



## State Environmental Planning Policy (Resilience and Hazards)

Astra Aerolab Precinct

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Prepared by

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## Executive Summary

### Background

Astra Aerolab has proposed to develop a high technology facility adjacent to Newcastle Airport. In response to a Request for Information (RFI) on the Develop Application (DA) 16-2024-28-1, an assessment of the proposed development against Chapter 3 of the State Environmental Planning Policy (SEPP) – Resilience and Hazards is required. The assessment is required to determine if additional risk assessment is required based on the quantity and class of Dangerous Goods (DGs) to be stored at the facility.

Greater Newcastle Aerotropolis Pty Ltd (GNAPL) has engaged Riskcon Engineering Pty Ltd (Riskcon) to prepare an assessment of proposed facility in accordance with the NSW guideline “Applying SEPP 33” (Ref. [1]) to determine if the site should be deemed potentially hazardous or offensive and require further assessment.

### Conclusions

A review of the quantities of DGs that may be stored at the proposed facility and the associated vehicle movements was conducted and compared to the threshold quantities outlined in Applying SEPP 33.

The results of this analysis indicates the threshold quantities for the DGs that may be stored and transported are not exceeded; hence, Chapter 3 of SEPP (Resilience and Hazards) does not apply to the project. Furthermore, a review of the potential to cause offense was conducted which indicated the site operations would be unlikely to result in noise or odour to occur at levels which would cause offense.

As the facility is not classified as potentially hazardous or offensive, it is not necessary to prepare a Preliminary Hazard Analysis for the facility as Chapter 3 of SEPP (Resilience and Hazards) does not apply.

### Recommendations

Notwithstanding the above, the following recommendations have been made:

- Any Dangerous Goods (DG) shall be stored in accordance with the Work Health and Safety Regulation 2017 and any documentation required by the Regulation shall be prepared prior to occupying the space with DGs.

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## Abbreviations

| Abbreviation | Description                         |
|--------------|-------------------------------------|
| CBD          | Central Business District           |
| DA           | Development Application             |
| DGs          | Dangerous Goods                     |
| PHA          | Preliminary Hazard Analysis         |
| RH           | Resilience & Hazards                |
| SEPP         | State Environmental Planning Policy |
| WHS          | Work Health and Safety              |

## 1.0 Introduction

### 1.1 Background

Astra Aerolab has proposed to develop a high technology facility adjacent to Newcastle Airport. In response to a Request for Information (RFI) on the Develop Application (DA) 16-2024-28-1, an assessment of the proposed development against Chapter 3 of the State Environmental Planning Policy (SEPP) – Resilience and Hazards is required. The assessment is required to determine if additional risk assessment is required based on the quantity and class of Dangerous Goods (DGs) to be stored at the facility.

Greater Newcastle Aerotropolis (GNAPL) has engaged Riskcon Engineering Pty Ltd (Riskcon) to prepare an assessment of proposed facility in accordance with the NSW guideline “Applying SEPP 33” (Ref. [1]) to determine if the site should be deemed potentially hazardous or offensive and require further assessment.

### 1.2 Scope of Services

The scope of work is to prepare a SEPP-RH assessment for the proposed facility adjacent to Newcastle Airport. The assessment does not include any other sites nor the preparation of any additional planning studies should they be required.

## 2.0 Methodology

### 2.1 General Methodology

The methodology used in this assessment is as follows:

- Review the types and proposed quantities of DGs to be potentially stored at the site.
- Compare the quantities of DGs to the threshold quantities listed in “Applying SEPP 33 – Hazardous and Offensive Development” (Ref. [1]) to identify whether the storage location or quantity triggers SEPP 33.
- Review the likely vehicular movements involving DGs and compare against the applicable thresholds detailed in Applying SEPP 33 (Ref. [1]).
- Report on the findings of the SEPP-RH assessment.

