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Our reference 2112699A-LT_2519/TVD:kd

19 October 2009

Mr Rod Winton
Winton Associates
Suite 505, 25 Lime Street
SYDNEY NSW 2000

Dear Rod,

Neuroscience Research Project - Outstanding Information

Further to your emails of 1 and 13 October 2009, I would like to provide the following responses to the traffic related issues.

1.1 Stage 2A Entry

PB have been advised that the location of the ramp from Easy Street into the at-grade parking area has changed for Stages 2A and 2B (see figure in Appendix A). The changed ramp design will require two parking spaces to be moved. A replacement location has been found next to the existing building (see Appendix A). Therefore there is no net change from the parking numbers presented in the Traffic Study and TMAP (February 2009).

The turning path analysis has been replicated for the new ramp entry arrangements. The new entry is still acceptable. In fact, it has easier turns than the previous design. The results are shown in Appendix B.

1.2 Copies of drawings showing turning paths for longest vehicle complying with AUSTROADS

In the Traffic Study and TMAP, PB presented the results of the vehicle turning path analysis which showed that the design of the loading dock, car park and porte cochere complied with the requirements of AUSTROADS. The design vehicles tested and the results are shown in Table 1. The turning path analysis plots are shown in Appendix B.

The conclusions presented in the Traffic Study were:

- The basement car park and its entrances have been checked for compliance with the Australian Standard 2890.1 – 2004 and an AutoTrack turning path analysis has been carried out.
- The proposed loading dock with two docks is suitable to accommodate large rigid trucks, along with four spaces for vans, provides sufficient capacity for the development.

Table 1 Turning path analysis

	Design Vehicle	Result
Loading dock	AUSTROADS medium rigid vehicle (8.8 m long) AUSTROADS large rigid vehicle (12.5 m long) 13.9 m gas tanker	**Project Application**: 8.8 m long vehicle can enter dock in two movements and depart in one movement. 12.5 m long vehicle can enter dock in two movements and depart in three movements. 13.9 m long tanker can enter dock area (off Hospital Road) but cannot fit into docks due to column. Gas deliveries can be made out of regular business hours when access to docks and contractors spaces is not essential.
Car park	AUSTROADS Car/Van (5.2 m long)	Car can make all turns necessary. Recommendations regarding car park layout contained in Traffic Study and TMAP
Porte cochere	AUSTROADS Car/Van (5.2 m long) Hiace Commuter bus (14 seat)	Car can make all necessary turns. Hiace Commuter bus can make the necessary turns based on a turning path analysis. The Hiace is 200 mm longer but slightly narrower than the AUSTROADS car.
Ambulance station	5.94 m + 6.4 m Ambulances	Both ambulances can make all turns and access all parking spaces in two movements. Spaces closest to Barker Street exit can only be entered with front door open. Only one 6.4m ambulance to be accommodated in larger parking space.
Interim construction stage car park	AUSTROADS Car/Van (5.2 m long)	Car can make all turns necessary.

Note: height of loading dock and porte cochere was not included in PB's analysis.

All vehicles will enter and exit the site in a forward movement except for the 13.9 m gas tanker in Stage 2D. In this stage, it would be required to reverse into the loading dock area from Hospital Road. This is considered to be acceptable because Hospital Road is a local road, primarily serving the Hospital, Black Dog and POWMRI facilities, it has a 20 km/h speed limit, and the deliveries of gas in this vehicle are infrequent.

1.3 Upgrade of Barker Street & Botany Street intersection

The traffic analysis recommended that the upgrading of the intersection of Barker Street and Botany Street should be considered after the completion of the Concept Plan based on intersection performance criteria. Randwick Council has suggested that this intersection needs to be upgraded before the completion of Stage 2A due to increased vehicle and pedestrian movement.

Whilst the upgrade to traffic signals would improve the pedestrian safety, vehicle delays do not reach the level requiring the intersection to be upgraded until the completion of Stage 3.

1.4 Speed control on Hospital Road

The 20 km/h speed limit will be retained along Hospital Road. This limit is currently in place with speed signs located along Hospital Road.

It is noted that the SIDRA intersection modelling had a higher speed limit on Hospital Road. This was an error in the appendix material (a default value which was not changed) which was in no way intended to reflect a change to the speed limit on Hospital Road. It was only used in the calculation of geometric delay at the intersection which has no impact on the development.

It has been suggested in resident submissions on the Development Application that there is/will be a speed problem along Hospital Road. We have no other information that this is the case. The development will not encourage speeds higher than the speed limit. Any problem with excessive speeds is an issue for existing traffic.

1.5 Loading dock design

There are three configurations of the new loading dock: the existing arrangement, at the completion of the Project Application and at the completion of the Concept Plan. Stages 2A, 2B and 2C use the existing configuration. The majority of deliveries to the loading docks will be in 8.8 m long vehicles or shorter. The deliveries of gas in the 13.9 m long articulated tanker will be infrequent.

As mentioned in Table 1, the 8.8 m long vehicle can enter dock in two movements and depart in one movement. The 12.5 m long vehicle can enter dock in two movements, but requires five movements to depart. This is considered reasonable given that it will not be used for the majority of deliveries.

The 13.9 m long articulated tanker can reverse into the loading dock area (off Hospital Road) in two movements and depart in one movement, but cannot fit into the loading docks. Operational procedures should be able to overcome this difficulty by ensuring that gas deliveries are made out of regular business hours when access to docks and contractors spaces is not essential.

1.6 Porte cochere design

The turns into and out of the porte cochere are tight but can be accomplished. The design has been checked using AUTOTRACK software for vehicles up to a Toyota Hiace Commuter minibus, which is sometimes used as a accessible taxi.

The design has attempted to take into consideration Council's concerns about the angle of crossing the footpath, but the tight geometry of the area has necessitated the design as it is. If it is to be used by a minibus dropping off medical research participants it needs to have a wider entry and exit area. It is unlikely that vehicles could do larger speeds due to the tight geometry and the ramps to the elevated structure.

