



# traffic impact assessment

## for a proposed warehouse facility at templar road, erskine park

prepared on behalf of Hansen Yuncken by **Traffix** traffic & transport planners  
ref: 08 281v2 december 2008



### **traffix**

traffic & transport planners

level 2/55 mountain st  
broadway nsw australia 2007  
po box 697 broadway nsw 2007  
t: (02) 9211 3352 f: (02) 9211 2740  
e: [enquiries@traffix.com.au](mailto:enquiries@traffix.com.au)  
director graham pindar  
acn: 065132961  
abn: 66065132961



# contents

1. introduction	1
2. location and site	2
3. existing traffic conditions	3
3.1 road hierarchy	3
3.2 general description of road environment	4
3.3 public transport	5
4. description of proposed development	6
5. parking requirements	7
5.1 council controls	7
5.2 disabled parking	8
6. traffic impacts	9
6.1 trip generation	9
7. access & internal design aspects	10
7.1 public roadway	10
7.2 access	10
7.3 loading arrangements	11
7.4 internal design	11
8. conclusions	12
appendix a: photographic record	
appendix b: reduced plans	
appendix c: swept path analysis	



# 1. introduction

---

TRAFFIX has been commissioned by Hansen Yuncken acting on behalf of GPT 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 2.72 hectare and relies on access via a proposed road extension from Templar Road.

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 13,775m<sup>2</sup>, including a warehouse facility, ancillary office floor area, loading areas and will be serviced by 100 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.