### 2.2 Data taken from “Applying SEPP 33”

**Figure 2-1**, extracted from “Applying SEPP 33” provides details on the application of Figures or Tables from the same document to determine the applied screening Threshold (Ref. [1]).

| Class                                      | Method to Use/Minimum Quantity               |
|--------------------------------------------|----------------------------------------------|
| 1.1                                        | Use graph at Figure 5 if greater than 100 kg |
| 1.2-1.3                                    | Table 3                                      |
| 2.1 — pressurised (excluding LPG)          | Figure 6 graph if greater than 100 kg        |
| 2.1 — liquefied (pressure) (excluding LPG) | Figure 7 graph if greater than 500 kg        |
| LPG (above ground)                         | table 3                                      |
| LPG (underground)                          | table 3                                      |
| 2.3                                        | table 3                                      |
| 3PGI                                       | Figure 8 graph if greater than 2 tonne       |
| 3PGII                                      | Figure 9 graph if greater than 5 tonne       |
| 3PGIII                                     | Figure 9 graph if greater than 5 tonne       |
| 4                                          | table 3                                      |
| 5                                          | table 3                                      |
| 6                                          | table 3                                      |
| 7                                          | table 3                                      |
| 8                                          | table 3                                      |

**Figure 2-1: Screening Method to be Used**

Table 3 from “Applying SEPP 33” has been extracted and is shown in **Figure 2-2**.

| Class | Screening Threshold                                                | Description                                                                                                                                                               |
|-------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.2   | 5 tonne                                                            | or are located within 100 m of a residential area                                                                                                                         |
| 1.3   | 10 tonne                                                           | or are located within 100 m of a residential area                                                                                                                         |
| 2.1   | (LPG only — not including automotive retail outlets <sup>1</sup> ) |                                                                                                                                                                           |
|       | 10 tonne or 16 m <sup>3</sup>                                      | if stored above ground                                                                                                                                                    |
|       | 40 tonne or 64 m <sup>3</sup>                                      | if stored underground or mounded                                                                                                                                          |
| 2.3   | 5 tonne                                                            | anhydrous ammonia, kept in the same manner as for liquefied flammable gases and not kept for sale                                                                         |
|       | 1 tonne                                                            | chlorine and sulfur dioxide stored as liquefied gas in containers <100 kg                                                                                                 |
|       | 2.5 tonne                                                          | chlorine and sulphur dioxide stored as liquefied gas in containers >100 kg                                                                                                |
|       | 100 kg                                                             | liquefied gas kept in or on premises                                                                                                                                      |
|       | 100 kg                                                             | other poisonous gases                                                                                                                                                     |
| 4.1   | 5 tonne                                                            |                                                                                                                                                                           |
| 4.2   | 1 tonne                                                            |                                                                                                                                                                           |
| 4.3   | 1 tonne                                                            |                                                                                                                                                                           |
| 5.1   | 25 tonne                                                           | ammonium nitrate — high density fertiliser grade, kept on land zoned rural where rural industry is carried out, if the depot is at least 50 metres from the site boundary |
|       | 5 tonne                                                            | ammonium nitrate — elsewhere                                                                                                                                              |
|       | 2.5 tonne                                                          | dry pool chlorine — if at a dedicated pool supply shop, in containers <30 kg                                                                                              |
|       | 1 tonne                                                            | dry pool chlorine — if at a dedicated pool supply shop, in containers >30 kg                                                                                              |
|       | 5 tonne                                                            | any other class 5.1                                                                                                                                                       |
| 5.2   | 10 tonne                                                           |                                                                                                                                                                           |
| 6.1   | 0.5 tonne                                                          | packing group I                                                                                                                                                           |
|       | 2.5 tonne                                                          | packing groups II and III                                                                                                                                                 |
| 6.2   | 0.5 tonne                                                          | includes clinical waste                                                                                                                                                   |
| 7     | all                                                                | should demonstrate compliance with Australian codes                                                                                                                       |
| 8     | 5 tonne                                                            | packing group I                                                                                                                                                           |
|       | 25 tonne                                                           | packing group II                                                                                                                                                          |
|       | 50 tonne                                                           | packing group III                                                                                                                                                         |

**Figure 2-2: General Screening Threshold Quantities**

Transportation screen thresholds have been provided in **Figure 2-3**.

