Riskcon engineering

PROPOSED WAREHOUSE, LOGISTICS & INDUSTRIAL HUB
657-769 MAMRE ROAD, KEMPS CREEK

SEPP33 ASSESSMENT

Frasers-Altis Mamre Road Redevelopment – SEPP33 Assessment
Document No. RCE-19098[MamreRd-Frasers-Altis]-RPTFinal(Rev0)-30Jul20
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Frasers-Altis Mamre Road Redevelopment – SEPP33 Assessment

Prepared by

Riskcon Engineering Pty Ltd
Unit 19/5 Pyrmont Bridge Road
Camperdown, NSW 2050
www.riskcon-eng.com
ABN 74 626 753 820

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A	14 June 19	Draft for Comment	Steve Sylvester	Renton Parker
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EXECUTIVE SUMMARY

Introduction

Frasers Property Industrial Constructions Pty Ltd and Altis Property Partners Pty Ltd (Frasers/Altis) proposes to develop land at 657-769 Mamre Road, Kemps Creek, NSW (the Project). The land will require a State Significant Development Application for the proposed Warehouse and Industrial Facilities Hub, hence, Secretary's Environmental Assessment Requirements (SEARs) have been issued that require the storage of DGs to be assessed under State Environmental Planning Policy No.33 (SEPP33, Ref.1), which requires review of the proposed development using the document "Applying SEPP33" (Ref.1).

RiskCon Engineering Pty Ltd (RiskCon) has been commissioned to conduct the SEPP33 assessment of the Project, the objectives of which are to identify whether the quantities of Dangerous Goods proposed for storage at the various warehouses within Site do not exceed the SEPP33 threshold and, in the event any warehouses exceed the SEPP33 DG storage threshold values, to recommend a Preliminary Hazard Analysis study for the specific warehouse.

Methodology

The Secretary's Environmental Assessment Requirements (SEARs – Application No. 9522) require a number of conditions to be met as part of the proposed State Significant Development Application. The SEARs section relating to key issues includes a requirement to address hazards and risks (Dot Point 9). This section states that a preliminary screening must be carried out in accordance with SEPP33, providing details of the proposed storage of Dangerous Goods (DGs) and the location of these goods within each facility. Where the SEPP33 screening thresholds are exceeded, the SEARs require a Preliminary Hazard Analysis (PHA) to be conducted to demonstrate that the risks associated with the operations of facilities do not exceed acceptable risk criteria.

The methodology applied to the SEPP33 assessment of the Project was that recommended in "Applying SEPP33 - Hazardous and Offensive Developments"(Ref.1). The quantity of DGs stored in each warehouse within the Project was reviewed in turn against the threshold levels listed in SEPP33 (Ref.1) to identify whether the threshold levels are exceeded. In the event a threshold levels is exceeded, a PHA study is recommended. The results of the assessment are summarised below.

Brief Description of the Project

The Project comprises the following warehouses:

- Lot 1 - Warehouses 1A and 1B (Joined by a common wall);
- Lot 2 – Warehouse 2 (freestanding warehouse, no common wall);
- Lot 3 – Warehouse 3A & 3B (Joined by a common wall);
- Lot 4 – Warehouse 4 (freestanding warehouse, no common wall);
- Lot 5 – Warehouse 5 (freestanding warehouse, no common wall);
- Lot 6 – Warehouse 6 (freestanding warehouse, no common wall);
- Lot 7 – Warehouse 7 (freestanding warehouse, no common wall); and
- Lot 8 – Warehouse 8 (freestanding warehouse, no common wall).

Note: warehouse numbers are shown on **Figure 1.1**. This figure also shows a number of additional lots within the development area, these lots are not within the scope of the project and will remain undeveloped as part of the initial area development.

Summary and Conclusions

An analysis of the application of State Environmental Planning Policy No.33, Hazardous and Offensive Developments (SEPP33) was conducted for the proposed Frasers-Altis development on a parcel of land located on the western side of Mamre Road, Kemps Creek, NSW. The proposed development involves the construction of 10 warehouses on 8 lots within the development, with 2 warehouses being dual occupancy (note that the development comprises a total of 17 Lots, with a number of Staged/Subdivided lots, but only 8 will be developed with warehouses). The analysis was conducted based on a limited quantity of Dangerous Goods (DGs) stored and handled at each warehouse, noting that the development has considered the potential for warehouse tenants to store and handle limited DGs as part of their operations.

The analysis identified that the quantity of DGs held at each warehouse did not exceed the storage threshold levels listed in “Applying SEPP33”(Ref.1). It was also identified that based on the relatively low quantity of DGs stored and handled at the warehouses, and the type of operations proposed at the warehouses (i.e. warehouses are not dedicated DG storage facilities), it was unlikely that the maximum permissible transport quantity and number of vehicle operation listed in “Applying SEPP33”(Ref.1) would be exceeded. Hence, based on the assessment conducted in this study, it is concluded that SEPP33 does not apply to the proposed development.

Based on the assessment conducted in this study and the results indicating that SEPP33 does not apply to any of the warehouses within the development, it is concluded that the requirements of the Hazard and Risk Section of the SEARs (Key Issues, Dot point 9) have been addressed.

Recommendations

Notwithstanding the conclusion reached above, it is noted that tenants may require to store DGs at quantities exceeding those assessed in this study. Should a tenant require to store and handle additional DGs to those listed for the specific warehouse in this study, it is recommended that a review of the application of SEPP33 should be conducted and where required a Preliminary Hazard Analysis (PHA) study be performed, in accordance with HIPAP No.6 (Ref.3), should it be identified that SEPP33 applies to the specific warehouse.

Figure 1.1: Layout of the Proposed Frasers-Altis Development, Mamre Road, Kemps Creek, NSW

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Abbreviations

Abbreviation	Description
DPIE	Department of Planning, Industry and Environment
SEARs	Secretary's Environmental Assessment Requirements
SEPP	State Environmental Planning Policy
DG	Dangerous Goods
PHA	Preliminary Hazard Analysis
DA	Development Application
m	metres
m^2	square metres
AS	Australian Standard
LPG	Liquefied Petroleum Gas
PG	Packing Group
kg	kilogram
C1	Combustible Materials with a flash point ≥60^{o}C and ≤93^{o}C
C2	Combustible Materials with a flash point ≥93^{o}C
ADG	Australian Dangerous Goods Code

1.0 INTRODUCTION

1.1 Background

Frasers Property Industrial Constructions Pty Ltd and Altis Property Partners Pty Ltd (Frasers/Altis) proposes to develop land on the western side of Mamre Road, Kemps Creek, NSW. As part of the development, it will be necessary to submit a State Significant Development Application for the land for the proposed use, hence, the NSW Department of Planning, Industry and Environment (DPIE) has issued the Secretary's Environmental Assessment Requirements (SEARs) that include a review of the proposed storage and handling of Dangerous Goods (DGs). The SEARs require the DGs to be assessed under State Environmental Planning Policy No.33 (SEPP33, Ref.1), which requires review of the proposed development using the document "Applying SEPP33" (Ref.1).

Frasers/Altis has commissioned RiskCon Engineering Pty Ltd (RiskCon) to conduct a review of the proposed development with regards to the storage and handling of DGs. This document provides RiskCon's SEPP33 assessment of the proposed land use at Mamre Road, Kemps Creek, NSW,

1.2 Objectives

The objectives of the SEPP33 assessment for the proposed Warehouse, Logistics and Industrial Facilities Hub at Mamre Road, Kemps Creek, NSW, is to identify whether the quantities of Dangerous Goods proposed for storage at the various warehouses within the site area do not exceed the SEPP33 threshold and, in the event any warehouses exceed the SEPP33 DG storage threshold values, to recommend a Preliminary Hazard Analysis study for the specific warehouse.

1.3 Scope of Services

The scope of work for the study is for the SEPP33 assessment of the proposed Warehouse, Logistics & Industrial Hub, at 657-796 Mamre Road, Kemps Creek, NSW (the Project). The scope covers 10 warehouses on 8 lots within the development, with 2 warehouses being dual occupancy as shown on **Figure 1.1** (it is noted that the development comprises 18 Lots, with a number of Staged/Subdivided lots, but only 8 Lots will be developed with warehouses at this stage of the project). The scope includes the development of a report for each of the warehouses detailing maximum permissible storage quantities to limit the application of SEPP33 to the development. The following warehouses are included in the assessment;

- Lot 1 - Warehouses 1A and 1B (Joined by a common wall);
- Lot 2 – Warehouse 2 (freestanding warehouse, no common wall);
- Lot 3 – Warehouse 3A & 3B (Joined by a common wall);
- Lot 4 – Warehouse 4 (freestanding warehouse, no common wall);
- Lot 5 – Warehouse 5 (freestanding warehouse, no common wall);
- Lot 6 – Warehouse 6 (freestanding warehouse, no common wall);
- Lot 7 – Warehouse 7 (freestanding warehouse, no common wall); and
- Lot 8 – Warehouse 8 (freestanding warehouse, no common wall).

Figure 1.1: Layout of the Proposed Frasers-Altis Development, Mamre Road, Kemps Creek, NSW

2.0 METHODOLOGY

2.1 Study Requirements (SEARs)

The Secretary's Environmental Assessment Requirements (SEARs – Application No. 9522) require a number of conditions to be met as part of the proposed State Significant Development Application. The SEARs section relating to key issues includes a requirement to address hazards and risks (Dot Point 9). This section states that a preliminary screening must be carried out in accordance with SEPP33, providing details of the proposed storage of Dangerous Goods (DGs) and the location of these goods within each facility. Where the SEPP33 screening thresholds are exceeded, the SEARs require a Preliminary Hazard Analysis (PHA) to be conducted to demonstrate that the risks associated with the operations of facilities do not exceed acceptable risk criteria.

2.2 Study Background

The proposed development at Mamre Road, Kemps Creek, NSW, will comprise eight (8) Lots and ten (10) warehouses, with two (2) lots being constructed as adjoining facilities with a common wall between the warehouses (it is noted that the development comprises 18 Lots, with a number of Staged/Subdivided lots, but only 8 Lots will be developed with warehouses). The state significant development application is for warehouse facilities to be constructed and operated. At this stage of the project tenants and operators are unknown, hence, the exact quantity of Dangerous Goods (DGs) proposed for storage at the various warehouses is unknown.

In order to provide operational flexibility for warehouse occupants, it is proposed to submit Development Applications (DAs) for individual warehouses with an allowance for limited storage of DGs. In many cases, warehouse facilities store limited DGs during logistics operations and short-term storage campaigns, hence, flexibility of storage and the ability to store limited quantities is a key function of efficient logistic operations.

Based on this, each warehouse will be reviewed, its use assessed and the maximum quantities of DGs selected, that would be stored, to allow future tenants to select an appropriate warehouse for their operation.

2.3 Study Approach

The following study approach was be applied:

- An overall review of the development and warehouse layouts was conducted to determine whether maximum permissible quantities can be stored in individual warehouses or whether the close proximity of warehouses will require consolidation of the maximum permissible quantities distributed between the two closely located buildings;
- Once the DG distribution was assessed, location of DGs within the warehouses was allocated, based on required layouts in SEPP33 (Ref.1, e.g. separation of flammable liquids from boundaries and other DGs, etc.);
- A layout for each warehouse was then developed and confirmed with the developer before final report completion;
- Once all DG quantities and layouts were confirmed a draft report was developed containing details of each warehouse location; and
- A final report was issued for submission with the development documentation.

The results of the study and fulfilment of the SEARs requirements are provided in **Section 4**.

3.0 BRIEF DESCRIPTION OF THE WAREHOUSE DEVELOPMENT

3.1 Site Location and Surrounding Land Use

The Project is be located in Kemps Creek, NSW, between Mamre Road and South Creek. The area is predominantly rural, with a warehouse development located across Mamre Road to the north east and the Twin Creeks Golf & Country Club located across the South Creek buffer zone to the west. The land to the north and south is currently vacant (rural). The Water NSW Pipeline from Warragamba to Prospect is located on the northern side of the development.

Figure 3.1 shows the regional location of the Project and **Figure 3.2** shows the detailed location in the Kemps Creek area.

Figure 3.1: Regional Location of the Proposed Frasers-Altis Warehouse Development, Kemps Creek

Figure 3.2: Location of the Proposed Frasers-Altis Warehouse Development in Kemps Creek

3.2 Brief Description of the Proposed Project

Figure 1.1 shows the overall development layout. At this stage of the site development, only 8 lots will be developed with warehouses, the remaining lots will remain undeveloped. The current Project can split into two main areas, the Northern Areas (**Figure 3.3**) and the Southern Area (**Figure 3.4**). These two areas are split by the Southern Link Road and Bakers Lane, which is a corridor, about 60m wide, between the two areas. A brief description of each Lot and warehouse facility is provided below.

NORTHERN AREA

Lot 1 - Warehouses 1A and 1B (joined by a common wall) are located adjacent to the possible freight rail corridor and the Water for NSW pipeline on the northern side of the area. Warehouse 1A will be 11,855 m^2 + 550 m^2 office space and Warehouse 1B will also be 11,855 m^2 + 550 m^2 office space. The long axis of the building is located north/south, with a property setback from the pipelines corridor by a minimum of around 66m, including a possible freight rail corridor. Warehouses 1A & 1B are separated from the Bakers Lane by a 16m building setback. The following distances are provided between the adjacent warehouse buildings:

- Warehouse 2 – 40 m;
- Warehouse 4 – 80 m; and
- Warehouse 3A – 36 m.

The distance from the building to the various boundaries is provided below:

- North – 6 m from the corner of the building to the boundary fence;

- West – 48 m from the warehouse building to the western boundary;
- South – 20m from the warehouse building to the southern boundary; and
- East – 6 m from the warehouse to the eastern boundary (fire vehicle access).

Lot 2 - Warehouse 2 (freestanding warehouse, no common wall) is located directly adjacent to the Mamre Road (to the east). Warehouse 2 will be 22,715 m^2 + 1150 m^2 office space and the building will be setback a minimum of 25m from Mamre Road, which incorporates a landscape area and building set back from the boundary. Warehouse 2 is located around 36m from the boundary to the west and 6m to the southern boundary, a provision for fire vehicle access. The closest point of the building to the northern boundary is 6m (i.e. the north-west corner of the building) and 20m to the eastern Mamre Road Reserve boundary.

Lot 3 - Warehouses 3A and 3B (Joined by a common wall) are located adjacent to Mamre Road (to the east). Warehouse 3A will be 8,230 m^2 + 550 m^2 office space and Warehouse 3B will also be 8,230 m^2 + 550 m^2 office space. The long axis of the building is located east/west, with a property setback from the Mamre Road by a minimum of around 40m, including landscaping and car park areas. Warehouses 3A/3B are separated from the northern site boundary by around 40m, which constitutes the warehouse forecourt areas for the two buildings. The distance between Warehouses 3A and Warehouse 1B is around 36m (30m to the boundary), the distance between Warehouses 3A/3B and Warehouses 2 is around 46 m. The distance to warehouses 7 & 8, in the Southern Precinct, exceeds 100m.

Lot 4 - Warehouse 4 (freestanding warehouse, no common wall) is located directly adjacent to the possible freight rail corridor and the Water for NSW Pipeline (to the north). The building will be 13,340m^2 in area + 800 m^2 office space. Warehouse 4 is separated from warehouses 1A/1B by a distance of around 80m and is setback from the possible freight rail corridor by a minimum of 20m, part of which is Lot 11. A separation distance from the western site boundary of around 6m is provided for fire vehicle access. The distance from the warehouse to the eastern boundary is 36m and 24m to the southern boundary.

SOUTHERN AREA

Lot 5 - Warehouse 5 (freestanding warehouse, no common wall) is located on the northern side of Warehouse 7 and is accessed via a public access road off Bakers Lane. The building will be 17,355m^2 in area + 840 m^2 office space. Warehouse 5 is separated from warehouses 7 (south) by a distance of around 40m and from Warehouse 6 (east) by a distance of around 26m. The warehouse is setback from the boundaries to the north by 20m and the west by 6m for fire vehicle access. The distance to the eastern boundary is around 20m (car parking) and over 36m to the southern boundary (warehouse forecourt).

