Letter

Date: Tuesday, 4 July 2017

Frasers Property Australia

C/- Property Development Solutions (Aust) Pty Ltd, Level 1, 63 York Street Sydney New South Wales 2000 Australia

FAO: Jessica Tan

Project Name:	**Eastern Creek Business Hub – Response to Council Submission - Odour**
Reference:	**17.1062.L1V3**

Please find overleaf as requested the assessment of the potential odour impacts which may be experienced at residential locations near to the loading dock at the proposed Eastern Creek Business Hub. Also included are the proposed controls or design features which would act to minimise any odour impacts being experienced at those locations. The assessment concludes that the potential for impacts is low.

We trust that the information is sufficient for Council, however do not hesitate to contact us should any further information be required.

For and on behalf of

Northstar Air Quality Pty Ltd

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1. INTRODUCTION

Northstar Air Quality Pty Ltd (Northstar) has been commissioned by Frasers Property Australia to provide a response to submissions made by Blacktown City Council (Council) relating to the Section 96(2) Modification Application to AAD 5175 (Eastern Creek Business Hub). Specifically, Council has indicated in their submission of 9 May 2017 (ref. MC-12-1769) (Issue 1.a.)

> *"....The proposed loading dock, however, is not appropriately located for the following reasons:*
>
> *a. It is proposed immediately adjacent to the 2 dwellings on the corner of Rooty Hill Road South and Beggs Road, and is located opposite the low density residential area on Rooty Hill Road South. The loading dock activities will therefore impact on the amenity of these nearby dwellings in terms of visual impact, noise and odour."*

Northstar has been requested to provide a response to this issue (related to odour only).

This letter presents a qualitative assessment which outlines:

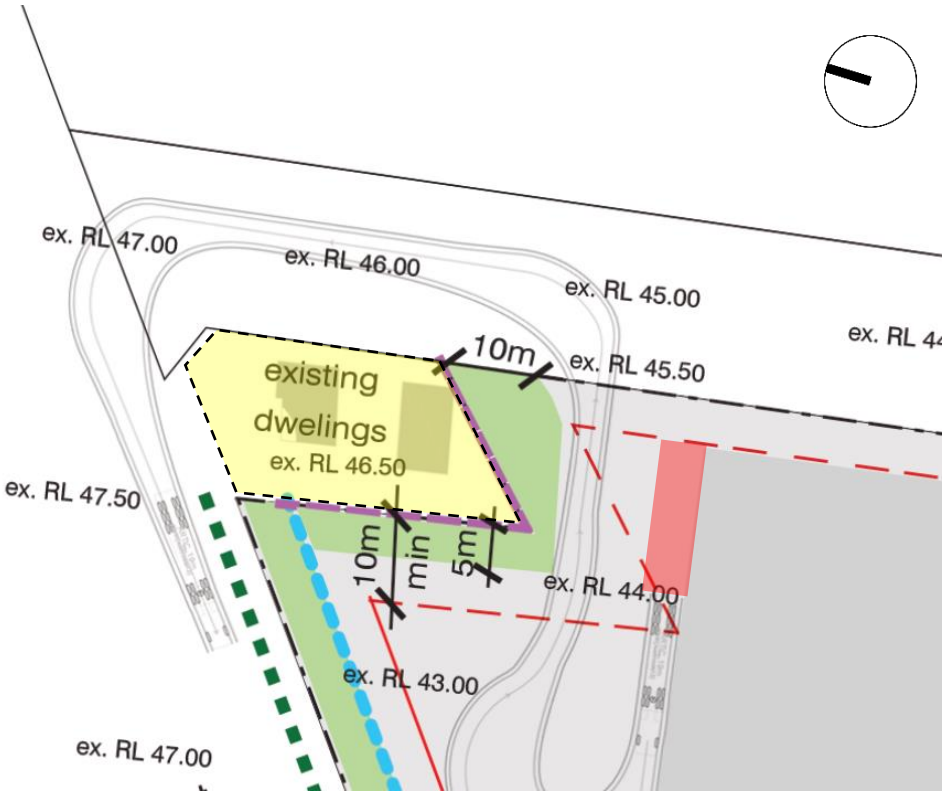
- An assessment of the separation distance between the loading dock and nearby sensitive receptors, and the current topographical and meteorological conditions which may impact upon odour migration;
- The potential sources of odour resulting from the use of the loading dock;
- Any detailed design measures which are currently proposed to be installed; and
- Further measures which are required to further mitigate and/or manage and odour emissions, minimising any impacts upon those receptors.

