



# traffic impact assessment

## for a proposed off-site reserve at templar road, erskine park

prepared on behalf of Hansen Yuncken by **Traffix** traffic & transport planners  
ref: 08 267 v4 december 2008



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# 1. introduction

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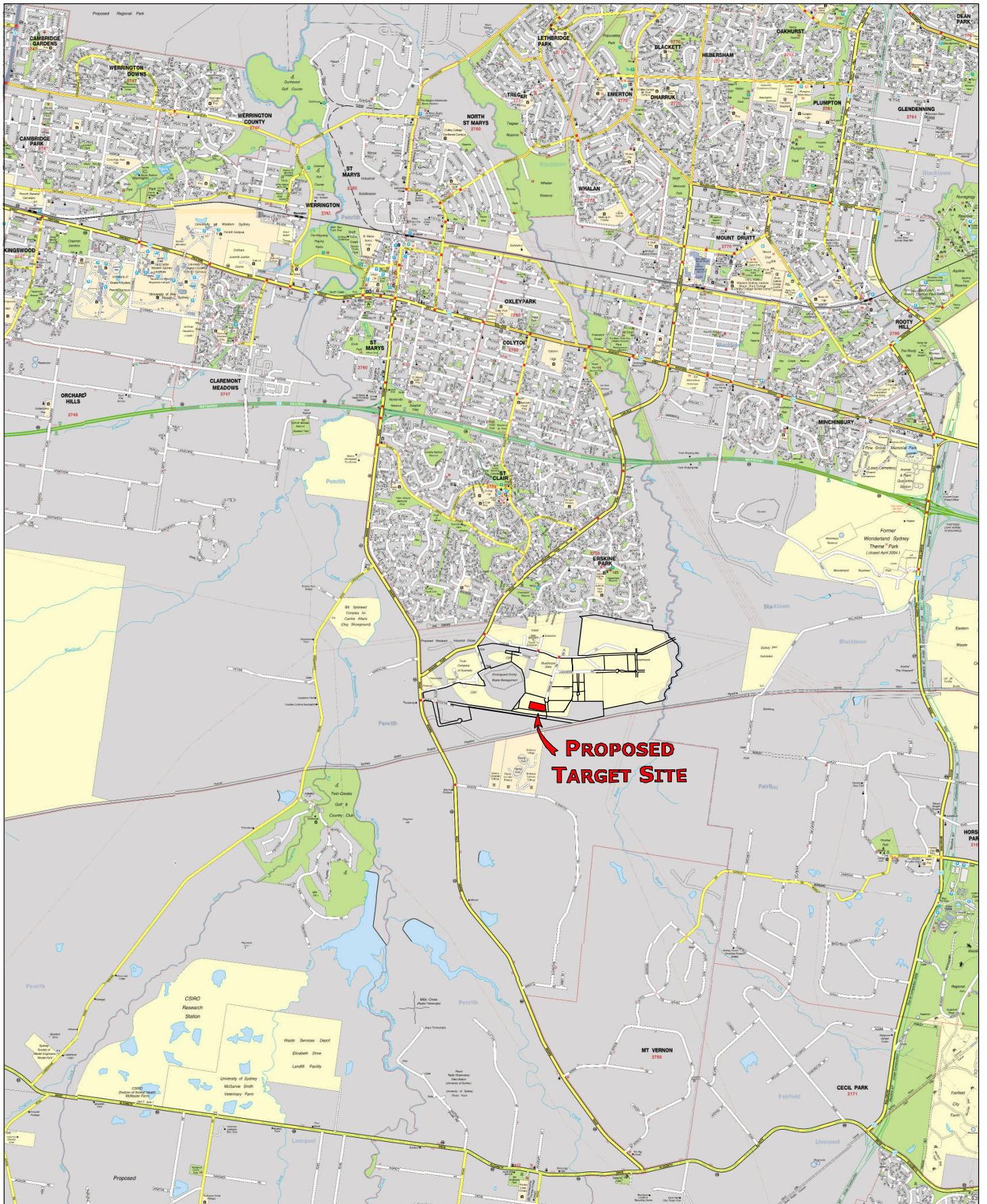
TRAFFIX has been commissioned by Hansen Yuncken acting on behalf of Target Australia Pty Ltd to undertake a traffic impact assessment to accompany a Project Application relating to land within the Erskine Park Employment Area (“EPEA”). The proposed development is on a site comprising an area of approximately 2.23 hectare and relies on access via a proposed road extension from Templar Road. The development will accommodate a Target off site reserve that will service retail outlets within the Sydney metropolitan region.

This report documents the findings of our investigations and forms part of a Statement of Environmental Effects prepared 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 warehouse facility with a gross floor area of 12,700m<sup>2</sup>, including a warehouse/production facility, ancillary office floor area, loading areas and will be serviced by 80 parking spaces and therefore does not require referral to the RTA in accordance with the provisions of SEPP (Infrastructure) 2007.

