



20 April 2011

Sydney Ports Corporation

PO Box 25

MILLERS POINT NSW 2000

Attn: Ms Daniela Vujic

**RE: P&O TRANS AUSTRALIA – PROPOSED NEW WASHBAY AND SITE LAYOUT MODIFICATIONS
PART 5 APPLICATION - ADDITIONAL INFORMATION**

Dear Daniela,

In response to Sydney Ports' correspondence dated 28 February 2011, we provide the following information.

- Please find attached assessments against Sections 5A and 111 of the *Environmental Planning and Assessment Act 1979*.
- The calculated a maximum storage capacity of the site is 6,094 TEU (Twenty-foot Equivalent units). The maximum calculated annual throughout capacity of the site 630,000 TEU, or 2,666 truck movements per day. The attached correspondence from Halcrow addresses the potential traffic impact of the maximum throughput and confirms that the site access will continue to operate at a satisfactory level with projected maximum figures.
- Please find attached a copy of P&O Trans Australia's stacking guidelines.

Should you have any queries, please do not hesitate to contact the undersigned at your convenience.

Yours faithfully,

James Rose Consulting

Catherine Blaine

Director

**Assessment Under Section 5A of the Environmental Planning and Assessment Act 1979
Significant Effect on Threatened Species, Populations or Ecological Communities, or their
Habitat.**

Section 5A of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* details what factors must be taken into account in deciding whether there is likely to be a significant effect on threatened species, populations or ecological communities, or their habitats.

Matter to be Considered under Section 5A of the EP&A Act	Comment
(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,	The proposed development will not have any effect on any threatened species.
(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,	The proposed development will not have any effect on any endangered populations.
(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed: (i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or (ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,	The proposed development will not have any effect on any endangered ecological communities or critically endangered ecological communities.
(d) in relation to the habitat of a threatened species, population or ecological community: (i) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and (ii) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and (iii) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,	The proposed development will not have any effect habitat of a threatened species, population or ecological community.
(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),	The proposed development will not have any direct or indirect adverse effect on critical habitat.
(f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,	There are no recovery plans or threat abatement plans associated with the site or development.
(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.	No part of the proposed development constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

**Assessment Under Section 111 of the Environmental Planning and Assessment Act 1979
Duty to Consider Environmental Impact**

Section 111 of the *Environmental Planning and Assessment Act 1979 (EP&A Act)* details what factors must be taken into account which affect or are likely to affect the environment by reason of the proposed activity.

Matter to be Considered under Section 111 of the EP&A Act	Comment
<p>(2) Without limiting subsection (1), a determining authority must consider the effect of an activity on:</p> <p>(a) any conservation agreement entered into under the National Parks and Wildlife Act 1974 and applying to the whole or part of the land to which the activity relates, and</p> <p>(b) any plan of management adopted under that Act for the conservation area to which the agreement relates, and</p> <p>(c) any joint management agreement entered into under the Threatened Species Conservation Act 1995, and</p> <p>(d) any biobanking agreement entered into under Part 7A of the Threatened Species Conservation Act 1995 that applies to the whole or part of the land to which the activity relates.</p>	<p>There are no conservation agreements or management plans relating to the subject site.</p>
<p>(3) Without limiting subsection (1), a determining authority shall consider the effect of an activity on any wilderness area (within the meaning of the Wilderness Act 1987) in the locality in which the activity is intended to be carried on.</p>	<p>The subject site is situated within an industrial port area. The proposed development is not likely to effect any wilderness areas in the locality.</p>
<p>(4) Without limiting subsection (1), a determining authority must consider the effect of an activity on:</p> <p>(a) critical habitat, and</p> <p>(b) in the case of threatened species, populations and ecological communities, and their habitats, whether there is likely to be a significant effect on those species, populations or ecological communities, or those habitats, and</p> <p>(c) any other protected fauna or protected native plants within the meaning of the National Parks and Wildlife Act 1974.</p>	<p>The proposal will not impact upon and critical habitat, threatened species, populations and ecological communities, and their habitats or ecological communities or any other protected fauna or protected native plants within the meaning of the National Parks and Wildlife Act 1974.</p>

Halcrow

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Catherine Blaine
James Rose Consulting
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13th April 2011

Our Ref: - CTRLPAI01

Dear Catherine,

P & O Port Botany

I refer to your recent e-mail in which you asked whether, in our recent traffic assessment of the above site, we had considered the full potential utilisation of the site, which you, and P&O, has estimated as being equivalent to 2666 movements per day (total of in and out movements).

