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director: Graham Pindar
acn: 065132961
abn: 66065132961

Reference: 16.457r02v03

29 April 2019

Bloompark Consulting Pty Ltd
Suite 2.04
41 McLaren Street
North Sydney NSW 2060

Attention: Mr Peter Brogan, Managing Director

Re: St. Joseph's College, Hunters Hill
Supplementary Traffic Statement

Dear Peter,

We refer to the subject development at St Joseph's College in Hunters Hill and confirm that TRAFFIX has been commissioned by Bloompark Consulting Pty Ltd to prepare a Traffic Statement in support of traffic modifications to the proposed Physical Education and Sports Precinct Project. This Statement should be read in conjunction with the Traffic Impact Assessment report prepared by TRAFFIXX (Ref: 16.457r01v06, dated September 2018).

St Joseph's College (SJC) submitted a State Significant Development Application (SSD 17_897) to the NSW Department of Planning and Environment (DPE) in 2018 proposing the Physical Education and Sports Precinct Project (PESPP) building. Following exhibition and notification of SSD 17_897, the DPE issued a Response to Submissions (RtS) letter on 23 November 2018.

In response to the Key Issues identified by DPE, the PESPP building has been amended as follows:

1. Luke Street Setback: A 4.3m building setback to Luke Street is proposed (compared with 1.3m in the original SSD), providing for a new landscaped buffer including the planting of significant trees between the PESPP and stone wall. The increased setback also simplifies the required construction solution to protect the stone wall.

2. Building height: A 2.7m reduction in height (-19%) is proposed. This is achieved by increasing the excavation depth to lower the entire building and relocating the roof plant away from Luke Street. The amended building height is predominantly 11.4m compared with 14.1m in the original SSD (the amended height is 14m to 15m to the relocated plant room which is located well away from Luke Street).

The following sections document the proposed modifications and the findings of our investigations. This Statement should therefore be read in the context of the Planning report (Statement of Environmental Effects (SEE), prepared separately.

Proposed Traffic Modifications

Approval is sought to the following design modifications:

- Removal of one (1) car parking space within the basement car park.
- Provision of boom gates at the northern end of the basement access ramp.
- Lowering the overall PESPP and basement car park to achieve required height limits. A basement level reduction has impacted light and heavy vehicle access into the car park.

Reference should be made to the reduced plans, provided in **Attachment 1** for convenience. A summary of the proposed parking and basement access requirements in relation to the subject modifications are provided below.

Parking Arrangements

Updated architectural plans show the removal of one (1) basement car parking space. The removal of a single parking space from the basement car park is considered acceptable in the circumstances for the following reasons:

- The loss of a single space arises from the requirement to maintain egress from the carpark, which has been impacted by lowering the carpark level and required adjustments to the egress stair.
- The removal of this single space will result in the basement car park providing 84 parking spaces. As mentioned in the DA Traffic Impact Assessment, while the proposed development will remove 30 existing car parking spaces, the revised basement will result in a net increase of 54 parking spaces, compared with 55 spaces at SSD submission.
- It is noted that the school currently provides 89 parking spaces, therefore this net increase of 54 parking spaces still equates to an increase in off-street car parking of approximately 61%, which remains a significant increase.
- By any assessment criteria, the loss of a single parking space is a negligible change, representing less that 1% of the total provision of 143 spaces (89 plus 54); and
- For clarity, it is emphasised that the development proposes no increase in either staff numbers or the student population.

In summary, the removal of a single space is negligible and the resultant overall additional parking supply of 54 spaces will improve the amenity of the locality, most notably for residents. It will also provide more convenient on-site parking for staff, parents and visitors, with this parking being available for the College generally.