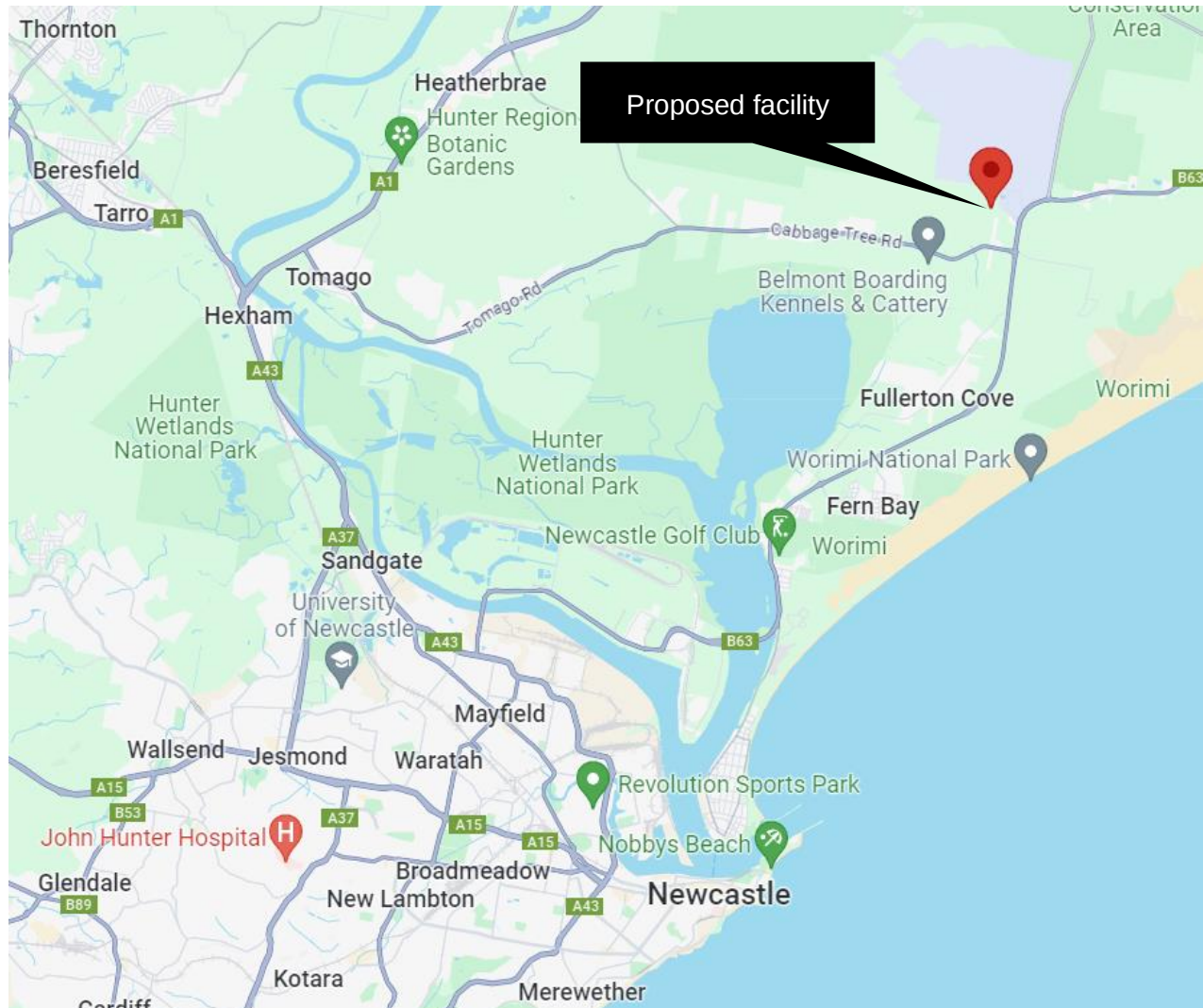
| Class  | Vehicle Movements |           | Minimum quantity* |          |
|--------|-------------------|-----------|-------------------|----------|
|        | Cumulative        | Peak      | per load (tonne)  |          |
|        | Annual            | or Weekly | Bulk              | Packages |
| 1      | see note          | see note  | see note          |          |
| 2.1    | >500              | >30       | 2                 | 5        |
| 2.3    | >100              | >6        | 1                 | 2        |
| 3PGI   | >500              | >30       | 1                 | 1        |
| 3PGII  | >750              | >45       | 3                 | 10       |
| 3PGIII | >1000             | >60       | 10                | no limit |
| 4.1    | >200              | >12       | 1                 | 2        |
| 4.2    | >100              | >3        | 2                 | 5        |
| 4.3    | >200              | >12       | 5                 | 10       |
| 5      | >500              | >30       | 2                 | 5        |
| 6.1    | all               | all       | 1                 | 3        |
| 6.2    | see note          | see note  | see note          |          |
| 7      | see note          | see note  | see note          |          |
| 8      | >500              | >30       | 2                 | 5        |
| 9      | >1000             | >60       | no limit          |          |