1.7 High Street 40 km/h pedestrian zone

The High Street 40 kmh High Pedestrian Activity Area is on the other side of the Hospital precinct and therefore is only used slightly by vehicles associated with the development and less by pedestrians from the development.

1.8 Acoustic report traffic volumes

I have checked with Simon Connelly of PKA Acoustic Consulting and can confirm that the traffic numbers in the noise assessment are the same as those in the Traffic Study (assuming the Concept Plan scenario).

1.9 Impact on the road network

The site is located near some busy roads, but only contributes small amounts of traffic to the most congested intersections and does not significantly alter their performance. The intersection of Botany Street and Barker Street is proposed to be upgraded from a roundabout to traffic signal control, reducing congestion for all traffic (halving delays). Regarding additional truck traffic, the loading dock deliveries and tradespeople equate to one vehicle every six minutes. This is not considered an excessive amount of traffic.

1.10 Randwick Education and Health Specialised Centre Precinct Plan

PB has requested details of the plan from Randwick Council, but has not been provided with any material so far.

As discussed in the Traffic Study and TMAP, the parking requirements of the Stage 3 have been met by the provision of additional on-site basement car parking, with no net impact on the on-street parking demand.

Furthermore, Randwick Council has confirmed that the 'Randwick Education and Health Specialised Centre Precinct Plan' is still being drafted and is expected to go to Council for endorsement to go on public exhibition in November. On this basis and that the draft document is not currently publicly available its travel demand strategies cannot be taken into consideration in responses set out in the Preferred Project Report.

1.11 Construction parking arrangements

The number of construction staff to be used on the project is not currently known. The parking arrangements for construction staff will be one issue dealt with in the detailed construction management plan which will be completed and submitted when a construction contractor has been appointed and more information is known.

Where possible, surplus spaces on the subject site (due to vacated premises), in POWMRI controlled parking on Hospital Road, elsewhere on the Prince of Wales and in the Hospital car park will be made available to the successful contractor and their staff (under some arrangement).

A Travel Smart process would be initiated for construction workers to make them aware of their non-car travel choices to the site. This will encourage construction workers to take advantage of the alternative modes to car.

As reported in the Traffic Study, there is sufficient parking available for POWMRI staff remaining during construction for all phases apart from during the construction of Stage 2A when 5 parking spaces would be accommodated in the Hospital car park.

A detailed Construction Traffic Management Plan will be developed once a construction contractor has been engaged and submitted to the local Traffic Committee for approval.

1.12 Sight distances at basement car park and loading dock exits on Hospital Road

The sight distance for the basement car park and loading dock exits along Hospital Road have been checked for compliance with the AS2890.1-2004 requirements.

- The speed limit of Hospital Road is 20 km/h. The sight distance requirements in Figure 3-2 of AS2890.1-2004 are given for a minimum of 40 km/h frontage road speed. Calculating the sight distance requirements for the lower speeds, they are: 20 km/h – desirable = 28 m, minimum = 17 m and for 30 km/h, desirable = 45 m, minimum = 25 m.

- For the basement car park exit, the sight distance available to the north along Hospital Road is 26.4 m. Therefore the sight distance greater than the minimum requirements for 20 km/h. It is also greater than the minimum requirements for a vehicle on Hospital Road travelling at 30 km/h.

- The sight distance from the basement car park exit to the left (south) is greater than the desirable requirements.

- The loading dock exit sight distance is in excess of the requirements of AS2890.1-2004 for a 40 km/h road for Stage 2D. Assuming a minimum setback of 2.25 m along Hospital Road, it is in between the requirements of AS2890.1-2004 for a 40 km/h road and therefore would be in excess of the requirements for a 20 km/h road.

- Pedestrian sight distance requirements are met in all scenarios for both the loading dock and basement car park exit.

1.13 No parking on Avoca Street

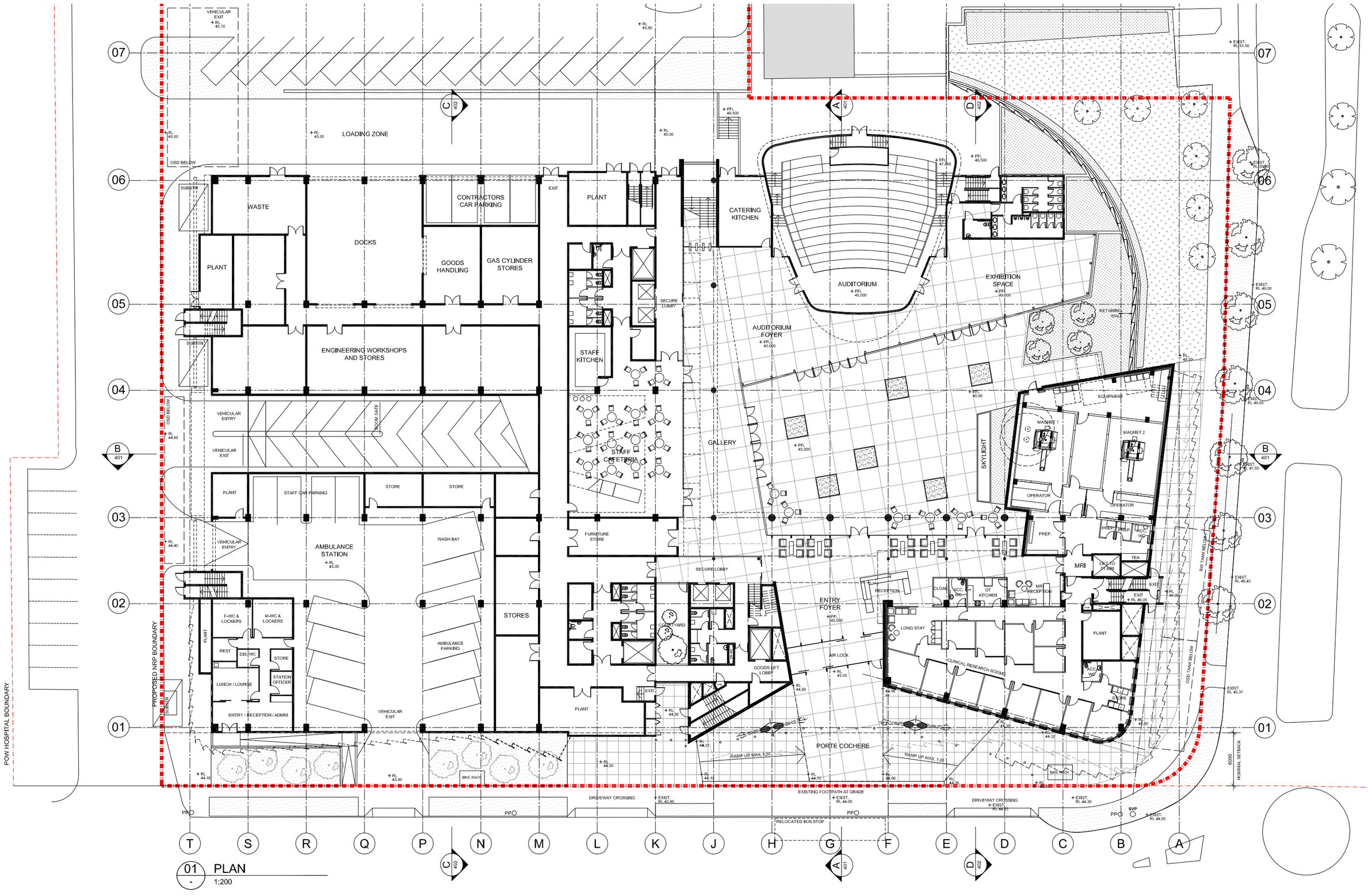
There has been no change to the timing of the proposed extension of the No Parking on the eastern side of Avoca Street between St Pauls Road and Barker Street (7 am – 9 am). It is still required for the Stage 3 but not the Project Application.