Access Arrangement

Vehicle ramps to the basement car park generally comply with the requirements of AS 2890.1 (2004) and AS 2890.2 (2002). It is noted that the basement car park now provides two (2) vehicle ramps (previously 1 ramp and 1 at-grade entry driveway at SSD submission), and described below:

Northern Ramp

The northern and main access ramp will be accessed by light and heavy vehicles. As such, the ramp has been designed in accordance with AS 2890.2 (2002). The proposed ramp generally complies with the requirements of AS 2890.2 (2002), with the following characteristics noteworthy:

- The access/boom gate control provides 3.5m wide lanes and a 600mm wide island in accordance with AS 2890.2 (2002).
- The proposed ramp provides a 1:20 (5%) extending for 8.0 metres from the internal roadway. This gradient allows an 8.8m long MRV (6.0m wheelbase) to stand on the 1:20 grade whilst accessing the access control in compliance with AS 2890.2 (2002).
- The proposed ramp provides a maximum grade of 1:6.5 (15.4%).
- Grade transitions have been designed to allow an 8.8m long MRV to traverse up and down the ramp with an additional 50mm clearance in accordance with Clause 3.3.3 of AS 2890.2 (2002).
- The ramp provides a wall to wall width of 8.2 metres, exceeding the requirements AS 2890.1 (2004) and AS 2890.2 (2002).
- The maximum gradient for any part of the service bay shall be 1:25 (4%) measured in any direction including directions oblique to the bay centre-line as required by AS 2890.2 (2002).
- Swept path analysis presented in **Attachment 2** demonstrates that an 8.8m long MRV can successfully enter and exit the ramp without conflicting with the proposed boom gates and centre median.
- An underside clearance test presented in **Attachment 2** demonstrates the satisfactorily operation of the ramp.

In summary, the proposed access ramp has been designed in accordance with AS 2890.2 (2002).

Southern Ramp

The southern entry driveway is now required to be a ramp due to the lowering of the carpark level. The southern access ramp is required to be accessed by the school facilities maintenance vehicles (light vehicles). As such, the ramp has been designed in accordance with AS 2890.1 (2004). The proposed ramp complies with the requirements of AS 2890.1 (2004), with the following characteristics noteworthy:

- The proposed basement entrance/exit provides a wall to wall entry width of 3.6 metres in accordance with AS 2890.1 (2004).
- The proposed ramp varies in width between 3.6 metres and 3.1 metres, meeting the minimum requirements of AS 2890.1 (2004).
- The ramp provides a maximum grade of 1:8 (12.5%) with a 3.7% grade transition at the summit, in accordance with AS 2890.1 (2004).

In summary, the proposed light vehicle access ramp has been designed in accordance with AS 2890.1 (2004).

Summary

In summary, the development changes now proposed relate to the lowering of the R.L of the building to meet overall height requirements. This modification has consequences in terms of the light and heavy vehicle access arrangements to and from the basement car park. The opportunity has been taken to improve the design, maximising safety, with the resultant loss of a single car space considered to have a negligible impact for the reasons discussed.

The development also provides a boom gate control at eastern end of the main access ramp and internal design changes which has resulted in the removal of a single car parking space. The amended vehicle ramps comply with AS 2890.1 (2004) and AS 2890.2 (2002).

The proposed modifications are therefore supportable from a traffic planning perspective.

We trust the above is of assistance and request that you contact the undersigned should you have any queries or require any further information. In the event that any concerns remain, we request an opportunity to discuss prior to any determination being made.

