TRAFFIX

TRAFFIC IMPACT ASSESSMENT

FOR A PROJECT APPLICATION RELATING TO THE

GOODMAN FIELDER FACILITY
SITE E, LENORE DRIVE

ERSKINE PARK

Prepared on behalf of

HANSEN YUNCKEN PTY. LIMITED

Prepared by

TRAFFIX

TRAFFIC AND TRANSPORT PLANNERS

Ref: 08 075 Report v2
April 2008

Level 2, 55 Mountain Street Broadway NSW 2007 PO Box 697 Broadway 2007
Telephone (02) 9211 3352 Facsimile (02) 9211 2740
Email enquiries@traffix.com.au

TRAFFIX

CONTENTS

1. INTRODUCTION 1

2. LOCATION AND SITE 2

3. OVERVIEW OF EXISTING TRAFFIC CONDITIONS 3
   - 3.1 General Description of Road Environment 3
   - 3.2 Existing Site Traffic Generation 3
   - 3.3 Existing Public Transport Services 3

4. DESCRIPTION OF THE PROPOSED DEVELOPMENT 5

5. TRAFFIC IMPACTS 6
   - 5.1 Planning Context 6
   - 5.2 Predicted Traffic Generation of Facility 6
   - 5.3 Implications of Link to M7 7
   - 5.4 Site Access Design 8
   - 5.5 Internal Design Aspects 8
   - 5.6 Construction Traffic Impacts 9

6. PARKING REQUIREMENTS 10

7. CONCLUSIONS 11

APPENDIX A: Photographic Record
APPENDIX B: Reduced Plans
APPENDIX C: Swept Path Analysis

Level 2, 55 Mountain Street Broadway NSW 2007 PO Box 697 Broadway 2007
Telephone (02) 9211 3352 Facsimile (02) 9211 2740
Email enquiries@traffix.com.au

1. INTRODUCTION

TRAFFIX has been commissioned by Hansen Yuncken Pty Ltd. to undertake a traffic impact assessment to accompany a Project Application for an industrial production facility use on land located on the eastern side of Templar Road, at Erskine Park. The proposed development is on land that comprises an area of 53,910square metres (5.39ha) and relies on access via driveway crossings onto Templar Road which connects to Lenore Drive.

This report documents the findings of our investigations and forms part of the Project Application prepared on behalf of Hansen Yuncken by BBC Consulting Planners, which incorporates an assessment of all the relevant matters for consideration as required under the Environmental Planning and Assessment Act.

The proposed development relates to the construction of an industrial facility with a gross floor area of 13,9905m^2, including a production facility, ancillary office floor areas and associated buildings and storage areas. The overall development will be served by 125 parking spaces.

The development is required to be forwarded for the consideration of the RTA in accordance with the provisions of SEPP (Infrastructure) 2007. The report is structured as follows:

- Section 2: Location and Site
- Section 3: Existing Traffic Conditions
- Section 4: Description of Proposed Development
- Section 5: Parking Requirements
- Section 6: Traffic Generation and Impacts
- Section 7: Conclusions