I trust that these responses clarify the situation. If you have any questions, please call me on 9272 1415.

Yours sincerely

Tom van Drempt
Senior Transport Engineer
Parsons Brinckerhoff Australia Pty Limited

Appendix A – Revised Project Designs



01 - PLAN
1:200

Cox Richardson

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Architecture Planning Urban design Interior design Health facility design

Project Architect	Date
Director	

NEUROSCIENCE RESEARCH PRECINCT

BARKER STREET RANDWICK NSW

204179.30

Drawing Title: LEVEL 1 FLOOR PLAN (GROUND)

Drawing Number: PA-201-2D

Rev.: 11

Date: OCT 2009

k:\204\204179\drawings\pdf\project application\pa-201-2d.dwg

Rev	Description	By	Date
01	ISSUED FOR INFORMATION	WF	02.10.09

EXISTING LAMP POST TO BE REMOVED
EXISTING LAMP POSTS TO BE REMOVED
EXISTING TREES AS INDICATED TO BE REMOVED
KERB INLET PIT TO BE REMOVED
TURNING BAY
EXISTING BOLLARDS TO BE RETAINED
PROPOSED SITE BOUNDARY
EASY STREET
POSSIBLE ADDITIONAL PARKING SPACES T.B.C.
PARTS OF RETAINING WALL TO BE RETAINED
SERVICES REMOVED OR RELOCATED DUE TO NEW CONSTRUCTION, REFER STAGE 1B DWGS.
DISABLED PARKING BAY 3200 x 5500
TREES AND LANDSCAPE TO BE RETAINED
TREE RELOCATED TO NEW ALIGNMENT
LAMP POST TO BE RELOCATED
MAGNET DROP ZONE
RETAINING WALL TO BE DEMOLISHED
DRIVEWAY RAMP REALIGNED
EXISTING SIGNAGE TO BE REMOVED
TELECOMMUNICATIONS PIT TO BE INCORPORATED INTO LANDSCAPE DESIGN
MAN HOLE AND HYDRANT TO BE REMOVED
KERB INLET PIT TO BE REMOVED
CONCRETE KERB TO BE DEMOLISHED
LAMP POST TO BE RELOCATED
PAVED MAINTENANCE VEHICLE ZONE SHOWN HATCHED
NEW TREES
RAINVAULT TANK HATCHES TO BE INCORPORATED INTO LANDSCAPE DESIGN
EXISTING CONCRETE FOOTPATH TO BE DEMOLISHED
TREES TO BE REMOVED
OSD TANK BELOW
RETAINING WALL TO BE DEMOLISHED
NEW CONCRETE HATCH TO BASEMENT
LAMP POST TO BE RELOCATED
SEWER VENT PIPE RETAINED
CONCRETE LIDS REMOVED OR RELOCATED DUE TO NEW CONSTRUCTION. REFER STAGE 1C DWGS.
SERVICES REMOVED OR RELOCATED DUE TO NEW CONSTRUCTION. REFER STAGE 1A DWGS.
BRICK GARAGE
HOSPITAL ROAD (private)
POWER BOUNDARY
PROPOSED SITE BOUNDARY
LANDSCAPED AREA
SITE SURVEY POINT ON BOUNDARY INTERSECTION
POWER LINES OVERHEAD
(ROUNDABOUT)
EXISTING PAVING REMOVED
RETAINING WALL TO BE REMOVED
ACCESS TO BOOSTER VALVES
TREE TO BE REMOVED
CONCRETE LID TO BE RELOCATED
7m x 5.5m x 2.1m CLEAR PUMP ROOM TO FUTURE DETAIL
BARKER STREET
TREES TO BE REMOVED
RETAINING WALL TO BE REMOVED
CONCRETE LID TO BE REPLACED WITH STORMWATER GRATED PIT
TELECOMMUNICATIONS PITS AND MANHOLE TO BE INCORPORATED INTO LANDSCAPE DESIGN

