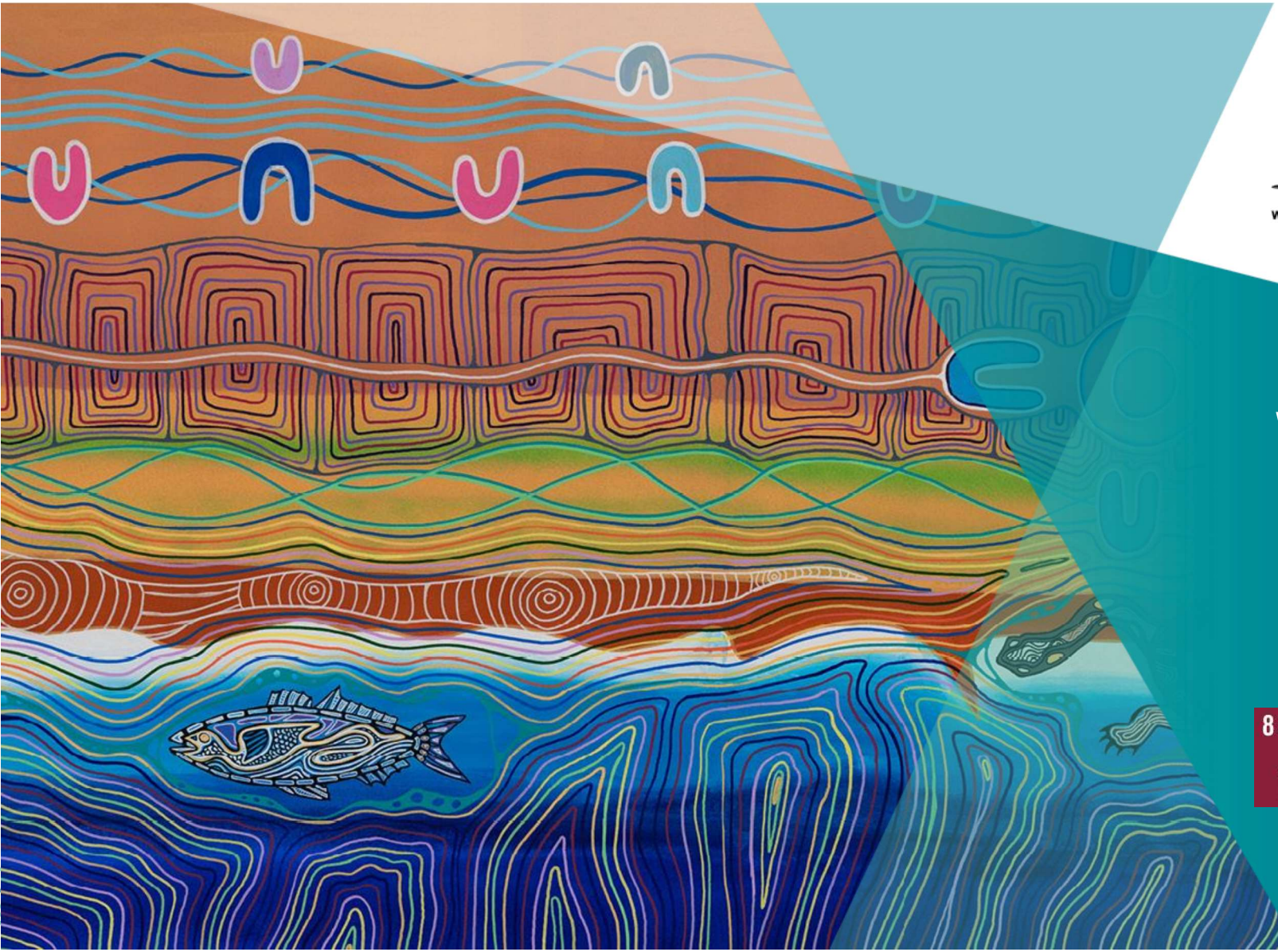


GOVERNMENT OF WESTERN AUSTRALIA

WESTPORT

Westport MCA

PIANC APAC

29 August 2024

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

11 SUSTAINABLE CITIES AND COMMUNITIES

13 CLIMATE ACTION

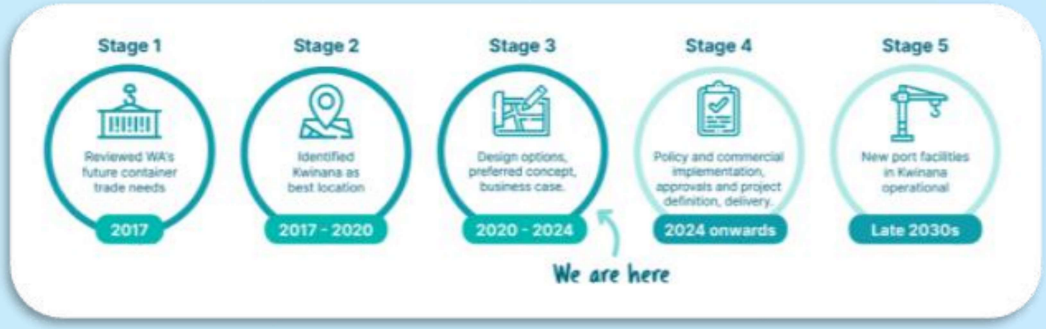
14 LIFE BELOW WATER

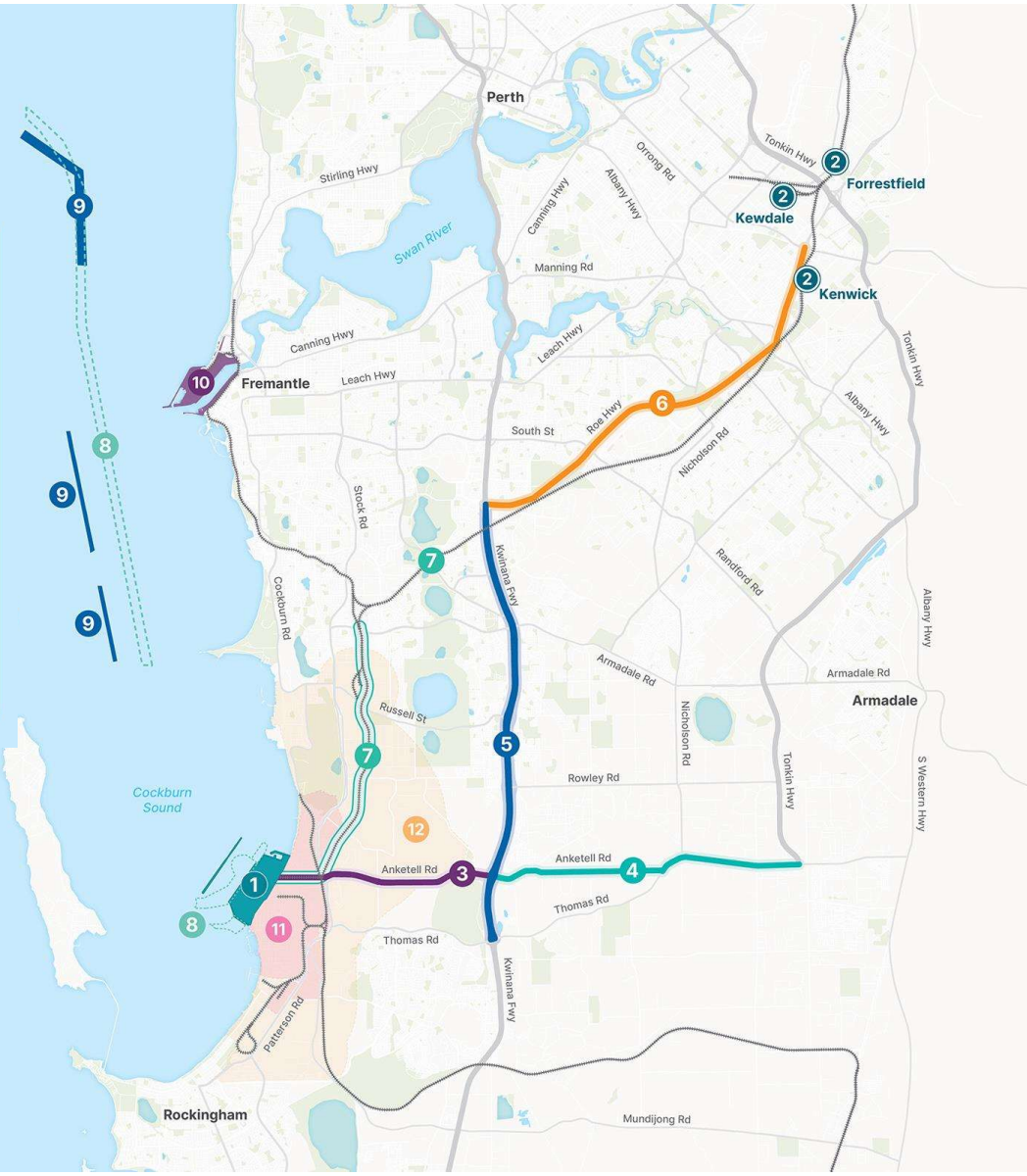
What is Westport

Westport is the State Government's planning program to move container trade from Fremantle to Kwinana. This includes planning a new port, and the connected freight road, rail, and logistics operations.