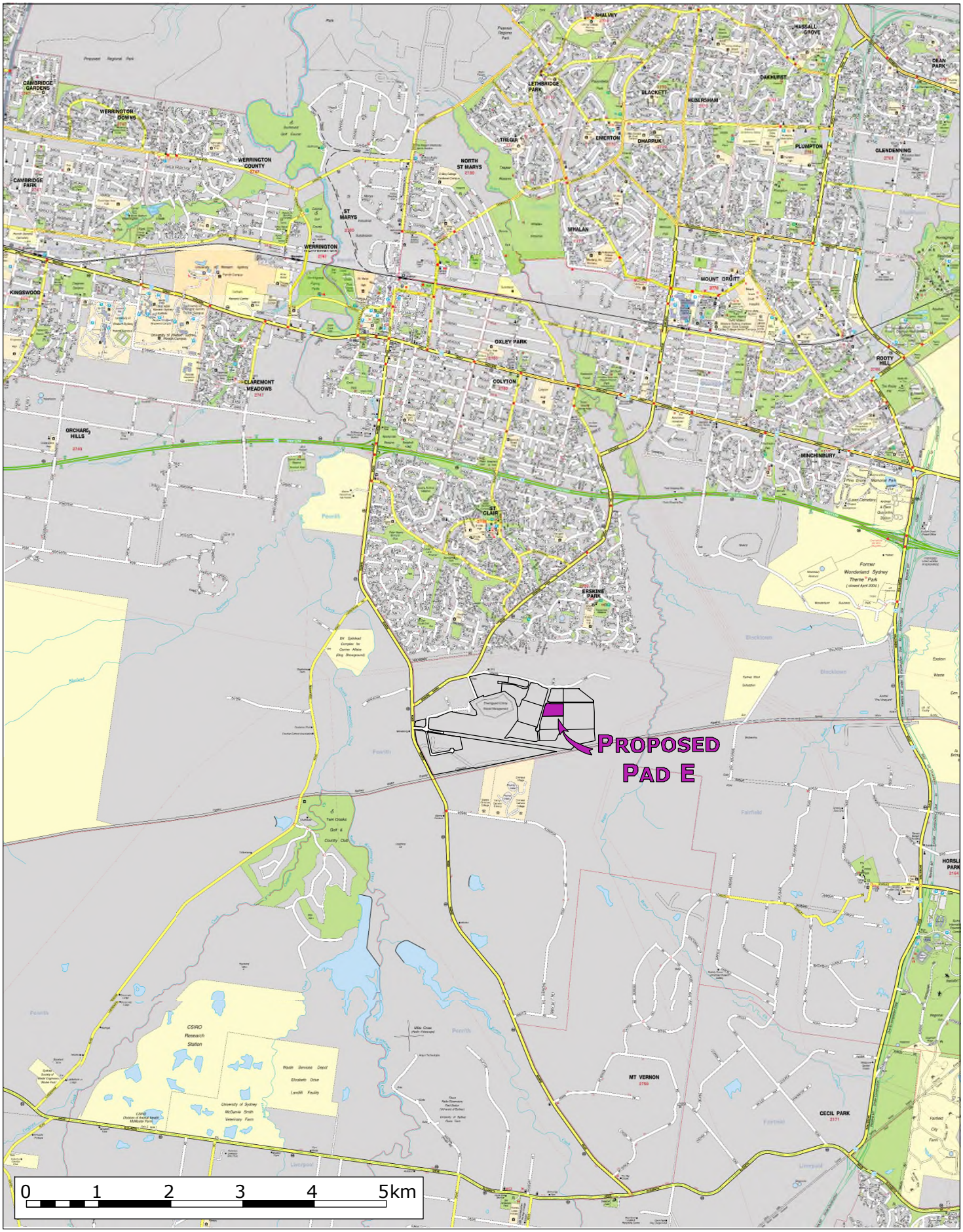
2. LOCATION AND SITE

The overall EPEA site lies to the east of Mamre Road, about 3.8 kilometres south of the M4` Motorway, essentially at the southern outskirts of Erskine Park. The subject site lies within the EPEA and is subject to the controls of Penrith City Council.

The EPEA is surrounded by residential development to the north-west of Erskine Park Road (the suburb of St. Clair) as well as to the south-east of Erskine Park Road (the suburb of Erskine Park). It is bounded by vacant and predominantly rural lands to the east, south and west, with the Sydney Water Supply pipeline delineating a continuous east-west corridor to the south of the site in the vicinity of Kemps Creek.

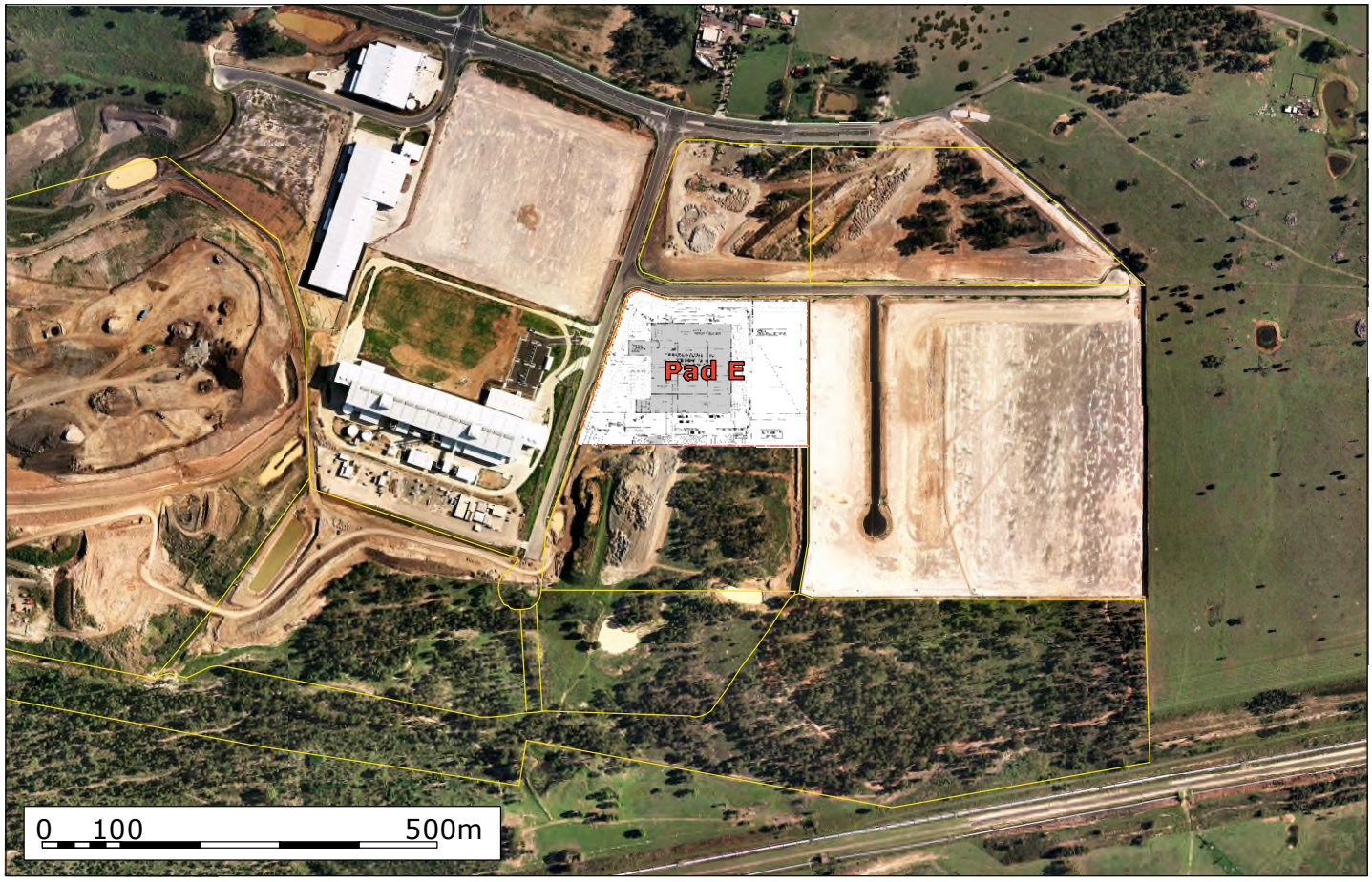
The development site is located on the eastern side of Templar Road within the central part of the EPEA and occupies an area of approximately 5.39 hectares. It is referred to as the "Pad E" site. The site itself is generally rectangular in configuration and has a frontage to Templar Road of about 220 metres; a southern boundary of about 295 metres; a northern boundary of about 225 metres and an eastern boundary of about 195 metres.