Yours faithfully,

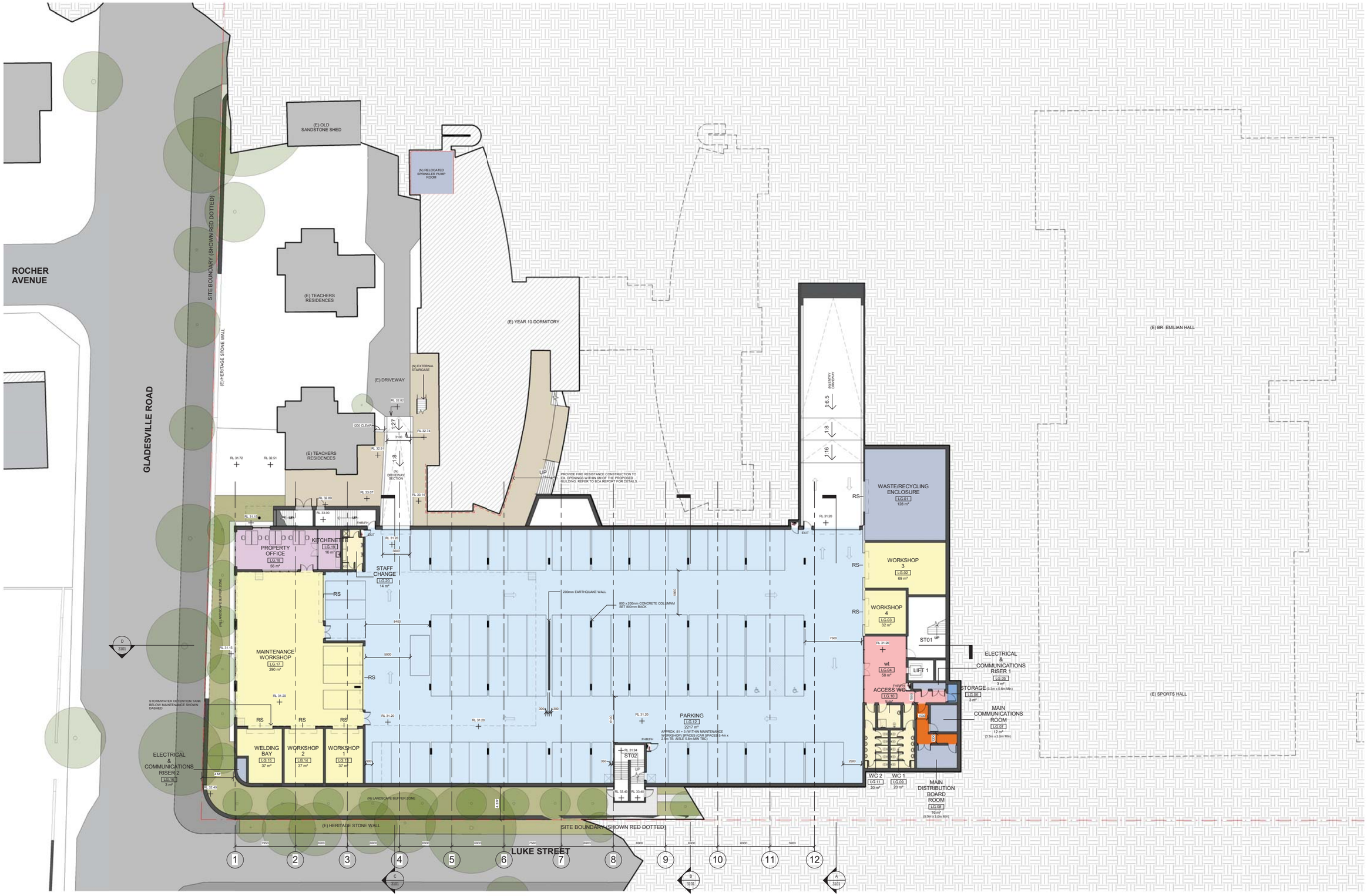
Traffix

Ben Liddell
Senior Engineer

Encl: Attachment 1 – Reduced Plans
Attachment 2 – Swept Path Analysis

ATTACHMENT 1

Reduced Architectural Plans



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Abbreviations

(E)	EXISTING
(N)	PROPOSED
AW	ALUMINIUM WINDOWS
BK/F	FACE BRICKWORK
EWC	EXTERNAL WALL CLADDING 1
GL	GLASS LOUVRES
VB	VERTICAL BLADES

Rev	Date	Description	Checked	Auth.
A	21.08.18	Issue for SSD	IB	RD
B	23.04.19	Issue for RIS	IB	RD

Rev	Date	Description	Checked	Auth.

NOT FOR CONSTRUCTION

Proj. Dir	Proj. Arch	Drawn
RD	IB	RT
Job No.	Sheet	Scale
161002	B1	1 : 200

NSW Nominated Architects:
Robert Denton Reg. No. 5782
Alex Kibble Reg. No. 6015

Do not scale drawings. Verify all dimensions on site. Notify architect of all discrepancies

0M 4 8 12 16 20

Project
PHYSICAL EDUCATION AND SPORTS PRECINCT PROJECT

Drawing Title
PROPOSED LOWER GROUND PLAN

Drawing No. AR.DA. 2101
Revision B

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Tanner Kibble Denton

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- WORKSHOP
- CORRIDOR
- STAFF
- CIRCULATION
- FOYER
- GLA
- KITCHEN
- SERVICE
- SPORTS COURTS
- STORAGE
- WET AREA

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A	21.08.18	Issue for SSD	IB	RD
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Rev	Date	Description	Checked	Auth.