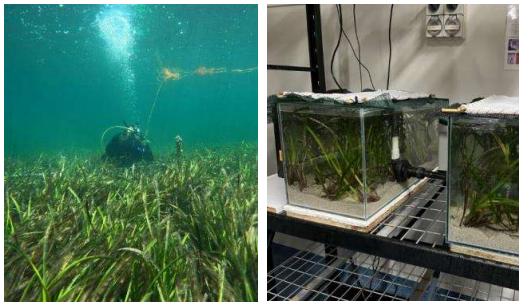
Legend

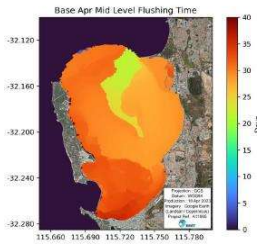
1. New port facilities
2. Upgraded logistics hubs
3. Anketell Road upgrade
4. Land protected for future Anketell-Thomas Road Freight Corridor
5. Kwinana Freeway widening and upgrades
6. Roe Hwy widening and upgrades
7. Rail duplication and level crossing removals
8. Proposed channel
9. Existing channels
10. Fremantle redevelopment area
11. Kwinana Industrial Area
12. Western Trade Coast

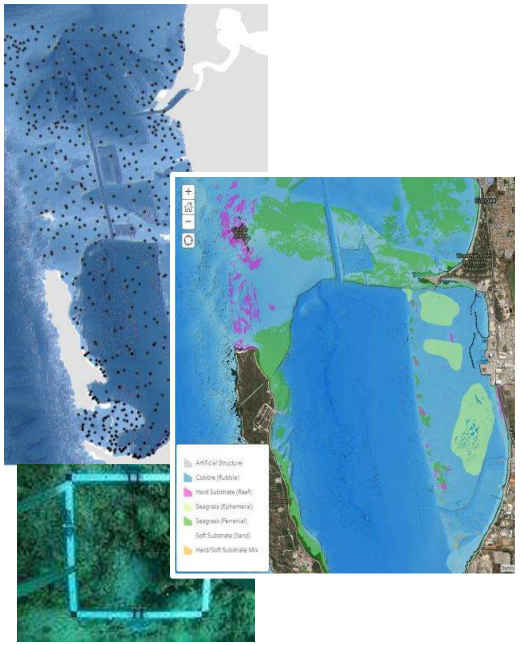


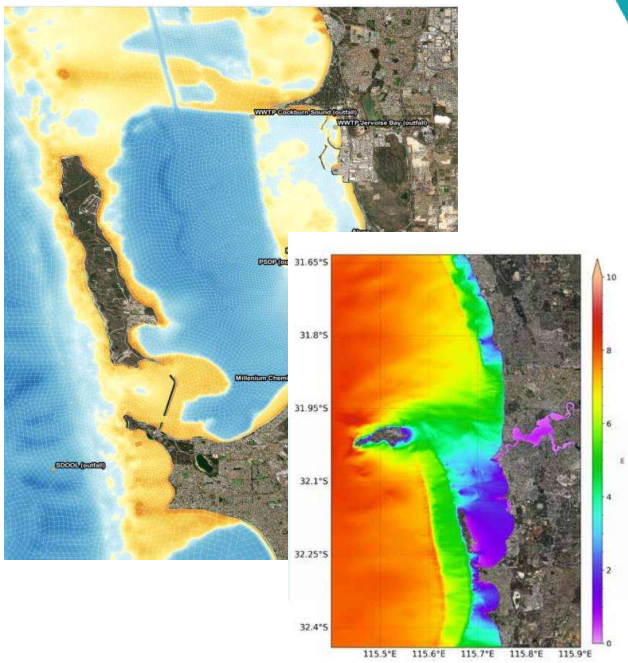


Science and baselines driving engineering









$20 million science program and marine research

Environmental mapping, integrated ecosystem models and data analytics

New biophysical baselines driving design

Social mapping

Recreational fishing

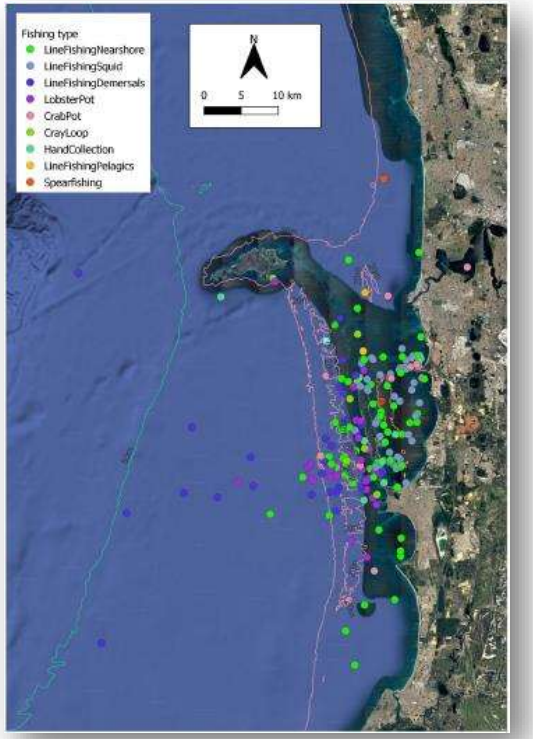
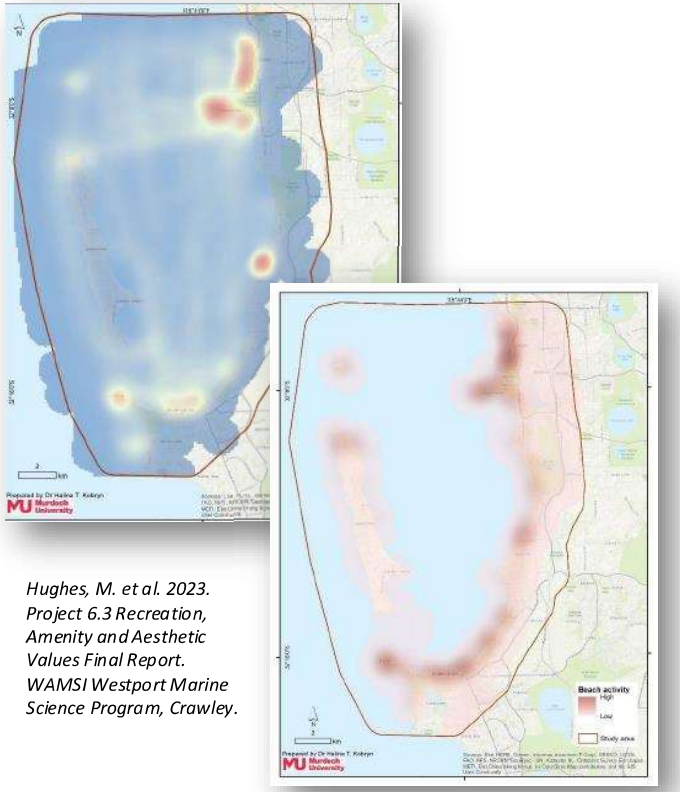


Figure based on preliminary data

Recreation and aesthetic values

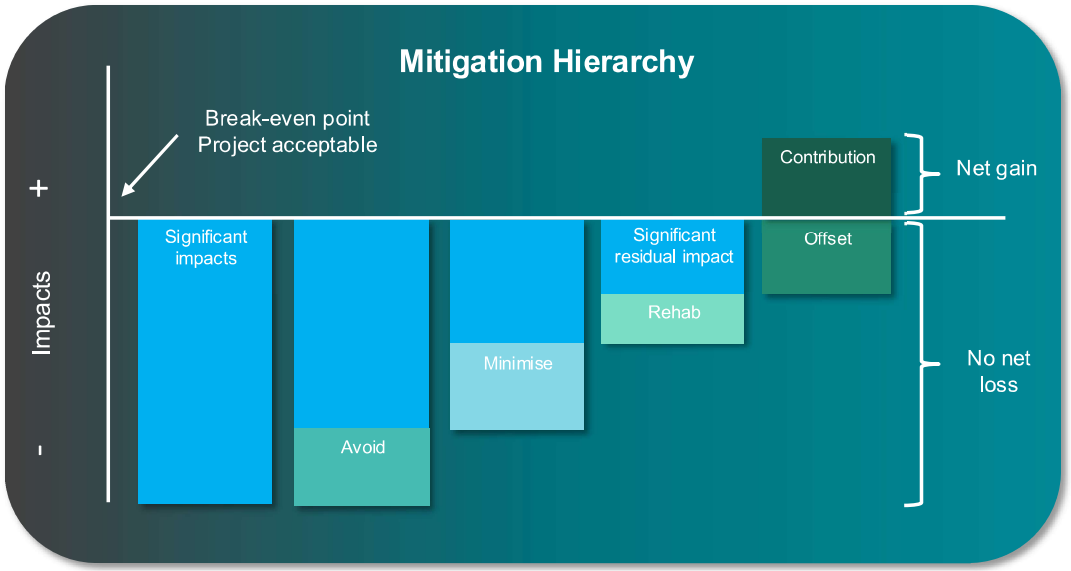


Hughes, M. et al. 2023. Project 6.3 Recreation, Amenity and Aesthetic Values Final Report. WAMSI Westport Marine Science Program, Crawley.