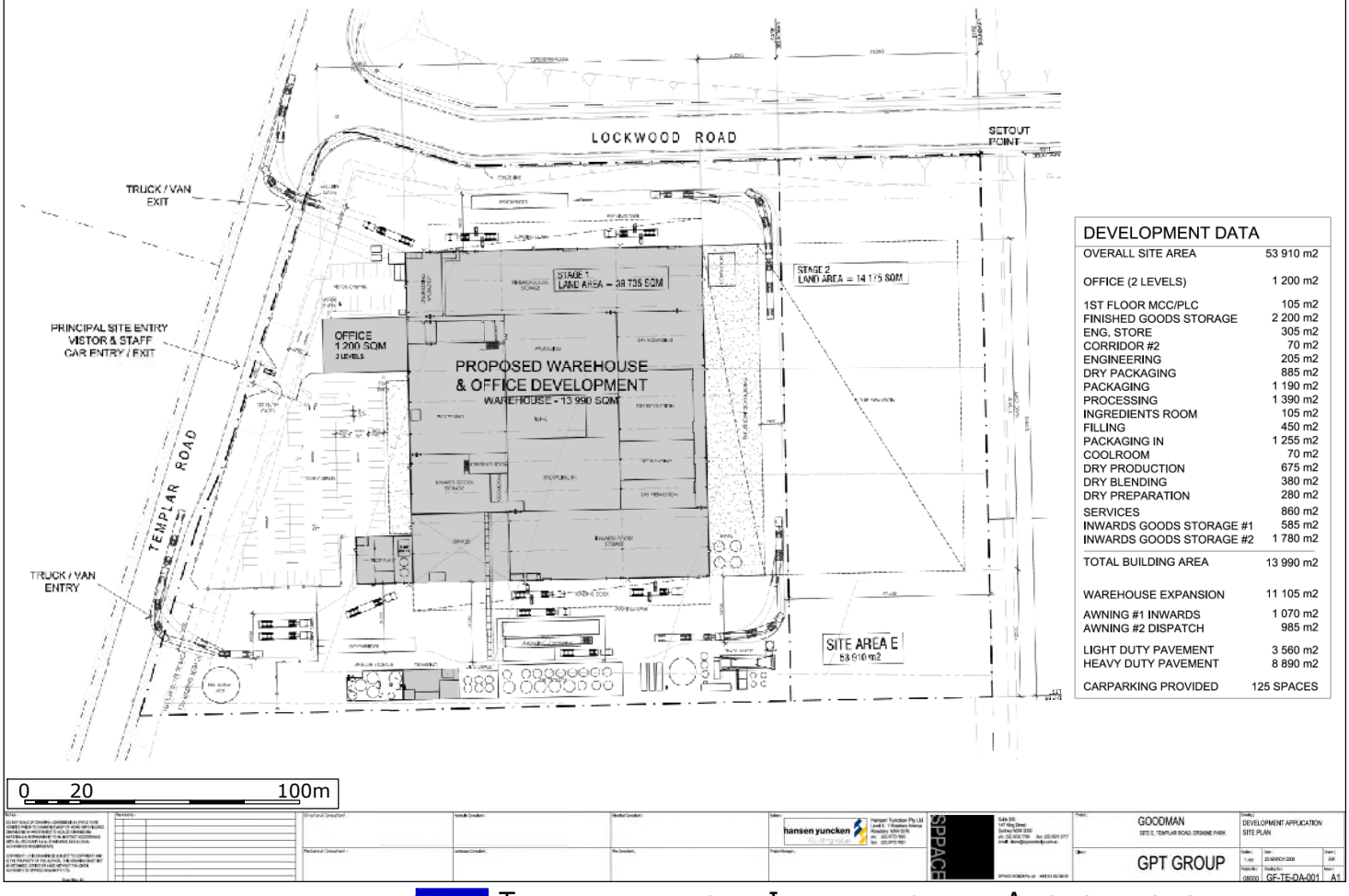
Reference should be made to the Location Plan and Site Plan shown in ***Figure 1*** *and* ***Figure 2*** respectively. Reference should also be made to the photographic record in ***Appendix C***.