Lot 6 - Warehouse 6 (freestanding warehouse, no common wall) is located directly adjacent Mamre Road to the east. Warehouses 6 will be 14,700 m^2 in area + 800 m^2 office space. The building has a property setback from Mamre Road (to the east) of 20m at the closest point. The eastern side of Warehouse 6 is 6m from the site boundary (fire vehicle access) and is separated from Warehouse 5 by a distance of around 25m. The southern boundary of the site is located around 36m from the warehouse with Warehouse 8 located around 55 m to the south. The boundary to the north is separated from the warehouse by a distance of around 20m (car park area) with the southern link road located directly to the north of the site.

Lot 7 - Warehouse 7 (freestanding warehouse, no common wall) is located south of Warehouse 5 and is 23,105 m^2 in area + an office of 1,100 m^2 floor area. The building is accessed via an internal public access road to the east of the site. The warehouse is located 36m from the eastern boundary fence (warehouse forecourt) and 6m from the northern and western

boundaries (fire vehicle access). The distance to the southern boundary is around 20m, at the closest point. Warehouse 7 is separated from Warehouse 5 by around 40m and Warehouse 8 by around 100m.

Lot 8 - Warehouse 8 (freestanding warehouse, no common wall) faces Mamre Road to the east and is 26,350 m^2 in area + 1,500 m^2 office space. The building is set back from the Mamre Road boundary by 33m (including the Mamre road reserve). The remaining boundaries are located the following distances from the warehouse:

- South - 6m (fire vehicle access to the boundary with Warehouse 7);
- West – 40 m (warehouse forecourt); and
- North – 20m (to boundary with Warehouse 6).

Warehouse 7 is located around 100m to the west and Warehouse 6 is located around 55 m to the north.

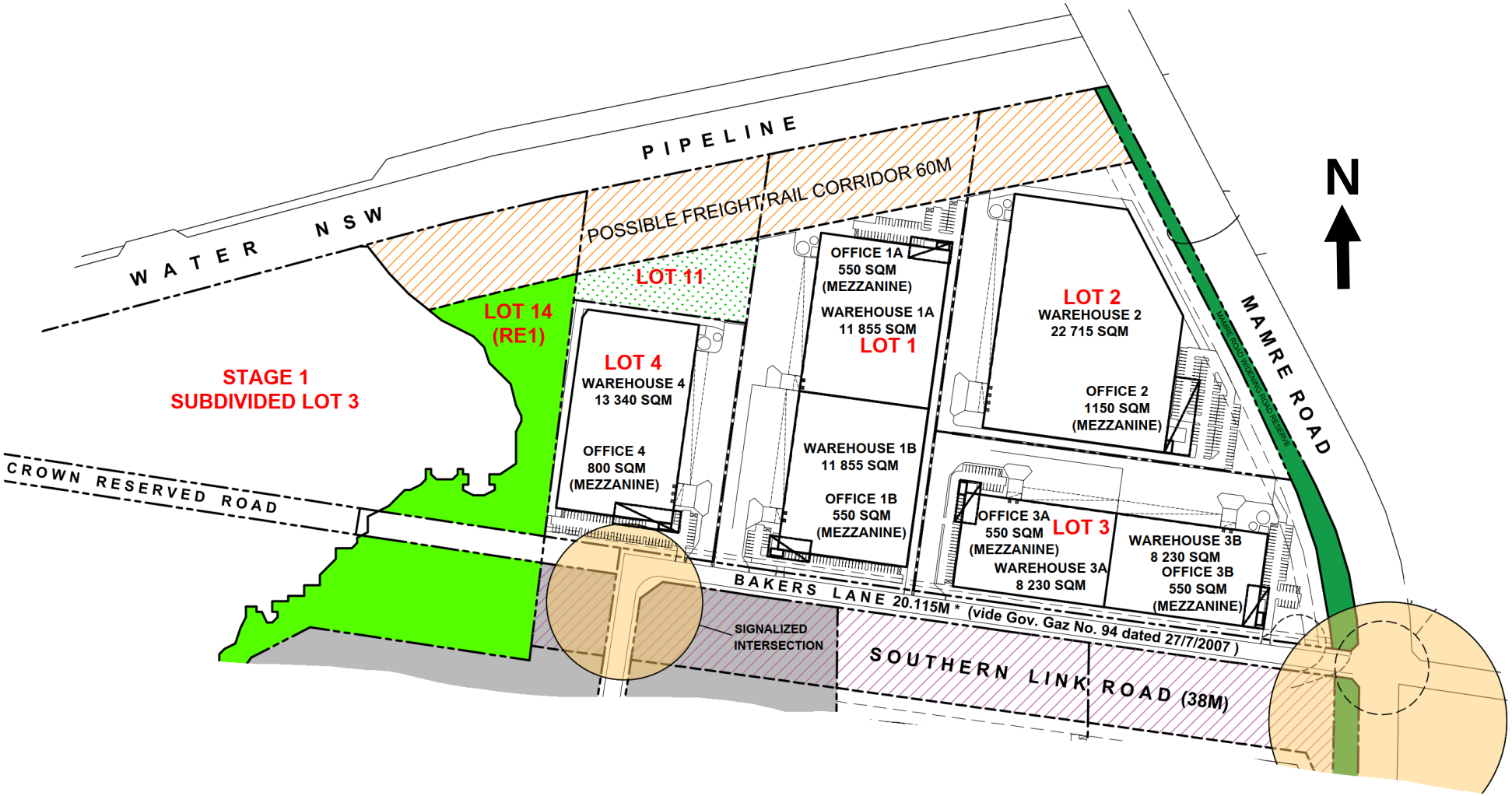


Figure 3.3: Northern Precinct Layout showing the Lots and Warehouse Locations

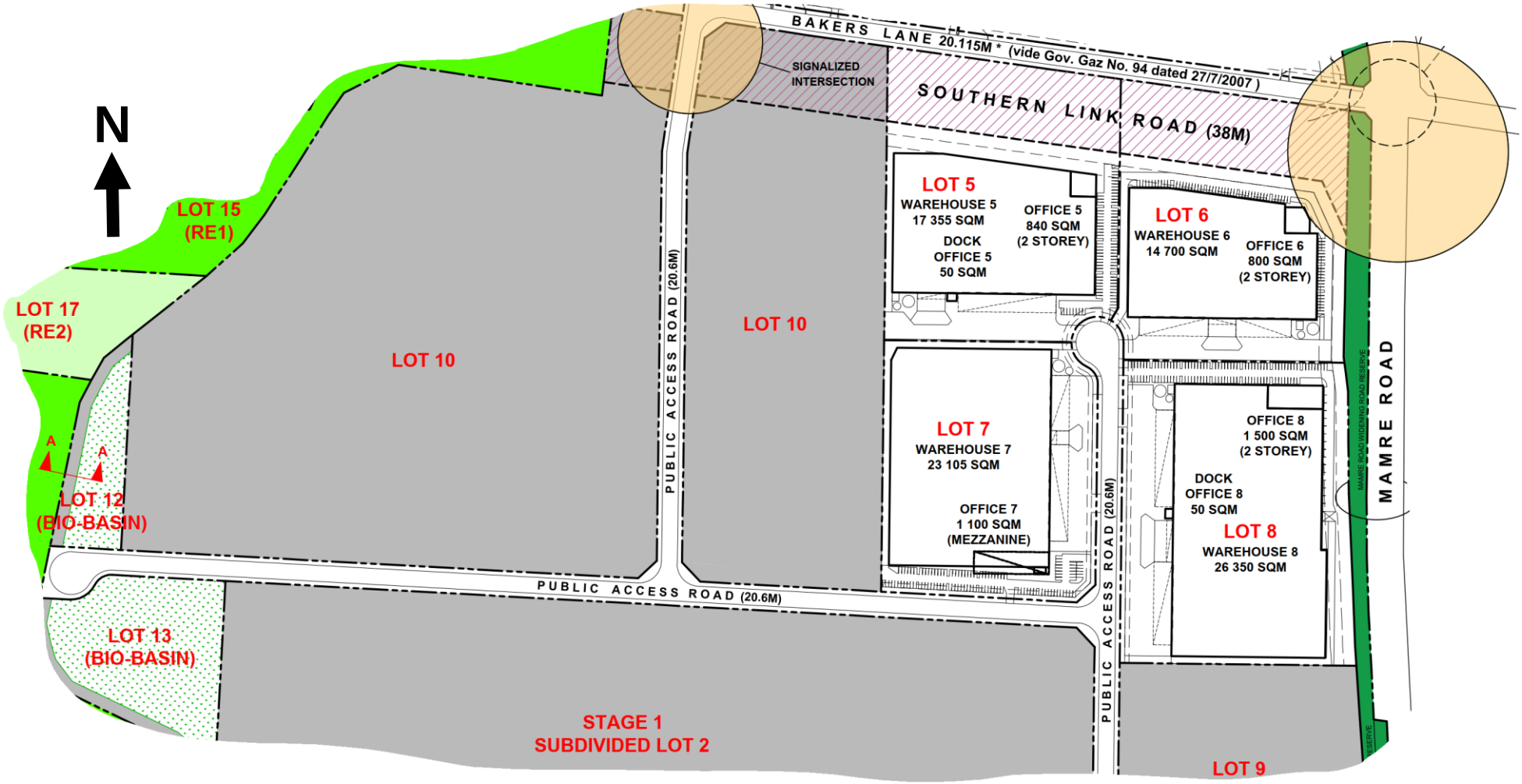


Figure 3.4: Southern Precinct Layout showing the Lots and Warehouse Locations

4.0 STUDY RESULTS

The applicable screening thresholds for the warehouses have been extracted from Applying SEPP33 (Ref.1) and are included at **Appendix A**. These screening thresholds have been used to determine acceptable levels of DGs that may be held in each warehouse.

4.1 Lot 1 – Warehouses 1A & 1B

4.1.1 SEPP 33 Storage Assessment (Warehouses 1A & 1B)

Figure 4.1 shows the layout of Warehouses 1A & 1B, including the location of DGs within the warehouses. The figure also shows the location of the warehouse in relation to the surrounding land uses, including separation distances between the warehouses and the boundaries.

The quantity of DGs that are proposed for storage in the warehouses is shown in **Table 4.1**. It is noted that Warehouse 1A & 1B are joined by a common wall separating each warehouse. Hence, due to the close proximity of the two facilities, the two warehouses are treated as a single facility for the purposes of the SEPP33 assessment. However, as the Class 3 flammable liquids will be held in an AS1940 compliant storage area at each site, these are treated individually, as the areas can be effectively separated in accordance with the SEPP33 (Ref.1) requirements.

Threshold limits for the application of SEPP 33 to Warehouses 1A & 1B are presented in **Table 4.1** along with maximum DG quantities that will be stored in the warehouses. **Figure 4.2** shows the maximum permissible quantity of flammable liquids that may be stored in each warehouse, as listed in SEPP33, based on the specific separation distances of the flammable liquids storages areas from the boundary (Ref.1).

Table 4.1 shows that threshold quantities are not exceeded at Warehouses 1A & 1B and **Figure 4.2** shows that the maximum permissible storage quantities of flammable liquids is not exceeded, hence, SEPP 33 does not apply to the storage of DGs, as all DGs are under the storage screening threshold.

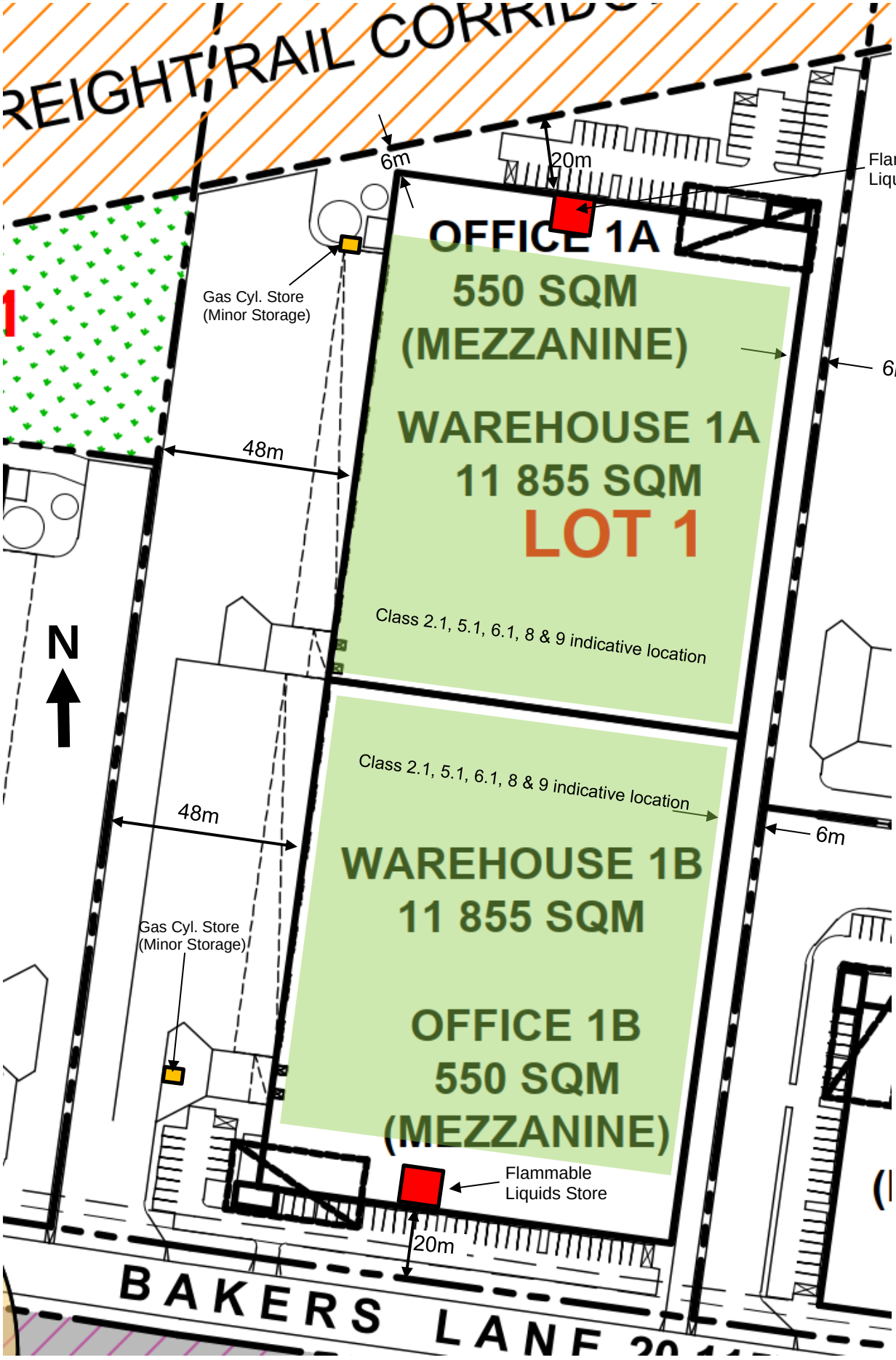


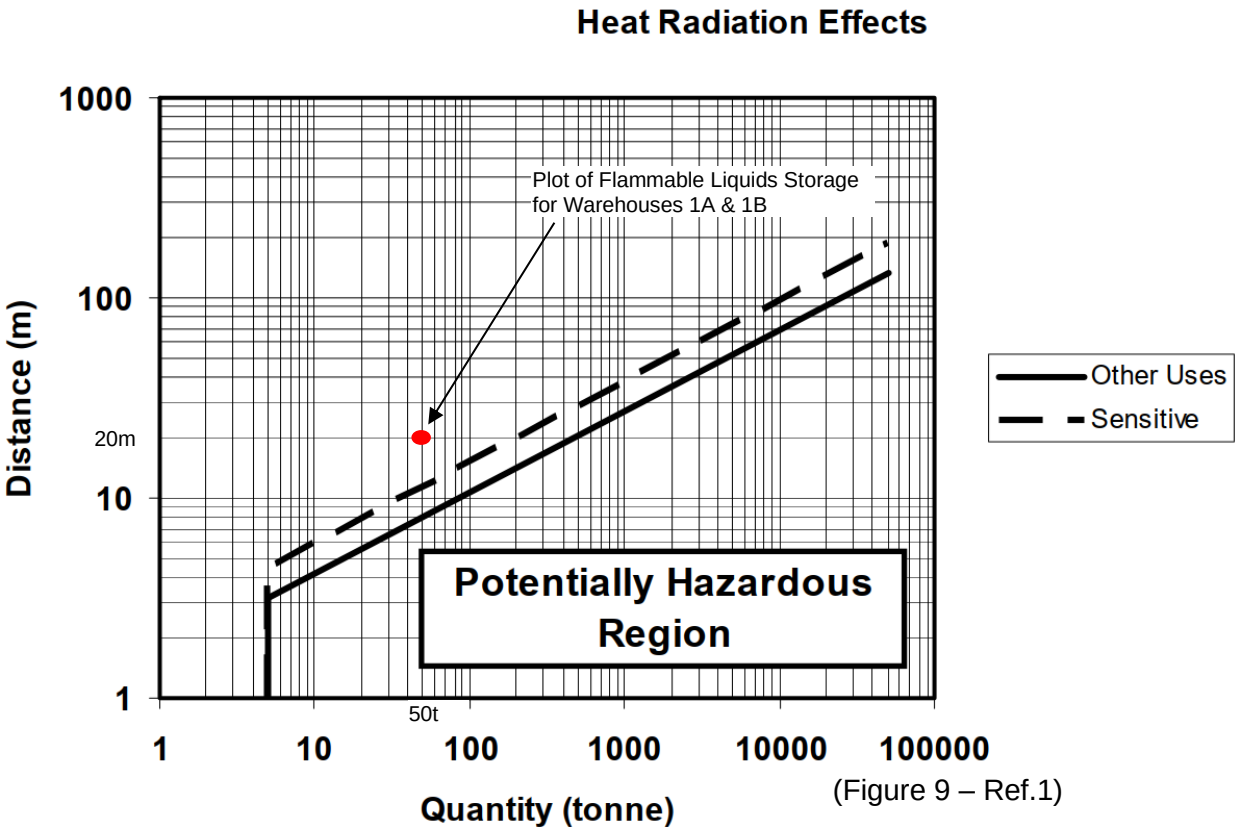
Figure 4.1: Lot 1 – Warehouses 1A & 1B Layout showing DG Locations