Cultural and spiritual knowledge

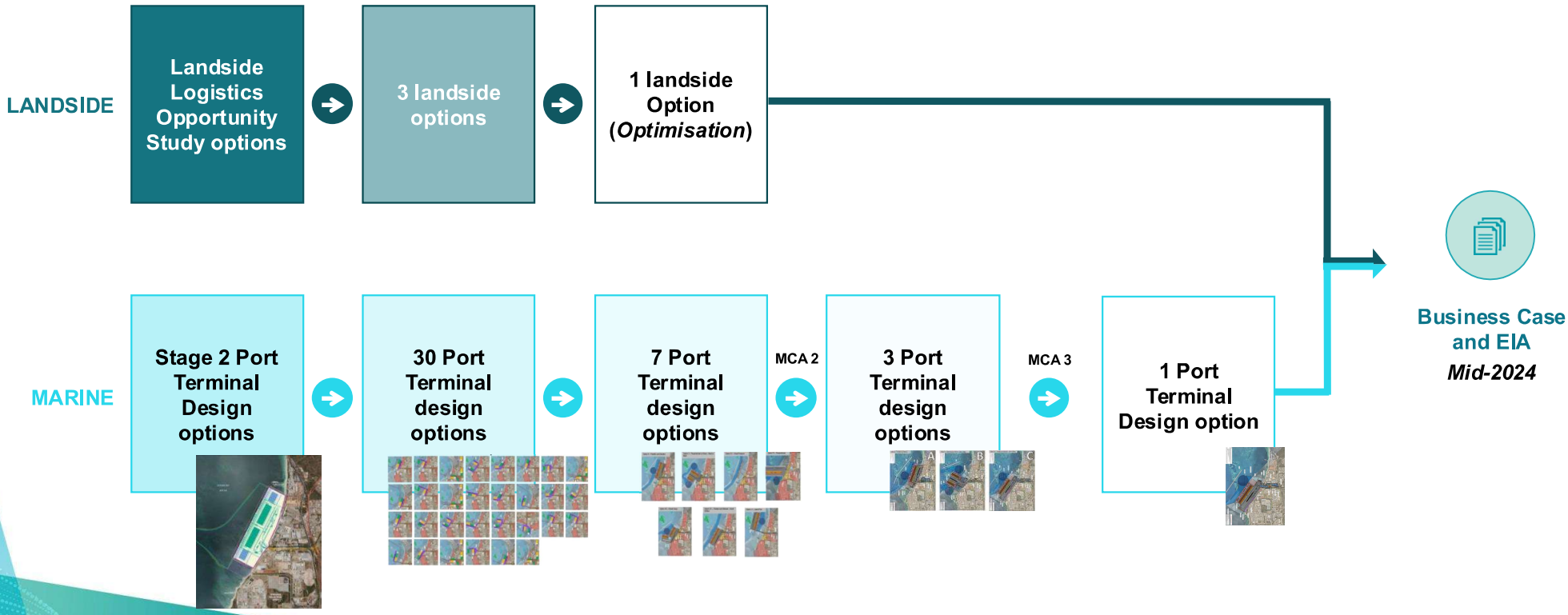
Environmental Acceptability

- Establish environmental baselines and understanding of key ecological processes in Cockburn Sound
- Provide scientific basis to inform proposed port design and environmental assessment.
- Inform mitigation strategies to maximise environmental/social outcomes
- Provide information on recreational values and activities in Cockburn Sound and understand community aspirations through consultation



Goal	Sub-Goals	Goal MCA Weight	Share Within Goal	Sub-Goal MCA Weight (Port)
1. Better Trade Outcomes for Exporters, Importers & the Economy	1.1 Efficient – operating costs for movement of containers across the network	28%	30%	8%
	1.2 Reliable – predictability and visibility of shipment movements		20%	6%
	1.3 Resilient – capacity to better withstand, and recover efficiently from, disruptions		20%	6%
	1.4 Scalability - capacity to expand or adapt to meet forecast trade and population growth		15%	4%
	1.5 Flexible - ability to adapt to future market trends and operator innovation		15%	4%
2. Western Trade Coast's Growth is Enabled	2.1 Western Trade Coast's growth is enabled	0%	N/A	0%
	2.2 Western Australian technological innovation is leveraged		N/A	0%
	2.3 High quality jobs and training are created		N/A	0%
3. Acceptable impact on the State's finances	3.1 Value for money	25%	67%	17%
	3.2 Attractive to private investment through commercial and ESG opportunities		N/A	0%
	3.3 Minimised impact on utilities and business		33%	8%
4. Plan, build and operate the most sustainable container supply chain in Australia	4.1 Cockburn Sound is protected (related to the Westport Impact)	23%	56%	13%
	4.2 The container supply chain is carbon neutral		22%	5%
	4.3 Infrastructure development and operations are sustainable		22%	5%
5. Benefits to the community and indigenous peoples	5.1 Recreational values protected or enhanced	15%	33%	5%
	5.2 Indigenous and non-indigenous heritage is protected and promoted		67%	10%
	5.3 Aboriginal economic opportunities are delivered		N/A	0%
6. Safety for workers and the community	6.1 Safe interaction between freight network and the community	8%	100%	0%
	6.2 Safe port operations		100%	8%
SUM		100%		100%

Land and Marine Option Selection



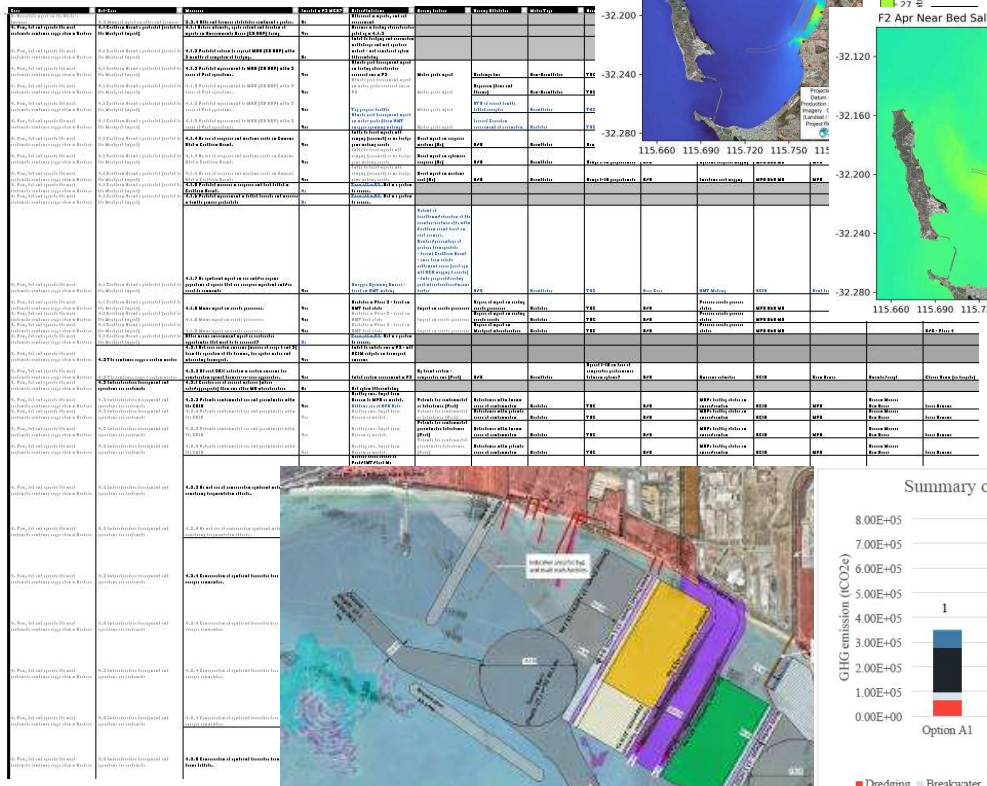
MCA 2 - What we considered

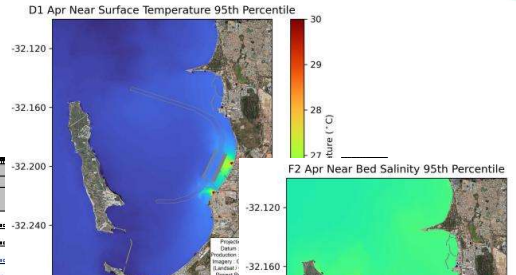
Marine
- Weighted Benthic Habitat Scoring (Direct loss and indirect effects)
- Coastal Processes
- Flushing