KEY:
- EXISTING BUILDINGS VILLA 1 AND 2
- TEMPORARY BUILDINGS STAGE 1A
- PRINCE HENRY WING STAGE 1B
- PROPOSED EXTENSION STAGE 1C
- PROPOSED NEW BUILDING STAGE 2A

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Architecture Planning Urban design Interior design Health facility design

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Client
PRINCE OF WALES MEDICAL RESEARCH INSTITUTE

Project No.
204179.21

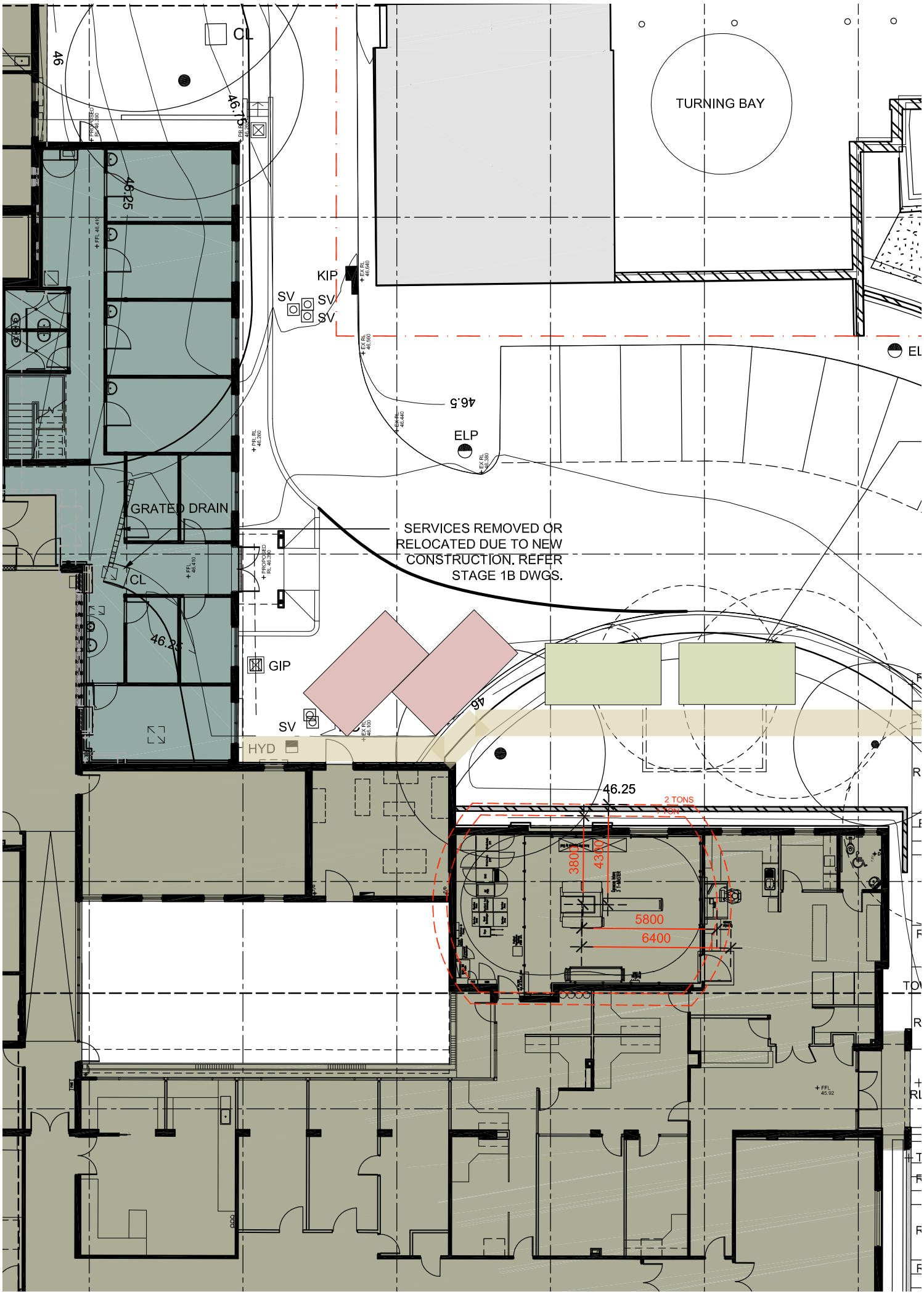
Project
NEUROSCIENCE RESEARCH PRECINCT - STAGE 2A
Barker Street
Randwick