## 2. location and site

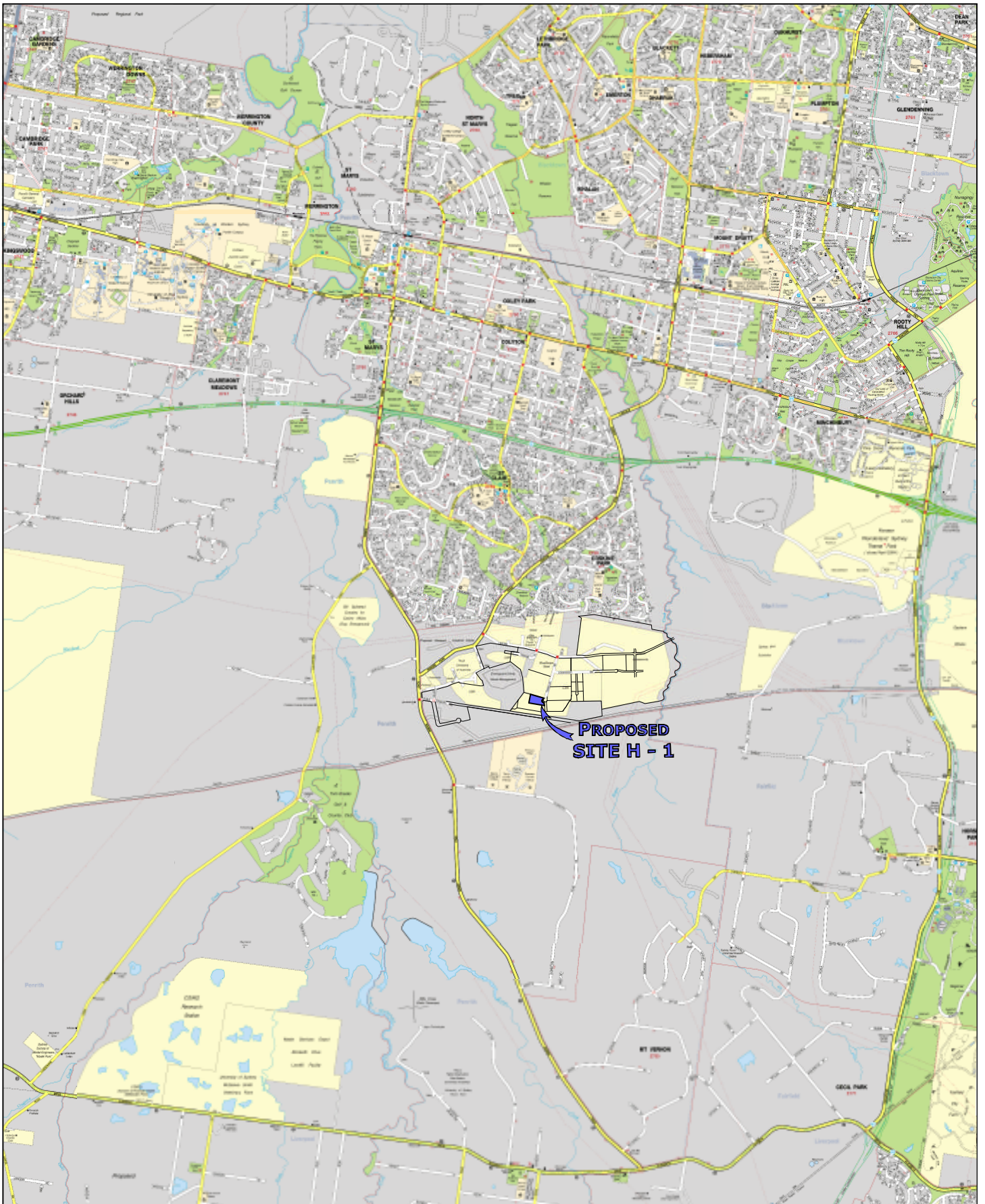
---

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.

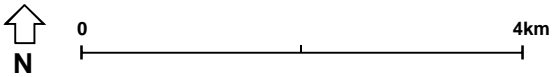
More specifically, the site is located approximately 40 metres south of the existing alignment of Templar Road within the central part of the EPEA and in particular forms the south western corner of the previously approved CSR Masterplan. It is now proposed that the existing lot as shown in the CSR Masterplan 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 27,235m<sup>2</sup>. It has a northern boundary to an industrial facility of 220 metres, a southern boundary of 244 metres to the proposed Target Off Site Reserve, a western boundary of 140 metres to a vacant lot and an eastern boundary of approximately 130 metres to the existing Templar Road and 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.



Source: UBD 2008

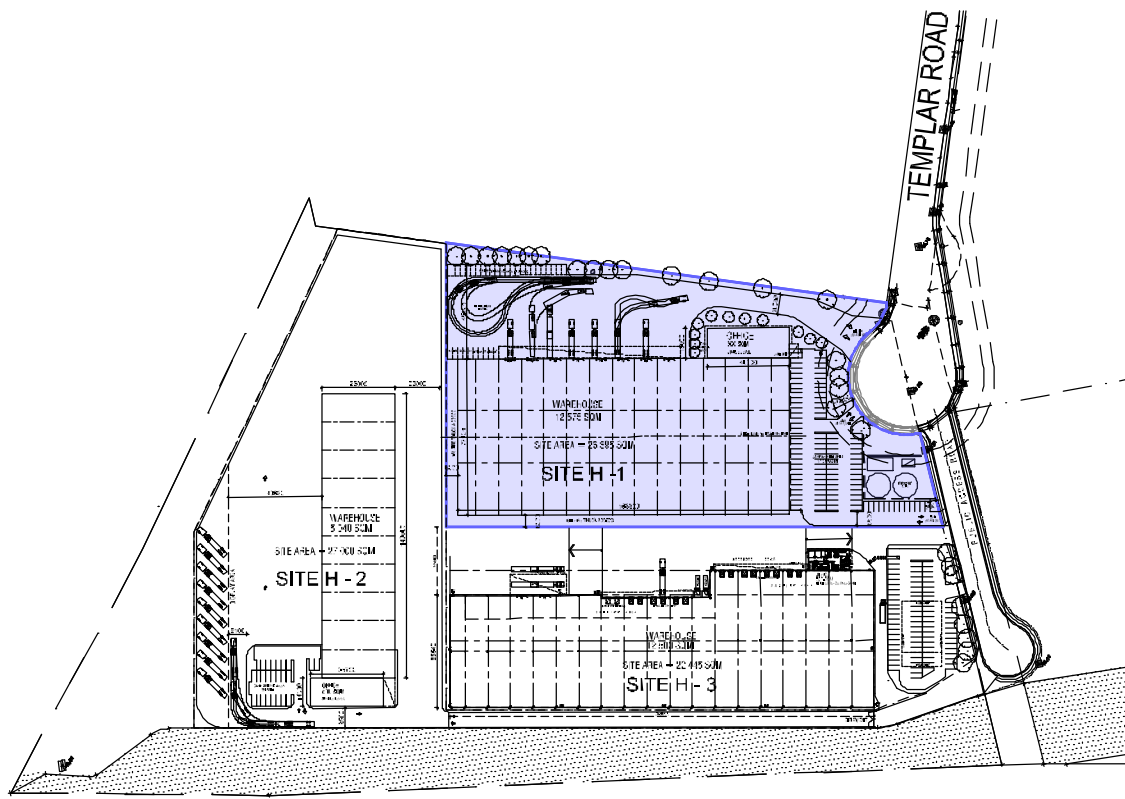


**impact assessment: site H - 1 spec shed**  
templar road, erskin park

**figure 1**  
location

prepared on behalf of hansen yuncken pty. ltd.  
by traffix traffic & transport planners



