be utilized.

Consultation
In 2013 the Council (TCDC) engaged Cranleigh Consultants at some expense to investigate and advise on the various options for the harbour development scheme. Their proposals have proved unpopular due largely to lack of proper communication with all interested parties as well as pollution concerns within the Harbour and impractical design. This scheme is known as Option 1.

In July 2014, I commissioned Jacobs Consultants (international engineering and project management) to make a preliminary assessment of the extended pile wharf concept through my connection with Nicholas Conland, a former neighbour, now a member of Jacobs. Their representative Michael Hall visited, attended a TCDC meeting and was shown around the site by Scott Wynands, the project development manager. At my instigation, Scott prepared a submission to TCDC, dated 03/07/2014. It included costings and a concept design provided by Jacobs. Part of these costings are based on a wharf 8 metres wide but my concept of only 4-5m would considerably reduce construction costs.

All the above is to try to gain some support from TCDC, the Waikato Regional Council, local Iwi and the local business community. Already, the petition that I set up in 2013 has received more than 500 signatures and this from only the local community. Support from the likes of Whitianga, which could benefit from our concept, is yet to be assessed. Indications are that these eastern districts would be supportive. (With the ferry terminal presently at Hannaford’s Point, 9 km from Coromandel Town, many passengers head straight for Whitianga. Were they to be brought closer to the town, local businesses would benefit).

In conclusion I should point out the following:

- I have no pecuniary interest in the wharf development whatsoever. But that it will benefit Driving Creek Railway also applies to all other local businesses in the district and beyond. It has recently been discussed that Driving Creek Railway could contract to the Trust to manage the railway business as it has the expertise and resources to both build and operate the railway.
- The extended wharf should be seen as a seeding venture: other business developments arising from it. E.g., floating marina pontoons, berthing facilities, a nearby anchorage and small marine facilities. As has been proposed by some consultants, any solid breakwater or...
rigid undersea structure should be avoided due to silt build-ups and natural water current deflections especially in times of storm run-offs down Furey’s Creek. A pile structure allows for natural uninterrupted water flow.

→ There should be no accommodation for heavy marine farming industry around the new wharf concept as provision for the development of the Sugar Loaf for this industry is already recommended in the Cranleigh Report and by TCDC. Fuelling provisions at the proposed wharf would need to be discussed with all marine users.

→ A business plan for the extended pile wharf concept is to be prepared with the assistance of Jacobs Consultants for presentation to TCDC with the understanding that the Council, while being prepared to manage resource consents is unable to fund construction costs at the expense of ratepayers. That the Council is prepared to fund a sound business case is a step in the right direction.

Coromandel Pier Business Case
TCDC has agreed to meeting with CPWG on 28 October to look at funding a business case for the extended pile wharf concept. The majority of the members of the stakeholder working group favoured incorporating a marina and new hard-fill development into any harbour development project, as a means of funding it and catering for all harbour users.

While TCDC has stated that it would not back any marina project I believe that this could change on evidence presented by business cases for the development options as the dredged basin concept requires a substantial marina to fund the estimated $57 million needed to develop the project.

In the May 2014 issue of the Coromandel Town Chronicle, a proposal was put forward by Hector George, an engineer with 30 years in the marine oil/gas industry, in at least four overseas countries. Now a resident of Coromandel, his presentation at a recent CBA meeting drew interest for his concept’s ability to satisfy all local business interests. Let me offer acronyms for easy reference to distinguish Mr George’s proposal and my own one: HGP and BBC (Barry Brickell’s Concept). Here. I would like to offer an analysis of the pros and cons of both. This does not include financing, rather more, practical considerations, (financial considerations being covered in business cases).

Before I offer a practical comparative analysis of the two contending options above, I need to offer a summary of my own qualifications:

→ Graduated with a B.Sc. degree in science from the then Auckland University College in 1960. Studied geology, botany, zoology, chemistry and physics. Of these. I took a special interest in geology and botany.