2. ASSESSMENT OF CURRENT DESIGN

2.1 Separation Distances

The design of the loading dock and surrounding area is shown in **Figure 1** (highlighted in red). Also shown in **Figure 1** is the area in which the closest dwellings to the loading dock are located (corner of Beggs Road and Rooty Hill Road South, highlighted in yellow). The residences themselves are approximately 15 metres (m) to 20 m from the proposed loading dock. The low density residential area on Rooty Hill Road South, identified in the Council submission is located approximately 65 m to 70 m from the proposed loading dock (not shown in **Figure 1**).

Figure 1 Proposed loading dock – Eastern Creek Business Hub



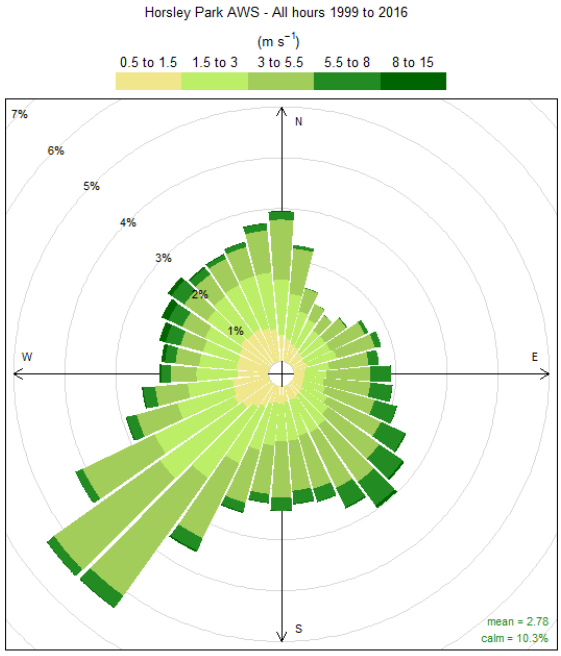
Source: EASTERN CREEK LOT2 Stage1 SK20.6.pdf

2.2 Topography and Meteorology

The design of the proposed site includes a height difference of approximately 2.5 m between the loading dock (at approximately RL 44 m) and the adjacent residential site (approximately RL 46.5 m). A retaining wall is also present between the adjacent residential site and the proposed site.

The meteorology of the area surrounding the proposed site has been examined using data collected by the Bureau of Meteorology (BoM) at the Automatic Weather Station (AWS) located at Horsley Park Equestrian Centre (AWS # 067119), which is approximately 7.5 km south of the site and represents the closest publicly available measurements to the site. A wind rose for the period 1999 to 2016 for the Horsley Park AWS is presented in **Figure 2** which shows the prevailing wind directions which may be experienced at the site. Predominant winds are experienced from a south westerly direction which would act to transport any emissions of odour from the site across Beggs Road and away from any residential locations.