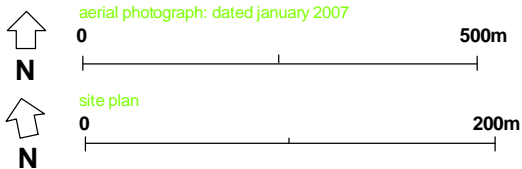


**DEVELOPMENT AREA**

SITE AREA (H - 1)	26 282 SQM
WAREHOUSE AREA	17 875 SQM
OFFICE & AMENITIES AREA	800 SQM
<b>TOTAL BUILDING AREA</b>	<b>18 175 SQM</b>
AWNING AREA	540 SQM
HEAVY DUTY PAVEMENT	6 450 SQM
LIGHT DUTY PAVEMENT	2 868 SQM
CARPARKING PROVIDED	100 SPACES

SITE AREA (H - 2)	27 600 SQM
OFFICE (SINGLE STORY)	520 SQM
WAREHOUSE AREA	9 040 SQM
<b>TOTAL BUILDING AREA</b>	<b>9 440 SQM</b>
ADDRESS DRIVEWAY	1 730 SQM
HEAVY DUTY PAVEMENT	17 230 SQM
LIGHT DUTY PAVEMENT	4 165 SQM
CARPARKING PROVIDED	25 SPACES

SITE AREA (H - 3)	22 445 SQM
LANDSCAPE RESERVE	12 500 SQM
OFFICE & AMENITIES AREA	200 SQM
<b>TOTAL BUILDING AREA</b>	<b>19 700 SQM</b>
AWNING AREA	540 SQM
HEAVY DUTY PAVEMENT	8 220 SQM
LIGHT DUTY PAVEMENT	2 150 SQM
CARPARKING PROVIDED	60 SPACES