The report is structured as follows:

- Section 2: Describes the site and its location
- Section 3: Documents existing traffic conditions
- Section 4: Describes the proposed development
- Section 5: Assesses the parking requirements
- Section 6: Assesses traffic impacts
- Section 7: Discusses access and internal design aspects
- Section 8: Presents the overall study conclusions.



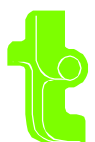
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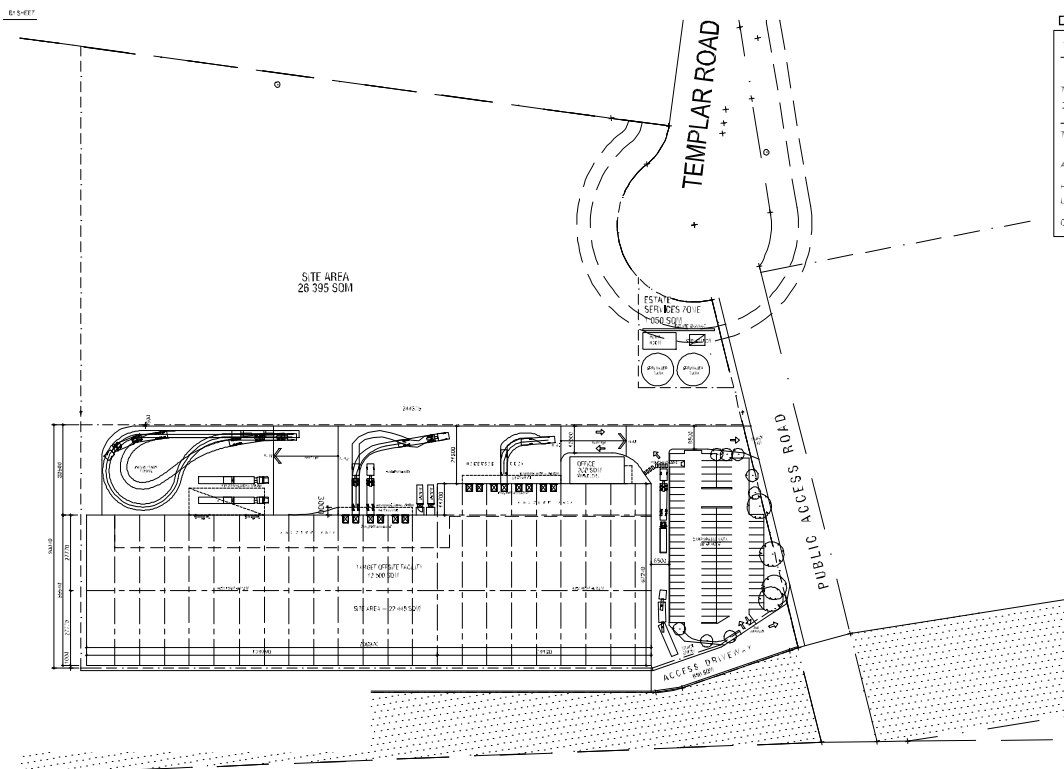


**impact assessment: site H**  
**target australia**  
 templar road, erskine park

**figure 1**  
 location

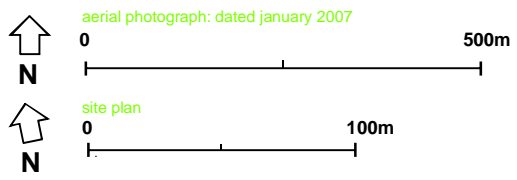
prepared on behalf of hansen yuncken Pty. Ltd.  
 by traffix traffic & transport planners





DEVELOPMENT AREA	
TOTAL SITE AREA	22 415 SQM
TARGET OFFICE FACILITY	12 500 SQM
OFFICE & AMENITIES AREA	200 SQM
TOTAL BUILDING AREA	12 700 SQM
AWNING AREA	470 SQM
HEAVY DUTY PAVEMENT	6 220 SQM
LIGHT DUTY PAVEMENT	2 180 SQM
CARPARKING PROVIDED	80 SPACES

