



dem

9.12 Traffic & Parking Report

**GLOBAL SWITCH SYDNEY 2
SPECIALIST DATA CENTRE
PYRMONT STREET, PYRMONT**

***Assessment of Transport, Traffic
and Parking Implications***

February 2010

Reference 0953

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1. INTRODUCTION

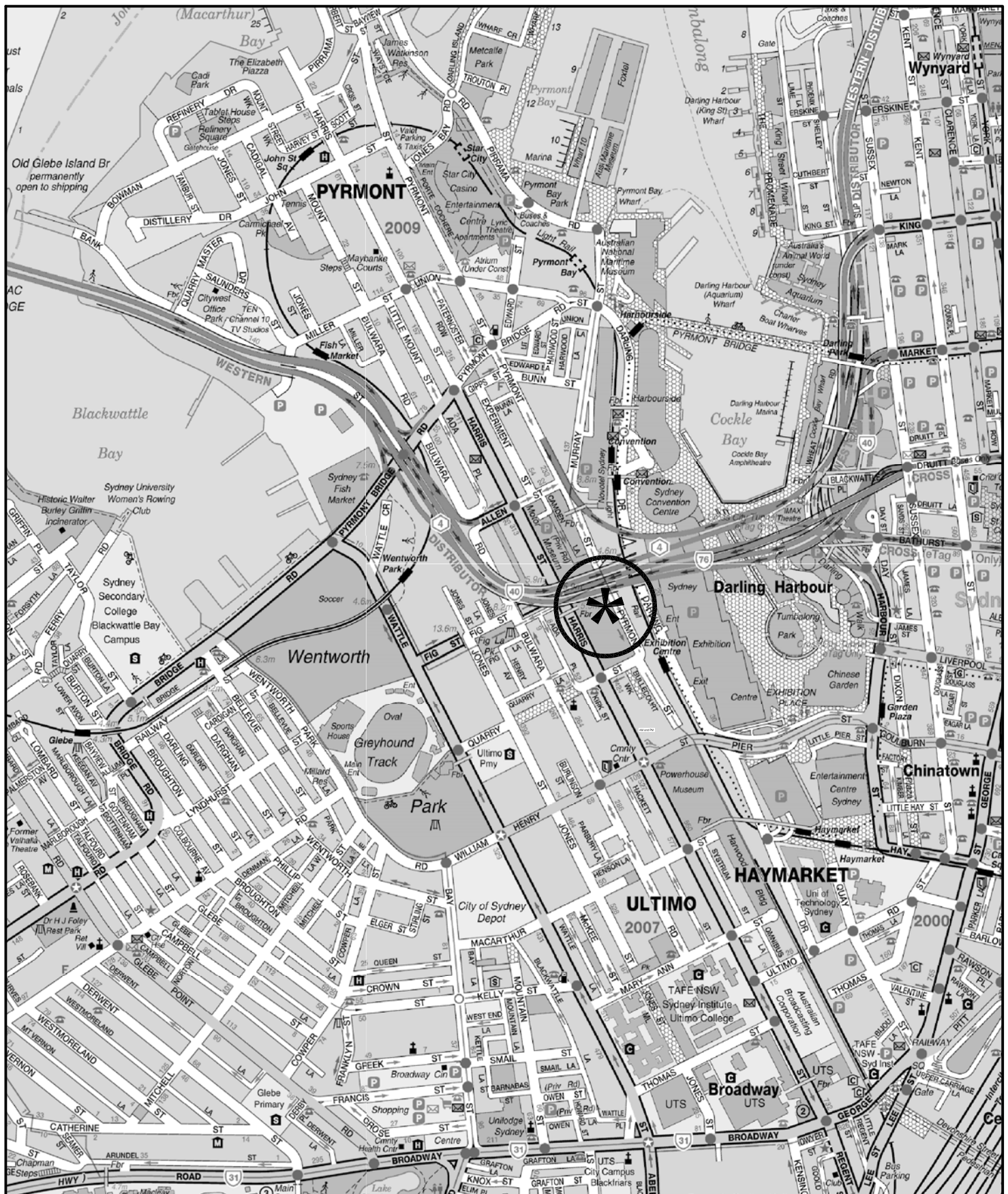
This report has been prepared to accompany an Application to the Department of Planning for the second stage of development on the Global Switch site in Pyrmont (Figure 1).

In 2001 the former Government Printing Office building in Harris Street was extensively modified and refurbished to accommodate a 'specialist data centre' which accorded with a Masterplan for the area prepared by the Sydney Harbour Foreshore Authority. This building occupies the western part of the block while the eastern part has remained vacant and largely unused.

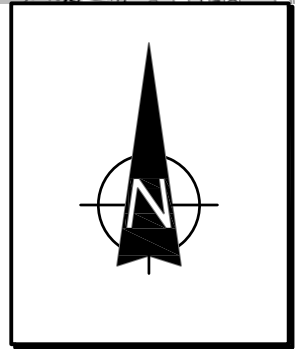
The proposed development scheme involves a new 9 level building on the eastern part of the site, including 3 basement levels. The new building will be integrated with the existing building, providing some 19,000m² of technical floorspace with some 15,000m² of plant.

The purpose of this report is to:

- * describe the site and the proposed development scheme
- * describe the road network serving the site and the prevailing traffic conditions
- * assess the adequacy of the proposed parking provision
- * assess the potential traffic implications
- * assess the suitability of the proposed vehicle access, internal circulation and servicing arrangements
- * respond to the Director General's requirements.



LEGEND



LOCATION

FIG 1

2. PROPOSED DEVELOPMENT SCHEME

2.1 SITE, CONTEXT AND CURRENT USE

The development site (Figure 2) is a consolidation of 3 lots occupying an area of some 5,066m² with frontages of some 160 metres to Pymont Street and 28 metres to Quarry Street. This rectangular shaped area, which is bounded in the north by the Fig Street road corridor, is paved and essentially vacant, being used from time to time for materials storage and carparking.

The site is located in an area where longstanding industrial and stevedoring uses have 'given way' to new residential and commercial uses under the wholesale redevelopment of the 'City West Precinct'. The existing 8 level Global Switch building adjoins to the west while the surrounding uses comprise:

- * the mixed uses along Harris Street including the TAB corp headquarters, the Ultimo Community Centre and other smaller retail, residential and commercial premises
- * the residential apartment complex on the southern side of Quarry Street and the aquatic centre on the remaining southern part of that block.

