FREMANTLE PORTS

FREMANTLE INNER HARBOUR BUFFER DEFINITION STUDY

PLANNING BRANCH

FREMANTLE PORTS

Summary

The Port of Fremantle is Western Australia's largest general cargo port and one of the fastest growing general cargo ports in Australia. The port's Inner Harbour handles container trade, break bulk cargo, livestock exports and motor vehicle imports as well as accommodating cruise ships and visiting naval vessels.

In light of the strategic importance of the Port of Fremantle to Western Australia it is essential that the impacts of port operations on the surrounding community and vice versa are determined and understood so that:

- Inner Harbour operations are not unduly restricted
- Inner Harbour operations are not subject to additional controls that reduce port efficiency and/or competitiveness
- Inner Harbour growth is permitted to continue to its optimal sustainable capacity limit (maximising the potential economies of scale rather than being constrained)
- the safety and amenity of surrounding land uses is maintained, and
- the interests of existing landowners surrounding the Inner Harbour area are recognised and appropriately addressed.

As a consequence, Fremantle Ports undertook to apply the Western Australian State Industrial Buffer Policy to determine the need for an off-site buffer area surrounding the Fremantle Inner Harbour and, if such a buffer area was found to be necessary, to facilitate the application of planning mechanisms to promote compatible land uses within the buffer area.

Halpern Glick Maunsell, as lead consultant, was commissioned by Fremantle Ports to undertake the Buffer Definition Study. The study drew on the results of a number of investigations. These were:

- Port Operational Sub-study to determine the frequency, location and duration of residence within the harbour of livestock and scrap ships as input to noise and odour modelling. Realistic worst-case scenarios were identified based on a mix of scrap metal, "noisy" sheep and "normal" sheep ships at the eastern end of the harbour.
- Quantitative Risk Assessment which took into account individual and societal risk levels as input to buffer definition
- several noise modelling exercises to quantify off-site emissions against the WA Noise Regulations
- obtrusive light investigations that determined that Fremantle Port light emissions would not influence definition of the buffer; and
- odour modelling to quantify offsite emissions.

To assist in defining the buffer, relevant demographic data and the statutory planning context for the study area were taken into account. At both the state and local level, the planning basis for inclusion of a buffer around the Port of Fremantle is supportive. At the state planning level, several strong statements of intent regarding the protection of ports are evident in State Government strategic planning policies. The State Industrial Buffer Policy (SIBP) also provides the framework for defining buffers and including them in town planning schemes. At the local level, in the City of Fremantle, several relevant existing planning policies and proposed sections of the Local Planning Strategy either pre-empt or anticipate outcomes from the Buffer Definition Study.

Based on the demographic considerations, the scientific analyses carried out during the

study and the existing and future planning context, a three-level buffer has been recommended. Each level of the buffer is based on one or more of the technical criteria (risk, noise, odour) and should have its own set of statutory controls under the relevant town planning scheme.

The three recommended levels are:

- Area 1 which should exclude the establishment of additional sensitive uses other than residential uses and with residential uses having a high level of protective conditions relating to maintaining public safety and ameliorating the impacts of odour and noise
- Area 2 which allows the establishment of sensitive land uses and with these land uses having a medium level of protective conditions, and
- Area 3 which allows the establishment of sensitive land uses and with protective conditions implemented at the discretion of council.

The SIBP includes the following key definitions:

- "***Sensitive Use*** – includes residential dwellings, major recreational areas, hospitals, schools and other institutional uses involving accommodation." It is assumed that the latter includes child care facilities, aged persons facilities and prisons.

- "***Buffer Area*** – is the area within which sensitive uses are either restricted or prohibited."

It is clear from these definitions that buffers established under the SIBP have quite a specific role and are intended to:

- apply only to certain specified categories of uses considered to be "sensitive"; and
- facilitate potentially quite stringent regulation over such uses.

In the current study, however, it has been found that limiting the scope of buffer controls only to "sensitive uses" as defined in the SIBP, may not in all cases adequately address potential environmental impacts in terms of noise and odour, nor established practices in risk management. In the Buffer Study report these uses are called "non-sensitive" uses to distinguish them from the SIBP definition of "sensitive uses". However, the report recognised that most uses within the buffer involving human activity will be sensitive to port operations to ***some*** extent.

