



# CAIRNS SHIPPING DEVELOPMENT PROJECT

Report on the  
2017 Revised Draft  
Environmental Impact  
Study

By



CAIRNS PORT  
DEVELOPMENT INC  
OUR PORT - OUR FUTURE

18<sup>th</sup> September 2017

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About the authors



Cairns Port Development Inc. (CPD Inc.) is not-for-profit and community based. We live and work beside the Great Barrier Reef, applying world's best standards to protect it. The organisation was incorporated in 2015 in reaction to the Reef 2050 Plan and Sustainable Ports Development Act that forces an economic cap on regional growth. In 2015, with a devastating blow to the city and region, the right to carry out major capital dredging at the port beyond the Cairns Shipping Development Project is blocked. Now that the project has been downscaled the legislation is very damaging to the future of the region. Our 'Nationbuilder' campaign platform has over 11,400 active followers. Further information can be downloaded from this link: <http://www.cairnsport.org.au>



## 1. Executive Summary

Cairns Port Development Inc. (CPD Inc.) strongly supports the Cairns Shipping Development Project in general. This report focuses on the following parts of the Cairns Shipping Development Project Environmental Impact Study:

- Sediment disposal sites
- Shipping demand and economic analysis

The report refers to CPD Inc. submissions to the Queensland Government Coordinator General submitted in July 2015 and August 2017.

Further development of the Port of Cairns is critical to Cairns' future. Many current cruise ships and most new cruise ships are too large to navigate the Trinity Inlet shipping channel and dock at Cairns cruise terminal. The existing channel is inefficient for existing and potential future cargo vessels and deepening the channel will assist the future efficiency of Cairns' Naval Base.

The 2015 draft Environmental Impact Study (EIS) for the project presented scientific evidence to recommend sea disposal of dredge spoil, which has now been preceded by the Federal Environment Minister as well as the Queensland State Government. Ports North's 2017 revised draft EIS focuses on land based placement.

**CPD Inc. supports the current recommended proposal in the 2017 revised draft EIS to place spoil at Barron Delta sand mines with the following essential caveats:**

- That it should only be Stage one of a larger project that includes other sites;** and
- The revised draft EIS recommendation, provided in Appendix I: Flanagan Consulting Group Options Study Report (2016) is completed transparently (i.e. available for public perusal as soon as a draft is available) and as soon as possible DOES demonstrate '*The Trinity East Placement Precinct has obvious advantages for land placement*'; and
- The next immediate step for the Cairns Shipping Development Project is to contract a new and independent group of consultants to produce a full project plan as soon as possible for a phased long-term dredging plan, including benefit-cost analyses and comparing at least the two main options for spoil placement. This project plan would include comparison of the options to produce a single project long-term plan. To change legislation to allow further projects after the current project is expired is neither preferable, safer nor closest to best business practise.

*Recommendations 8.5.6 page 123: The Trinity East Placement Precinct has obvious advantages for land placement and was the preferred land placement option in the draft EIS (although this was for the much larger 4.4 M m<sup>3</sup> dredging project). It is recommended that during the early stages of the EIS a planning exercise be undertaken to create the*

*'best' East Trinity site, based on impact avoidance and minimisation and on a detailed understanding of opportunities and constraints.*

- Ports North proposed a development plan for East Trinity and agreed to terms of reference based on several erroneous assumptions that grossly inflated the outcome. This was used by the Queensland Government Treasurer to reject the project based on costs in 2015.
- We suggest that only a smaller site is needed at East Trinity. After the sediment is placed, capped with good soil and vegetated, let's set it aside for the future with no immediate development.
- The Cairns port is historically the most important public infrastructure servicing the Cairns and hinterland region. Typically, it's necessary upgrade occurs every twenty or so years. Normally, public investment of the scale required is planned for a 25-year period.
- The 2015 draft EIS project plan was as a 20- 25-year plan to future proof the Port. Most importantly there was an outer channel upgrade and extension by 1.0km, expansion of the Crystal Swing Basin, relocation of the Main Swing Basin to a new location adjacent to HMAS Cairns. The total volume of sediment for removal was 4,400,000 m<sup>3</sup>.
- The 2017 revised draft EIS is considered a 10-year project plan at best. We understand that there is NO outer channel upgrade and extension by 1.0km and changes to the swing basins are minimal. The total volume of sediment removal is 1,000,000 m<sup>3</sup>.
- Given that the 2015 draft proposal was a 25-year project plan and the on-shore sediment placement cost is only \$46 per m<sup>3</sup>, as opposed to the currently proposed \$73 per m<sup>3</sup>, the 2015 plan is by far the most economical option for this publicly funded project.
- It is not clear in the revised draft EIS Economic Analysis or Economic Assessment if there is appropriate provision of bunker fuel that will increase visits by 10%. It is noted that for scenarios analysed to forecast earnings there is NO provision for bunker fuel.
- The 2017 proposed revised draft EIS downscales dredging that will only marginally improve the port capacity. The limit on ships lengths will be 300 metres rather than 320 metres proposed in the 2015 study.
- We understand the 2017 study will improve the operating efficiency of fuel and cargo ships and allow the HMAS Canberra and HMAS Adelaide hospital ships to berth as well as some international naval vessels.
- The 2012 project targeted upgrading the shipping channel to allow Voyager cruise ship class to enter the port, (Draft 9 metres, 138,000 tonnes and 311 metres long). The AEC Demand Study Update 2016 indicates that the Voyager class of cruise ship will have 60% of the market share to 2026. The AEC demand studies 2014 and 2016 confirm the Voyager cruise ship class will succeed smaller classes as the dominant cruise ship in Australian waters.
- In stark contrast, the revised downscaled project no longer proposes to allow the Voyager cruise ship class to berth at Cairns port because they are over 300 metres in length. The 2017 study downscales the project to only target the Vista class (Draft 8.3m, 283m long,

36 m wide) and Grand class (Draft 8.3m, 290m long and 36 m wide). The smaller Grand and Vista vessels will be out of production by 2023.

- The Proponent put forward the case that there will be plenty of smaller cruise ships to visit Cairns, although the 2017 demand study states that Carnival (Royal Caribbean Cruise Lines) has a five-year year planning cycle and will have eight seasonally deployed ships in Australia in the future but by 2020 not one will be less than 300 metres.
- As demand for cruising grows, cruise lines have been building larger capacity ships to take advantage of economies of scale. Of the 81 ocean cruise ships for delivery between 2016-2026, 59 are mega class ships and more than 60% of these are voyager class. No new smaller regal or sun class ships are on order.”
- Although it is claimed by the Proponent that 80% of the vessels that currently stand-off at Yorkey’s Knob may now come into the port under the downscaled proposal, most passengers will still be at Yorkey’s Knob suffering the tendering conditions to visit Cairns.
- The 35% of the unconstrained projected ship visits to Yorkey’s Knob may not occur due to negative factors associated with the destination impacting cruise line decisions.
- The new Brisbane Cruise Liner Terminal (BCT) is due to come on line in 2019 and growth of Cruise shipping in Queensland is due to significantly increase. Cairns is predicated to receive 30% of BCT ship numbers.
- The economic analysis states that cruise ship visit 2014 projected earnings is \$1,067.5 million (2014 NPV 7%) and the 2017 projected earnings is \$728.6 million (16/17 NPV 7%). The difference between the earnings is \$338.9 million and represents the value of the Voyager class.
- The Voyager class is worth about \$340 million to the economy. The opportunity and earnings are lost in the 2017 project plan. This equates to about 46% of the total revised and downscaled 2017 project earnings of \$728.6 million.
- The 2015 project was to generate estimated total value-added earnings of \$1, 342 million to the Cairns economy (NPV 2014, 7% real discount rate)
- The 2017 project will generate estimated total value-added earnings of \$849 million to the Cairns economy (NPV 2016, 7% real discount rate)
- The 2017 project investment shows some short-term gain for up to 10 years and that may appear attractive, but a 5:1 return from the 2015 project plan is excellent and there is no long-term pain in the 25 year project plan.
- Under the current 2017 project plan, it is highly likely that Cairns port will be in the same situation in 5 to 10 years’ time, as it is presently.
- There is evidence in media releases by the Proponent’s shareholders that economic reasons are the cause of the projects current downscaled outcome although we suggest that the outcome is influenced by biased stakeholder engagement and political influences.

- Overlooking the East Trinity solution to deliver the full 2015 project plan has impacted on the capacity to berth the Voyager class of ships, worth \$340 million (NPV, 7%). Is 300 ha of un-remediated land at East Trinity worth the loss?
- The project clearly has community support, well over 80%. The decision by the Proponent to downscale the project appears to pay no attention to broad community support for the full 2015 projects economic benefits; and the sustainable engineering excellence applied to Australian infrastructure projects.
- We understand that since the Cairns port was first dredged in 1887, this is the first time in the history of capital works projects, that optimal dredging design has not catered for 25 years of projected shipping demand.

## 2. Introduction

The report focuses on the sediment disposal sites and the shipping demand and economic analysis parts of the Cairns Shipping Development Project Environmental Impact Study.

The report refers to CPD Inc. submissions to the Queensland Government Coordinator General submitted in July 2015 and August 2017.

Cairns Port Development Inc. (CPD Inc) is a community based not-for-profit association of members from the public. The management committee members act in an honorary role and come from various professional backgrounds. Our common goal is to achieve the modernisation of the Cairns sea port and support the delivery of the Cairns Shipping Development Project. The port is owned by a Queensland Government Corporation, known as Ports North. The corporation's shareholders are the Queensland Government Treasurer and the Minister for Ports. This public project that will benefit the citizens of Cairns and Queensland is well-over due for completion.

The shipping channel has undergone necessary capital works since 1887 and again in 1913, in the 1940's, 1970's and was last improved to suit shipping needs in 1991. Often dredge spoil has been beneficially re-used, in fact most of Cairns city and the suburb of Portsmith have been built on dredge spoil. In recent times, we have excellent engineering and scientific capability to shift the marine sediment from the shipping channel to dedicated natural depressions on the sea-bed within the operating port limit boundaries within Trinity Inlet.

Recently, CPD Inc. was formed to counteract damaging misinformation from politically motivated green activists, that modernising the shipping channel would damage the Great Barrier Reef. UNESCO'S threats to de-list the reef from world heritage status has directly impacted the future of the port of Cairns and the current Cairns Shipping Development Project, as the Commonwealths Reef 2050 plan bans the sea-placement of dredge spoil, forcing it to be disposed on-land. It also bans future capital works projects.

The cost of marine placement was estimated to be approximately \$100 million in 2014, compared to the cost of land placement announced by the State Government in 2015 of \$365 million. That claim was grossly inflated and based on several erroneous assumptions. The

project has been extended four times and is recently downscaled to one-fourth of the size proposed in 2015.

### 3. Background

In 2012 Far North Queensland Ports Corporation Limited (trading as Ports North) initiated the Cairns Cruise Shipping Development Strategy with support from the State Government.

- The cost would be approximately \$100m, placing the spoil off shore.
- The shipping channel dredging works initially comprised of the removal of **10,058,000 m<sup>3</sup>** to a final dredge volume of **5,073,600 m<sup>3</sup>**.
- That unless the works were undertaken, the growing size of cruise ships being commonly used would increasingly be unable to enter the port.
- The current depths are causing inefficiencies for fuel, sugar and fertilizer ships using the port.
- It potentially affects Cairns' efficiency as the Australian Navy's base in Queensland.

The Government undertook to provide as special funding to Ports North, an amount of \$90m to complete the project.

The project rationale was solid and logical. The international cruise ship visits to the port of Cairns from 1998 – 2011 are assumed to be correct. The outlook figures from the AEC demand report for Australia to 2012-2013 are assumed to be accurate, and assumed to be obtained from the Industry. The report records that ship evolution has occurred and the mega-size, Voyager class is being targeted as the most common to visit Cairns by 2026. The optimal design of the shipping channel width and depth as proposed would allow the Voyager of the Seas and comparable size ships to enter the port.

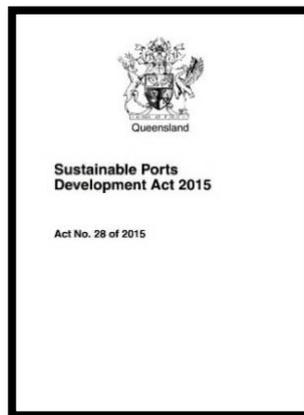
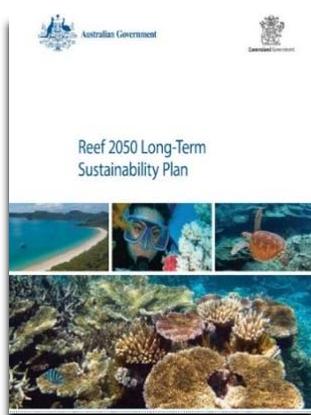


Extract Initial Advice Statement 2012: The target is the Voyager class.

The modern design would also cater for the increasing size of fuel and cargo ships to achieve operating efficiency. The expansion would also support HMAS Cairns.

In 2015, the Cairns Shipping Development project was on track to be delivered. Total volume of sediment for removal was **4,400,000 m<sup>3</sup>**.