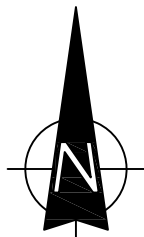
2.2 PROPOSED DEVELOPMENT

It is proposed to clear and excavate the site for the 3 basement levels. The new building will essentially occupy the whole of the site and will be connected in part to the existing building. The pedestrian entry and lobby will be located centrally on the Pymont Street frontage while a loading dock and small carpark (12 spaces) will be located on the ground level in the northern part of the building with vehicle access on Pymont Street.



SITE

LEGEND



SITE

FIG 2

The building will comprise:

- * some 19,000m² of technical floorspace
- * some 15,000m² of plant.

The proposed facility will operate 7 days/24 hours and staffing will comprise:

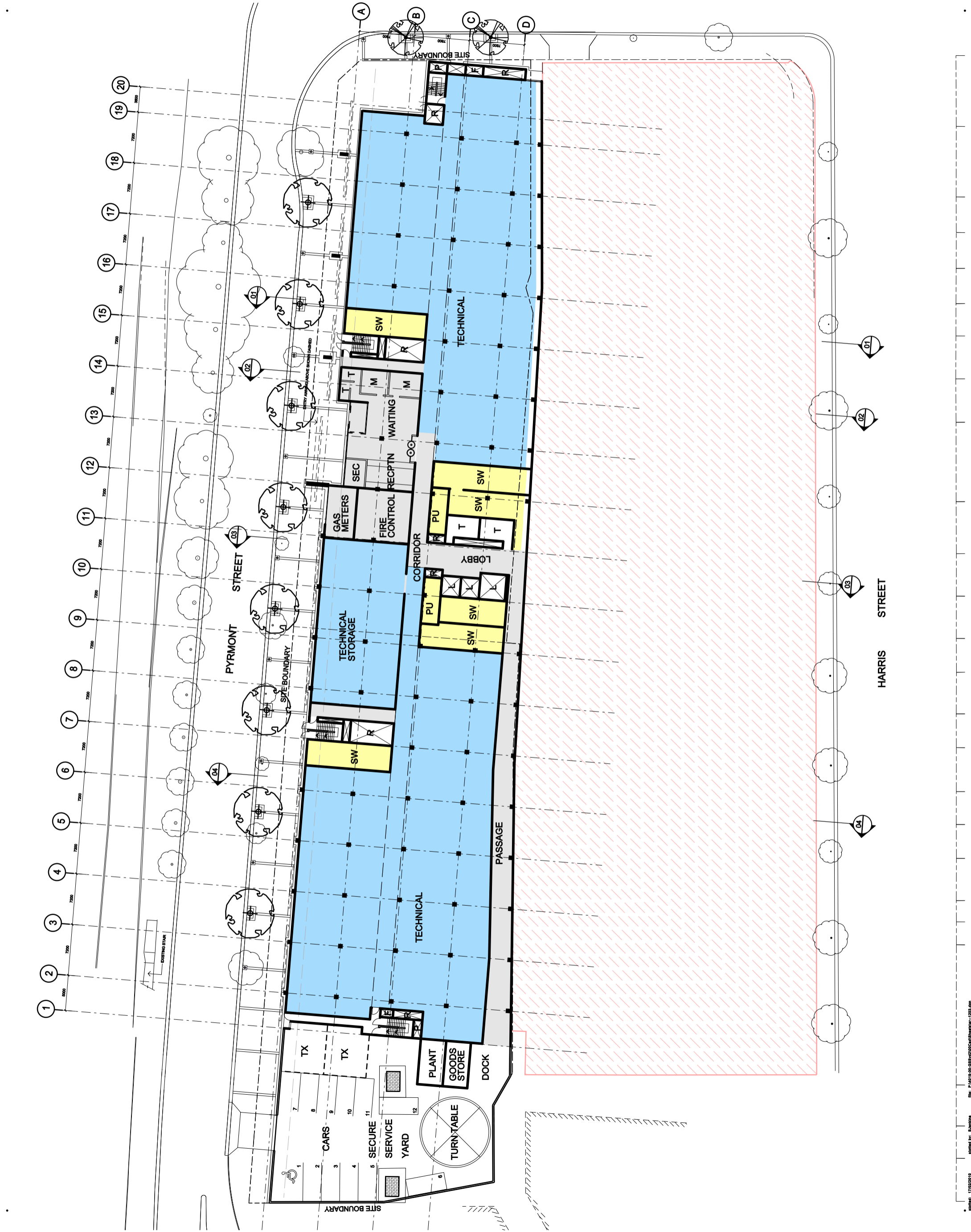
- * 3 – 4 permanent Global Switch staff
- * 6 – 8 permanent contractors staff

Architectural details of the development scheme are provided in the plans prepared by dem Architects which accompany the Application and are reproduced in part overleaf.

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no.	description	by	checked	date
01	DESIGN AMENDMENTS	M	SL	
02	DESIGN AMENDMENTS	M	SL	
03	DESIGN AMENDMENTS	M	SL	
04	DESIGN AMENDMENTS	M	SL	

Figured dimensions to be taken in preference to scaled dimensions. Verify all dimensions shown on computer generated and the contractor is to supply any IT related and checked by an authorized dem (east) Pty limited representative.



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**Global Switch Sydney 2
 Extension
 273 Pyrmont Road
 Ultimo NSW 2007**

