

6th July 2022 Lizza Young Colliers Level 30, Grosvenor Place 225 George Street Sydney NSW 2000

Dear Lizza,

1. New Primary School in Mulgoa Rise

1.1. Project Location

ptc. have been engaged by School Infrastructure NSW to prepare a Traffic Impact Statement in relation to the S4.55 modification application for the development of temporary demountable facilities at the new primary school in Mulgoa Rise (the School).

The location of the proposed school is outlined in Figure 1.

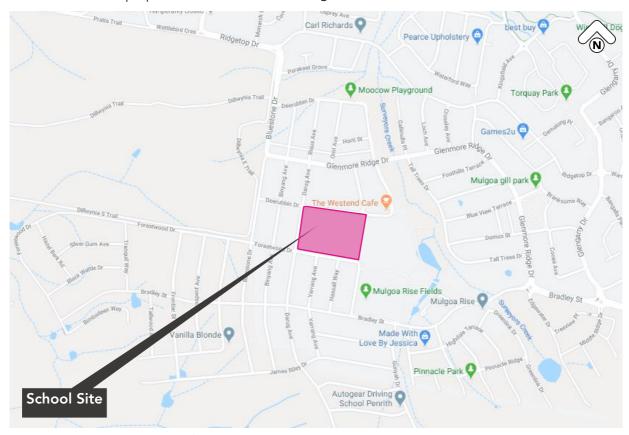


Figure 1 - Site Location (Source: Google Maps)

1.2. Project Background and Development Proposal

SSD-11070211 Consent Approval for the New Public School at Mulgoa Rise was received on the 18th March 2022. As a result of significant wet weather delays a delayed completion date of almost six months from a forecast Day 1 Term 1 2023 completion date is anticipated.

To allow the new school to begin regular operations on Day 1 Term 1 2023 and to enable the 230 students already enrolled to commence studies in 2023 the proposed development will be modified to provide temporary learning and support facilities while the construction of the permanent school occurs.

The development will include the construction, operation and eventual removal of temporary school facilities on the southern end of the current site. The temporary facilities will be directly connected to the partially complete permanent facilities.

The proposed Temporary Facilities are all single storey demountable buildings and comprise:

- 9 General Learning Spaces.
- 2 Support Unit Learning Spaces.
- 1 Administration Block.
- 1 Staff Facilities Block.
- 1 Library Block.
- 2 Toilet Block Facilities.
- 1 Accessible Toilet Block facility.

The proposed location of the temporary facilities is within the current site, as shown in Figure 2 below.

It is proposed that students will have access to the Hall, COLA, bike racks, end of trip facilities and sports court, under the current approval, all of which can be delivered in time for the Day 1 Term 1 opening. In addition, the waste storage area and staff car park will be complete and operational to serve the temporary school. Pick up and drop off on Deerubbin Drive (to the north) will also be available as approved and won't conflict with construction access which is all from Darug Avenue.

The temporary school facilities will cater for 230 students and 25 staff.

The temporary school facilities will be completed in December 2022 and be in operation in January 2023 with students attending the school on Day 1 of Term 1 2023. The temporary facilities will be removed within 12 months of operation.

Pedestrian access to the temporary school will be provided via:

- A pedestrian walkway access from Forestwood Drive.
- Pedestrian entry off Deerubbin Drive.

Waste service and delivery vehicles will enter and exit the site from the approved entry / exit point adjacent to Deerubbin Drive.

Operating hours of the temporary school will be from 8.00 AM to 4.00 PM.



An updated Site Plan is provided in Figure 2 with a Design Plan for the Temporary School Site provided in Figure 3.

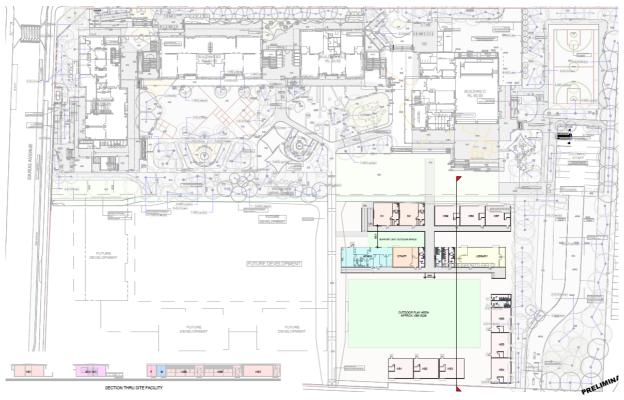


Figure 2 - Updated Site Plan - New Public School at Mulgoa Rise



Figure 3 - Design Plan for Temporary School Site – New Public School at Mulgoa Rise

1.3. Transport Relevant Items

The previous development consent was granted for the construction and operation of a school for up to 414 students from Years K-6 and 27 FTE staff, whereas the temporary structures are proposed to accommodate up to 230 students and 25 staff.

The SSD approved built form occupies the northern part of the 3ha site as outlined in pink in Figure 4. The structures on the north-eastern side of the property including the Hall, COLA, sports court, the waste storage area and the staff car park will be constructed prior to the commencement of the proposed temporary school. The temporary facilities are proposed to be located on the southeastern side of the site. The extent of the temporary school is marked in blue outline in Figure 4.

34 bicycle and 48 scooter spaces on the north-eastern side of the SSD approved site will not be constructed prior to the opening of the proposed temporary school. However, additional racks will be provided off Deerubbin Drive to account for the approved travel mode target of 35% cycling or scooting.

