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WESTERN AUSTRALIA
MINISTER FOR THE ENVIRONMENT

**STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE
ENVIRONMENTAL PROTECTION ACT 1986)**

**CORAL COAST MARINA, RESIDENTIAL SUBDIVISION AND QUARRY,
EXMOUTH (223)**

DEPARTMENT OF MARINE AND HARBOURS

This proposal may be implemented subject to the following conditions:

1 Proponent Commitments

In implementing the proposal, the proponent shall fulfil the commitments (which are not inconsistent with the conditions or procedures contained in this statement) as published in Environmental Protection Authority Bulletin 498. (A copy of the commitments is attached).

2 Detailed Implementation

Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material in any way that the Minister for the Environment determines on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

3 Management of Subdivision and Marina Development

The subdivision and marina development should be managed so as to prevent unacceptable impacts on the environment.

- 3-1 Prior to commencement of dredging activities (dry or wet), the proponent shall develop a monitoring programme, establish monitoring bores and then subsequently monitor, amongst other things, groundwater and salinity levels around the marina basin. The monitoring programme shall be to the satisfaction of the Minister for the Environment on advice of the Environmental Protection Authority.

The proponent shall seek advice on the preparation and implementation of this monitoring programme from the Geological Survey of Western Australia, the Water Authority of Western Australia and the Western Australian Museum.

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- 3-2 The proponent shall cease de-watering activities if the results of the monitoring programme required by condition 3-1 indicate unacceptable de-watering effects at 300 metres from the marina basin, to the satisfaction of the Environmental Protection Authority on advice of the Geological Survey of Western Australia and the Water Authority of Western Australia.
- 3-3 Prior to commencement of de-watering or construction of the marina "in the wet", whichever is the sooner, the proponent shall construct and subsequently utilise settling ponds to the east of the westernmost edge of the proposed marina as near as practicable to the ocean, to the satisfaction of the Minister for the Environment on advice of the Environmental Protection Authority.
- 3-4 Prior to filling the residential area, the proponent shall prepare and then subsequently implement a plan of slopes and their stabilisation programme to be used in the residential subdivision, to the satisfaction of the Minister for the Environment on advice of the Environmental Protection Authority and the Department of Planning and Urban Development.
- 3-5 Prior to construction of the residential area or marina, whichever is the sooner, the proponent shall prepare and then subsequently implement a drainage management plan showing amongst other things the location of outlets for drainage downstream of the residential subdivision, to the satisfaction of the Minister for the Environment on advice of the Environmental Protection Authority and the Shire of Exmouth. The drainage system shall be constructed so that there is minimal impact from sediments on important biological communities, such as corals.
- 3-6 The proponent shall advise, to the satisfaction of the Environmental Protection Authority, all prospective purchasers of land within the subdivision and marina development area that private groundwater bores will not be permitted and that licences will not be issued by the Water Authority of Western Australia for private bores within the subdivision and marina development area.
- 3-7 If as a result of further research it can be demonstrated to the satisfaction of the Environmental Protection Authority on advice of the Western Australian Museum that a limited degree of groundwater extraction would not adversely affect cave-dwelling fauna, then limited groundwater extraction may be permitted to the satisfaction of the Environmental Protection Authority.

4 Quarry Management

The quarry development should be managed so as to prevent unacceptable environmental impacts.

- 4-1 Prior to the commencement of quarry operations, the proponent shall prepare and then subsequently implement an environmental management programme which shall be to the satisfaction of the Minister for the Environment on advice of the Environmental Protection Authority, the Shire of Exmouth and the Water Authority of Western Australia. The programme shall include, but not be limited to the following:
1. measures to protect groundwater quality below the quarry, particularly with respect to management and contingency plans for liquids (eg. oil, fuel) used on site;
 2. consideration of impacts on Water Authority operations on or adjacent to the quarry site;

3. effects on site drainage;
4. rehabilitation of the quarry and access roads; and
5. monitoring and reporting of compliance with measures outlined in the programme.

4-2 The proponent shall give due consideration to the draft guidelines of the Working Party on Conservation and Rehabilitation in the Mining Industry.

5 Proponent

No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister for the Environment has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.

6 Time Limit on Approval

If the proponent has not substantially commenced the project within five years of the date of this statement, then the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment shall determine any question as to whether the project has been substantially commenced. Any application to extend the period of five years referred to in this condition shall be made before the expiration of that period, to the Minister for the Environment by way of a request for a change in the condition under Section 46 of the Environmental Protection Act. (On expiration of the five year period, further consideration of the proposal can only occur following a new referral to the Environmental Protection Authority).