Global Switch Property (Australia)
 400 Harris Street
 Ultimo NSW 2007

Aurecon Group
 116 Military Road
 Neutral bay
 NSW 2089

ground floor plan

da issue
 project no. 4019-00
 drawing no. b1
 scale 1:200
 dbg
 ar - 1203
 B01

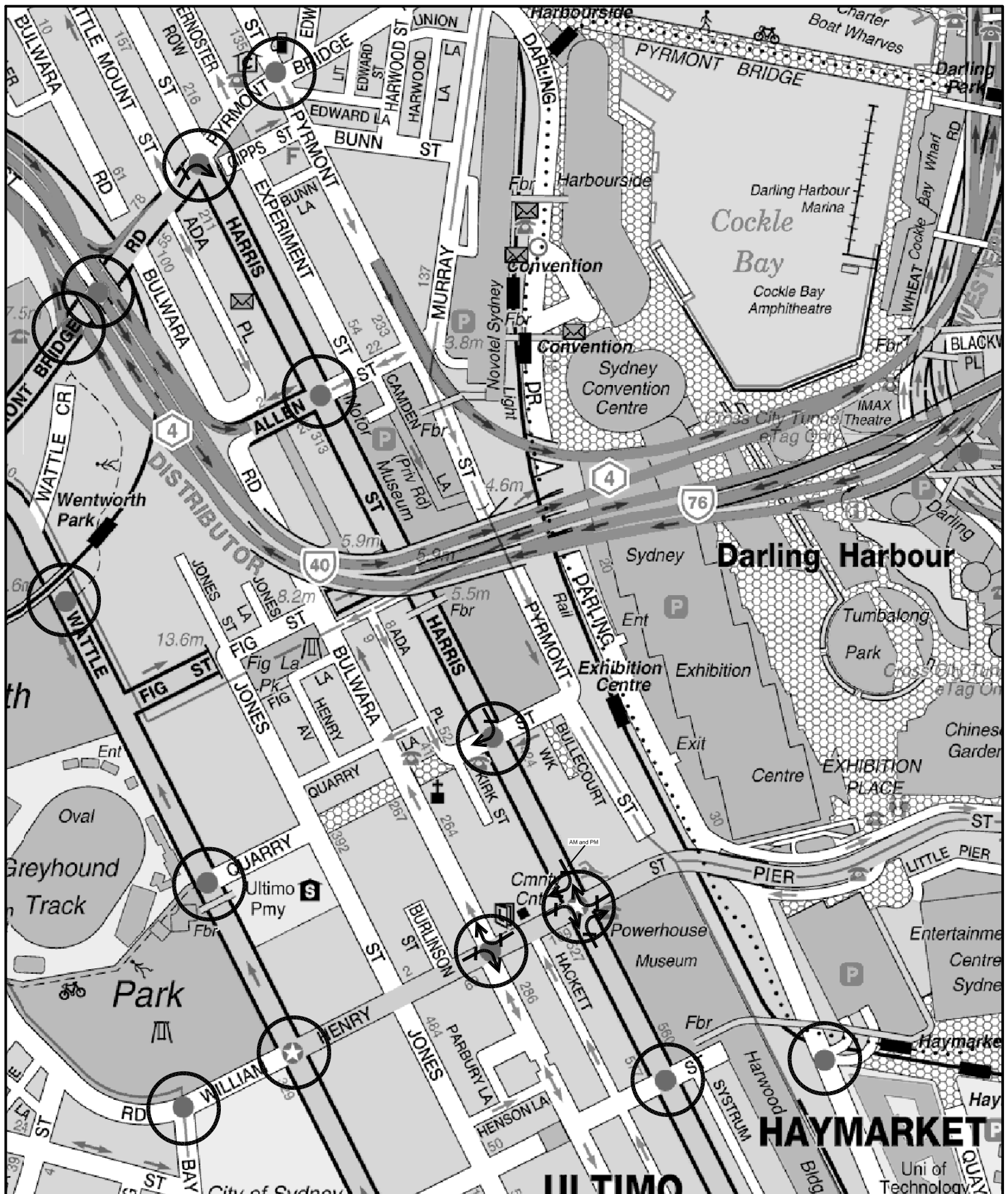
3. ROAD NETWORK AND TRAFFIC CONDITIONS

3.1 ROAD NETWORK

The road network serving the site (Figure 3) comprises:

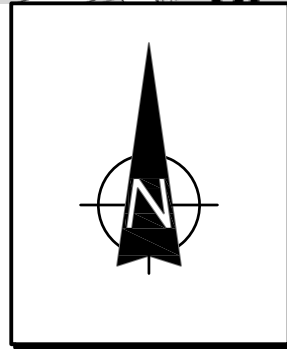
- * *Glebe Island Arterial* – a complex elevated freeway system, connecting between the City and Pyrmont. It has an ‘at grade’ connection to Harris Street (at the Fig Street intersection) with the elevated roadway directly above connecting to the Anzac Bridge
- * *Harris Street* – a State Road and arterial route forming part of the Southern Arterial Route between Pyrmont and Redfern
- * *William Henry Street/Pier Street* – a Regional Road and sub-arterial route linking between the Southern Arterial Route (Wattle Street/Harris Street), and the Goulburn Street route through the southern section of the City and connecting with the Harbour Street access to/from the Harbour Bridge
- * *Pyrmont Street* – a collector road route which provides a southbound traffic link between Pyrmont Street and Harris Street. The section south of Quarry Street only serves a ‘dead end’ local access function
- * *Quarry Street* – a local road west of Harris Street and part of the ‘Pyrmont Street collector route’ to the east of Harris Street
- * *Allen Street* – a local access road east of Harris Street and arterial off-ramp link west of Harris Street.

Pyrmont Street and Quarry Street are some 12 metres wide with the latter having a moderate upgrade towards Harris Street.



LEGEND

- TRAFFIC SIGNAL CONTROL
- ONE WAY
- ⊘ RESTRICTED TURNING MOVEMENT



**ROAD NETWORK &
TRAFFIC CONTROLS**

FIG 3

3.2 TRAFFIC CONTROLS

The existing traffic controls on the road network relevant to the site comprise:

- * the two-way traffic flow in Harris Street
- * the one-way south traffic flow in Pymont Street (apart from the two-way flow in the dead-end section south of Quarry Street)
- * the one-way west traffic flow in Quarry Street east of Harris Street, two-way flow west of Harris Street and closure west of Ada Place
- * the two-way traffic flow in Allen Street (apart from the one-way flow in the section between Harris Street and Experiment Street)
- * the two-way traffic flow on the William Henry Street/Pier Street and Darling Drive routes
- * the traffic control signs at the Harris Street and Quarry Street intersections (details of these intersection arrangements are provided in Appendix A)
- * the traffic signals along Harris Street at the William Henry Street, Fig Street, Allen Street and Pymont Bridge Road intersections.

3.3 TRAFFIC CONDITIONS

Details of the prevailing traffic flows adjacent to the site are provided in data published by the RTA for the Harris Street/William Henry Street intersection which reveal the following flows in terms of Annual Average Daily Traffic (AADT):

	AADT
- Harris Street southbound	22,450
- Harris Street northbound	4,300
- William Henry Street eastbound	7,800
- William Henry Street westbound	9,200

The traffic flow along the Pymont Street - Quarry Street route is some 6 to 7,000 vpd while some 8,000 vpd travel from Pymont Street onto the Citybound on-load ramp. Traffic conditions in the area are generally dominated by the heavy demands at the Harris Street/Fig Street, Harris Street/Pymont Bridge Road and Harris Street/Broadway intersections. Conditions at the Harris Street/Quarry Street and Harris Street/William Henry Street intersections are quite satisfactory at all times.