I can confirm that we did not analyse the intersection at maximum capacity (i.e. 2666 truck movements) but we looked at a typical day and also the busiest AM and PM peak periods in the week that were the subject of the traffic surveys.

For example on a typical Wednesday, the automatic traffic counters across the site access recorded 2059 movements at the site access which is less than the 2666 suggested.

You will also be aware that by contrasting the data from the automatic traffic counter 'tubes' across the site access to the observed peak hour traffic counts at the same location, there are some discrepancies between the figures although they should obviously be the same.

I have explained that there are issues in using ATCs on low speed roads where cars are not necessarily passing over the tubes at 90 degrees. ATCs are best used on straight higher speed roads such as Bumborah Point. I have appended to this letter a more detailed description of this issue. So whilst the ATCs were able to highlight the busiest days and time periods, the use of the actual numbers is not completely accurate. Consequently, we have adjusted the ATC counts across the site access to correct for this error.

We did this by comparing the volumes of the classified intersection counts recorded between 5:00am and 8:00am and between 14:00pm and 17:00pm against the tube counts recorded during these same time periods. On average, the manual counts were generally around 20% lower than the tube counts (although this did vary on a day to day basis). Consequently, whilst we retained the counted intersection counts during the peak periods, the remaining tube count data throughout the rest of the day was reduced by the 20% figure to obtain a 'true number' of vehicles entering and leaving the site during a 24 hour period.

This reduced the total 24 hour/daily data recorded on a typical Wednesday, for example, from 2059 vehicles to 1648 vehicles.

We then adjusted the Wednesday daily volumes by pro rata-ing them up by a factor of 1.62 to achieve the maximum number of traffic movements of 2666 vehicles per day.

We originally modelled the busiest AM period (Monday 5AM) and busiest PM period (Thursday 5PM) so using a similar process from Monday and Thursday, we established the peak hour traffic entering / leaving the site for each of the peak hour traffic models although the 'through' movements remained the same.

The adjusted counts were then reanalysed using SIDRA and the results of the analysis are summarized in **Table 1** below. For the purposes of the analysis, we have assumed that the right turn lane has been cleared of parked ACFS traffic and vehicles turning into the P & O site are able to use this turning lane. **Table 1** shows that the access will continue to operate at a level of service C or better

Table 1 – Existing Peak Hour Intersection Operation at Bumborah Point Road Site Access

Scenarios		AM Peak Hour		Level of Service	
		LoS	Ave Delay	LoS	Ave Delay
POTA vehicles turning from the right turn bay	Dec 2010	C	33	C	34
	Max 2666 vehicles	C	36	C	38

Consequently, following the removal of parked vehicles within the turning lane, our analysis shows that the intersection will continue to operate at Level of Service C even when P&O are operating at their maximum capacity of 2666 movements per day.

I trust that this is clear but feel free to give me a call if you require anything further.

Yours sincerely



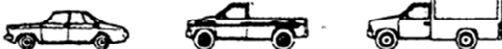


Ken Hollyoak
Associate (Transport Planning)
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Use of ATC Counters at P & O site access.

Automatic Traffic Counters (ATC) use two sensors placed a set distance apart on the roadway to determine vehicle speed and classification. Speed is determined by the time difference between the front axle hitting the first and second tubes. As the distance between the sensors is known, the time difference can then be used to calculate vehicle speed.

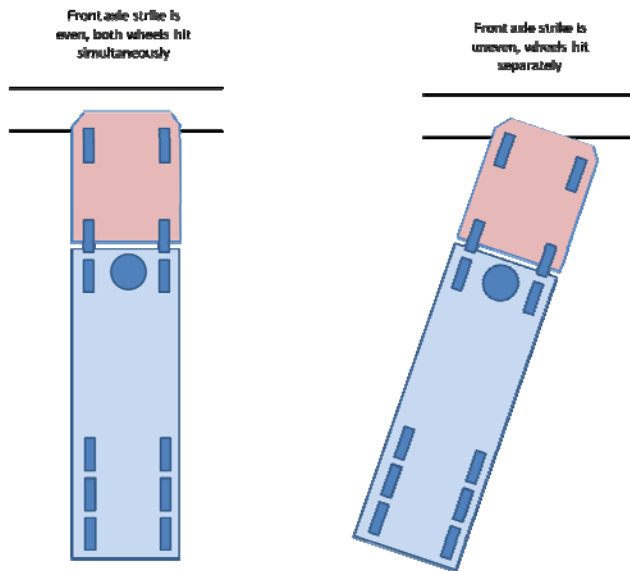
Once this speed is known, the timing of the next set of axle “hits” can be used to calculate the distance between axles, and from this the vehicle can be classified. A set of tables built into the ATC software classify the known distance parameters between axle sets on a variety of vehicles. The Austroads Vehicle Classification system defines these vehicle categories, by number of axles and number of axle groups.