<p><b>Notes:</b></p> <p>1. All work to be done in accordance with the relevant Australian Standards and the relevant Council's requirements.</p> <p>2. All work to be done in accordance with the relevant Australian Standards and the relevant Council's requirements.</p> <p>3. All work to be done in accordance with the relevant Australian Standards and the relevant Council's requirements.</p> <p>4. All work to be done in accordance with the relevant Australian Standards and the relevant Council's requirements.</p> <p>5. All work to be done in accordance with the relevant Australian Standards and the relevant Council's requirements.</p>	<p><b>Revisions:</b></p> <table border="1"> <tr> <th>No.</th> <th>Description</th> <th>Date</th> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>	No.	Description	Date										<p><b>Author:</b> [Name]</p> <p><b>Checked:</b> [Name]</p> <p><b>Drawn:</b> [Name]</p> <p><b>Scale:</b> [Scale]</p>	<p><b>Project Name:</b> [Name]</p> <p><b>Client:</b> [Name]</p> <p><b>Address:</b> [Address]</p>	<p><b>Project Number:</b> [Number]</p> <p><b>Revision:</b> [Revision]</p>	<p><b>Scale:</b> [Scale]</p> <p><b>Drawn:</b> [Name]</p> <p><b>Checked:</b> [Name]</p>	<p><b>Project Name:</b> [Name]</p> <p><b>Client:</b> [Name]</p> <p><b>Address:</b> [Address]</p>	<p><b>Project Number:</b> [Number]</p> <p><b>Revision:</b> [Revision]</p>	<p><b>Scale:</b> [Scale]</p> <p><b>Drawn:</b> [Name]</p> <p><b>Checked:</b> [Name]</p>	<p><b>Project Name:</b> [Name]</p> <p><b>Client:</b> [Name]</p> <p><b>Address:</b> [Address]</p>	<p><b>Project Number:</b> [Number]</p> <p><b>Revision:</b> [Revision]</p>
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**impact assessment: site H**  
**target australia**  
 templar road, erskine park

**figure 2**  
 site

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## 2. location and site

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The site is currently vacant and lies within the Erskine Park Employment Area (EPEA). 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 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.

More specifically, the site is located approximately 40 metres south of the existing alignment of Templar Road within the central part of the EPEA and in particular forms the south western corner of the previously approved CSR Masterplan. It is now proposed that the existing lot as shown in the CSR Masterplan is to be subdivided to form 3 lots accessed via a new turning head that is to extend south along the existing alignment of Lockwood Road.

The site is generally rectangular in configuration with a total area of 22,975m<sup>2</sup>. It has a northern boundary to a vacant lot of 250 metres, a southern boundary of 260 metres to a proposed right of way, a western boundary of 90 metres to a vacant lot and an eastern boundary of 90 metres to the proposed new public road.

A Location Plan is presented in **figure 1**, with a Site Plan presented in **figure 2**. Reference should also be made to the Photographic Record presented in **appendix a**, which provides an appreciation of the general character of roads and other key attributes in proximity to the site.



## 3. existing traffic conditions

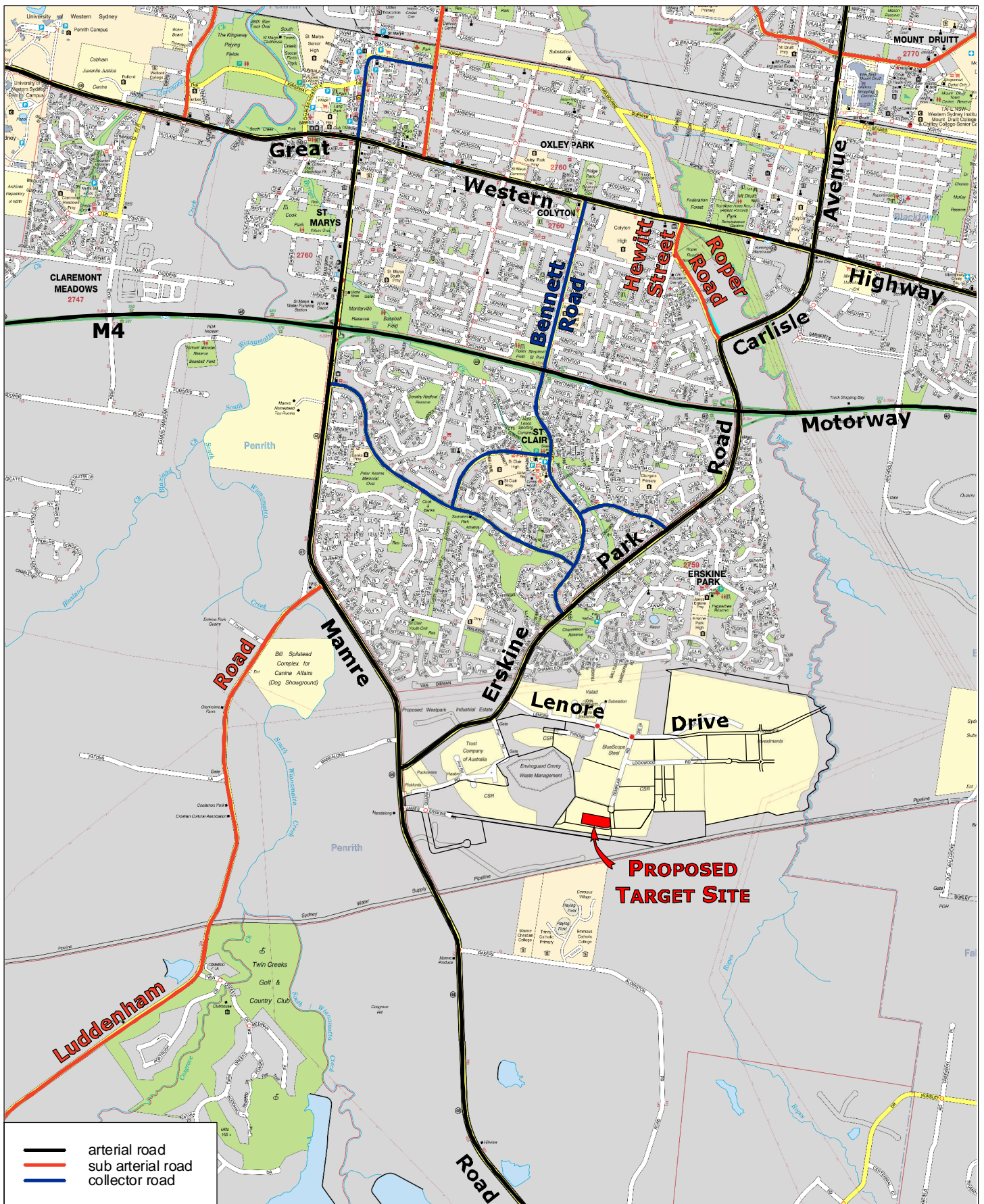
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### 3.1 road hierarchy