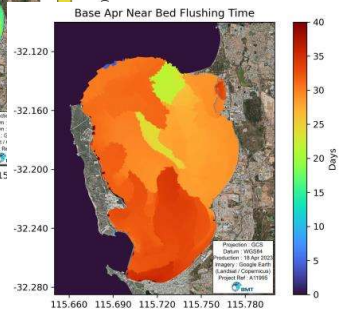
Terrestrial
- Native vegetation clearing
- Ecological communities
- Fauna and faunal habitat
- Flora
- Contamination

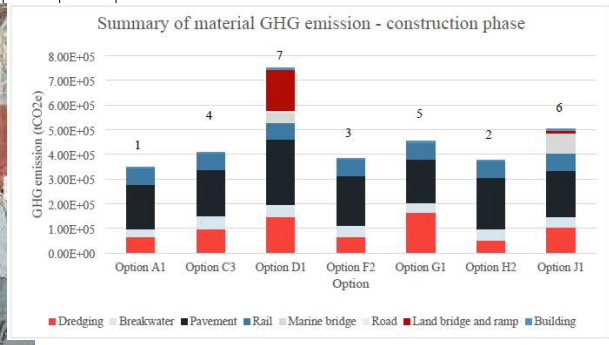
Air
- Construction CO_2e emissions

Social
- Aboriginal heritage
- Historic heritage
- Marine heritage
- Terrestrial and Marine recreation





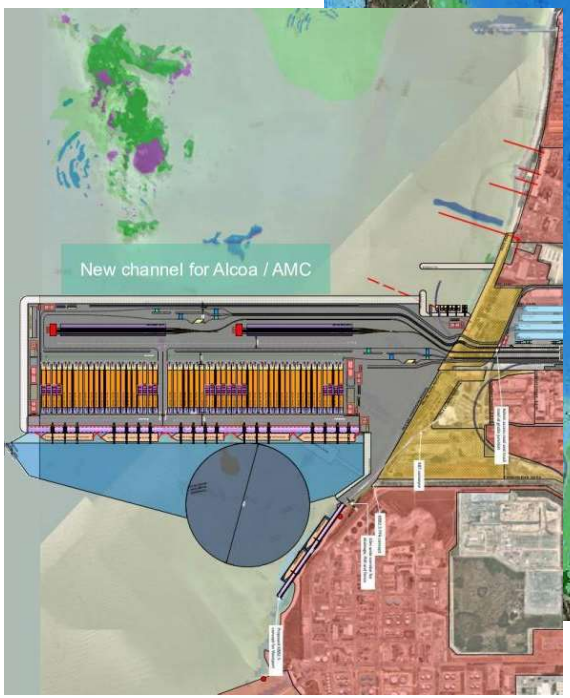


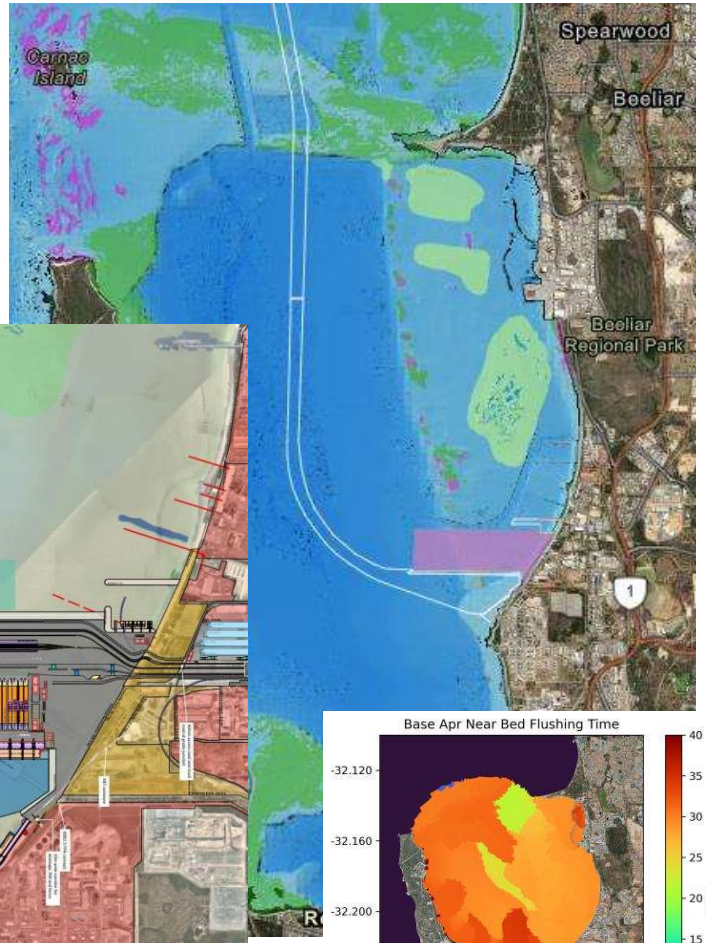


Phase 2 MCA Outcome – Shortlisted Options

Option F

- Ranked 4th overall in the MCA 2
- Key benefit was the potential cost and environmental benefits of not requiring a breakwater to protect south facing berths
- Avoids direct impacts on Synergy, NewGen and Water Corporation assets and operations



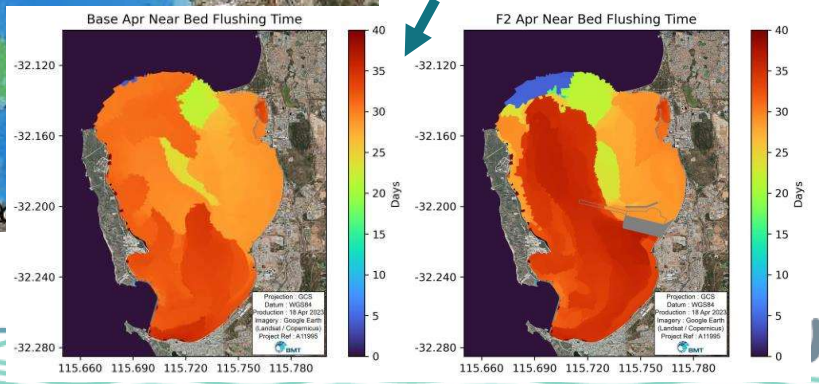


MCA 2 hydrodynamic modelling, showed that Option F was the worst performing option for flushing and coastal processes

Challenges
- Reclamation off Kwinana Shelf
- Insufficient dredge material for reclamation
- Potential Southern Breakwater

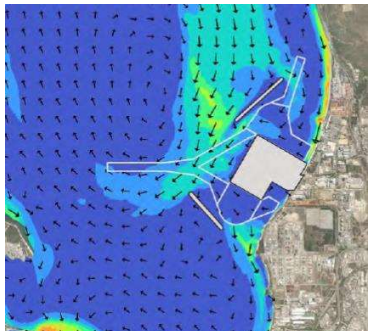
Potential fatal flaws
- Flushing and circulation
- Snapper spawning impacts

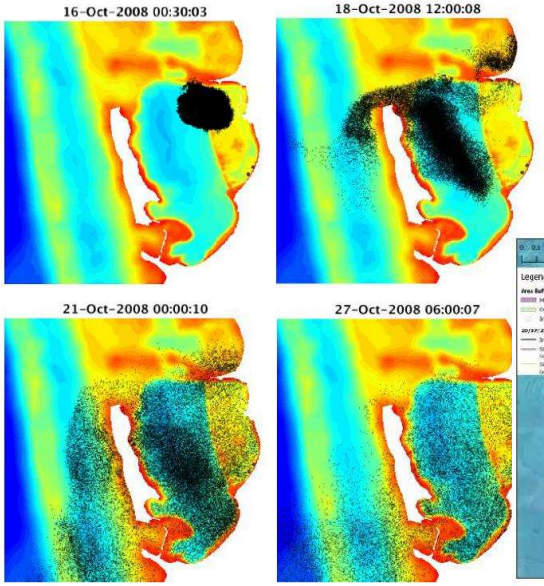
April flushing near seabed (Base Case vs Option F)



MCA 3 – What we added

- Rescoring of all factors from MCA 2
- Aboriginal cultural and spiritual values mapping (Confidential)
- Tug Activity Assessment to include environmental considerations (localised and chronic turbidity) in addition to PSDP and be keyed to monitoring of existing turbidity at Alcoa Jetty
- Spring circulation modeling during snapper spawning and larvae fate modeling