→ Thanks to the popularity of the Driving Creek Railway as a tourist destination. I have been able to support several local businesses and donate to several community causes over the past 20 or so years.

→ Extensive studies of the ecological history of the Coromandel Peninsula and the impact of human activities has enabled me to write an essay and publish some books on the subject available to those who are interested.

→ As a NZ Forest Service ‘Technical Trainee’ at Tairua State forest in 1955, I gleaned much experience in the effects of commercial forestry on the local environment.

→ Having owned launches based on a mooring in Coromandel Harbour over a period of some 15 years, I gained some knowledge of conditions within the harbour.

→ For what it is worth in the context of my argument here, I moved permanently to Coromandel (Town) in 1961 and following a short stint of teaching at the local District High School, I became the first NZ-born stoneware potter to make a living from the craft using the abundant raw materials to hand. Some of the Town’s prosperity has resulted from the several potters who set up their studios here but who later became displaced as the result of ergonomics during the late 1980’s. That Driving Creek Potteries has continued to flourish is largely due to the railway. Its products, especially bricks and tiles contribute to the Town’s cultural appeal.
WEIGHING UP THE OPTIONS

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<th>Coromandel Pier + Railway</th>
<th>Dredged Basin Proposal</th>
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<tr>
<td>Little or no impact on harbour bed.</td>
<td>Considerable alteration to harbour bed and high risk of releasing heavy metals from contaminated sediment.</td>
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<td>No need to transport stone fill to the site from afar.</td>
<td>Barge transport for construction materials. Little need for heavy road transport.</td>
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<td>Construction can go ahead in stages as finance becomes available yet services can be provided at all stages.</td>
<td>The project has to be completed before any services can be provided.</td>
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<td>Provision for a shuttle service to the ferry terminal temporarily, replaced by rail in the long term.</td>
<td>Large tourist buses and other heavy vehicles have direct access to ferry but transport to town still required.</td>
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<td>Maintenance required but would be limited to the wharf structure and breakwaters.</td>
<td>Ongoing maintenance required on the extensive groynes and to maintain the depth needed in the dredged channel and basin.</td>
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<td>An estimated cost of $18 million, financing would be over a longer term requiring less up-front outlay.</td>
<td>An estimated cost of $57 million, financing would require considerable up-front outlay.</td>
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<td>From an environmental viewpoint a pile wharf would have minimal impact on the hydrology of the harbour. Marine wildlife would be quick to colonise any timber structures, enhancing recreational fishing on the structure.</td>
<td>The project would have a considerable impact on the marine environment, including alteration of silting patterns and disturbing base dwelling marine wildlife. It will meet with ongoing resistance from environmental groups.</td>
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<thead>
<tr>
<th>Coromandel Pier + Railway</th>
<th>Dredged Basin Proposal</th>
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<tr>
<td>Aesthetically, a well built pile wharf with facilities attached increases the appeal of the harbour for all its users.</td>
<td>Aesthetically, a commercially driven marina is not attractive within a community dependent on nature type tourism as a major attraction. There is a certain longer term fragility associated with financial rewards and costs associated with marinas.</td>
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<td>Provides valuable recreational facilities for the entire community and its visitors.</td>
<td>Commercial/private marinas do not combine well with recreational design objectives and public use.</td>
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<td>Has potential access to significant funding sources designed for community based projects with widespread economic, cultural and environmental benefits.</td>
<td>Being commercially driven, does not meet the criteria to be eligible for charitable funding sources and is therefore entirely dependent on the development of a large marina for finance.</td>
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In this attempt at presenting a case for the extended pile wharf concept I have tried to offer an independent assessment. Should TCDC and the stakeholder group choose to reject my concept after a detailed business case has been developed, I will do my best to make sure that environmental and social considerations are not drowned out by commercial pressures from developers and local short-term speculators. The Coromandel Long Term Plan deserves to live up to its title for the benefit of nature and the next generations of residents and visitors.