**Then, the project was stopped in its tracks.**



The Commonwealth's Reef 2050 Long term Sustainability Plan was issued in late 2014 for public consultation. Within 12 months, the Queensland Sustainable Ports Development Act dealt a blow to the project plan. The Reef 2050 Plan and the Act blocked the right to carry out major capital dredging at the port beyond the Cairns Shipping Development Project. Now that the project has been downscaled the legislation is very damaging to the future of the region.

In September 2015, the Queensland Government Infrastructure Planning and Natural Resources Committee (bipartisan) unanimously agreed that the Port of Cairns should have 'priority port' status under the Act. CPD Inc. ran a petition to the Queensland parliament calling for priority port status and over 6000 citizens of Queensland signed in three weeks. Amendments to the Bill failed in November 2015.

Following the Queensland Government elections, the draft EIS was released to the public. In April 2015, the Queensland Government announced that they would not proceed with the project without waiting for public submissions.

The Cairns community indicated strongly that it was not satisfied with the process being terminated.

CPD Inc. peer reviewed the draft EIS, in particular the investigations that indicated bringing the dredged material onshore at East Trinity would cost an additional amount of about \$360 million as announced by the Queensland Government Treasurer. This was grossly over-stated based on the terms of reference provided to consultants. The costs were based on the immediate and total residential development of over 500 Ha including civil infrastructure and bridges spanning the inlet, in a land sales market post GFC with the on-set of a major 50,000-person residential estate at Mount Peter. It was doomed to fail under the terms of reference provided.

CPD Inc. indicated that other advice from suitably qualified engineers indicated capital cost of placement of dredged material at East Trinity would be only about \$145m and that over time, cost would be recouped through the increased value of the land. It was suggested that the land be capped and revegetated and put away for the future of the city. CPD Inc. submitted a response to the draft EIS that detailed an alternative slower and staged approach, placing a

minimum amount of dredging spoil on one smaller Southern area of the State-owned 964 ha East Trinity property; requiring only 320 ha of the most highly degraded land. The benefit-cost estimates indicated such a project would have a significant positive value that could pay for most or all the dredging and associated costs.

To deny Cairns the opportunity to dredge its channel would be a major setback for the city. The economic impact and demand studies in the EIS indicated that over the forecast period, the city will forego an estimated \$1.35 billion in NPV earnings.

We requested the Coordinator General recommend to the Government that a more comprehensive study be undertaken of placement options in consultation with the Cairns community with a view to developing a lower cost and environmentally acceptable solution to enable the project to proceed as soon as possible.

**Leaders plead for right to dredge to ensure city's growth**

# 'DON'T SINK OUR PORT'

**JIM CAMPBELL**

THE city's economic and community leaders have made a passionate appeal to the State Government: Don't let our port sink. There is major concern and anger that the State's draft Sustainable Ports Development Bill omits the city as a priority port, essentially ruling out capital dredging in the future. That could mean billions of dollars lost in tourism, shipping opportunities and new jobs creation.

WHAT THE BILL MEANS: PAGES 4-5

**"This is one of the biggest issues to have confronted the city in my lifetime."**  
Cairns Mayor Bob Manning

**OURsay** Thursday, September 3, 2015

## Decision will cripple port

THE decision by State Development Minister Anthony Lynham to consign Cairns' port to second-class status should cause concern.

It means the port will not be able to attract the investment needed to keep it competitive with other ports in the region.

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**MPs rock the boat in mutiny on port**

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**Push to redo dredging EIS stirs up port call**

CAIRNS tourism leaders have received calls to design Trinity Island after bad weather forced a cruise ship's stay at Yorkes Beach.

Cairns and Port Traps and Attractions (CAPTA) group chairman Charlie Woodward said the need to dredge the shipping channel was no more apparent than on Friday.

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**Loss of tourism**

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**Port vision crippled by political feuding**

The absence of any multi-partisan agreement has left the region high and dry, writes Peter Campion

IT is hard to believe that a 20-year-old vision for the port of Cairns is now being abandoned.

The vision was to create a world-class port that would be a major attraction for the region.

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**Mayor's cruise missile**

THE article "Port Bill faces green fire" (CP 17/08) continues the Greens' anti-progress propaganda.

The usual litany of misinformation, including "the port is a major attraction for the region", is repeated.

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**Great benefits in port development**

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**Port an entry point to region's delights**

John Walters, Whitfield

THE priority of the Port of Cairns was established in October 1976 as a result of a study by the Queensland Government.

Our port is as necessary now as it was in those early years. The services it provides are essential for the region's growth.

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**Ports Bill is in trouble**

THE Ports Bill is in trouble. It is a major attraction for the region.

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The EIS process was extended by the Coordinator General for the second time.

In the lead-up to the local Government elections in March 2016, polling was undertaken on the matter of a major dredging project for the shipping channel and 82% supported the work.

The Government subsequently advised that a proposal was being developed for the removal of **1,000,000 m<sup>3</sup>** for onshore placement, either at East Trinity or in the Barron Delta, for a cost of about \$120m that would allow up to 80% of prospective cruise ships to enter the port.

It is noted, that 20% of ships standing offshore are larger ships and the proportion of passengers standing offshore is much higher than 20%.

The community waited from May 2016 to July 2017 for the release of the revised draft EIS.

**Within five years the project plan has been reduced to one tenth of its original size from 10 million m<sup>3</sup> to 1.1 million m<sup>3</sup>. Within five years, the revised draft EIS documents a departure from some key objectives of the baseline proposal. The project has had four extensions and has been cancelled and then re-calibrated.**

### 3.1 Project baseline proposal in 2012

The basis for the project was stated in the 2012 Initial Advice Statement submitted to the Co-ordinator general.

In 2012 Ports North stated in developing 'a design that provided safe access for the targeted mega cruise ships while minimising the overall dredge volumes to limit both project cost and environmental impacts, the iterative design process allowed a reduction of channel dredge volumes from **10,058,000 m<sup>3</sup>** to a final dredge volume of **5,073,600 m<sup>3</sup>**. This reduction in volumes was achieved through the optimisation of channel width and more critically by establishing a channel depth, that while introducing some tidal constraints to access by the cruise ships, achieved significant dredge volume reductions.

The channel design was based on widening the existing 90m channel to 140m and increasing the depth from 8.3m to 9.4m to cater for the following Mega class cruise ships, most notably the Voyager class as shown in the table below.

The details provided below are extracts from the 2012 Initial Advice Statement.

Ship Class	Ship Name	Length Over All (m)	Beam (m)	Draft (m)
Regal	Pacific Dawn	245.1	32.3	7.8
Vista	Queen Victoria	294.0	32.3	8.1
Grand	Emerald Princess	290.0	36.0	8.5
Voyager	Voyager of the Seas	311.0	38.6	8.8

The total ship visitation numbers for Mega class ships corresponding to the new Channel Design are shown below:

Channel Design	Forecast year		
	2015	2020	2025
Proposed 140m channel	31	41	61

### 3.2.1 Project Rationale

*Having an additional alongside berth for mega cruise ships based in the north of the state will provide opportunities for increased cruise itineraries throughout the whole of the state. Dredging a broader and deeper channel will allow port access to larger cruise ships which will lead to the general expansion of North Queensland's cruise industry and also bring some stability and diversity to the Cairns tourism market sector. The completion of this channel and wharf upgrades will see cruise ships growing from an expected 33 ships in 2025 without infrastructure improvements to 130 ships on completing this project. The estimated construction period is one year from mid-2014 to mid-2015. In summary, the construction phase of the project is expected to generate approximately 215 full time equivalent employment opportunities over the one-year duration. (Extract Ports North Initial Advice Statement)*

### 3.2.2 New bunker fuel and fuel supply advantageous

*Currently, cruise liners visiting Cairns do not refuel while in port. However, smaller vessels with potential interests in home porting in Cairns would benefit from the possibility of refuelling. Heavy Fuel Oil (HFO) is not currently available and supplied in Cairns. The existing commercial fuel farm within the Port area is the preferred location for new fuel storage infrastructure. A pipeline would be required from the fuel storage area to the cruise wharf. (Extract Ports North Initial Advice Statement)*

### 3.2.3 HMAS Cairns can improve

*The project will enable future expansion of the HMAS Cairns Navy base, in keeping with the Defence Force Posture Review, which recommends upgrading / expansion of bases at Cairns and Darwin to accommodate LHD vessels. This potential expansion could bring permanent defence force staff to reside in Cairns. The project will also allow larger visiting overseas Navy vessels (in particular US Navy carriers) to enter the port for R&R visits with the spin off benefits of increased employment opportunities in the tourism sector. (Extract Ports North Initial Advice Statement)*

### 3.2.4 Tendering at Yorkey's Knob a deterrent

*Currently there is a significantly reduced number of visits by mega cruise ships to Cairns and the region, as no mega cruise ships can enter the Port and all will need to anchor off Yorkey's Knob. As ships increase in size, the logistics of tendering large volumes of passengers ashore at*

*Yorkey's Knob becomes more difficult and the experience less pleasant, especially for elderly passengers, than for an alongside berth. Also, the practicality of these large vessels tendering at multiple destinations throughout their itinerary is not viable. The detailed demand study highlighted that without improvements in infrastructure, the number of cruise ships visiting the Port of Cairns would only increase from the existing 27 cruise ships to 33 cruise ships in 2025 and the vessels that would visit the region and anchor off Yorkey's Knob would grow from 22 to 32 vessels with overall regional visitation limited to 65 vessels per annum. The economic input into the region, due to a combination of reduced passengers coming to shore via tendering and the limitations of potential home porting is significantly less than if these vessels can come alongside. (Extract Ports North Initial Advice Statement)*

### **3.2.5 Cruise Itinerary along Queensland coast improves**

*The development of the Cairns Cruise project also supports other cruise developments in both Brisbane and Townsville. Cruise ship operations are seeking itineraries with multiple destinations where the larger mega ships can come alongside berthing facilities and this Cruise project will support the overall cruise development in Queensland. (Extract Ports North Initial Advice Statement)*

### **3.2.6 Project period 25 years**

*With the projected growth in larger cruise ship visits, it is projected that over the 25-year project period, 2016 to 2041, the direct benefits to the cruise ship trade of deepening the channel, wharf improvement, and installing facilities for fuel types used by larger ships would have an NPV of \$141m in 2011 prices. (Extract Ports North Initial Advice Statement)*

## **4.0 Sediment disposal sites**

We supported the draft EIS recommendation for placement of the project capital dredging spoil in an appropriate location off-shore as this view is based on the several authoritative scientific reports that have demonstrated such placement would not cause harm to the Great Barrier Reef or nearby environment. However, both the Federal and the Queensland State Governments ruled against such off-shore disposal. As such, if the Cairns Shipping Development Project is to eventuate, dredging spoil must be placed on-shore.

### **4.1 Draft Environmental Impact Study 2015**

As the placement of spoil on land became the only option to consider in 2015 the analysis of the East Trinity solution became critical.

#### **4.1.1 Reef 2050 plan bans sea placement: East Trinity becomes the critical solution**

The question we asked was:

**Where did the Governments amount of \$365,000,000 for East Trinity, that caused the project to be cancelled and then re-calibrated come from?**

The costs of land based placement at East Trinity was promoted by the Government as \$365 million. With capital costs of dredging and infrastructure at \$107 million the cost of land placement at East Trinity is massively over-estimated at \$258 million. The actual cost is estimated at \$145 million. This is calculated using a different process and project plan. The 4.4 million cubic metres of sediment plus the water slurry should amount to 6 million cubic metres, NOT 12 million cubic metres.



Extract Cairns Post May 2015

#### 4.1.2 No full impact study on land placement site at East Trinity

This extract is from the draft EIS Chapter A3, *Appropriateness of Preferred Land Placement Site at East Trinity* "This Part has been included in the EIS on the basis that there are a number of emerging issues related to Port development and dredging that could lead to a change in the assessment processes for capital dredging. A number of key environmental reports, Port project announcements, environmental and costs considerations could, in the future, open the opportunity to reframe the criteria for assessing the acceptability of undue risk to human health or the environment or disproportionate costs that is included in the appropriateness test in the NAGD. If this does occur, particularly around the measure of cost disproportionality, then it provides an opportunity for further examination of East Trinity as a fill placement site option".

**"Due to the outcomes of the appropriateness assessment contained in Chapter A3, Appropriateness of Preferred Land Placement Site at East Trinity, a full environmental impact assessment was not undertaken on the East Trinity land placement site**

as key indicators of appropriateness, human health and cost disproportionality under NAGD were not met by the site.”

“If East Trinity is subsequently deemed appropriate for further investigation, more extensive assessments would need to be undertaken. **Part D** of the EIS has been prepared to provide a more detailed Review of Environmental Factors (REF) for the East Trinity site and to guide these future assessments if land placement of the dredge material was required to be investigated further as part of the EIS.”

“There are two sites, East Trinity North and East Trinity South, which would be filled to a level of 3.2 m AHD. The bunded area would provide sufficient volume to take the required 12 million m<sup>3</sup> fill volume

- The required length of external and internal bund walls is 22 km
- Internal bund walls would be constructed to cater for the initial fill level, with a freeboard allowance of 0.3 m for internal wind induced waves
- The existing site bund wall is approximately six km long and is of insufficient height and width for the volume of material to be placed and to meet current Australian Design Standards; however, it could potentially be incorporated into a new bund wall
- This equates to a need to import approximately 275,000 tonnes of lime to the site in order to effectively neutralise the PASS.”