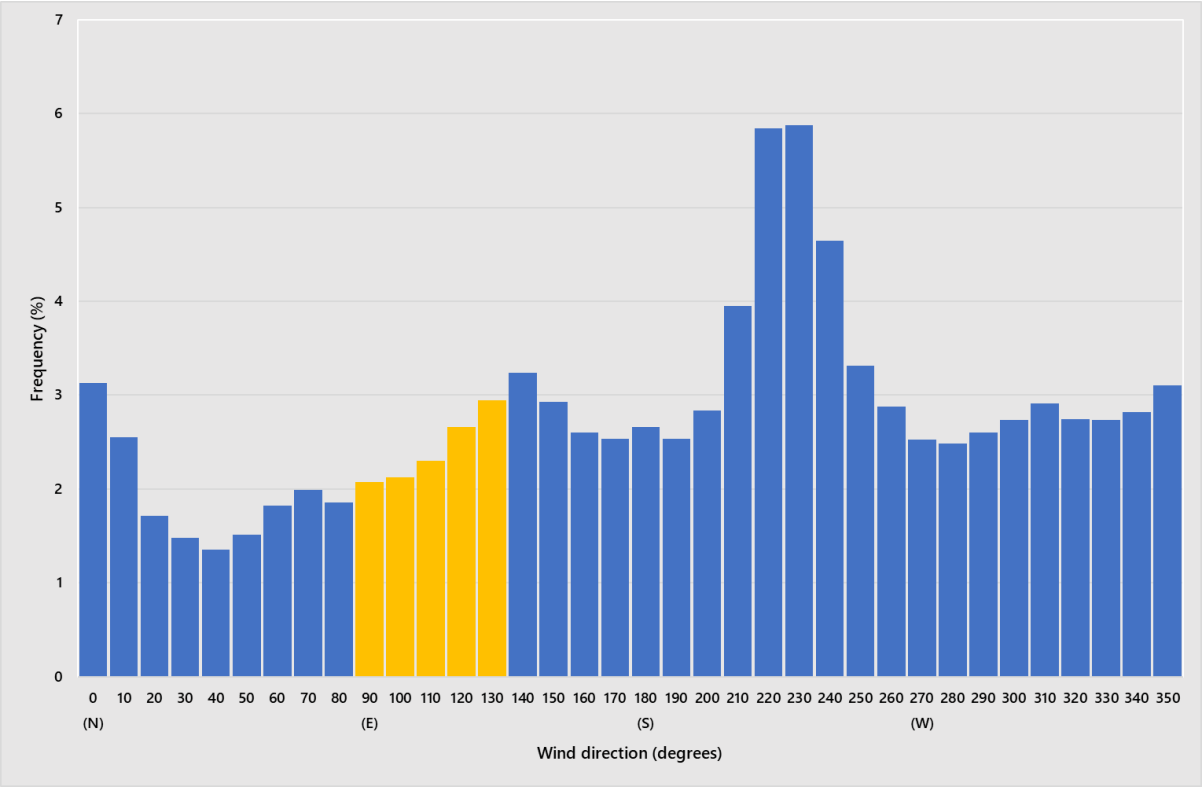
Figure 2 Wind speed and direction – Horsley Park AWS 1999 to 2016



Winds blowing from the east to southeast have the potential to transport emissions of odour from the site towards the nearest residential location (corner of Beggs Road and Rooty Hill Road South).

Examination of wind direction frequencies for the period 1999 to 2016 at Horsley Park AWS presented in **Figure 3** indicate that winds from the east to south east (coloured orange in **Figure 3**) were experienced 12.1% of the time during that 18-year period.

Figure 3 Wind direction frequency – Horsley Park AWS 1999 to 2016



3. ODOUR SOURCES AND MANAGEMENT MEASURES

The activities to be performed as part of the loading dock operation which have the potential to emit odour are:

- Delivery and despatch of goods;
- Storage and removal of waste materials; and
- Movement of heavy vehicles.

The following outlines in more detail the sources of the odour associated with each category, and provides information related to the management or design measures which would act to limit odour generation or off-site migration of odour.

3.1 Delivery and Despatch of Goods

Based on an understanding of supermarket operations of a similar proposed scale, it is understood that deliveries via the loading dock may typically consist of a combination of large and smaller delivery vehicles.

Where required, goods would be appropriately chilled or frozen, limiting the potential for odour emissions.

No despatch of goods would generally be anticipated to occur through the loading dock.

Based on an understanding of supermarket operations, the delivery of goods to loading docks is limited to fresh and non-odorous goods. All delivered goods are generally moved to an internal location away from the loading dock as soon as possible to allow restocking of the store.