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Proj. Dir	Proj. Arch	Drawn
RD	IB	RT
Job No.	Sheet	Scale
161002	B1	1 : 200

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Robert Denton Reg. No. 5782
Alex Kibble Reg. No. 6015

Do not scale drawings. Verify all dimensions on site. Notify architect of all discrepancies

0M 4 8 12 16 20

Project
PHYSICAL EDUCATION AND SPORTS PRECINCT PROJECT

Drawing Title
PROPOSED GROUND FLOOR PLAN

Drawing No. AR.DA. 2102 Revision B

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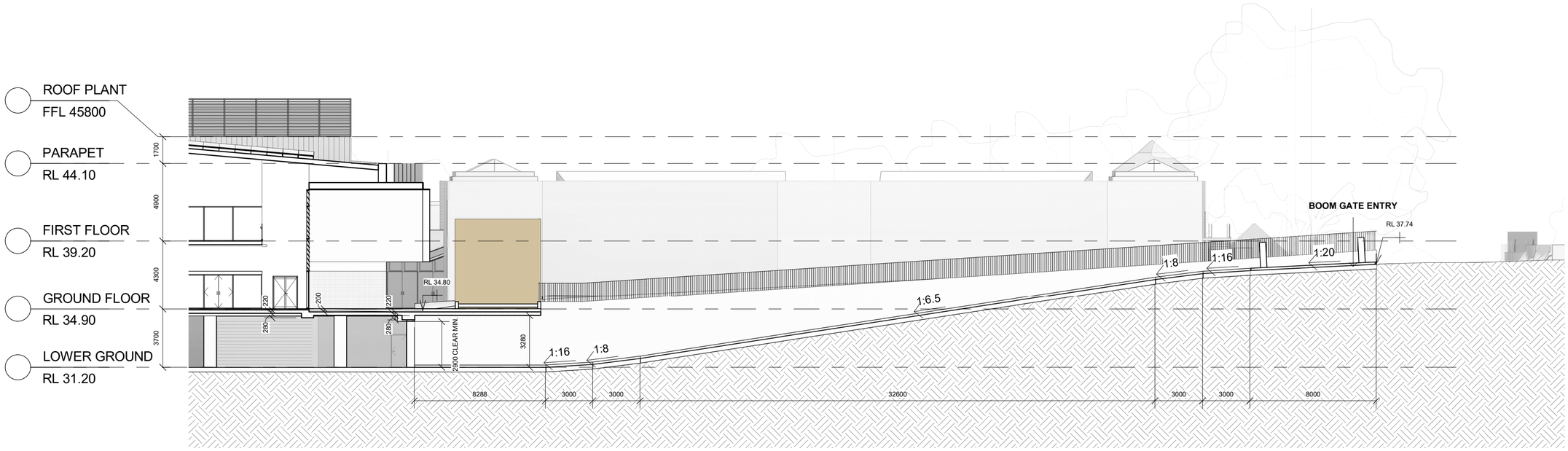
Tanner Kibble Denton



1 / SK04 Main Driveway Section
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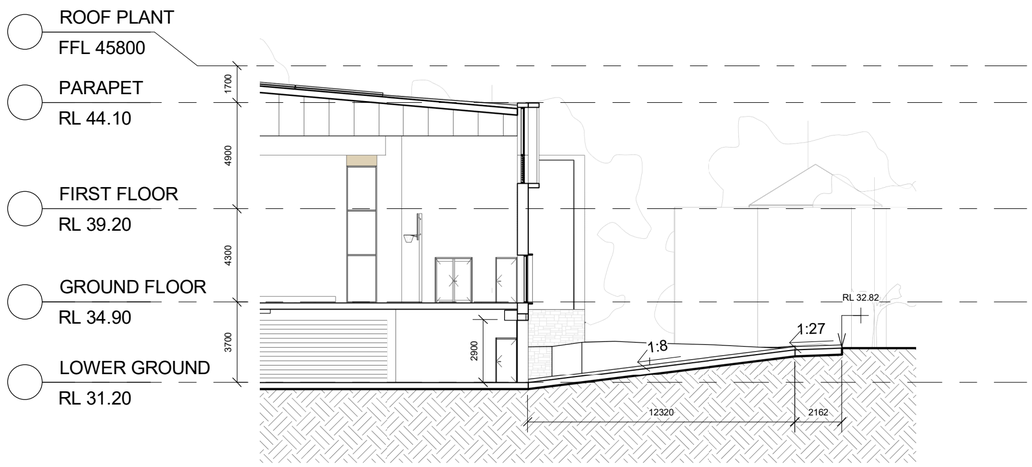