Table 4.1: Quantities Stored in Warehouses 1A & 1B and SEPP33 Threshold Values for the Specific DGs Stored

Class	Description	PG	Quantities Stored			SEPP 33 Threshold (Ref.1)	Does SEPP33 Apply?
			Warehouse 1A	Warehouse 1B	Total		
2.1	Aerosols	-	<3,500 kg (LPG)	<3,500 kg (LPG)	9,000 kg	10,000 kg	NO
	Cylinders	-	<1,000 kg (LPG)	<1,000 kg (LPG)			
3	Flammable Liquids	II & III	20,000 kg (PGII) 30,000 kg (PGIII)	-	50,000 kg (50t)	500,000 kg (500t)	NO (See Fig. 4.2 & Note 1 below)
3	Flammable Liquids	II & III	-	20,000 kg (PGII) 30,000 kg (PGIII)	50,000 kg (50t)	500,000 kg (500t)	NO (See Fig. 4.2 & Note 1 below)
4.1	Flammable Solids	II & III	2,000 kg	2,000 kg	4,000 kg	5,000 kg	NO
5.1	Oxidising Substances	II & III	2,000 kg	2,000 kg	4,000 kg	5,000 kg	NO
6.1	Toxic Substances	II & III	1,000 kg	1,000 kg	2,000 kg	2,500 kg	NO
8	Corrosives	II & III	12,000 kg	12,000 kg	24,000 kg	25,000 kg(Note 2)	NO
9	Miscellaneous	III	20,000 kg	20,000 kg	40,000 kg	Not subject to SEPP33	
C1/C2	Combustible Liquids	-	20,000 kg	20,000 kg	40,000 kg	Not subject to SEPP33	

Notes: 1. The flammable liquids stores are located on the northern side of Warehouse 1A and the southern side of Warehouse 1B, with the closest boundary to the north being 20m for Warehouse 1A and 20m to the south for Warehouse 1B from the bund of the flammable liquids stores. The distances to the other boundaries from the storage areas are greater than the distances to the northern/southern boundaries, hence, the boundaries are well separated from the storage and the facility is therefore not within the potentially hazardous region of Figure 9 of Applying SEPP33 (see **Figure 4.2**).

2. The threshold value for Class 8 products has been selected as the lower value of PG II & III, being 25,000 kg (noting that PG III corrosives can be stored up to a quantity of 50,000 kg).



(Figure 9 – Ref.1)

Figure 4.2: Lot 1 – Warehouses 1A & 1B DG Plot Quantity Vs Distance from Boundary

4.1.2 SEPP 33 Transport Assessment (Warehouses 1A & 1B)

It is necessary to assess the impact of transporting DGs on the surrounding arterial roads to and from Warehouses 1A & 1B. As the total quantiites to be stored in both warehouses (cumulative) are below SEPP 33, it can be assumed that the frequency of movements would be low. Therefore, it is considered prudent to review the SEPP 33 transport criteria on the basis of minimum transport load listed in the guideline (Applying SEPP33, Ref.1). **Table 4.2** has been developed based on the minimum load of goods to compare the maximum storage quantity within the warehouses to conceptualise whether the loads would be likely to be exceeded based on the maximum storage quantities.

Table 4.2: SEPP33 Transport Quantity vs Warehouse Storage Limits - Warehouses 1A & 1B

Class	Minimum Load Quantity	Maximum Storage within Each Warehouse
2.1	4.5 tonnes	4 tonnes
3(II)	10 tonnes	20 tonnes
3(III)	No limits	30 tonnes
4.1	2 tonnes	2 tonnes
5.1	5 tonnes	2 tonnes
6.1	3 tonnes	1 tonne
8	5 tonnes	12 tonnes
9	No Limit	20 tonnes
Comb. Liquid	No Limit	20 tonnes

Based on the maximum quantity to be stored in each of the warehouses (Warehouse 1A & 1B) and the SEPP33 load limits, the quantities are unlikely to be exceeded as that would indicate very high turnover of product which would be unlikely to be achieved considering that vehicle movements will be predominantly non-DG products, resulting in the majority of vehicles not carrying DGs. In addition, those movements where DGs are transported as a combined load (Non-DGs and DGs together), the majority of loads would be below the transport placard quantity, which does not exceed the maximum load quantities listed in **Table 4.2**.

Therefore, it is considered that the SEPP33 limits for transport would not be exceeded; hence, additional traffic management plans would not be required. It is noted, that the transport of DGs is covered by the Australian Dangerous Goods Code (ADG, Ref.2) Therefore, incident response will be covered by the transport of DGs via the ADG as appropriate with the loads being carried.

4.2 Lot 2 – Warehouse 2

4.2.1 SEPP 33 Storage Assessment (Warehouse 2)

Figure 4.3 shows the layout of Warehouse 2, including the location of DGs within the warehouse. The figure also shows the location of the warehouse in relation to the surrounding land uses, including separation distances between the warehouses and the boundaries.

Threshold limits for the application of SEPP 33 to Warehouse 2 are presented in **Table 4.3** along with maximum DG quantities that will be stored in the warehouses. **Figure 4.4** shows the maximum permissible quantity of flammable liquids that may be stored in the warehouse, as listed in SEPP33, based on the specific separation distances of the flammable liquids storages areas from the boundary (Ref.1).

Table 4.3 shows that threshold quantities are not exceeded at Warehouse 2 and **Figure 4.4** shows that the maximum permissible storage quantities of flammablke liquids is not exceeded, hence, SEPP 33 does not apply, as all DGs are under the storage screening threshold.

Table 4.3: Quantities Stored in W/house 4 & SEPP33 Threshold Values for the DGs Stored

Class	Description	PG	Quantities Stored Warehouse 2	SEPP 33 Threshold (Ref.1)	Does SEPP33 Apply?
2.1	Aerosols	-	<7,000 kg (LPG)	10,000 kg	NO
	Cylinders	-	<1,000 kg (LPG)		
3	Flammable Liquids	II & III	20,000 kg (PGII) 30,000 kg (PGIII)	500,000 kg (500t)	NO (See Fig. 4.4 & Note 1 below)
4.1	Flammable Solids	II & III	4,000 kg	5,000 kg	NO
5.1	Oxidising Substances	II & III	4,000 kg	5,000 kg	NO
6.1	Toxic Substances	II & III	2,000 kg	2,500 kg	NO
8	Corrosives	II & III	20,000 kg	25,000 kg(Note 2)	NO
9	Miscellaneous	II & III	20,000 kg	Not subject to SEPP33	
C1/C2	Combustible Liquids	-	20,000 kg	Not subject to SEPP33	

Notes: 1. The flammable liquids store is located on the north-eastern corner of Warehouse 2, with the closest boundary to the east being 20m to the bund of the flammable liquids store. The distances to the other boundaries from the storage area is greater than the distances to the east, hence, the boundaries are well separated from the warehouse and the facility is therefore not within the potentially hazardous region of Figure 9 of Applying SEPP33 (see **Figure 4.4**).

2. The threshold value for Class 8 products has been selected as the lower value of PG II & III, being 25,000 kg (noting that PG III corrosives can be stored up to a quantity of 50,000 kg).

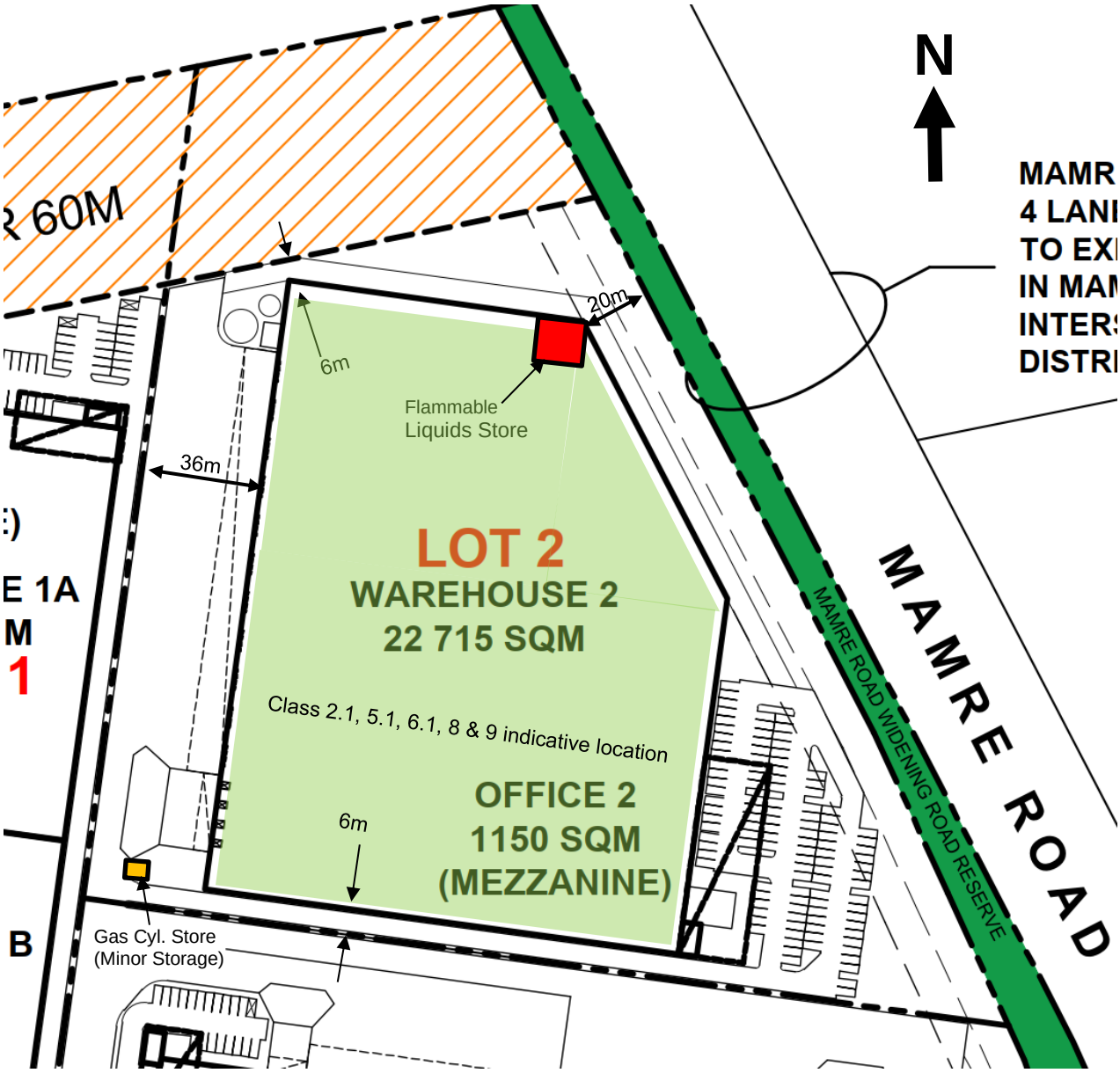
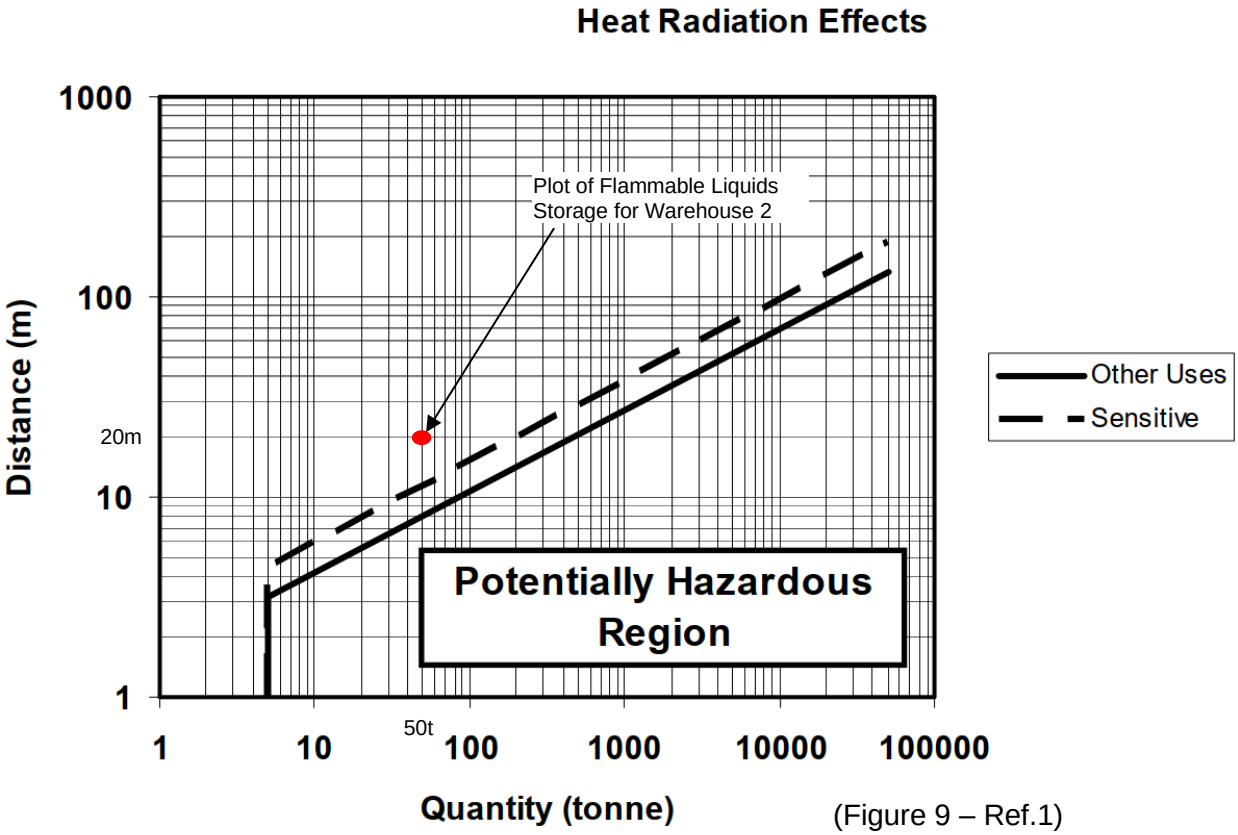


Figure 4.3: Lot 2 – Warehouses 2 Layout showing DG Locations



(Figure 9 – Ref.1)

Figure 4.4: Lot 2 – Warehouses 2 DG Plot Quantity Vs Distance from Boundary

4.2.2 SEPP 33 Transport Assessment (Warehouses 2)

It is necessary to assess the impact of transporting DGs on the surrounding arterial roads to and from Warehouse 2. As the total quantiites to be stored in the warehouse is below SEPP 33, it can be assumed that the frequency of movements would be low. Therefore, it is considered prudent to review the SEPP 33 transport criteria on the basis of minimum transport load listed in the guideline (Applying SEPP33, Ref.1). **Table 4.4** has been developed based on the minimum load of goods to compare the maximum storage quantity within the warehouse to conceptualise whether the loads would be likely to be exceeded based on the maximum storage quantities.