An EOTF will be provided by staff within the temporary school building.

Construction of all SSD approved public domain works including pedestrian zebra crossings, relocation of the bus bay, line marking and sign-posting of on-street parking and pick-up and drop-off spaces will be undertaken in accordance with the previous approval, and all these facilities will be available from Term 1 Day 1.

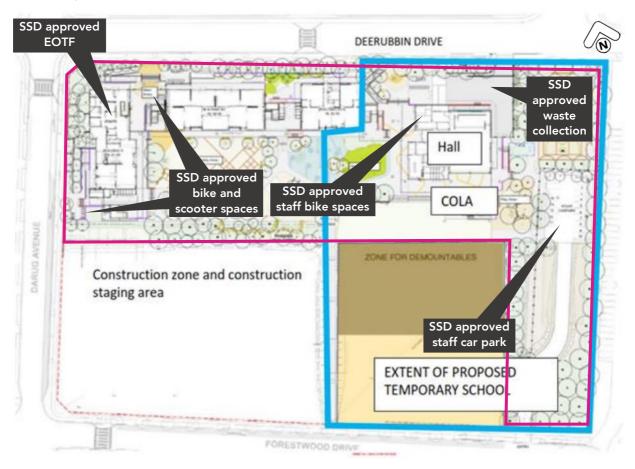


Figure 4 - Development Proposal

2. Transport Demand and Design Assessment

2.1. Site and Pedestrian Access

Though 2 of the SSD approved pedestrian access points will not be in operation from Day 1, Term 1, the remaining 2 gates off Deerubbin Drive and Forestwood Drive enable quick access from all travel directions and therefore, are considered adequate for the reduced number of students.

The approved staff car park and service vehicle access gates will be constructed and operational from Term 1 Day 1.

The proposed access points, car park, pick-up / drop-off areas along Deerubbin Drive and Forestwood Drive, bicycle amenities and the bus stop locations are illustrated in Figure 5.

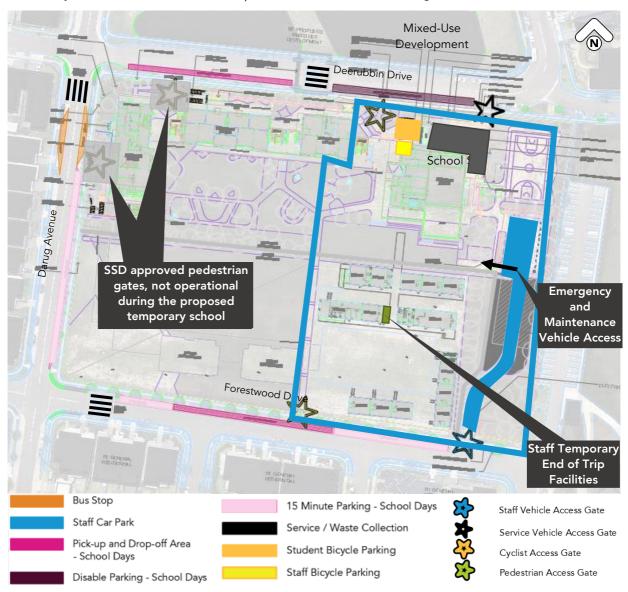


Figure 5 - Pedestrian Access

2.2. Bicycle and Scooters

2.2.1. Demand Assessment

Reference has been made to 'Planning Guidelines for Walking and Cycling (NSW Government 2004)', 'Austroads Guide to Traffic Management Part 11' and NSW Government's 'Educational Facilities Standards and Guidelines' for the bicycle parking.

The bicycle parking requirements and proposed provision for staff, visitors and students at the proposed temporary primary school for 230 students and 25 staff are summarised in Table 1.

Table 1 - Bicycle Parking Requirement and Provision

User Group	No. of staff / students	Bicycle Parking Provision Rate	Bicycle Parking Requirement	Bicycle Parking Provided
Planning Guidelines for Walking and Cycling				
Staff	-25	1 staff space for 3-5% staff (long-term use)	1 – 2 spaces	6 bike spaces
Visitor		1 visitor space for 5-10% staff (short-term use)	2 – 3 spaces	38 bike spaces
Austroads Guide to Traffic Management				48 scooter spaces
Student	Approx. 66 students in Year 5 and 6	1 space per 5 students over Year 4 (long-stay)	13 spaces	86spaces

The SSDA was approved with the provision of 64 bike spaces and 80 scooter spaces, i.e., total 144 spaces, which accounts for 35% of student population (out of 414 students) to cycle and scoot. At this stage, the School proposes to provide 38 bike spaces and 48 scooter spaces, i.e., a total of 86 spaces for 230 new students, which accounts for 37% of the student population (more than the previous approval for cycling and scooting population).

A total of 6 bicycle spaces and sufficient number of lockers for staff will be constructed as per the approved SSDA plans and will be made available at the start of Term 1 Day 1.

The bicycle and scooter parking locations area presented in Figure 5.

2.2.2. End of Trip Facilities

The temporary school proposes to provide 1 WC with a shower and change facilities, which is in accordance with the approved SSDA.

The location of end of trip facilities is presented in Figure 5.