**impact assessment: site H - 1 spec shed**  
templar road, erskin park

**figure 2**  
site





## 3. existing traffic conditions

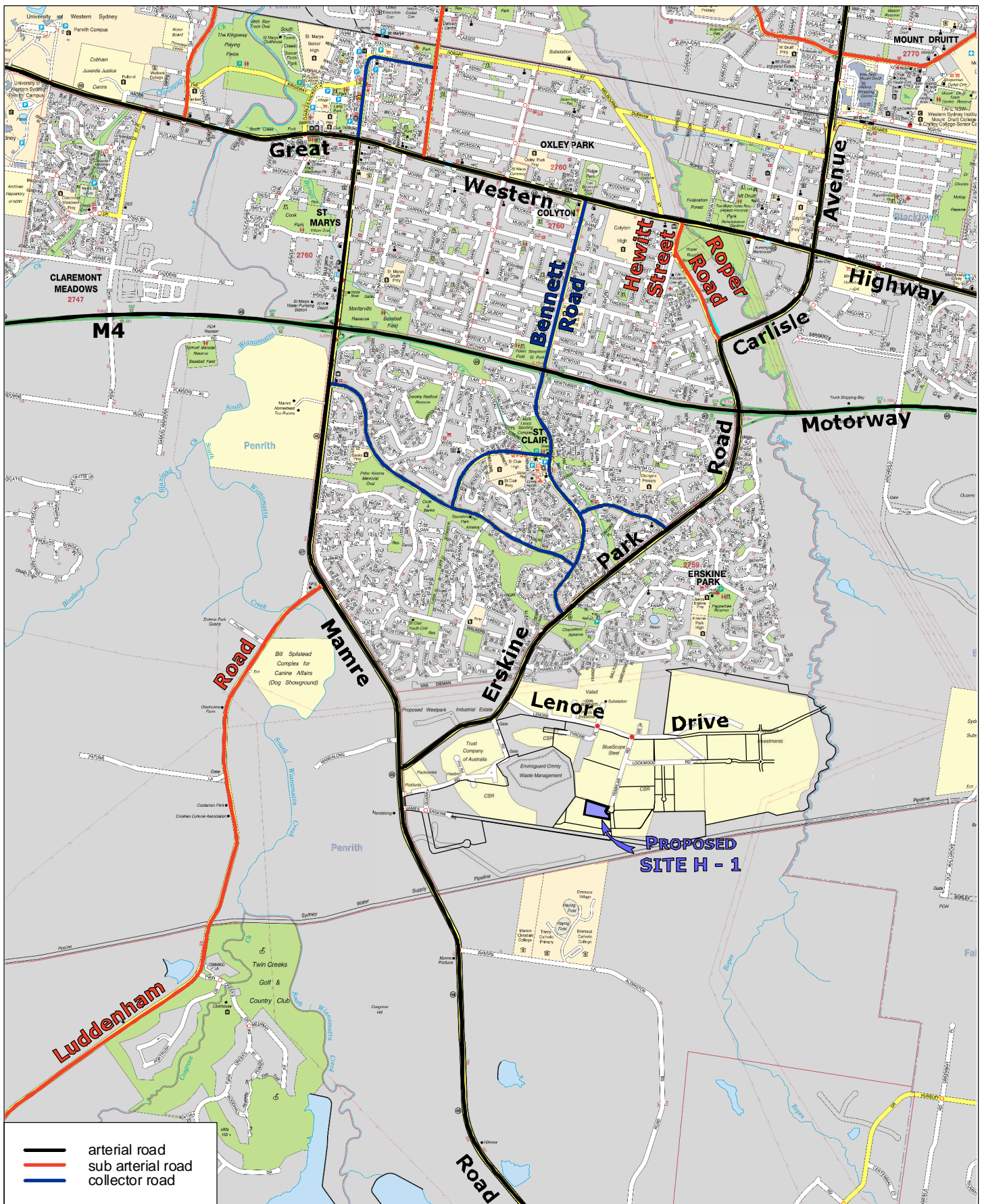
---

### 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 - 1 spec shed  
templar road, erskine park

figure 3  
road hierarchy

prepared on behalf of hansen yuncken pt. ltd.  
by traffix traffic & transport planners





## 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

---

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;
- construction of a warehouse facility including 13,175m<sup>2</sup> of warehouse/storage floor space;
- provision of 600m<sup>2</sup> of ancillary office space and amenities;
- allocation of 100 staff and visitor parking spaces within a secure parking area located along the sites eastern boundary and accessed via Templar Road;
- Provision for an additional 33 staff parking spaces in the north eastern corner of the site which can be constructed at a later date if required;
- the construction of 9,315m<sup>2</sup> hardstand area located adjacent to the northern boundary which will provide access to a total of 7 loading docks, and
- provision for separate truck entry and exit driveways located on the northern boundary;

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

---

### 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>	13,175	1/100m <sup>2</sup>	132	1/300m <sup>2</sup>	44
Office	600	1/40 m <sup>2</sup>	15	1/300m <sup>2</sup>	2
TOTAL	13,775		147		46

It can be seen that the site requires between 46 and 147 spaces depending upon which rate is applied. The development proposes a total of 100 spaces for use by staff and visitors which lies within the range outlined above. Accordingly the proposed parking provision, although lower than the requirements of Council, is 54 spaces more than the requirements of the RTA and is considered satisfactory. Nevertheless, it is proposed to set aside an area in the north-eastern corner of the site which is capable of accommodating an additional 33 spaces, should these be required in the future. This is a more flexible approach which overcomes the need to construct surplus parking which is likely for the vast majority of users and would be a waste of resources.



## 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 as well as Council's DCP and represents 1% of the total parking provision, which is acceptable for an industrial use.



## 6. traffic impacts

---

### 6.1 trip generation

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 2.72 ha, the implicit generation associated with the existing site is 41 veh/hr based on the EPEA trip rates.

### 6.2 traffic impacts

The trip rate is very moderate and is consistent with the level of traffic activity assumed in the planning undertaken to date for this site. These trips are also distributed onto the external public roadway system via compliant driveways, as discussed below, so there are no safety concerns.



