

Transport Assessment Addendum

New High School in Bungendore

PREPARED FOR:

Hindmarsh Construction Australia Pty Ltd

REFERENCE:

0593r02v03

DATE:

20/07/2022



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1. Introduction

1.1. Overview

PDC Consultants (PDC) has been commissioned by Hindmarsh Construction Australia Pty Ltd (HCA) to prepare an Addendum report in relation to a Transport Assessment.

GHD prepared a Transport Assessment that forms part of the Environmental Impact Statement for SSD No 14394209 for a new high school at Bungendore. The Environmental Impact Statement was exhibited by the NSW Department of Planning from Monday 20 September 2021 to Monday 18 October 2021. During the exhibition, submissions were received and following exhibition the Department of Planning and Environment issued two requests for information dated 16 November 2021 and 24 December 2021.

This Report accompanies an Amendment Report for the project and forms an update to the previously issued Transport Assessment.

1.2. The Amended Proposal

Proposal amendments:

- The amended design no longer includes facilities for Queanbeyan-Palerang Regional Council (Council) such as the previously proposed community health centre, community library and council shop front. The facilities are still to be provided by Council, however, through a separate planning process and on a separate site.
- Administration and staff facilities have been relocated from Block A into Block C (existing council building) and the visual arts and TAS functions have been relocated into Block A.
- The school library has been relocated from Block D to a standalone block, Block E, which is located to east of the Majara Street alignment and centred on the school common.
- Block D has been replanned to address the removal of Council facilities, the relocation of the school library and to sit to the east of the Majara Street alignment. The floor level of Block D has also been lowered to suit the revised building footprint.
- Block B has been relocated to the west, off the Majara Street alignment.
- The games courts and cricket batting nets have been relocated within the school boundary.
- The bulk and scale of buildings facing public roads (Blocks A and B) have been reduced.
- The façade materials of the proposed buildings have been revised to be more sympathetic to the existing village character.
- The primary outdoor learning areas, including the 'covered' outdoor learning areas have been relocated and redesigned to be integrated within the landscape design.

- Minor planning changes to Block B which include relocation of the outdoor learning spaces, student amenities and building services to provide a new covered walk through from the school plaza to Mick Sherd Oval.
- The covered walkway connection between Block B and Block D has been redesigned to arc around the eastern side of the school common and provide a covered connection to the relocated school library, Block E.
- The school security fence between Blocks B and D has been redesigned to arc around the western perimeter of the school common. The school security fence to the northern and southern boundaries has been rationalised and face brickwork piers have been introduced to define the school entries.
- The waste vehicle turning circle has been removed from the proposal. The waste collection area has been relocated to the southern end of the existing carpark and a waste vehicle turning head has been added. A new turning bay is provided for assisted transport vehicles to the northern end of the car park.
- The onsite detention tank has shifted to the west.
- The electronic school sign has been replaced with a changeable, static 'notice board' sign. The sign has been relocated further back from Majara Street, behind the school security fence.
- The Scout storage shed has been relocated from the agricultural plot to within the Scout site. The Scout storage shed will be subject to a separate planning pathway and does not form part of this application. The school agricultural support building, Block F, has been repositioned and the landscape paths and driveways have been updated to suit the change.
- An addition 58 car parking spaces are proposed along Turallo Terrace providing a total of 98 spaces (compared to the original 40). An additional 3 drop off/ pickup spaces are proposed on Turallo Terrace providing a total of 6 spaces (compared with the original 3).
- The proposed delineation works to Mick Sherd Oval and the War Memorial have been removed from the proposal.
- The redesign of pedestrian crossings on Gibraltar Street and Turallo Terrace from 'School Crossings' to 'Wombat Crossings'.
- A footpath is proposed to the northern side of Turallo Terrace connecting the proposed parking with the existing path adjacent to Turallo Creek.

Having regard for the above, **Figure 1** provides an appreciation of the amended new high school in Bungendore.