2.2.3. Design Assessment

The DCP outlines that bicycle parking facilities are to comply with AS 2890.3:1993. It is therefore proposed to provide staff bicycle spaces in a secured Shared Multi Use storeroom, which may be equipped with bike racks. Bicycle spaces for visitors and students are provided as rails. This arrangement complies with Council's DCP and the approved SSD plans.

Bicycle spaces will be provided according to the standards, where a parking space envelope has the dimensions of 1.8m x 0.5m and an aisle of 1.5m is provided. An assessment of bicycle parking areas is provided in Attachment 2.

Scooter parking will be provided as per Figure 6 or similar.

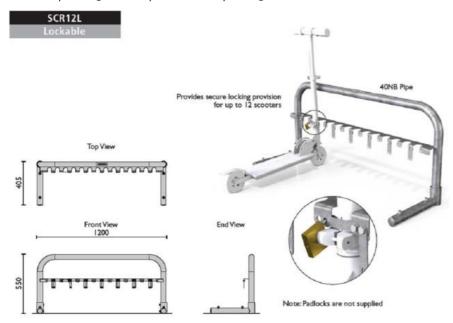


Figure 6 - Scooter Parking

2.3. Zebra Crossing

Zebra crossings on the Darug Avenue and Forestwood Drive will be constructed as approved during the SSDA stage and will be made available to the public at commencement of Term 1 Day 1.

All signs and line marking related to the zebra crossing will be completed prior to commencement of Day 1 Term 1.

2.4. Bus

The relocation of the bus stop on the eastern side of Darug Avenue will be finalised prior to commencement of Term 1 Day 1 of the temporary school, as approved during the SSDA stage.

2.5. School Zone

Upon further consultation with TfNSW, the School Zone will be installed as per the SSD approved concept plans, prior to commencement of the temporary school.

2.6. Pick up and Drop off

The pick-up and drop-off will be undertaken on the frontage roads as approved during the SSDA stage. It is proposed to provide the SSD approved quantity of pick-up and drop-off spaces for the reduced student population at the temporary school.

Line marking and sign posting for the general pick-up and drop-off spaces, assisted pick-up and drop-off spaces and time restricted parking spaces will be completed before commencement of Term 1 Day 1.

2.7. Car Parking

It is proposed to construct the full extent of the staff car park approved as per the SSD prior to commencement of the temporary school. The temporary school is proposed to have a reduced number of staff, thus the demand is expected to be accommodated within the car park.

The staff car park with access off Forestwood Drive will be operational from Term 1 Day 1 of the proposed temporary school. A design assessment of the approved car park is included in Attachment 2.

2.8. Waste Collection

The waste collection area with access off Deerubbin Drive as approved during the SSDA will be operational from Term 1 Day 1 of the proposed temporary school. A design assessment of the approved waste collection area is included in Attachment 2.

2.9. General Deliveries

Other delivery vehicles will utilise the on-street parking along the frontage roads, as approved during the SSDA stage.

2.10. Emergency Vehicles

A fire truck will access the site off Deerubbin Drive from Term 1 Day 1, as approved during the SSDA stage.

A 7m long Bariatric ambulance will access the site via the staff car park, as approved during the SSDA stage. Due to the location of the demountables on the west of the car park, the ambulance will drive into the car parking aisle and reverse back into the site from the aisle. Such access is in accordance with the ASNSW ambulance access specification (see Attachment 3). A swept path assessment has been undertaken showing that the ambulance can undertake a 3-point turn in the car park aisle, as presented in Attachment 2.

3. STP

The methodology presented in the School Transport Plan (STP) dated 20/08/2021 and approved as part of the SSDA is proposed to be retained and implemented in the temporary School.

All public domain works for which the consent was granted (zebra crossings, bus stop relocation, pick-up / drop-off) will be finalised prior to commencement of the School to support the anticipated travel behavior.

Though 2 pedestrian access points will not be in operation from Day 1, Term 1, the remaining 2 gates off Deerubbin Drive and Forestwood Drive enable quick access from all travel directions and therefore, are considered adequate for the reduced number of students.

In lieu of bicycle spaces on the north-eastern side of the SSD approved site, additional bike spaces will be provided off Deerubbin Drive to account for the approved travel mode target of 35% cycling or scooting.

An update to the approved STP will be required as part of the occupation certificate, at which stage adjustments to the access points and bike rack locations as well as operation based on the temporary structures can be made. At that time, consultation with the principal will be undertaken.

4. CTMP

The methodology of the Construction Traffic Management Plan (CTMP) dated 01/04/2022 and previously approved during the SSDA stage is proposed to be largely retained, though some changes would be required to facilitate the proposed additional site access off Forestwood Drive. This access would be used solely to construct the temporary structures, whilst the access off Darug Avenue would continue being used for the main school construction.

A swept path assessment has been undertaken for a 20m long AV with construction access via Forestwood Drive and it has been found that the temporary school site is capable to accommodate one AV at a time.

The following adjustments would need to be made to the approved CTMP (refer to Figure 7).

- A truck approaching the site from Darug Avenue occupies both lanes on Forestwood Drive and a truck exiting the site from Forestwood Drive occupies both lanes on Darug Avenue. As such, an additional traffic controller would be required at this intersection to control vehicles approaching from the opposite direction of the truck. Similar to the approach at the Darug Avenue / Bradley Street intersection approved with the SSDA CTMP, it is proposed to manage the inbound and outbound truck movements so that they never coincide and therefore, only one traffic controller would suffice.
- The TGS on the Darug Avenue / Forestwood Drive intersection would need to be adjusted to facilitate the additional traffic control.
- A gate controller would be required at Forestwood Drive.
- "No Parking" signs would need to be installed at the entry gate, extended 12m towards the western side of the gate to facilitate the swept path.