## 7. access & internal design aspects

---

### 7.1 public roadway

A new access road is to extend south for a distance of approximately 130 metres from the existing turning head on Templar Road, which traverses the entire site frontage. 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 ingress and egress movements associated with the proposed development (cars only) in addition to the proposed Target Off Site Reserve site directly to the south; and the land to the east. Council has indicated that as the new public roadway will only service these 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.

### 7.2 access

The development proposes three accesses. The first is located adjacent to the northern site boundary, accessed via the existing turning head at the south of Templar Road and will accommodate all heavy vehicle access associated with the site. This access is to be 21.0 metre wide and has been designed to accommodate simultaneous entry and exit movements by 25.0 metre B-Doubles.

The second access is a car access also located on the existing turning head on Templar Road and will provide two way access via a 6.5 metre wide driveway serving the staff and visitor car park. The third access is a southern access that is located adjacent to the southern site boundary and also provides access to the staff and visitor carpark via a 6.5 metre wide driveway. Access to this driveway will be provided via the proposed new public access road. A swept path analysis is presented in **appendix c** and this demonstrates satisfactory performance of the proposed driveways.

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



### 7.3 loading arrangements

The proposed hardstand is to include a total area of 9,315m<sup>2</sup> and will provide access to 8 loading docks. These docks have been designed to accommodate all vehicles up to a 19 metre Articulated Vehicle. Provision has also been made adjacent to the western site boundary for a B-Double to be able to turn within the site. It should be noted that a 19 metre articulated truck using the westernmost dock intrudes into the turning area. This is a matter that will need to be addressed prior to construction and can be dealt with by the inclusion of a suitable condition of consent. In addition, construction plans will need to be made available for final check prior to construction.

A swept path analysis has been undertaken at these docks and the turning area at the western end of the hardstand area and these are provided in **appendix c**.

### 7.4 internal design

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

- all parking aisles are 6.5 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 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 under AS2890.1 and AS2890.2) and these operate safely and efficiently; and
- a turning area is provided at the end of the dead end aisle within the northern section of the carpark as per the requirements of AS2890.1.

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



## 8. conclusions

---

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 predicted traffic generation rates that have been adopted are those outlined 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 generate approximately 40 vehicles per hour and this is moderate and will have no unacceptable impact on the predicted level of service or delays at any intersections. That is, the road network has been designed with this level of traffic activity in mind;
- the proposed parking supply of 100 spaces lies within the range of Council's rate (147 spaces) and the RTA's requirements (46 spaces). In addition a further 33 spaces have been set aside for future construction if required;
- 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 operation 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 similarly 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

---

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.