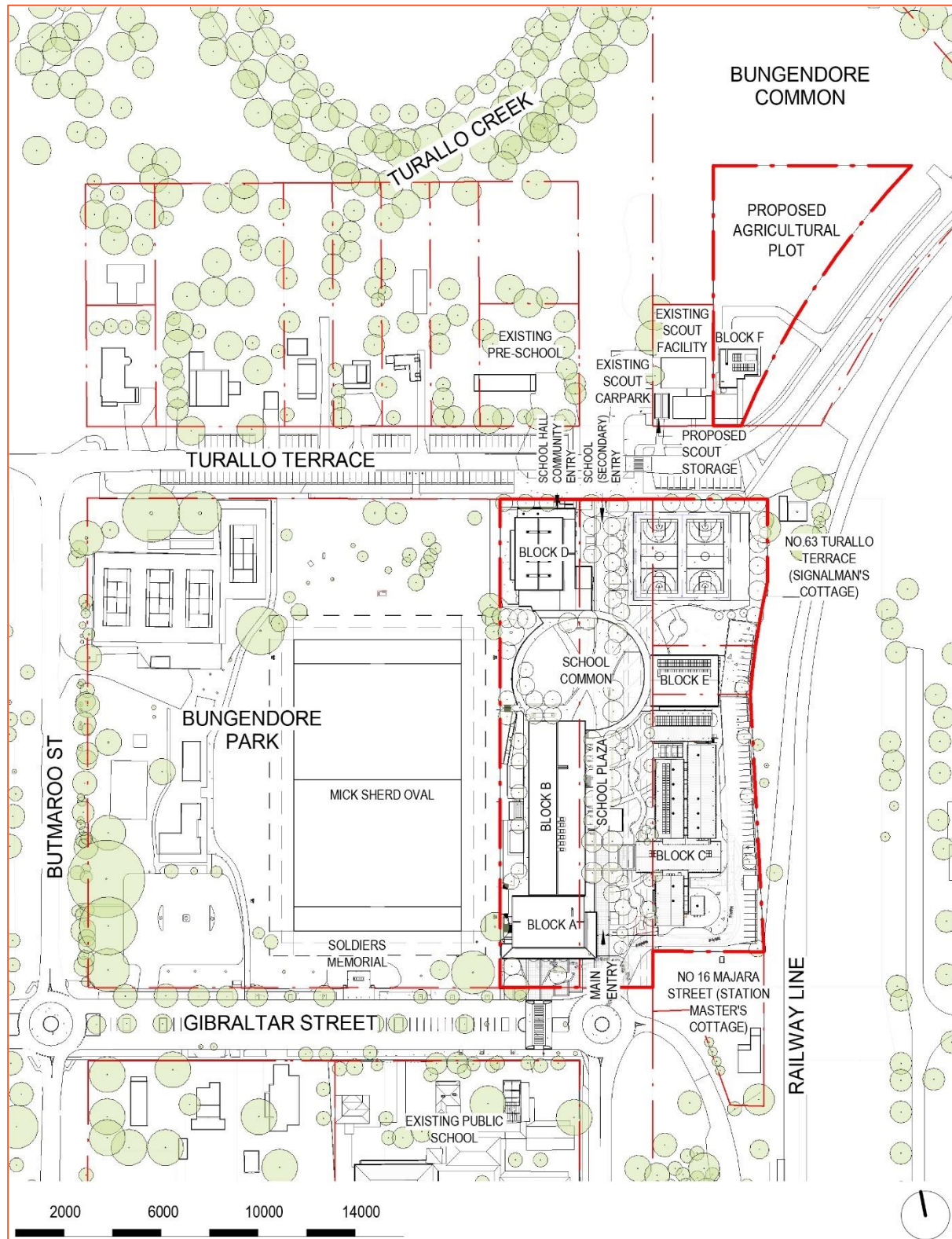


Figure 1: New High School in Bungendore (source: TKD Architects)

1.3. Structure of this Report

This report documents the findings of our investigations in relation to the anticipated traffic and parking impacts of the proposed high school and should be read in the context of other updated documentation in relation to the subject SSD, submitted separately to the Department of Planning. The remainder of this report is structured as follows:

- Section 2: Provides a description of the land subject to the proposed high school.
- Section 3: Assesses the parking requirements of the revised proposed high school.
- Section 4: Assesses the traffic impacts of the revised proposed high school.
- Section 5: Discusses the proposed internal and external design arrangements.
- Section 6: Discusses updates to the preliminary School Transport Plan.
- Section 7: Provides further discussion on the preliminary construction traffic arrangements.
- Section 8: Presents the overall study conclusions.

1.4. References

In preparing this report, reference has been made to the following guidelines / standards and reports:

1.4.1. Guidelines / Standards

- Palerang Local Environmental Plan 2014 (PLEP 2014).
- Palerang Development Control Plan 2015 (PDCP 2015).
- State Environmental Planning Policy (Transport and Infrastructure) 2021 (SEPP 2021).
- Australian Standard AS 1742.10-2009, Part-10: Pedestrian Control and Protection (AS 1742.10).
- Australian Standard AS 2890.1-2004, Part 1: Off-Street Car Parking (AS 2890.1).
- Australian Standard AS 2890.2-2018, Part 2: Off-Street Commercial Vehicle Facilities (AS 2890.2).
- Australian Standard AS 2890.3-2015, Part 3: Bicycle Parking Facilities (AS 2890.3).
- Australian Standard AS 2890.5-2020, Part 5: On-Street Parking (AS 2890.5).
- Australian Standard AS 2890.6-2009, Part 6: Off-Street Parking for People with Disabilities (AS 2890.6).
- RMS¹ Guide to Traffic Generating Development 2002 (RMS Guide).

¹ Roads and Maritime Services (RMS) has joined with Transport for NSW, with reference to RMS now taken legally to automatically mean TfNSW.



- RMS¹ Technical Direction TDT 2013/04a - Guide to Traffic Generating Developments, Updated Traffic Surveys (RMS Guide Update).

1.4.2. Reports

- Transport Assessment (ref: 12548316 Rev 5) prepared by GHD dated 10/09/2021 (TA Report).
- Preliminary Construction and Pedestrian Traffic Management Plan (ref: 12548316 Rev 2) prepared by GHD dated 7/09/2021 (PCPTMP Report).
- Preliminary School Transport Plan (ref: 12548316 Rev 5) prepared by GHD dated 6/09/2021 (PSTP Report).
- Environmental Impact Statement prepared by Mecone dated 9/09/2021 (EIS).

2. Site Description

The proposed development is located within the Bungendore Town Centre within the local government area of Queanbeyan-Palerang Regional Council. The proposal involves the use of land bounded by Bungendore Park, Gibraltar Street, Majara Street, Turallo Terrace and Butmaroo Street, the existing former Palerang Council site at 10 Majara Street, the Majara Street road reserve bounded by Turallo Terrace and Gibraltar Streets and Nos. 2, 4 and 6 Majara Street (Refer to **Table 1** below).

The site is legally described as per the existing Lots and DPs in **Table 1** below. The school site comprises land which has recently been transferred to the ownership of the Department of Education, being Lots 12-14 of DP1139067, Lot 3 of DP830878, part of Lot 701 of DP1027107, the part of lot 701 of DP96240, and part of the Majara Street Road Reserve. The proposed Lots and DPs are detailed within **Table 1** below and are not yet registered at the time of writing of this Amendment Report.

The site is approximately 25,350m² in area and consists of a relatively flat topography. It contains existing Council buildings. The land is mostly cleared of vegetation with some mature trees intersperse throughout subject lots.

The surrounding area generally includes low density residential developments to the north and west, an existing rail line to the east and Bungendore Public School and the Bungendore train station to the south and south west respectively.

Table 1: New High School in Bungendore Legal Descriptions

PROPERTY ADDRESS	EXISTING LOT AND DP	PROPOSED LOT AND DP
6-14 Butmaroo Street	Part Lot 701 DP1027107	Lot 1 DP1276282
2 Majara Street	Lot 12 DP1139067	Lot 12 DP1139067
4-6 Majara Street	Lot 13 DP1139067 Lot 14 DP1139067	Lot 13 DP1139067 Lot 14 DP1139067
10 Majara Street	Lot 3 DP830878	Lot 3 DP830878
Butmaroo Street	Part Lot 701 DP96240	Lot 1 DP 1276285
Portion of Majara Street (between Turallo Terrace and Gibraltar Street)	N/A	Lot 1 DP 1276279

Figure 2 provides an appreciation of the land subject to the proposed high school.



Figure 2: Site Aerial Depicting the Land Subject to the Proposed High School (source: TKD Architects)

3. Parking Requirements

3.1. Car Parking

3.1.1. Internal Car Parking

The proposed high school will provide a total of 44 car parking spaces (retention of the existing car spaces serving the Council building that will be reconfigured and repurposed). The proposed high school will accommodate 41 on-site staff and accordingly, the provision for 44 car spaces will wholly accommodate all staff car parking demands with no reliance on on-street parking. The proposed staff car parking provision is therefore considered to be acceptable.

