

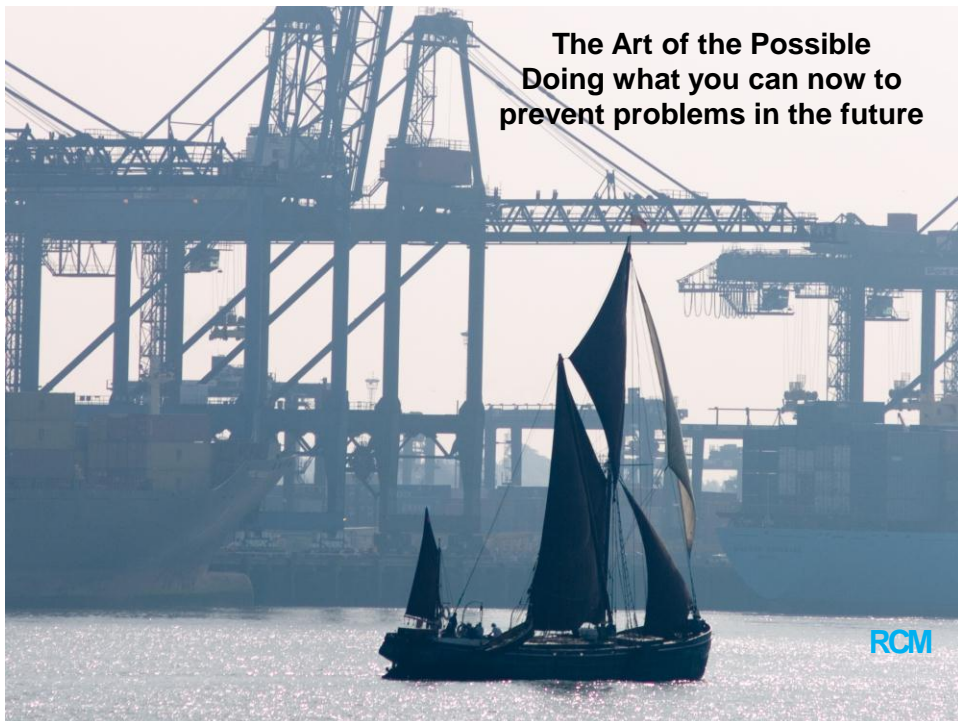


# Port Planning for the 21<sup>st</sup> Century

## Making Your Port Plan Future Proof

Richard Clarke – Richard Clarke Marine Ltd

RCM



**The Art of the Possible**  
Doing what you can now to  
prevent problems in the future

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## The Approach

1. Understand the trade that the port is involved in
2. Understand what the shipping lines want
3. Know the world shipping fleet and how it is deployed
4. Know what technologies are available to the port
5. Know what it costs to build all elements of a port
6. Be prepared to consider all options
7. Open dialogue with the client and the shipping lines

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## The Approach



## How Not To Plan

### Client

- These are the ships that are coming to my port next year
- These are the cranes that I am going to buy
- We are going to use RTGs
- Now just go away and get on with the design, we go to tender in 3 weeks

### Consultant

- Yes Sir!

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## The Right Approach

### Client

- These are the ships that are coming to my port
- These are the cranes that I am going to buy
- We are going to use RTGs

### Planner

- What changes in trade, changes in ship size and changes in handling system can we foresee?
- How can we allow for these changes in the future?
- How much will these changes cost?
- Which features do we incorporate now?

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# Future Proofing

1. Look at today's trade
2. Look at what has changed in the last 20 years
3. What are the top limits?
4. What can you change, what is fixed?
5. Look at a range of options
6. Decide what you can afford today

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## Example 1 – Bulk Port

Phase 1 is going to import DRI in 40,000 DWT ships and then export steel sections

Phase 2 may import iron ore and coal/coke to make steel

What do we plan for?

The client just says “plan it for the biggest ore carriers in the world. Think big”

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## Example 1 – Bulk Port

We are in the Middle East so the iron ore and coal is likely to come from Australia

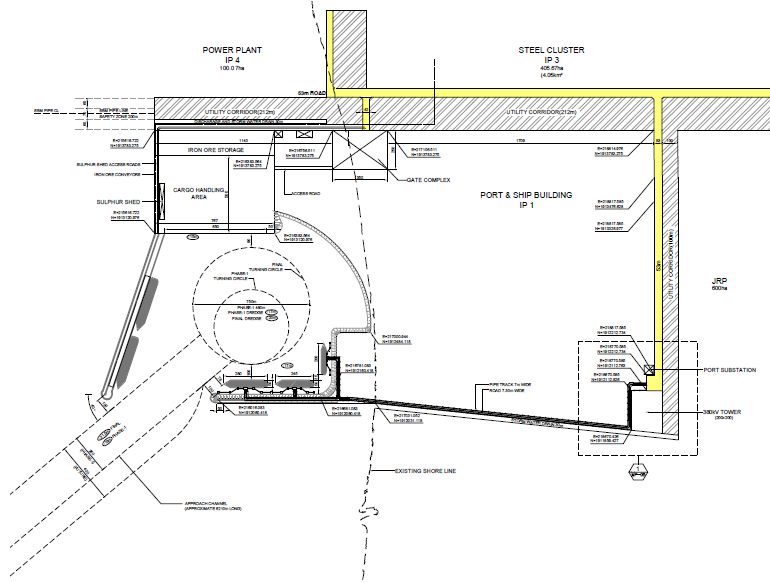
The Australian ports have agreed to address Ozmax bulk carriers of 210,000 DWT

We **plan** the port around these ships but we only **build** for the 40,000 DWT ships

There is no wasted construction and no obstacles to the enlargement

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## Future Proofing



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## Example 2 - Containers

We are on a North-South trade route handling 300,000 TEU a year

The trade is in Panamax ships (4,500 TEU) but we all know that ships are getting bigger.

Our cranes lift a 40T box on a 16 wide ship (40m beam)

We have 13.5m of water on a sand bed

What do we plan for?

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## Example 2 - Containers

The latest ships are: -

The Maersk Triple E

18,000 TEU

Length 400m

Beam 59m (23 containers across)

Water draft 14.5m

Air draft 59m



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## Example 2 - Containers

The latest ships are: -

CGM Marco Polo

16,000 TEU

Length 396m

Beam 54m (21 across)

Water draft 16m

Air draft ?



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## Example 2 – Container

There are 300+ ships of around 8,000 TEU with typically: -

8,000 TEU

Length 350m

Beam 43m (17 across)

Water draft 14.5m



These are rapidly moving off the East-West routes and appearing on North-South routes

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## Example 2 – Container

8,000 TEU ships require: -

650m turning circle

15.5m dredge depth

More powerful tugs

17 across cranes (probably tandem lift, certainly twin lift)

High efficiency handling system

Increased yard capacity to deal with peaks

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## Example 2 – Container

What do we do now?

1. Make space for turning circle and wider channel
2. Layout for deeper dredging (?berths?)
3. Ensure crane rail capacity is available
4. Check space is available for yard capacity or plan conversion to a denser system
5. Make ducts/space available to upgrade power supplies

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# Future Proofing

**Think hard and spend a little money  
now to save a lot of money later**

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