The operational performance of the existing intersections along Harris Street under the prevailing morning and afternoon peak traffic volumes has been evaluated using the SCATES traffic model. The results of that analysis are summarised in the following while the criteria for interpreting the results are reproduced overleaf.

	AM Peak			PM Peak		
	LOS	DS	AVD	LOS	DS	AVD
William Henry Street	B	0.76	21	B	0.72	27
Quarry Street	C	0.80	31	B	0.79	23
Fig Street	B	0.73	25	C	0.88	31
Allen Street	A	0.67	13	B	0.73	15

These results indicate that the performances of the intersections are relatively balanced while Fig Street generally represents the highest level of vehicle conflict and capacity constraint.

3.4 TRANSPORT SERVICES

Public transport servicing of the site is provided by:

- * the light rail system running along the adjacent former railway goods line corridor. A rail stop 'Exhibition Centre' is located adjacent to the south-eastern corner of the site and the system connects from Catherine Street, Leichhardt through the southern part of the City to Central Station
- * the monorail system which runs along Darling Drive

Criteria for Interpreting Results of INTANAL Analysis

1. Level of Service (LOS)

LOS	Traffic Controls and Roundabouts	Give Way and Stop Signs
'A'	Good	Good
'B'	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
'C'	Satisfactory	Satisfactory but accident study required
'D'	Operating near capacity	Near capacity and Accident Study required
'E'	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode
'D'	Unsatisfactory and requires additional capacity	Unsatisfactory and requires other control mode

2. Average Vehicle Delay (AVD)

The AVD provides a measure of the operational performance of an intersection as indicated on the table below which relates AVD to LOS. The AVD's listed in the table should be taken as a guide only as longer delays could be tolerated in some locations (ie inner city conditions) and on some roads (ie minor side street intersecting with a major arterial route).

Level of Service	Average Delay per Vehicle (secs/veh)	Traffic Signals, Roundabouts	Give Way and Stop Signs
A	Less than 14	Good operation	Good operation
B	15 to 28	Good with acceptable delays and spare capacity	Acceptable delays and spare capacity
C	29 to 42	Satisfactory	Satisfactory but accident study required
D	43 to 56	Operating near capacity	Near capacity and accident study required
D	57 to 70	At capacity; at signals incidents will cause excessive delays. Roundabouts require other control mode	At capacity and requires other control mode

3. Degree of Saturation (DS)

The DS is another measure of the operational performance of individual intersections.

For intersections controlled by **traffic signals**¹ both queue length and delay increase rapidly as DS approaches 1, and it is usual to attempt to keep DS to less than 0.9. Values of DS in the order of 0.7 generally represent satisfactory intersection operation. When DS exceeds 0.9 queues can be anticipated.

For intersections controlled by a **roundabout or GIVE WAY or STOP signs**, satisfactory intersection operation is indicated by a DS of 0.8 or less.

¹ the values of DS for intersections under traffic signal control are only valid for cycle length of 120 secs

- * the Sydney Buses services comprise of:
 - the Route 501 service between Victoria Road and Railway Square (inbound via Pymont Street/Quarry Street/Harris Street, outbound via Harris Street)
 - the Route 443 and 888 services between Circular Quay and Pymont via the Casino loop.

The bus, light rail and monorail services provide connection to the metropolitan rail system which is also within reasonable walking distance at the Central and Town Hall Stations.

3.5 FUTURE CIRCUMSTANCES

There is one potential road network development scheme which could have implications for the site, namely:

- * *Potential two-way traffic along Pymont Street - Quarry Street*

It has been envisaged in the planning for the southern City West precinct that traffic flow on Pymont Street will be converted back to 'two way'. The current arrangement was introduced to facilitate construction work for the Glebe Island Arterial. Although the southbound on-load ramp presents some difficulties (ie north of Allen Street) it is still possible to introduce this change, however it will not be possible to allow the right-turn for northbound traffic from Harris Street into Quarry Street due to the limited 2 lanes for this direction in Harris Street.

4. PARKING

The proposed development represents a relatively unique facility with a lower level of staffing and the existing Global Switch Building of 35,800m² only have 13 parking spaces. An earlier (2006) proposal by Global Switch to construct a commercial building on the Stage 2 site was to provide 180 parking spaces.

The site is well served by a number of public transport services and is within easy walking distance of the CBD and surrounding high density residential development. The application of Council's parking code is not relevant to the proposed use, although Council adopts a policy of constrained parking provisions particularly for commercial uses.

It is proposed to provide 12 parking spaces in the ground level carpark area and this will include one disabled driver space. It is also relevant that there are a number of significant public parking stations located in the near vicinity while on-street parking is subject to 'period' restrictions.

All things considered it is apparent that the proposed parking provision will be quite adequate and appropriate to the circumstances.

5. TRAFFIC

5.1 MOTOR VEHICLES

The traffic generation of the proposed development will be limited to that of the 10 on-site parking spaces together with a minor number of taxi, set-down/pick-up and service vehicle movements. The generation during the morning and afternoon peak periods would be no more than some 5 – 6 vtph and as a consequence the impact on the road system will be quite imperceptible.

5.2 PEDESTRIANS

Pedestrian movements will be facilitated by the footways along Pyrmont Street, Harris Street and Quarry Street. Connections to the CBD, Central Station and Darling Harbour will be facilitated by the numerous linkages over the light rail line/ Darling Drive including a connection to Pier Street at the end of Pyrmont Street.

5.3 CYCLISTS

There are no existing formal cycle routes past the site at the present time, however there are cycle lanes along Darling Drive which are accessible by the connection to Pyrmont Street at the Exhibition Centre light rail station. Regional cycle routes are easily accessed just to the north and south while Council is currently engaged in an ambitious program to develop new cycle routes and improve existing routes. Provisions for cyclists will be made by way of the facilities already available in the existing building including secure storage, lockers and showers.

6. ACCESS, INTERNAL CIRCULATION AND SERVICING

Access

Vehicle access will be provided by a 6.0 metre wide combined ingress/egress driveway on Pymont Street located adjacent to the northern site boundary. The existing access driveways will be removed and the new driveway will be located in a position where excellent sight distance will be available on the straight and level carriageway of Pymont Street.