Figure 7 - Proposed construction vehicle access for the construction of the temporary school

5. Summary

ptc. have been engaged by School Infrastructure NSW to prepare a Traffic Impact Statement in relation to the S4.55 modification application for the development of temporary demountable facilities at the new primary school in Mulgoa Rise.

The SSD approved development experiences significant delays in the construction works due to wet weather. To ensure that the School becomes operational on the scheduled time for Day 1 Term 1 in 2023 the project proposes to construct temporary facilities within the site. The previous development consent was granted for 414 students from Years K-6 and 27FTE staff, and the current temporary facilities are proposed to accommodate the up to 230 students and 25 staff in the new term.

Facilities previously approved and proposed to be constructed to their full capacity prior to commencement of the proposed temporary school with reduced student and staff population include:

- Staff car park
- Staff bicycle spaces
- Waste collection area
- All public domain works, including zebra crossings, bus stop relocation and pick-up / drop-off spaces.

Amendments to the SSD approved layout are required as follows:

- Modifications to the pedestrian access gates: 2 pedestrian access points will not be in operation from Day 1, Term 1, though the remaining 2 gates off Deerubbin Drive and Forestwood Drive enable guick access from all travel directions.
- Bicycle parking: Some of the SSD approved spaces will not be operational, hence the temporary development proposes to provide a total of 86 rack for 38 bikes and 48 scooters to facilitate the SSD approved 35% cycling and scooting transport mode target.
- End of Trip Facilities: these will be provided in the temporary school buildings at the approved quantity of 1 shower / change room.
- Circulation of emergency vehicle within the site: a 7m long Bariatric ambulance will undertake a
 three-point turn in the car park aisle and reverse back into the site, in accordance with the ASNSW
 ambulance access guidelines.

The methodology of the School Transport Plan approved during the SSDA stage is proposed to be retained for the temporary school. Changes to gate and bicycle location are proposed to be updated at the time when the STP would be updated for the purpose of the occupancy certificate.

The methodology of the Construction Traffic Management Plan approved during the SSDA would need to be amended to incorporate a proposed additional construction vehicle access off Forestwood Drive and traffic control at the Forestwood Drive / Darug Avenue intersection.

We trust that this letter assists in the assessment of the development. For any further enquiries, please contact our office on (02) 8920 0800. Yours faithfully, Pragya Sharma Traffic Engineer

Document Control: Prepared by PS on 6 July 2022. Reviewed by KB on 6 July 2022.