The internal car parking arrangements allows provision for up to five (5) indented car parking spaces along the western side of the on-site car park. This would permit pick-up and drop-off operations to occur for students with the following circumstances:

- Students arriving via mini-buses such as a 12-seater Toyota Hiace (comparable to a B99 Design Vehicle) associated with the NSW Government's Assisted School Travel Plan (ASTP).
- Students with special needs arriving / departing with their parents or guardians.

The separate pick-up and drop-off area within the on-site car park for students with the aforementioned circumstances would result in a safer outcome and improved amenity.

3.1.2. External Car Parking

On-Street Car Parking – Turallo Terrace

A total of 98 angled (90-degree) and indented car parking spaces will be provided along the northern and southern kerbsides of Turallo Terrace. The provision considers the following:

- Loss of some 60 car parking as a result of the proposed high school.
- Loss of 15 spaces associated with Bungendore Scout Hall (the Abbeyfield House Bungendore Project will be relocated to the parking area serving Bungendore Scout Hall).
- Demand of some 23 spaces by high school students that are expected to drive (per the TA Report).

Kiss & Drop Bays

A total of 10 Kiss & Drop (K&D) car parking spaces will be provided by the proposed high school including:

- A four (4)-space K&D bay along the northern kerbside of Gibraltar Street, between the War Memorial to the west and proposed wombat crossing to the east.
- A six (6)-space K&D bay along the southern kerbside of Turallo Terrace to the west of the proposed wombat crossing.

To gain an understanding of the expected parking turnover of the K&D spaces, the following is noted:

- Per Table 3-2 of the TA Report, an estimated 180 students are expected to commute to the proposed high school by kiss-and-drop operations.
- A car occupancy rate of 1.4 students / vehicle (Section 4 of the TA Report) has been considered. Accordingly, there is expected to be 129 vehicles generated by the proposed high school's kiss-and-drop activity during the school morning and afternoon peak periods of 8-9:30am (AM) and 2:30-4pm (PM) respectively.
- Based on conservative assumptions that all kiss-and-ride activity will occur within a 15 minute period and that each driver will require 60 seconds (i.e. one (1) minute) for the student be picked up or dropped off to the proposed high school, each space will accommodate a parking turnover of 15 vehicles. This equates to a total parking turnover of 150 vehicles within a 15 minute period during the school AM and PM peak periods for all 10 K&D spaces.
- As previously mentioned above, a total of 129 vehicles will be generated by the proposed high school's kiss-and-drop activity during the school AM and PM peak periods. It is therefore evident the proposed 10 K&D spaces will wholly accommodate the expected kiss-and-ride parking demand by the proposed high school.

Further to the above, it should be noted that K&D car spaces are subject to 'No Parking' restrictions during the AM and PM peak periods to enforce high parking turnover. Outside of these times, the spaces are available as typical on-street parking that may be used by the general public.

The proposed external car parking arrangements are considered to be acceptable.

3.2. Accessible Car Parking

The proposed high school will provide a total of four (4) accessible car parking spaces including:

- Two (2) accessible spaces within the staff car parking area (internal car parking).
- Two (2) accessible spaces on the southern side of Turallo Terrace (external car parking).

The proposed accessible car parking provision is therefore considered to be acceptable.

3.3. Bicycle Parking

The proposed high school will provide 76 bicycle parking spaces for staff and students. It is noted that the bicycle parking provision is based on the expected travel mode split of the proposed high school. Should bicycle parking demand exceed the initial 76-space provision, the proposed high school would be able to increase the number of bicycle spaces accordingly. The School Travel Plan (STP) once finalised will detail a monitoring and review process to ensure actual travel mode data is captured to inform how the high school should encourage uptake of alternative transport modes such as cycling. Further discussion relating to the STP is provided in Section 6. With this in mind, the proposed bicycle parking provision is considered to be acceptable.

3.4. Motorcycle Parking

The PDCP 2015 does not stipulate a rate for the provision of motorcycle parking and in any event, it is considered that the proposed high school would generate a negligible demand for motorcycle parking. Accordingly, it is considered acceptable that the proposed high school does not provide any on-site motorcycle parking.

3.5. Service Vehicle Parking & Waste Collection

The proposed high school will provide the following service arrangements:

- One (1) 12.5-metre-long Heavy Rigid Vehicle (HRV) service bay / turning bay. The HRV bay will be utilised by service vehicles generated by the high school and waste collection purposes. Per the Operational Waste Management Plan Bungendore High School dated July 2021 prepared by EcCell, a 10.5-metre-long waste collection vehicle will service the proposed high school.
- A delivery bay at the southern end of Block C. The delivery bay will accommodate one (1) vehicle with dimensions up to and including a B99 Design Vehicle.
- Shared-use of the five (5) internal indented and parallel car spaces for use by delivery vehicles outside of the typical school peak periods. This shared-use arrangement is considered to be appropriate noting that the demand of the subject spaces by ASTP vehicles or parents or guardians with a student with special needs are expected to occur during the AM and PM peak periods only. Outside these times, these spaces may function as spaces for delivery vehicles for convenient access to the school.

Waste collection will be undertaken by a private waste contractor. The private waste contractor will be provided access to the car park via intercom, card reader / security fob to activate the gates and enable the waste truck to enter the car park and undertake waste collection. Private waste collection will be undertaken between 6-7:30am or 4-7pm during weekdays (Monday – Friday).

Having regard for the above, swept path analysis has been undertaken of the vehicle access arrangements of a HRV as defined under AS 2890.2. The results confirm that satisfactory entry and exit movements to / from the service bay can be achieved and more importantly, the HRV can enter and exit the site in a forward direction. Results of the swept path analysis is provided as **Appendix A** for reference.

3.6. Gibraltar Street Bus Zone Arrangements

Consistent with initial discussions with the bus service provider, Bungendore Bus & Coach (BBC), a 100-metre-long bus zone along the southern kerbside of Gibraltar Street will be provided to accommodate the demands generated by the Primary School and high school.

In preparing this report, PDC has contacted BBC to reconfirm the bus bay length for which, BBC has confirmed that the 100-metre-long bus zone is adequate to accommodate the bus parking demands of both the existing public school and proposed high school. The proposed bus bay arrangements are considered to be acceptable.