The road hierarchy in the vicinity of the site is shown in **figure 3** with the following roads of particular interest:

- Erskine Park Road: a State Road (MR 629) that runs from Mamre Road in the southwest to the M4 in the northeast. It carries in the order of 29,000 vpd in the vicinity of the M4. The site has a north-western frontage to Erskine Park Road.
- Mamre Road: a State Road (MR 536) that generally runs in a north-south direction between Werrington and Kemps Creek. It carries approximately 14,000 vpd to the south of the site.
- Lenore Drive: a local road that generally runs in an easterly direction from Erskine Park Road and provides access to the northern sections of the Erskine Park Employment Area. The site has a north-eastern frontage to Lenore Drive.
- Lockwood Road: a local road that runs in an east west direction from Templar Road in the west and ends in a cul-de-sac in the east.
- Templar Road: a local road that runs in a north south direction from Lenore Drive in the north. This road provides access to potential sites to the south and south east of Lenore Drive. A proposal to extend Templar Road forms part of this application and will provide access to the subject site.

It can be seen from **figure 3** that the site is conveniently located with respect to the arterial and local road systems serving the region. It is therefore able to effectively distribute traffic onto the wider road network, minimising traffic impacts.



impact assessment: site H  
target australia  
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figure 3  
road hierarchy

prepared on behalf of hansen yuncken Pty. Ltd.  
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## 3.2 general description of road environment

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.

Mamre Road carries single lane traffic flow in each direction to the south of James Erskine Drive and widens on approach to the intersection to provide two through lanes and a dedicated right turn lane into Erskine Park Drive. The northern approach of Mamre Road also incorporates two lanes in each direction with a left turn deceleration for the turn into James Erskine Drive. James Erskine Drive provides two lanes in each direction in the 70 metre long section between Mamre Road and the existing roundabout. The approach to Mamre Road incorporates two right turn lanes, with a short left turn slip lane.

Erskine Park Road forms a 'T' junction with Mamre Road, approaching from the east. This intersection is presently under priority control and incorporates a right turn storage lane for the movement from Mamre Road into Erskine Park Road (south to east). Mamre Road also incorporates a separate right turn bay for the movement from Mamre Road into the private access road that presently serves the EPEA, including the subject site. This intersection is to be upgraded with traffic signal control also provided.

It can be seen from Figure 3 that the Erskine Park Road - Roper Road – Carlisle Avenue route forms part of Main Road 629 and is under the care and control of the Roads and Traffic Authority. This is an arterial route which connects Erskine Park in the south with Mt Druitt in the north. Along this route, to the north of the subject site, MR 629 intersects with the M4 Motorway where east-facing ramps are constructed to facilitate access to/from the east. Carlisle Avenue also intersects the Great Western Highway to the north of the subject site, which provides access to the east and west.

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.



Lenore Drive is constructed with a 21.5 metre divided carriageway and generally carries two lanes of traffic subject to a 70km/hr speed limit. Lenore Drive will eventually be extended eastward (past the subject site) through to Eastern Creek of the eastern side of Ropes Creek. The kerbside lane forms a left turn slip lane whilst the central median narrows to provide two right turn lanes on approach to Erskine Park Road.