The design of the access driveway will accord with the requirements of AS 2890.1 and Council's code.

Internal Circulation

Generous ramp grades/widths, aisle widths and parking bay dimensions are provided for in the carpark design. The two-way circulation system will be quite flexible and there is generous provisions for manoeuvring and overall the design provisions accord with AS 2890.1.

Servicing

Refuse will be removed from the site by Council's garbage collection service with bin storage located adjacent to the access driveway. Small service vehicles (eg service personnel) will be able to use the visitor parking spaces while provision has been made for an 11.0 metre truck to access the dock space will be provided using a turntable to drive IN/OUT in a forward direction (see turning path assessment provided in Appendix B). The infrequent requirements for the delivery of large equipment will be satisfied by on-street parking provisions and special carnage designed to lift from the room of the building.

8. DIRECTOR GENERAL AND RTA REQUIREMENTS

The principal focus of these requirements is to ensure that travel by private motor vehicle is minimised and that travel by public transport, walking and cycling is facilitated. In this regard, it is noted that:

- * only 12 parking spaces are provided for a gross floorarea of 22,285m²
- * the site is ideally located with convenient access to bus, light rail, monorail and ferry services
- * the metropolitan rail system is easily accessed by walking or use of one of the other transport services
- * the site is within easy walking distance of the CBD and high density residential areas
- * walking and cycling is made easy by the existing facilities on the site frontage and nearby.

The proposed development will only generate very minor traffic movements (ie less than 10 vtpm in the peak periods) and therefore the impact on the road system serving the site will be quite imperceptible.

The proposed parking and servicing provisions will be quite adequate and appropriate and will reflect the ease of access and use of the public transport services.

The design of the vehicle access, internal circulation and servicing arrangements will comply with the relevant design standards.

8. CONCLUSION

The development site occupies a prominent site in the southern precinct of the 'City West area' and represents a valuable opportunity for a specialist data centre with links to the existing Global Switch facility which is compatible with the planning principals for the precinct. The transport, traffic and parking assessment provided in this report indicates that the development will:

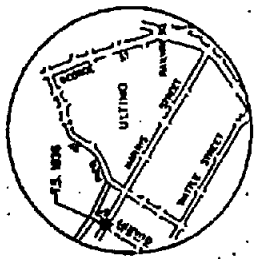
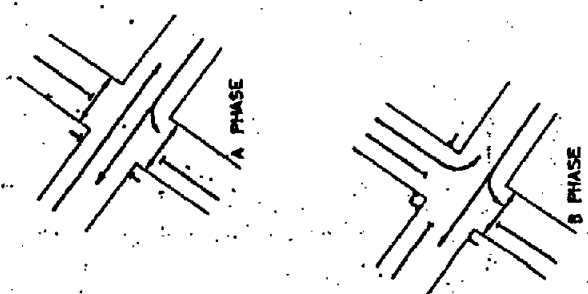
- * not present any unsatisfactory traffic capacity, safety or environmental related implications
- * incorporate a suitable and appropriate parking provision for the nature of use
- * incorporate suitable vehicle access, internal circulation and servicing arrangements
- * make appropriate provision for cyclists, pedestrians and disabled drivers.

APPENDIX A

INTERSECTION PLANS



MOVEMENT DIAGRAMS



NOTES

1. Devices 200mm high.
2. All points are Type 2 and standard except post 7 which is a Type 5 M.A.
3. The S.C.C. to be altered to remove slay pole on western corner of Quarry Street.
4. Mean sign on southern corner of Harris Street to be re-located.
5. Overhead pedestrian sign on northern corner of Harris Street to be removed.
6. For alteration to left in Quarry Street see Plan No 2100.
7. See L.T.O.A.'s to be displayed for the B-C midgreen.
8. The A/B Walk is to operate as follows:
 - a. Phase 3 and 4, call B4.
 - b. The demand may be satisfied in A/B introduced.
 - c. A/B Walk is introduced with A green, A/B Walk and clearance periods as set.
 - d. The termination of A/B shall not be inhibited by the A/B Walk or clearance which may overlap into and be terminated during B4.
9. This site is to be telecam fitted with intersection 10 520.

SECTION	DESCRIPTION	NO.	DATE	BY	CHKD.
A	PLAN (REV)	1			
B	PLAN (REV)	2			
C	PLAN (REV)	3			
D	PLAN (REV)	4			
E	PLAN (REV)	5			
F	PLAN (REV)	6			
G	PLAN (REV)	7			
H	PLAN (REV)	8			
I	PLAN (REV)	9			
J	PLAN (REV)	10			
K	PLAN (REV)	11			
L	PLAN (REV)	12			
M	PLAN (REV)	13			
N	PLAN (REV)	14			
O	PLAN (REV)	15			
P	PLAN (REV)	16			
Q	PLAN (REV)	17			
R	PLAN (REV)	18			
S	PLAN (REV)	19			
T	PLAN (REV)	20			
U	PLAN (REV)	21			
V	PLAN (REV)	22			
W	PLAN (REV)	23			
X	PLAN (REV)	24			
Y	PLAN (REV)	25			
Z	PLAN (REV)	26			
AA	PLAN (REV)	27			
AB	PLAN (REV)	28			
AC	PLAN (REV)	29			
AD	PLAN (REV)	30			
AE	PLAN (REV)	31			
AF	PLAN (REV)	32			
AG	PLAN (REV)	33			
AH	PLAN (REV)	34			
AI	PLAN (REV)	35			
AJ	PLAN (REV)	36			
AK	PLAN (REV)	37			
AL	PLAN (REV)	38			
AM	PLAN (REV)	39			
AN	PLAN (REV)	40			
AO	PLAN (REV)	41			
AP	PLAN (REV)	42			
AQ	PLAN (REV)	43			
AR	PLAN (REV)	44			
AS	PLAN (REV)	45			
AT	PLAN (REV)	46			
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AZ	PLAN (REV)	52			
BA	PLAN (REV)	53			
BB	PLAN (REV)	54			
BC	PLAN (REV)	55			
BD	PLAN (REV)	56			
BE	PLAN (REV)	57			
BF	PLAN (REV)	58			
BG	PLAN (REV)	59			
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BM	PLAN (REV)	65			
BN	PLAN (REV)	66			
BO	PLAN (REV)	67			
BP	PLAN (REV)	68			
BQ	PLAN (REV)	69			
BR	PLAN (REV)	70			
BS	PLAN (REV)	71			
BT	PLAN (REV)	72			
BU	PLAN (REV)	73			
BV	PLAN (REV)	74			
BW	PLAN (REV)	75			
BX	PLAN (REV)	76			
BY	PLAN (REV)	77			
BZ	PLAN (REV)	78			
CA	PLAN (REV)	79			
CB	PLAN (REV)	80			
CC	PLAN (REV)	81			
CD	PLAN (REV)	82			
CE	PLAN (REV)	83			
CF	PLAN (REV)	84			
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CL	PLAN (REV)	90			
CM	PLAN (REV)	91			
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CO	PLAN (REV)	93			
CP	PLAN (REV)	94			
CQ	PLAN (REV)	95			
CR	PLAN (REV)	96			
CS	PLAN (REV)	97			
CT	PLAN (REV)	98			
CU	PLAN (REV)	99			
CV	PLAN (REV)	100			
CW	PLAN (REV)	101			
CX	PLAN (REV)	102			
CY	PLAN (REV)	103			
CZ	PLAN (REV)	104			
CA	PLAN (REV)	105			
CB	PLAN (REV)	106			
CC	PLAN (REV)	107			
CD	PLAN (REV)	108			
CE	PLAN (REV)	109			
CF	PLAN (REV)	110			
CG	PLAN (REV)	111			
CH	PLAN (REV)	112			
CI	PLAN (REV)	113			
CJ	PLAN (REV)	114			
CK	PLAN (REV)	115			
CL	PLAN (REV)	116			
CM	PLAN (REV)	117			
CN	PLAN (REV)	118			
CO	PLAN (REV)	119			
CP	PLAN (REV)	120			
CQ	PLAN (REV)	121			
CR	PLAN (REV)	122			
CS	PLAN (REV)	123			
CT	PLAN (REV)	124			
CU	PLAN (REV)	125			
CV	PLAN (REV)	126			
CW	PLAN (REV)	127			
CX	PLAN (REV)	128			
CY	PLAN (REV)	129			
CZ	PLAN (REV)	130			