**Figure 2-3: Transportation Screening Thresholds**

## 3.0 Project Description

### 3.1 Site Description

The site is located at Lots 200/212 Newton Parade, Williamstown and is located approximately 27 kilometres northeast of the Newcastle Central Business District (CBD) adjacent to Newcastle Airport. The location of the site with relation to the Newcastle CBD is shown in **Figure 3-1**.



**Figure 3-1: Site Location (source Google Maps)**

### 3.2 Adjacent Land Uses

The site surrounding land uses are primarily commercial, undeveloped bushland and rural residential including:

- North – Newcastle Airport and BAE Systems Facility
- East – Newcastle Airport and arterial roads
- South – Rural residential
- West – Undeveloped bushland

### 3.3 Site Layout

The proposed development is for a high technology industry comprising of a workshop area, office space and associated development. This includes a car park providing two hundred (200) car parking spaces, driveway, maneuvering area for B-double trucks, ring road, fire services, hardstand areas, and landscaping. The facility will be highly secure with perimeter fencing, and secure truck, vehicle and pedestrian entry and exit points.

The site layout is provided in **Figure 3-2** with the locations of the DG areas highlighted.

### 3.4 Quantities of Dangerous Goods Stored and Handled

**Table 3-1** provides a summary of the maximum quantities of DGs to be stored at the facility.

**Table 3-1: Quantities of Dangerous Goods Stored**

| Description                 | Class | PG  | Quantity |
|-----------------------------|-------|-----|----------|
| Combustible cleaning liquid | C1    | n/a | 5 L      |
| Lithium-ion batteries       | 9     | n/a | 500 kg   |