Templar Road forms the stem of a T Junction with Lenore Drive to the east of the site and is constructed with 16 metre wide carriageway that carries a single through lane of traffic in either direction. It presently terminates approximately 40 metres to the north of the site and includes a turning head designed to accommodate vehicles up to a 25 metre B-Double.

### 3.3 public transport

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.



## 4. description of proposed development

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A detailed description of the proposed development is provided in the Statement of Environmental Effects prepared separately. In summary, the development for which approval is now sought comprises the following components:

- extension of Templar Road by approximately 130 metres to the south and the construction of a new turning head adjacent to the site;
- the construction of an off site reserve to service the needs of Target Australia;
- provision for a total of 12,500m<sup>2</sup> of warehouse/storage floor space;
- provision of 200m<sup>2</sup> of ancillary office space;
- allocation of 80 staff and visitor parking spaces within a secure parking area located along the sites eastern boundary and accessed via Templar Road;
- the construction of 8,410m<sup>2</sup> hardstand area located adjacent to the northern boundary which will provide access to a total of 14 loading docks;
- provisions for separate truck entry and exit driveways located on the northern and southern boundaries;
- construction of an internal truck queuing area adjacent to the eastern wall of the warehouse building, and
- the proposed operation from 7.00am to 5.00pm and the employment of approximately 50 staff.

The traffic and parking impacts arising from the development are discussed in Sections 5 and 6. Reference should be made to the plans submitted separately to Council which are presented at reduced scale in **appendix b**.



## 5. parking requirements

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### 5.1 council controls

It is noted that 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).

**table 1: parking requirements for proposed development**

Land Use	GFA (m <sup>2</sup> )	Council DCP Requirement		RTA Guideline Requirement	
		Rate (NLA)	Spaces	Rate (GFA)	Spaces
Warehouse <sup>1</sup>	12,500	1/100m <sup>2</sup>	125	1/300m <sup>2</sup>	42
Office	200	1/40 m <sup>2</sup>	5	1/300m <sup>2</sup>	1
TOTAL	12,190		130		43

It can be seen that the site requires between 43 and 130 spaces depending upon which rate is applied. The development proposes a total of 80 spaces for use by the 50 staff and visitors which lies within the range outlined above. Furthermore, the operational requirements of the Target Off Site Reserve are known and accordingly the proposed 80 spaces will service both the current and future demands of the site, with spare capacity being available to accommodate 'non design' peaks.

Accordingly the proposed parking provision, although lower than the requirements of Council, are considered satisfactory and will meet the needs of the tenant, as well as the vast majority of other warehousing uses.



## 5.2 disabled parking

One disabled parking space is provided adjacent to the main building access. This space is 3.6 metres wide and therefore exceeds the requirements of AS2890.1 and Councils DCP and represents 1% of the total parking provision, which is acceptable.



## 6. traffic impacts

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Penrith Council and the Roads and Traffic Authority have previously 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 trip rates and distributions prepared by the RTA and Penrith Council as follows:

Lysaght, BlueScope, Walkers & Strammit sites                      10 trips/ha

Balance of EPEA (including the Master Plan site)                      15 trips/ha

These trip rates thus underpin the assessment of the EPEA generally. The resulting performance of the road system in 2016 was the subject of previous advice to Penrith Council and this provides the overall planning context for the EPEA site, including the subject site.

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 east of Erskine Park Road that are accessed via Lenore Drive. This includes the Bluescope, Lysaght and Paclib sites, with a balance of 147 hectares which includes the subject site. With a site area of 2.45 ha, the implicit generation associated with the existing site is 34 veh/hr based on a trip rate of 15 veh/hr.

### 6.1 trip generation

As discussed above, the development from the subject site is included in the above assessment, with an implicit hourly traffic generation of 34 veh/hr. Notwithstanding this, the operational parameters of Target are known and as such these trips form the basis of our assessment. The car and truck arrivals and departures are outlined below and have been adopted to assess the operational impacts of the proposed development.

#### Trucks

Information provided by Target indicates that the proposed development will generate an average of 90 truck movements (45 in and 45 out) over a typical day. The anticipated breakdown of vehicles is outlined below:



12.5m HRV's: 20 vehicles per day, between 7.00am and 5.00pm;

19 metre Articulated: 20 trucks per day, between 7.00am and 5.00pm;

25 metre B-Doubles: 5 trucks per day, between 7.00am and 5.00pm

It is assumed that these 90 trucks movements occur over a 10 hour day. As such the peak generation of the trucks to/from the site is estimated at 9 vehicle movements per hour (5 in and 4 out) during the AM peak, with the reverse over the PM peak.

#### Car Trips

Staff volumes have been assessed with the assumption that 80% of all staff use private vehicles with the remaining 20% either ride sharing or using public transport. This also makes includes some allowance for absentee rates. Accordingly with a maximum of 50 staff of 50 people it is assumed that a generation of 40 vehicles trips will occur during both the AM and PM peak periods.