It was recommended that implementation of the buffer occur via the creation of "Special Control Areas". These areas have been identified as Areas 1, 2 and 3. Specific design criteria for proposed development in these areas have been developed as part of the Buffer Study and can be viewed in the example local authority policy later in this summary.

To implement the buffer the following actions were required:

1. Fremantle Ports needed to obtain endorsement of the main recommendations of the study from the Western Australian Planning Commission (WAPC) and the Department of Environmental Protection (DEP).

2. The buffer (both the Special Control Area/s and suitable sets of provisions) then needed to be incorporated into the City of Fremantle Town Planning Scheme and the Town of East Fremantle Town Planning Scheme. In light of this, early

consultation with the local authorities occurred to seek in-principle support for the recommendations of the study.

3. A Local Buffer Policy for the City of Fremantle and Town of East Fremantle was prepared for each local authority in consultation with Fremantle Ports. The policy will be incorporated into each local authority's planning development policies.

4. These provisions, and the overall schemes themselves, were required to be processed jointly through the normal advertising and approval procedures. This is currently nearing completion.

5. Following approval of the schemes, relevant referral and other practical management systems will be put in place to administer the buffer. This is demonstrated in the inclusion of referral procedures in the local authority policy.

Buffer current status

The State Industrial Buffer Policy was adopted by the WAPC in 1997.

Endorsement of Fremantle Ports Buffer was given by the WAPC and the DEP in 2004.

The City of Fremantle and Town of East Fremantle are currently in the process of incorporating the buffer areas into their respective Town Planning Schemes. Both local authorities have prepared buffer policies in conjunction with Fremantle Ports and these are expected to be implemented shortly.

The Buffer Policy has won five planning awards:

- Planning Institute of Australia (WA) 2003 Awards for Excellence – Planning Scholarship, Research & Teaching
- Planning Institute of Australia (WA) 2003 Awards for Excellence – Presidents Award
- Planning Institute of Australia (WA) 2003 Awards for Excellence – Minister for Planning & Infrastructure Award
- Planning Institute of Australia 2004 Award for Excellence - Planning Scholarship, Research & Teaching
- Planning Institute of Australia 2004 Award for Excellence – Planning Ministers' Award.

Local authority buffer policy example

The following is an example of the buffer policy prepared by the City of Fremantle in conjunction with Fremantle Ports.

FREMANTLE PORT BUFFER AREA DEVELOPMENT GUIDELINES

1.0 STRATEGY

The Fremantle Planning Strategy and Fremantle City Plan 2000 – 2005 recognise the contribution of the Port to the Fremantle region. A viable working port is identified as instrumental to maintaining the economic wellbeing of the area, including the attraction of a range of industries that generate income and employment to the region. Nevertheless, in the future it will be important to ensure that the port and its surrounding area are well integrated, particularly in terms of

the management of potential impacts. Potential impacts and risks include, but are not necessarily limited to, public risk, noise and odour. To this end, clause 5.1.4.2 {10.(ii)} of the Fremantle Planning Strategy recommends that the City develop, in conjunction with Fremantle Ports, a policy that provides for appropriate development controls for the area surrounding the port.

The objectives of the Fremantle Planning Strategy are also consistent with the State Industrial Buffer Policy prepared by the State Government in1997. The policy calls for the introduction of planning controls in town planning schemes to manage potential land use conflicts between industrial facilities and adjoining areas.

Buffer areas

Fremantle Ports has recently (May 2002) completed the Fremantle Inner Harbour Buffer Definition Study. The study has identified the need for an offsite buffer around the port. The buffer was determined on the basis of a range of potential amenity impacts and risks including noise, odour and public risk.

Three buffer areas around the port have been identified: Area 1, Area 2 and Area 3. The policy defines separate land use and built form requirements for each area. The areas are identified in Appendix A.

2.0 OBJECTIVES

The policy has the following objectives:

- to provide clear development guidelines that seek to minimise potential impacts that may arise from the port
- to promote land use compatibility between the port and surrounding urban area
- to enable continued urban development around the port whilst maintaining efficient operation of the port
- outline clear administrative processes for referral and liaison between Fremantle Ports and Fremantle City Council.