PUBLIC UTILITY LEGEND

1	ELECTRIC LIGHT P.O.L.
2	STIP WALK
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88	STIP WALK
89	STIP WALK
90	STIP WALK
91	STIP WALK
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97	STIP WALK
98	STIP WALK
99	STIP WALK
100	STIP WALK

DEPT OF MAIN ROADS, NSW
 CITY OF SYDNEY
 HARRIS STREET AND QUARRY STREET
 ULTIMO

APPROVED
 [Signature]
 [Title]

THESE DRAWINGS HAVE BEEN
 CHECKED BY THE SITE OF THE
 WORK AND THE INFORMATION
 CONTAINED HEREIN IS
 CORRECT AND COMPLETE
 DATE: 27. 3. 70

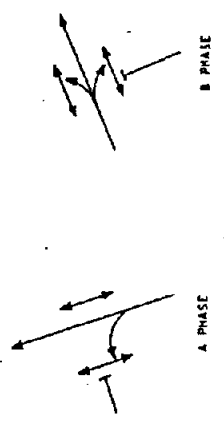
REFERENCE PLANS
 [List of reference plans]

DATE: 27. 3. 70
 [Signature]

REDUCTION RATIO
 21.2 x

7000.412. VV. 1836

Date in Service



MOVEMENT DIAGRAMS

POST CHART

POST	TYPE	LENGTH	REMARKS
1	NEW	4.1	
2	NEW	4.1	
3	NEW	4.1	
4	NEW	4.1	
5	NEW	4.1	
6	NEW	4.1	
7	NEW	4.1	
8	NEW	4.1	
9	NEW	4.1	
10	NEW	4.1	
11	NEW	4.1	
12	NEW	4.1	
13	NEW	4.1	
14	NEW	4.1	
15	NEW	4.1	
16	NEW	4.1	
17	NEW	4.1	
18	NEW	4.1	
19	NEW	4.1	
20	NEW	4.1	
21	NEW	4.1	
22	NEW	4.1	
23	NEW	4.1	
24	NEW	4.1	
25	NEW	4.1	
26	NEW	4.1	
27	NEW	4.1	
28	NEW	4.1	
29	NEW	4.1	
30	NEW	4.1	
31	NEW	4.1	
32	NEW	4.1	
33	NEW	4.1	
34	NEW	4.1	
35	NEW	4.1	
36	NEW	4.1	
37	NEW	4.1	
38	NEW	4.1	
39	NEW	4.1	
40	NEW	4.1	
41	NEW	4.1	
42	NEW	4.1	
43	NEW	4.1	
44	NEW	4.1	
45	NEW	4.1	
46	NEW	4.1	
47	NEW	4.1	
48	NEW	4.1	
49	NEW	4.1	
50	NEW	4.1	

- NOTES**
1. This site forms part of the one way traffic management scheme for Utilwell/Pyramid.
 2. Posts 5 & 8 are located 0.1m from kerb.
 3. Supply to be determined on site.
 4. Def of Service 5 signposting! Stop sign to be placed on post 6.
 5. Council to be requested to construct kerb ramps as required.

DESIGN LAYOUT

PUBLIC UTILITY LEGEND

SYMBOL	DESCRIPTION
1	ELECTRICITY
2	TELEPHONE
3	WATER
4	SEWER
5	RAINWATER
6	UNIDENTIFIED
7	UNIDENTIFIED
8	UNIDENTIFIED
9	UNIDENTIFIED
10	UNIDENTIFIED
11	UNIDENTIFIED
12	UNIDENTIFIED
13	UNIDENTIFIED
14	UNIDENTIFIED
15	UNIDENTIFIED
16	UNIDENTIFIED
17	UNIDENTIFIED
18	UNIDENTIFIED
19	UNIDENTIFIED
20	UNIDENTIFIED
21	UNIDENTIFIED
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37	UNIDENTIFIED
38	UNIDENTIFIED
39	UNIDENTIFIED
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42	UNIDENTIFIED
43	UNIDENTIFIED
44	UNIDENTIFIED
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46	UNIDENTIFIED
47	UNIDENTIFIED
48	UNIDENTIFIED
49	UNIDENTIFIED
50	UNIDENTIFIED