Barry Brickell  b.sc.obf., CHAIRMAN, COROMANDEL PIER WORKING GROUP

[Image of a marina and a beach scene]
We are working on applying for funding through the Lotteries Commission’s Significant Project Fund and the Tourism Growth Partnership. The fund can potentially cover up to two thirds of the total cost of this project, estimated at around $18 million.

The Lottery Commissions Significant Project Fund
The Pier + Rail Project has the potential to Meet Every Single Aspect of the Funding Criteria for the Significant Project Fund:

- Applicants must demonstrate that their project:
  - is for a community purpose
  - has a total project cost of at least $3 million
  - has secured at least one-third partnership funding
  - has a Project Manager
  - has a completed feasibility study or other report in support of the project
  - has an approved resource consent

- contributes to a regional and/or national outcome, in one or more of the following areas:
  - art, culture and heritage;
  - sport and recreation;
  - conservation and the environment;
  - economic development; and/or
  - visitor services and tourism.

Projects must meet the following priorities:
- be for a purpose relating to a community benefit of a public nature
- meet a clearly identified community need
- provide opportunities for widespread and significant community interaction and cohesion
- have wide community support and/or result from a community initiative
- is an appropriate size for the community
- involve collaboration between the applicant and community organisations, local/central government and/or Maori organisations/iwi.

The Tourism Growth Partnership
The Tourism Growth Partnership is a smaller fund designed to support the establishment of commercial ventures that will generate significant returns in the tourism sector. This fund could be accessed to help with the establishment of the railway component. The TGP is a government initiative to help drive some of the strategic changes required to overcome constraints to growth and lift the value that international tourism delivers to New Zealand.

The TGP is contestable. In order to achieve maximum value for its investment, the Government will be looking to invest in projects that are not only commercially driven, but which will also deliver wider economic benefits. These benefits could include demonstrating the value of new processes or ways of working that will help ‘break the mould’, incentivising wider innovation, and opening up new high-value opportunities that other businesses can exploit.
Specifically, the objectives of the TGP are to:

- foster innovation in the tourism value chain, so as to ensure that New Zealand gains more from international visitors’ spend
- lift the productivity of the tourism sector.

The government has allocated $28 million to invest in the TGP over a four year period.

**Funding Sources**

The following components have been included in this cost estimate:

- Rehabilitation of the existing wharf $3.5 million
- An 800m long x 4m wide new pile supported wharf, utilities and deck $3 million
- 150 Lineal Metres of transient marina berth for ferry terminal and long and short term berthing facilities $900,000
- 12,525 m3 solid breakwater $3.7 million
- Commuter train track from the ferry terminal to the foreshore $1 million

The cost of constructing the facility to provide for the ferry, marina and recreational and charter boat access is: $21,457,800 NZD.

If concrete piles are used on the jetty instead of timber the price is approximately:

$22,297,800 NZD.

The wharf could be future proofed by adding in 4m by 15m pontoons to provide for a marina, which could be added at any time. Each pontoon fully installed would cost approximately $108,000 NZD.

This price has been developed, utilising experience on previous marine facilities that have recently been completed overseas of a similar type. As a result, the cost estimate is high and will not be able to be confirmed until full feasibility studies are finalised.

It should be noted that an 8m width for the wharf has been provided for the cost estimate. This is primarily due to Jacobs marine engineers having recently constructed a wharf of this width in another location, which is how they have been able to provide a recent high level cost estimate. The actual wharf will be approximately 4m and be considerably less than the estimate for an 8m wharf.

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### Estimated Income and Capital Available

