

Feasibility Study For Development Of New Container Port Incorporating Former South Fremantle Power Station With The Contiguous District Structure Plan.

PROJECT 2 OF 4

FEASIBILITY STUDY FOR DEVELOPMENT OF NEW CONTAINER PORT INCORPORATING FORMER SOUTH FREMANTLE POWER STATION WITH THE CONTIGUOUS DISTRICT STRUCTURE PLAN.

(INCLUDING FLOATING DOCK IN COCKBURN SOUND AND LAND BACKED FACILITIES)

DRAWING 5

PLAN OF EXISTING LOCAL ACTIVITY NODE. FREMANTLE.

This drawing is about 25% of, and derived from, a larger “District Structure Plan” prepared by the Department of Planning for the Western Australian Planning Commission in September 2009 and released as final in 2015.

“The District Structure Plan” of the WAPC does not predict the proposals in Drawings 5, 6, 7 and 8, but fortuitously has held development in abeyance in land surrounding the ruin of the heritage listed former South Fremantle Power Station.

The power station and a higher density “local activity node” fortuitously are located such as to be feasibly approved and developed as the central node of a new container port.

The Port project in turn facilitates the funding of the long overdue power station remediation, from local eyesore, to sustainable and inherently long new compatible industrial life.



Fig.1: West Elevation of Power Station to a usable recreational beach and Cockburn Sound.

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Fig.2: South Elevation of Power Station to a neighbouring new marina-housing development. Substantial portions of the restored building could still be available for recreational uses mutually compatible with the port uses for customs, cargo and shipping agencies, port operations, goods wholesaling and retailing, and control rooms, all within an extension of the recreational beach and parking, multi-mode transport interchanges, etc.

Figure 2 (above) shows a raised platform of land above the beachfront sea level (Nos. 8 and 14), which is nominally the level of landing of the top of the jetty at the shoreline (No. 5), from which the jetty ramps up to the west, to the desired floating dock level/s, thereby permitting ferries and yachts, etc to pass under the jetty when sailing along the beaches.

The jetty may be a cylinder or tube of 2 or more stories, on well spaced trestles, conveying containers, services, vehicles and pedestrians, etc within.

On the inland side of the power station, the land rises considerably to Cockburn Road, so that, from a bus-light-rail station bridging the Cockburn Road level, passengers can exit via lifts and an extension of this bridge, spanning over the heavy rail and road train paths, to higher levels within the converted old Power Station, then also connecting to a lift core (No. 13) attached to the power station.

DRAWING 6

DRAFT CONCEPT PLAN OF OCEAN AND LAND COMPONENTS.

This drawing provides an overview of the impact of entire project, to the scale and context of the existing and future residential and other built-up surrounds.

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It is considered that good design and conservation of the port (integrating shipping and recreation functions, as fishing does in Fremantle) can and will enhance the vitality and property values of the residential surrounds; for example, adding views of vital shipping movements to sunsets, etc, yet set well distant from adjacent beach side, residences, feasibly by as much as community consultation may determine to be the desirable length of the jetty (shown as 1 kilometre for initial consultation purposes).

The floating dock and its umbilical jetty-pier (the jetty itself with recreational yachting moorings, ferries, and seaside entertainment residential "jacket" decks), the restored power station, land backed container transport termini, and other support industry operations, as well as residential developments based along a proposed canal-city segment, are all shown in context.

Refer to the notes to numbers on this plan as also scheduled here-under with respect to Drawings 7 and 8.

DRAWING 7

SHEET 1 OR 2: DRAFT CONCEPT PLAN OF OCEAN DOCK COMPONENTS.

KEY TO THE CONCEPT PLAN NUMBERING

1. Dock of mega-hull modules which may be any of:

- dredged and indurated, walled Cockburn Sound sea floor materials,
- recycled salvaged vessels hulls such as decommissioned aircraft carriers or the like,

but preferably

- purpose built floating hulls anchored in place, relocatable, re-oriented, etc., as may be required in future,

containing new Australia-first technology, remote and robotic container handling systems and security scanning (controlled from the shore in the former Power Station), with several stories of containers individually accessed and removed without re-stacking operations. Including fuel storage segments.

Two such modules assessed as able to service predicted loads growth to 3,000,000 container movements per annum by 2050.