DEPT. OF MAIN ROADS, N.S.W.
CITY OF SYDNEY
HARRIS STREET
AND
ALLEN STREET
PYRMONT

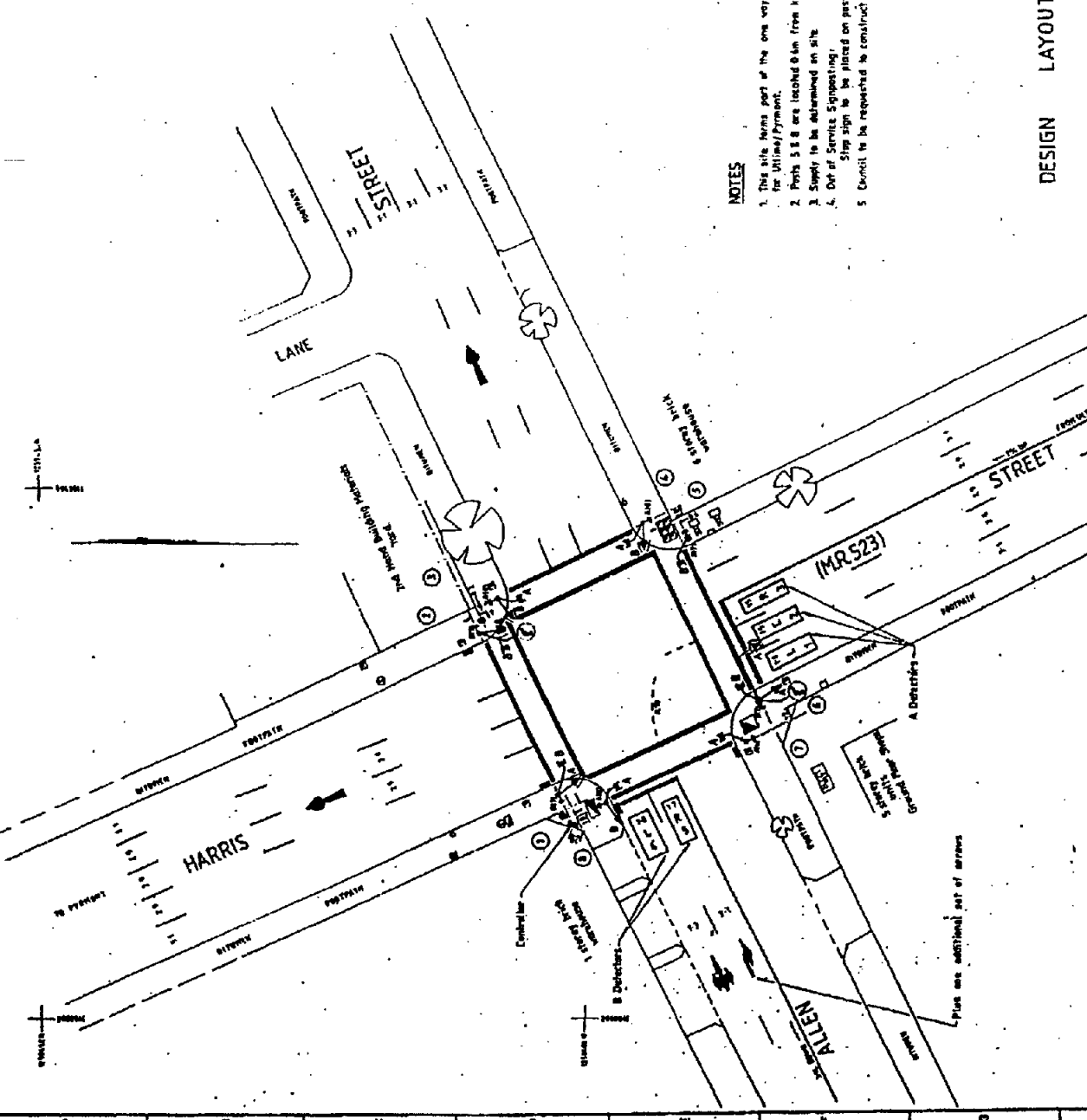
PROFESSOR ENGINEER
DATE 12/12/88

SCALE 1:200
DRAWING NO. 0523.412.VV.2839

NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR TENDERS	12/12/88	
2	REVISED		
3	REVISED		
4	REVISED		
5	REVISED		
6	REVISED		
7	REVISED		
8	REVISED		
9	REVISED		
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49	REVISED		
50	REVISED		