Furthermore, BBC has also advised that discussions are still ongoing with TfNSW with regard to the provision of new bus services.

In addition to the above, PDC has contacted QCity Transit (alternative bus service provider) and TfNSW regarding an update with these discussions however, a response is yet to be provided.

4. Traffic Impacts

4.1. Overview of Traffic Impacts

The proposed amendments as detailed in Section 1.2 of this report does not propose any revisions to the student and staff capacity of the high school and will continue to accommodate 450 students and 41 staff. Having regard for the above and per the TA report, the traffic generation of the proposed high school is expected to be as follows:

- 450 vehicle trips (225 inbound / 225 outbound) during the AM peak period.
- 386 vehicle trips (193 inbound / 193 outbound) during the PM peak period.

A comprehensive traffic assessment including trip distribution and SIDRA traffic modelling of six (6) key intersections has been undertaken and detailed in Section 4 of the TA Report based on the above traffic generation, application of an annual background traffic growth rate, cumulative impacts of planned residential subdivisions within Bungendore and upgrades of the Majara Street / Gibraltar Street and Gibraltar Street / Butmaroo Street to a roundabout. The SIDRA traffic modelling that had previously been undertaken considered the following scenarios:

- Opening Year – ‘Year 2023’.
- 2023 + 10 Years – ‘Year 2033’.

The detailed analyses and discussion for both traffic modelling scenarios are provided in the TA Report and findings summarised below:

- For Year 2023, the six (6) intersections are expected to per at Level of Service (LOS) A and perform under good operation during both the AM and PM peak periods.
- For Year 2033, the six (6) intersections will continue to operate at Level of Service (LOS) A and perform under good operation. The only exceptions being, the Kings Highway / Butmaroo and Kings Highway / Majara Street intersections which will worsen to a LOS B during the AM and PM peak periods however, will operate with acceptable delays and spare capacity.

Having regard for the above, the proposed external improvements to the local road network are considered acceptable and will accommodate the traffic impacts of the proposed high school for Year 2023 and Year 2033.

5. Design Aspects

5.1. Internal Design

5.1.1. Vehicle Access Arrangements

With 44 car parking spaces of User Class 1A, the proposed development requires a Category 1 Driveway under Table 3.1 of AS 2890.1, being a combined entry / exit driveway of width 3.0 metres to 5.5 metres. In response, the development proposes a driveway of width 11.7 metres which forms the northern leg of the Gibraltar Street / Majara Street intersection.

The proposed arrangements have also been assessed using swept path analysis which confirms compliance with AS 2890.1, and that the proposed access arrangements will operate safely and efficiently. The results of this analysis is provided as **Appendix A** for reference. The proposed design of the access is therefore considered acceptable and complies with the relevant requirements of AS 2890.1.

5.1.2. Car Parking and Vehicle Circulation Arrangements

The proposed internal parking arrangements comply with the relevant requirements of AS 2890.1, AS 2890.2, AS 2890.3, AS 2890.5 and AS 2890.6, with the following design aspects considered noteworthy:

Roadway

- The internal roadway, between the vehicle access and staff car park, is provided with a generally flat (0%) grade thereby satisfying Clause 2.5.3 of AS 2890.1.
- The vehicular access has a minimum width of 5.5 metres between kerbs and will therefore accommodate two-lane, two-way traffic flow.
- The proposed internal arrangements have also been assessed using swept path analysis which confirms compliance with AS 2890.1, and that the proposed internal arrangements will operate safely and efficiently. The results of this analysis is provided as **Appendix A** for reference.

Parking Modules

- All angled car parking spaces are generally provided in accordance with the User Class 1A requirements of AS 2890.1, having a minimum space width of 2.5 metres and length of 5.4 metres, with an aisle width of 5.8 metres.
- All accessible car parking spaces are provided with a minimum space width of 2.4 metres and length of 5.4 metres, with a minimum aisle width of 5.8 metres. Additionally, these spaces are located immediately adjacent to a 2.4-metre-wide and 5.4-metre-long shared area, thereby satisfying the requirements of AS 2890.6.

- All parallel car parking spaces are provided in accordance with Figure 2.5 of AS 2890.1.
- All walls and columns are located outside of the space design envelope, as required under Figure 5.2 of AS 2890.1.
- To allow for all entry and exit vehicle movements in a forward direction, a turning bay is provided at the northern end of the car park, adjacent to Car Space 37. The turning bay will primarily be utilised by delivery vehicles, minibuses and parents and guardians that are utilising the indented parallel parking spaces for pick-up and drop-off purposes.

Head Heights

- There are no overhead obstructions above the car parking spaces, roadway or service bay and accordingly, compliant head height clearances are achieved in accordance with Clause 5.3.1 of AS 2890.1, Table 2.1 of AS 2890.2 and Clause 2.4 of AS 2890.6.

Other Design Aspects

- A 2.5 metre by 2.0 metre visual splay is provided on the egress side of the driveway, at the property boundary, in accordance with Figure 3.3 of AS 2890.1.

5.2. External Design

5.2.1. Turallo Terrace

Parking Modules

- All angled and indented car parking spaces are provided in accordance with 'High Class' requirements of AS 2890.5, having a minimum space width of 2.6 metres and length of 5.4 metres.
- The K&D spaces being, parallel and indented car parking spaces are provided in accordance with Figure 3.1 of AS 2890.5 having a minimum space width of 2.3 metres and length of 6.7 metres.

Wombat Crossing

- The wombat crossing is generally provided in accordance with AS 1742.10.

5.2.2. Gibraltar Street

Parking Modules

- The K&D spaces being, parallel car parking spaces, are provided in accordance with Figure 3.1 of AS 2890.5 having the following minimum characteristics:
 - End spaces: Space width of 2.3 metres and length of 5.4 metres.
 - Intermediate spaces: Space width of 2.3 metres and length of 6.7 metres.

Wombat Crossing

- The wombat crossing is generally provided in accordance with AS 1742.10.

In summary, the internal and external parking arrangements have generally been designed in accordance with AS 2890.1, AS 2890.2, AS 2890.3, AS 2890.5, AS 2890.6 and AS 1742.10. Any minor amendments considered necessary can be dealt with prior to the release of a Construction Certificate.