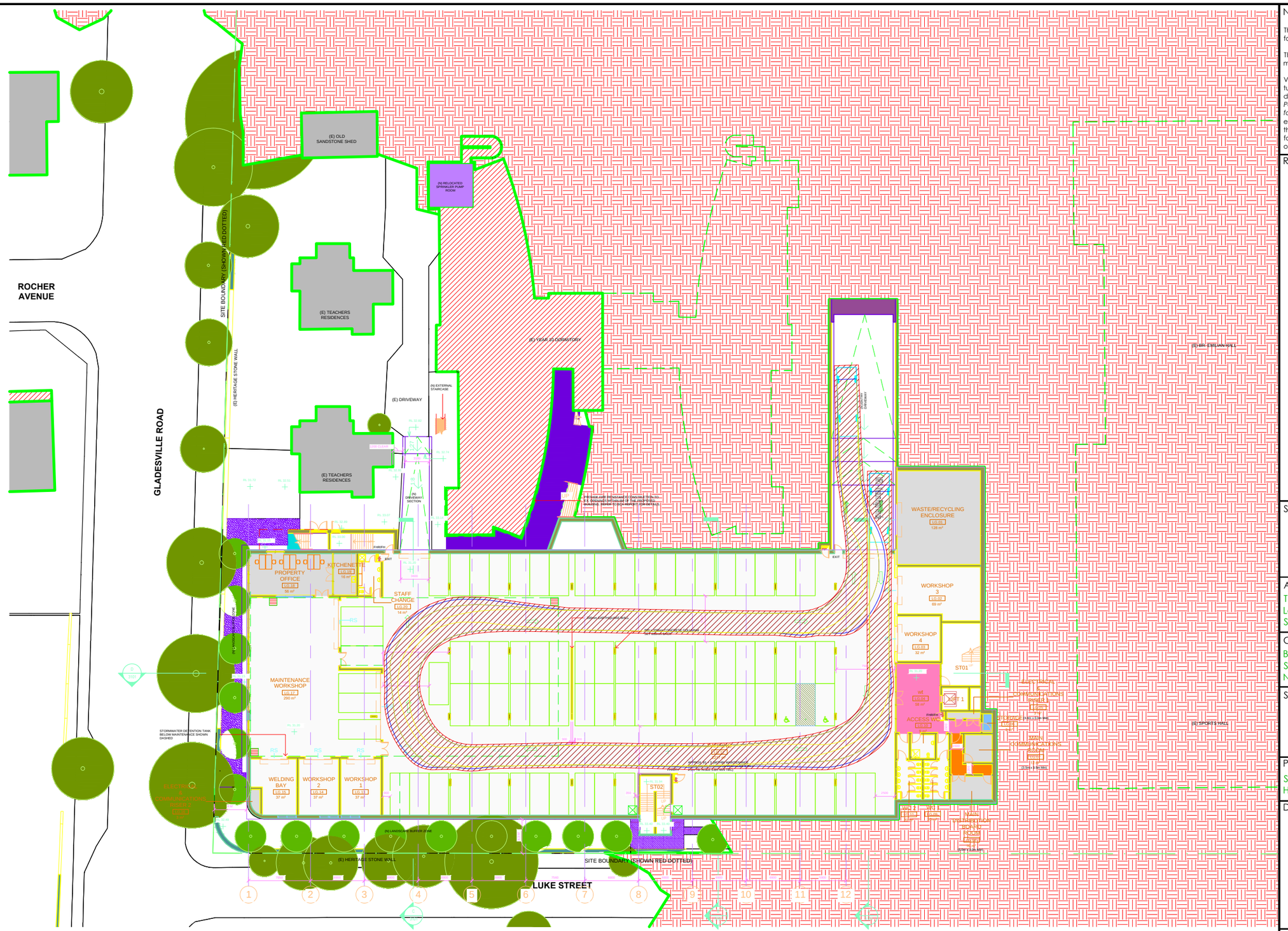
2 / 3101 Secondary Driveway Section
1 : 200