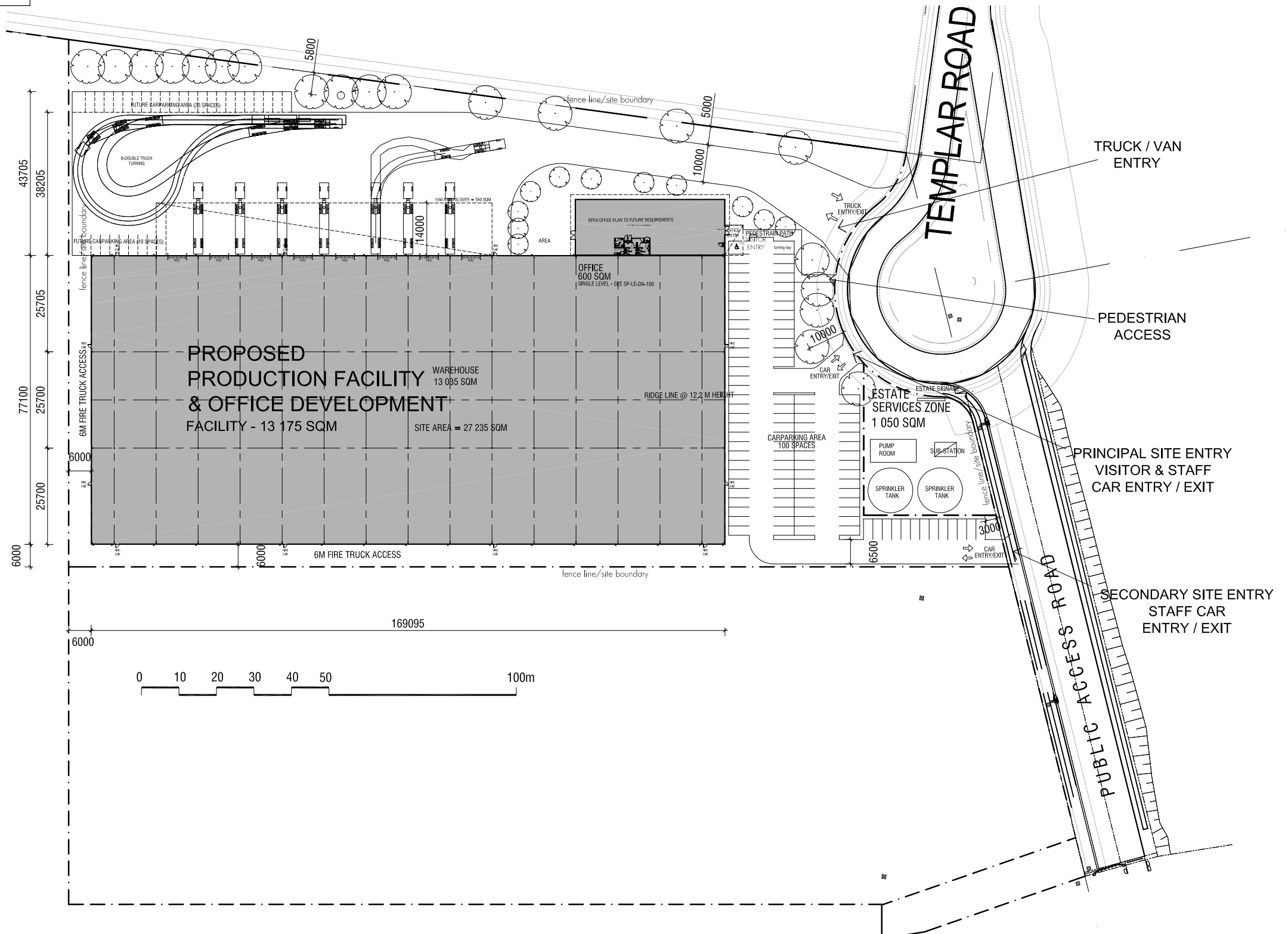




## appendix b

---

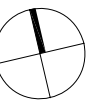
reduced plans



**DEVELOPMENT AREA**

TOTAL SITE AREA	27 235 SQM.
WAREHOUSE AREA	13 175 SQM.
OFFICE & AMENITIES AREA	600 SQM.
TOTAL BUILDING AREA	13 775 SQM.
AWNING AREA	540 SQM.
HEAVY DUTY PAVEMENT	6 450 SQM.
LIGHT DUTY PAVEMENT	2 865 SQM.
CARPARKING PROVIDED	100 SPACES
SITE COVERAGE	50 %