#### 4.1.3 Flawed development option for land at East Trinity

The analysis of development options for East Trinity was based on the following assumptions and caveats as extracted from Appendix E of the EIS report:

##### “1.1 Assumptions & Caveats

The following assumptions and caveats apply to this report:

- the Development Site is delivered “development ready”, in that the site will be filled to RL1.65m AHD and any dredge disposal mitigation conditions have been/are being implemented.
- the analysis is from a post-handover development feasibility perspective only and does not address any costs, including costs associated with the disposal of dredge spoil on the Development Site, prior to handover to a developer.
- the Development Site is not waterfront land - rather it is an isolated site set back approximately 400m from Trinity Inlet. This setback area (Lot 36 on AP7415 & Lot 34 on USL9876) is primarily tidal mangroves and subject to a Native Title Determination in favour of the Mandingalbay Yidinji People. As such, development potential on waterfront portion of East Trinity is extremely limited.
- There is no change in broad State, regional and local planning policy regarding the ongoing and future development of identified growth corridors (e.g. Edmonton - Gordonvale).
- The principle form of development on the Development Site is for detached and attached, low-rise (no more than 2 storeys) residential development. Other than convenience retailing, no commercial or retail development (e.g. Town Centre, suburban retail, offices etc) are proposed.
- No Government funding/subsidies/credits are provided for major infrastructure (e.g. roadway duplications, bridges, sewer and water treatment plants, sport, recreation and

community facilities etc.). All infrastructure costs (trunk and non-trunk) are a developer cost.

- Does not contemplate a commercial ferry services between the Cairns City Centre and East Trinity (so as to reduce impacts upon existing roads) as:
  - » utilisation of such services, even in cities with far greater population levels, is generally such that service must be heavily subsidised to remain operational; and
  - » there would be major cost implications in addressing CBD-side issues associated with any ferry service, such as car parking, berthing facilities etc.
- While the redevelopment of East Trinity for urban purposes will require a rigorous State and local Government assessment and obtaining approval is not guaranteed, for the purposes of this report, it is assumed that approval to proceed with the development is granted by State and local Governments.”

Independent engineers and property valuer’s reviewed Appendix E and the application of the assumptions delivered an outcome that was doomed to fail East Trinity as a solution. Comments made by CPD Inc. at the time included the following as part of the submission to the Co-ordinator General.

**A. The draft EIS precludes several different options that could be economical.**

- i. The draft EIS responds to the EIS Terms of Reference (TOR) in a narrow manner.
- ii. A broader interpretation of the TOR could result in a very different recommendation.
- iii. Consider two requirements of the TOR:
  1. ‘Provide descriptions of all feasible alternative land-based spoil disposal.’  
And:
  2. ‘Sufficient baseline economic data to underpin a comprehensive assessment of the direct, indirect, cumulative, costs and impacts of the project.’
- iv. The draft EIS assesses only the areas totalling 518 ha at East Trinity deemed necessary to place the spoil. This area is then assessed for development of residential housing.
- v. The spoil placement area is part of a State-owned 944 ha property at East Trinity.
- vi. The residual 416 ha of the State-owned property is at higher levels, some with outstanding views over the inlet and CBD to the hills beyond Cairns, could potentially be developed for residential purposes.
- vii. However, this residual 416 ha was not included in the draft EIS assessment.
- viii. It could be argued that such development is outside the EIS TOR, and in any case, Ports North’s business is port management, not property development.
- ix. However, it is clear that if the residual 416 ha was included in a development option, the draft EIS assessment would have been significantly different.

**B. (App e2: Option 2 – Development for Urban Purposes.... We have also been advised that this would necessitate the import of an additional 5.26 million cubic metres of fill onto the site, additional to the fill sourced via dredging operations.) Assessing the development options for the 518 ha as noted above required increasing the amount of spoil to be dredged from the minimum 4.4M by an additional 5.26M cubic metres, with attendant costs.**

- i. This increase in spoil volume was required to raise the level of settled spoil to the minimum level required for development.

- ii. However, if this 518 ha was not developed, at least in the shorter term (5 – 10 years, or until there is market demand), then only the minimum volume would need to be accommodated.
- iii. This minimum volume could most likely be accommodated in a smaller area than the 518 ha.
- iv. As well, it is likely that only one of the two separate areas comprising the 518 ha would be required.
- v. Local residents who have been familiar with, and worked on, this property for several decades have described only minor pockets of the Northern area may require remediation – certainly not the large Northern area as proposed in the draft EIS.
- vi. Further, if only one placement area is required, then the 22 Km of raised or new bund wall would be significantly less.

**C. The draft EIS proposes using a large Dutch dredge for all options, both off-shore and on-shore. The dredging time, 24 hours a day, is calculated as 30.1 weeks for East Trinity. A smaller dredge and dredging system, pumping spoil at a slower rate, could be more economical.**

- i. The pumped spoil has about 60% water content.
- ii. Dredging over 30.1 weeks results does not allow time for significant de-watering (significant sediment settling out).
- iii. This results in the draft EIS calculation that about 12 million cubic metres of spoil must be accommodated on land.
- iv. If the spoil was dredged and pumped more slowly, the spoil would have more time to settle, and so require a smaller holding capacity.
- v. Further, if the required capacity is smaller, and the holding area is not required (at least in the shorter term) for residential development, then the bund walls could be lower, requiring less material. As well, different designs for the bund wall may be more cost-effective.
- vi. It is not clear in the draft EIS where the material for the 22 Km of bund walls comes from. However, several adjacent properties are derelict and could provide this material at minimal cost. Alternatively, much of the material for the retaining walls can be obtained on site from the previously cultivated and farmed areas. On-site material could also cover some of the potentially acid sulphate sub-soil as well as the dredged material (as proposed by CSIRO, ASS Soils in East Trinity Inlet presentation, May 1999).
- vii. The draft EIS does not describe potential technical solutions to improve the cost-effectiveness of dredging.
  1. For instance, Dr Bowman, CSIRO, 1999, described a centrifuge approach to separating spoil from the water. In addition, centrifuging is used in similar situations to remove harmful chemicals and materials.
  2. This process reduces the amount of spoil to be de-watered and settled over time and so reduces the holding capacity required. This centrifuge process is commonly used in dredging operations.
  3. Also, it may be appropriate to use new technologies that enable better uniform mixing to inject lime into the spoil as it is pumped.

**D. The Northern area allocated for spoil placement includes mangroves potentially suitable for eco-ventures.**

- i. Mangroves on the North-Western areas of the 944 ha site, and between the site and Trinity Inlet, comprise old mangroves and a small area of freshwater wetland with an old melaleuca forest.
- ii. These Northern and shore-line areas would be well suited to developing into eco-tourism ventures.
- iii. If the residual areas on the 944 ha site is developed, this could provide funding to enable eco-tourism; for instance to pay for boardwalks, information centre, ferry services across from the Pier marina. A ferry service would also be a major benefit for people with residences in East Trinity residential developments.

**E. It is important to understand the background to the current issues surrounding the East Trinity site.** The following summarises the main events and issues:

- i. Alternative proposals for over 20 years have demanded that much of the East Trinity site, in particular the Southern area, be ‘restored’, or ‘rehabilitated’ to wetlands. However, photographic evidence, as well as descriptions from local elders, confirms this area never was wetland. The area originally comprised salt pans and grasslands, similar to Portsmith prior to reclamation using dredged spoil. After this area was used for grazing cattle, it was levelled and converted to cane farming.
- ii. After cane farming became uneconomical, the area was planned for development of an international-standard Royal Reef Resort. Plans and schematics of the resort can be viewed at <http://better-management.org/dredging/cairns-shipping-development-project/>. The resort development included resolving all degradation issues on the property.
- iii. After initial approval, pressure from anti-development ‘greens’ strong-armed the Labor Government under Peter Beattie’s premiership into withdrawing the approval, resulting in the developer going into receivership. National Westminster bank prepared legal action against the Beattie State Government, resulting in an out-of-court settlement, understood to have been \$10m. The draft EIS A2.8.4 East Trinity presents a somewhat different version: *In the early 1990s a proposal to develop a satellite city on the site attracted community attention, but failed to gain approval. In 2000, the Queensland Government purchased the site with the intent of preserving the scenic rim of Cairns and for remediating the acid sulphate problems.*
- iv. Having prevented the solution to fix the severe degradation, as the new owners of the property the State has been spending some \$500,000 each year attempting, unsuccessfully, to fix the pollution issues.
- v. CSIRO assessed the pollution as severe and made recommendations to resolve the pollution (May 1999). These recommendations were not applied, as evidenced by the current state of degradation (e.g. view a recent photo of dead melaleucas – scroll down on the website above). Such degradation would not be allowed if the property had private owners.
- vi. This issue is important to consider in terms of development of the property, as well as ongoing maintenance costs until the issue is resolved.

# City not giving up on port

BUSINESS groups have backed a call by the Cairns Regional Council for the State Government to defer a final decision on the dredging of the Trinity Inlet shipping channel.

Advance Cairns and the city's chamber of commerce have thrown their support behind the council, which wants the government to re-examine the proposal.

The government has axed dredging on the basis of cost (\$100 million for dumping soil at sea or \$365 million for land based disposal) and environmental grounds.

But Queensland Treasurer Curtis Pitt and State Development Minister Anthony Lynham are calling on Ports North to re-examine their Environmental Impact Statement on dredging and look at other port developments, including some dredging which must be disposed on land.

Advance Cairns chief executive Mark Matthews said it supported the development of the port, as well as other ports in the region, to meet the needs of the growing economy.

"We will make a submission to the draft EIS, focusing on the port as a strategic asset and ensuring there is a clear path for consideration of future expansion and development of the port and associated infrastructure," he said. "Our submission is being developed in conjunction with the Cairns Chamber of Commerce."

Mr Matthews said Advance Cairns supported the council's submission and its thrust to ensure that any development was supported by the best available science, would be based on best practice management of environmental impacts and included a comprehensive monitoring regime to measure impacts on the natural environment.

Chamber president Sam Marino said the chamber would join other business groups to back the council.

Mayor Bob Manning said the findings of the environmental impact statement demonstrated that further consideration should be granted to the proposal.

## 4.1.4 Cost estimates of East Trinity land based placement over-stated

Based on an extract from Appendix D.9 Economic Feasibility Analysis capital costs where only \$107m.

### 3.2 CAPITAL COSTS

Capital costs are taken to be those supplied by Ports North.

Estimated Capital Costs 2014 prices:

Environmental impact statement .....	\$5.35 m
Design project management and statutory fees .....	\$7.71 m
Dredging and marine replacement .....	\$58.89 m
Wharf and services upgrade .....	\$11.82 m
Monitoring and offsets .....	\$18.00 m
<b>Total .....</b>	<b>\$101.73 m</b>
<b>Total at 2016 prices .....</b>	<b>\$107.93 m</b>

In addition to capital costs, the placement of dredge spoil at East Trinity is estimated at \$258m.

An independent review as shown on the following page, estimates this at \$145m

**We submit that the total project using East Trinity for the 2015 project may be estimated at \$252m NOT \$365m.**

**In addition, we submit that the development option was grossly inflated and based on several erroneous assumptions.**



# Submission Schedule

## Dredging Rates

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Item	Description	Unit	Quantity	Unit Rate	Amount (AUD)
<b><u>Port of Cairns Dredging</u></b>					
<b><u>Total Usable land 340ha</u></b>					
<b><u>Design of Bund</u></b>					
	Detailed survey of existing land	item	1.000	1,100,291.00	1,100,291
	Design of bund wall	item	1.000	550,145.00	550,145
	Design of all concrete structures required for dredging pumps	item	1.000	550,145.00	550,145
<b><u>Construction of Bund Wall 1 (9klm)</u></b>					
	Preliminaries including (Construction Plans, Insurances, other)		1.000	33,008,726.00	33,008,726
	Construction Survey		1.000	275,073.00	275,073
	Clear and Grub	m2	270,000.000	7.92	2,138,400
	Excavate and place high plastic fill	m3	32,400.000	97.78	3,168,072
	Supply and place general fill to construct bund	m3	243,000.000	30.97	7,525,710
	Trim Batters	m2	162,000.000	3.73	604,260
<b><u>Construction of Bund Wall 2 internal</u></b>					
	Construction Survey		1.000	275,073.00	275,073
	Clear and Grub	m2	270,000.000	7.92	2,138,400
	Excavate and place high plastic fill	m3	32,400.000	97.78	3,168,072
	Supply and place general fill to construct bund	m3	243,000.000	30.98	7,528,140
	Trim Batters	m2	162,000.000	9.32	1,509,840
<b><u>Construction of discharge ponds</u></b>					
<b><u>200m X 200m X 2m deep</u></b>					
	Clear and grub areas	m2	360,000.000	2.20	792,000
	Excavation of material to form ponds and discharge points	each	4.000	325,024.00	1,300,096
	Rock protection works at outlets	each	4.000	550,145.00	2,200,580
	Concrete spillway	each	4.000	550,145.00	2,200,580
<b><u>Dredging of Port</u></b>					
	Dredging of the port and pumping onto land	item		88,000,000.00	Rate Only
	Dozers if required to push material	item	1.000	4,990,919.00	4,990,919
	Treatment of ASS/PASS material	item	1.000	12,625,837.00	12,625,837