TKDArchitects
Tanner Kibble Denton

PHYSICAL EDUCATION AND SPORTS PRECINCT PROJECT 161002
SK06 04/04/19
NSW Nominated Architects: Robert Denton 5782 Alex Kibble 6015

ATTACHMENT 2

Swept Path Analysis



Notes:

This drawing is prepared for information purposes only. It is not to be used for construction.

TRAFFIX is responsible for vehicle swept path diagrams and/or drawing mark-ups only. Base drawing prepared by others.

Vehicle swept path diagrams prepared using computer generated turning path software and associated CAD drawing platforms. Vehicle data based upon relevant Australian Standards (*AS/NZS 2890.1:2004 Parking facilities - Off-street car parking*, and/or *AS2890.2:2002 Parking facilities - Off-street commercial vehicle facilities*). These standards embody a degree of tolerance, however the vehicle characteristics in these standards represent a suitable design vehicle and do not account for all variations in vehicle dimensions / specifications and/or driver ability or behaviour.

Rev.	Revision Note	By.	Date

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
TKD Architects
Level 1, 19 Foster Street
Surry Hills NSW 2010

Client
Bloompark Consulting Pty Ltd
Suite 3, McLaren Street
North Sydney NSW 2060

Scale / Plan Orientation

0 5 10 15 20m
1:500 @ A3

Project Description
St Joseph's College
Hunters Hill

Drawing Prepared By

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Drawing Title
Swept Path Analysis
Lower Ground Level
8.8m long Medium Rigid Vehicle