Bob Pearce, MLA
MINISTER FOR THE ENVIRONMENT

20 JAN 1992

PROPONENT'S COMMITMENTS

CORAL COAST MARINA, RESIDENTIAL SUBDIVISION AND QUARRY, EXMOUTH

DEPARTMENT OF MARINE AND HARBOURS

The proponent has made the following commitments:

1. The marina facilities will be constructed behind the frontal dune and will not encroach upon the dune except for the harbour entrance and a constructed walkway from the resort to the beach.
2. An environmental management plan for the rehabilitation and conservation of the dunes bordering the development site will be prepared in consultation with the Shire, the Department of Planning and Urban Development and the Commissioner for Soil Conservation and implemented by the Department of Marine and Harbours to the satisfaction of the Commissioner for Soil Conservation.
3. Existing access to Town Beach will be maintained. Additional public access to the beach and northern breakwater will be accommodated by the provision of controlled pathways from the proposed resort complex.
4. The marina and all associated facilities would comply fully with applicable legislation, regulations and by-laws. All construction materials and practices would be in accordance with the relevant Australian and international codes.
5. Construction activities would be restricted to normal daylight hours and, if found to be necessary, appropriate dust suppression techniques would be employed. Any blasting that is required to enable excavation of the marina harbour and entrance channel will be conducted between 9.00 am and 5.00 pm on weekdays, and will be publicised in the Exmouth community.
6. During earthworks and construction, appropriate care will be taken to avoid incursion of machinery into conserved areas of the dune and foreshore.
7. The Department will be responsible for quarrying operations to provide armourstone for the breakwaters and will liaise with the Department of Mines, the Shire and the Environmental Protection Authority to define appropriate environmental management measures, including rehabilitation of the quarry site and access roads.
8. If the harbour is to be de-watered for excavation then the extracted water will be directed to a settling pond to reduce suspended solids prior to discharge to Exmouth Gulf. If excavation were to occur "in the wet", drainage water from the excavated material will be similarly directed to a settling basin prior to discharge to Exmouth Gulf.
9. DELETED
10. Recontouring of areas receiving fill material will meet the following objectives:
 - a) The redeveloped areas should form a stable and varied landscape, reflecting naturally occurring topography elsewhere within the coastal strip.
 - b) The boundary relief should co-ordinate with existing contours.
 - c) The land should be contoured in order to facilitate its development into a prime residential and holiday area.
 - d) The filled sites will be compacted in accordance with the requirements for building purposes and covered with previously stockpiled topsoil. Filled areas will be stabilized, if necessary, using brush matting, sprayed membranes or mulch.
11. The Department will undertake further investigations to define the nature of the sediments to be dredged from the entrance channel, and to identify the preferred dredging methodology

- and requirements for blasting. The results and proposed works will be referred to the Environmental Protection Authority for approval prior to initiation of dredging.
12. Engineering and environmental management details of the proposed disposal strategy for material dredged from the entrance channel will be referred to the Environmental Protection Authority and the Commonwealth Department of Arts, Sport, Environment, Tourism and Territories for approval.
 13. Formal drainage will be constructed to ensure that the project site is not flooded and that it does not cause flooding of the hinterland behind it. Approval to conduct two new drainage outlets across the shore, and to incorporate an existing natural drainage outlet within the formal drainage, will be sought from the Environmental Protection Authority following finalization of the proposed drainage design. Appropriate rehabilitation procedures will be implemented in order to ensure stability of the beach and dune in the vicinity of the new outlets, to the satisfaction of the Commissioner for Soil Conservation.
 14. All facilities to the proposed development will be deep sewered.
 15. Drainage from marina hardstand areas will be directed away from the harbour and discharged to general drainage via silt traps.
 16. The design criteria for drainage will be for the dissipation of at least a one in 100 year rainfall without unacceptable flooding, and without overflow into the marina harbour. There will be provision for drainage overflow into the harbour during more extreme rainfall events.
 17. Fuel storage facilities in the marina will be above ground and contained within a sealed bund capable of holding the entire tank contents. Boat refuelling facilities will include manually operated nozzle valves with automatic shut-off. The fuel storage and refuelling facilities will comply with the requirements of the Explosives and Dangerous Goods Division of the Department of Mines.
 18. The discharge of sewage, hydrocarbons or litter from boats into the marina will be prohibited, with appropriate signs to inform all users of the marina. Waste disposal facilities, including rubbish bins, oil recycling bins and sewered public toilets will be provided around the marina. A sewage pump out facility will be provided for boats equipped with holding tanks.
 19. The use of antifouling paints containing tributyl tin will be prohibited in the marina, and this will be included as a lease condition for boat repair facilities in the marina.
 20. Operation and maintenance of the marina will remain the responsibility of the Department of Marine and Harbours, and will include:
 - a) daily inspection of the marina harbour and immediate implementation of any corrective action required to maintain water quality and aesthetics to the required standard;
 - b) maintenance of specified navigable depths;
 - c) maintenance of breakwaters, jetties, wharves, revetments and foreshores.
 21. Water quality in the marina harbour and the adjacent area of Exmouth Gulf will be monitored to confirm the predictions made in this NOI regarding the adequacy of flushing and the maintenance of suitable water quality. The minimum water quality criteria required to be met are described in Schedule 2 of Environmental Protection Authority Bulletin 103 (Department of Conservation and Environment, 1981). The proposed monitoring programme is described in Section 7.4.2 of this NOI, and the results will be reported to the Environmental Protection Authority.