Drawing Title
PROPOSED SITE PLAN

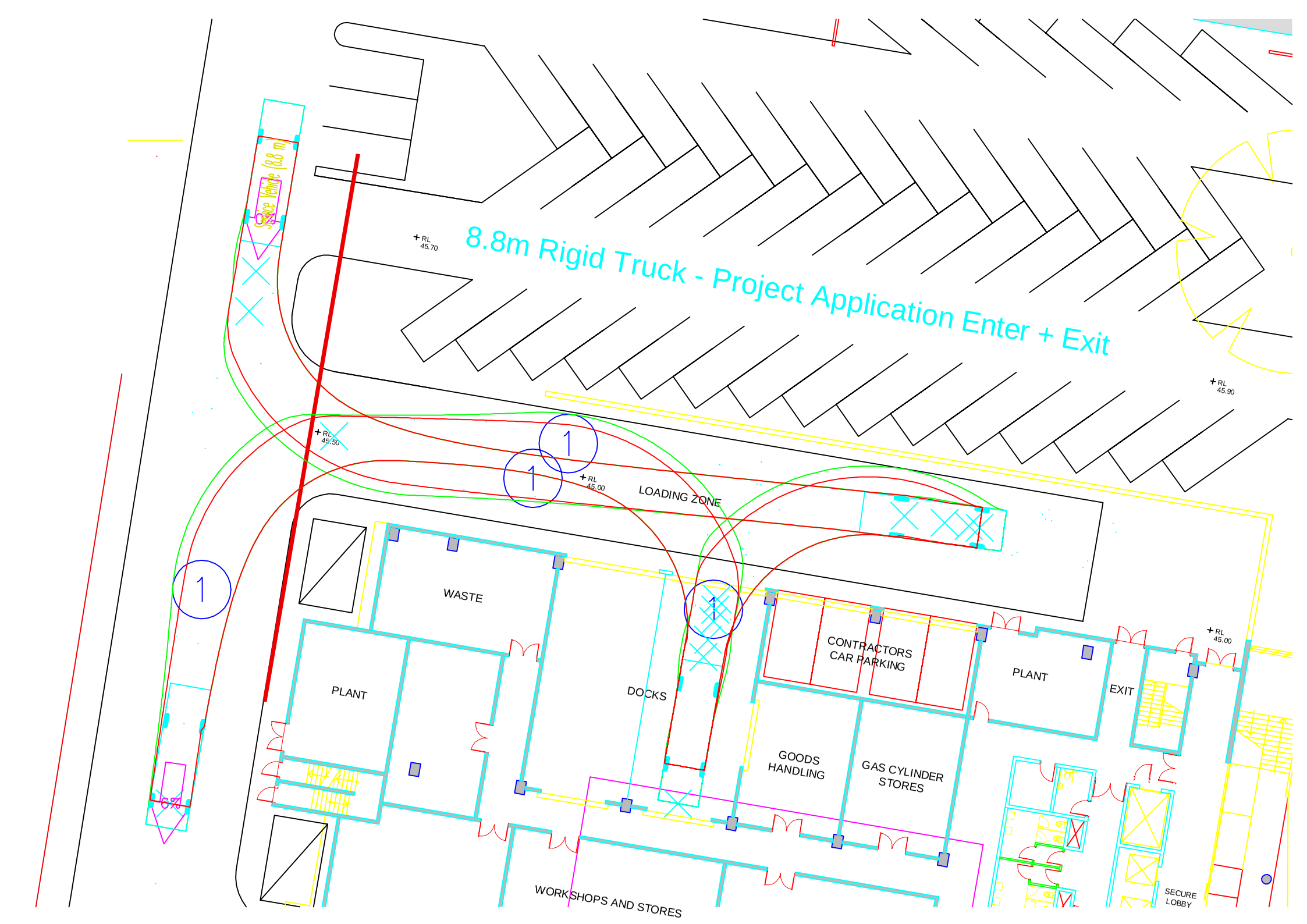
CAD File	K:\204\204179.21\Dwgs\RePlot\	Drawn	WF
Coordinated	WF	Scale	1:200
Project Architect	MD	Date	SEPT 2009
Project Director	IMcG	Rev	01