**Estimated Cost of Pier**

$18 million

#### Income

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<th>Description</th>
<th>Estimated Income/Year</th>
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<tr>
<td><strong>Train</strong>- 80,000 tickets at $8 per ticket average</td>
<td>$640,000 annually</td>
</tr>
<tr>
<td><strong>Cycle Hire</strong>- Small business- 1500 rides at $10 per day</td>
<td>$15,000 annually</td>
</tr>
<tr>
<td><strong>Kayak and Yacht Hire</strong>- Small business- 2000 trips @ $15 each</td>
<td>$30,000 annually</td>
</tr>
<tr>
<td><strong>Pier Cafe</strong></td>
<td>$120,000 annually</td>
</tr>
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<td><strong>Retro Bus Tours</strong>- $12 per person – 60 seats- $720 per trip (full) 200 full trips per year</td>
<td>$144,000 annually</td>
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<tr>
<td><strong>Fishing Hire</strong></td>
<td>$10,000 annually</td>
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<tr>
<td><strong>Kayak Adventure Tours</strong> 1000 trips @ $25 per trip</td>
<td>$25,000 annually</td>
</tr>
<tr>
<td><strong>Boat Hire</strong> 2500 per year x 4</td>
<td>$10,000 annually</td>
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<tr>
<td><strong>Gallery, Events Centre, Public Space</strong></td>
<td>$20,000 annually</td>
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**Total Income From Pier Buildings and Small Businesses**

$1,044,000 annually

### Pier Berths

- 80-100 berths in total
  - 40 freehold at $100,000 = $4 million
  - 60 leasehold @ $20 per day = $438,000 per year

**Total Investment Capital**

$438,000

**Total Annual Income**

$438,000

### Income from Breakwater Berths

- **Long term**- 50 berths @ $10 per day $182,500 annually
- **Permanent**- 50 berths @ $50,000 $2,500,000
- **Short term**- $25 per day-100 berths- (20 percent rental) 365 days $182,500 annually

**Total income from all berths**

$912,500 annually

**Total Capital from all freehold berths**

$6,500,000 annually

### Estimated indirect economic benefit to all businesses on the Peninsula due to increased visitor numbers

$2,000,000 annually

**Total Annual Income from Pier**

$1,956,500 annually

**Investment Capital**

$6,500,000
Busselton Jetty- Case Study
The current businesses operated by the Busselton Jetty Trust include a visitor information centre, maritime museum, underwater observatory, jetty train and souvenir/gallery retail space which return a significant amount of money to the local city of Busselton for jetty maintenance. All profit is used to enhance the jetty or for marine environmental purposes including education.
In 2009, $27.1 million was raised for the complete rebuild of the over 100 year old, 1.8km long structure. $24 million from Western Australian state government, $3.1 million by the shire of Busselton and $1 million by from the Busselton Jetty Charitable Trust.

Pre-Feasability Cost Estimate
Note - updated to remove the costings for the train tracks. For the cost estimate an exchange rate of $.80c was used. Full assumptions in final cost estimate provided in the document produced for Council.
3) Environmental studies of the sediment material, consentability of each option investigated needs to be assessed to inform future concept design. This pre-feasibility phase cost estimate will need to be reviewed after results of wave study are received.

2) Wave study needs to be performed to determine design wave condition for rehabilitated wharf, pile supported wharf, pile supported platform, ferry dock and transient marina slips. All design and construction methods discussed in

1) Hybrid wall construction method will be possible for rehabilitation of existing earthen wharf. Excavation may not be possible because of buried solid objects that would obstruct vertical panel installation. Wave study may reveal

Assumptions to be confirmed during future Conceptual Engineering Phase:

6) Costings for land-based options (rail, rail station, landscaping improvements) not provided as part of this cost estimate.

5) If concrete piles are used, add 1.5x to the final timber pile project cost until the next stage a full concept design is completed.

4) Pontoons for floating jetty not included in this cost estimate.

purposes of discussion with Council.

3) No design work for earthen wharf rehabilitation, new pile supported wharf, piles supported platform, ferry dock or transient marina berths has been performed. This estimate is based on best available information and for

2) Pre-feasibility estimate is based on concept for wharf, ferry dock, boardwalk and marina prepared by Jacobs dated 18 July 2014.

1) All unit costs assume procured and installed cost to Council.