Expert Estimation 2014 SP1

Page No : 1

Expert Estimation © 1992 - 2015, Pronamics Pty Ltd

## Dredging Rates

Printed : June 1, 2015 15:33:17

Item	Description	Unit	Quantity	Unit Rate	Amount (AUD)
<b><u>Clear of total area and placement of Capping Material</u></b>					
	Clear and Grubbing	m2	6,000,000.000	1.78	10,680,000
	Capping of Dredged material with suitable fill material allow 300mm	m3	1,800,000.000	26.03	46,854,000
<b>Total for project</b>					<b>145,184,359</b>

Expert Estimation 2014 SP1

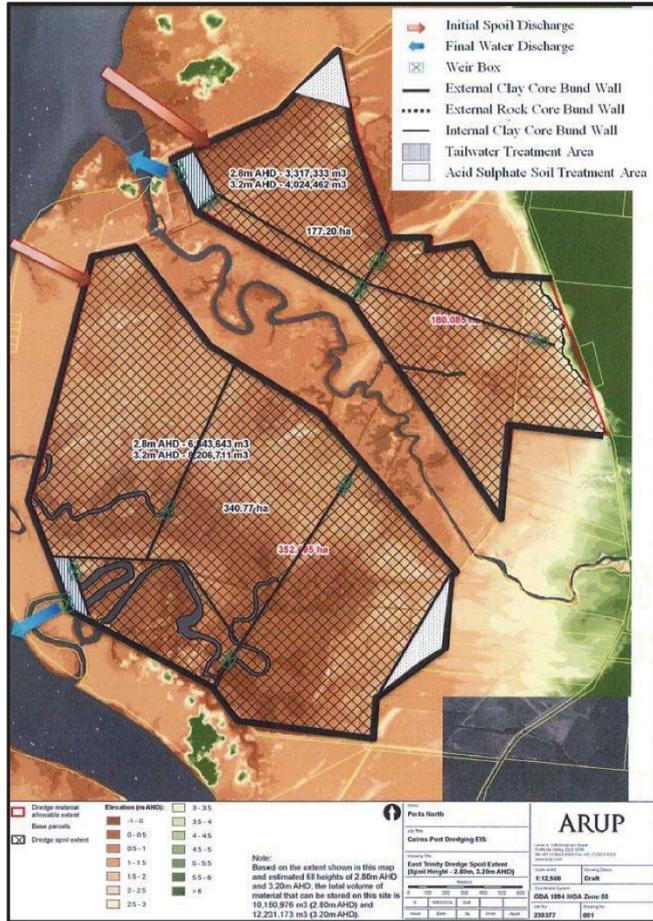
Page No : 2

Expert Estimation © 1992 - 2015, Pronamics Pty Ltd

**Assumptions on Site Area:**

Site area covers two areas of dredge spoil disposal as per the Arup Drawing below:

Southern (larger) area =	341 ha	Fill to RL 1.6m AHD	4,400,000 m <sup>3</sup>
Northern (smaller) area =	177 ha	Fill to RL 2.8m AHD	9,660,976 m <sup>3</sup>
Total combined site area =	518 ha	Volume =	5,260,976 m <sup>3</sup>



**SMALLER AREA NEEDED**

- EIS says 518 ha
- We say only 320 ha is needed
- A section is highly degraded and not natural wetland.



**After the sediment is placed, capped with good soil and vegetated, let's set it aside for the future.**

IH044600-ECC-RP-0001 Rev 1 East Trinity Trunk Costings

6

**ECONOMICS OF LAND PLACEMENT**

**LAND VALUES EXPECTED TO INCREASE**

Holding cost interest 7%

INFLATION	3% pa
REAL INCREASE WITH CITY GROWTH, SAY	1% pa
NET HOLDING COST	3% pa

**COST OF PLACEMENT IN CURRENT VALUES**

\$36 per sq m	NOW
\$48 per sq m	AFTER 10 YEARS
\$65 per sq m	AFTER 20 YEARS

**ECONOMICS OF LAND PLACEMENT**

**CURRENT CITY VALUES**

INDUSTRIAL	av \$140 sq m
CBD	\$600 : \$1400 sq m
LOW RESIDENTIAL	\$160 sq m
HIGH RESIDENTIAL	\$400 sq m
EDMONTON	\$160 : \$200 sq m
GORDONVALE	\$140 : \$180 sq m
EAST TRINITY BEACHES	\$160 : \$240 sq m

## 4.2 Revised Environmental Impact Study 2017

Land-based placement was announced for the revised project with the preferred site based in the Barron Delta sand extraction area owned and operated by Northern Sands. We support the use of this land and appreciate the benefits the current use adds to the project.

The process to deliver the spoil to the site has been reviewed and due to the distance from the shipping channel, barges and 7 km of pipelines and pumps are to be installed.

Regarding A2.1: *Following the change of Commonwealth and Queensland legislation which mandated the placement of future capital dredge materials in an onshore facility, Ports North undertook a recalibration of the project to review channel upgrade opportunities which would optimise cruise ship numbers, whilst limiting required dredging volumes.*

Our previous submission (Queensland Government Coordinator General, 2015), Section B, Issues, d iii noted the original EIS Terms of Reference (TOR) required: 'Consider two requirements of the TOR:

- a) 'Provide descriptions of all feasible alternative land-based spoil disposal.' And:
- b) 'Sufficient baseline economic data to underpin a comprehensive assessment of the direct, indirect, cumulative, costs and impacts of the project.'

Clearly then there was no need to 'recalibrate' the project as the onshore assessments were already required. The 're-calibrating' was ordered by the Treasurer causing further delays and costs.

The revised project has nominated many potential sites. Recently a prawn farm situated at the Barron Delta has also indicated that they have ponds with volumes of about 1M m<sup>3</sup> that can be filled in.

CPD Inc. produced a video of a helicopter flight over some of the proposed sites in July 2017 See the video by clicking this link: <http://www.cairnsport.org.au/flight>.

### 4.2.1 East Trinity solution over-looked again

In Appendix I, Flanagan Consulting Group delivers a message to supposed supporters of immediate development of East Trinity.

*"Proponents of development at Trinity East presuppose that urban development at East Trinity is in fact a desired outcome for the future expansion of Cairns. It is suggested that many members of the Cairns community would argue that it is not. The issue of catering for the future development of Cairns is a broader regional development discussion that must be had by the Cairns and the Far North Community before possible development options are pre-emptively adopted on the basis of a quantity of fill (of limited volume and questionable quality) being available."*

CPD Inc. notes that this point about future development of Cairns is totally irrelevant and surely not within the mandate of the revised study.

The consultants were entitled to their opinion, but this information is misleading as the spoil placement site at East Trinity does not necessarily need any development.

It is not constructive to assume any decision about East Trinity, because it has 'collateral benefit' for urban development. The draft EIS terms of reference by the Proponent caused the study of East Trinity as an immediate residential development for collateral benefit, not CPD Inc. We were highly critical of that proposed plan.

**Indeed, the Proponent of the project, Ports North proposed the development plan that was grossly inflated and based on several erroneous assumptions. This was used by the Queensland Government Treasurer to reject the project based on costs.**

The consultants to the draft EIS, RPS, Jacobs and Herron Todd White were directed by Ports North to present costs that were based on the immediate and total residential development of over 500 Ha including civil infrastructure and bridges spanning the inlet, in a land sales market post GFC with the on-set of a major 50,000-person residential estate at Mount Peter. It was doomed to fail under the terms of reference provided.

CPD Inc. peer reviewed the draft EIS, in particular the investigations that indicated bringing the dredged material onshore at East Trinity would cost an additional amount of \$365m. CPDI indicated that other advice from suitably qualified engineers indicated capital cost of placement of dredged material at East Trinity would be only about \$145m and that over time, cost would be recouped through the increased value of the land.

CPD Inc. suggested that the land be capped and revegetated and put away for the future of the city.

Flanagan Consulting Engineers opinions continue followed by a recommendation:

*"What this means is that the merits of East Trinity need to be considered for land placement of dredge material only as reliance cannot be placed on some future end use and associated income stream that is far from certain."*

*"Recommendation: The Trinity East Placement Precinct has obvious advantages for land placement and was the preferred land placement option in the draft EIS (although this was for the much larger 4.4 M m<sup>3</sup> dredging project). It is recommended that during the early stages of the EIS a planning exercise be undertaken to create the 'best' East Trinity site, based on impact avoidance and minimisation and on a detailed understanding of opportunities and constraints."*

CPD Inc. notes that this recommendation is not cohesive with the view that the Barron Delta sand mining site is the preferred option. This recommendation appears to have been ignored in jumping to the Barron Sand Pit proposal.

CPD Inc. would also like to note that revised EIS still includes the same wording pointed out as inaccurate:

*'After initial approval, pressure from anti-development 'greens' strong-armed the Labor Government under Peter Beattie's premiership into withdrawing the approval, resulting in the developer going into receivership. National Westminster bank prepared legal action against the Beattie State Government, resulting in an out-of-court settlement, understood to have been \$10m.*

The revised and draft EIS East Trinity is represented in a somewhat different version:

*In the early 1990s a proposal to develop a satellite city on the site attracted community attention, but failed to gain approval. In 2000, the Queensland Government purchased the site with the intent of preserving the scenic rim of Cairns and for remediating the acid sulphate problems.'*

*'There are several indications of bias such as A2.6.3b "Various unsuccessful plans for development were proposed during the 1980s and 1990s, whilst the site was left largely unmanaged (Smith et al. 2003). In the early 1990s a proposal to develop a satellite city on the site attracted community attention, but failed to gain approval."*

Recall the resort proposal was approved, then the Beattie Government retracted this approval and had to buy the land as out-of-court settlement.'

The following point about East Trinity, also still missing from the documents, is the ongoing expenditure that should be included in cost comparisons of options. *"Having prevented the solution to fix the severe degradation, as the new owners of the property the State has been spending some \$500,000 [or \$400,000?] each year attempting, unsuccessfully, to fix the pollution issues."*

Also in Draft EIS A2.1 *'In July 1992, the Queensland Government provided comments on the Connell Wagner (1992) study findings. In regard to the identification of T5 (East Trinity) as the preferred terrestrial site, the Queensland Department of the Premier, Economic and Trade Development and Office of the Cabinet advised that: '... the dumping of spoil with engineering characteristics indicated in the report could render the site unsuitable for urban development for very many years. For this reason the use of site T5 could not be supported.'*

This point is irrelevant and misleading as the spoil placement site does not need development, just covering as per the CSIRO recommendation. Our submission also noted that if development in the area is appropriate, eg to contribute toward the dredging and spoil disposal costs, then the larger amount of adjacent raised land is immediately available, also owned by the Qld State Government following the land purchase out-of-court settlement by the Government after they cancelled planning permission for the resort. Note: the resort plans included covering the degraded area.

## 5.0 Project, demand and economic analysis

The submission reports on the 2015 draft study and the 2017 revised draft study project plan, capital costs, shipping demand and economic analysis.

### 5.1 2015 Draft Environmental Impact Study

The draft Environmental Impact Study was released on the 18<sup>th</sup> April 2015. The consultant's reports reference 2014, particularly the economic studies and calculations for Net Present Value (NPV).

#### 5.1.1 Project description summary

The project plan was as follows:

- 20-25 year future proofing of Port
- Widening the existing 90m channel to 130m
- Increasing the depth from 8.3m to 9.4m
- Outer Channel upgrade and extension by 1.0km
- Expansion of the Crystal Swing Basin
- Upgrade of wharf berths
- Upgrade of landside infrastructure
- Relocation of navigational aids
- Relocation of the Main Swing Basin to a new location adjacent to Admiralty Island.
- Total volume of sediment for removal was **4,400,000 m<sup>3</sup>**.

*Extract Ports North DRAFT EIS CAIRNS SHIPPING DEVELOPMENT PROJECT:  
Chapter A4 Project Description. Nov 2014.*

#### 5.1.2 Fuel

Fuel supply upgrades included an additional IFO storage tank(s) within the existing fuel farm area with a capacity of approximately 10,000m<sup>3</sup> (7,500T) to store monthly fuel deliveries.

The fuel farm area is currently leased to three major petroleum suppliers; therefore, the exact location for the new storage tank would involve future agreement between Ports North and the successful fuel IFO supplier. It is likely that IFO supply to the fuel farm would be via a dedicated IFO supply ship that delivers IFO to Gladstone from Singapore.

*"IFO to wharves shall be provided via a dedicated pipeline and a pump station. The concept design has identified that a one kilometre long 250mm pipeline will be required between the storage tank and Wharf 3. It is expected the pipeline will be buried to assist with mitigating the risk of damage, corrosion and fire. Construction and installation would be via trenching and piping construction methods." "A storage area at the wharves would also be required and a small building near Wharf 3 will be constructed to allow the connection of the onshore services with the vessel fuel services."*

### 5.1.3 Capital Costs

Capital costs are taken to be those supplied by Ports North.