The combined car and truck generation will be 49 veh/hr during the AM peak period (45in and 4 out) with the reverse in the PM peak. This is considered generally comparable to the adopted RTA/Council rate and in addition, it only occurs over one hour during each peak and is not sustained over the normal commuter peak as assumed in the modelling. It should also be noted that the adopted RTA/Council rate is an average rate and as such some deviation about this average is expected for any individual development.



## 7. access & internal design aspects

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### 7.1 public roadway

Access to the site is to be achieved via the construction of a new access road that is to extend south for a distance of approximately 130 metres from the existing turning head on Templar Road. The proposed public access road is to be constructed with a 13 metre wide carriageway and has been designed to accommodate simultaneous two-way flow for all vehicle types including two 25.0 metre B-Doubles. The public roadway is to service all ingress and egress movements associated with the proposed development in addition to the site directly to the north; and land to the east. Council has indicated that as the new public roadway will only service three developments, no turn head will be required. Appropriate signage is however to be implemented at the intersection of the proposed public roadway and Templar Road to ensure that heavy vehicles not associated with these three sites do not enter the roadway.

At the southern end of the public roadway an access handle is to be provided on the western side of the roadway. Access to the site is to be provided via a right of way over the easement for access.

### 7.2 access

The development proposes three access locations to the site. The first is located in the south east corner of the site and is to be accessed via the proposed easement at the southern end of the new public roadway. This access is to be via a 14.0 metre wide driveway and will accommodate all heavy vehicle access associated with the site. The northern access is to be constructed with an 8.0 metre wide driveway and will accommodate exit movements by heavy vehicles only. The third access is to be constructed approximately 28 metres to the south of the northern site boundary and will accommodate all staff and visitor vehicles. This driveway is to be 6.5 metres wide and will accommodate two way flow and as such complies with AS2890.1.

Furthermore the proposal also includes the construction of an internal queuing lane which traverses the eastern edge of the main building. The internal circulation aisle is to be constructed with a



minimum width of 6.5 metres and will accommodate all heavy vehicles accessing the site. Furthermore it will also ensure that no on-street queuing occurs during peak periods. A swept path analysis is presented in **appendix c** and demonstrates the adequacy of the proposed driveways.

In summary all internal access arrangements operate satisfactorily and either meet or exceed the requirements of AS2890.1 and AS2890.2.

### 7.3 loading arrangements

The site proposes a single hardstand area located adjacent to the northern site boundary. The hardstand includes a total area of heavy duty pavement of 6,420m<sup>2</sup> and light duty pavement of 2,190m<sup>2</sup>. The eastern section of the hardstand is 20.3 metres wide and will accommodate all vehicles up to a 12.5 metre HRV and provides access to 8 recessed docks. To the west, the hardstand width is increased to 33.8 metres and will accommodate all 19 metre articulated vehicles accessing the site. This area is to include 6 docks with a minimum separation of 2.4 metres. An additional 2 docks have also been identified and will be constructed at a later date if required. The western end of the hardstand has been designed to accommodate a maximum of two 25 metre B-Double vehicles in addition to a vehicle turning area. A swept path analysis has been undertaken on the access to these docks and the turning area at the western end of the hardstand area and is included in **appendix c**.

### 7.4 internal design

The internal design of the development is considered satisfactory and the following aspects are noteworthy:

- carpark circulation aisles are 4.0 metres in width which exceeds the requirements of AS2890.1 for one-way flow;
- all parking aisles are 6.0 metres in width with 2.5 metre wide bays which exceeds the requirements for Class 1A parking under AS 2890.1;
- the disabled parking space has a width of 3.2 metres which satisfies the requirements of AS 2890.1. Furthermore, the space is to be located immediately adjacent to the main access which is optimal for mobility impaired access.



- a swept path analysis has been undertaken on all internal aisles (as permissible in AS2890.1 and AS2890.2) and these operate safely and efficiently. It should be noted that while two way movement is generally achieved, access by a B-Double will result in local one-way flow. This is demonstrated in appendix c and is considered acceptable due to the low generation of heavy vehicles (less than 10 vehicles per hour) and particularly the low volume of B-Doubles accessing the site (5 per day), and
- all internal ramp gradients comply with the relevant sections of AS2890.1 with a maximum change in grade of 1:16 (8.3%).