6. School Transport Planning

6.1. Gibraltar Street Wombat Crossing – School Crossing Supervisor

TfNSW outlines set criteria for a site to be eligible for a school crossing supervisor under the School Crossing Supervisor Program. As outlined in TfNSW's Centre for Road Safety webpage² the criteria are as follows:

- The site must have an existing children's crossing, pedestrian crossing (zebra) or combined crossing (children's and zebra).
- The crossing must be used by infant and/or primary school children.
- The site must be located within a 40km/h school zone.
- In the morning or afternoon, the crossing must register counts of either:
 - 50 or more unaccompanied infant and/or primary school children, or
 - 300 or more passenger car units (heavy vehicles over three tonnes unladen are counted as two passenger car units).
 - The site must be considered a safe working environment for a school crossing supervisor.

The requirement for a school crossing supervisor will be assessed with TfNSW's School Crossing Supervisor Program criteria (per above) and applied for should the warrants be met. Per the Centre of Road Safety webpage (see footer), TfNSW will assess the site against the set criteria.

Having regard for the above, the following is noted:

- The School Crossing Supervisor program is a state-wide program that contributes to the safety of infants and primary school students. Considering the proposed locations of the bus bay (southern side of Gibraltar Street) and primary school K&D bay (western side of Majara Street), primary school students would not be required to cross either Gibraltar Street or Majara Street to access these facilities.
- The existing primary school does not provide for a school crossing supervisor.

6.2. Inclusions to the Final School Transport Plan

A preliminary School Transport Plan has been appended in the TA Report. As part of the finalisation of the School Transport Plan (STP) consideration will be required for the below items:

- That TfNSW's management of the School Crossing Supervisor Program be noted in the School Transport Plan.
- Before occupation / use of the development as a school, the NSW Department of Education shall:
 - Finalise the STP in consultation with Council and TfNSW.

² <https://roadsafety.transport.nsw.gov.au/stayingsafe/schools/schoolcrossingsupervisorprogram.html>

- Submit a copy of the final STP to TfNSW and Council.
- Every six (6) months, the operation of the STP shall be reviewed with the travel plan being updated annually. As part of updating the STP, consultation should be had with Council, TfNSW and the school community / parents.
- The final STP will include the following additional details:
 - A provision of additional dedicated staff bike parking spaces, to encourage further mode shift;
 - A detailed analysis of existing public transport provision in the vicinity of the site, and recommendations for any improvements or changes that may be required to effectively service the school catchment; in consideration of the actual residential locations of enrolled students and staff, once known;
 - An analysis of the number of students within a reasonable walking and cycling distance from the site, in accordance with the aforementioned residential data, and adjustment of any corresponding mode share targets that may be necessitated by that information;
 - Finalised content for proposed collateral, namely the Welcome Packs and Student Kits, and Travel Access Guide for the site; and
 - A detailed Communications Plan and an Implementation Strategy / Action Plan for the delivery of key initiatives.

The above items will be considered by the project team for inclusion in the final STP which will be issued to Council and TfNSW for review and endorsement.

7. Preliminary Construction Traffic Management

7.1. Construction Compound

A preliminary Construction Compound Diagram has been prepared by HCA and provided to PDC. The Construction Compound Diagram details the general on-site arrangements including crane locations, contractor parking, materials handling / laydown areas, vehicle accesses and site offices.

7.2. Vehicular Access

Three (3) construction vehicle accesses are proposed to facilitate the construction of the new high school. These include:

- Gate 1: A construction driveway onto Majara Street and will primarily serve as the primary access for contractors, visitors and delivery of materials via light vehicles of the proposed high school site.
- Gate 2: A construction driveway onto Turallo Terrace and will primarily serve as the primary access for delivery vehicles and floating of construction plant and machinery of the proposed high school site.
- Gate 3: A construction driveway onto Turallo Terrace serving the proposed high school agricultural site and will only be utilised for overflow car parking.

7.3. Proposed Hours of Construction Work

Per the PCPTMP Report, construction work is typically restricted to nominated days and times to minimise impacts on neighbouring developments and residences and are typically conditioned and align with the following:

- Weekdays (Monday – Friday): 7am – 6pm.
- Saturdays: 8am – 1pm.
- Sundays and public holidays: No construction work.

In addition to the above it is proposed that truck egress via Majara Street will be restricted during school peak periods to limit construction vehicle movements coinciding with the typical school peak periods and traffic and pedestrian activity of the Public School. During school peak periods, access to the site would occur via Gate 2 provided onto Turallo Terrace.

7.4. Construction Vehicle Routes

7.4.1. Overview

Given the proximity of the proposed high school site to the existing public school, it is considered appropriate that a restriction be imposed on the arrival and departure times of construction vehicle movements to / from the site via Gate 1. In this regard, it is recommended that no construction vehicles be permitted to arrive at or depart from the site via Gate 1 during the typical school drop-off and pick-up periods of 8-9:30am and 2:30-4pm on school days only. This restriction will provide a superior outcome in terms of safety and is therefore recommended for adoption.

The proposed truck routes to / from the site are illustrated by **Figure 3** and can be summarised as follows:

7.4.2. Construction Vehicle Routes to the Site Via Gate 1

- Inbound: All construction vehicles will arrive at the site via:
 - From the north: Tarago Road, Molonglo Street and Turallo Terrace.
 - From the south: Kings Highway, Molonglo Street and Turallo Terrace.
- Outbound: All construction vehicles will arrive at the site via:
 - To the north: Turallo Terrace, Molonglo Street and Tarago Road.
 - To the south: Turallo Terrace, Molonglo Street and Kings Highway.

7.4.3. Construction Vehicle Routes to the Site Via Gate 2

- Inbound: All construction vehicles will arrive at the site via:
 - From the north: Tarago Road, Molonglo Street and Malbon Street and Majara Street.
 - From the south: Kings Highway, Malbon Street and Majara Street.
- Outbound: All construction vehicles will arrive at the site via:
 - To the north: Majara Street, Malbon Street, Molonglo Street and Tarago Road.
 - To the south: Majara Street, Malbon Street and Kings Highway.

It is noted that routes to / from the proposed high school agricultural site is not included considering that this site will primarily be utilised as overflow contractor car parking with all construction deliveries to be accommodated at the proposed high school site.

As much as is reasonably practical, use of local roads as part of the heavy vehicle route is kept to a minimum, and is noted the site has relatively good access to the regional and state road network with:

- Turallo Terrace (north of the site) connecting with Molonglo Street (Regional Road) to the west.
- Majara Street (south of the site) connecting with Kings Highway / Malbon Street (State Road) to the south.