For example, a passenger vehicle has 2 axles, with the distance between the axles being <3.2m, whereas a three-axle truck or bus has 1 front axle and 2 axles grouped at the rear. An articulated long vehicle (“semi-trailer”), on the other hand, will have 6 axles and 3 groups. The figures below illustrate this point.

Car / 4WD / Ute: 2 axles, distance between axles <3.2m	
3-axles truck or bus: 3 axles in 2 groups	
Articulated long vehicle: 6 axles in 3 groups	

The accuracy of vehicle classifications is heavily reliant upon the vehicle striking the sensor tubes at the correct angle and at a reasonable speed. Ideally, ATC sites should be situated where vehicles are travelling perpendicular to the tubes, and at speeds in excess of 30km/h.

Where the vehicle strikes the tubes at an angle other than 90°, there is potential for the wheels to be separately recorded (incorrectly) as individual axles. This then results in the vehicle being incorrectly classified. The diagram below demonstrated the issue.



When combined with a slow approach speed, such as entering a driveway, the result is that the ATC can incorrectly classify a vehicle. The issue is further complicated by articulated vehicle in particular, because when turning the axle sets on the prime mover can strike the tubes at a vastly different angle to the rear axle set, due to the effect of the turn radius.

The issues raised with the Bumborah Point Road sites provide a fairly clear demonstration of the data integrity issues that can result from using ATCs at sites where vehicles are turning and moving at slow speed.

The use of video surveying at the P&O Depot entry ensures that the volume and classification of vehicles entering and exiting the site is accurately recorded.