Source: UBD 2006

Figure **1** **LOCATION**





DEVELOPMENT DATA	
OVERALL SITE AREA	53 910 m2
OFFICE (2 LEVELS)	1 200 m2
1ST FLOOR MCC/PLC	105 m2
FINISHED GOODS STORAGE	2 200 m2
ENG. STORE	305 m2
CORRIDOR #2	70 m2
ENGINEERING	205 m2
DRY PACKAGING	885 m2
PACKAGING	1 190 m2
PROCESSING	1 390 m2
INGREDIENTS ROOM	105 m2
FILLING	450 m2
PACKAGING IN	1 255 m2
COOLROOM	70 m2
DRY PRODUCTION	675 m2
DRY BLENDING	380 m2
DRY PREPARATION	280 m2
SERVICES	860 m2
INWARDS GOODS STORAGE #1	585 m2
INWARDS GOODS STORAGE #2	1 780 m2
TOTAL BUILDING AREA	13 990 m2
WAREHOUSE EXPANSION	11 105 m2
AWNING #1 INWARDS	1 070 m2
AWNING #2 DISPATCH	985 m2
LIGHT DUTY PAVEMENT	3 560 m2
HEAVY DUTY PAVEMENT	8 890 m2
CARPARKING PROVIDED	125 SPACES

hansen yuncken

GOODMAN
SITE E, TEMPLAR ROAD, ERSKINE PARK
DEVELOPMENT APPLICATION
SITE PLAN

GPT GROUP

GF-TE-DA-001 A1

Figure **2** **SITE**

3. OVERVIEW OF EXISTING TRAFFIC CONDITIONS

3.1 General Description of Road Environment

The existing road hierarchy in the vicinity of the site is shown in ***Figure 3***. Mamre Road is a classified State Road (MR 536) that is under the care and control of the Roads and Traffic Authority. It provides an arterial road function and connects the M4 Motorway to the north of the site (and the Great Western Highway beyond), with Elizabeth Drive to the south of the site, at Mount Vernon. This includes full interchange movements between Mamre Road and the M4 Motorway.

Roper Road continues further south where eastbound on and off ramps are constructed to the M4 Motorway. The on-ramp is via a priority controlled 'T' intersection with Roper Road, which incorporates a right turn storage lane and a left turn deceleration lane. This ramp intersects Roper Road on its western side. The off-ramp intersects Roper Road at a signal controlled 'T' intersection immediately south of the M4 Motorway.

Mamre Road carries single lane traffic flow in each direction to the south of James Erskine Drive and widens on approach to this intersection to provide two through lanes in each direction, with this intersection being under traffic signal control.

Erskine Park Road forms a 'T' junction with Mamre Road, approaching from the east. This intersection is under priority control and incorporates a right turn storage lane for the movement from Mamre Road into Erskine Park Road (south to east).

Further to the east, Lenore Drive forms a signal controlled 'T' intersection with Erskine Park Road. This intersection incorporates turn bays on all approaches.

Further east still, Templar Road forms the stem of a 'T' junction with Lenore Drive and this intersection is also under traffic signal control, with turn bays on all approaches. This intersection will provide the primary access to the subject site and has been designed to accommodate B Double movements.