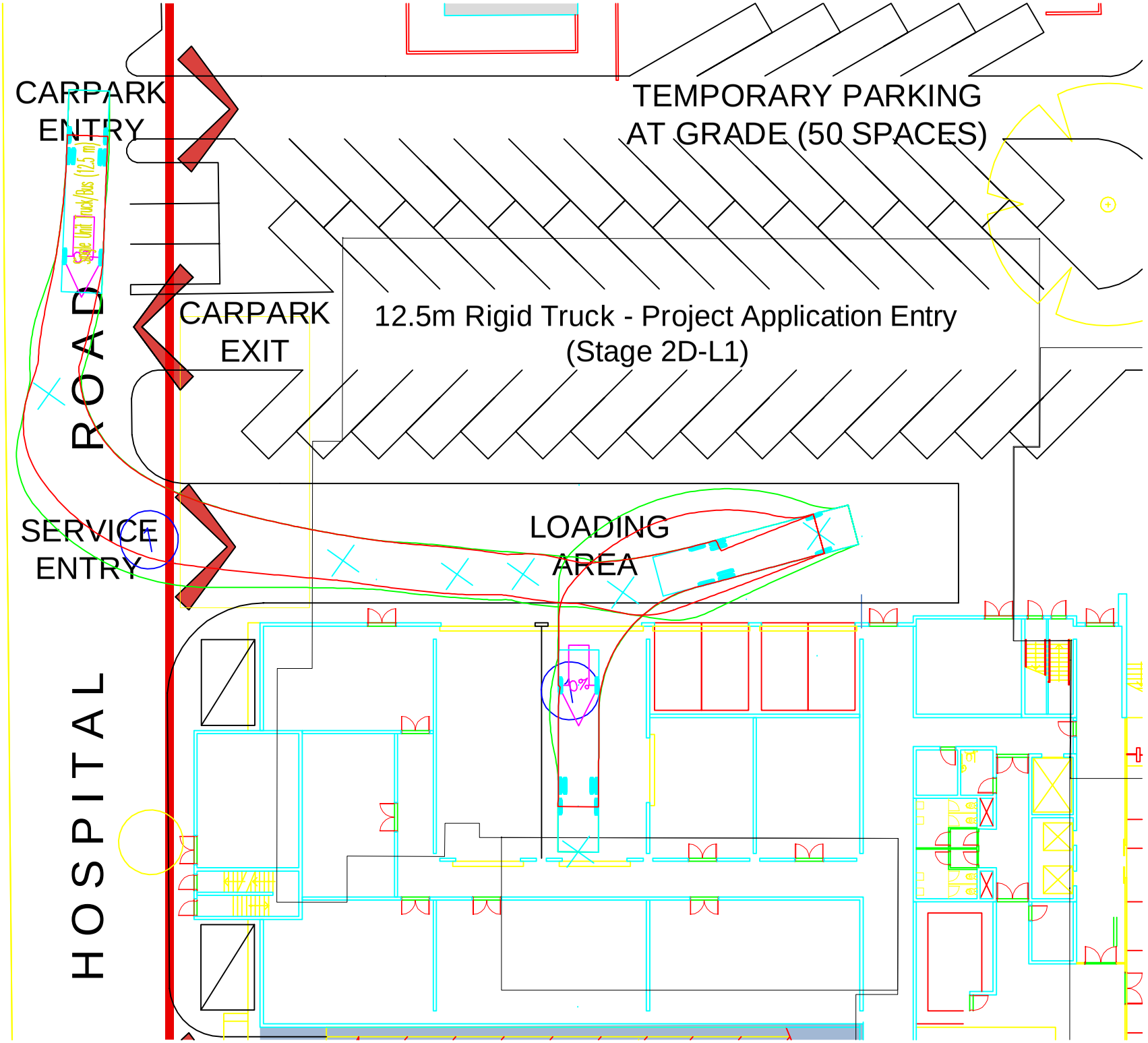
Drawing Number
A-2A-1102

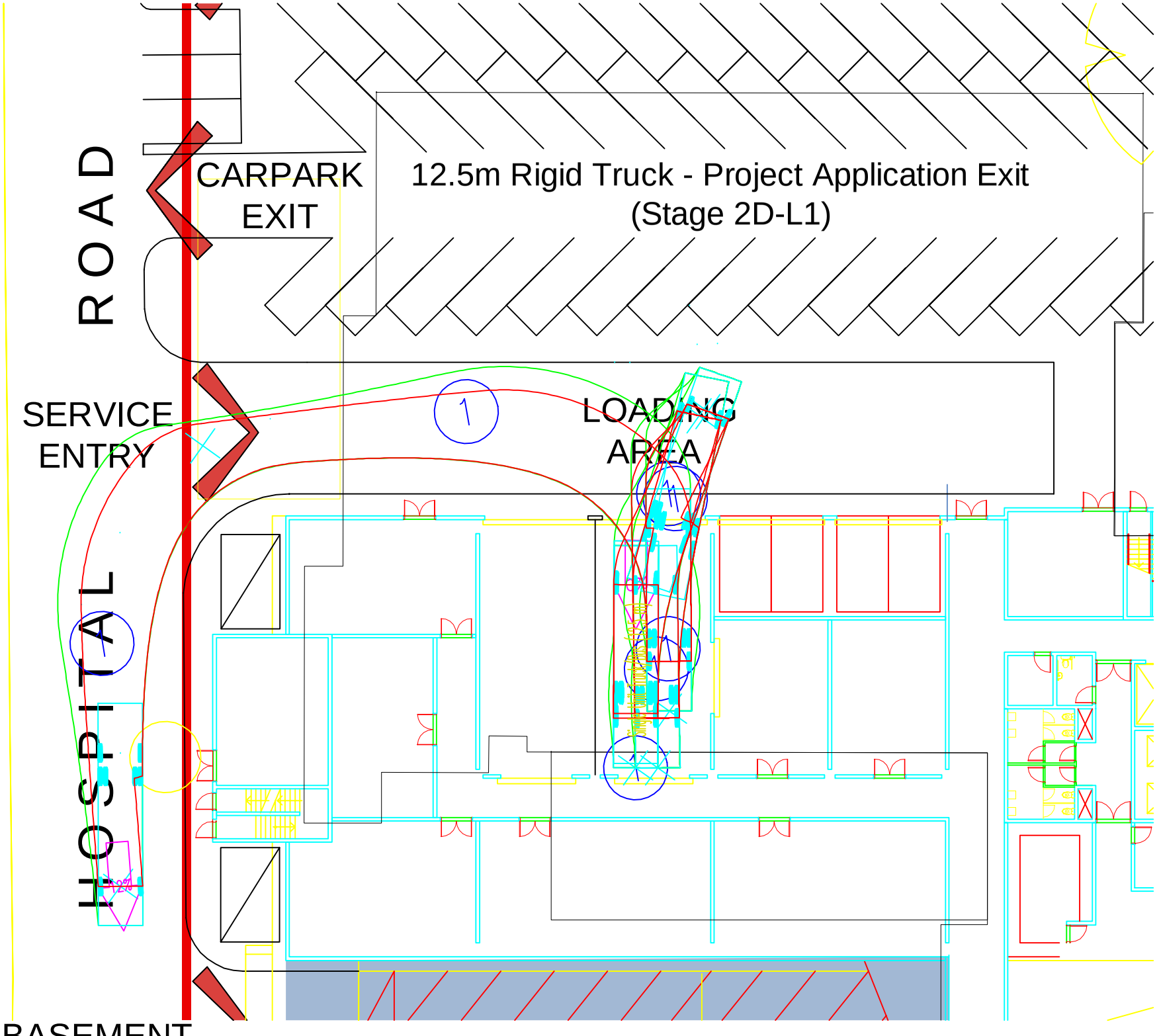
North

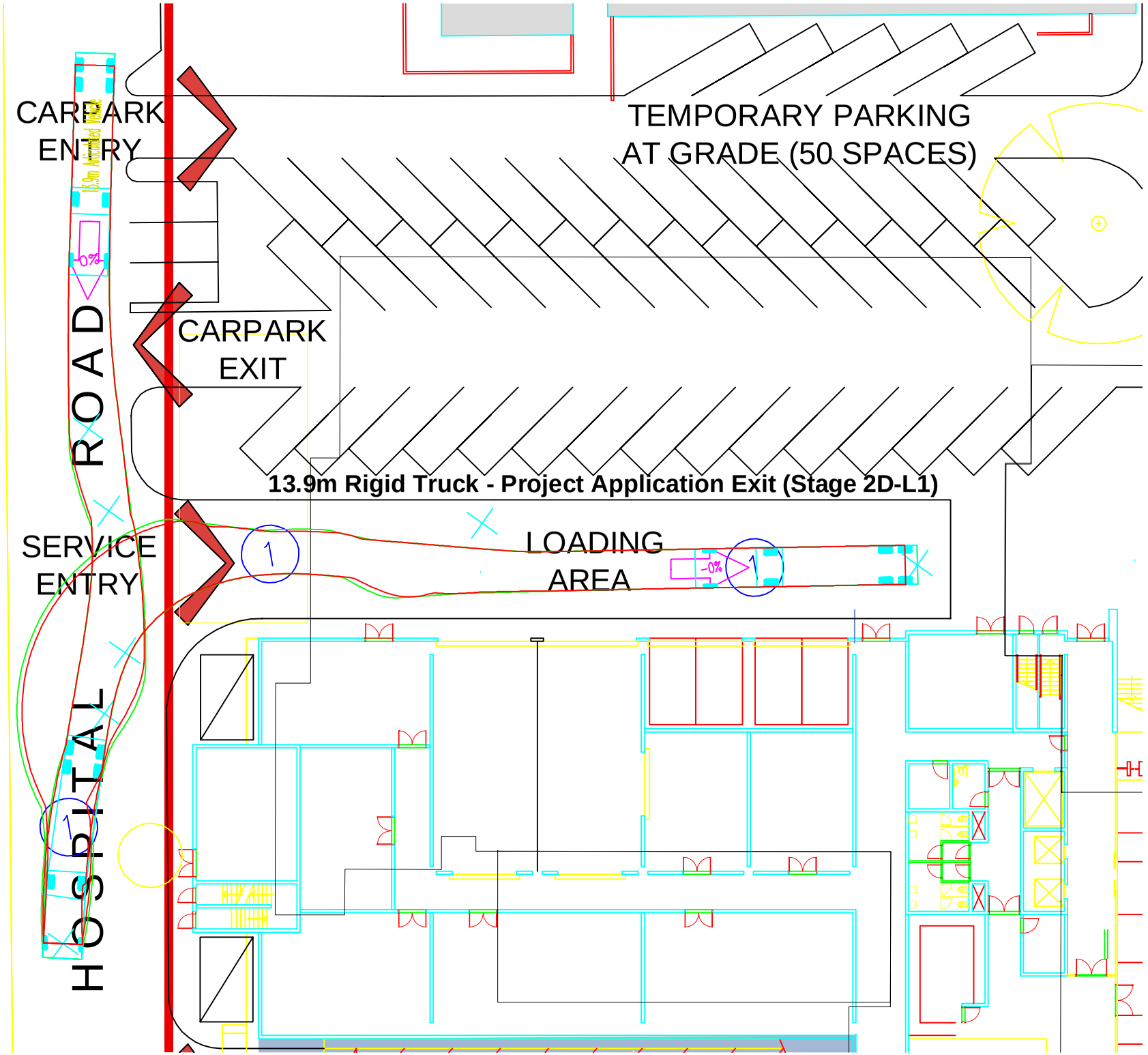

TURNING BAY
CL
46
46.15
46.25
KIP
SV
SV
SV
46.5
ELP
GRATED DRAIN
SERVICES REMOVED OR
RELOCATED DUE TO NEW
CONSTRUCTION. REFER
STAGE 1B DWGS.
CL
46.25
GIP
SV
HYD
46
46.25
2 TONS
3800
4300
5800
6400