Attachment 1. Architectural Plans

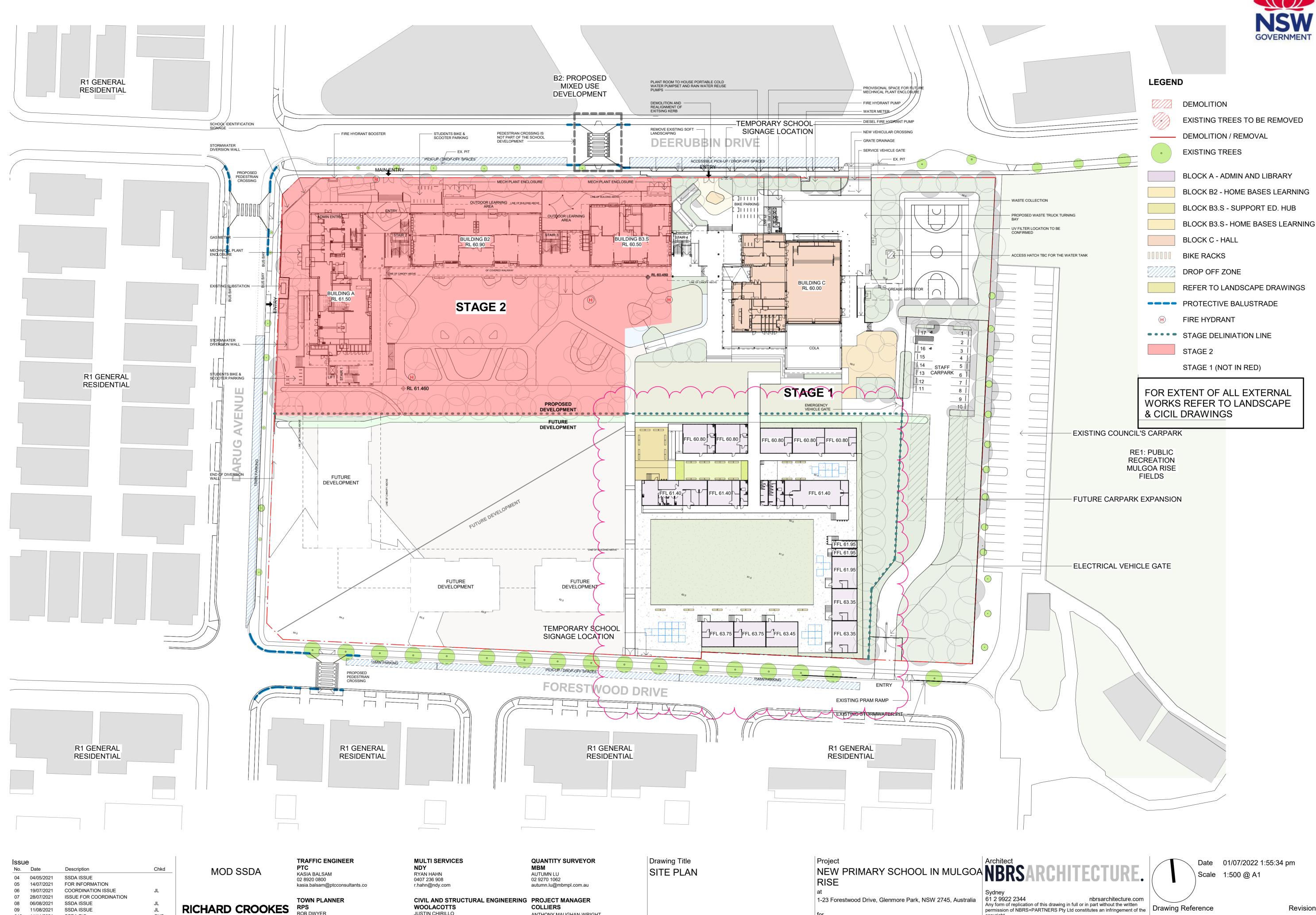


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Nominated Architect:
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CONSTRUCTIONS