In summary, the internal design is considered appropriate and complies with the requirements of AS 2890.1 and AS2890.2



## 8. conclusions

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In summary:

- the site enjoys excellent access to and from the arterial road network, using the road network that has been developed within the EPEA;
- the anticipated generation of the site is 49 vehicle trips per hour during the AM peak period (45 in and 9 out) with the reverse in the PM peak period with reduced volumes at other times;
- the predicted traffic generation is comparable to the parameters adopted by Penrith Council and the RTA for the design of the key intersections in the vicinity of the site for full development in 2016. Accordingly the proposed development will have no impact on the predicted level of service or delays on these intersections which will operate satisfactorily;
- the proposed parking supply of 80 spaces is lies within the range of Council's rate (130 spaces) and the RTA's requirements (43 spaces). Furthermore, the parking requirements for the tenant are well established and the proposed allocation will more than meet the needs for both staff and visitor parking at all times;
- the proposed access arrangements are satisfactory. In addition, cars and trucks have been physically segregated to maximise safety;
- the internal design complies with the requirements of both AS 2890.1 and AS 2890.2. The car park has also been assessed using the computer program AutoTurn, as permitted by AS 2890.1, and operates safely and efficiently, and
- the internal circulation aisles and loading areas have also been assessed using the AutoTurn program and these operate safely and efficiently and are considered supportable.

It is therefore concluded that the proposed development is supportable on traffic planning grounds and the proposed development will operate satisfactorily.



## appendix a

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photographic record



View looking south along Templar Road, towards its intersection with Lockwood Road.



View looking south along Templar Road towards the cul-de-sac.





View looking north along Templar Road, towards its intersection with Lockwood Road



View looking north along Templar Road at its intersection with Lenore Lane.