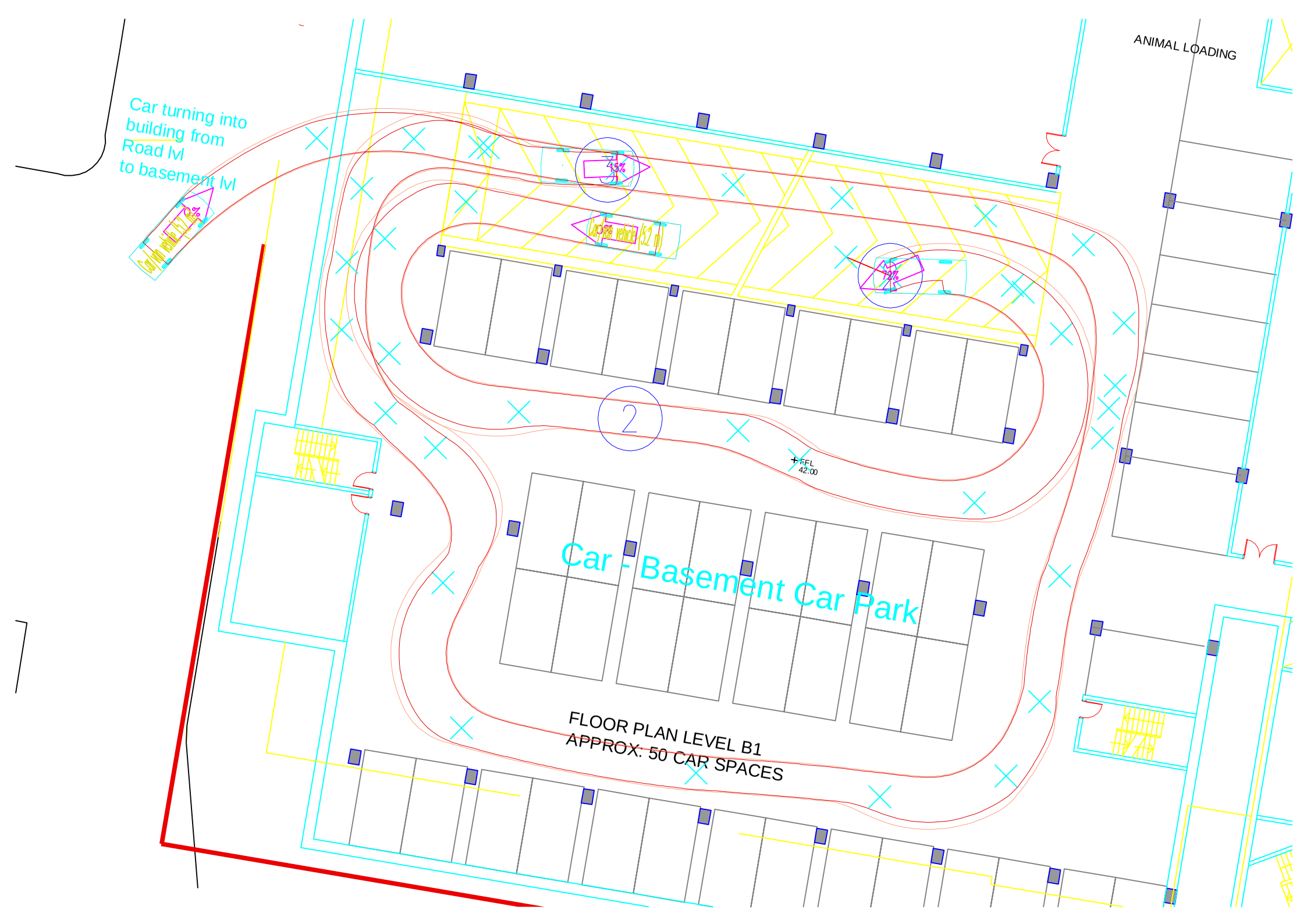
Appendix B – Turning Path Diagrams

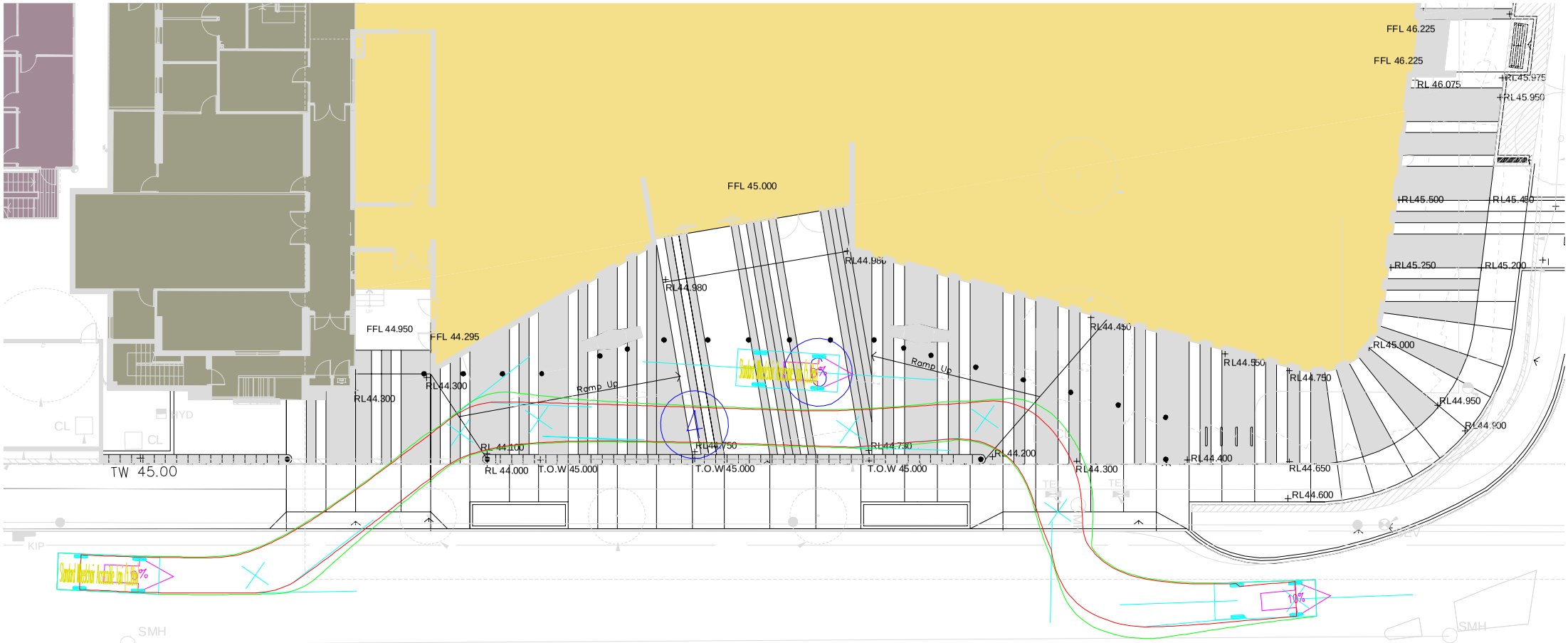

8.8m Rigid Truck - Project Application Enter + Exit
Service Vehicle (8.8 m)
RL 45.70
RL 45.50
RL 45.00
RL 45.90
LOADING ZONE
WASTE
PLANT
DOCKS
CONTRACTORS CAR PARKING
PLANT
EXIT
GOODS HANDLING
GAS CYLINDER STORES
WORKSHOPS AND STORES
SECURE LOBBY
6%


CARPARK
ENTRY
TEMPORARY PARKING
AT GRADE (50 SPACES)
CARPARK
EXIT
12.5m Rigid Truck - Project Application Entry
(Stage 2D-L1)
ROAD
SERVICE
ENTRY
LOADING
AREA
HOSPITAL


ROAD
CARPARK
EXIT
12.5m Rigid Truck - Project Application Exit
(Stage 2D-L1)
SERVICE
ENTRY
LOADING
AREA
HOSPITAL
BASEMENT


CARPARK
ENTRY
TEMPORARY PARKING
AT GRADE (50 SPACES)
CARPARK
EXIT
ROAD
13.9m Rigid Truck - Project Application Exit (Stage 2D-L1)
SERVICE
ENTRY
LOADING
AREA
HOSPITAL


ANIMAL LOADING
Car turning into building from Road lvl to basement lvl
Car - Basement Car Park
FFL 42:00
FLOOR PLAN LEVEL B1
APPROX. 50 CAR SPACES



Standard Wheelchair Accessible Taxi - Car-Porte Cochere

Barker Street

Dtd:12.12.08

5.94 m Ambulance and 6.4m Ambulance test

Hospital Road
Stage 2A At-Grade Car Park - Austroads Car
East Street
Austroads 2006
(Car/Van 5.2m)