Estimated Capital Costs: 2014 prices

Environmental impact statement .....	\$5.35 m
Design project management and statutory fees .....	\$7.71 m
Dredging and marine replacement .....	\$58.89 m
Wharf and services upgrade .....	\$11.82 m
Monitoring and offsets .....	\$18.00 m
<b>Total .....</b>	<b>\$101.73 m</b>
<b>Total at 2016 prices .....</b>	<b>\$107.93 m</b>

Extract Draft EIS Economic Analysis Cummings Economics August 2014

The 4.4 million cubic metres of dredge spoil removal is costed at \$58.89 million equating to \$13.38 per cubic metre for placement at the dedicated spoil grounds within the Port operating boundaries.

### 5.1.4 Shipping demand and economic analysis

The demand study was carried out by AEC in 2010/11 and updated in 2014 for the Draft EIS.

The 2015 project plan was established in line with standard public infrastructure spending that forecasts 25 years of cash-flow modelling applying net present values (NPV) at 7% discount rates. Limited information from cruise ship companies has limited some cruise ship demand forecasts to the next 10 years although industry trends provide a sound basis for forecasting demand for 25 years. The project plan includes capital costs that will future proof the Cairns port for 25 years. The 2015 project plan does not include the proposed new Brisbane Cruise Liner Terminal that has a very positive impact on cruise ship demand in Cairns.

The report highlighted the significance of Voyager Class, a mega cruise ship, to the future of Cruise ship earnings in Cairns.

This is an extract from the Cairns Shipping Development DRAFT Environmental Impact Study 2015 Appendix D – Cairns Cruise Shipping Demand Study:

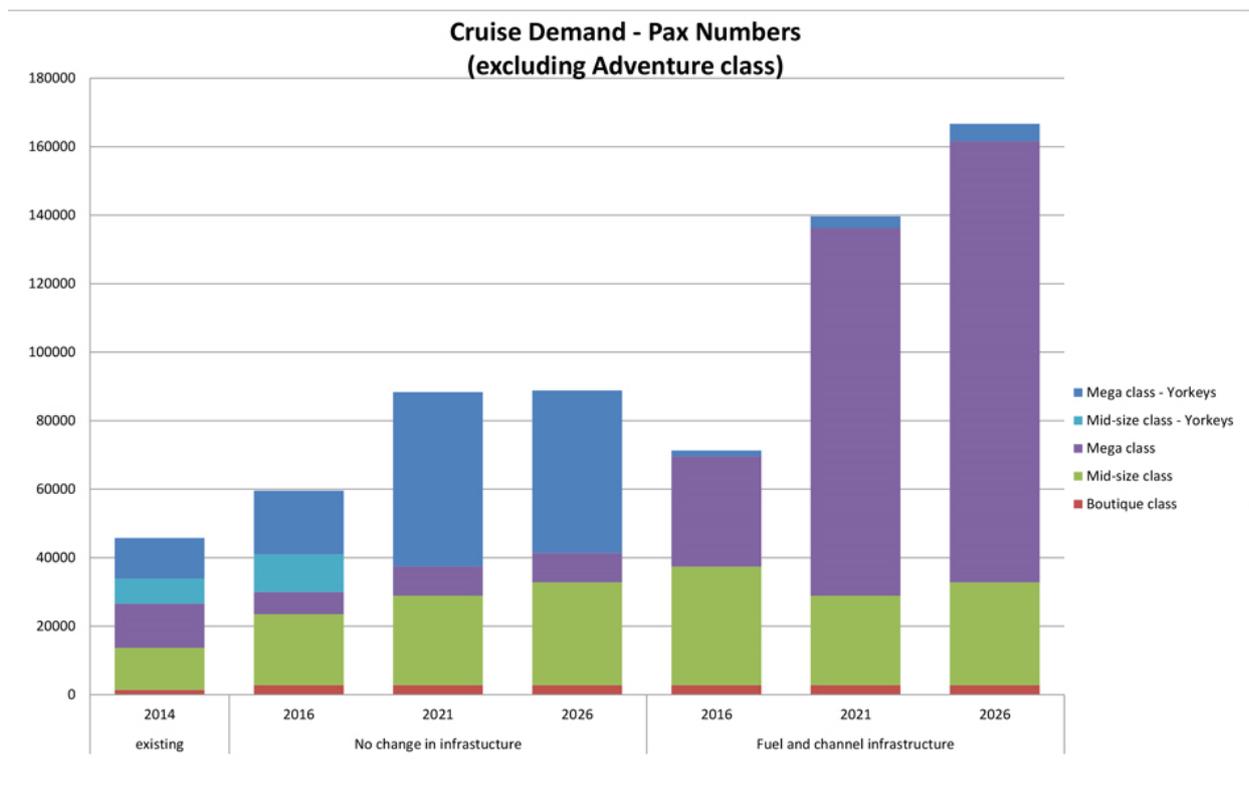
*Both Cairns and the operators of Mega cruise ships would benefit most from the channel access to Trinity Wharves being improved such that the majority of Mega ships can berth safely in Cairns. As the number of Mega cruise ships increase there will be even more demand for this access and if not available it could lead to a reduction in cruise ship visits as the larger ships will find it more difficult to operate at Yorkey's Knob hence leading to more passenger dissatisfaction with the destination.*

The report noted that with improved infrastructure, the smaller mid-size ship visits would only increase by about 4.5%, but the Mega size ship visits would increase by about 8.5%. In terms of passenger numbers, the Mid-size ships carry about 1,500 passengers and the Mega size ships carry generally more than 2,500 passengers.

**Table 2 Cruise Demand Predictions (With and Without Infrastructure Improvement)**

Demand without improvement of infrastructure	2016	2021	2026
Mega	32	34	32
Mid –size	27	34	39
Boutique	8	8	8
Total ships	67	76	79
Demand with improved infrastructure	2016	2021	2026
Mega	34	52	63
Mid –size	27	34	39
Boutique	8	8	8
Total ships	69	94	110

Extract Cairns Shipping Development DRAFT Environmental Impact Study 2015 Appendix D – Cairns Cruise Shipping Demand Study



**Figure 3 Cruise Demand Predictions (With and Without Infrastructure Improvement) – Passenger Numbers**

The table above shows that with improved infrastructure, by 2026 the mid-size ship visits is growing slowly. The Mega-class ships that can berth at the Port of Cairns has grown to take full advantage of the market applying economies of scale.

There are direct benefits from moving ships from Yorkey's Knob to Cairns seaport

- Ship to shore transfer costs of passengers
- Shore to city transfer costs of passengers
- Cost of time lost for passengers
- Restrictions on crew taking shore leave.

This is calculated at \$70 per passenger that could otherwise be earned in part, by Ports North as an increased passenger charge at the Port of Cairns.

The project also benefits the operating efficiency benefits for fuel, fertilizer & sugar products worth \$40 million to \$60 million.

This is an extract from Draft EIS Chapter A4 project description:

*The bulk cargo ships are of a size that cannot enter the port at low tide, even with restricted loads. This means they are subject to a six-to-eight hour wait for the tides (Cummings Economics 2014). This equates to approximately 12-to-16 hour turnaround, as vessels are required to wait for suitable tides while entering and leaving the Port of Cairns. Even at high tide, bulk cargo ships are unable to enter the port fully loaded and as such, they share loads with other ports, mainly with Townsville (45 ships per year).*

*The average number of bulk cargo ships a year is estimated at 62 (Cummings Economics 2014), and is made up of:*

- *Fuel: 40 ships a year*
- *Sugar ships: 15 ships a year*
- *Fertiliser ships: 7 ships a year.*

*There is likely growth in non-cruise shipping in the future due to the demand in Asia for tourism, minerals and basic agricultural commodities. It is also possible that growth could result from the local production of ethanol which could result in a reverse trade of fuel (Cummings Economics 2014).*

Cargo shipping values in 2014 is as follows:

- Sugar products approx. \$60-\$80 million p.a.
- Fertilisers approx. \$20-\$30 million p.a. and a major input into the region's \$1.1 billion agricultural sector.
- Petroleum products approx. \$90 million p.a. and fuel is needed in every sector of the economy, especially the Cairns international airport.
- Development of container shipping services.

The operating efficiency benefits are presented in the table below and at \$40 million seems likely to understate the full extent of benefits over the project period.

**Table #13: Estimated Net Present Value of Efficiency Benefits - Bulk Cargo Vessels  
With No Growth and Modest Growth Scenarios**

Discount rate 'Nominal'	'Real'	No growth scenario	Modest growth scenario
7%	4%	\$46.4 m	\$59.8 m
10%	7%	\$33.3 m	\$40.7 m
13%	10%	\$25.3 m	\$29.8 m

Extract Cairns Shipping Development EIS Appendix D9 Economic Analysis Aug 2014

## **CAIRNS SHIPPING DEVELOPMENT PROJECT Note on Total Expenditure Generated by the Project in the Tropical North Queensland Economy**

Based on the EIS Economic Analysis estimates Net Present Value of additional output generated by the project was as follows in 2016 prices discounted at 7% nominal.

**Table: Estimated Additional Expenditure (Output) Generated**

	<b>NPV 2016 @ 7% nominal discount rate</b>
Cruise ship visits	\$744 m
Home-porting	\$363 m
Benefits other Queensland ports	\$133 m
Construction	\$102 m (offshore placement)
<b>Total</b>	<b>\$1,342 m</b>

The second last item in the table above accrues outside the region. The last involves the capital expenditure involved.

### **The original Cairns Shipping Development Project is worth over \$5Bn to the local economy**

The following table estimates undiscounted direct expenditure generated in the Far North Queensland economy.

**Table: Estimated Direct Total (Undiscounted) Expenditure Generated)**

Cruise ship visits	\$2,383 m
Home-porting	\$1,137 m
<b>Total</b>	<b>\$3,520 m</b>

Extract Cairns Shipping Development EIS Appendix D9 Economic Analysis Aug 2014

This direct expenditure will generate 'flow-on' expenditure through the economy. Most of this expenditure will fall in the tourism category. Latest modelling carried out by Cummings Economics for Tourism Tropical North Queensland relating to tourism impacts on the regional economy indicates a 'flow-on' multiplier impact on the economy for tourism of plus 0.66.

Applying this to the 'direct' expenditure would result in a total expenditure generated, including 'flow-on' effects, of \$5.8 billion.

It would thus be safe to conclude that over the 25-year project period, additional expenditure generated in the region would be over \$5 billion.

It is worth noting that depending on final solutions, on top of this will be the impacts of the capital expenditure.

These figures also do not include any efficiency impacts on general cargo operations and potential further impacts on Cairns' position as a navy base.

On top of this, is the impact of the dredging of Cairns shipping channel on the attractiveness of Queensland as a cruise ship destination. The expenditure generated in other regions in Queensland is estimated to be of the order of \$300 million direct and \$500 million including 'flow-on' over the 25-year project period.

**ORIGINAL DRAFT EIS =  
ECONOMIC ACTIVITY GENERATED**

<b>OVER 25 YEARS OF EXPENDITURE</b>	<b>OVER \$5 BN</b>
<b>IN 2016 VALUES</b>	<b>\$3.7 BN</b>
<b>NET PRESENT VALUE 7% NOMINAL DISCOUNT RATE</b>	<b>\$1.3 BN</b>

## 5.2 2017 Revised Draft Environmental Impact Study

The revised draft environmental impact study was released on the 12th July 2017.

### 5.2.1 Project description summary

The revised project involves upgrading the following port infrastructure to enable larger cruise ships greater than 300 m in length to berth at the Port of Cairns:

- **Marine works**

To widening and deepen of the shipping channel and Crystal Swing Basin, and establishment of a new shipping swing basin (Smith Creek Swing Basin) upstream of the existing Main Swing Basin involving:

- Capital Dredging works involving removal of up to 1 000 000 m<sup>3</sup> of dredge material consisting of up to 900 000m<sup>3</sup> of soft clays to be removed by a Trailer Suction Head Dredge (TSHD) and 100 000m<sup>3</sup> of stiff clays to be removed by a Back-Hoe Dredge (BHD).
- Construction of a temporary pump out facility located between 2.7 and 3.7 km offshore from Yorkey's Knob.

- **Delivery and placement of dredged material**

To a land based Dredge Material Placement Areas (DMPAs) including:

- Construction of a temporary Dredge Material delivery pipeline from the pump out facility to the soft clay DMPA on the Barron Delta.
- Placement of soft clay dredge material at the Barron Delta DMPA located on Lot 2/RP712954 and Lot 5 on SP245573
- Placement of stiff clay dredge material at the Tingira St DMPA established on Port Land ( Lot 27/SP 218291) located at Tingira St, Portsmith

- **Ancillary infrastructure/services upgrades**

The upgrades include:

- Relocation of existing and installation of new navigational aids.
- Fender system upgrade to the existing cruise shipping wharves 1-5 to accommodate larger and heavier cruise ships. Decommissioning of Wharf 6 including retention and upgrading of key bollards and retention of representative historic elements
- Upgrade of ship services to the cruise shipping wharves, including Intermediate Fuel Oil (IFO), potable water and fire-fighting services

### 5.2.2 Fuel

- Quantities of marine diesel fuel (also called Marine Gas Oil or MGO) over 30 000 litres can be supplied to vessels at Wharf 10. A bunkering barge service is available if required.
- There is no direct fuel line to the cruise shipping wharves.