Additionally, it is noted that a copy of the above routes and **Figure 3** is required to be provided to all drivers prior to attending the site.

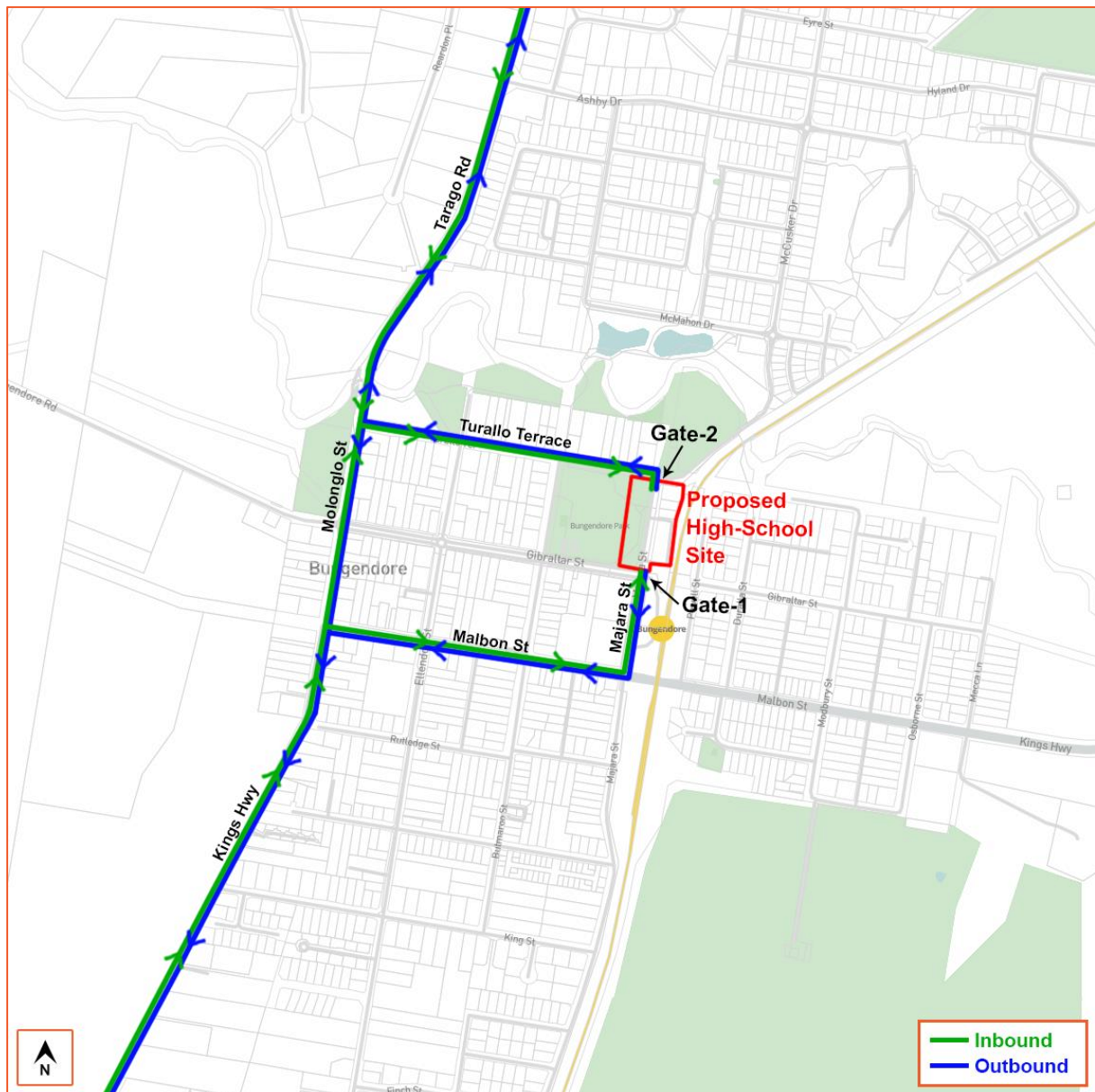


Figure 3: Construction Vehicle Routes

7.5. Construction Parking Demand & Impacts

The use of public transport and car-pooling will be actively encouraged by the builder and all sub-contractors to reduce the reliance on private vehicles and minimise parking demands. With regards to on-site parking for the duration of construction, the following is noted:

- It is estimated that a maximum of 110 workers would be on-site at any one time. Applying a car occupancy rate of 1.5 persons / car, this equates to a car parking demand of approximately 74 contractor spaces.
- The Construction Compound Diagram outlines the on-site contractor car parking provisions are as follows:
 - An estimated 85 contractor car parking spaces can be provided within the new high school site and accordingly, the anticipated demand for 74 car spaces can be wholly accommodated with no reliance on on-street car parking.
 - Following the demolition of the existing community centre (north-eastern corner of the new high school site) a further 50 car spaces can be accommodated for contractor parking after mid-2023.
 - In the unlikely event that there is greater demand of contractor parking which cannot be accommodated within the new high school site, an overflow car park area has been designated within the new high school agricultural plot site.
- As much as reasonably practical, the builder shall ensure that contractor parking demands are accommodated on-site. To convey the available on-site car parking areas to all on-site workers, workers will undergo a site induction during which, they will be advised to utilise the designated on-site car parking areas.
- Having regard for the above, there are sufficient provisions for on-site contractor parking that would reduce if not, prevent any impacts on the existing on-street parking conditions along nearby local roads including but not limited to, Turallo Terrace, Gibraltar Street and Butmaroo Street.

It should be emphasised that the construction methodology for the proposed high school is still in its preliminary stages. It is typically conditioned that a detailed and comprehensive Construction Pedestrian and Traffic Management Plan be prepared prior to the issue of a Construction Certificate. And so, once the built form of the high school has been confirmed which would enable a detailed construction methodology to be developed, it is expected that a comprehensive Construction Traffic & Pedestrian Management Plan to be prepared and issued to relevant approval authorities (i.e. Council and TfNSW) for endorsement.