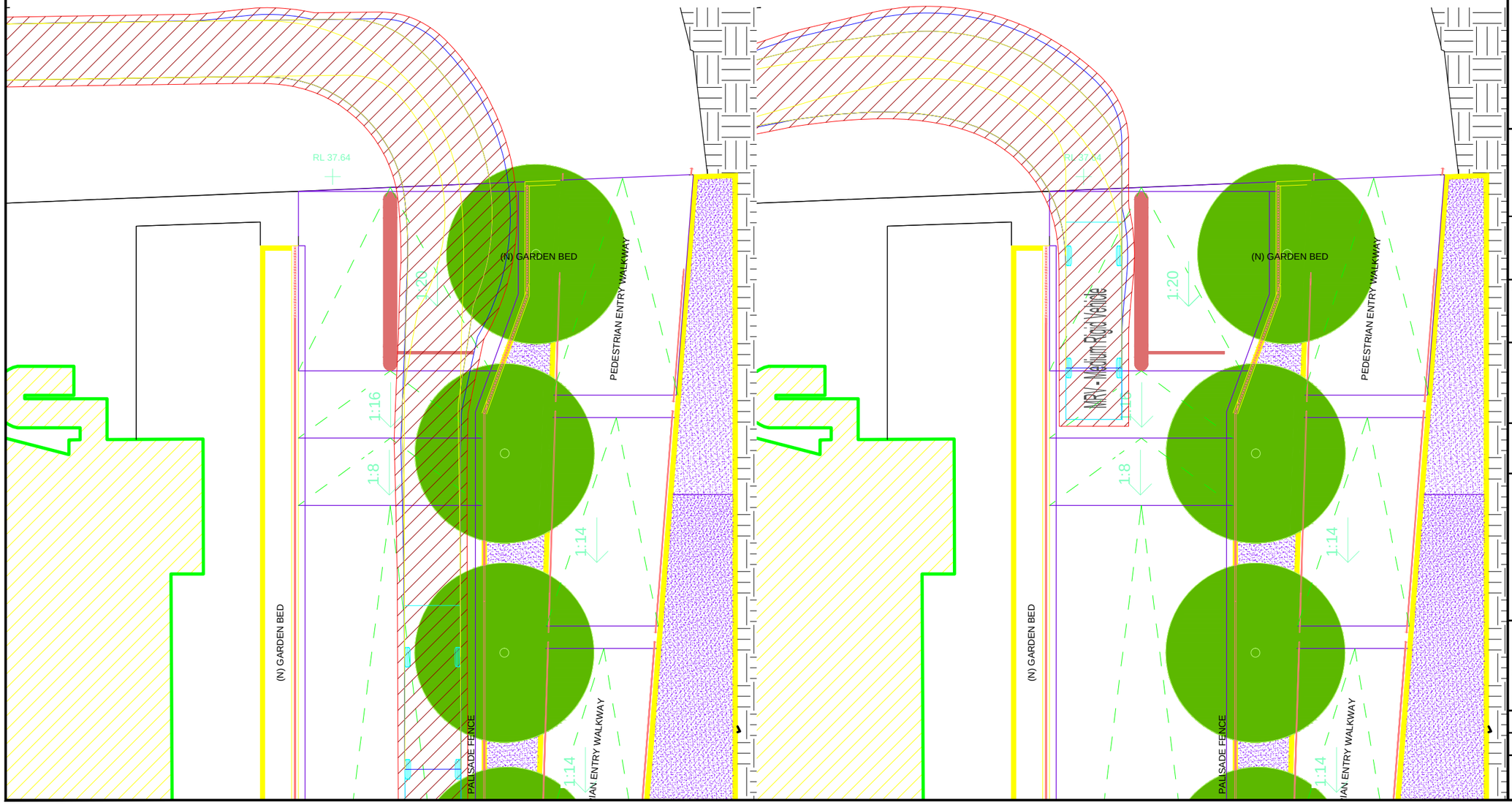
Drawn:	Checked:	Date:
BL	-	13-03-18

16.457d01v07 TRAFFIX [19-04-23 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
16.457	DA	TX.01	

8.8m MRV ENTRY MOVEMENT

8.8m MRV EXIT MOVEMENT



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Rev.	Revision Note	By.	Date

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
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Surry Hills NSW 2010

Client
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North Sydney NSW 2060

Scale / Plan Orientation

0 2 4 6 8m
1:200 @ A3

Project Description
St Joseph's College
Hunters Hill

Drawing Prepared By

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Drawing Title
Swept Path Analysis
Primary Access Ramp / Boom Gates
8.8m long Medium Rigid Vehicle (MRV)
LEFT: Entry Movement
RIGHT: Exit Movement