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2. Variable orientation according to studies of dredged channel and sea and wind currents aspects, future shipping design manoeuvrability, views of residents, etc.
3. Container ships of typical large size at Fremantle, to same scale as hulls. (Note: one hull is capable of handling 3 or more vessels of current smaller sizes. Therefore 2 hulls budgeted for a stage 1.)
4. Level section of jetty. (May enter at or below upper deck level of hulls. Sea- going motorised amphibious canal barges may enter at sea level or into ramps into hulls.)
5. Jetty section ramped from beach dune height at landing (as outlined above).
6. Seaside fishing platforms, entertainment - residential decks encasing sections of Jetty tube, with sea level yacht and ferry floating landing docks below jetty.

Continued under Drawing 8.

DRAWING 8

SHEET 2 OF 2: DRAFT CONCEPT PLAN OF LANDWARD PORT COMPONENTS.

KEY TO THE CONCEPT PLAN NUMBERING

7. Ferry port at sea level for Perth-Fremantle-Rottnest- Cockburn Sound ferry services interconnecting with light-rail and bus services at Cockburn Road as per Fig. 2, notes, with direct passenger entry into old power station basement level.
8. Main entry forecourt to old power station.
9. (Heavy rail to Fremantle and North Fremantle terminated and removed north of this location and substituted with light rail as for **12 and 17** below.)
Jetty container conveyor discharge point. Road-train assembly depot (with fork lifting and other overhead crane handling, etc., integrated with **10**.)
10. Heavy-rail freight marshalling (with road-train, canal cargo exchanges).
11. Port associated support light industry (high architecture design and yards maintenance standards to be imposed and maintained.)

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12. Cockburn Road automobiles, buses, light-rail interchange, with pedestrian bridge and elevators crossing the Road in an archway, extending as a bridge to Power Station upper floors.

13. Elevators from high level pedestrian bridge (No. 12) to lower and ground floor levels. Supplementing other vertical transit in Power Station interiors.

14. Sea Beach dunes access and recreational and port business parking.

15. Existing adjacent residential and marina village. Not in this project but consultation with neighbourhood in design development stages with reference to noise, lighting, views, shared small boat channels, etc.

16. Combination of 2 lanes each of heavy-rail and heavy road-train dedicated route in existing heavy rail route to all main industrial areas and airports including Jandakot and Kwinana (See Map in Drawing 1.)

Allow for remediation of in ground rail-use contamination in this project.

17. Existing re-alignment of Cockburn Road and Spearwood Avenue integrated with light-rail suburban passenger services network from North Fremantle, inner Fremantle, and thence east west in ring loop to east of Perth Airport.

18. New canal forming a new 25 km long linear city; freight via sea- going motorised amphibious canal barges, capable of carrying, say forklift with 8 off 12 metre stacked containers and/or drive on drive off road-train assemblies of prime mover with 2 x 12 metre container trailers, whilst also carrying private recreation vessels.

Numerous exit ramps at cul de sacs formed by canal intersections, servicing local container delivery traffic (eg small boats on trailers, house removals, shopping centre supplies, and industrial areas).

Serving as stormwater collection, from a broad band of contiguous typical suburban- sprawl, building roofs and street pavements, all treated to suit applications to irrigation and control of water levels and salinity in the natural lakes ecosystems of the region.

Financed by housing values being elevated, leading to rates rises, but more usefully, exchanges of ¼ acre suburban house lots, for new town house lots and house packages along the canals. Ten lots typically yielding 28 net additional lots to fund 105 metres of canal.

This anticipated to obviate any necessity for resumptions.

19. Typical canal-lakes water exchange sites as in note 18.

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20. New coastal bypass road in steeply contoured vegetated lands, as for WA Planning Commission structure plan, **possibly not necessary in this scheme.**

21. Shown here as **a ravine cut through the local ridge of limestone**, for the canal, forming an amphitheatre of small terraced town house and patio house types, with ocean and parkland views across the canal.

Alternatively a tunnel could be bored for the canal to pass thru at sea-lakes level, subject to levels survey for the canal route.

DRAWINGS 9 & 10

BLACK AND WHITE LINE DRAWINGS AS FOR THE AREAS SHOWN IN DRAWINGS 7 AND 8 WITHOUT EXISTING DEVELOPMENTS.

PENDING.

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Balingup 12 October 2015**