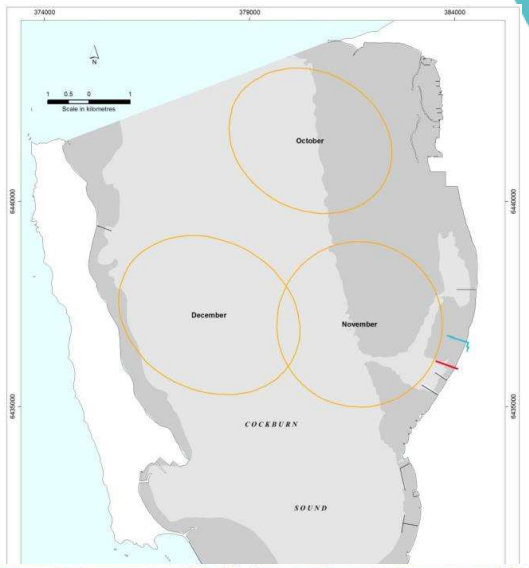
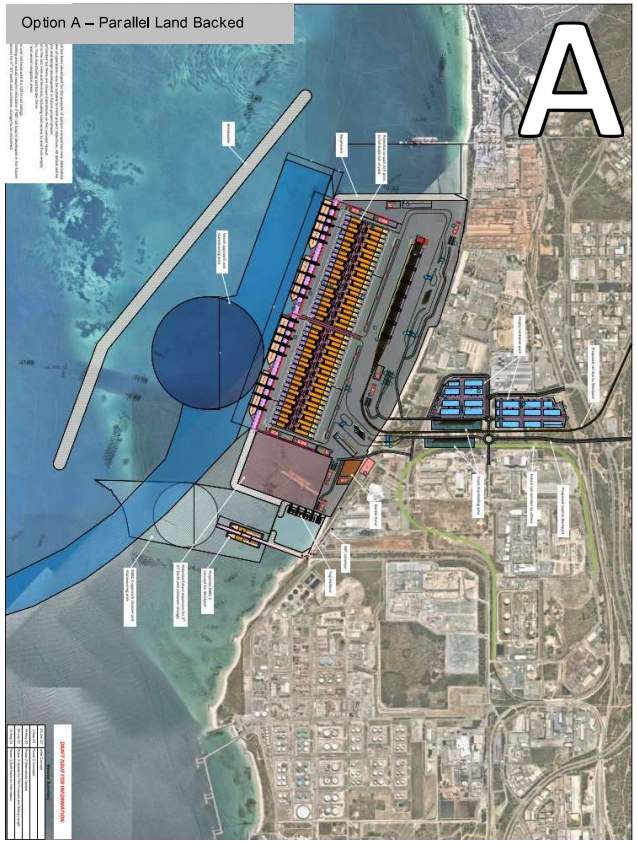
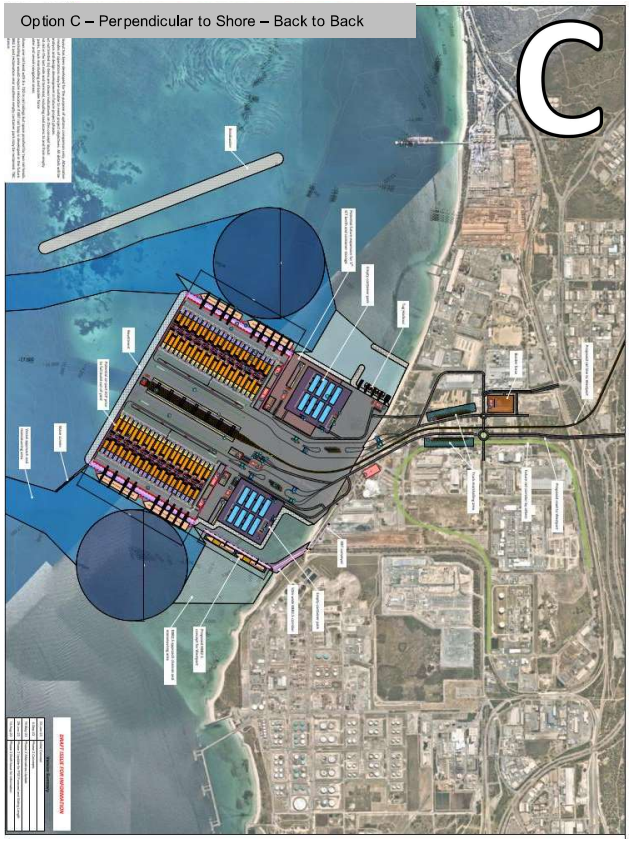