Table 4.4: SEPP33 Transport Quantity vs Warehouse Storage Limits - Warehouses 2

Class	Minimum Load Quantity	Maximum Storage within Each Warehouse
2.1	4.5 tonnes	8 tonnes
3(II)	10 tonnes	20 tonnes
3(III)	No limits	30 tonnes
4.1	2 tonnes	4 tonnes
5.1	5 tonnes	4 tonnes
6.1	3 tonnes	2 tonnes
8	5 tonnes	20 tonnes
9	No Limit	20 tonnes
Comb. Liquid	No Limit	20 tonnes

Based on the maximum quantity to be stored in the warehouse (Warehouse 2) and the SEPP33 load limits, the quantities are unlikely to be exceeded as that would indicate very high turnover of product which would be unlikely to be achieved considering that vehicle movements will be predominantly non-DG products, resulting in the majority of vehicles not carrying DGs. In addition, those movements where DGs are transported as a combined load (Non-DGs and DGs together), the majority of loads would be below the transport placard quantity, which does not exceed the maximum load quantities listed in **Table 4.4**.

Therefore, it is considered that the SEPP33 limits for transport would not be exceeded; hence, additional traffic management plans would not be required. It is noted, that the transport of DGs is covered by the Australian Dangerous Goods Code (ADG, Ref.2) Therefore, incident response will be covered by the transport of DGs via the ADG as appropriate with the loads being carried.

4.3 Lot 3 – Warehouses 3A & 3B

4.3.1 SEPP 33 Storage Assessment (Warehouses 3A & 3B)

Figure 4.5 shows the layout of Warehouses 3A & 3B, including the location of DGs within the warehouses. The figure also shows the location of the warehouse in relation to the surrounding land uses, including separation distances between the warehouses and the boundaries.

The quantity of DGs that are proposed for storage in the warehouses is shown in **Table 4.5**. It is noted that Warehouse 3A & 3B are joined by a common wall separating each warehouse. Hence, due to the close proximity of the two facilities, the two warehouses are treated as a single facility for the purposes of the SEPP33 assessment. However, as the Class 3 flammable liquids will be held in an AS1940 compliant storage area at each site, these are treated individually, as the areas can be effectively separated in accordance with the SEPP33 (Ref.1) requirements.

Threshold limits for the application of SEPP 33 to Warehouses 3A & 3B are presented in **Table 4.5** along with maximum DG quantities that will be stored in the warehouses. **Figure 4.5** shows the maximum permissible quantity of flammable liquids that may be stored in each warehouse, as listed in SEPP33, based on the specific separation distances of the flammable liquids storages areas from the boundary (Ref.1).

Table 4.5 shows that threshold quantities are not exceeded at Warehouses 3A & 3B and **Figure 4.6** shows that the maximum permissible storage quantities of flammable liquids is not exceeded, hence, SEPP 33 does not apply to the DG storage, as all DGs are under the storage screening threshold.

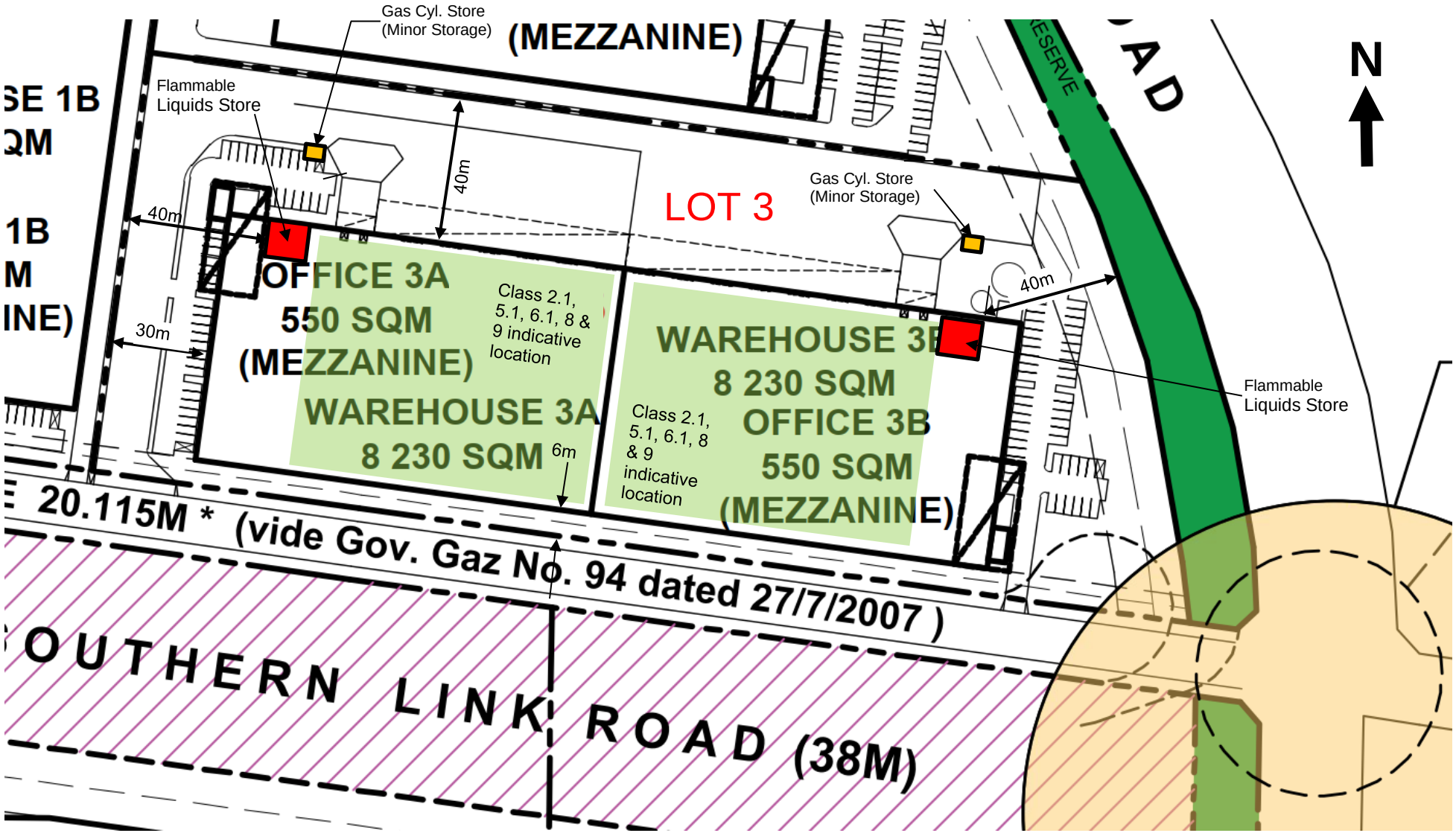


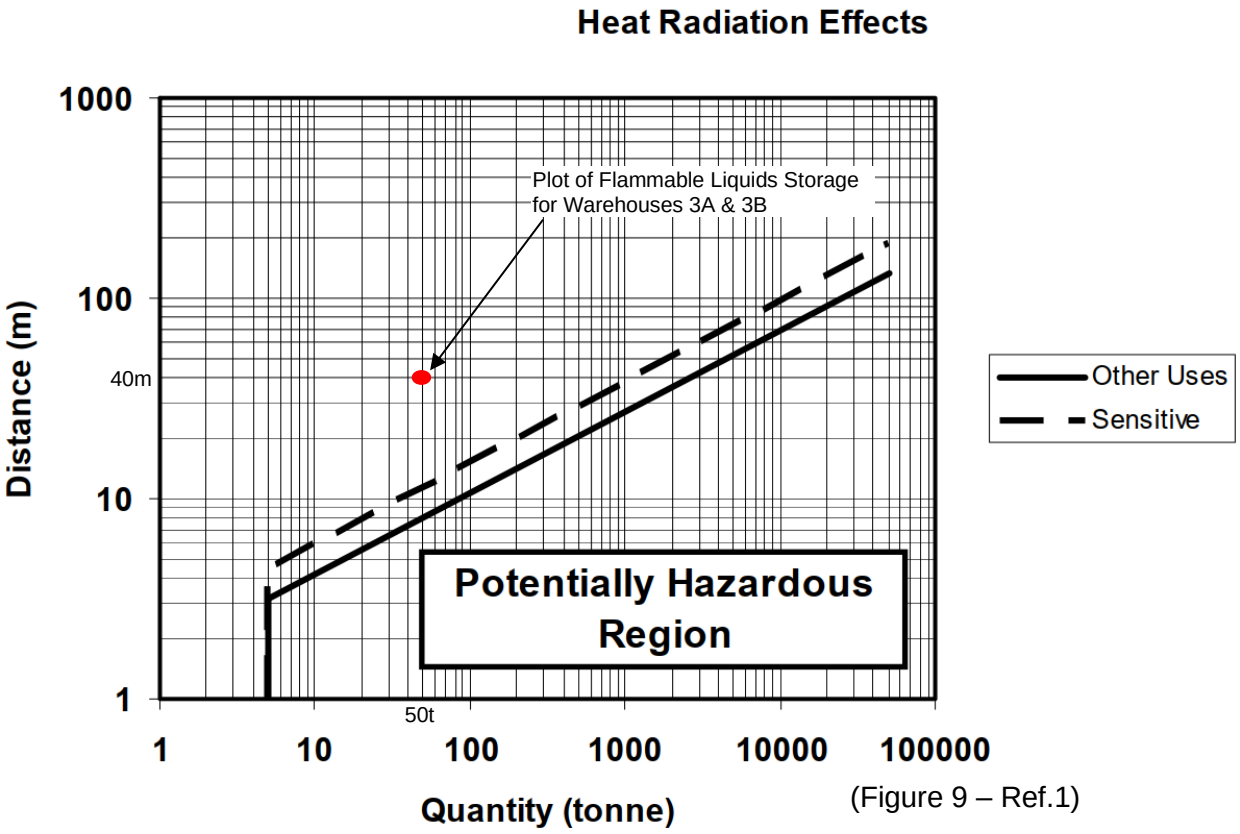
Figure 4.5: Lot 3 – Warehouses 3A & 3B Layout showing DG Locations

Table 4.5: Quantities Stored in Warehouses 3A & 3B and SEPP33 Threshold Values for the Specific DGs Stored

Class	Description	PG	Quantities Stored			SEPP 33 Threshold (Ref.1)	Does SEPP33 Apply?
			Warehouse 3A	Warehouse 3B	Total		
2.1	Aerosols	-	<3,500 kg (LPG)	<3,500 kg (LPG)	9,000 kg	10,000 kg	NO
	Cylinders	-	<1,000 kg (LPG)	<1,000 kg (LPG)			
3	Flammable Liquids	II & III	20,000 kg (PGII) 30,000 kg (PGIII)	-	50,000 kg	2.5×10^6 kg (2,000 t)	NO (See Fig. 4.6 & Note 1 below)
3	Flammable Liquids	II & III	-	20,000 kg (PGII) 30,000 kg (PGIII)	50,000 kg	2×10^{-6} kg (2,000 t)	NO (See Fig. 4.6 & Note 1 below)
4.1	Flammable Solids	II & III	2,000 kg	2,000 kg	4,000 kg	5,000 kg	NO
5.1	Oxidising Substances	II & III	2,000 kg	2,000 kg	4,000 kg	5,000 kg	NO
6.1	Toxic Substances	II & III	1,000 kg	1,000 kg	2,000 kg	2,500 kg	NO
8	Corrosives	II & III	12,000 kg	12,000 kg	24,000 kg	25,000 kg(Note 2)	NO
9	Miscellaneous	III	20,000 kg	20,000 kg	40,000 kg	Not subject to SEPP33	
C1/C2	Combustible Liquids	-	20,000 kg	20,000 kg	40,000 kg	Not subject to SEPP33	

Notes: 1. The flammable liquids stores are located on the north-western side of Warehouse 3A and the north-eastern side of Warehouse 3B, with the closest boundary to the west being 40m for Warehouse 3A and 40m to the north-east for Warehouse 3B from the bund of the flammable liquids stores. The distances to the other boundaries from the storage areas are equal to or greater than the distances to the north-eastern/western boundaries, hence, the boundaries are well separated from the storage and the facility is therefore not within the potentially hazardous region of Figure 9 of Applying SEPP33 (see **Figure 4.6**).

2. The threshold value for Class 8 products has been selected as the lower value of PG II & III, being 25,000 kg (noting that PG III corrosives can be stored up to a quantity of 50,000 kg).



(Figure 9 – Ref.1)

Figure 4.6: Lot 3 – Warehouses 3A & 3B DG Plot Quantity Vs Distance from Boundary

4.3.2 SEPP 33 Transport Assessment (Warehouses 3A & 3B)

It is necessary to assess the impact of transporting DGs on the surrounding arterial roads to and from Warehouses 3A & 3B. As the total quantiites to be stored in both warehouses (cumulative) are below SEPP 33, it can be assumed that the frequency of movements would be low. Therefore, it is considered prudent to review the SEPP 33 transport criteria on the basis of minimum transport load listed in the guideline (Applying SEPP33, Ref.1). **Table 4.6** has been developed based on the minimum load of goods to compare the maximum storage quantity within the warehouses to conceptualise whether the loads would be likely to be exceeded based on the maximum storage quantities.

Table 4.6: SEPP33 Transport Quantity vs Warehouse Storage Limits - Warehouses 3A & 3B

Class	Minimum Load Quantity	Maximum Storage within Each Warehouse
2.1	4.5 tonnes	4 tonnes
3(II)	10 tonnes	20 tonnes
3(III)	No limits	30 tonnes
4.1	2 tonnes	2 tonnes
5.1	5 tonnes	2 tonnes
6.1	3 tonnes	1 tonne
8	5 tonnes	12 tonnes
9	No Limit	20 tonnes
Comb. Liquid	No Limit	20 tonnes

Based on the maximum quantity to be stored in each of the warehouses (Warehouse 3A & 3B) and the SEPP33 load limits, the quantities are unlikely to be exceeded as that would indicate very high turnover of product which would be unlikely to be achieved considering that vehicle movements will be predominantly non-DG products, resulting in the majority of vehicles not carrying DGs. In addition, those movements where DGs are transported as a combined load (Non-DGs and DGs together), the majority of loads would be below the transport placard quantity, which does not exceed the maximum load quantities listed in **Table 4.6**.

Therefore, it is considered that the SEPP33 limits for transport would not be exceeded; hence, additional traffic management plans would not be required. It is noted, that the transport of DGs is covered by the Australian Dangerous Goods Code (ADG, Ref.2) Therefore, incident response will be covered by the transport of DGs via the ADG as appropriate with the loads being carried.

4.4 Lot 4 – Warehouse 4

4.4.1 SEPP 33 Storage Assessment (Warehouse 4)

Figure 4.7 shows the layout of Warehouse 4, including the location of DGs within the warehouse. The figure also shows the location of the warehouse in relation to the surrounding land uses, including separation distances between the warehouses and the boundaries.