The potential for significant emissions of odour to be generated as a result of delivery and despatch of goods through the loading dock is considered to be **minimal**. No management or mitigation measures are considered to be required.

3.2 Storage and Removal of Waste Materials

A number of waste types are generally associated with supermarket operations, and these have the potential to be stored in the broader loading dock area. These could include:

- Recyclable cardboard
- Garbage, including:
  - Non-putrescible waste
  - Putrescible waste
- Recyclable plastics
- Crates
- Waste oils (minimal)

Any sanitary waste from staff facilities at other supermarket locations is generally collected and emptied off-site by contractors and is not stored in the waste area of loading docks.

Sufficient capacity in the waste storage area and bins themselves would be required to be provided by the supermarket operator and the waste collection schedule will need to be managed to ensure that lids on bins are able to be closed at all times (i.e. no odorous waste will be stored external to a lidded bin). Where liquid residues (i.e. leachate) is present at the internal base of the putrescible waste bins, this should be transferred to the waste collection vehicle and managed offsite, and where any residual leachate remains or has leaked during collection this should be washed down immediately. Bins should also be cleaned on a regular basis (at a minimum of a weekly frequency) to ensure that any leachate or residual food scraps are removed from the bins and waste storage area.

Contractors engaged to remove waste materials from the loading dock would be required to have a suitable management procedure in place to ensure that the compaction body of the collection vehicles is cleaned daily. This would provide safeguards that odour resulting from waste collection vehicles will be minimised.

Storage of waste is likely to have the highest potential for odour emissions from the loading dock. However, given the management measures identified above the potential for significant emissions of odour to be generated is considered to be **minor**.

A waste management plan would be developed as part of the detailed assessment, once further information on the types and quantities of waste likely to be generated by the supermarket are known.

3.3 Movement of Heavy Vehicles

The movement of heavy vehicles may result in odours being generated through vehicle exhaust emissions.

Given the low number of vehicles likely to visit site each day, it is not considered that emissions of odour from vehicle exhausts would impact upon the nearest residential receivers. The number of vehicles using Rooty Hill Road South will be far in excess of those visiting the loading dock and therefore the incremental increase in any odour (noted to minor in any case) would be **negligible**.

3.3 Additional Management/Mitigation Measures

The foregoing qualitative assessment which is based on the design of the loading dock, the activities to be performed as part of the loading dock operation and the currently proposed management measures, the following outlines the determined potential significance of any odour emissions.

- Delivery and despatch of goods **minimal**
- Storage and removal of waste materials **minor**
- Movement of heavy vehicles **negligible**

The inclusion of further control measures to limit odour generation is not considered to be required but would be the subject of detailed review and assessment if required. In regard to the storage and removal of waste materials, if further odour control is required this can be effectively implemented by increasing the frequency of waste collection, so that the bins would each contain less waste materials and would be stored for incrementally less time.

4. CONCLUSION

Northstar has been commissioned by Frasers Property Australia to provide a response to submissions made by Blacktown City Council (Council) relating to the Section 96(2) Modification Application to AAD 5175 (Eastern Creek Business Hub). Council were concerned that the activities at the loading dock would impact upon nearby residential locations.

This qualitative assessment has provided information on the activities to be performed as part of the loading dock operation. The assessment concludes that those activities, carried out including the management measures identified, have a minor potential for generation of odour emissions.

Examination of the wind environment in the area indicates that winds which could potentially transport any generated odour emissions towards the nearest residential receptors would occur for an average of approximately 12% of hours in any year. Although the separation distance between the loading dock and the nearest residential receptors is not large, the design of the loading dock area and the engineered topography (the height difference of 2.5 m and the retaining wall/batter) would act to limit dispersion of any generated odour towards the nearest receptors.

On the basis of the information presented within this report, it is concluded that the risk of unacceptable odour impacts being experienced at the nearest residential receptors is low, and is essentially manageable through the waste collection contract.