8. Conclusions

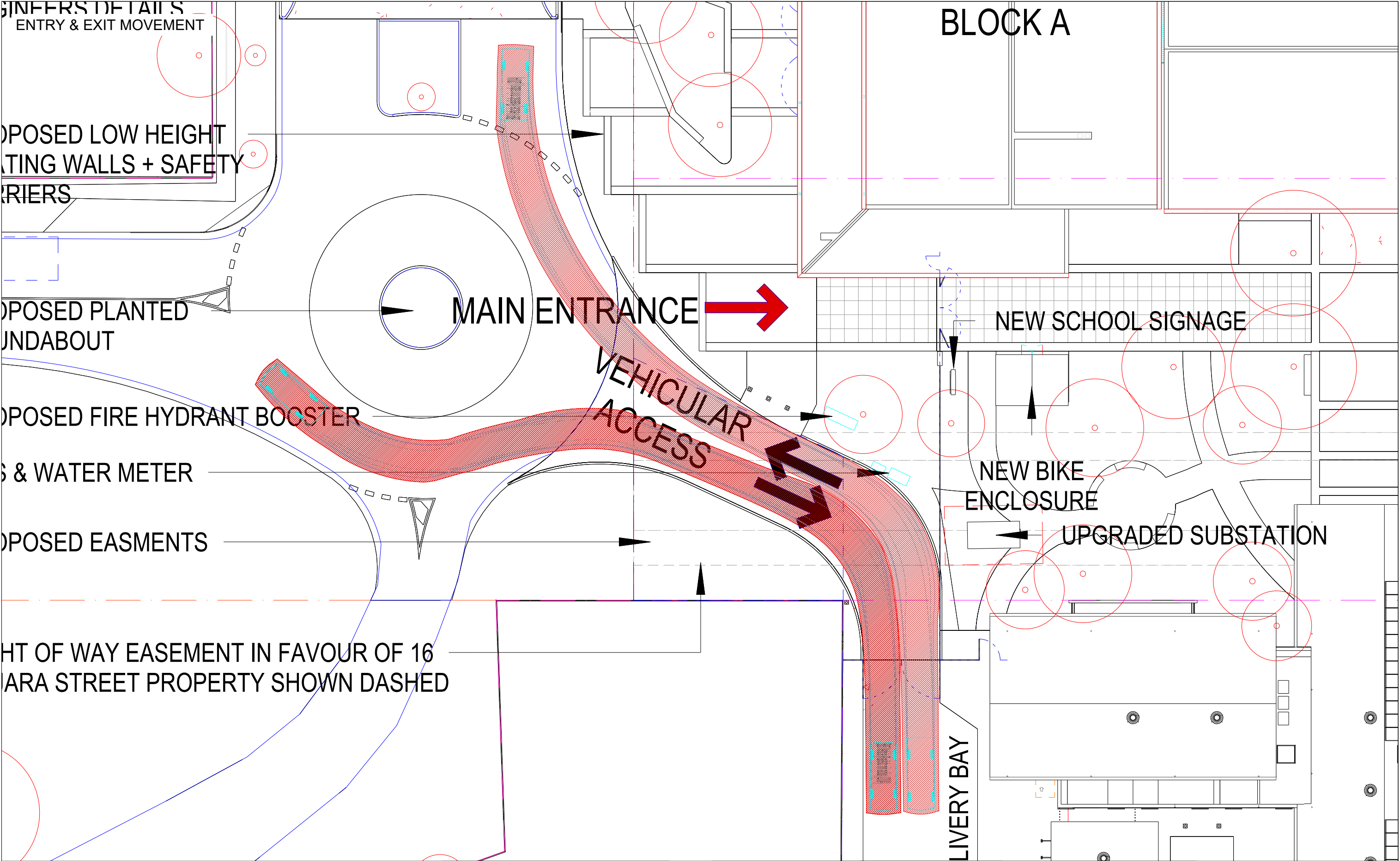
In summary:

- PDC Consultants (PDC) has been commissioned by Hindmarsh Construction Australia Pty Ltd (HCA) to prepare an Addendum report in relation to a Transport Assessment. GHD prepared a Transport Assessment that forms part of the Environmental Impact Statement for SSD No 14394209 for a new high school at Bungendore. The Environmental Impact Statement was exhibited by the NSW Department of Planning from Monday 20 September 2021 to Monday 18 October 2021. During the exhibition, submissions were received and following exhibition the Department of Planning and Environment issued two requests for information dated 16 November 2021 and 24 December 2021. This Report accompanies an Amendment Report for the project and forms an update to the previously issued Transport Assessment.
- The characteristics of the amended proposed high school is detailed in Section 1.2 of this report.
- In terms of the internal car parking arrangements, the proposed high school provides:
 - 44 on-site staff car parking spaces.
 - Five (5) on-site, indented and parallel car parking spaces to facilitate pick-up and drop-off of special needs students and ASTP during school peak periods. At all other times, the indented bays may be used by small delivery and courier vehicles.
 - A HRV service bay / turning bay for general servicing and waste collection.
- In terms of the external car parking arrangements, the proposed high school provides:
 - 98 angled and indented car parking spaces along Turallo Terrace.
 - A total of 10 K&D spaces including six (6) spaces along Turallo Terrace and four (4) spaces along Gibraltar Street.
- The internal and external parking arrangements have generally been designed in accordance with AS 2890.1, AS 2890.2, AS 2890.3, AS 2890.5, AS 2890.6 and AS 1742.10. Any minor amendments considered necessary can be dealt with prior to the release of a Construction Certificate.