Threshold limits for the application of SEPP 33 to Warehouse 4 are presented in **Table 4.7** along with maximum DG quantities that will be stored in the warehouses. **Figure 4.8** shows the maximum permissible quantity of flammable liquids that may be stored in the warehouse, as listed in SEPP33, based on the specific separation distances of the flammable liquids storages areas from the closest boundary (Ref.1).

Table 4.7 shows that threshold quantities are not exceeded at Warehouse 4 and **Figure 4.8** shows that the maximum permissible storage quantities of flammable liquids is not exceeded, hence, SEPP 33 does not apply to the DG store, as all DGs are under the screening threshold.

Table 4.7: Quantities Stored in W/house 4 & SEPP33 Threshold Values for the DGs Stored

Class	Description	PG	Quantities Stored Warehouse 4	SEPP 33 Threshold (Ref.1)	Does SEPP33 Apply?
2.1	Aerosols	-	<7,000 kg (LPG)	10,000 kg	NO
	Cylinders	-	<1,000 kg (LPG)		
3	Flammable Liquids	II & III	20,000 kg (PGII) 30,000 kg (PGIII)	700,000 kg (700 t)	NO (See Fig. 4.8 & Note 1 below)
4.1	Flammable Solids	II & III	4,000 kg	5,000 kg	NO
5.1	Oxidising Substances	II & III	4,000 kg	5,000 kg	NO
6.1	Toxic Substances	II & III	2,000 kg	2,500 kg	NO
8	Corrosives	II & III	20,000 kg	25,000 kg(Note 2)	NO
9	Miscellaneous	II & III	20,000 kg	Not subject to SEPP33	
C1/C2	Combustible Liquids	-	20,000 kg	Not subject to SEPP33	

Notes: 1. The flammable liquids store is located on the south-eastern corner of Warehouse 4, with the closest boundary to the south being 24m to the bund of the flammable liquids store. The distances to the other boundaries from the storage area is greater than the distances to the south, hence, the boundaries are well separated from the warehouse and the facility is therefore not within the potentially hazardous region of Figure 9 of Applying SEPP33 (see **Figure 4.8**).

2. The threshold value for Class 8 products has been selected as the lower value of PG II & III, being 25,000 kg (noting that PG III corrosives can be stored up to a quantity of 50,000 kg).

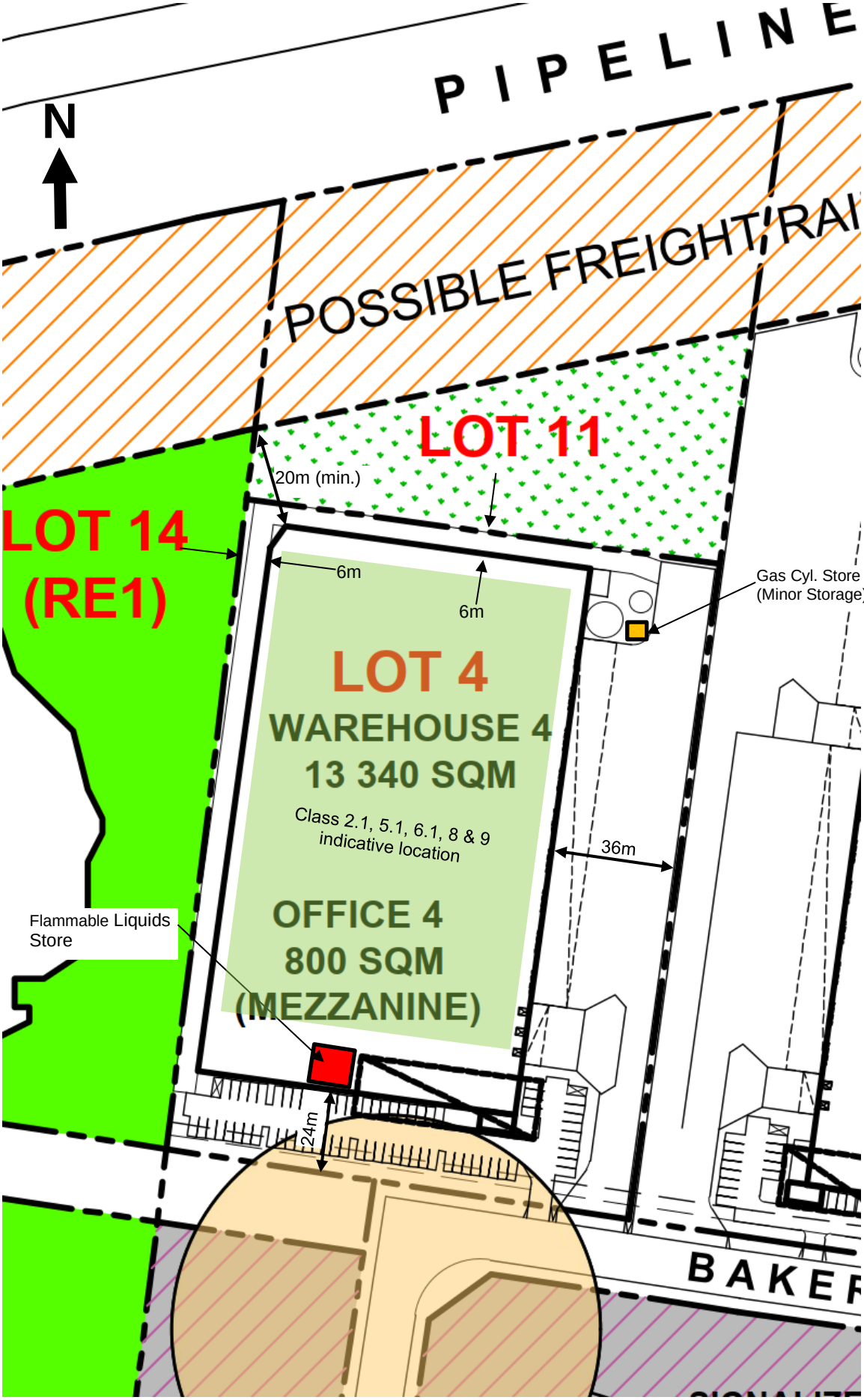
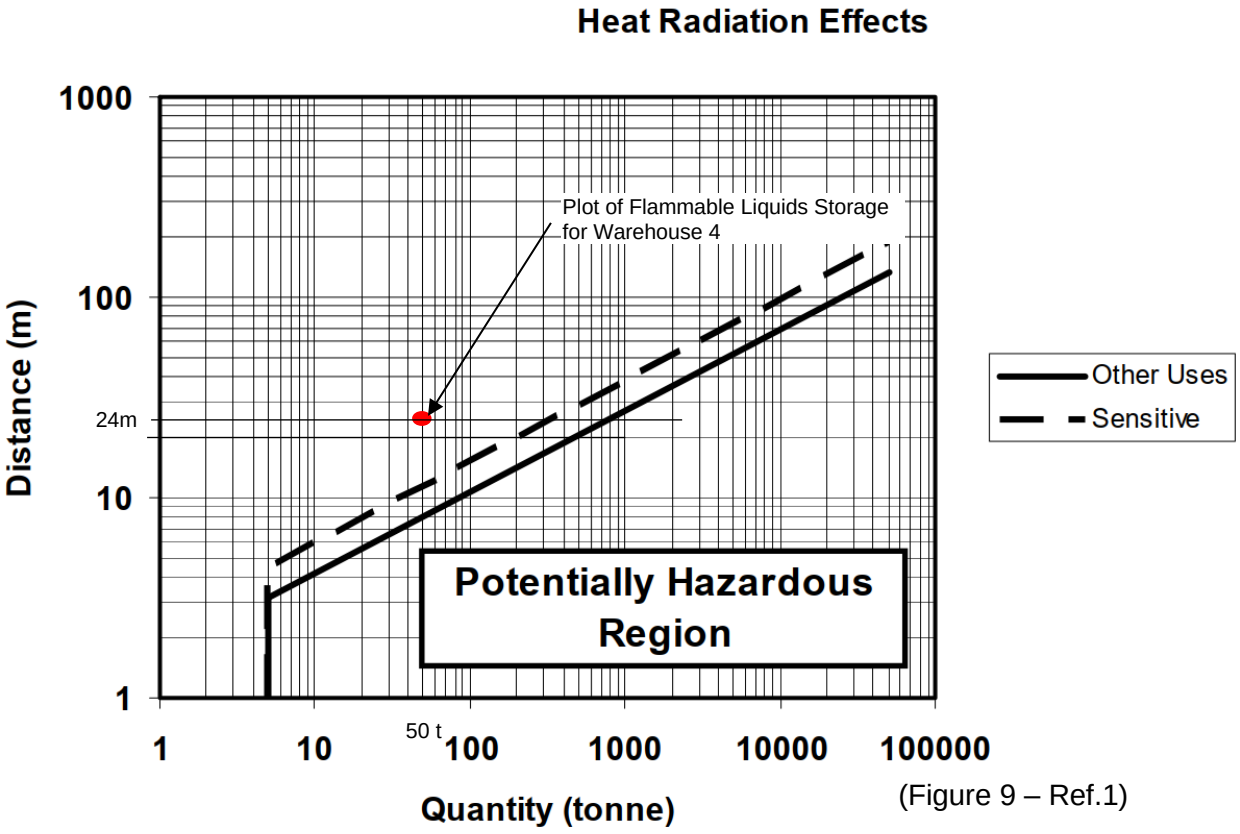


Figure 4.7: Lot 4 – Warehouses 4 Layout showing DG Locations



(Figure 9 – Ref.1)

Figure 4.8: Lot 4 – Warehouses 4 DG Plot Quantity Vs Distance from Boundary

4.4.2 SEPP 33 Transport Assessment (Warehouses 4)

It is necessary to assess the impact of transporting DGs on the surrounding arterial roads to and from Warehouse 4. As the total quantity in the warehouse is below SEPP 33, it can be assumed that the frequency of movements would be low. Therefore, it is considered prudent to review the SEPP 33 transport criteria on the basis of minimum transport load listed in the guideline (Applying SEPP33, Ref.1). **Table 4.8** has been developed based on the minimum load of goods to compare the maximum storage quantity within the warehouses to conceptualise whether the loads would be likely to be exceeded based on the maximum storage quantities.

Table 4.8: SEPP33 Transport Quantity vs Warehouse Storage Limits - Warehouses 4

Class	Minimum Load Quantity	Maximum Storage within Each Warehouse
2.1	4.5 tonnes	8 tonnes
3(II)	10 tonnes	20 tonnes
3(III)	No limits	30 tonnes
4.1	2 tonnes	4 tonnes
5.1	5 tonnes	4 tonnes
6.1	3 tonnes	2 tonnes
8	5 tonnes	20 tonnes
9	No Limit	20 tonnes
Comb. Liquid	No Limit	20 tonnes

Based on the maximum quantity to be stored in the warehouses (Warehouse 4) and the SEPP33 load limits, the quantities are unlikely to be exceeded as that would indicate very high turnover of product which would be unlikely to be achieved considering that vehicle movements will be predominantly non-DG products, resulting in the majority of vehicles not carrying DGs. In addition, those movements where DGs are transported as a combined load (Non-DGs and DGs together), the majority of loads would be below the transport placard quantity, which does not exceed the maximum load quantities listed in **Table 4.8**.

Therefore, it is considered that the SEPP33 limits for transport would not be exceeded; hence, additional traffic management plans would not be required. It is noted, that the transport of DGs is covered by the Australian Dangerous Goods Code (ADG, Ref.2) Therefore, incident response will be covered by the transport of DGs via the ADG as appropriate with the loads being carried.

4.5 Lot 5 – Warehouses 5

4.5.1 SEPP 33 Storage Assessment (Warehouses 5)

Figure 4.9 shows the layout of Warehouses 5, including the location of DGs within the warehouse. The figure also shows the location of the warehouse in relation to the surrounding land uses, including separation distances between the warehouses and the boundaries.

The maximum quantities proposed for storage in Warehouse 5 are listed in **Table 4.9**, along with the threshold limits for the application of SEPP 33 to the warehouses. **Figure 4.10** shows the maximum permissible quantity of flammable liquids that may be stored in each warehouse, as listed in SEPP33, based on the specific separation distances of the flammable liquids storages areas from the boundary (Ref.1).

Table 4.9 shows that threshold quantities are not exceeded at Warehouses 5 and **Figure 4.10** shows that the maximum permissible storage quantities of flammable liquids is not exceeded, hence, SEPP 33 does not apply to the DG storage, as all DGs are under the screening threshold.

Table 4.9: Quantities Stored in W/house 5 & SEPP33 Threshold Values for the DGs Stored

Class	Description	PG	Quantities Stored Warehouse 5	SEPP 33 Threshold (Ref.1)	Does SEPP33 Apply?
2.1	Aerosols	-	<7,000 kg (LPG)	10,000 kg	NO
	Cylinders	-	<1,000 kg (LPG)		
3	Flammable Liquids	II & III	20,000 kg (PGII) 30,000 kg (PGIII)	700,000 kg (700 t)	NO (See Fig. 4.10 & Note 1 below)
4.1	Flammable Solids	II & III	4,000 kg	5,000 kg	NO
5.1	Oxidising Substances	II & III	4,000 kg	5,000 kg	NO
6.1	Toxic Substances	II & III	2,000 kg	2,500 kg	NO
8	Corrosives	II & III	20,000 kg	25,000 kg(Note 2)	NO
9	Miscellaneous	II & III	20,000 kg	Not subject to SEPP33	
C1/C2	Combustible Liquids	-	20,000 kg	Not subject to SEPP33	

Notes: 1. The flammable liquids store is located on the southern side of Warehouse 5, with the closest boundary to the south being 24 m to the bund of the flammable liquids store. The distances to the other boundaries from the storage area is greater than the distances to the south, hence, the boundaries are well separated from the warehouse and the facility is therefore not within the potentially hazardous region of Figure 9 of Applying SEPP33 (see **Figure 4.8**).

2. The threshold value for Class 8 products has been selected as the lower value of PG II & III, being 25,000 kg (noting that PG III corrosives can be stored up to a quantity of 50,000 kg).