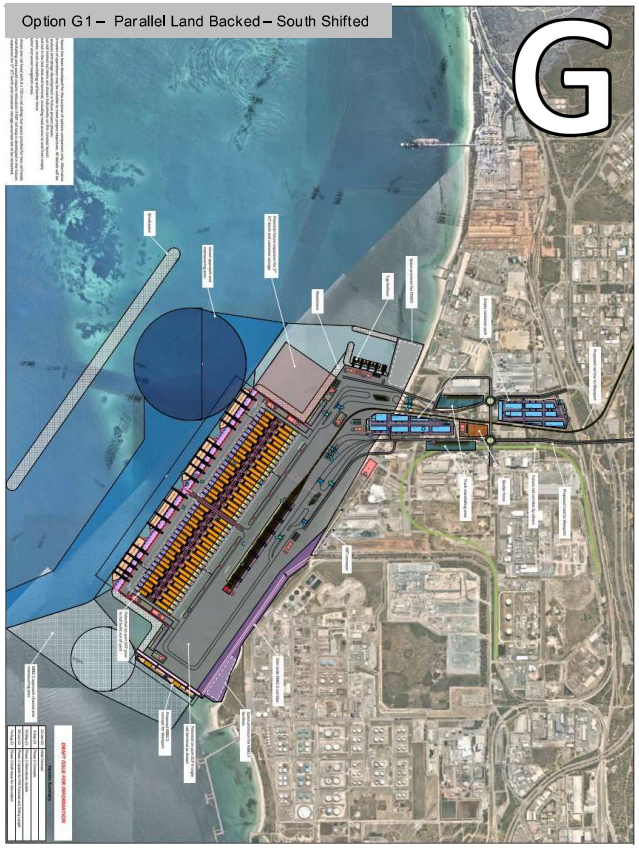
Figure 4.1 Vessel Arrival – 20/07/2010

Figure 4.2 Vessel Arrival – 10/12/2013

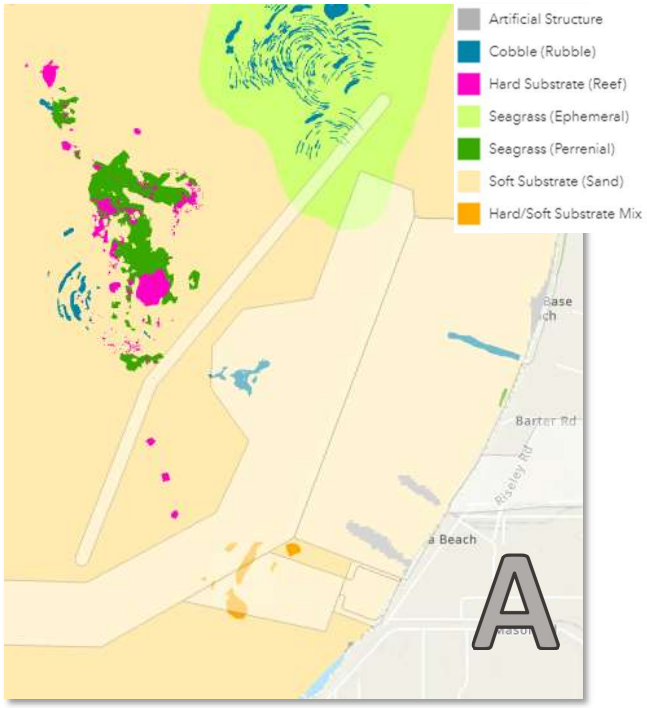
Phase 3 – Shortlist Options

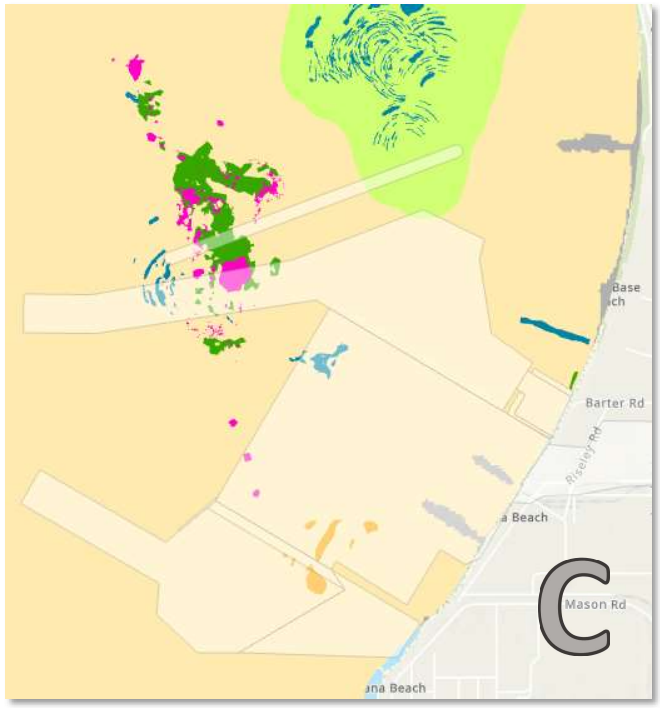


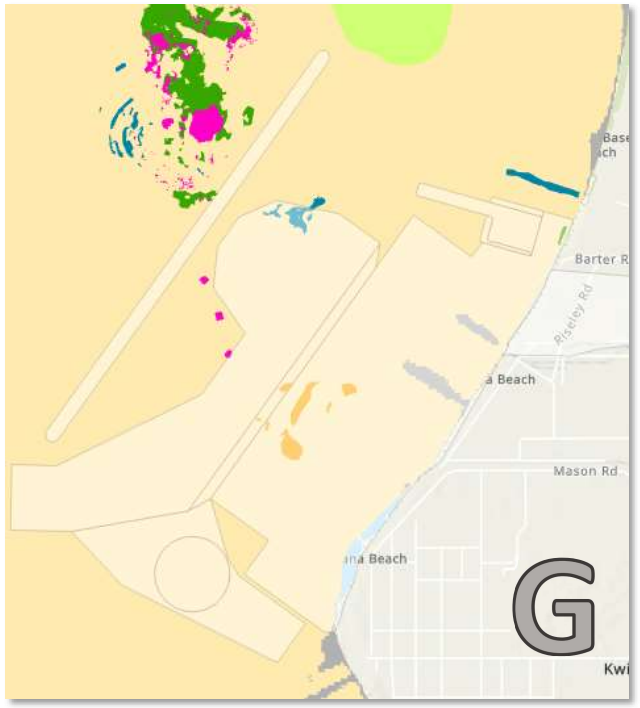




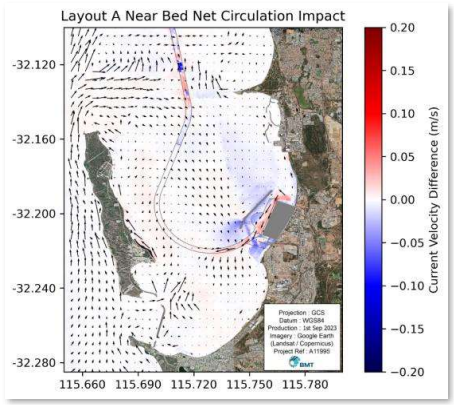
Benthic Communities







Hydrodynamics: Circulation



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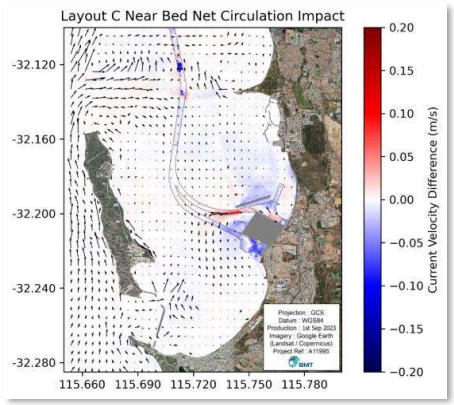

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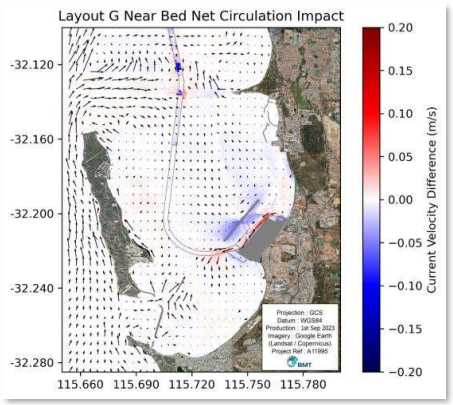

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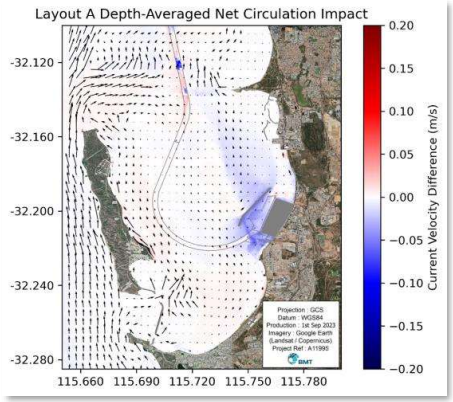
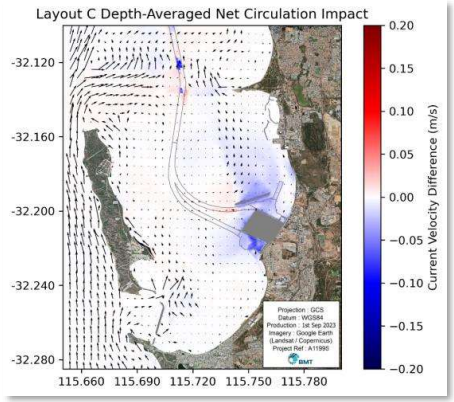
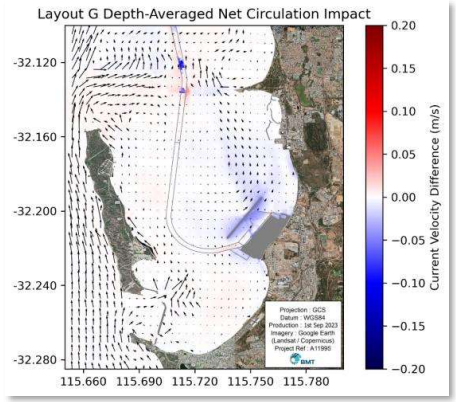
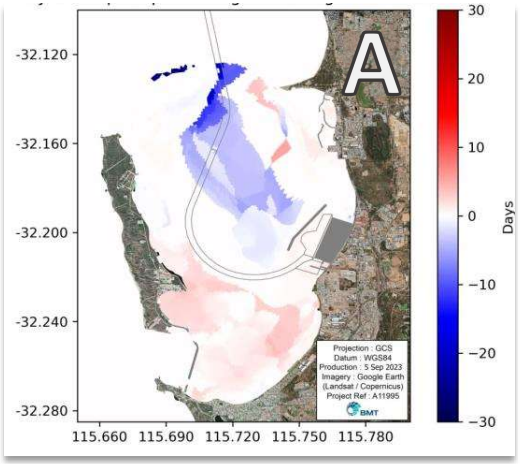
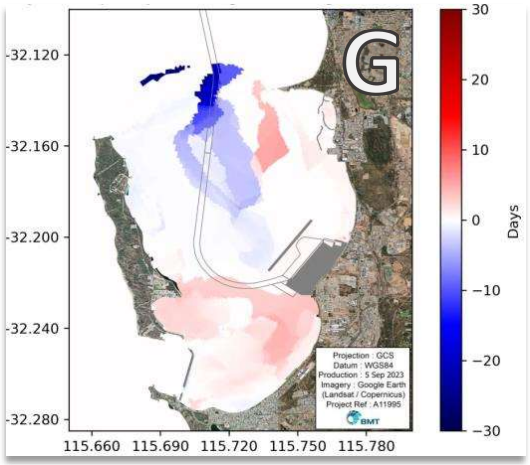