- Intermediate Fuel Oil (IFO) which is a blend of heavy fuel oil and distillate is also used in marine diesel engines however it is not currently available and supplied in Cairns. An existing fuel farm lies immediately to the west of the cruise ship wharfs
- Typically, no transit cruise ship bunkering occurs currently in Cairns port.
- Cruise ship home porting bunkering does occur for 9-10 home port departures per year of approximately 500 t of diesel fuel per visit via a dedicated barge.
- Natural growth and projected CSDP project delivered growth may potentially result in 20 homeporting bunkering operations at 500 t per ship and a total of 128 transit operations at 100 t per ship resulting in a potential maximum total volume of 22 800 t per year.
- Currently there is are no bunkering facilities at Wharves 1-6; it is therefore proposed to extend the existing fuel line from wharves 7 and 8 to Wharf 3 to cater for this demand

### 5.2.3 Capital Costs

Costs are expended from 2016 to 2020, totalling \$120 million. The 1 million cubic metres of dredge spoil removal is costed at \$50.9 million equating to \$50.90 per cubic metre. The additional \$22 million for on-shore placement at Northern Sands = \$73 million. For 1million m<sup>3</sup> this equates to \$73 per m<sup>3</sup>.

Table 3.1 CSDP Capital Costs (\$M 2016-17)

Cost	2016	2017	2018	2019	Contingency	2020	Total	Industry
<b>Dredging (12-16 weeks)</b>								
<i>Soft clay</i>								
Establishment / demobilisation				\$5.1	\$0.6		\$5.7	Dredging
Dredging & pumping soft clay				\$35.6	\$3.9		\$39.5	Dredging
<i>Stiff clay</i>								
Establishment / demobilisation				\$2.1	\$0.2		\$2.3	Dredging
Dredging & barges				\$3.1	\$0.3		\$3.4	Dredging
<b>Total</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$45.9</b>	<b>\$5.0</b>	<b>\$0.0</b>	<b>\$50.9</b>	
<b>Land Placement</b>								
<i>Soft clay</i>								
Site acquisition				\$9.7	\$1.1		\$10.8	N/a
Prepare site and construct pipeline				\$6.6	\$0.7		\$7.3	Heavy and Civil Engineering Construction
<i>Stiff clay</i>								
Site acquisition					\$0.0		\$0.0	N/a
Prepare site, transport and place material				\$3.8	\$0.4		\$4.2	Road Transport
<b>Total</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$0.0</b>	<b>\$20.1</b>	<b>\$2.2</b>	<b>\$0.0</b>	<b>\$22.3</b>	
<b>Wharfs &amp; services upgrades</b>				\$22.0	\$2.4		\$24.4	Heavy and Civil Engineering Construction
<b>Professional services &amp; fees</b>								
EIS	\$2.3	\$2.3						Construction Services
Statutory fees		\$0.6						N/a
Engineering services			\$5.2	\$5.2	\$0.6		\$10.9	Construction Services
Monitoring & offset				\$3.2		\$3.2	\$6.3	Professional, Scientific and Technical Services
<b>Total</b>	<b>\$2.3</b>	<b>\$2.9</b>	<b>\$5.2</b>	<b>\$8.3</b>	<b>\$0.6</b>	<b>\$3.2</b>	<b>\$22.4</b>	
<b>Total</b>	<b>\$2.3</b>	<b>\$2.9</b>	<b>\$5.2</b>	<b>\$96.3</b>	<b>\$10.2</b>	<b>\$3.2</b>	<b>\$120.0</b>	

Source: Ports North (unpublished), AEC

### 5.2.4 Shipping simulation report allows Sun class.

Appendix G of the EIS was reviewed with the assistance of an ex Royal Australian Navy (RAN) Commander who was the Officer in Charge (OIC) of the RAN Navigation School and Bridge Simulator; and an Australian Great Barrier Reef Pilot. The report is regarded as a very competent modelling of the Vista (Para 1.2.1) and Grand (Para 1.2.2) Class ships. These classes

have a draught of 8.3 metres, maximum width of 36 metres, length 290 metres, with Vista class tonnage 84,000 and Grand Class 108,000.

Of significant interest in this simulation are the following assessments.

- Initial runs with the Vista Class indicate some steering problems in the channel between beacons 11-15 where the shallow water is very close to the channel on the North side.
- The model was modified by widening the channel on this side to a width of 100 metres with a 1 in 4 batter up to adjacent natural seabed which gave much better steering.
- The simulation exercises were initially run using under-keel-clearance (UKC) of 1.5 metres in the channel with a depth of -8.3 metres low-tide (LT). This required a height of tide of 1.2 metres for Vista however after the first runs a UKC of 2.0 metres was used as steering required a lot of helm – height of tide was increased to 1.7 metres.
- Required height of tide for the Grand Class for 2.0 UKC was 2.2 metres.
- Attention should be referred to Channel Diagram “channel width” on the Port of Cairns Pilot Plan.

It is confirmed that the proposed channel design will not cater for the Voyager cruise ship class.

### 5.2.5 Shipping demand update and economic analysis

The Cairns Shipping Development Project Demand Study update, is in-line with the previous AEC shipping demand studies released in 2012 and 2015. The report states that for the purposes of this report the ship categories from Regal class and up are considered Mega-cruise ships.

This table is produced to clarify the class of ships included in the Mega-category that is able to, or proposed to visit Cairns port

Class	Category	Passengers	Draught (metres)	Length (metres)	Beam (metres)	Weight (tonnes)	Example
Expedition	Adventure	Less than 150	5.7	156	21	16,8900	Silver Cloud
Sub-Regal	Mid-size & Boutique	501 to 2000	7.5	Less than 240	30	55,451	Pacific Aria
Regal	Mega	Over 2000	7.8	245	32.3	70,000	Pacific Dawn
Sun	Mega	2000	8.01	260	32.28	77,000	Sun Princess
Vista	Mega	Over 2000	8.3	294	36	90,000	Queen Victoria
Grand	Mega	751 - 1750	8.3	290	36	108,000	Emerald Princess
Voyager	Mega	3000 plus	8.8	311	38.6	138000	Voyager of the Seas

The underlying assumptions are summarized as follows:

- Currently ships that are 240 metres or less can berth in Cairns Port.
- The P & O Regal class and Pacific Dawn cannot (due to being single rudder and no steerage under five knots as limited flow over rudder)
- The Sun class ships are now allowed to berth.
- The P&O Regal and Sun class are to be replaced by Grand and Voyager classes in the foreseeable future.
- **Channel modifications will allow port access to Vista and Grand Class ships only from 2021. The Voyager class will not be able to enter the port.**
- If there are no modifications the port is restricted to only sub Regal and Sun class. The new Brisbane Cruise Liner Terminal (BCT) is due to come on line in 2019 and growth of Cruise shipping in Queensland is due to significantly increase. (There is a note in the report that the BCT 2019 date is over-optimistic.)
- Cairns is predicated to receive 30% of BCT ship numbers.
- The proposed availability of appropriate fuels for bunkering will increase visits by 10%

The report states the following:

“Most notably the updated report repeats that: As demand for cruising grows cruise lines have been adding capacity to the global fleet by building larger capacity ships to take advantage of economies of scale. As these new ships are added, older smaller ships are either refurbished and orientated to a particular market or decommissioned. **Of the 81 ocean cruise ships for delivery between 2016-2026 59 are mega class ships and more than 60% of these are voyager class. No new regal or sun class ships are on order.**”

“In the 2015-16 season 46 cruise ships visited and/or operated in Australia, up from 42 in 2010-11 and 16 in 2004-05. Whilst the number of ships has increased so has their average size and capacity. **Globally the majority of new ships on order are of the voyager class and these will replace smaller and older ships over time.**”

*“Brisbane Port has recently announced the development of the Brisbane Cruise Terminal (BCT) at Luggage Point supported by both Carnival Australia and Royal Caribbean Cruise Lines (RCCL). It is expected that the BCT will be operational from 2019 and triple the size of the Brisbane cruise industry by 2035 although the development is still subject to commercial negotiations. Cruise lines have indicated that this facility could see the home porting of four ships in Brisbane. This increased traffic will have significant implications for visits to Cairns.”*

## 5.2.6 No Voyager cruise ship class can enter the port

The questions we must ask is:

**Why, five years ago did the project cater for the Voyager class and now the Voyager class cannot enter the Port, if the Voyager class will be the predominant ship in the cruise industry?**

Table 2.6 Australian Fleet Classifications

	Number					% Share				
	11-12	12-13	13-14	14-15	15-16	11-12	12-13	13-14	14-15	15-16
<b>Classified by Pax</b>										
Adventure	2	4	4	4	4	4.8%	9.3%	8.9%	8.7%	8.7%
Boutique	7	7	7	5	4	16.7%	16.3%	15.6%	10.9%	8.7%
Mid	16	12	13	12	13	38.1%	27.9%	28.9%	26.1%	28.3%
Mega	17	20	21	25	25	40.5%	46.5%	46.7%	54.3%	54.3%
<b>Total</b>	<b>42</b>	<b>43</b>	<b>45</b>	<b>46</b>	<b>46</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Classified by Length</b>										
Sub-Regal	25	23	24	21	21	59.5%	53.5%	53.3%	45.7%	45.7%
Regal	6	4	4	6	4	14.3%	9.3%	8.9%	13.0%	8.7%
Sun	6	7	7	8	9	14.3%	16.3%	15.6%	17.4%	19.6%
Vista	3	5	6	7	7	7.1%	11.6%	13.3%	15.2%	15.2%
Grand	1	1	1	1	1	2.4%	2.3%	2.2%	2.2%	2.2%
Voyager	1	3	3	3	4	2.4%	7.0%	6.7%	6.5%	8.7%
<b>Total</b>	<b>42</b>	<b>43</b>	<b>45</b>	<b>46</b>	<b>46</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
<b>Classified by Draft</b>										
Under 8.0m	30	28	29	30	27	71.4%	65.1%	64.4%	65.2%	58.7%
8.01m to 8.50m	9	11	12	12	14	21.4%	25.6%	26.7%	26.1%	30.4%
Over 8.50m	3	4	4	4	5	7.1%	9.3%	8.9%	8.7%	10.9%
<b>Total</b>	<b>42</b>	<b>43</b>	<b>45</b>	<b>46</b>	<b>46</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: ACA (2016), AEC

The following trends are apparent:

- *Pax classification*: Both adventure class (up 2) and mega class (up 8) have increased at the expense of boutique (down 3) and mid (down 3).

Table 2.6 above is an extract from the 2017 revised EIS demand study and presents more detail on the classification composition of the ship fleet visiting Australia over the last five years. The Mega size ships are already carrying more than 50% of passengers and passengers on other ships are declining. The Vista and Grand class growth is levelling although the Voyager class is increasing in number. The number of ships with shallow draft are decreasing and ships with a draft of over 8.5m is increasing.

**Table 3.1 Cairns Historical & Scheduled Ship Visits by Pax Classification**

Category	2010	2011	2012	2013	2014	2015	2016
Adventure	9	3	8	5	6	2	1
Boutique & Mid	16	24	27	14	20	16	29
Mega	18	13	23	20	23	27	35
<b>Total</b>	<b>43</b>	<b>40</b>	<b>58</b>	<b>39</b>	<b>49</b>	<b>45</b>	<b>65</b>
CAGR since 2010 (excl. Adventure)						4.8%	11.1%
CAGR since 2010 (no Pacific Aria/Eden)						4.8%	5.5%

Note: 2016 as at schedule dated 6 September 2016. Source: Ports North, AEC

Table 3.1 above is an extract from the 2017 revised EIS demand study and presents more detail on class of ships visiting Cairns. The Mid class visits were in decline although in 2016 have been bolstered by the home-porting of the P&O Pacific Aria and Pacific Eden. The Cairns Post article in May 2017 reports that home-porting is not a secure event for Cairns Port.

**06 NEWS**

# Eden's stops to be reduced

**NICK DALTON**  
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P & O Cruises is cutting back the number of times *Pacific Eden* will be based in Cairns next year.

This year the ship will make cruises to and from Cairns 10 times but next year that will be reduced to seven. *Pacific Eden* is the main turnaround cruise ship at the port.

Also next year P & O is trialling a partial turnaround of the cruise liner in Townsville on September 7 with 400 passengers embarking or disembarking.

Port of Townsville chief executive Raneë Crosby said the announcement "is a huge step forward towards achieving the end goal of home porting".

Earlier a P & O spokesman said the "trial in Townsville could serve as a guide to local potential" but "we don't want to get too far ahead of ourselves in raising expectations that Townsville will ultimately become a turnaround port in our future cruise programs beyond 2018".

P & O's spokesman said the

**PACIFIC EDEN**

First major cruise ship to be based in Cairns  
 Operator: P & O Cruises  
 Length: 219m  
 Weight: 55,451 tonnes  
 Cost: \$242 million  
 Passengers: 1258  
 Crew: 557  
 2016 turnarounds: 10  
 2017 turnarounds: 10  
 2018 turnarounds: 7  
 Value to economy: \$6 million three month season in 2016

operator remained committed to Cairns.

"Cairns maintains the distinction of being the first regional port in Queensland to have a P & O Cruises' ship homeported and there is no dilution of our commitment with 10 departures from Cairns in 2017 and seven more scheduled in the 2018 cruise program," he said.