Scope

This policy applies to land use and development for the land area identified in appendix A only. Council recognises that this policy is one aspect of the total management requirements that may be required now and in the future for the port.

3.0 DEFINITIONS

Buffer area - is the area within which some land use and development is either restricted or prohibited.

Sensitive use - includes residential dwellings, major recreational areas, childcare facilities, aged persons facilities, prisons, hospitals schools and other institutional uses involving accommodation and any other use that the Council considers may be affected by proximity to the inner harbour of the Port of Fremantle.

Residential uses- means "Residence - private", "Residence other", hotel rooms and serviced apartments and backpacker accommodation.

4.0 POLICY

4.1 AREA 1

Potential risk and amenity considerations

Within Area 1, there is a requirement to control development in order to minimise the following potential impacts:

a. ingress of toxic gases in the event of an incident within the port
b. shattering or flying glass as a consequence of an explosion within the port
c. noise transmission emanating from the port (attenuation in the order of 35dB(A) is required), and
d. odour.

The following land use and built form requirements are intended to address the above potential impacts in order to maintain compliance with the *Environmental Protection Act 1986*.

Land use

Non-residential sensitive uses

Council shall not support the following sensitive uses within Area 1:

a. childcare facilities
b. aged persons facilities
c. prisons
d. schools, and
e. hospitals.

Residential use

Council may support residential uses within Area 1 subject to compliance with:

a. built form requirements outlined below, and
b. all other relevant Council policies and provisions.

Residential density

Development applications proposing greater than 50 dwellings shall be supplemented with a formal risk assessment. The assessment shall clearly demonstrate how the development will be designed and constructed in order to ensure that the risk impacts from port operations to the occupants will be maintained to “as low as reasonably practical” (ALARP):

The applicable criteria and guidelines are provided in the following EPA Bulletins:

a. *EPA Bulletin 611, February 1992, Criteria for the Assessment of Risk from Industry.*
b. *EPA Bulletin 627, May 1992, Criteria for the Assessment of Risk from Industry – expanded discussion.*

Built form - (all development)

Within Area 1, buildings shall be designed so as to incorporate all of the following design and construction features:

Windows and openings

a) The aggregate area of windows and doorways shall not exceed 40%* of the total area of the façade facing the Port Inner Harbour.

b) Any glass used for windows or other openings shall be laminated safety glass of minimum thickness 12 mm or "double glazed" utilising laminated or toughened safety glass of minimum thickness 6 mm.

c) Windows shall be fixed (non opening), however, where this is not possible, windows shall be of a "hopper or "awning" style with a maximum opening arc of 12.5 degrees.

d) All safety glass shall be manufactured and installed to an appropriate Australian Standard.

e) All doors facing the port shall have automatic closure to a sealed state.

Balconies

f) Balconies shall not be provided to any facades facing the Inner Harbour.

Air-conditioning systems

g) All air-conditioning systems shall incorporate the following features:

i) multiple systems to have internally centrally located shut down point and associated procedures for emergency use
ii) preference for split "refrigerative" systems.

Construction

h) All residential development shall incorporate the following minimum standards of construction:

i) cavity masonry construction for external walls of residential buildings

ii) roof insulation.

Note: 1) Council recognises that this requirement may not be possible to achieve in the case of the proposals involving the adaptation / reuse of buildings of conservation and heritage significance.

2) Council may accept alternative built form treatments subject to the applicant satisfactorily demonstrating fulfillment of the potential risk and amenity considerations outlined above. Alternative treatments shall be justified to Council through submission of professionally prepared and certified reports.

Notification and Memorials on title

a) All residential development approvals shall be conditioned in order to require a notification to be placed on title advising of the potential amenity impacts associated with living / working in proximity of the port.

b) In the case of all residential subdivision, Council and Fremantle Ports shall request the Western Australian Planning Commission to support the placing of memorials on new titles advising of the potential amenity impacts associated with living in proximity of the port.

c) Notification and memorial statements shall be as per the standard wording contained in Appendix B.