Container Stacking Requirements



Examples Of Acceptable Stacking Arrangements

SIDE VIEW

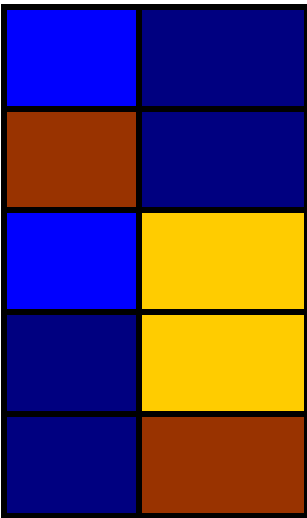


Figure 8

5 High Stack

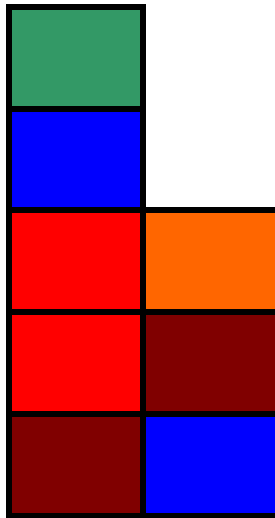


Figure 9

5 High Stack

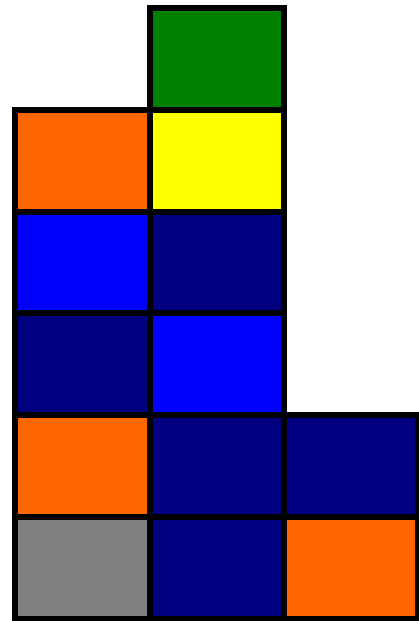


Figure 10

6 High Stack

SIDE VIEW

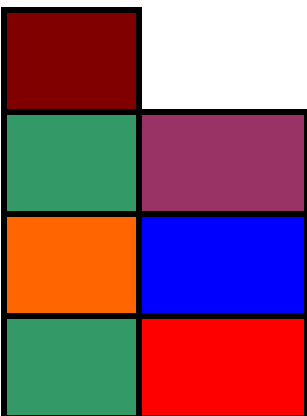


Figure 11

4 High Stack

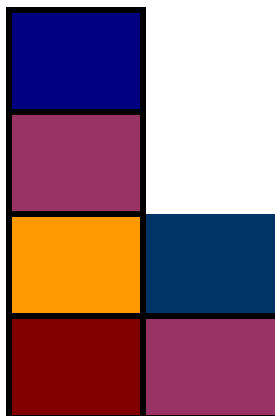


Figure 12

4 High Stack

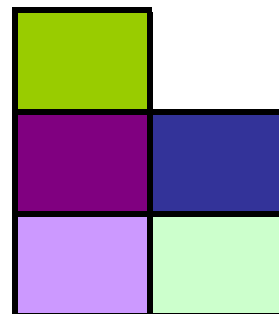


Figure 13

3 High Stack

Examples Of Unacceptable Stacking Arrangements

SIDE VIEW

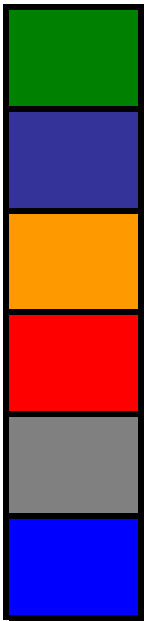


Figure 1

6 High Stack

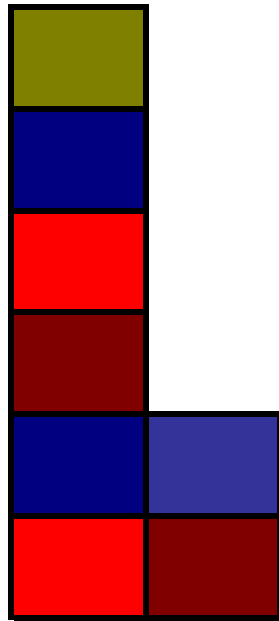


Figure 2

6 High Stack



Figure 3

5 High Stack

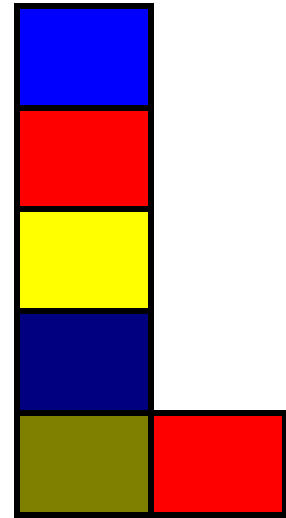


Figure 4

5 High Stack

SIDE VIEW

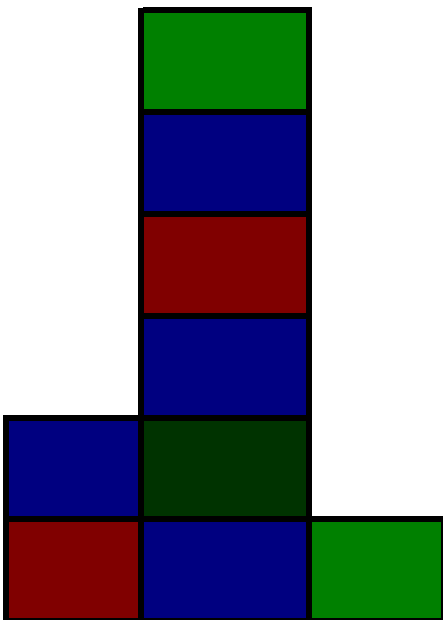


Figure 5

6 High Stack

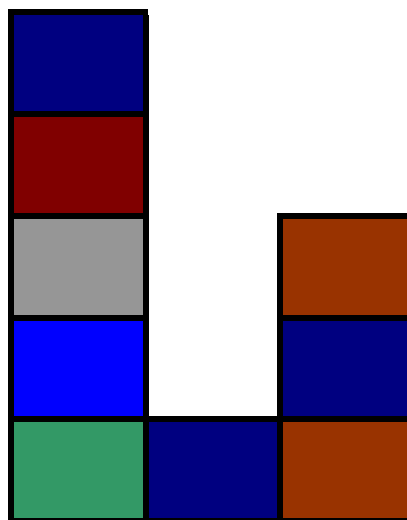


Figure 6

5 High Stack

Optional
high wind
or storm
situation

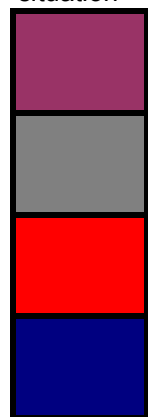


Figure 7

4 High Stack

NOTE: All unacceptable stacks must be corrected as soon as possible by supporting the containers with another row or bringing the top units down to an acceptable arrangement.