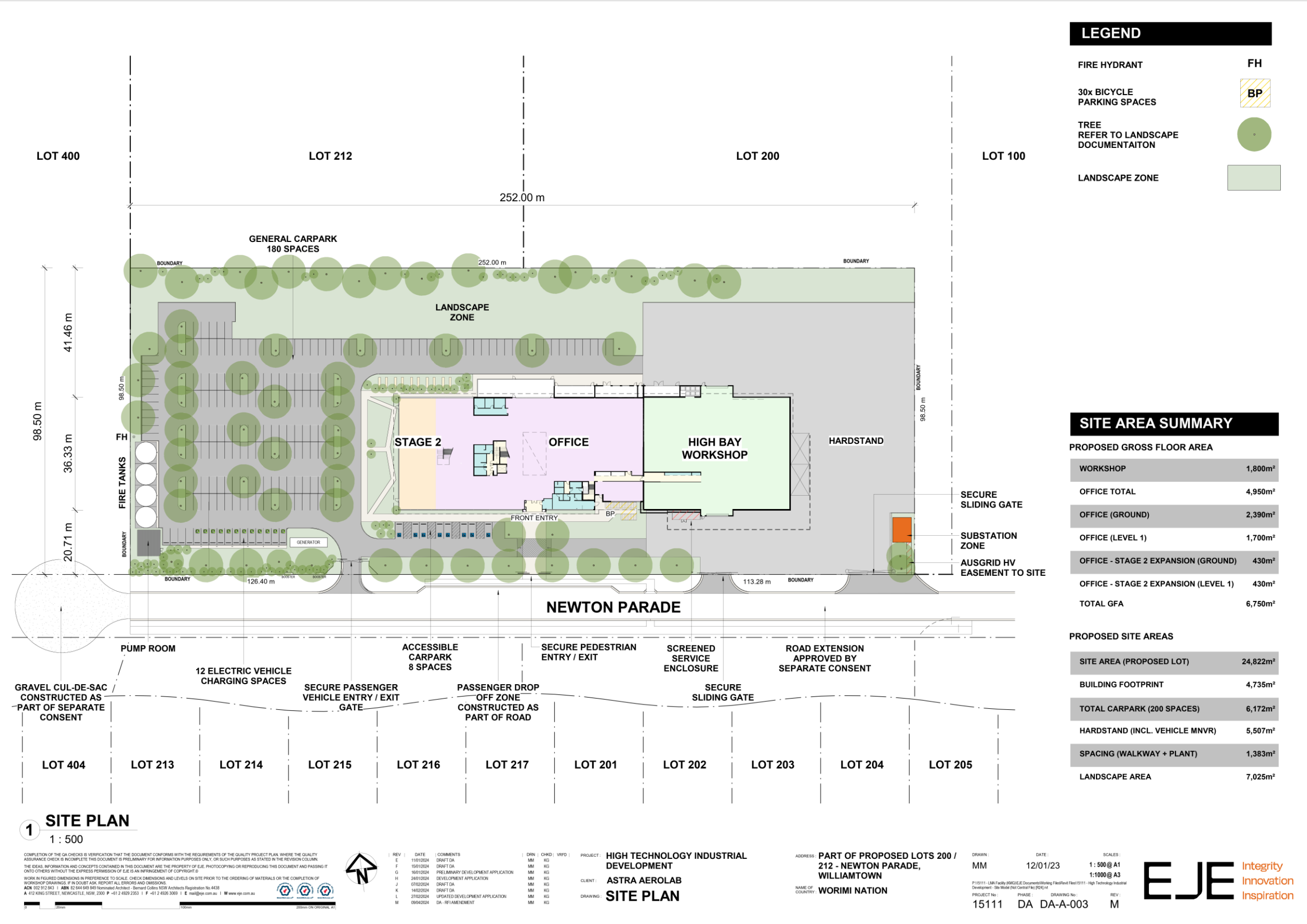


Figure 3-2: Proposed Site Layout

## 4.0 SEPP-RH Review

### 4.1 Introduction

Chapter 3 of the State Environmental Planning Policy – Resilience & Hazards (SEPP-RH) has been developed under the Environmental Planning and Assessment Act 1979 to control potentially hazardous and offensive developments and to ensure appropriate safety features are installed at a facility to ensure the risks to surrounding land uses are minimised.

The policy includes a guideline that assists government and industry alike in determining whether SEPP-RH applies to a specific development. The guideline, “Applying SEPP 33 - Hazardous and Offensive Developments” (Ref. [1]) provides a list of threshold levels for the storage of DGs, above which the regulator considers the DG storage to be potentially hazardous. In the event the threshold levels are exceeded, SEPP-RH applies and a Preliminary Hazard Analysis (PHA) is required, followed by a series of hazard analysis studies stipulated by the Department of Planning and Environment in the conditions of consent.

### 4.2 Proposed Storage Details

An assessment of the classes of DGs to be stored on site was conducted. Provided in **Table 4-1** is a summary of the classes and whether they are assessable under SEPP-33.