3.2 Existing Site Traffic Generation

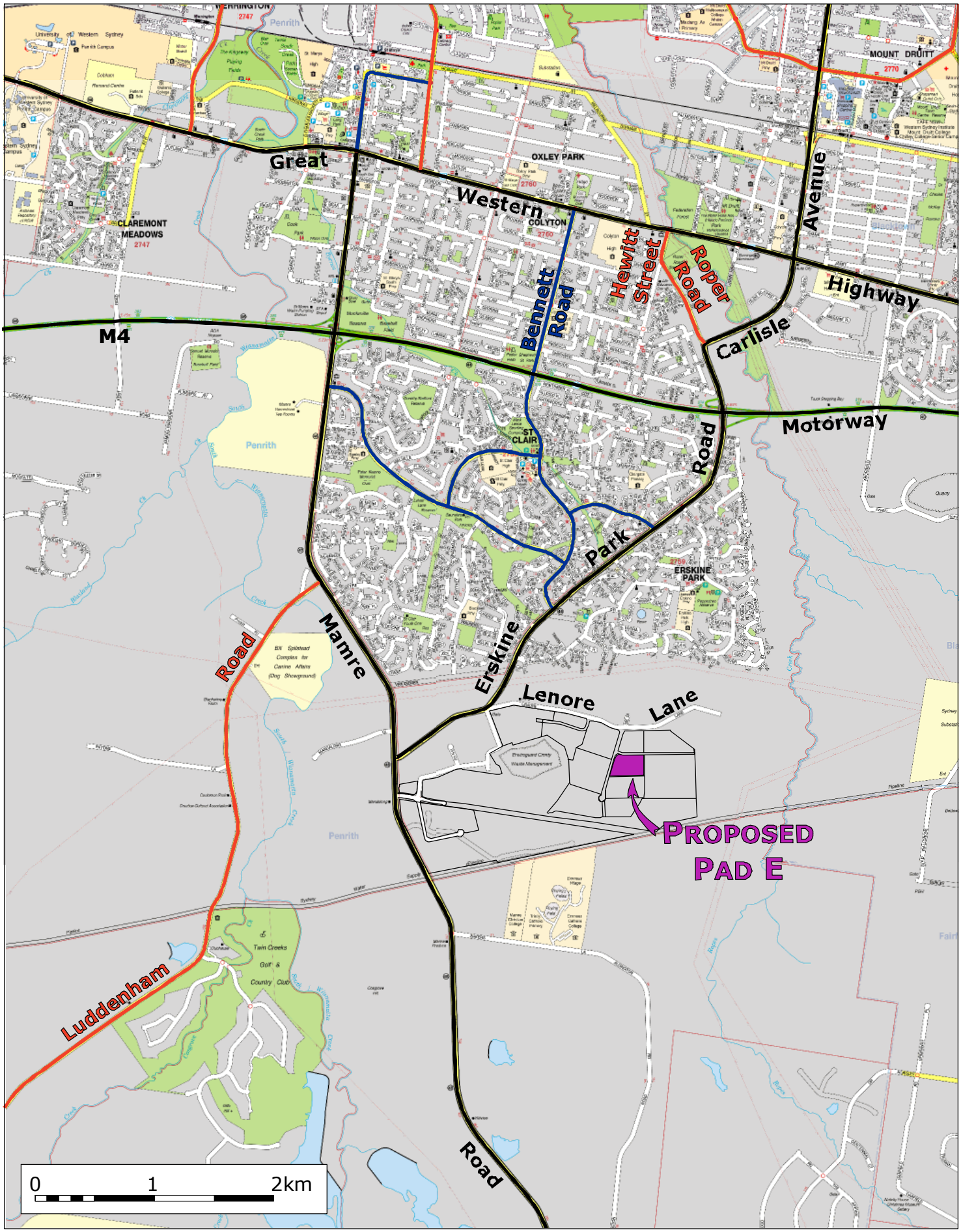
The site is presently vacant and generates no traffic activity.

3.3 Existing Public Transport Services

Existing public transport services in the locality are focussed mainly upon the existing residential catchment to the immediate north of the site that includes Erskine Park and St Clair, with connections to/from the north to St. Marys and Mount Druitt. However, Route 835

connects Liverpool with Penrith and traverses Mamre Road to the west of the subject site, continuing along Erskine Park Road.

It is anticipated that public transport services will improve over time as this area develops. However, in order to assess a worst case scenario, no discount has been applied to account for public transport usage and this is likely to be unchanged for several years.



TRAFFIC IMPACT ASSESSMENT
"PAD E" LENORE LANE, ERSKINE PARK

Prepared on behalf of Hansen Yuncken

Figure **3** **ROAD HEIRARCHY**

4. DESCRIPTION OF THE PROPOSED DEVELOPMENT

The proposed development is documented in detail in the overall Project Application prepared by BBC Consulting Planners on behalf of Hansen Yuncken Pty Ltd. The development application is to obtain approval for the following components:

- the construction of a purpose-built facility for Goodman Fielder to provide improved efficiency and consolidate existing operations that occur remote from the site;
- Provision of a total building area of 13,990 m^2 which comprises:
  - 1,335m^2 production area;
  - 1,390m^2 of factory area; and
  - 1,200m^2 of ancillary office area;
- The warehouse area above includes areas for storage, inward goods and despatch as indicated on the Site Plan provided in Appendix B;
- The factory area above includes areas for engineering, packaging, processing, ingredients, filling, cool room, wet and dry production, blending, preparation and services areas as indicated on the Site Plan provided in Appendix B;
- The development is proposed to operate on a 24/7 basis with 120 employees deployed over all shifts;
- The development is provided with 125 parking spaces, comprising a central staff car park (108 spaces) and a visitor car park (17 spaces);
- Provision of a one-way anti-clockwise flow-through traffic circulation system with entry via a southern driveway and exit via a northern driveway;
- A separate car park access located centrally between the two truck accesses;

Reference should be made to the plans prepared by SPPACE Design Pty. Limited which are submitted separately. These are presented at reduced scale in ***Appendix B***. The traffic and parking impacts of this development are discussed in the following sections.