4.2 AREA 2

Potential risk and amenity considerations

The potential impacts in Area 2 are not as great as in Area 1. Nevertheless, consideration is given to the following potential impacts:

a) ingress of toxic gases in the event of an incident within the port

b) shattering or flying glass as a consequence of explosion within the port

c) noise transmission emanating from the port (attenuation in the order of 30dB(A) is required), and

d) odour.

Built form requirements

The following built form requirements shall apply to the following categories of development:

a) All residential development other than alterations and additions to existing dwellings.

b) All non-residential development other than refurbishment / renovations (not involving a net increase in floor area) to existing buildings and non-residential change of use proposals.

Within Area 2, buildings shall be designed so as to incorporate all of the design and construction features outlined as follows:

Windows and openings

a) Any glass used for windows or other openings shall be laminated safety glass of minimum thickness of 6 mm or "double glazed" utilising laminated or toughened safety glass of a minimum thickness of 3 mm.

b) All safety glass shall be manufactured and installed to an appropriate Australian Standard.

Air-conditioning systems

c) As per Area 1 (f) above).

Construction

d) Quiet house design guidelines shall be applied to residential developments. e)

All developments shall incorporate roof insulation.

Note: 1) Council recognises that this requirement may not be possible to achieve in the case of the proposals involving the adaptation / reuse of buildings of conservation and heritage significance.

2) Council may accept alternative built form treatments subject to the applicant satisfactorily demonstrating fulfillment of the potential risk and amenity considerations outlined above. Alternative treatments shall be justified to Council through submission of professionally prepared and certified reports.

Notification and memorials on title

Where development, including subdivision, incorporates additional sensitive uses notification or a memorial shall be placed on the title as outlined in Area 1 above.

4.3 AREA 3

Potential risk and amenity considerations

Generally, the potential risk and amenity impacts from the port are considerably less in Area 3. Nevertheless, the Fremantle Inner Harbour Buffer Definition Study has identified the potential for some noise and odour impacts in this area.

The intent of the policy for Area 3 is the management, as opposed to the control, of sensitive uses.

Development controls

There are no general buffer related development controls for Area 3. However, where a specific location within this area is known to be impacted from port operations (eg. through a history of formal complaints), Council may, in consultation with Fremantle Ports, apply some or all of the development controls outlined in Section 4.2 above.

Notification and memorials on title

Where development, including subdivision, incorporates additional sensitive uses notification or a memorial shall be placed on the title as outlined in Area 1 above if the

specific location is known to be impacted from port operations as described above.

5.0 ADMINISTRATIVE PROCEDURES

Advice to applicants - Areas 1 - 3

Where applicable, applicants should be advised as soon as possible of the requirements of this policy. Ideally, this should be prior to lodging a formal application for development, including proposals for subdivision and scheme amendments.

Applicants should be encouraged to liaise with relevant staff including those at Fremantle Ports, in order to understand the requirements of this policy.

Referral to Fremantle Ports

Area 1

All applications for development, including subdivision, shall be referred to Fremantle Ports as soon as possible for comment prior to determination of the application.

In the case of scheme amendments that effect the development potential of land, Council shall notify Fremantle Ports as soon as practicable prior to initiating the amendment.

Area 2

All applications for developments having the potential to accommodate 20 or more persons on a full or part-time basis shall be referred to Fremantle Ports as soon as possible for comment prior to determination of the application.

In the case of scheme amendments that would result in an increase or intensification of sensitive uses, Council shall notify Fremantle Ports as soon as practicable prior to initiating the amendment.

Area 3

Council shall refer a proposal to Fremantle Ports where the proposal falls within a specific location that has been formally notified to Council as being impacted from port operations.

In the case of scheme amendments that would result in an increase or intensification of sensitive uses, Council shall notify Fremantle Ports as soon as practicable prior to initiating the amendment.

General

Council shall refer a proposal to Fremantle Ports where a proponent seeks any significant variation to the development controls contained within this policy.

Receipt of referral comments

Fremantle Port shall within 14 days of notification advise the City of Fremantle of its assessment of a development proposal referred as per the requirements outlined above.

Clearance of conditions of development approval

In terms of conditions of development approval that arise from the requirements of this policy, Council shall require a building surveyor or suitably qualified structural engineer to certify that the requirements of the conditions have been fulfilled in accordance with the approved plans.