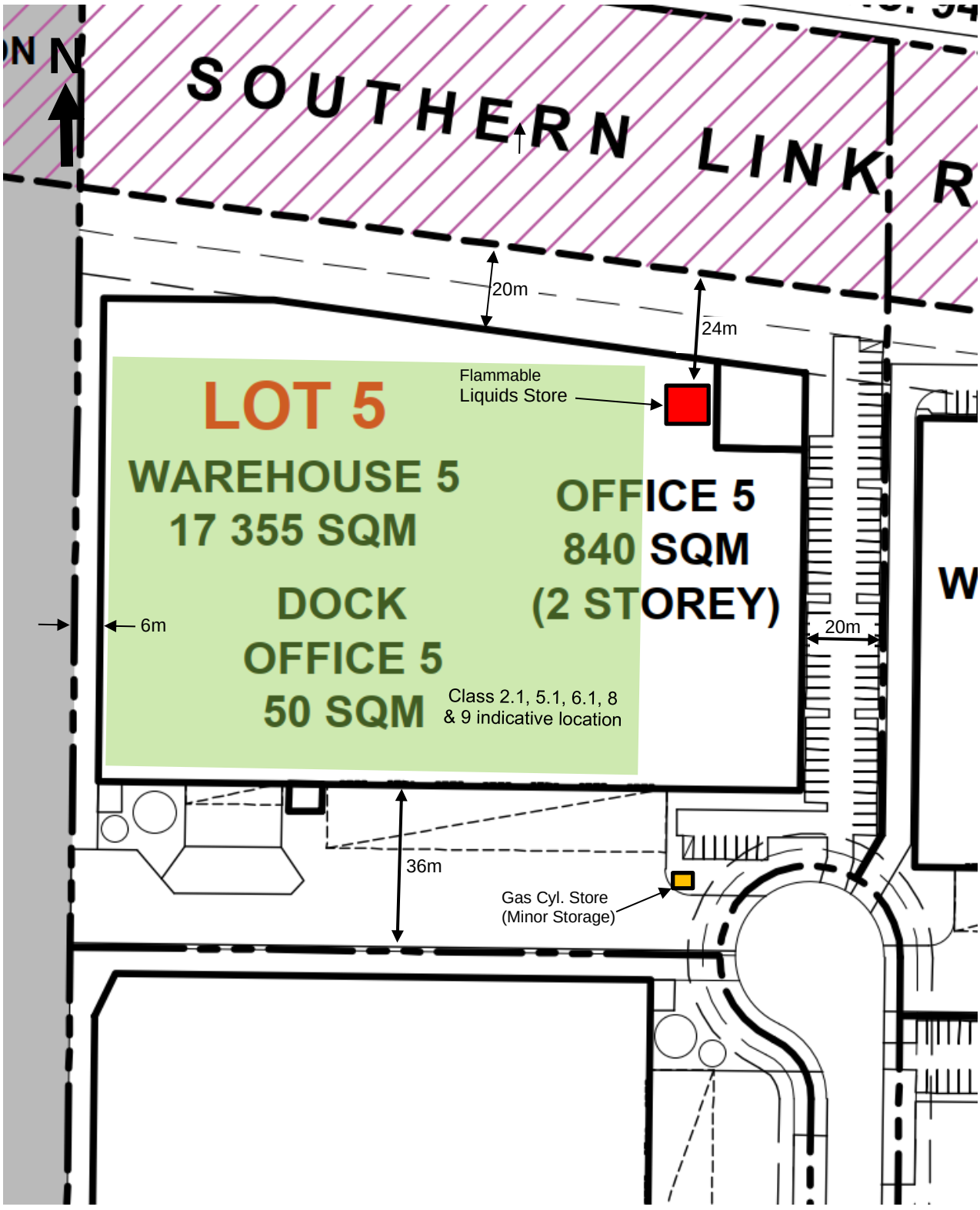
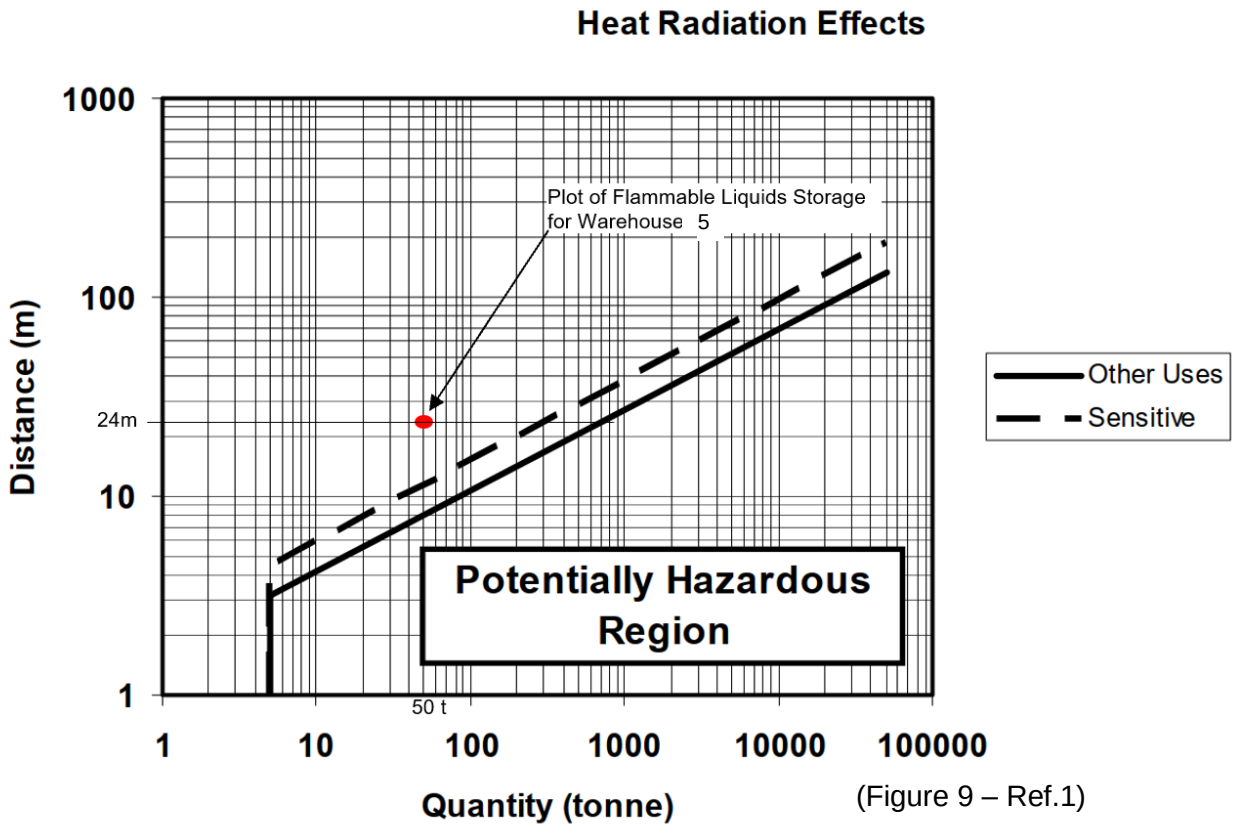


Figure 4.9: Lot 5 – Warehouses 5 Layout showing DG Locations



(Figure 9 – Ref.1)

Figure 4.10: Lot 5 – Warehouses 5A & 5B DG Plot Quantity Vs Distance from Boundary

4.5.2 SEPP 33 Transport Assessment (Warehouse 5)

It is necessary to assess the impact of transporting DGs on the surrounding arterial roads to and from Warehouse 5. As the total quantity to be stored in the warehouse is below SEPP 33, it can be assumed that the frequency of movements would be low. Therefore, it is considered prudent to review the SEPP 33 transport criteria on the basis of minimum transport load listed in the guideline (Applying SEPP33, Ref.1). **Table 4.10** has been developed based on the minimum load of goods to compare the maximum storage quantity within the warehouses to conceptualise whether the loads would be likely to be exceeded based on the maximum storage quantities.

Table 4.10: SEPP33 Transport Quantity vs Warehouse Storage Limits - Warehouses 5A & 5B

Class	Minimum Load Quantity	Maximum Storage within Each Warehouse
2.1	4.5 tonnes	4 tonnes
3(II)	10 tonnes	20 tonnes
3(III)	No limits	30 tonnes
4.1	2 tonnes	2 tonnes
5.1	5 tonnes	2 tonnes
6.1	3 tonnes	1 tonne
8	5 tonnes	12 tonnes
9	No Limit	20 tonnes
Comb. Liquid	No Limit	20 tonnes

Based on the maximum quantity to be stored in Warehouse 5, and the SEPP33 load limits, the quantities are unlikely to be exceeded as that would indicate very high turnover of product which would be unlikely to be achieved considering that vehicle movements will be predominantly non-DG products, resulting in the majority of vehicles not carrying DGs. In addition, those movements where DGs are transported as a combined load (Non-DGs and DGs together), the majority of loads would be below the transport placard quantity, which does not exceed the maximum load quantities listed in **Table 4.10**.

Therefore, it is considered that the SEPP33 limits for transport would not be exceeded; hence, additional traffic management plans would not be required. It is noted, that the transport of DGs is covered by the Australian Dangerous Goods Code (ADG, Ref.2) Therefore, incident response will be covered by the transport of DGs via the ADG as appropriate with the loads being carried.

4.6 Lot 6 – Warehouse 6

4.6.1 SEPP 33 Storage Assessment (Warehouse 6)

Figure 4.11 shows the layout of Warehouse 6, including the location of DGs within the warehouse. Warehouse 6 is a large building located on the eastern side of the southern precinct. **Figure 4.11** also shows the location of the warehouse in relation to the surrounding land uses, including separation distances between the warehouses and the boundaries.

Threshold limits for the application of SEPP 33 to Warehouse 6 are presented in **Table 4.11.** along with maximum DG quantities that will be stored in the warehouses. **Figure 4.11** shows the maximum permissible quantity of flammable liquids that may be stored in the warehouse, as listed in SEPP33, based on the specific separation distances of the flammable liquids storages areas from the boundary (Ref.1).

Table 4.11 shows that threshold quantities are not exceeded at Warehouse 6 and **Figure 4.12** shows that the maximum permissible storage quantities of flammable liquids is not exceeded, hence, SEPP 33 does not apply, as all DGs are under the screening threshold.

Table 4.11: Quantities Stored in W/house 6 & SEPP33 Threshold Values for the DGs Stored

Class	Description	PG	Quantities Stored Warehouse 6	SEPP 33 Threshold (Ref.1)	Does SEPP33 Apply?
2.1	Aerosols	-	<7,000 kg (LPG)	10,000 kg	NO
	Cylinders	-	<1,000 kg (LPG)		
3	Flammable Liquids	II & III	20,000 kg (PGII) 30,000 kg (PGIII)	500,000 kg (50 t)	NO (See Fig. 4.12 & Note 1 below)
4.1	Flammable Solids	II & III	4,000 kg	5,000 kg	NO
5.1	Oxidising Substances	II & III	4,000 kg	5,000 kg	NO
6.1	Toxic Substances	II & III	2,000 kg	2,500 kg	NO
8	Corrosives	II & III	20,000 kg	25,000 kg(Note 2)	NO
9	Miscellaneous	II & III	20,000 kg	Not subject to SEPP33	
C1/C2	Combustible Liquids	-	20,000 kg	Not subject to SEPP33	

Notes: 1. The flammable liquids store is located on the northern end of Warehouse 6, with the closest boundaries to the north being 20m to the bund of the flammable liquids store. The distances to the other boundaries from the storage area is greater than the distances to the north, hence, the boundaries are well separated from the warehouse and the facility is therefore not within the potentially hazardous region of Figure 9 of Applying SEPP33 (see **Figure 4.12**).

2. The threshold value for Class 8 products has been selected as the lower value of PG II & III, being 25,000 kg (noting that PG III corrosives can be stored up to a quantity of 50,000 kg).

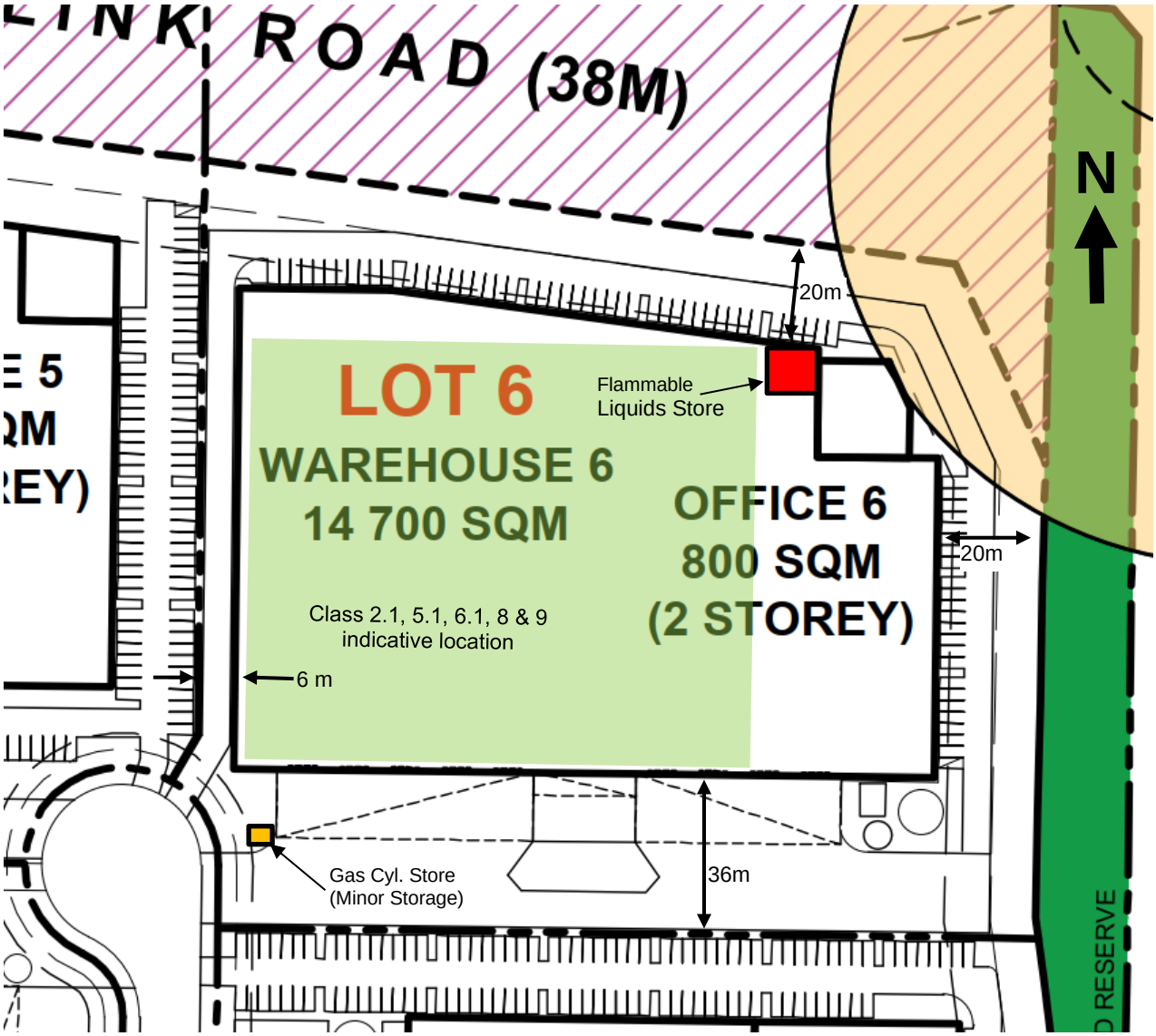
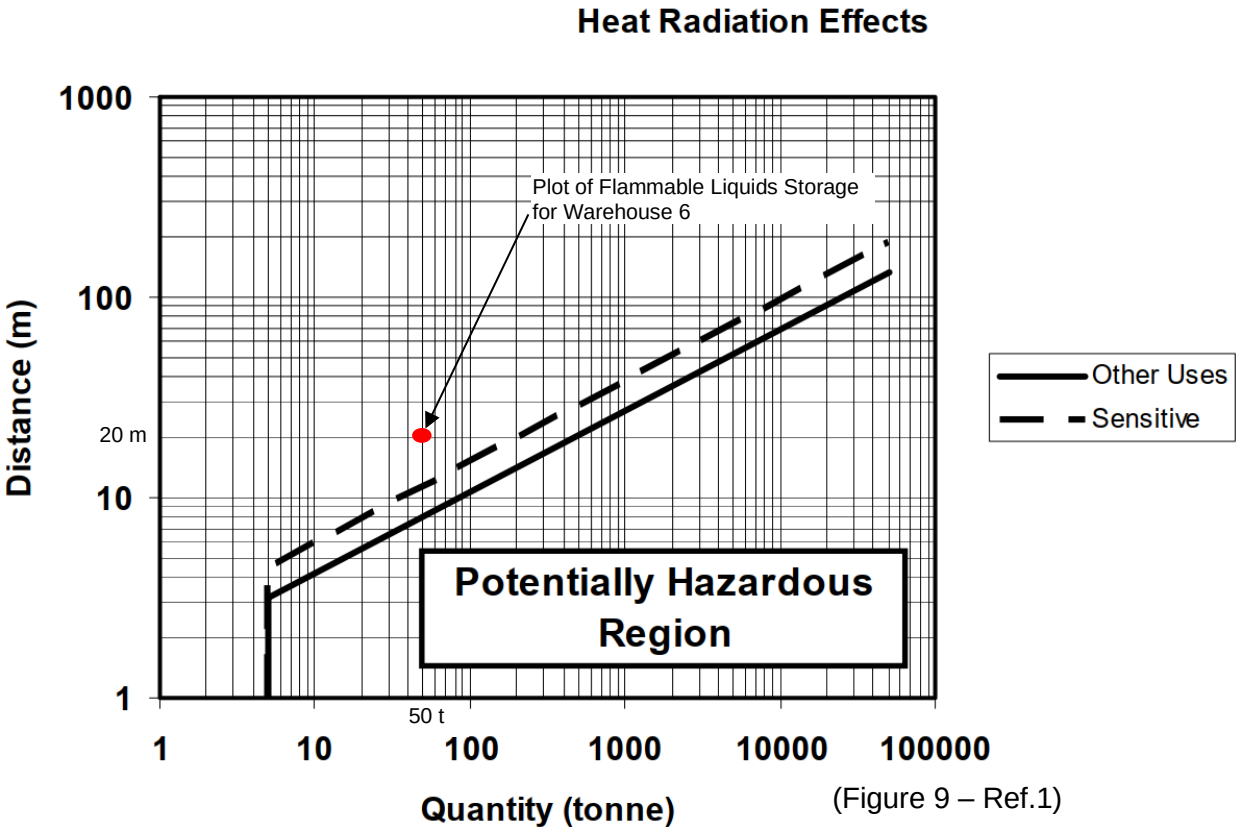


Figure 4.11: Lot 6 – Warehouses 6 Layout showing DG Locations



(Figure 9 – Ref.1)

Figure 4.12: Lot 6 – Warehouses 6 DG Plot Quantity Vs Distance from Boundary

4.6.2 SEPP 33 Transport Assessment (Warehouses 6)

It is necessary to assess the impact of transporting DGs on the surrounding arterial roads to and from Warehouse 6. As the total quantity in the warehouse is below SEPP 33, it can be assumed that the frequency of movements would be low. Therefore, it is considered prudent to review the SEPP 33 transport criteria on the basis of minimum transport load listed in the guideline (Applying SEPP33, Ref.1). **Table 4.12** has been developed based on the minimum load of goods to compare the maximum storage quantity within the warehouses to conceptualise whether the loads would be likely to be exceeded based on the maximum storage quantities.