5. TRAFFIC IMPACTS

5.1 Planning Context

Penrith Council and the Roads and Traffic Authority have agreed the basis upon which the road system should be assessed in 2016, based on the overall EPEA lands at full development potential in 2016. This assessment is based upon the adoption of a trip rate of 15 trips per hectare in the peak period for the majority of the site, including the subject site.

These trip rates thus underpin the strategic assessment of the EPEA undertaken to date. The resulting performance of the road system in 2016 has been the subject of extensive discussion and consultation and the recent construction of traffic signals at the intersection of Templar Road with Lenore Drive have been founded on an implicit level of traffic generation.

The subject site is contained within the area defined by the RTA as "Site B" which incorporates a total site area of 182.9 hectares and includes all sites accessed via Templar Road. The overall "Site B" was predicted to generate 2,652 trips/hr during peak periods (without the link road to the M7), which therefore represents a worst-case scenario.

The site that is the subject of this Project Application, with an area of 5.39 hectares, thus generated an implicit (approximately) *80 veh/hr* during peak periods and this level of generation has been taken into account in the strategic traffic investigations undertaken to date. Based on these investigations, the following improvements have been implemented or are proposed:

The intersection of Erskine Park Road with Mamre Road

This intersection is to be signal-controlled and is funded through developer contributions via Deeds of Agreement.

The intersection of Erskine Park Road with Lenore Drive

This intersection has been constructed to its ultimate geometry with traffic signal control.

The intersection of Lenore Drive with Templar Road

This intersection has been constructed to its ultimate geometry with traffic signal control.

It is also appropriate to determine future traffic generation associated with the subject site based on its known operational requirements.

5.2 Predicted Traffic Generation of Facility

The operational statement prepared by Goodman Fielder provides information on staff and truck movements on a typical weekday. These are as follows, based on worst-case assumptions that includes that all staff travel as a car driver:

Staff

- 40 staff associated with the 0600-1400 hrs shift;
- 40 staff associated with the 1400-2200 hrs shift;
- 10 staff associated with the 2200-0600 hrs shift; and
- 30 staff associated with the 0800-1600 hrs office shift

Trucks

A maximum of 66 trucks per day (66 in, 66 out) with 90% of these (60 trucks) expected to occur over the main 16 hour period covered by the 0600-2200 hrs day and afternoon shifts. This is a worst case scenario as average truck levels are 42 trucks per day.

On the basis of the above, expected traffic volumes will be as shown in Table 1:

Table 1: Predicted Peak Period Hourly Traffic Volumes

	Cars		Trucks		Total	
	In	Out	In	Out	In	Out
AM PEAK						
6am-7am	40	10	6	6	46	16
7am-8am	30	-	6	6	36	6
8am-9am	-	-	6	6	6	6
PM PEAK						
3pm-4pm	-	-	6	6	6	6
4pm-5pm	-	30	6	6	6	36
5pm-6pm	-	-	6	6	6	6

It is evident that peak flows that coincide with the on-street peal commuter peak period will be as follows:

- 42 veh/hr (36 in, 6 out) between 7am and 8am; and
- 42 veh/hr (6 in, 36 out) between 4pm and 5pm.

These flows are less than the 80 veh/hr that have been assumed for this site as discussed in Section 5.1 and it may be concluded that the development will result in an overall improvement in peak period traffic conditions as assessed in the strategic planning undertaken to date.

5.3 Implications of Link to M7

The provision of a possible road link between Lenore Lane at Erskine Park and Wallgrove Road in the vicinity of the M7 (to the east of the EPEA) is proposed by the RTA and is under assessment, although no commitment has been given to it at this time. It is however considered reasonable that the potential implications of this link be given some consideration when assessing the subject application. The link would be an important regional link and therefore the responsibility for the assessment of its impacts is a matter that Penrith Council and the RTA should address, in discharging their respective strategic planning responsibilities.

Conversely, it is unreasonable that individual developments be required to assess the strategic implications of this link and to accommodate changes that may or may not be required.

Notwithstanding, it is understood that while the provision of the link will alter traffic distributions to individual developments, overall traffic levels through intersections will not appreciably alter, with minimal use of the link road by through traffic travelling between Erskine Park Road and the M7. To the extent that adjustments to intersections may be required to accommodate altered turning movement patterns, these can be accommodated within the planned road reservations.