Notes:

5) New Breakwater

4) Transient Marina Berth

3) Pile Supported Deck

2) Wave Study

1) Hybrid Wall Construction Method

Description | Quantity | Units | Rate | Units | Conceptual | TIC
--- | --- | --- | --- | --- | --- | ---
A Gangway | Aluminum gangway structure to allow access from elevation of pile supported deck. | 1 | | | | |
B Timber Deck | Timber pressure treated deck with handrails affixed to tops of timber piles. No stain or paint. | 1 | | | | |
C Piles | Steel pipe pile will secure floating pontoons to horizontal locations alongside the pile. | 1 | | | | |
D Ferry Berth Fendering System | For ferry and passenger access between ferry deck and new pile supported dock. | 1 | | | | |
E Utilities - Marina Electrical, water and pump-out connections at berths for transient marina patrons. Utility conduit will be hung from bottom of gangway. Connections to berths are assumed to be made in ticket office utility room in pile supported structure. Estimated cost assumes 6 m wide floating concrete pontoons with berthing on both sides of linear length of utility runs between ticket office and farthest utility connection on floating transient marina berthing. | 1 | | | | |
F Ticket Office | Structure will serve as customer interface for ferry service, include restrooms and small commercial space for convenience store concept. | 1 | | | | |
G Electrical, Water, Pump Out Connections | At berths for transient marina patrons. Utility conduit will be hung from bottom of gangway. Connections to berths are assumed to be made in ticket office utility room in pile supported structure. Estimated cost assumes 6 m wide floating concrete pontoons with berthing on both sides of linear length of utility runs between ticket office and farthest utility connection on floating transient marina berthing. | 1 | | | | |

SUBTOTAL (Pile Supported Deck)

A Tory Wharf Deck $4,250 USD/square meter $987,500
B Tory Wharf Deck Area $4,250 USD/square meter $987,500
C Tory Wharf Deck Length $3,500 USD/meter $1,425,000
D Tory Wharf Deck Base $2,500 USD/meter $1,500,000
E Tory Wharf Deck Elevation $2,500 USD/meter $1,500,000
F Tory Wharf Deck Archer $2,500 USD/meter $1,500,000
G Tory Wharf Deck Armour Stone $2,500 USD/meter $1,500,000
H Tory Wharf Deck Total $7,500 USD/square meter $8,500,000

SUBTOTAL (Pier from the sea)

A Tory Wharf Pier $4,250 USD/square meter $987,500
B Tory Wharf Pier Area $4,250 USD/square meter $987,500
C Tory Wharf Pier Length $3,500 USD/meter $1,425,000
D Tory Wharf Pier Base $2,500 USD/meter $1,500,000
E Tory Wharf Pier Elevation $2,500 USD/meter $1,500,000
F Tory Wharf Pier Archer $2,500 USD/meter $1,500,000
G Tory Wharf Pier Armour Stone $2,500 USD/meter $1,500,000
H Tory Wharf Pier Total $7,500 USD/square meter $8,500,000

SUBTOTAL (Transient Marina Berth)

A Tory Wharf Berth $4,250 USD/square meter $750 USD/square meter $4,250 USD/square meter $3,757,500
B Tory Wharf Berth Area $4,250 USD/square meter $750 USD/square meter $4,250 USD/square meter $4,250 USD/square meter $3,757,500
C Tory Wharf Berth Length $3,500 USD/meter $1,425,000
D Tory Wharf Berth Base $2,500 USD/meter $1,500,000
E Tory Wharf Berth Elevation $2,500 USD/meter $1,500,000
F Tory Wharf Berth Archer $2,500 USD/meter $1,500,000
G Tory Wharf Berth Armour Stone $2,500 USD/meter $1,500,000
H Tory Wharf Berth Total $7,500 USD/square meter $8,500,000

TOTAL $17,056,500
IT WORKS
THE END PLATFORM

The main platform at the end of the Pier is the main public hub and forms the link between land and sea. It provides the area for several public facilities and creates a significant communal/public space, both outdoors with the recreational area and indoors with the Pier House.

The main platform and buildings can be serviced by the train and/or light vehicle. Larger vehicles such as fire-engines can also access the platform should the need arise.