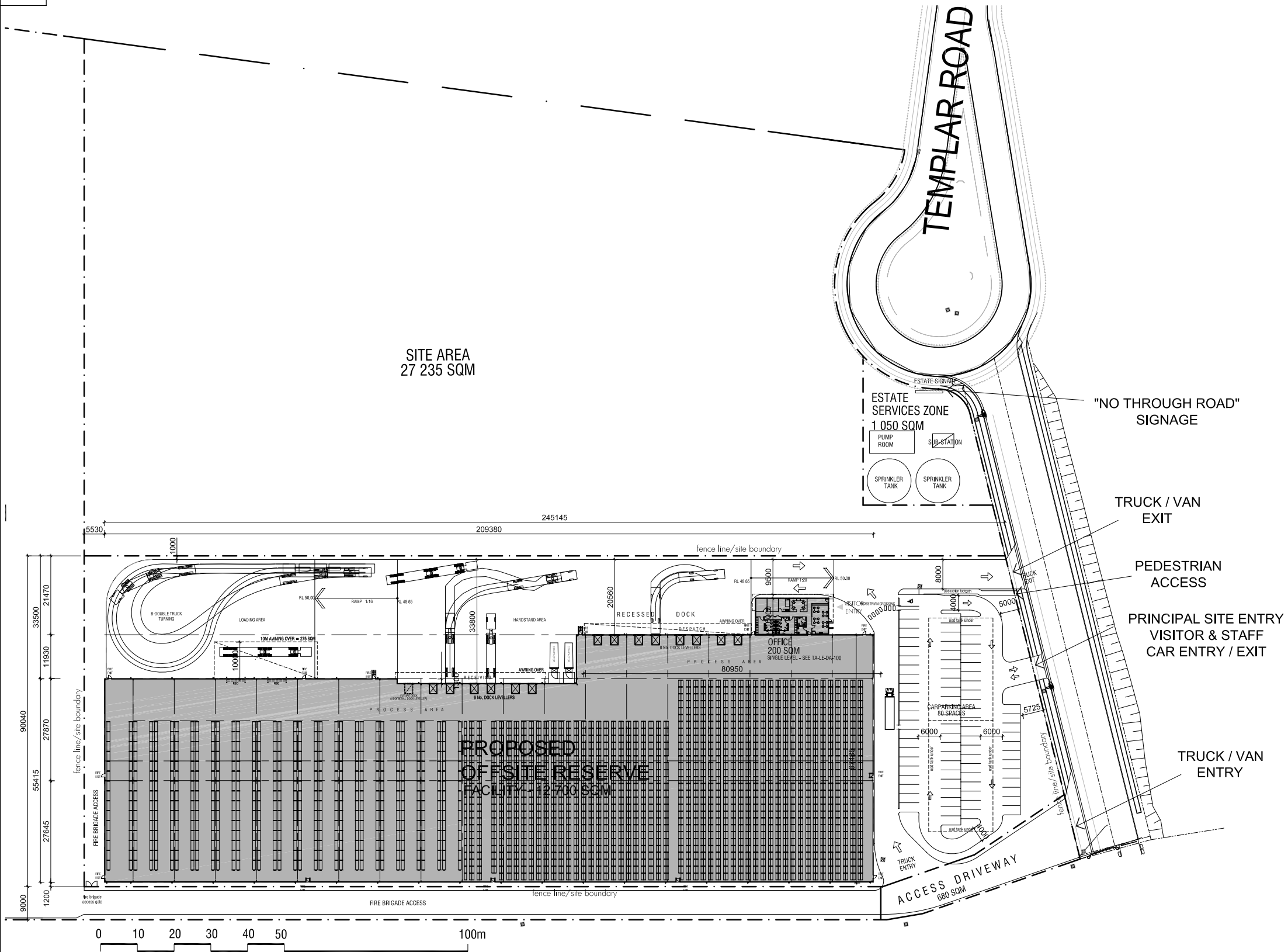
## appendix b

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reduced plans

DEVELOPMENT AREA

TOTAL SITE AREA	22 975 SQM.
TARGET OFFSITE RESERVE	12 700 SQM.
OFFICE & AMENITIES AREA	200 SQM.
TOTAL BUILDING AREA	12 900 SQM.
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LIGHT DUTY PAVEMENT	2 013 SQM.
CARPARKING PROVIDED	80 SPACES



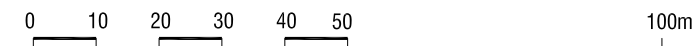
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ESTATE SERVICES ZONE  
1 050 SQM

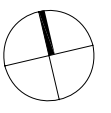
OFFICE  
200 SQM

PROPOSED  
OFFSITE RESERVE  
FACILITY  
12 700 SQM

ACCESS DRIVEWAY  
680 SQM



01 SITE PLAN  
1:500 @ B1



<p>Notes:</p> <p>DO NOT SCALE OF DRAWING - DIMENSIONS &amp; LEVELS TO BE VERIFIED PRIOR TO COMMENCEMENT OF WORK WITH FIGURED DIMENSIONS IN PREFERENCE TO SCALED DIMENSIONS.</p> <p>MATERIALS &amp; WORKMANSHIP TO BE IN STRICT ACCORDANCE WITH ALL RELEVANT S.A.A. STANDARDS, BCA &amp; LOCAL AUTHORITIES REQUIREMENTS.</p> <p>COPYRIGHT - THIS DRAWING IS SUBJECT TO COPYRIGHT AND IS THE PROPERTY OF THE AUTHOR. THIS DRAWING MUST NOT BE RETAINED, COPIED OR USED WITHOUT THE GIVEN AUTHORITY OF SPSPACE DESIGN PTY LTD.</p> <p>Sheet Size - B1</p>	<p>Revisions:</p> <table border="1"> <tr> <th>Rev</th> <th>Date</th> <th>Description</th> </tr> <tr> <td>A</td> <td>12.12.08</td> <td>ISSUED FOR DEVELOPMENT APPLICATION</td> </tr> <tr> <td>A1</td> <td>16.12.08</td> <td>GENERAL REVISION</td> </tr> <tr> <td>A2</td> <td>17.12.08</td> <td>GENERAL REVISION</td> </tr> <tr> <td>A3</td> <td>18.12.08</td> <td>GENERAL REVISION</td> </tr> </table>	Rev	Date	Description	A	12.12.08	ISSUED FOR DEVELOPMENT APPLICATION	A1	16.12.08	GENERAL REVISION	A2	17.12.08	GENERAL REVISION	A3	18.12.08	GENERAL REVISION	<p>Structural Consultant:</p>	<p>Hydraulic Consultant:</p>	<p>Electrical Consultant:</p>	<p>Design &amp; Construction Manager:</p> <p><b>hansen yuncken</b></p> <p>Hansen Yuncken Pty Ltd Level 4, 5 Rosebery Avenue Rosebery NSW 2018 ph: (02) 9770 7800 fax: (02) 9770 7801</p>	<p>SPSPACE</p>	<p>Sulla 505 147 King Street Sydney NSW 2000 ph: (02) 9232 7760 fax: (02) 9231 2717 email: silas@spspace.com.au</p>	<p>Project:</p> <p>SITE H, TEMPLAR ROAD ERSKINE PARK NSW</p>	<p>Drawing:</p> <p>DEVELOPMENT APPLICATION SITE PLAN</p>
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A	12.12.08	ISSUED FOR DEVELOPMENT APPLICATION																						
A1	16.12.08	GENERAL REVISION																						
A2	17.12.08	GENERAL REVISION																						
A3	18.12.08	GENERAL REVISION																						
<p>Mechanical Consultant:</p>	<p>Landscape Consultant:</p>	<p>Fire Consultant:</p>	<p>Project Manager:</p>	<p>Client:</p> <p><b>GPTGROUP</b></p>	<p>Scales:</p> <p>1:500 @ B1</p>	<p>Date:</p> <p>03.12.2008</p>	<p>Drawn:</p> <p>AW</p>																	
<p>SPSPACE DESIGN Pty Ltd ABN 331 225 266 50</p>								<p>Project No:</p> <p>191108</p>	<p>Drawing No:</p> <p>TA-LE-DA-001</p>	<p>Issue:</p> <p>A3</p>														



## appendix c

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swept path analysis