Drawn:	Checked:	Date:
BL	-	13-03-18

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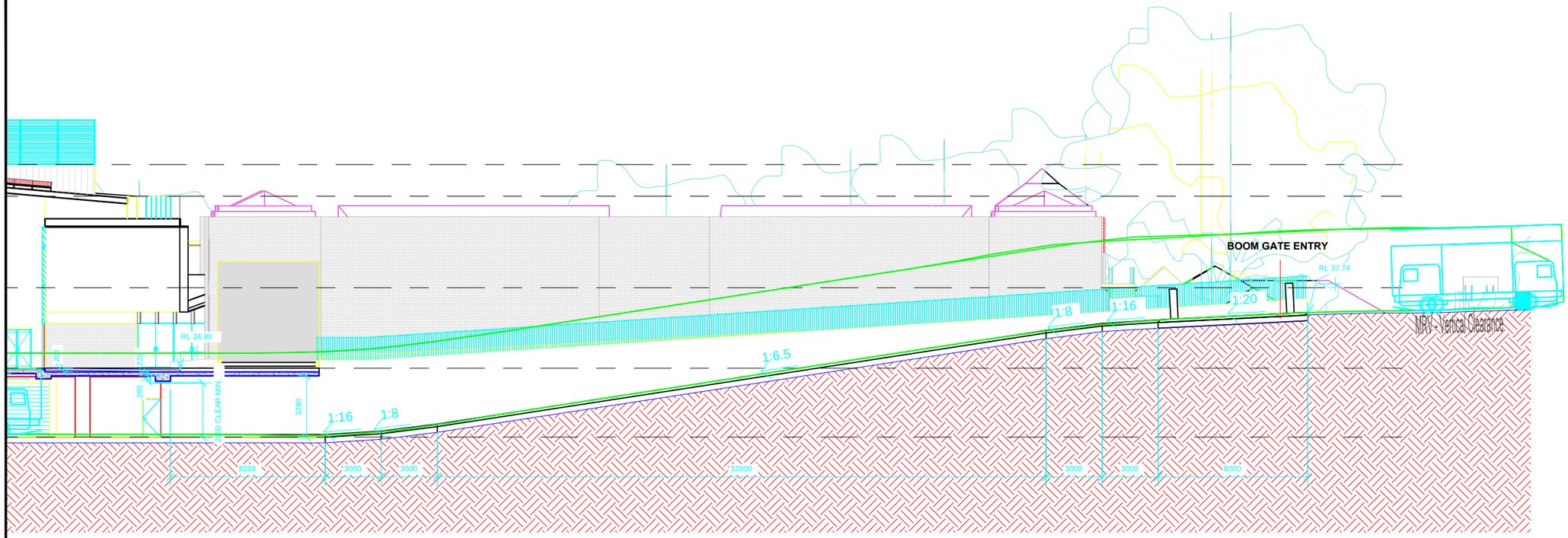
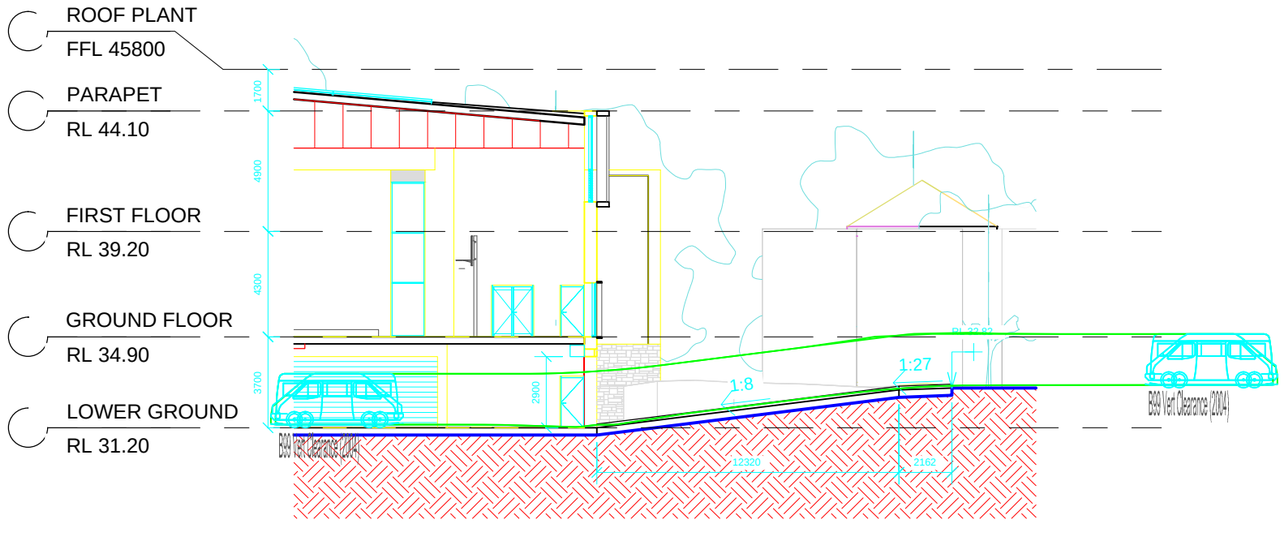
Project No.	Drawing Phase	Drawing No.	Rev.
16.457	DA	TX.02	



PRIMARY ACCESS RAMP



SECONDARY MAINTENANCE ACCESS RAMP

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Rev.	Revision Note	By.	Date

Swept Path Legend

- Wheel Path
- Vehicle Body Envelope
- Clearance Envelope (300mm)

Architect
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Client
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Scale / Plan Orientation
0 1 2 3 4m
1:100 @ A3

Project Description
St Joseph's College
Hunters Hill

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Drawing Title
Swept Path Analysis
Underside Clearance Tests
TOP: Primary Ramp - 8.8m long MRV (2.7m high)
BOTTOM: Secondary Ramp - B99 Design Vehicle

Drawn:	Checked:	Date:
BL	-	13-03-18

16.457d01v07 TRAFFIX [19-04-23 Plans] Design Review.dwg

Project No.	Drawing Phase	Drawing No.	Rev.
16.457	DA	TX.03	