Table 4.12: SEPP33 Transport Quantity vs Warehouse Storage Limits - Warehouses 6

Class	Minimum Load Quantity	Maximum Storage within Each Warehouse
2.1	4.5 tonnes	8 tonnes
3(II)	10 tonnes	20 tonnes
3(III)	No limits	30 tonnes
4.1	2 tonnes	4 tonnes
5.1	5 tonnes	4 tonnes
6.1	3 tonnes	2 tonnes
8	5 tonnes	20 tonnes
9	No Limit	20 tonnes
Comb. Liquid	No Limit	20 tonnes

Based on the maximum quantity to be stored in the warehouse (Warehouse 6) and the SEPP33 load limits, the quantities are unlikely to be exceeded as that would indicate very high turnover of product which would be unlikely to be achieved considering that vehicle movements will be predominantly non-DG products, resulting in the majority of vehicles not carrying DGs. In addition, those movements where DGs are transported as a combined load (Non-DGs and DGs together), the majority of loads would be below the transport placard quantity, which does not exceed the maximum load quantities listed in **Table 4.12**.

Therefore, it is considered that the SEPP33 limits for transport would not be exceeded; hence, additional traffic management plans would not be required. It is noted, that the transport of DGs is covered by the Australian Dangerous Goods Code (ADG, Ref.2) Therefore, incident response will be covered by the transport of DGs via the ADG as appropriate with the loads being carried.

4.7 Lot 7 – Warehouse 7

4.7.1 SEPP 33 Storage Assessment (Warehouse 7)

Figure 4.13 shows the layout of Warehouse 7, including the location of DGs within the warehouse. Warehouse 7 is located adjacent to the southern link road which is to the north of the site. **Figure 4.13** also shows the location of the warehouse in relation to the surrounding land uses, including separation distances between the warehouses and the boundaries.

Threshold limits for the application of SEPP 33 to Warehouse 7 are presented in **Table 4.13,** along with maximum DG quantities that will be stored in the warehouses. **Figure 4.14** shows the maximum permissible quantity of flammable liquids that may be stored in the warehouse, as listed in SEPP33, based on the specific separation distances of the flammable liquids storages areas from the boundary (Ref.1).

Table 4.13 shows that threshold quantities are not exceeded at Warehouse 7 and **Figure 4.14** shows that the maximum permissible storage quantities of flammable liquids is not exceeded, hence, SEPP 33 does not apply to the storage, as all DGs are under the screening threshold.

Table 4.13: Quantities Stored in W/house 7 & SEPP33 Threshold Values for the DGs Stored

Class	Description	PG	Quantities Stored Warehouse 7	SEPP 33 Threshold (Ref.1)	Does SEPP33 Apply?
2.1	Aerosols	-	<7,000 kg (LPG)	10,000 kg	NO
	Cylinders	-	<1,000 kg (LPG)		
3	Flammable Liquids	II & III	20,000 kg (PGII) 30,000 kg (PGIII)	500,000 kg (500 t)	NO (See Fig. 4.14 & Note 1 below)
4.1	Flammable Solids	II & III	4,000 kg	5,000 kg	NO
5.1	Oxidising Substances	II & III	4,000 kg	5,000 kg	NO
6.1	Toxic Substances	II & III	2,000 kg	2,500 kg	NO
8	Corrosives	II & III	20,000 kg	25,000 kg(Note 2)	NO
9	Miscellaneous	II & III	20,000 kg	Not subject to SEPP33	
C1/C2	Combustible Liquids	-	20,000 kg	Not subject to SEPP33	

Notes: 1. The flammable liquids store is located in the north-eastern corner of Warehouse 7, with the closest boundaries to the eastern side being 20m to the bund of the flammable liquids store. The distances to the other boundaries from the storage area is greater than the distances to the east, hence, the boundaries are well separated from the flammable liquids store and the facility is therefore not within the potentially hazardous region of Figure 9 of Applying SEPP33 (see **Figure 4.14**).

2. The threshold value for Class 8 products has been selected as the lower value of PG II & III, being 25,000 kg (noting that PG III corrosives can be stored up to a quantity of 50,000 kg

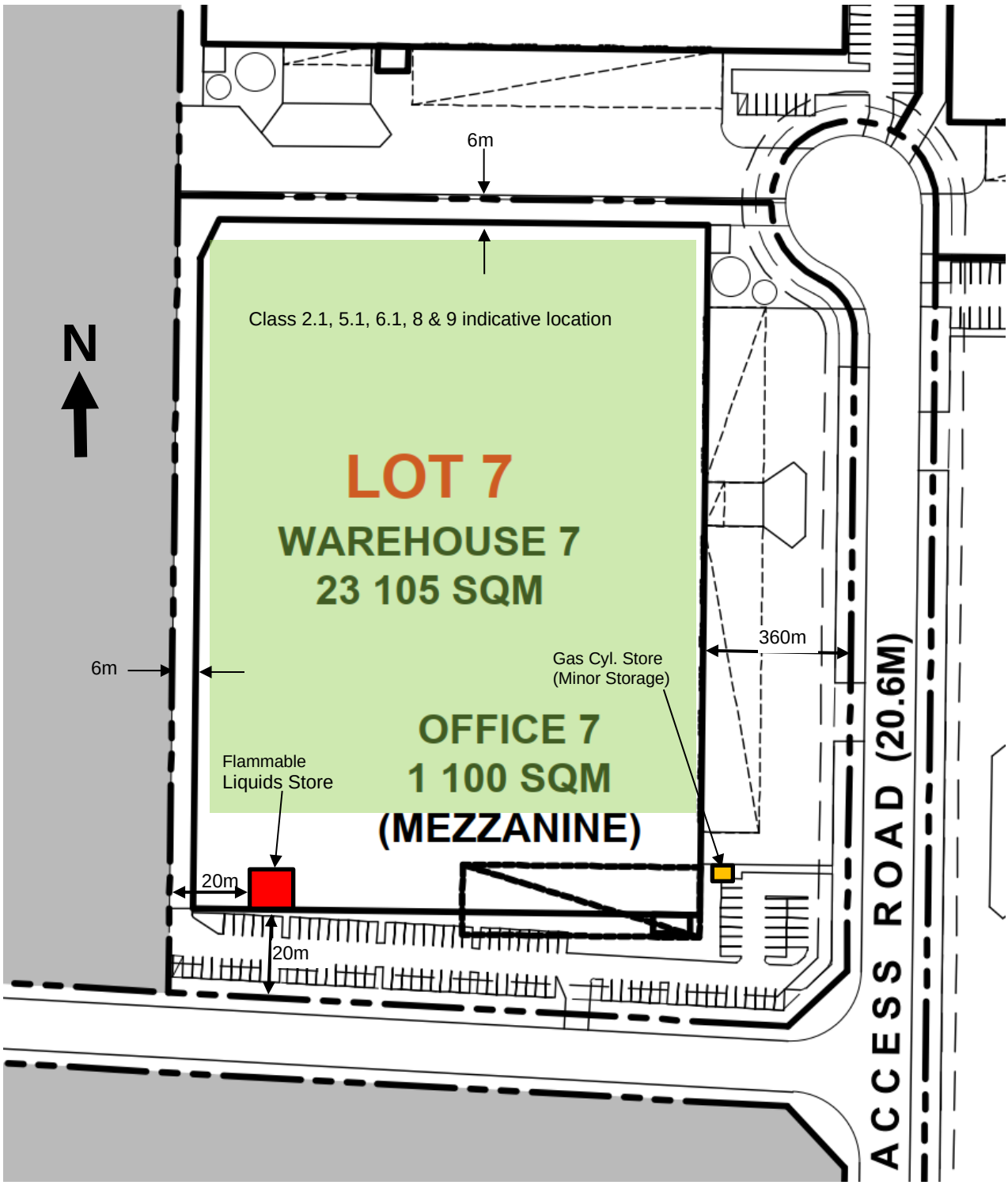
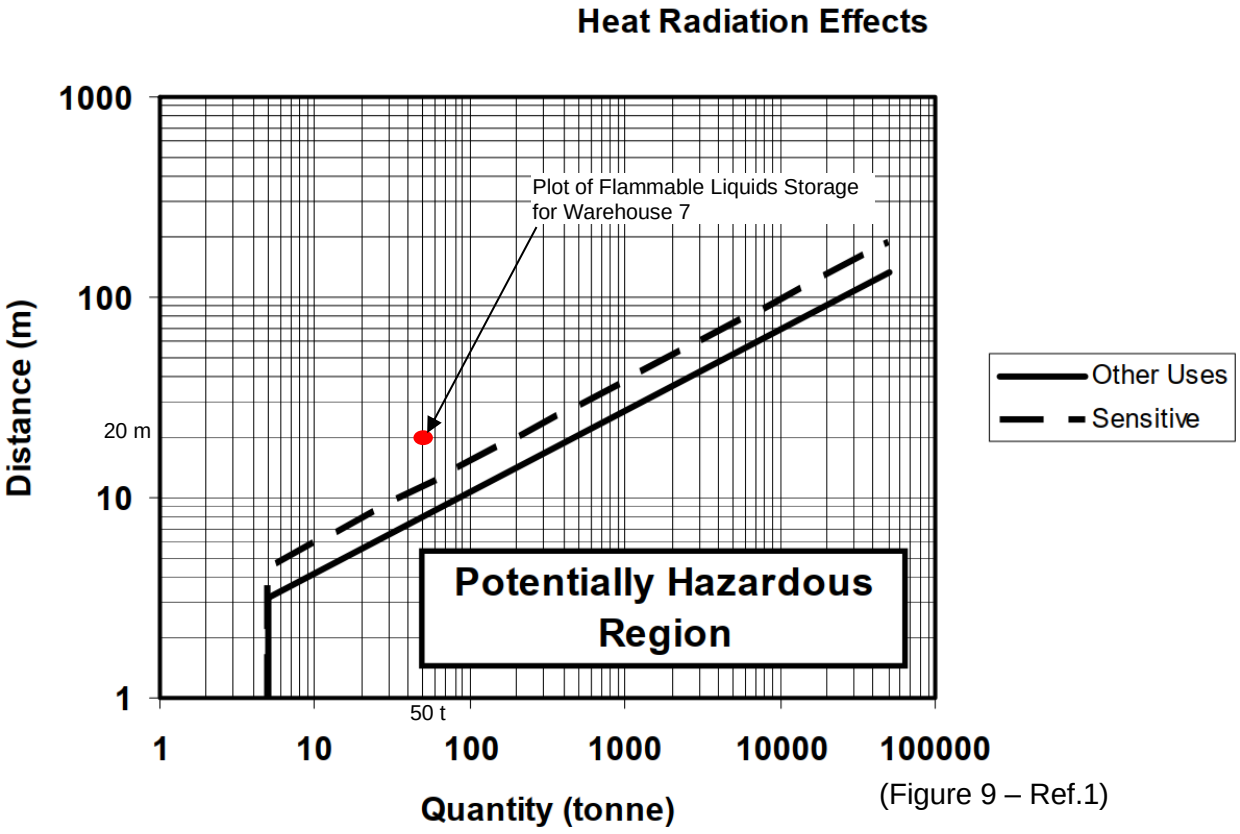


Figure 4.13: Lot 7 – Warehouses 7 Layout showing DG Locations



(Figure 9 – Ref.1)

Figure 4.14: Lot 7 – Warehouses 7 DG Plot Quantity Vs Distance from Boundary

4.7.2 SEPP 33 Transport Assessment (Warehouses 7)

It is necessary to assess the impact of transporting DGs on the surrounding arterial roads to and from Warehouse 7. As the total quantity in the warehouse is below SEPP 33, it can be assumed that the frequency of movements would be low. Therefore, it is considered prudent to review the SEPP 33 transport criteria on the basis of minimum transport load listed in the guideline (Applying SEPP33, Ref.1). **Table 4.14** has been developed based on the minimum load of goods to compare the maximum storage quantity within the warehouses to conceptualise whether the loads would be likely to be exceeded based on the maximum storage quantities.

Table 4.14: SEPP33 Transport Quantity vs Warehouse Storage Limits - Warehouses 7

Class	Minimum Load Quantity	Maximum Storage within Each Warehouse
2.1	4.5 tonnes	8 tonnes
3(II)	10 tonnes	20 tonnes
3(III)	No limits	30 tonnes
4.1	2 tonnes	4 tonnes
5.1	5 tonnes	4 tonnes
6.1	3 tonnes	2 tonnes
8	5 tonnes	20 tonnes
9	No Limit	20 tonnes
Comb. Liquid	No Limit	20 tonnes

Based on the maximum quantity to be stored in the warehouse (Warehouse 7) and the SEPP33 load limits, the quantities are unlikely to be exceeded as that would indicate very high turnover of product which would be unlikely to be achieved considering that vehicle movements will be predominantly non-DG products, resulting in the majority of vehicles not carrying DGs. In addition, those movements where DGs are transported as a combined load (Non-DGs and DGs together), the majority of loads would be below the transport placard quantity, which does not exceed the maximum load quantities listed in **Table 4.14**.

Therefore, it is considered that the SEPP33 limits for transport would not be exceeded; hence, additional traffic management plans would not be required. It is noted, that the transport of DGs is covered by the Australian Dangerous Goods Code (ADG, Ref.2) Therefore, incident response will be covered by the transport of DGs via the ADG as appropriate with the loads being carried.

4.8 Lot 8 – Warehouses 8

4.8.1 SEPP 33 Storage Assessment (Warehouses 8)

Figure 4.15 shows the layout of Warehouse 8, including the location of DGs within the warehouse. The figure also shows the location of the warehouse in relation to the surrounding land uses, including separation distances between the warehouses and the boundaries.

Threshold limits for the application of SEPP 33 to Warehouse 8 are presented in **Table 4.15,** along with maximum DG quantities that will be stored in the warehouses. **Figure 4.16** shows the maximum permissible quantity of flammable liquids that may be stored in the warehouse, as listed in SEPP33, based on the specific separation distances of the flammable liquids storages areas from the boundary (Ref.1).

Table 4.15 shows that threshold quantities are not exceeded at Warehouse 8 and **Figure 4.16** shows that the maximum permissible storage quantities of flammable liquids is not exceeded, hence, SEPP 33 does not apply to the DG storage, as all DGs are under the screening threshold.