In summary, it is considered that the future provision of a link road, should it occur, would not be an impediment to the subject development application.

5.4 Site Access Design

The truck access is via a southern entry driveway and a northern exit driveway, which establish a one-way anti-clockwise internal circulation system. These driveways are designed to accommodate a 25 metre B Double as shown in ***Appendix C***. The design complies with AS 2890.2.

The car access is via a separate combined entry-exit driveway and is fully compliant with AS 2890.1. A separate roadway is provided to a segregated visitor parking area. It is recommended that a single disabled space be provided within the visitor area (with 17 spaces); with 2 disabled spaces within the main visitor car park (with 108 spaces).

Sight distances at these driveways are excellent.

In summary, the access arrangement is very satisfactory for the moderate predicted traffic volumes and will ensure the safe and efficient operation of the development.

5.5 Internal Design Aspects

Council's Off Street Parking DCP embodies the RTA's Guideline for internal design aspects. The RTA's Guideline similarly endorses the use of AS 2890.1 and AS 2890.2. The design complies with these standards and accordingly, Council's requirements are met. The following factors are noteworthy:

- The entry and exit driveways for both cars and trucks are all secured by gates;
- The internal circulation system is designed to accommodate all classes of vehicles, up to and including B Doubles. Internal access by B Doubles is shown in ***Appendix C***. All truck and car parking will be wholly contained within the site; and
- The car parking areas have been designed to comply with the requirements of AS 2890.1 and will operate satisfactorily. Parking for visitors is also physically segregated internally from truck movements.

The proposed access and internal design is shown on the DA Plans prepared by SPPACE Design, as reproduced in ***Appendix B***. In summary, the internal design arrangements will operate safely and efficiently.

5.6 Construction Traffic Impacts

The site is readily accessible via Templar Road and construction impacts associated with the development can be dealt with as a normal consent condition. This approach would also enable detailed input to be provided from the project manager/builder in relation to the specific impacts associated with the various stages of work.

It is noted that safe access is available via the signal-controlled intersection of Templar Road with Lenore Drive and this has been designed to accommodate higher volumes than will occur during construction.

6. PARKING REQUIREMENTS

Section 4.4 of the EPEA Development Control Plan requires that adequate on site parking be provided to satisfy the demands generated by developments within the EPEA. In addition, a key objective is to eliminate the need for kerb side parking and congestion on the public road network. To this end, parking rates are provided for specific types of floor space. These can be varied by Council where considered justified. In addition, for major developments the proponent may refer to the parking requirements of the RTA's Guide to Traffic Generating Developments. These RTA rates have been established on the basis of extensive surveys and this research even precedes the more recent rationalisation into larger and more efficient facilities (with fewer workers).

In light of these comments the application of Council and RTA parking rates to the proposed development results in the requirements shown in Table 2.

Table 2: Comparative Parking Requirements of Development

Land Use	GFA (m^2)	NFA (m^2)	Council DCP Requirement		RTA Guideline Requirement	
			Rate (NLA)	Spaces	Rate (GFA)	Spaces
Production Facility	12,790	12,790	1/100m^2	128	1/300m^2	43
Office	1,200	1,200	1/40m^2	30	1/300m^2	4
TOTAL	**27,225**	**27,225**		**158**		**47**

Note 1: Includes warehouse, storage, amenities as discussed in Section 4

It can be seen that the site requires between 158 and 47 spaces depending upon which rate is applied. The development proposes 125 spaces which is nevertheless considered satisfactory having regard for the known operational characteristics of the development, which has a maximum of 70 staff on-site during the main day and afternoon shifts. The additional 55 spaces thus make allowance for some degree of shift overlaps and in this regard, staggered arrivals and departures will typically occur over a 30 minute period.

This outcome is considered very satisfactory as demands associated with large distribution uses such as those proposed result in a significant spread of activity with staff rosters that result in reduced peak demands.

Conversely, compliance with Council's requirement would result in a significant oversupply which would be a waste of resources. Finally, the facility is a purpose-built building for the long term occupancy of Goodman Fielder.

7. CONCLUSIONS

The following matters are noteworthy:

- *The site enjoys excellent access to and from the arterial road network, using the road network that has been developed and constructed;*
- *The expected generation from the development site is less than the generation that has been planned for this site (and the broader EPEA area generally) so that the road system will operate satisfactorily;*
- *The proposed Goodman Fielder operation is a low order industrial use, with traffic demands at peak times that are moderate based on any assessment, with peak flows of only 42 veh/hr;*
- *The proposed access arrangements are satisfactory. In addition, visitor cars and trucks have been physically segregated to maximise safety;*
- *The resulting total floor area within the site will require between 47 spaces and 158 spaces based on RTA and Council requirements respectively. In response to this, the development proposes 125 spaces which is nevertheless satisfactory having regard for the known operational requirements of this purpose-built facility; and*
- *The internal design arrangements comply with AS2890.1 and AS2890.2.*

It is concluded that the proposed development is supportable on traffic planning grounds. The traffic impacts associated with the development are less than planned for this site in the strategic assessments.