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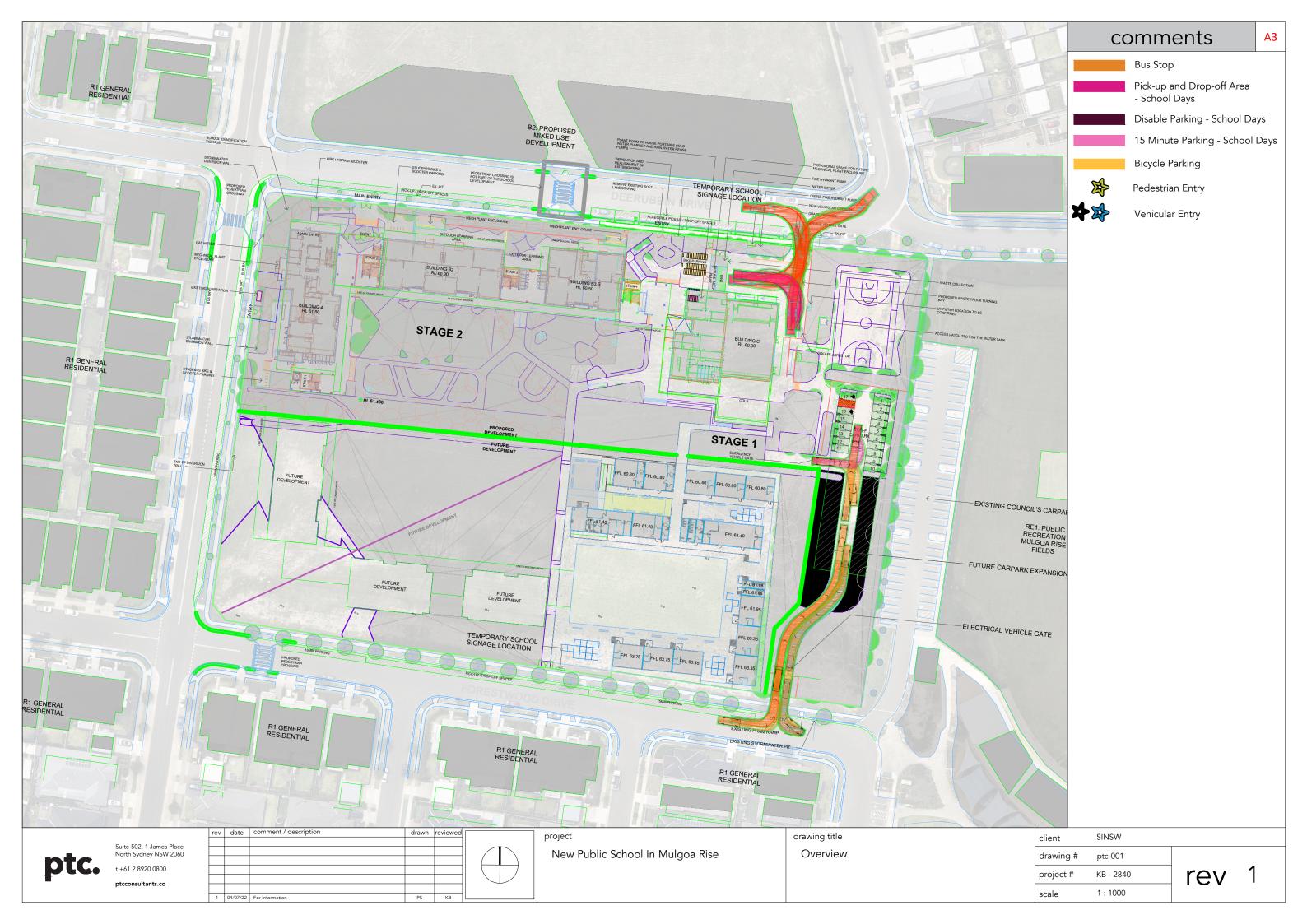
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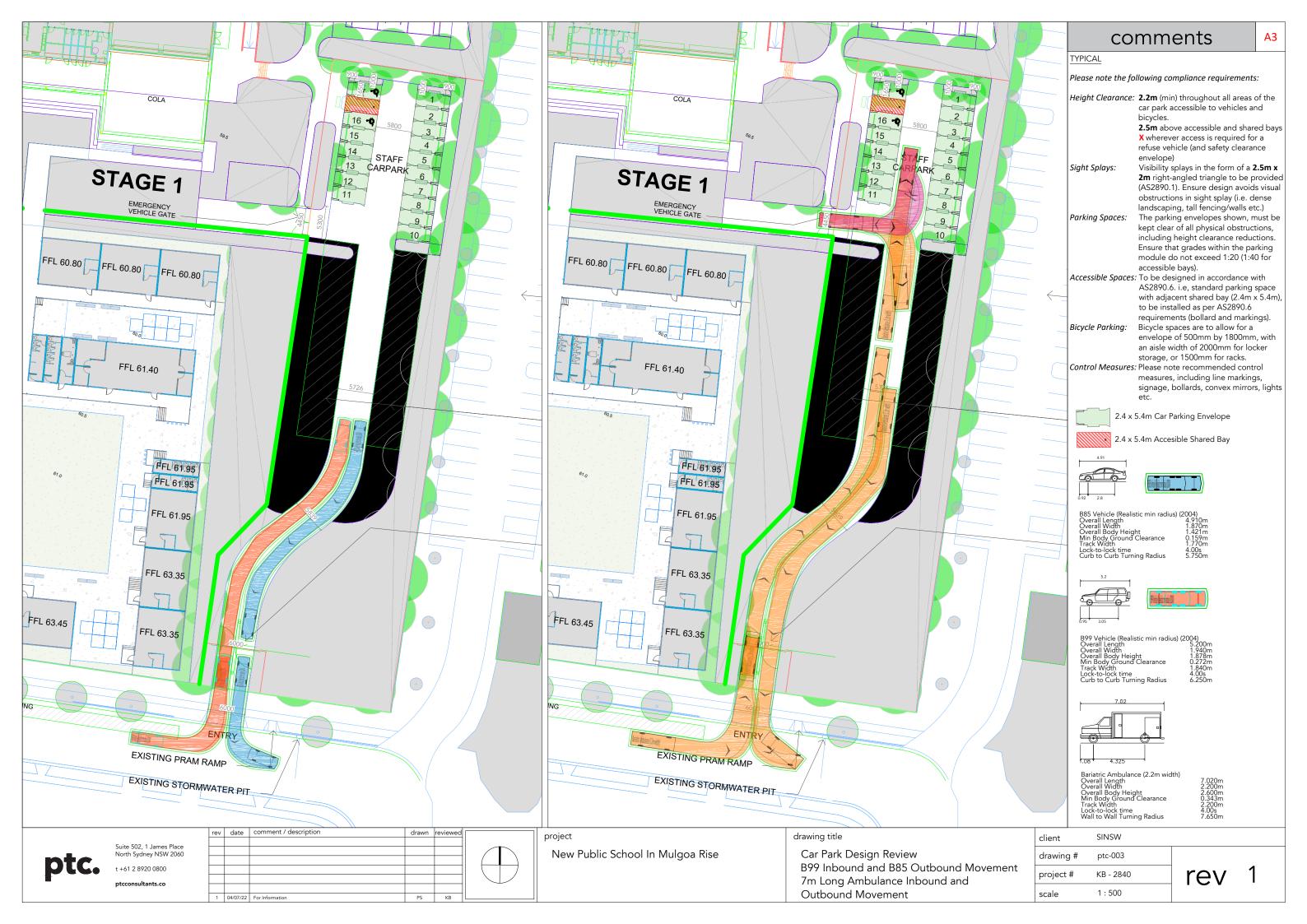
ANTHONY MAUGHAN-WRIGHT