REDUCTION RATIO
21.2x

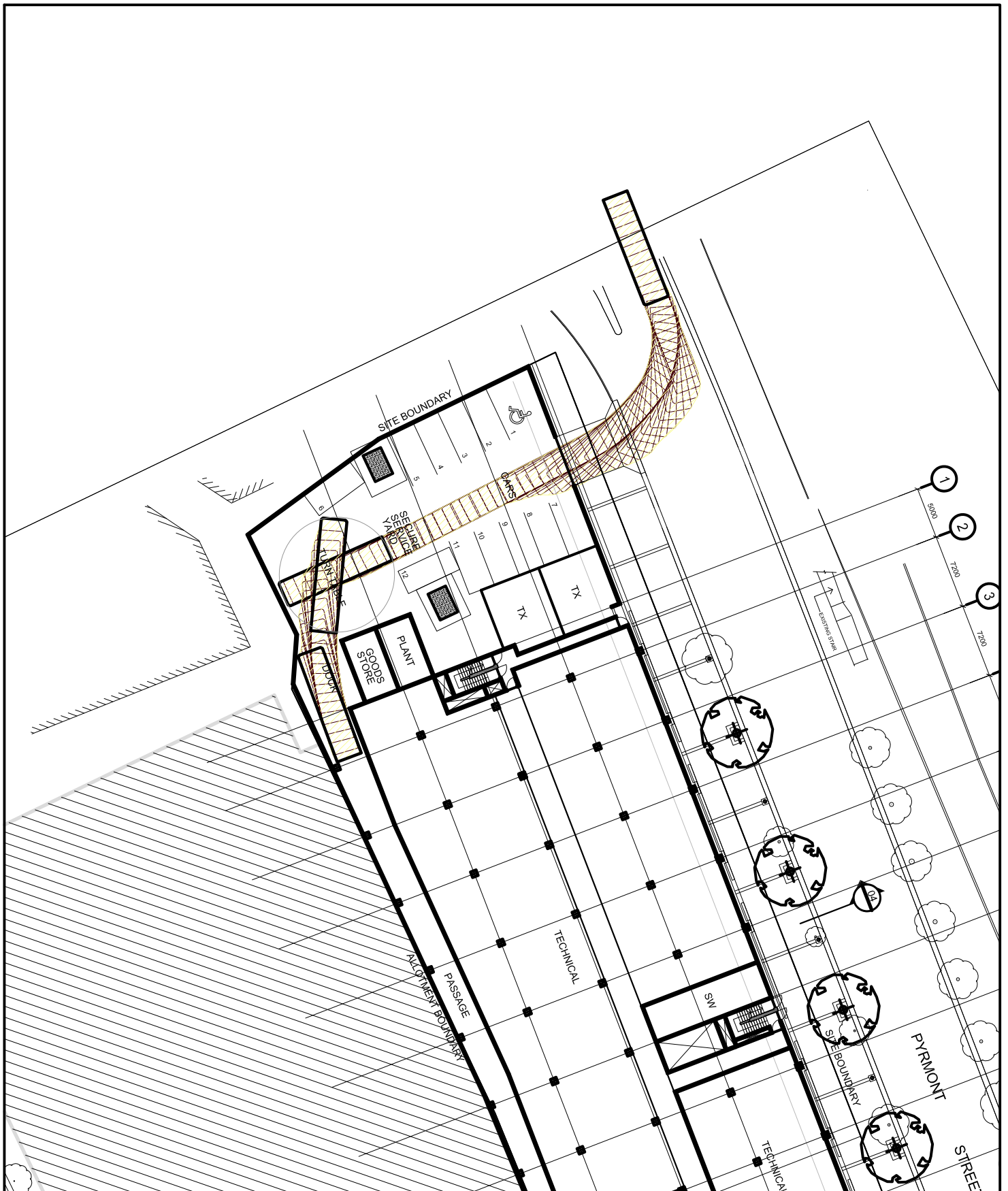
A ORIGINAL ISSUE



1 2 3 4 5 6 7 8 9 10 11 12

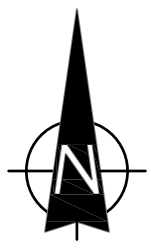
APPENDIX B

TURNING PATH ASSESSMENT



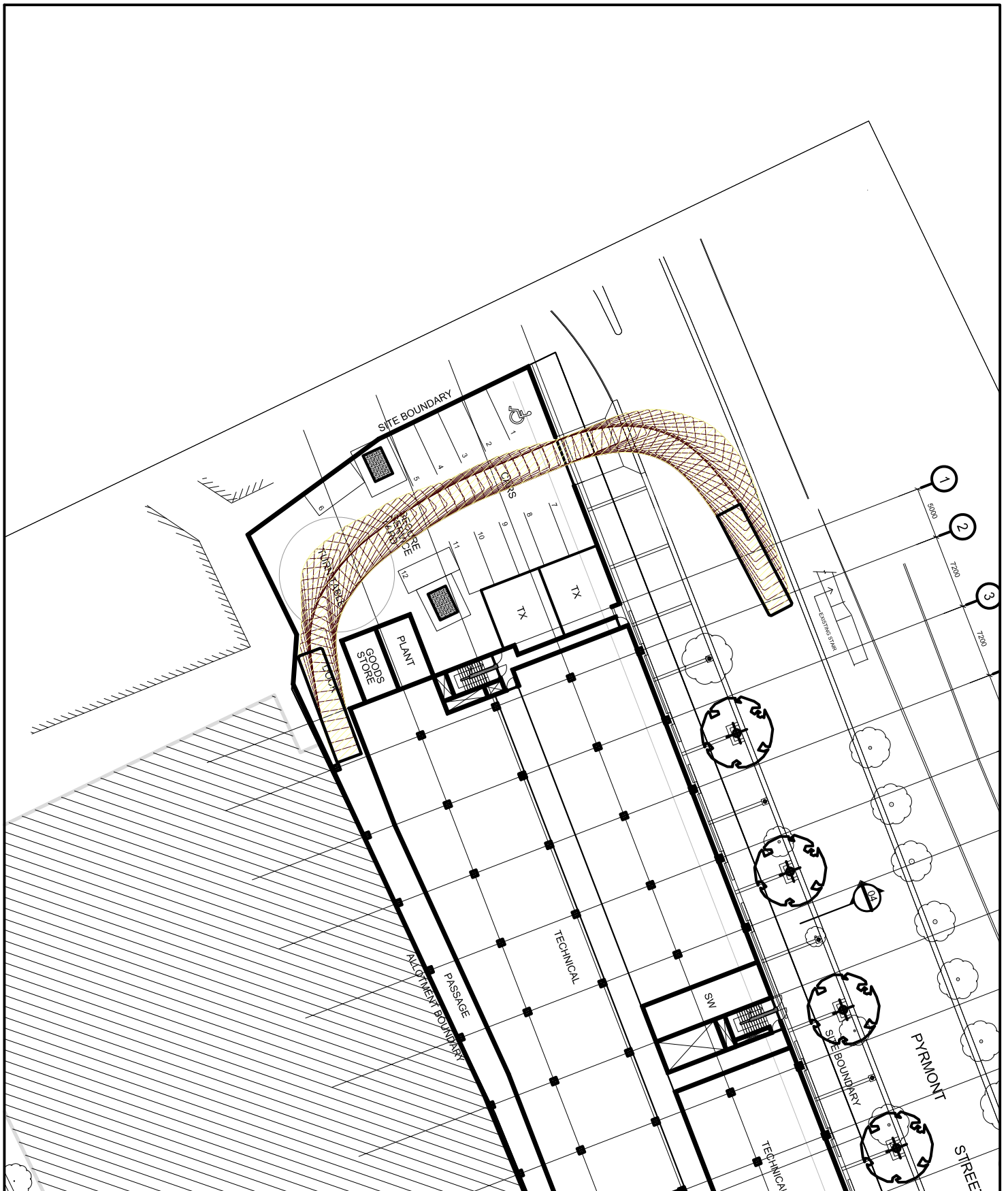
LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2000. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



**SWEPT PATH ANALYSIS
OF AN 11m RIGID
VEHICLE ENTERING THE SITE**

SP 1



LEGEND

This drawing has been prepared using vehicle modelling computer software AutoTrack V5.00a in conjunction with AutoCAD 2000. The vehicle used is based upon vehicle data provided by Austroads and incorporates a reasonable degree of tolerance. However, it is not possible to account for all vehicle types/characteristics and/or driver ability.



SWEPT PATH ANALYSIS OF AN 11m RIGID VEHICLE EXITING THE SITE

SP 2