**Table 4-1: DG Classes and Quantities Stored**

| Description                 | Class | PG  | Total Quantity (T) | Class Subject to SEPP (Y/N) |
|-----------------------------|-------|-----|--------------------|-----------------------------|
| Combustible cleaning liquid | C1    | n/a | 0.00425            | N                           |
| Lithium-ion batteries       | 9     | n/a | 0.5                | N                           |

*\* Density of 850 kg/m<sup>3</sup> assumed for combustible cleaning liquid*

Combustible liquids are not DGs under United Nations (UN) classification. They are defined as DGs under the Work Health and Safety (WHS) Regulation 2017 (Ref. [2]) with the obligations of a Person Conducting a Business Unit (PCBU) provided in Chapter 7 Part 7.1 Hazardous Chemicals of the Regulation. The threshold quantity for C1 combustible liquids in the WHS Regulation 2017 (Ref. [2]) is 1,000 L, as such this part does not apply to the proposed site.

Under SEPP-33, combustible liquids are only considered DGs if they are stored with other flammable liquids. As no flammable DGs are kept on site, this does not apply. Therefore, the development is not potentially hazardous on the basis of that material, alone.

Lithium-ion batteries, which are considered Class 9 (miscellaneous) DGs are not assessable on a storage quantity basis under SEPP-33. It is noted that batteries can present a fire risk as they can thermally run away. The proposed site does not have significant quantities of batteries stored; hence, the potential for them to be involved in an incident is considered low. Furthermore, in the event of a fire, it would be relatively small based on the commodities stored and thus would not be expected to result in an incident that would impact over the site boundary. As such, the development is not potentially hazardous on the basis of the lithium-ion batteries.

#### 4.2.1 Transportation Assessment

Although Class 9 (miscellaneous) DGs are not assessable on a storage quantity basis under SEPP-33, **Figure 2-3**, shows that they are assessable on a transportation basis. As the batteries

are stored within computers on site, delivery of Class 9 DGs will not occur. The transportation assessment for Class 9 DGs to the proposed facility against the required thresholds is provided in **Table 4-2**.

**Table 4-2: Class 9 DG Transportation Assessment**

| Description            | Vehicle movements |             | Minimum Quantity (per load)* |          |
|------------------------|-------------------|-------------|------------------------------|----------|
|                        | Cumulative annual | Peak weekly | Bulk                         | Packages |
| Screening Threshold    | >1,000            | >60         | No limit                     | No limit |
| Proposed Facility      | 0                 | 0           | 0                            | 0        |
| Subject to SEPP? (Y/N) | N                 | N           | N                            | N        |

*\* If quantities are below this level, the potential risk is unlikely to be significant unless the number of traffic movements is high.*

On the basis of Class 9 transportation, the development is not potentially hazardous.

#### 4.2.2 Offense Assessment

SEPP-RH also contains a requirement for review of operations that may cause offense in the form of odour, environmental impact, nuisance (noise), etc. Based on the type of proposed operations, it is unlikely that the development will produce noise or odour which would be deemed offensive and there are no environmental discharge licenses associated with the development. Therefore, the development is not potentially offensive and SEPP-33 does not apply.

## 5.0 Conclusion and Recommendations

### 5.1 Conclusions

A review of the quantities of DGs that may be stored at the proposed facility and the associated vehicle movements was conducted and compared to the threshold quantities outlined in Applying SEPP 33.

The results of this analysis indicates the threshold quantities for the DGs that may be stored and transported are not exceeded; hence, Chapter 3 of SEPP (Resilience and Hazards) does not apply to the project. Furthermore, a review of the potential to cause offense was conducted which indicated the site operations would be unlikely to result in noise or odour to occur at levels which would cause offense.

As the facility is not classified as potentially hazardous or offensive, it is not necessary to prepare a Preliminary Hazard Analysis for the facility as Chapter 3 of SEPP (Resilience and Hazards) does not apply.

### 5.2 Recommendations

Notwithstanding the above, the following recommendations have been made:

- Any Dangerous Goods (DG) shall be stored in accordance with the Work Health and Safety Regulation 2017 and any documentation required by the Regulation shall be prepared prior to occupying the space with DGs.

## 6.0 References

- [1] Department of Planning, "Applying SEPP 33," Department of Planning, Sydney, 2011.
- [2] Government of New South Wales, "Work Health and Safety Regulation 2017," Government of New South Wales, Sydney, 2017.