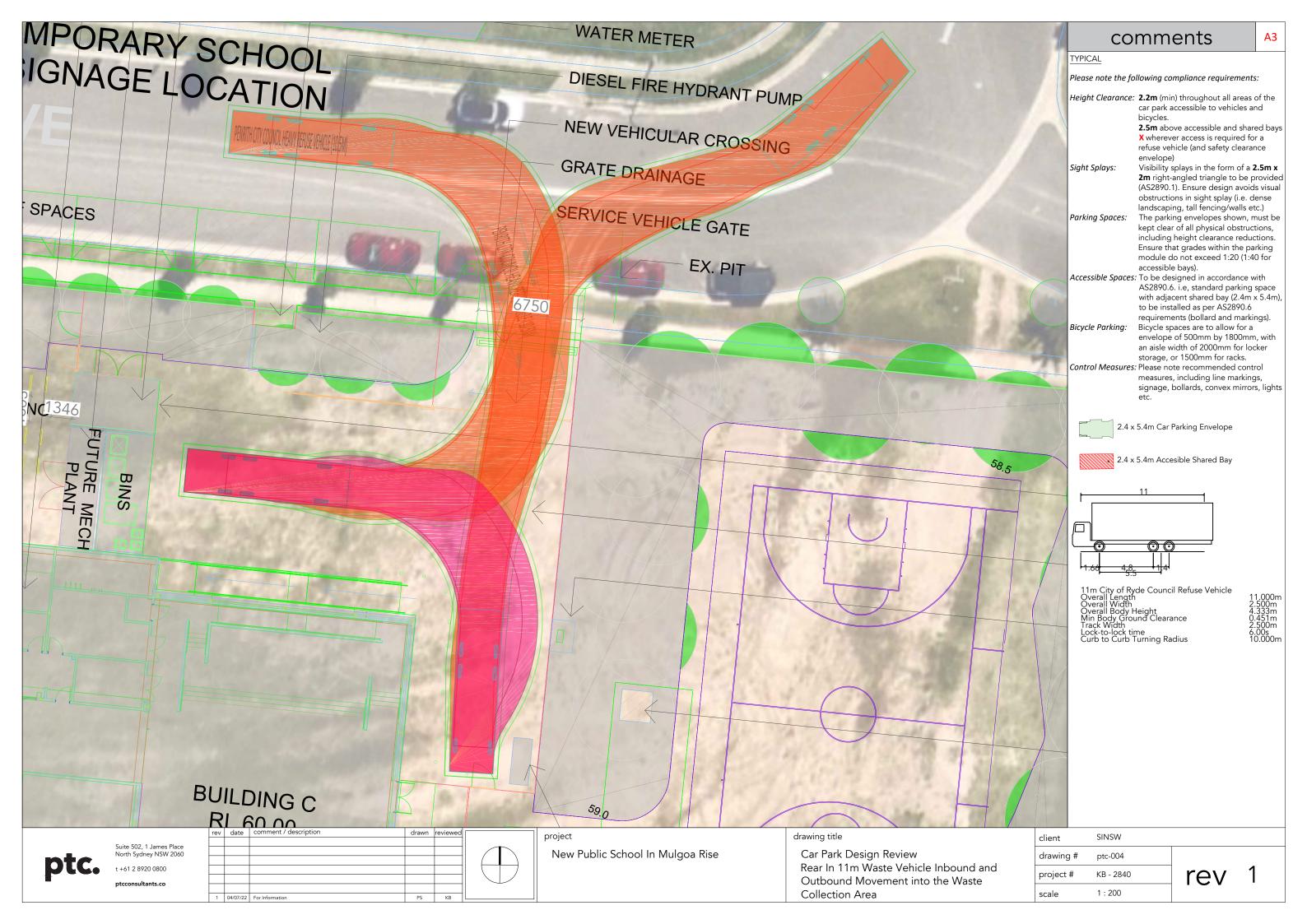
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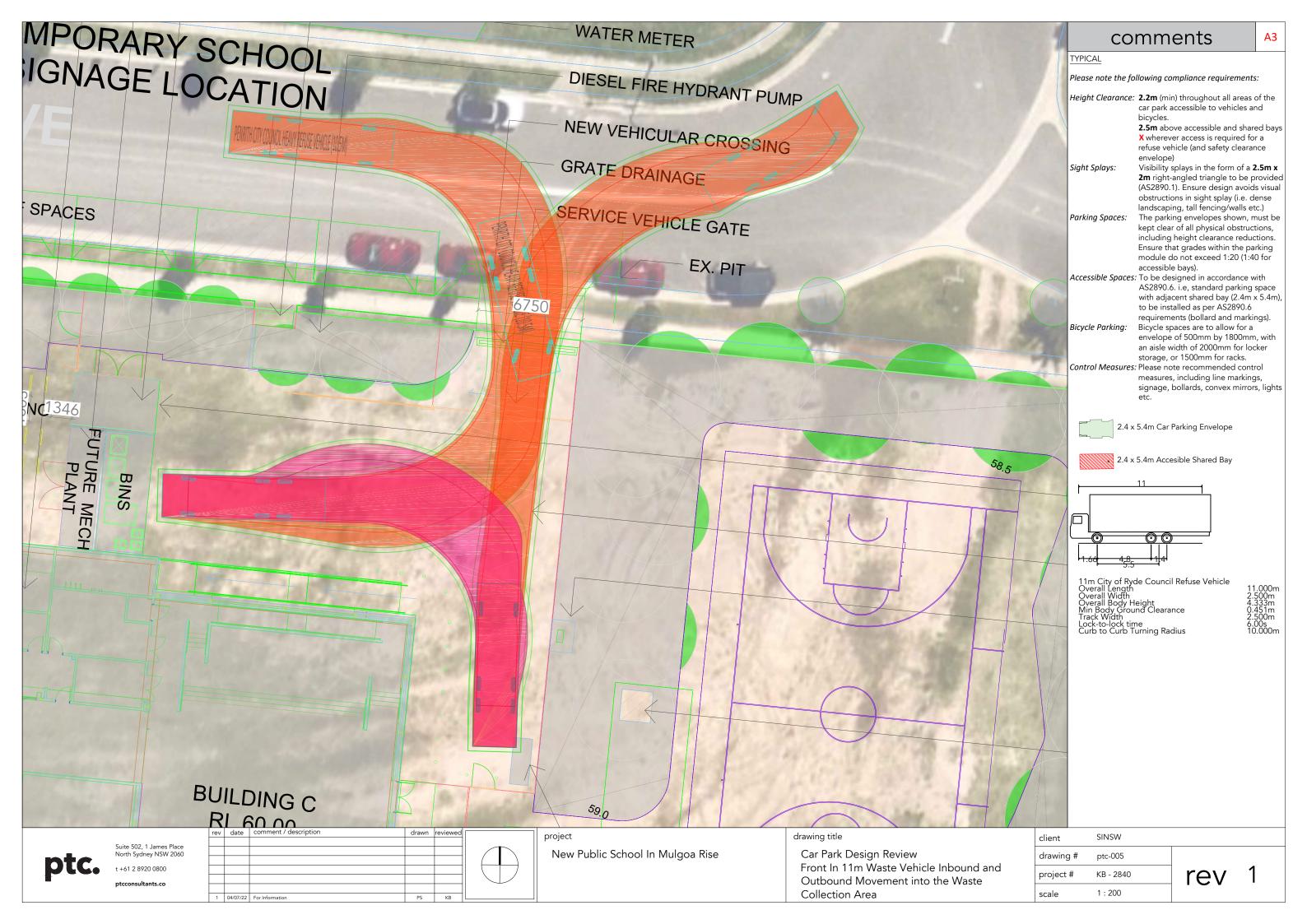
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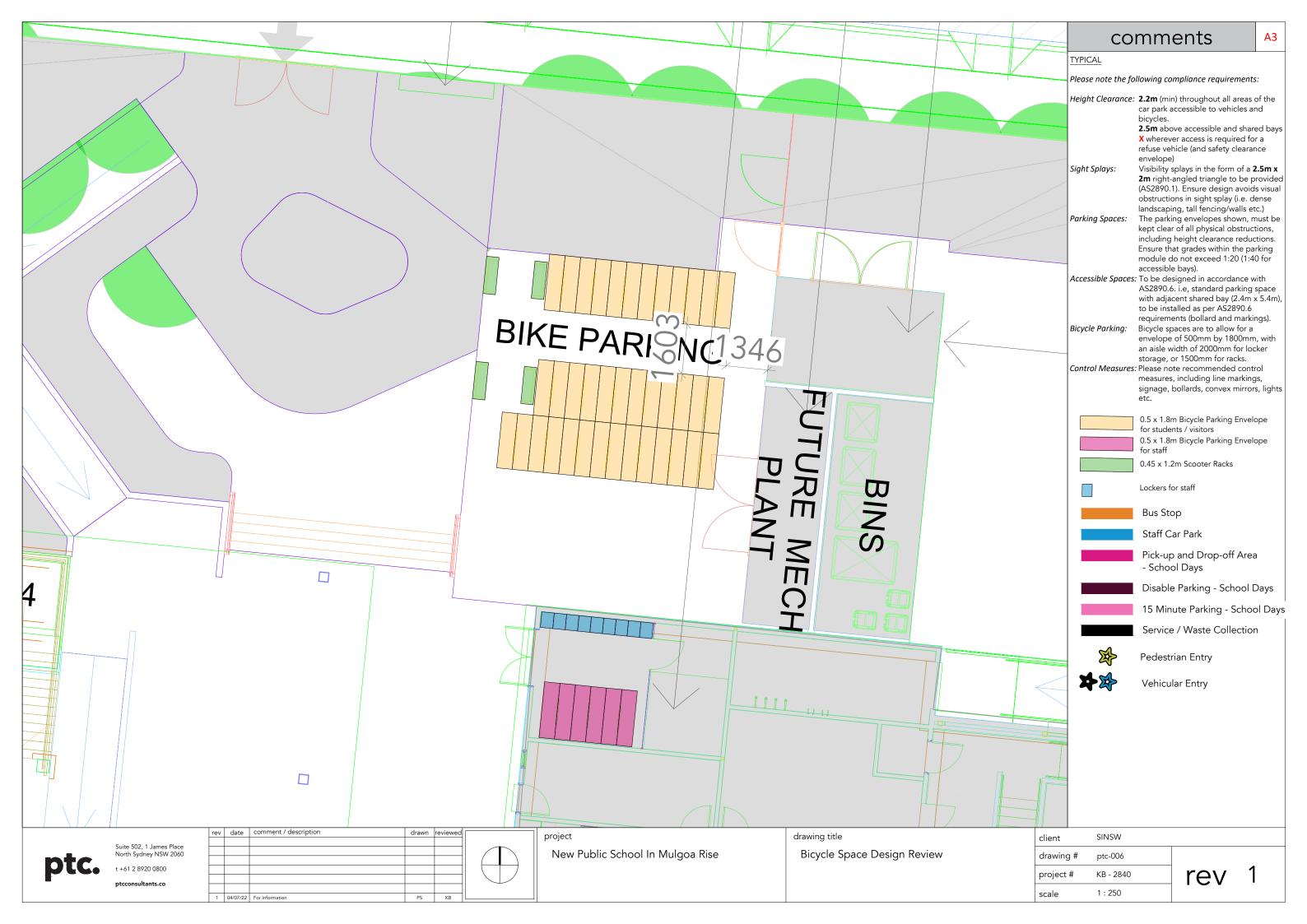
Attachment 2. Design Assessment





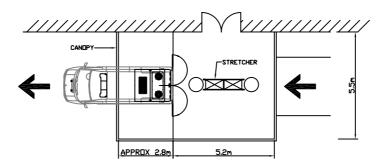






Attachment 3. ASNSW Ambulance Access

ASNSW AMBULANCE ACCESS



FIRST PREFERENCE
Drive through "Porte Cochere" access to hospital ambulance entry.