Section 7.4.2 of the NOI reads;

Water quality and contaminant levels in sediments and organisms would be monitored during operation of the marina.

Water quality parameters measured would be those specified in the Canal Guidelines (Steering Committee on Canal Developments, 1984), and would include suspended solids, pH, dissolved oxygen, temperature, bacterial counts and nutrient concentrations. Monitoring would be conducted quarterly for the first year and thereafter at intervals dictated by experience. Samples would be collected from surface and bottom water at representative sites in the marina and adjacent Gulf waters.

Sediments and mussels within the marina would be monitored for toxic trace metals and hydrocarbons. Surface sediments would be sampled from the central basin of the marina where deposition is anticipated, and the fine fraction would be analysed for nickel, zinc, copper, lead, polyaromatic hydrocarbons (PAHs) and phosphorus levels. Mussels collected from the marina would be analysed for tissue concentrations of nickel, zinc, copper, lead and PAHs, using standard methods for the mussel watch programme. Lipid levels would also be determined to assist in data interpretation. The sediment and mussels would initially be monitored at six-monthly intervals.

Specialist marine scientists engaged by the Department of Marine and Harbours would supervise monitoring and interpretation of the results and recommend management action. The results would be presented to the E.P.A. for review on an annual basis.

22. The level of revetments and areas surrounding the proposed harbour will be +3.0 m AHD, and floor levels will be at least +3.5 m AHD. This is sufficient to contain extreme seawater levels, including anticipated seawater level rises due to the "Greenhouse Effect".
23. Coastal sediment movement will be monitored following construction of the marina as outlined in Section 7.4.1. If by-passing of sand around the breakwaters is occasionally necessary it will be undertaken by the Department of Marine and Harbours.

Section 7.4.1 of the Notice of Intent is reproduced below.

The position of the shoreline, vegetation line and dune profiles adjacent to the breakwaters will be established prior to construction. Surveys will be conducted at distances of 50 m, 100 m, 200 m, 500 m, 1 km and 2 km to the north and south of the entrance channel.

Following construction, water depth in the marina and entrance channel, and the position of the shoreline, vegetation line and the dune profile, will be regularly monitored. Surveys will be conducted quarterly for the first year and thereafter at intervals to be determined in consultation with the Commissioner for Soil Conservation.

- 24 Recommendation adopted from Test Pit Report.
 - a) Prior to commencement of harbour excavations, it is strongly advised that a series of piezometers be drilled and constructed along the perimeter of the harbour and along the estimated radius of influence, which roughly correspond to Warne and Murat Roads, and northern edge of the race course. These will allow the monitoring of any effects of de-watering on the adjacent areas.
 - b) Piezometer monitoring will be performed by a technician not employed by the earthmoving contractor (possibly the Water Authority). The data should be analysed and reported on by a hydrogeologist.
 - c) One or two de-watering bores should be sunk into suitable locations to penetrate the hard rock layer and pumping tests carried out to determine:
 - (1) Magnitude of water flow expected in the full scale operation.
 - (2) Allow for a more accurate method of de-watering design.
 - (3) Provide more reliable data on the possible zone of influence during the main excavation phase.

25. **Monitoring of private bores as recommended by the Water Authority**
With regard to their (ie Water Authority letters 16 March and 5 June 1990 in Appendix 2B of this report) comments concerning impacts on private bores in the vicinity of the marina site, water samples will be collected and tested before, during and after construction to monitor any variation on quality. This work will be undertaken by the Water Authority.
26. **Blasting:**
- a) The earthworks Contract document will include Clauses that require the Contractor to consider weather conditions prior to and during blasting, with the aim of minimising adverse impacts.
 - b) The Department of Marine and Harbours undertakes to repair obvious damage caused by blasting activity associated with excavation of the marina.
27. Where possible drainage outfalls to the sea will be located at natural outfalls. Compensating basins will be used to settle sediment.
28. All promotional material under the control of the Department of Marine and Harbours will incorporate a conservation ethic as advocated by CALM.