"The Cairns home porting of *Pacific Eden* was made possible as a result of the flexibility offered by P & O's fleet expansion which has also offered the opportunity to trial a mini turnaround in Townsville to

test local potential."

The spokesman said *Pacific Eden* would call at Townsville after Cairns on September 7 allowing some residents to disembark or to embark.

Cairns Port Development president Ron Crew, whose group is fighting to have the Cairns shipping channel dredged, said "good luck to Townsville".

"However, if it is at the expense of Cairns, that's a little hard to swallow," he said.

"Townsville seems to get all the favours and we have to work hard to get anything."

Mr Crew said Townsville had a deep water port "without the dangers".

Last year was the first time a major cruise ship was based in Cairns. The three-month season involving 10 turnarounds was estimated to have injected \$6 million into the region's economy.

A Ports North spokeswoman refused to comment on the reduction in stopovers.

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 facebook.com/TheCairnsPost  
 www.cairnspost.com.au  
 twitter.com/TheCairnsPost

More reliable, is the steady increase in the number of Mega class ships that was at its highest level in 2016 and is predicted to increase.

Extract Cairns Post 30 May 2017

## 5.2.7 Economic Assessment

An 2017 economic assessment of the revised project by consultant MacroPlanDimasi is presented in Appendix AR.

The report recognises the benefits as follows:

*This includes community benefit that extends over and above the significant contributions that will result through Project delivery, which will:*

- **Generate an estimated NPV of \$849M total value added to the Cairns economy (2016 to 2043 discounted to \$2016-17 at a 7% real discount rate);**
- *Create 802 new direct and indirect jobs during construction; and*
- *Create 2,730 new direct and indirect jobs upon completion*
- *Total capital outlays are estimated at \$120.0M. Site acquisition and statutory fees have been excluded from the analysis as they represent transfer payments, meaning that only \$108.7M of the total capital investment is considered to have a direct impact on output.*

An Economic Analysis update of the revised project is provided by AEC in appendix AQ. We note that the analysis period is 2017 to 2043, that is 25 years. It is assumed in the economic analysis report that the AEC (2017a) reference is the Final v03 of AEC 2016 Demand Study Update.

AEC states the following:

*The main effects of the channel modifications are to allow vista and grand class cruise ships access to Trinity Wharf resulting in increased expenditure from more passengers and crew in Cairns and increased expenditure on port charges, supplies and services and passenger related services by cruise lines. In addition to facilitating these larger cruise ships to berth rather than anchor at Yorkey's Knob, the availability of a larger capacity port will also attract new cruise ship calls.*

*Of the sixteen scenarios contained in AEC (2017a), two comparisons were chosen for economic analysis. For each comparison there is a base case and a project case, the project case being with the channel modifications. The two comparisons are:*

**Comparison A:** *With Brisbane Cruise Terminal & homeporting:*

*o Scenario 13: No channel modifications & no bunker (Base Case).*

*o Scenario 14: With channel modifications & no bunker (Project Case).*

**Comparison B:** *Business as Usual (no BCT & homeporting):*

*o Scenario 5: No channel modifications & no bunker (Base Case).*

*o Scenario 6: With channel modifications & no bunker (Project Case).*

Comparison A results in an estimated NPV of \$728.6 million, whilst comparison B results in an estimated NPV of \$541.9 million.

It is again noted that by choosing comparison A, scenario 14 and comparison B scenario 6: there is NO provision for bunker fuel, even though the provision appears to be included in A3

Project Description. The 2016 AEC demand study indicates the proposed availability of appropriate fuels for bunkering will increase visits by 10%.

AEC describes the table 11.1: *“The table below summarises the potential value-added impacts of the channel modification NPV of all the various value added economic benefits from increased expenditure directly associated with the CSDP from 2017 to 2043.”*

Table 11.1 Summarised NPV, (\$M 2016-17)

Economic Activity	NPV at 7% Discount Rate
<b>Channel</b>	
CSDP Construction	\$91.5
Channel Maintenance	\$1.2
<b>Cruise Shipping</b>	
Cruise Shipping Activity	A: Change from Demand Scenario 13 to Scenario 14 \$728.6 B: Change from Demand Scenario 5 to Scenario 6 \$541.9
Home Porting	\$492.2 (lost if home porting to cease)
<b>Cairns Visitation</b>	
Pre & Post Cruise Passenger Activity	\$10.1 (Comparison A)
Passenger Return Intention	N/A
<b>Cargo</b>	
Increased Ship Capacity	\$5.5
<b>Navy</b>	
Navy Ship Visits	\$11.7
Navy Base Expansion	N/A
<b>Wider Regional &amp; State Benefits</b>	
Cruise Shipping Activity	\$144.6 (Comparison A)

Source: AEC

Our calculation of the above figures shows a total of construction, maintenance, **cruise ship activity A**, Cairns visitation, increased ship capacity and Navy is \$848.6 million (NPV 7%). This agrees with the MacroPlanDimasi calculation previously stated. The total of construction, maintenance, **cruise ship activity B**, Cairns visitation, increased ship capacity and Navy is \$661.9 million (NPV 7%).

In addition, the homeporting is valued at \$492.2 million should the Brisbane Cruise Liner Terminal operate plus \$144.6 million of benefits to Queensland.

**The total benefits, assuming the Brisbane Cruise Liner Terminal operates is \$1,485 million.**

The report accentuates the importance of home porting:

*“Home porting delivers considerably more economic benefit than a transit call. Essentially there are twice as many passengers involved in a turnaround visit and the cruise ship is taking on sufficient provisions for the voyage. The projections in AEC (2017a) consider 20 sub-regal ship home port calls moving to 16 vista ship home port calls once the channel modifications are in place.” “There is a significant risk that Cairns could lose the home porting activity as cruise lines replace the older sub-regal class ships currently used for home porting with larger vista or grand ships (as appears to be the trend), in which case without the channel modifications these ships do not fit in the port. Over the time period of the economic analysis home porting has a value*

added NPV of \$492.2 million. Should Cairns lose the current homeporting activity, there will be an economic loss equivalent to this value.”

It is important to note that as shown in section 6.2.6 above, ‘Eden’s stops to be reduced’, homeporting is already recording a decline.

## 6.0 Major concerns with the 2017 downscaled project versus the 2012 & 2015 original project

Within 5 years the project plan has been reduced to one tenth of its original size from 10 million m<sup>3</sup> to 1.1 million m<sup>3</sup>. Within five years, the revised draft EIS documents a departure from some key objectives of the baseline proposal. The project has had four extensions in time and for a period was cancelled and then re-calibrated. In addition, the Proponents financial records indicate that the study may have cost close to \$8 million to date.

Below we list CPD Inc. concerns surrounding the impact of the revised project.

### 6.1 Stakeholder and community engagement

The projects terms of reference require the Proponent to conduct open and transparent dialogue with stakeholders. We suggest that this has not always occurred and **stakeholder and community engagement activities has a bias towards environmental groups and the vested interest of an aboriginal corporation business enterprise.**

We suggest that biased stakeholder engagement has supported a resistance to sea-placement, even though the scientific based reporting in the 2015 draft EIS proposes this is the best outcome. We also suggest that biased engagement supports the resistance to a full study of the land-based placement of marine sediment at East Trinity.

**There is evidence in media releases by the Proponent’s shareholders that economic reasons are the cause of the projects current downscaled outcome although we suggest that the outcome is influenced by biased stakeholder engagement and political influences.**

**We suggest that perceptions fostered by opinion that the project may harm the environment has primarily led to the down-scaling of the project and applying best-practice engineering solutions is a secondary activity.**

We live and work beside the Great Barrier Reef, applying world's best standards to protect it. Engineering excellence should underpin the modernisation of this vital public asset, that also protects the environment.

Prior to the current downscaled project, Ports North records community feedback as supportive of the project due to the economic benefits. **Independent surveys records**

**that the project clearly has community support, well over 80%. The down-scaling of the project appears to pay no attention to broad community support for the economic benefits of the project.**

## **6.2 Sediment disposal sites**

We supported the draft EIS recommendation for placement of the project capital dredging spoil at the dedicated marine placement grounds within the port operating boundary. Several authoritative scientific reports demonstrated such placement would not cause harm to the Great Barrier Reef or nearby environment. However, both the Federal and the Queensland State Governments ruled against such off-shore disposal.

**Today, CPD Inc. supports the current proposal to place spoil at Barron Delta sand mines with the following essential caveats:**

- a) That it should only be Stage one of a larger project that includes other sites; and**
- b) The Revised EIS recommendation, provided in Appendix I: Flanagan Consulting Group Options Study Report (2016) is completed transparently (ie available for public perusal as soon as a draft is available) and as soon as possible DOES demonstrate 'The Trinity East Placement Precinct has obvious advantages for land placement'; and
- c) The next immediate step for the Cairns Shipping Development Project is to contract a new and independent group of consultants to produce a full project plan as soon as possible for a phased long-term dredging plan, including benefit-cost analyses and comparing at least the two main options for spoil placement. This project plan would include comparison of the options to produce a single project long-term plan. To change legislation to allow further projects after the current project is expired is neither preferable, safer nor closest to best business practise.

*Recommendations 8.5.6 page 123: The Trinity East Placement Precinct has obvious advantages for land placement and was the preferred land placement option in the draft EIS (although this was for the much larger 4.4 M m3 dredging project). It is recommended that during the early stages of the EIS a planning exercise be undertaken to create the 'best' East Trinity site, based on impact avoidance and minimisation and on a detailed understanding of opportunities and constraints.*

**The draft and the revised draft EIS does not carry out a full environmental impact assessment on the East Trinity land placement site options.**

We submit that the total project using East Trinity for the 2015 project may be estimated at \$252m NOT \$365m. In addition, we submit that the development option was grossly inflated and based on several erroneous assumptions.

Indeed, the Proponent of the project, **Ports North proposed the development plan and agreed to the terms of reference that caused the grossly inflated outcome.**

This was used by the Queensland Government Treasurer to reject the project based on costs.

We suggest that only a smaller site at East Trinity is needed. After the sediment is placed, capped with good soil and vegetated, let's set it aside for the future.

### 6.3 Project plans and capital costs

The comparison of the changes to the Cairns Shipping Development Project is best seen in the following table.

Channel Design	Outer Channel	Bend	Inner Channel	Berth Pocket	Crystal Swing Basin	Declared Depth
Existing Channel	90m	150m	105m	50m	380m	-8.3m
2105 Proposed Channel	140m	210m	190m	50m	400m	-9.4m
2017 Downscaled revision	100m	180m	110m	50m	380m	-8.8m

Table from Cairns Shipping Development Project Draft EIS 2015 with new revised downscaled revision 2017 added.

The draft EIS project plan was as a 20 to 25-year plan to future proof the Port. Most importantly there was an outer channel upgrade and extension by 1.0 km, expansion of the Crystal Swing Basin, relocation of the Main Swing Basin to a new location adjacent to Sennab Point at Admiralty Island and a total volume of sediment for removal of **4,400,000 m3**.

The revised draft EIS is considered a 10-year project plan at best. We understand that there is NO outer channel upgrade and extension by 1.0 km and changes to the swing basins are minimal. The total volume of sediment removal is **\$1,000,000 m3**.

There appears to be an increase in spending on wharfs and services infrastructure from \$11.82 million to \$24.2 million.

The 2015 project capital spend on the 4.4 million cubic metres of dredge spoil removal is costed at \$58.89 million equating to **\$13.38 per m3** for placement at the dedicated spoil grounds within the Port operating boundaries.

The 2015 project capital spend is estimated at \$50 million for dredging and \$145 million for on-shore placement at East Trinity = \$204 million. For 4.4 m m3 this equates to \$46 per m3

The 2017 project capital spend is estimated at \$51 million for dredging and \$22 million for on-shore placement at Northern Sands = \$73 million. For 1m m3 this equates to \$73 per m3.

**Given that the 2015 draft proposal was a 25-year project plan, the off-shore disposal cost is the most economical option. The on-shore sediment placement cost at only \$46 per m3, is the most economical land based option for this publicly funded project.**

## 6.4 Fuel

The 2012 Initial Advice Statement states that cruise liners would benefit from refuelling. Heavy Fuel Oil (HFO) is not currently available and supplied in Cairns. Intermediate Fuel Oil (IFO) is used as another fuel in marine diesel engines. IFO is not currently available and supplied in Cairns. There is no direct fuel line to the cruise shipping wharves.

The Draft EIS proposes fuel supply upgrades including an additional IFO storage tank(s). *A storage area at the wharves would also be required and a small building near Wharf 3 will be constructed to allow the connection of the onshore services with the vessel fuel services.*

The revised Draft EIS proposes quantities of marine diesel fuel (also called Marine Gas Oil or MGO) can be supplied to vessels at Wharf 10. A bunkering barge service is available if required. Intermediate Fuel Oil (IFO) which is a blend of heavy fuel oil and distillate is also used in marine diesel engines. Currently there is are no bunkering facilities at Wharves 1-6; it is therefore proposed to extend the existing fuel line from wharves 7 and 8 to Wharf 3 to cater for demand.