APPENDIX A:

Photographic Record

View looking north along Mamre Road on approach to Erskine Park Road.

View looking north-east along Erskine park Road towards Lenore Drive.

View looking south-west along Erskine Park Road at Lenore Drive.

View looking east along Lenore Drive towards Templar Road.

TRAFFIX

APPENDIX B:

Reduced Plans

TRAFFIX

APPENDIX C:

Swept Path Analysis

25M B DOUBLE 15M RAD

Tractor Width	: 2.50	Lock to Lock Time	: 6.00
Trailer Width	: 2.50	Steering Angle	: 17.20
Tractor Track	: 2.50	Articulating Angle	: 70.00
Trailer Track	: 2.50		

GHBRIDGE

TRANS.

AWNING #2 DISPATCH
985 m2

FINISHED GOODS
STORAGE
2195 m2

DRY PACKAGING
885 m2

PACKAGING
1190 m2

DRY PRODUCTION
675 m2

FILLING

TURE EXPANSION

5 m2

25m B Double Access
TRAFFIX
1 in 400 at A3

PACKAGING IN
1255 m2

DRY BLENDING
380 m2

DRY PREPARATION
280 m2

COOLROOM
70 m2

WAREHOUSE
8720 m2

INWARDS GOODS
STORAGE
1780 m2

POWDER SILOS

LOGISTICS
OFFICE

AWNING #1 INWARDS
1070 m2

TANKER UNLOADING/WASHING
B DOUBLES / TRAILER

UPPER LEVEL ACCESS FOR TO TANKERS

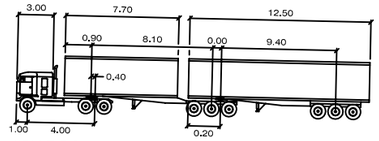
UP

TANKER LOADING/WASHING
TRAILER & RIGID ONLY

OIL STORAGE

TRADE
WASTE
TANK

TRADE WASTE

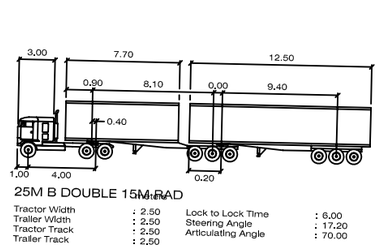


25M B DOUBLE 15M RAD

Tractor Width	: 2.50	Lock to Lock Time	: 6.00
Trailer Width	: 2.50	Steering Angle	: 17.20
Tractor Track	: 2.50	Articulating Angle	: 70.00
Trailer Track	: 2.50		

SITE AREA E
52 200 m2

25m B Double Access
TRAFFIX
1 in 400 at A3



25M B DOUBLE 15M RAD

Tractor Width	: 2.50	Lock to Lock Time	: 6.00
Trailer Width	: 2.50	Steering Angle	: 17.20
Tractor Track	: 2.50	Articulating Angle	: 70.00
Trailer Track	: 2.50		

25m B Double Access
TRAFFIX
1 in 400 at A3

TEMPLAR ROAD

STAFF CARPARK
100 SPACES

DRY EXTERNAL PLANT EQUIPMENT

LG PILOT PLANT

5 MW BOILER

AUTO GATE

AUTO GATE

WEIGHBRIDGE

BOOSTER

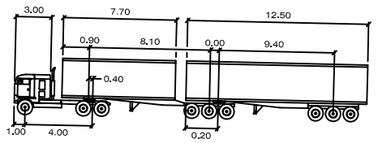
FIRE WATER TANK
500,000L
4.0m HIGH

VINEGAR STORAGE

SETBACK

SETBACK

1ST FLOOR OFFICE
ABOVE GROUND FLOOR OFFICE
600m2



25M B DOUBLE 15M RAD

Tractor Width	: 2.50	Lock to Lock Time	: 6.00
Trailer Width	: 2.50	Steering Angle	: 17.20
Tractor Track	: 2.50	Articulating Angle	: 70.00
Trailer Track	: 2.50		

8754mm

AUTO GATE

WEIGHBRIDGE

AWNING #2 DISPATCH
985 m2

COMMS

TEMPORARY COGEN

TRANS.

TRANS.

SWITCHBOARD ROOM

FITTING WORKSHOP (VENT TO ROOF)

LOGISTICS OFFICE

FINISHED GOODS STORAGE
2195 m2

VISITOR CARPARK
19 SPACES

ENG. STORE
305 m2

CORRIDOR #2
70 m2

RECEPTION

KITCHENETTE

MANUFACTURING CORRIDOR

DIS.

CLNR

F.AID

OFFICE

CORRIDOR

ENGINEERING
282 m2

LAB

WASH ROOM

25m B Double Access
TRAFFIX
1 in 400 at A3