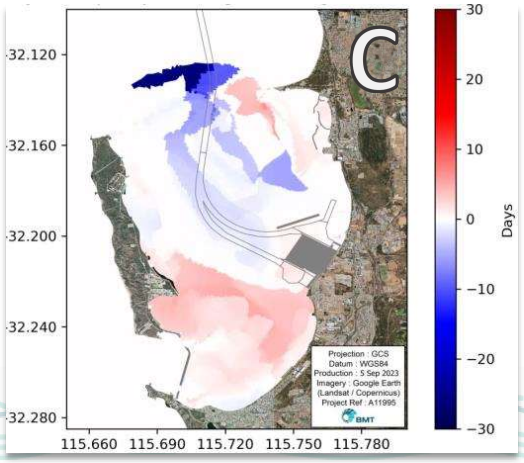




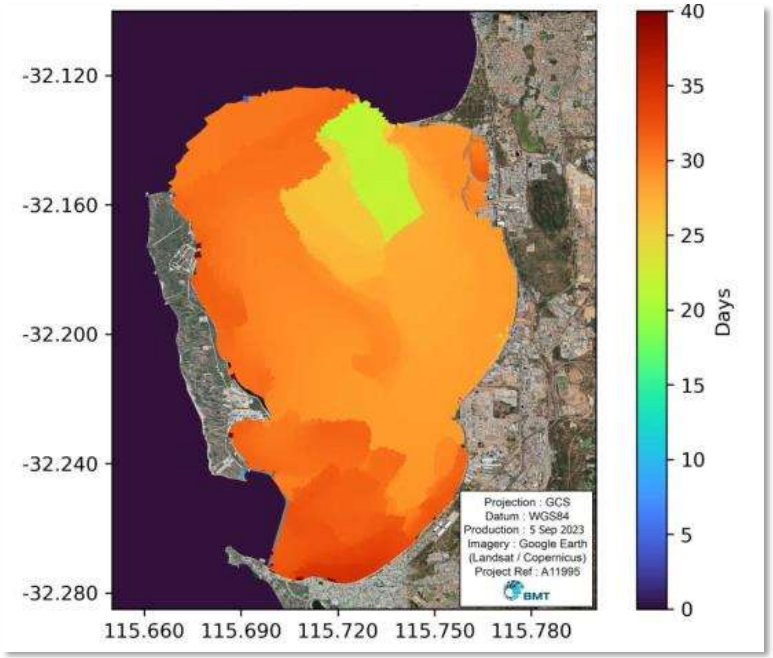
Water Quality: Flushing





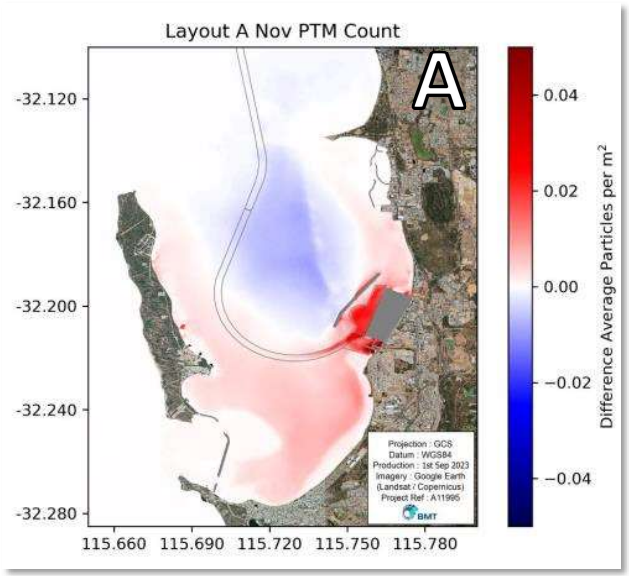


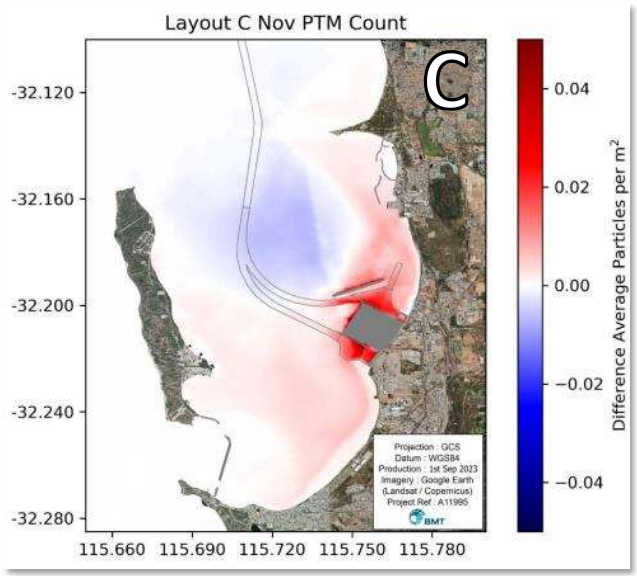
Shortlist Option Layouts:
Apr Depth-Averaged Flushing Time Difference

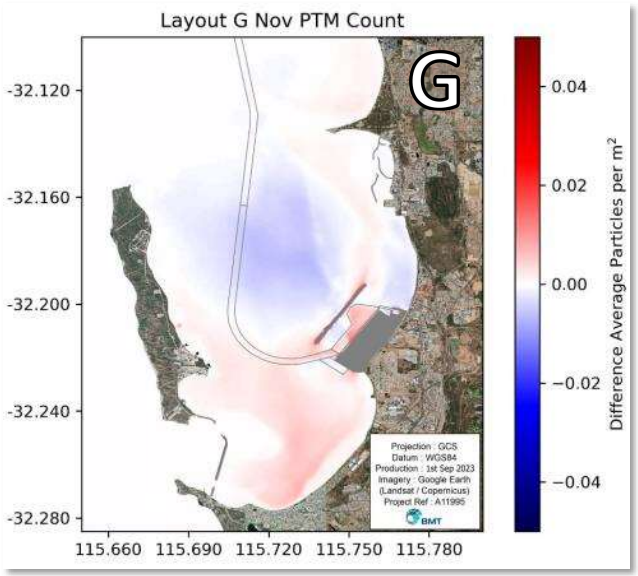


Base Case:
Apr Depth-Averaged Flushing Time

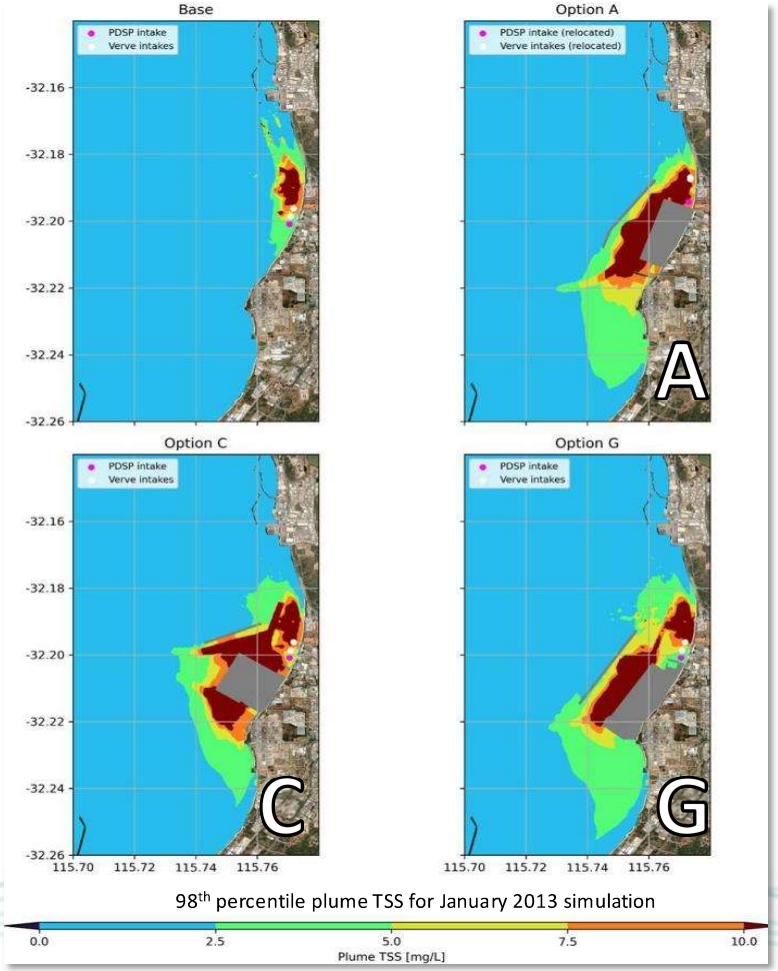
Snapper Spawning Larvae Dispersion Modelling