Where appropriate, certification shall be provided prior to the issue of a building licence, certificate of clearance / classification or strata / subdivision clearance.

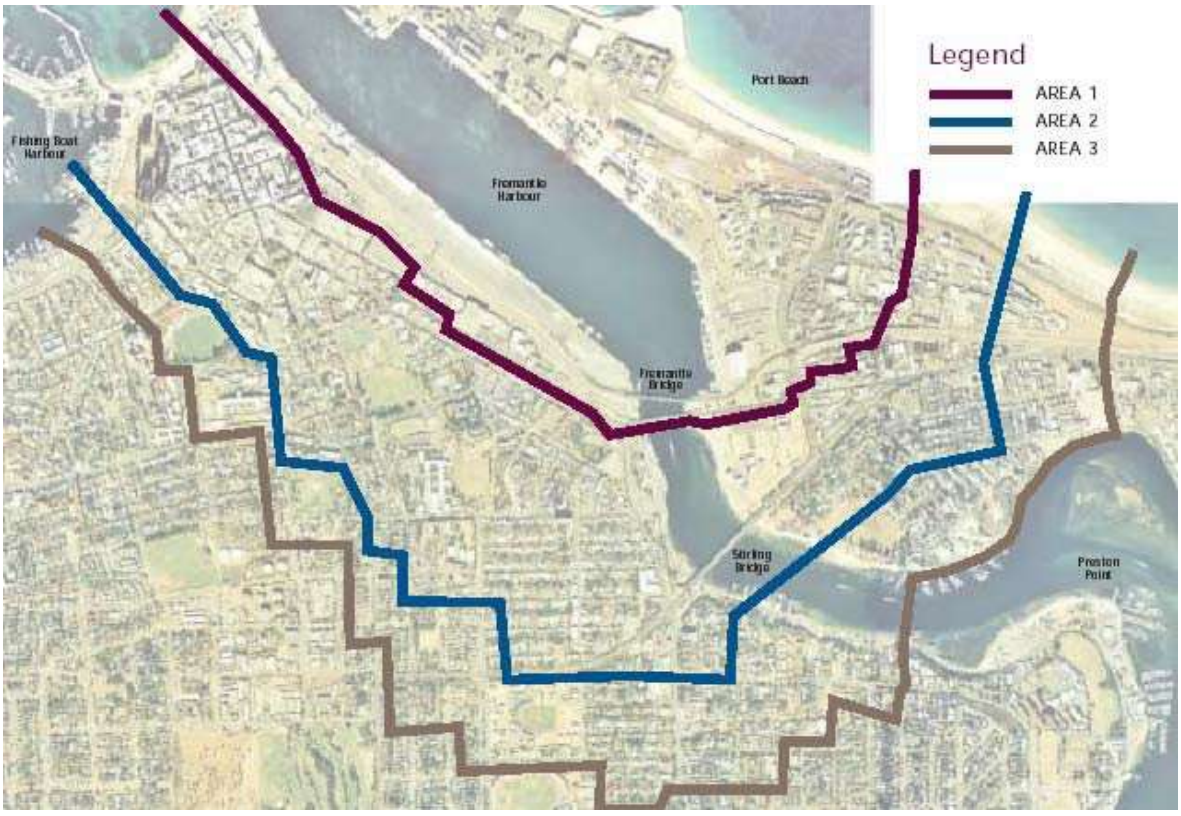
The applicant shall arrange for certification to be endorsed by Fremantle Ports prior to lodgement of appropriate documentation with the City of Fremantle.