(please refer to page on right for details on some of the facilities located here)

01 PIER HOUSE

The Pier buildings could be developed into dynamic multiple use spaces. The proximity to the marina, to transport terminals and the stunning location in the middle of Coromandel Harbour render them valuable focal points for a range of activities which could potentially include some or all of the following:

PIER HOUSE ONE (options)
- Marine ecology centre
- Sailing club (upstairs)
- Sea scouts (upstairs)
- Outdoor Education Centre

PIER HOUSE TWO (options)
- Train Station, Ferry Terminal
- Events Centre
- Kiosk/Icecream Parlour, Coffee/Crepes
- Fresh Seafood on the Pier (fish, oysters only)
- Gallery Space

02 RAILWAY TERMINUS

Covered area for boarding/dismounting the train. Provision for up to two trains.

03 FERRY TERMINAL

Large floating platform with access ramp/stairs for all tide disabled access to the ferry/train station on the main platform. Access to the ferry would be primarily by rail, with a train ticket included in the price of the ferry crossing. A covered luggage wagon would be provided and the rail-car would be designed to provide all weather transport. Covered terminals at both ends of the journey attached to stations with comfortable facilities would be provided for passengers. Bicycles would be available for hire and walking would be an option in fine weather. Disabled/wheelchair access would be provided on the train. Access by car for passengers with unique disabilities would be possible with disabled parking provided.

04 BOAT ACCESS PLATFORM

Floating platforms for long/short term dingy berthing, drop off point for yachts/recreational boats.
05 PUBLIC RECREATIONAL SPACE

- Space for spending time relaxing or enjoying oneself/sheltered seating/picnic space/walking/strolling/communal space
- Marine themed sculpture, 'Taniwha' and 'Oceanic Sway' – interactive sculptures – which can be actively explored/climbed on/slid down from and swung on. Much in the sense of sophisticated playground meets public space art sculpture (read more on right)
- Mussel farm rope climbing structures with a soft base

06 MARINE SCULTURES

Creating another icon/destination on top of the landmark/destination: Interactive sculptures that pay reverence to the Harbour – the life force of the natural environment, and human interaction with this natural environment. Natural, local materials and local fabrication (steel and wood structure). Ideally involving local master carvers. Something fabulous and outrageously unique, beautiful and simply extraordinary.

06 A) Taniwha
marine themed, taniwha, reflection of life force of harbour and the Hauraki gulf, can be walked and climbed upon, slide down onto deck or into the water.

06 B) Oceanic Sway
large sculptural swing, resembling the rolling of a boat on waves arriving to these shores, also a ship’s mast. Universal frequency, wave action, ultimately all is frequency and waves.
→ BREAKWATERS 1, 2 AND 3

Two to three 200-400 m (approximately) breakwaters to the South-East and North-West, designed to shelter the main platform, the marina and to create sheltered anchorage and berthing on the interior of the structures for 150+ boats. Also allows for short term berthing for 150+ boats on the exposed sides when weather permits. The breakwaters would provide secure long term berthing facilities as they are separate from the main pier. They also double as functional, attractive wooden islands in the harbour and are multi-purpose allowing for swimming/fishing/relaxation/sunbathing and sheltered picnic facilities.

→ MARINE LIFE

All of the wooden structures (breakwaters and the main pier) will be colonised by mussels and oysters attracting a variety of fish life and helping to filter the harbour water. The piles could be managed as a farm and provide a small eatery on the pier with fresh seafood. People could also dive for their own seafood which could become a small business.

→ FUEL

The question of fuelling facilities at the end of the pier is still an open one at this stage. It would be preferable to have both petrol and diesel available from an all tide facility. There is discussion around a fuel pump being situated at the renovated Sugarloaf development and/or a pipe could be run to a pump on the platform at the end of the pier. Alternatively, the existing diesel pump could remain on the old wharf and the pier would be designed to allow access.