Table 4.15: Quantities Stored in W/house 8 & SEPP33 Threshold Values for the DGs Stored

Class	Description	PG	Quantities Stored Warehouse 7	SEPP 33 Threshold (Ref.1)	Does SEPP33 Apply?
2.1	Aerosols	-	<7,000 kg (LPG)	10,000 kg	NO
	Cylinders	-	<1,000 kg (LPG)		
3	Flammable Liquids	II & III	20,000 kg (PGII) 30,000 kg (PGIII)	500,000 kg (500 t)	NO (See Fig. 4.14 & Note 1 below)
4.1	Flammable Solids	II & III	4,000 kg	5,000 kg	NO
5.1	Oxidising Substances	II & III	4,000 kg	5,000 kg	NO
6.1	Toxic Substances	II & III	2,000 kg	2,500 kg	NO
8	Corrosives	II & III	20,000 kg	25,000 kg(Note 2)	NO
9	Miscellaneous	II & III	20,000 kg	Not subject to SEPP33	
C1/C2	Combustible Liquids	-	20,000 kg	Not subject to SEPP33	

Notes: 1. The flammable liquids store is located on the eastern side of Warehouse 8, with the closest boundaries to the eastern side being 20m to the bund of the flammable liquids store. The distances to the other boundaries from the storage area is greater than the distances to the east, hence, the boundaries are well separated from the flammable liquids store and the facility is therefore not within the potentially hazardous region of Figure 9 of Applying SEPP33 (see **Figure 4.14**).

2. The threshold value for Class 8 products has been selected as the lower value of PG II & III, being 25,000 kg (noting that PG III corrosives can be stored up to a quantity of 50,000 kg

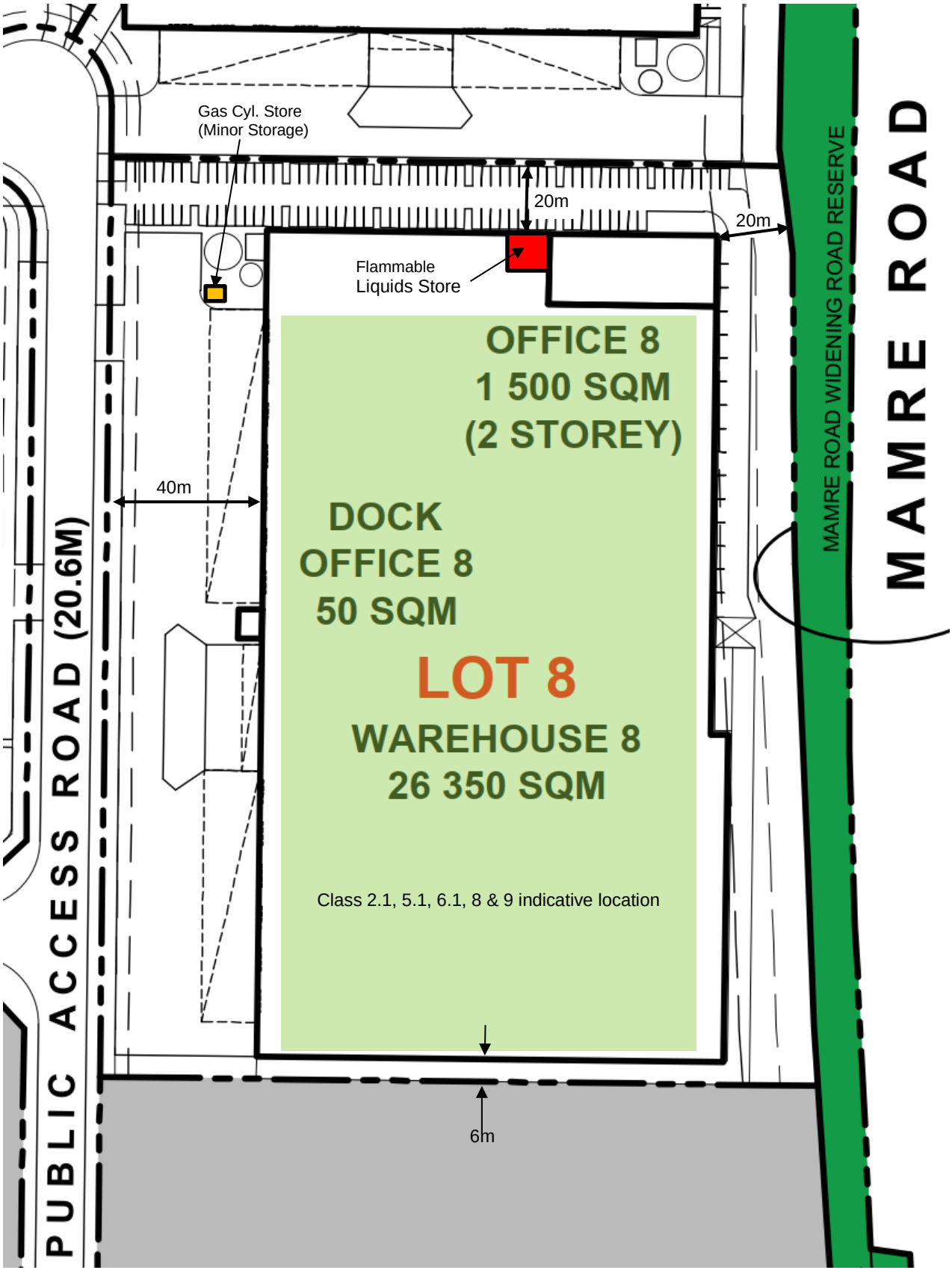
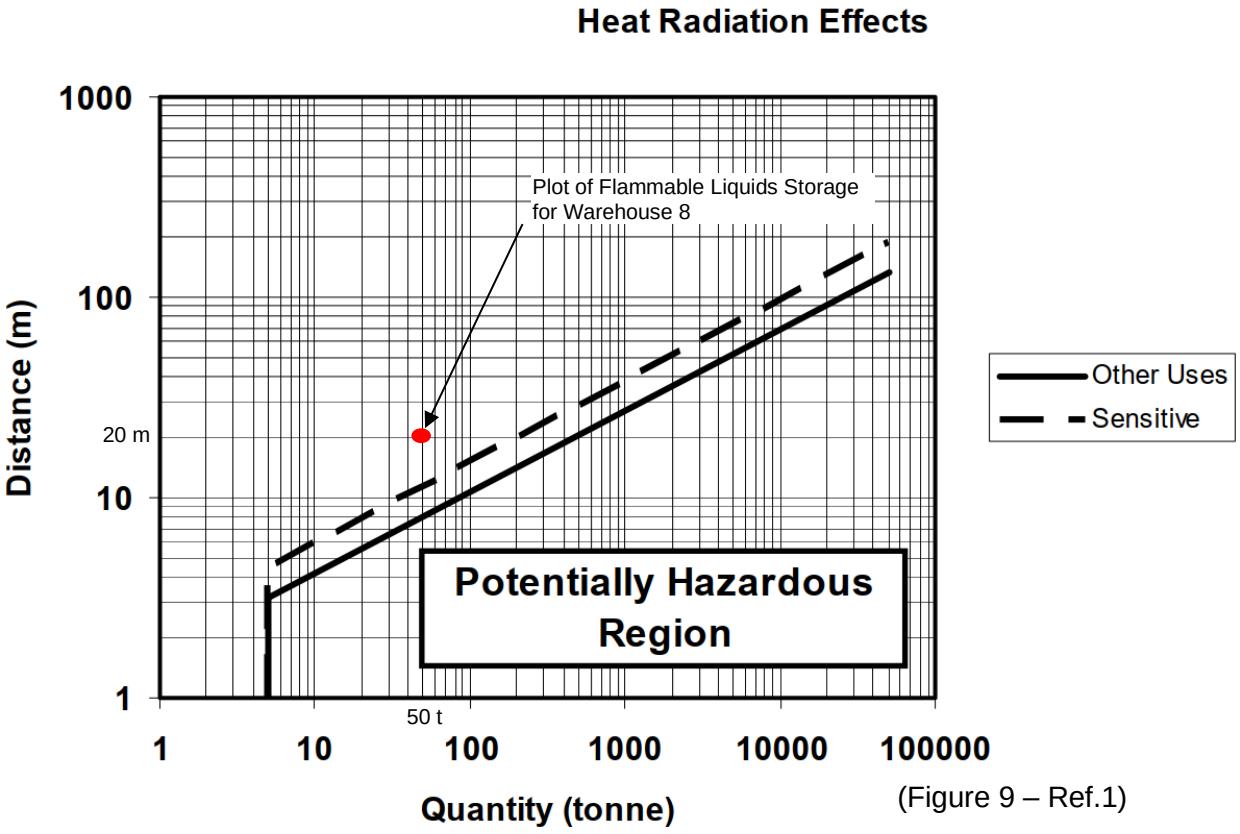


Figure 4.15: Lot 8 – Warehouses 8A & 8B Layout showing DG Locations



(Figure 9 – Ref.1)

Figure 4.16: Lot 8 – Warehouses 8 DG Plot Quantity Vs Distance from Boundary

4.8.2 SEPP 33 Transport Assessment (Warehouses 8A & 8B)

It is necessary to assess the impact of transporting DGs on the surrounding arterial roads to and from Warehouses 8A & 8B. As the total quantiites to be stored in both warehouses (cumulative) are below SEPP 33, it can be assumed that the frequency of movements of DGs would be low. Therefore, it is considered prudent to review the SEPP 33 transport criteria on the basis of minimum transport load listed in the guideline (Applying SEPP33, Ref.1). **Table 4.16** has been developed based on the minimum load of goods to compare the maximum storage quantity within the warehouses to conceptualise whether the loads would be likely to be exceeded based on the maximum storage quantities.

Table 4.16: SEPP33 Transport Quantity vs Warehouse Storage Limits - Warehouses 8A & 8B

Class	Minimum Load Quantity	Maximum Storage within Each Warehouse
2.1	4.5 tonnes	4 tonnes
3(II)	10 tonnes	20 tonnes
3(III)	No limits	30 tonnes
4.1	2 tonnes	2 tonnes
5.1	5 tonnes	2 tonnes
6.1	3 tonnes	1 tonne
8	5 tonnes	12 tonnes
9	No Limit	20 tonnes
Comb. Liquid	No Limit	20 tonnes

Based on the maximum quantity to be stored in Warehouses 8 and the SEPP33 load limits, the quantities are unlikely to be exceeded as that would indicate very high turnover of product which would be unlikely to be achieved considering that vehicle movements will be predominantly non-DG products, resulting in the majority of vehicles not carrying DGs. In addition, those movements where DGs are transported as a combined load (Non-DGs and DGs together), the majority of loads would be below the transport placard quantity, which does not exceed the maximum load quantities listed in **Table 4.16**.

Therefore, it is considered that the SEPP33 limits for transport would not be exceeded; hence, additional traffic management plans would not be required. It is noted, that the transport of DGs is covered by the Australian Dangerous Goods Code (ADG, Ref.2) Therefore, incident response will be covered by the transport of DGs via the ADG as appropriate with the loads being carried.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

An analysis of the application of State Environmental Planning Policy No.33, Hazardous and Offensive Developments (SEPP33) was conducted for the proposed Frasers-Altis development on a parcel of land located on the western side of Mamre Road, Kemps Creek, NSW. The proposed development involves the construction of 10 warehouses on 8 lots within the development, with 2 warehouses being dual occupancy (note that the development comprises a total of 18 Lots, with a number of Staged/Subdivided lots, but only 8 will be developed with warehouses). The analysis was conducted based on a limited quantity of Dangerous Goods (DGs) stored and handled at each warehouse, noting that the development has considered the potential for warehouse tenants to store and handle limited DGs as part of their operations.

The analysis identified that the quantity of DGs held at each warehouse did not exceed the storage threshold levels listed in “Applying SEPP33”(Ref.1). It was also identified that based on the relatively low quantity of DGs stored and handled at the warehouses, and the type of operations proposed at the warehouses (i.e. warehouses are not dedicated DG storage facilities), it was unlikely that the maximum permissible transport quantity and number of vehicle operation listed in “Applying SEPP33”(Ref.1) would be exceeded. Hence, based on the assessment conducted in this study, it is concluded that SEPP33 does not apply to the proposed development.

Based on the assessment conducted in this study and the results indicating that SEPP33 does not apply to any of the warehouses within the development, it is concluded that the requirements of the Hazard and Risk Section of the SEARs (Key Issues, Dot point 9) have been addressed.

5.2 Recommendations

Notwithstanding the conclusion reached above, it is noted that tenants may require to store DGs at quantities exceeding those assessed in this study. Should a tenant require to store and handle additional DGs to those listed for the specific warehouse in this study, it is recommended that a review of the application of SEPP33 should be conducted and where required a Preliminary Hazard Analysis (PHA) study be performed, in accordance with HIPAP No.6 (Ref.3), should it be identified that SEPP33 applies to the specific warehouse.

6.0 REFERENCES

1. Applying SEPP 33 (2011), “Hazardous and Offensive Development Application Guidelines”, NSW Department of Planning and Infrastructure.
2. “The Australian Code for the Transport of Dangerous Goods by Road and Rail”, known as The Australian Dangerous Goods Code or ADG, ed. 7.3, 2015, Federal Office of Road Safety, Canberra, ACT
3. Hazardous Industry Planning Advisory Paper No.6 (2011) – Guidelines for Hazard Analysis, NSW Department of Planning & Industry.

Appendix A

DATA EXTRACTED FROM "APPLYING SEPP33"

A1. SCREENING METHODS

Figure A.1, extracted from "Applying SEPP33" provides details on the application of Figures or Tables from the same document to determine the applied screening Threshold. It shows that:

- for LPG, Table 3 shall be used;
- for Class 3 PG II and III, Figure 9 shall be used (note: Class 3 PGI materials will not be stored at the facility);
- for Class 4, Class 5, Class 6, and Class 8, Table 3 shall be used;
- Class 9 is not subject to SEPP33;
- Combustible Liquids is not subject to SEPP33; and
- For transport, Table 2.

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 A.1: Screening Method to be Used

Figure 9 and Table 3 from "Applying SEPP33" have been extracted and are shown in **Figure A.2**, and **Figure A.3** respectively.

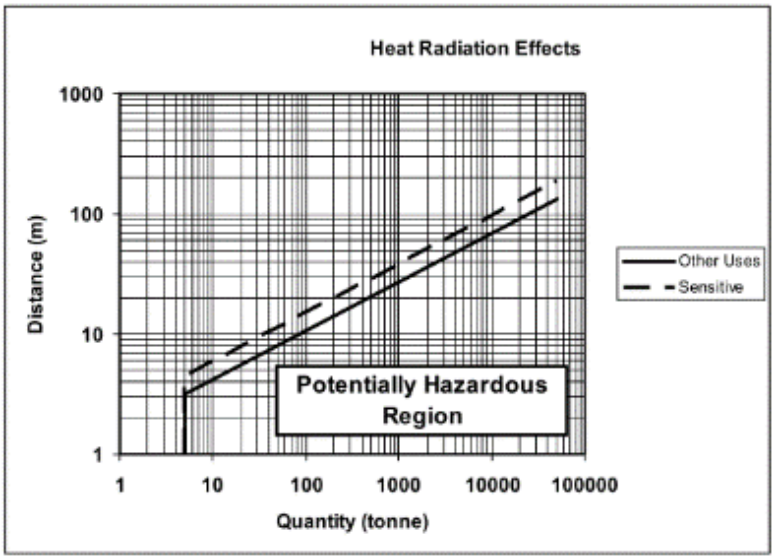


Figure A.2: Class 3 PGII and PGIII Flammable Liquids

Table 3: General Screening Threshold Quantities

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')	
	10 tonne or16 m^3	if stored above ground
	40 tonne or 64 m^3	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

Note: *The classes used are those referred to in the Australian Dangerous Goods Code and are explained in Appendix 7.*

Figure A.3: General Screening Threshold Quantities

Product will be transported to and from the warehouses/industrial facility; hence, it is necessary to review the implications the transport of DGs will have on the surrounding arterial roads. Table 2 from "Applying SEPP33" has been extracted and is shown in **Figure A.4**.

	Vehicle Movements		Minimum quantity*	
	Cumulative	Peak	per load (tonne)	
Class	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 A.4: SEPP33 Transport Thresholds

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

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