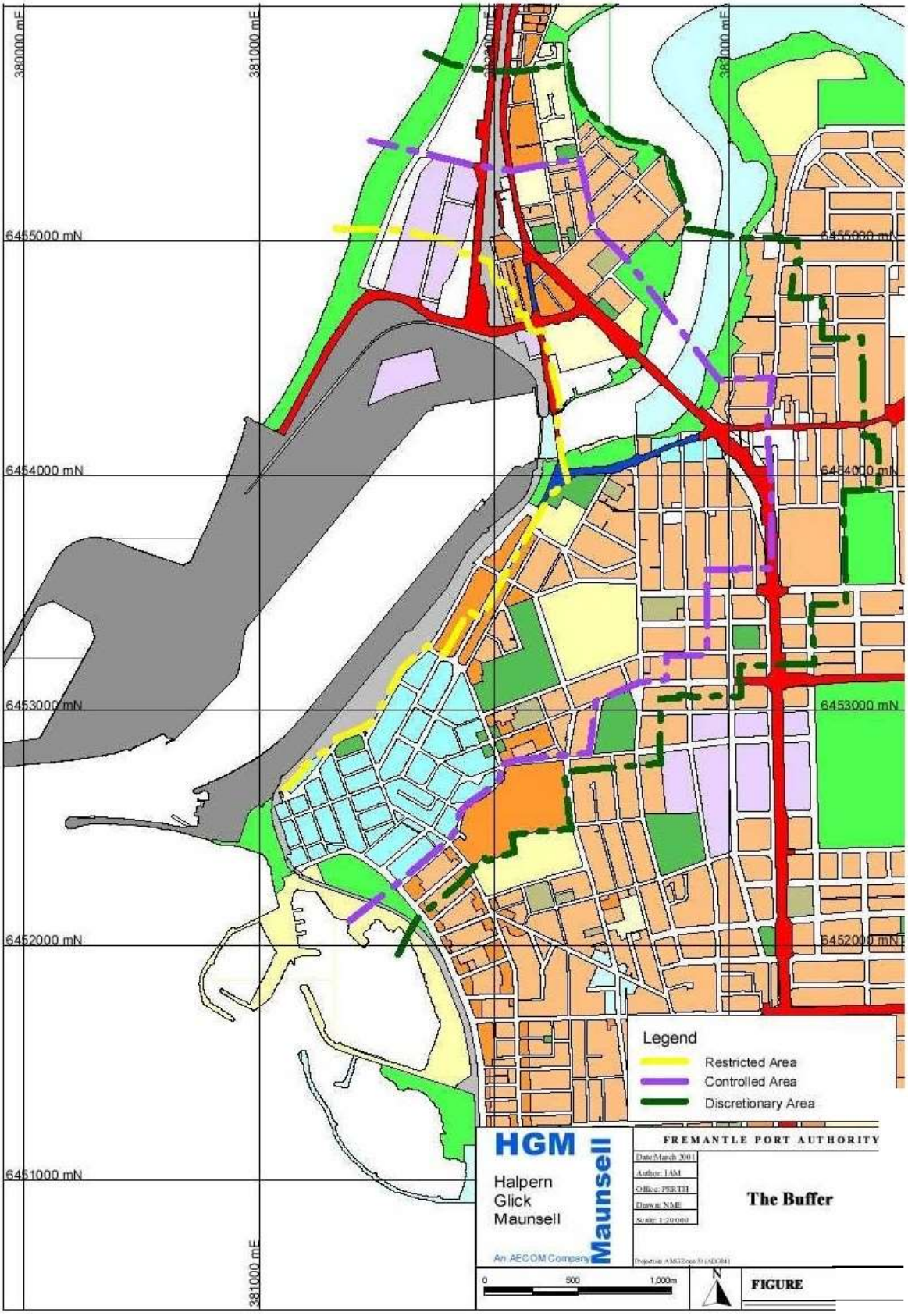
Standard notification and memorial wording

The subject lot is located within (x) kilometres of Fremantle Ports. From time to time the location may experience noise, odour, light spill and other factors that arise from the normal operations of a 24-hour working port.

Aerial photograph of Fremantle Ports Inner Harbour and surrounds

Aerial photograph including location of Buffer Areas 1, 2 & 3




380000 mE
381000 mE
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Legend
Restricted Area
Controlled Area
Discretionary Area
HGM
Halpern
Glick
Maunsell
An AECOM Company
FREMANTLE PORT AUTHORITY
Date: March 2001
Author: IAM
Office: PSRTH
Drawn: NME
Scale: 1:20,000
The Buffer
0
500
1,000m
N
FIGURE

FREMANTLE PORTS

1 Cliff Street

Fremantle Western Australia 6160

T: +61 8 9430 3555

F: +61 8 9336 1391