→ THE PIER

A 4-5m wide x 1200m long (approximately) wooden or concrete post and beam wharf with a wooden decking. Departing from Jacks Point or adjacent to the existing wharf in McGregor Bay towards Ruffin’s Rocks. The deck is open with wooden safety rails installed along either side and possibly down the middle. Narrow gauge railway tracks laid two feet apart down the Southern side provide a 2-2.5 metre corridor for the train and a 2-2.5 metre pedestrian corridor. When the train is not present the entire 4-5m deck is available for pedestrians and service vehicles. Ladders and platforms along the length of the wharf and the main platform provide all tide berthing for visiting boaties and recreational spaces, with larger platforms doubling as passing bays.
THE RAILWAY

A narrow gauge railway running the length of the wharf from a railway station in town to a covered platform/ferry terminal in the harbour. Two or more trains can operate simultaneously with each train able to carry approximately 40-60 people. Each train is equipped with a covered luggage carriage and roll down sides to provide all weather transportation. The railway runs along the roadside adjacent to Patukirikiri Reserve to a railway station/information centre in town, terminating under a covered area next to the railway station, in a landscaped courtyard. The existing netball courts or the Moehau Tearooms could be converted into a landscaped courtyard/train-station/info centre. There is an opportunity at these locations to provide a small mixed use building or number of buildings that complement the tourist and marine access gateway.

RAILWAY CONSTRUCTION

Driving Creek Railway of Coromandel Town could be contracted by the Pier Trust to construct and operate the rail-cars and the railway business, providing the necessary expertise, facilities and staff to manage the Pier Railway.

CYCLING/WALKING

CYCLING: Cycle Hire- Old fashioned bicycles with baskets and child seats/trailors available for hire from the Pier platform and train station in town. The Pier would also be accessible for private bicycles.

WALKING: The Pier would be a safe, child friendly environment to take a relaxed half hour return stroll along the 1200m wooden decking and enjoy the scenery, watch the train and take part in and/or use the various activities and facilities available on the Pier. The development of Patukirikiri Reserve and accompanying nature walks would combine well with the Piers amenity values and culture, helping to link the Pier to the reserve and the town centre for pedestrians.

VEHICLES: Light vehicle access when train not operational, emergency services at all times. (also see page

ARTWORK/SCULPTURE

The Pier would lend itself to landscape art/sculptures symbolising the ocean, Coromandel history/Maori Heritage, local culture, increasing the appeal of the Pier for all its users. (please see also interactive marine sculptures, page 33)
THE MARINA

There is potential to create a sheltered all tide marina environment to the North of the main wharf structure for up 80-100 boats. Depending on demand, floating platforms can extend out to provide comparable berthing spaces. Sewerage pump-out facilities and fresh water would be available as well as a possible fuel pump (page 35).

→ **01 Casual dock** Some casual berths would be available for short term visitors but these would be limited in the main marina as the breakwater berthing would provide for this option.

→ **02 Leased dock** Approximately 40-50 berths would be available for long term lease

→ **03 Charter boat dock** Leased to charter boat operators for transfer of passengers.

→ **04 Permanent berths** available for purchase- Priority would be given to local boats owners and local businesses.

→ **05 Day park charter boats and disabled parking** provided on the Pier for shuttle transfer of passengers outside of train operating hours. Train is the preferable mode of transport.

Access to charter boats would primarily be by rail with trains leaving on the hour during the busy season. The train timetable could adapt to charter boats operators needs. A shuttle service run by charter boat operators could have access to the pier when the train is not practical.
SHORE HOUSE

- Maritime Museum (Maori and Pakeha)
- Waka carving, Maori carving centre, cultural space
- Cottage industries, workshop facilities possibly doubling as retail space - small boat building (wooden dinghy, p-class yachts, sail-making, rope-making)
→ COMMUNAL SPACE

Open community space. BBQ/picnic/relaxation facility.

→ BOAT-HOUSE JETTIES

Small wooden character buildings on individual jetties to house the following possible users:

- Sea-scouts gear storage facility
- Local multi-sporters kayak and gear storage
- Kayak/Rowboats/P-class Yacht Adventures storage
- Fishing gear hire (hire a rod and hire a kayak could be one business)
- Other
THE END.
THE BEGINNING.
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