The revised draft EIS capital costs expenditures record's an upgrade of ship services to the cruise shipping wharves, including Intermediate Fuel Oil (IFO), potable water and fire-fighting services

The AEC Shipping Demand reports states that the proposed availability of appropriate fuels for bunkering will increase visits by 10%.

**It is not clear in the 2017 revised draft EIS Economic Analysis or Economic Assessment if there is appropriate provision of bunker fuel that will increase visits by 10%. It is noted that for the scenarios analysed there is NO provision for bunker fuel.**

## 6.5 Shipping demand

The previous Cairns Shipping Development Project (CSDP) 2015 Draft Environmental Impact Statement allowed for "a channel upgrade capable of allowing access for all mega class ships to berth at Trinity wharf and involved 4,400,00m3 of dredging". This includes access by Voyager class ships to Trinity Wharf whereas the current 2017 CSDP does not.

The reduction from 4.4 million m3 to 1.1 million m3 in the 2017 revised draft EIS highlights the significant reduction to Cairns Port capacity.

### The proposed dredging will only marginally improve the port capacity.

The 2015 study had a target upgrade, to allow Voyager class ships e.g Voyager of the Seas (Draft 9 m, 138,000 tonnes and 311m long) to enter the port. The revised 2017 study targets the Vista (Draft 8.3m, 283 m long and 36 m wide) and Grand class (Draft 8.3m, 290 m long and 36 m wide).

Both Carnival (RCCL) and P&O shipping companies have indicated that cruise ship sizes will continue to upgrade to Mega class.

### Carnival (RCCL) has a five-year year planning cycle and will have eight seasonally deployed ships in Australia in the future but by 2020 not one will be less than 300 metres.

- Voyager of the Seas 311m
- Solstice of the Seas 315m
- Ovation of the Seas 355m

## 6.6 Tendering at Yorkey’s Knob remains a deterrent

Table 8.3 Projected Ship Visits (with Brisbane Cruise Terminal), Medium Projection

Scenario	Class	Trinity Wharf			Yorkey’s Knob			Total Cairns		
		2021	2026	2031	2021	2026	2031	2021	2026	2031
<b>Existing Channel</b>	Sub-Regal	25	33	42				25	33	42
Scenario 9 BCT, no homeporting	Regal	5	3	4				5	3	4
	Sun	31	25	16				31	25	16
	Vista				30	27	17	30	27	17
	Grand				4	10	21	4	10	21
	Voyager				13	16	31	13	16	31
	<b>Total</b>		<b>61</b>	<b>61</b>	<b>62</b>	<b>47</b>	<b>53</b>	<b>69</b>	<b>108</b>	<b>114</b>
<b>Revised Channel</b>	Sub-Regal	28	36	45				28	36	45
Scenario 12 BCT, no homeporting, channel modifications, bunker	Regal	6	4	5				6	4	5
	Sun	33	26	17				33	26	17
	Vista	40	48	31				40	48	31
	Grand	6	18	38				6	18	38
	Voyager				13	16	31	13	16	31
	<b>Total</b>		<b>113</b>	<b>132</b>	<b>136</b>	<b>13</b>	<b>16</b>	<b>31</b>	<b>126</b>	<b>148</b>
<i>Difference</i>		52	71	74	-34	-37	-38	18	34	36

Source: AEC

Table 8.3 above is an extract from the 2017 revised EIS demand study and highlights that the Voyager class will still have to anchor at Yorkey’s Knob.

A video was produced with company ‘InterCruises Port and Shore Side Services’ in early 2017. The company works with cruise ship companies and thousands of cruise ship passengers visiting Cairns. A representative speaks about the difficult safety issues and tendering at

Yorkey’s Knob. Click this link to see the video:  
<https://www.youtube.com/watch?v=x5vrgkOcxAM>

The AEC report states that *“Ultimately a cruise company with a vessel that cannot berth at Trinity Wharf must decide if using Yorkey’s Knob anchorage is acceptable from a passenger satisfaction, ship operation, commercial and social point of view”.*

*“The analysis of logistics and constraint issues is undertaken from a cruise company perspective based on their key decision drivers grouped as passenger satisfaction, ship operations, commercial and social aspects, which impact on their decision to visit Yorkey’s Knob.”*

*“The likelihood and significance are combined to give a degree of influence on decision making matrix which indicates the degree of influence of the issue on cruise company decision making. Up to five levels of influence (negligible, low, medium, high and extreme) are possible.”*

**Table 7.4 Degree of Influence on Decision Making**

Likelihood	Significance				
	Negligible	Minor	Moderate	High	Very High
Highly unlikely	Negligible	Negligible	Low	Medium	High
Unlikely	Negligible	Low	Low	Medium	High
Possible	Negligible	Low	Medium	Medium	High
Likely	Negligible	Medium	Medium	High	Extreme
Almost certain	Low	Medium	High	Extreme	Extreme

Source: PN (2015), AEC

*“Each degree of influence is given a value from 0 (Negligible) to 4 (Extreme). These are then summed and expressed as a percentage of all the issues if they were all assessed as extreme. An equal weight for each issue is used. This percentage is then used as a proxy to reduce the number of projected cruise ship visits to Yorkey’s Knob (reduction factor).”*

*“An assessment of the logistics and constraints issues concerning Yorkey’s Knob versus Trinity Wharf has resulted in an unconstrained projection reduction factor of 35%.*

***That is 35% of the unconstrained projected ship visits to Yorkey’s Knob may not occur due to negative factors associated with the destination impacting cruise line decisions.***

*To avoid impacting the unconstrained projections too severely, the demand reduction factor is phased in linearly over time from 2019 to 2025.”*

*“Whilst the demand reduction is applied to all ship sizes that could potentially anchor at Yorkey’s Knob, the reduction may be more severe with increasing ship size and at peak times.”*

## **6.7 Opportunity cost of NOT allowing the Voyager class into the Cairns port.**

In 2015, the Proponent Ports North, spent over \$5 million submitting a draft EIS to the Co-ordinator General that included an AEC shipping demand report that clearly stated the optimal design for the shipping channel was to cater to the Voyager class as it was the necessary target

for the future growth of port earnings. The revised draft released in 2017 again includes information in the shipping demand study carried out by the same consultant, confirming the Voyager class will succeed smaller classes as the dominant cruise ship in Australian waters.

*Section 9 of AEC (2017a) examined two additional scenarios based on the previous Cairns Shipping Development Project Draft Environmental Impact Statement (Ports North, 2014) which allowed for “a channel upgrade capable of allowing access for all mega class ships to berth at Trinity wharf and involved 4,400,000m<sup>3</sup> of dredging”. This includes access by voyager class ships to Trinity Wharf. The scenarios were:*

- Scenario 17: Business as usual (no Brisbane Cruise Terminal), homeporting and 2014 channel modifications.
- Scenario 18: Brisbane Cruise Terminal, homeporting and 2014 channel modifications.

It must be noted that the scenarios assumed no bunker fuel. It is also conservatively assumed that all voyager class ship visits are transitory in nature and only berth for one day, i.e. no turnarounds or multiple day visits.

**Table 12.1 NPV Cruise Related Total Value Added (\$M 2016-17)**

Scenario	NPV at 7% Discount Rate
<b>Comparison A: Brisbane Cruise Terminal</b>	
Project 1: Revised Channel	\$728.6
Project 2: 2014 Channel	\$1,067.5
<i>Increase due to Project 2</i>	\$338.9
<b>Comparison B: Business as Usual</b>	
Project 1: Revised Channel	\$541.9
Project 2: 2014 Channel	\$761.1
<i>Increase due to Project 2</i>	\$219.2

Source: AEC

The analysis states that the increase in earnings is based on the difference between the 2015 projects earnings of \$1,067.5 million (2014 NPV 7%) and the 2017 projects earnings of \$728.6 million (16/17 NPV 7%). The value lost is earnings of \$338.9 million (16/17 NPV 7%).

An extract from page 40 of the demand Study report states: *“Should the 2014 channel be constructed then an additional \$338.9 million over the same period and discount rate would be delivered.”*

Therefore, it could be assumed that:

**The Voyager class is worth about \$340 million to the economy. The opportunity lost that equates to about 46% of the total revised and downscaled 2017 project earnings.**

To further support the importance of the 2015 project, the AEC report has produced channel scenario projections as follows:

**Table 9.1 Projected Ship Visits (Business as Usual with Home Porting), Medium Projection**

Scenario	Class	Trinity Wharf			Yorkey's Knob			Total Cairns		
		2021	2026	2031	2021	2026	2031	2021	2026	2031
<b>Existing Channel</b>										
Scenario 5 BaU, homeporting	Sub-Regal	45	53	62				45	53	62
	Regal	3	2	2				3	2	2
	Sun	16	14	10				16	14	10
	Vista				15	15	11	15	15	11
	Grand				2	6	13	2	6	13
	Voyager				7	9	19	7	9	19
	<b>Total</b>		<b>64</b>	<b>69</b>	<b>74</b>	<b>24</b>	<b>30</b>	<b>43</b>	<b>88</b>	<b>99</b>
<b>2014 Channel</b>										
Scenario 17 BaU, homeporting, channel modifications, no bunker	Sub-Regal	25	33	42				25	33	42
	Regal	3	2	3				3	2	3
	Sun	16	14	10				16	14	10
	Vista	37	43	35				37	43	35
	Grand	3	10	23				3	10	23
	Voyager	8	14	29				8	14	29
	<b>Total</b>		<b>92</b>	<b>116</b>	<b>142</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>92</b>	<b>116</b>
<i>Difference</i>		28	47	68	-24	-30	-43	4	17	25

Source: AEC

Table 9.1 shown above is extracted from the 2016 AEC Demand Study. *“The most pessimistic scenario of business as usual (BaU), no BCT, homeporting and no channel modifications) sees growth in ship visits reaching 117 in 2031 but with 43 of these at Yorkey’s Knob versus 74 at Trinity Wharf. However, construction of the 2014 channel sees the total increase by 25 to 142 all at Trinity Wharf.”*

A further table 9.2 shows results of the 2015 project with the Brisbane Cruise Liner terminal in operation and 192 ships berth at Trinity Wharf by 2031.

## 7.0 Summary & Recommendation

The latest 2017 EIS has significantly reduced the potential capability of the Cairns port compared to the first study released in 2015. The downscaled project may still have expenditure on wharfs and bunker fuel upgrades. The navigational capabilities may be only marginally improved.

We understand it will improve the operating efficiency of fuel and cargo ships and allow the HMAS Canberra and HMAS Adelaide hospital ships to berth as well as some international naval vessels.

Most disappointingly, the revised draft EIS that downscales the project does not take advantage of economies of scale, produce better value for public investment funds or modernise the port for 25 years.

We understand that since the Cairns port was first dredged in 1887, this is the first time in the history of capital works projects that the optimal dredging design has not catered for 25 years of projected shipping demand.

The project was launched in 2012 with the aim to allow the Voyager class and similar Mega ships to enter Cairns port. This has ceased with the revised downscaled project and will not occur. Voyager class ships are presently being built every 2 years for many shipping companies. Therefore, these will continue to be anchoring off Yorkey's Knob. The shipping companies have indicated this practice is acceptable, although it is considered that future passenger numbers coming ashore may decrease by 35 percent.

With projected company intentions to continue replacing various classes of ships with Mega ships, it is highly likely that Cairns port will be in the same situation in 5 to 10 years' time, as it is presently.

Earnings projections value the 2015 project at \$1,340 million (NPV 2014 7%) with a capital cost estimated at \$250 million and a returns ratio of 5.4 :1 for a 25-year project plan. The 2017 project earnings are projected at \$849 million with a capital cost of \$120 million with a returns ratio of 7:1 but for a 10-year project plan. The short-term gain may appear attractive but a 5:1 return is excellent and there is no long-term pain.

If we are to deliver long-term gain for the Cairns and Queensland economy, the Cairns Shipping Development Project investment has the capacity to stimulate and enhance the productivity of the economy in both the short and long term. It is an investment that has a multiplier effect throughout the economy, generating lasting economic, social and environmental benefits.

Government legislation, has increased this projects cost to place dredged marine sediment on land. Engineering solutions can be applied to mitigate environmental impact on any additional land that is required.

The study has nominated many potential sites. Recently a prawn farm situated at the Barron Delta has also indicated that they have ponds with volumes of about 1 million m<sup>3</sup> that can be filled. CPD Inc. produced a video of a helicopter flight over some of the proposed sites in July 2017. See the video by clicking this link: <http://www.cairnsport.org.au/flight>

In relation to East Trinity, there is a small section of highly degraded land. This land is owned by the State Government and the citizens of Queensland, not any exclusive group. This land can be used for the purposes of marine sediment placement, capped, re-vegetated and put away for future generations. The land is subject to planning instruments and strategic land-use plans that are reviewed and flexible in the long-term, to benefit future generations. The site does not need development to be feasible in the short term if conservation values are recognised.

To date, the East Trinity solution has not had the benefit of a full study to deliver the full 2015 project plan and this has impacted on the capacity to berth the Voyager class of ships, worth \$340 million (NPV, 7%). Is 300 ha of un-remediated land at East Trinity worth the loss?

## **Recommendation**

**The project proposed in the 2017 revised draft EIS needs to be Stage One of an ongoing expansion on the shipping channel. In the immediate future further expansion plans to cater for the Voyager Class cruise ships are vital.**