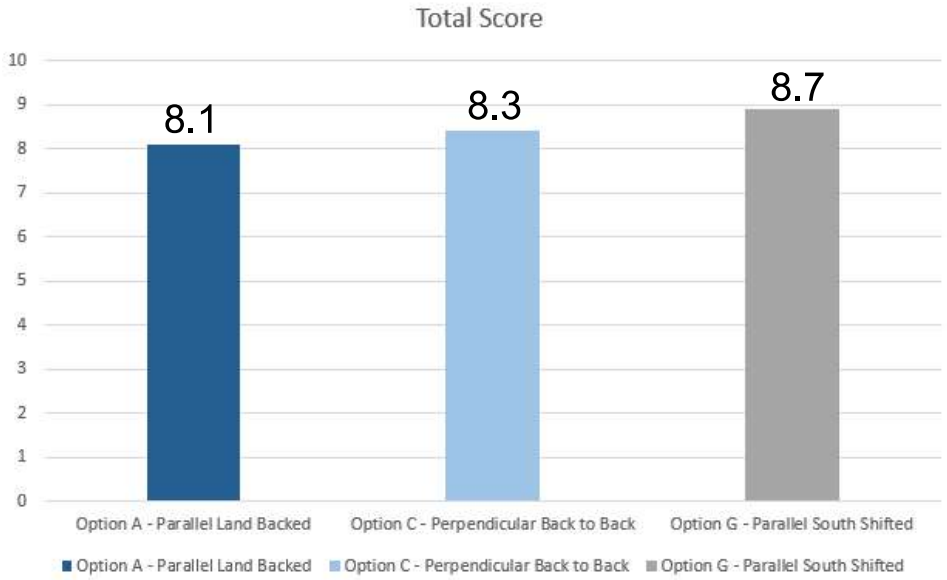




Water Quality: Resuspension of Sediments

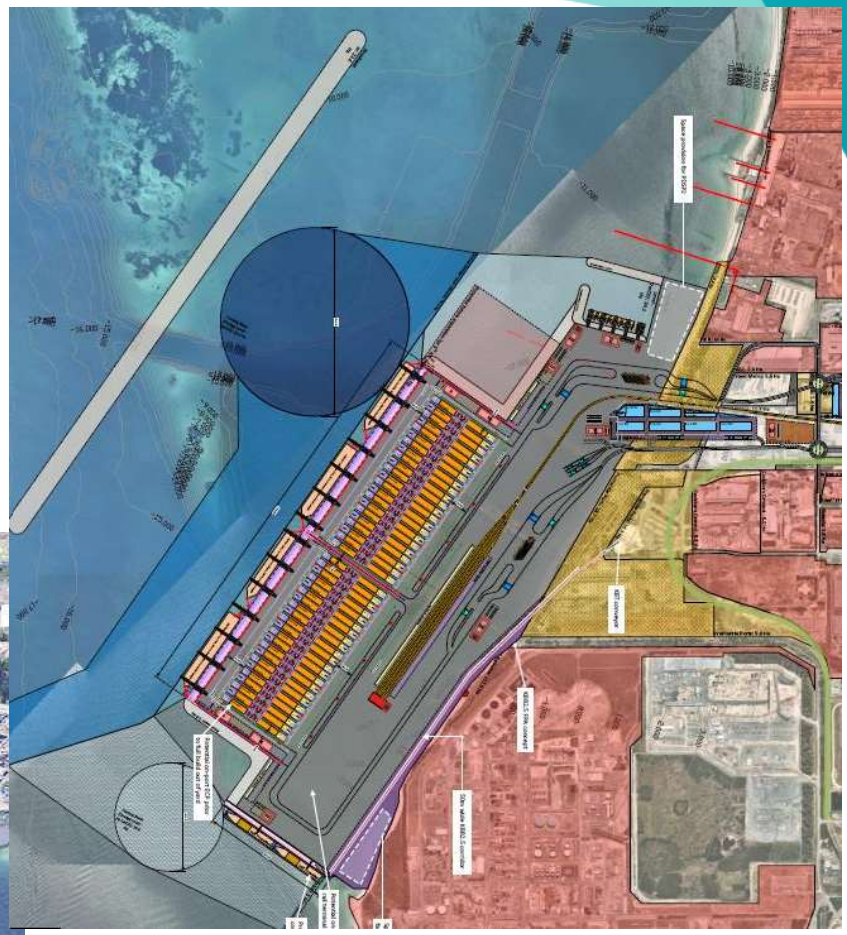


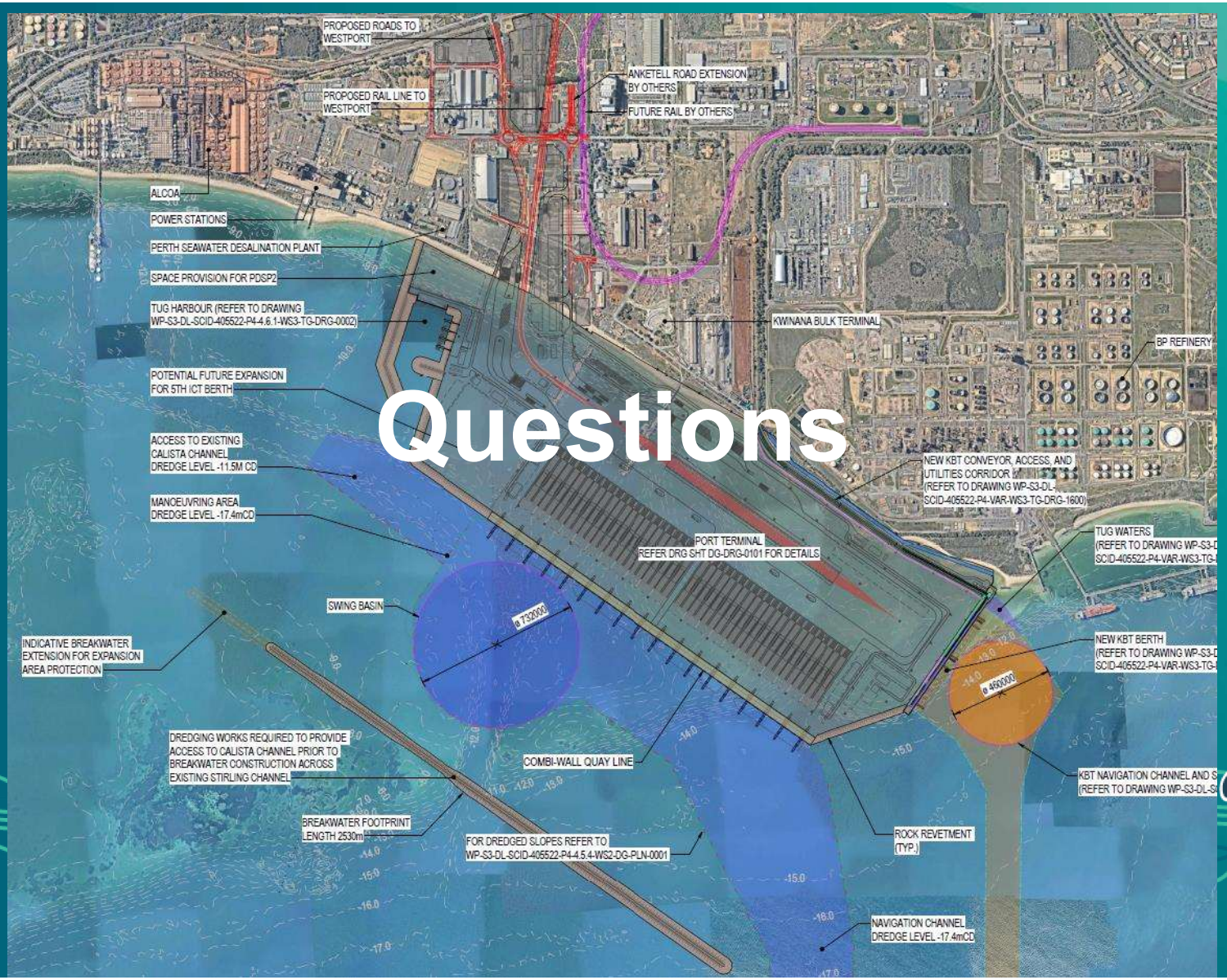
MCA Outcomes



Preferred Concept

- Potential to fully avoid direct impacts to seagrasses in the terminal area.
- Better flexibility and opportunity with regard to avoiding indirect impacts from turbidity during construction dredging and operations.
- Breakwater already functions well for circulation and will require less additional work and/or costs to implement innovative, net positive options.
- Expansion areas provide potential location for large scale seagrass rehabilitation support facilities likely required to support offset program and monitoring.




PROPOSED ROADS TO WESTPORT
PROPOSED RAIL LINE TO WESTPORT
ANKETELL ROAD EXTENSION BY OTHERS
FUTURE RAIL BY OTHERS
ALCOA
POWER STATIONS
PERTH SEAWATER DESALINATION PLANT
SPACE PROVISION FOR PDSP2
TUG HARBOUR (REFER TO DRAWING WP-S3-DL-SCID-405522-P4-4.6.1-WS3-TG-DRG-0002)
KWINANA BULK TERMINAL
BP REFINERY
POTENTIAL FUTURE EXPANSION FOR 5TH ICT BERTH
ACCESS TO EXISTING CALISTA CHANNEL DREDGE LEVEL -11.5M CD
MANOEUVRING AREA DREDGE LEVEL -17.4mCD
NEW KBT CONVEYOR, ACCESS, AND UTILITIES CORRIDOR (REFER TO DRAWING WP-S3-DL-SCID-405522-P4-VAR-WS3-TG-DRG-1600)
PORT TERMINAL REFER DRG SHT DG-DRG-0101 FOR DETAILS
TUG WATERS (REFER TO DRAWING WP-S3-D SCID-405522-P4-VAR-WS3-TG-
SWING BASIN
ø 730000
INDICATIVE BREAKWATER EXTENSION FOR EXPANSION AREA PROTECTION
NEW KBT BERTH (REFER TO DRAWING WP-S3-D SCID-405522-P4-VAR-WS3-TG-
ø 480000
DREDGING WORKS REQUIRED TO PROVIDE ACCESS TO CALISTA CHANNEL PRIOR TO BREAKWATER CONSTRUCTION ACROSS EXISTING STIRLING CHANNEL
COMBI-WALL QUAY LINE
KBT NAVIGATION CHANNEL AND S (REFER TO DRAWING WP-S3-DL-S
BREAKWATER FOOTPRINT LENGTH 2530m
FOR DREDGED SLOPES REFER TO WP-S3-DL-SCID-405522-P4-4.5.4-WS2-DG-PLN-0001
ROCK REVETMENT (TYP.)
NAVIGATION CHANNEL DREDGE LEVEL -17.4mCD

Questions