**01 SITE PLAN**  
1:500 @ B1



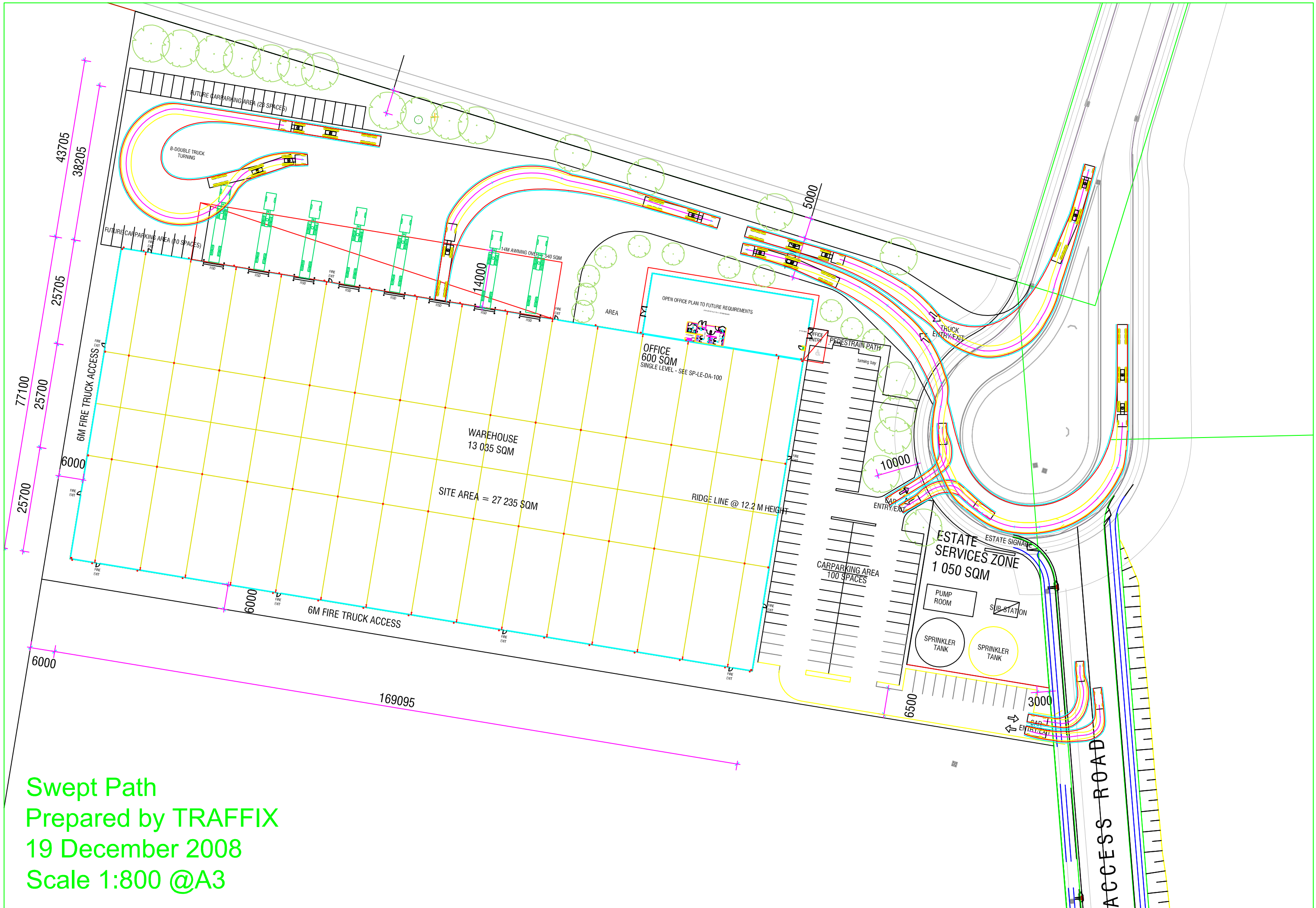
<p><b>Notes:</b> DO NOT SCALE OF DRAWING - DIMENSIONS &amp; LEVELS TO BE VERIFIED PRIOR TO COMMENCEMENT OF WORK WITH FIGURED DIMENSIONS IN PREFERENCE TO SCALED DIMENSIONS. MATERIALS &amp; WORKMANSHIP TO BE IN STRICT ACCORDANCE WITH ALL RELEVANT S.A.A. STANDARDS, BCA &amp; LOCAL AUTHORITIES REQUIREMENTS. 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. Sheet Size - B1</p>	<p>Revisions:</p> <table border="1"> <tr> <th>No.</th> <th>Date</th> <th>Description</th> </tr> <tr> <td>P4</td> <td>18.12.08</td> <td>PRELIMINARY ISSUE</td> </tr> </table>	No.	Date	Description	P4	18.12.08	PRELIMINARY ISSUE	<p>Structural Consultant:</p>	<p>Hydraulic Consultant:</p>	<p>Electrical Consultant:</p>	<p>Design &amp; Construction Manager:</p> <p><b>hansen yuncken</b> BUILDING DESIGN</p>	<p>Hansen Yuncken Pty Ltd Level 4, 5 Rosebery Avenue Rosebery NSW 2018 ph: (02) 9770 7800 fax: (02) 9231 2717 email: al@hcn.org.au</p>	<p>Site 505 147 King Street Sydney NSW 2000 ph: (02) 9232 7760 fax: (02) 9231 2717 email: al@hcn.org.au</p>	<p>Project:</p> <p>Address: SITE H, TEMPLAR ROAD ERSKINE PARK NSW</p>	<p>Drawing:</p> <p>DEVELOPMENT APPLICATION SITE PLAN</p>
	No.	Date	Description												
P4	18.12.08	PRELIMINARY ISSUE													
<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: 1:500 @ B1 Date: 03.12.2008 Project No: 191108 Drawing No: SP-LE-DA-001</p>	<p>Drawn: AW Issue: P4</p>									



## appendix c

---

swept path analysis



Swept Path  
 Prepared by TRAFFIX  
 19 December 2008  
 Scale 1:800 @A3