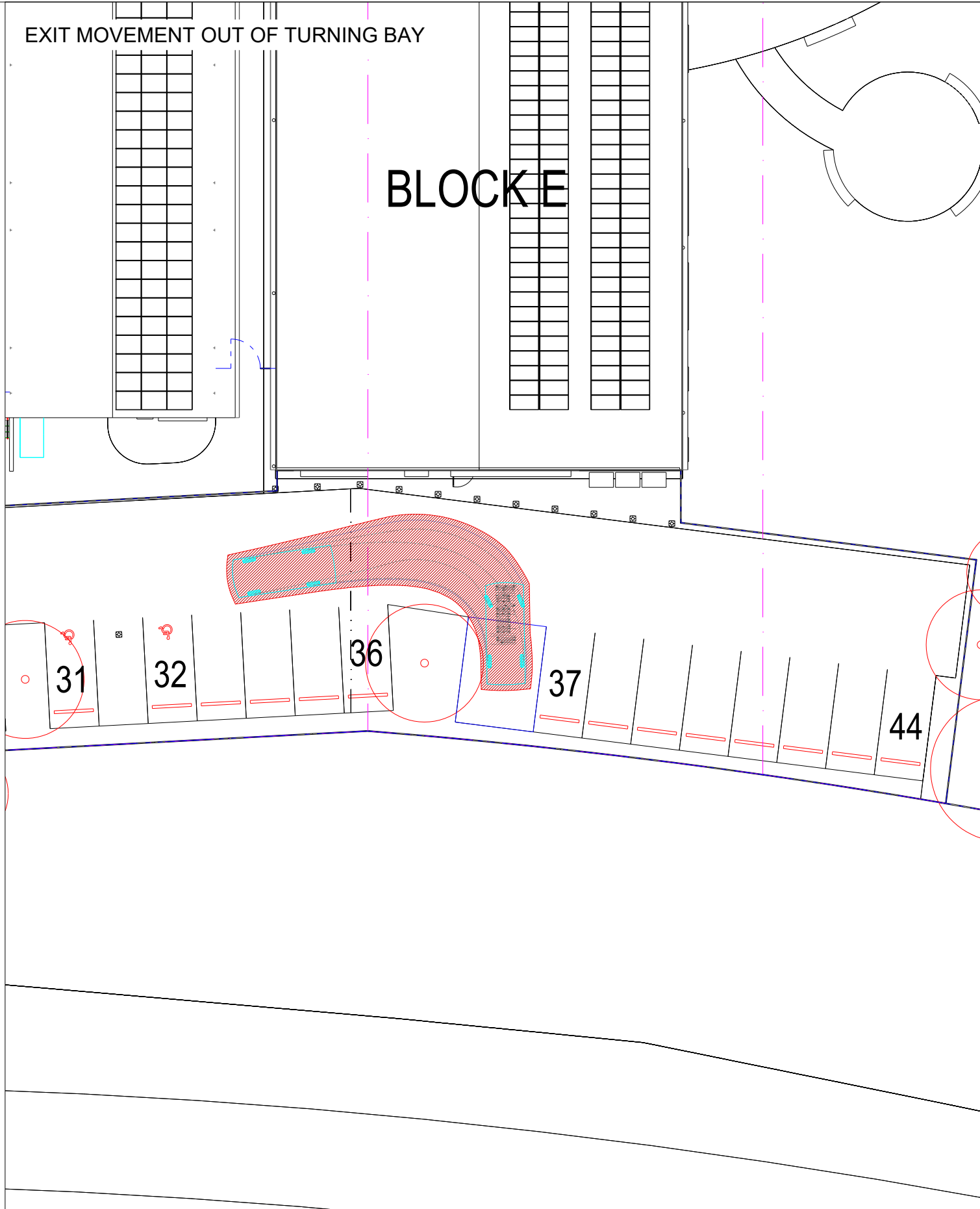
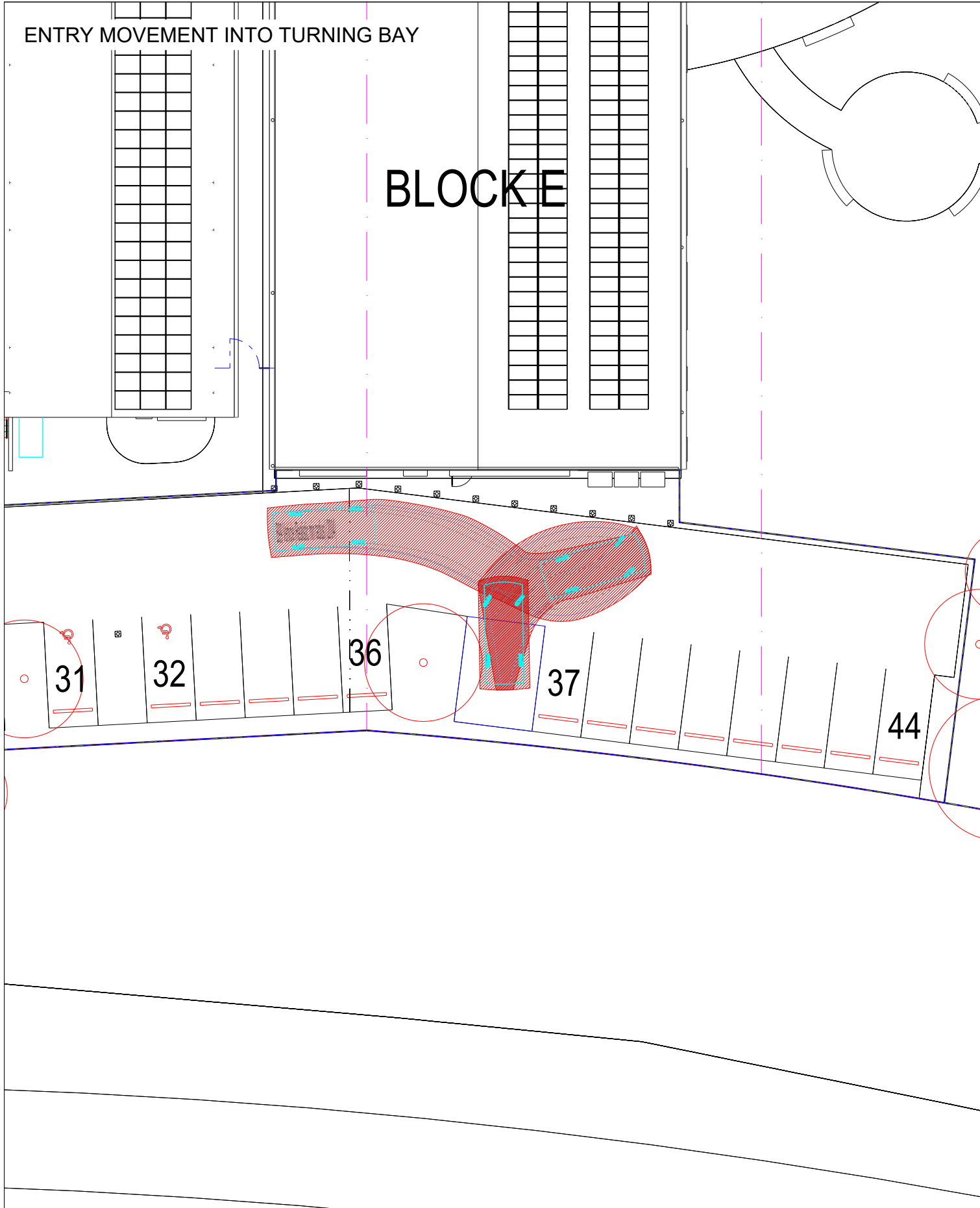
It is therefore concluded that the proposed high school is supportable on traffic planning grounds.



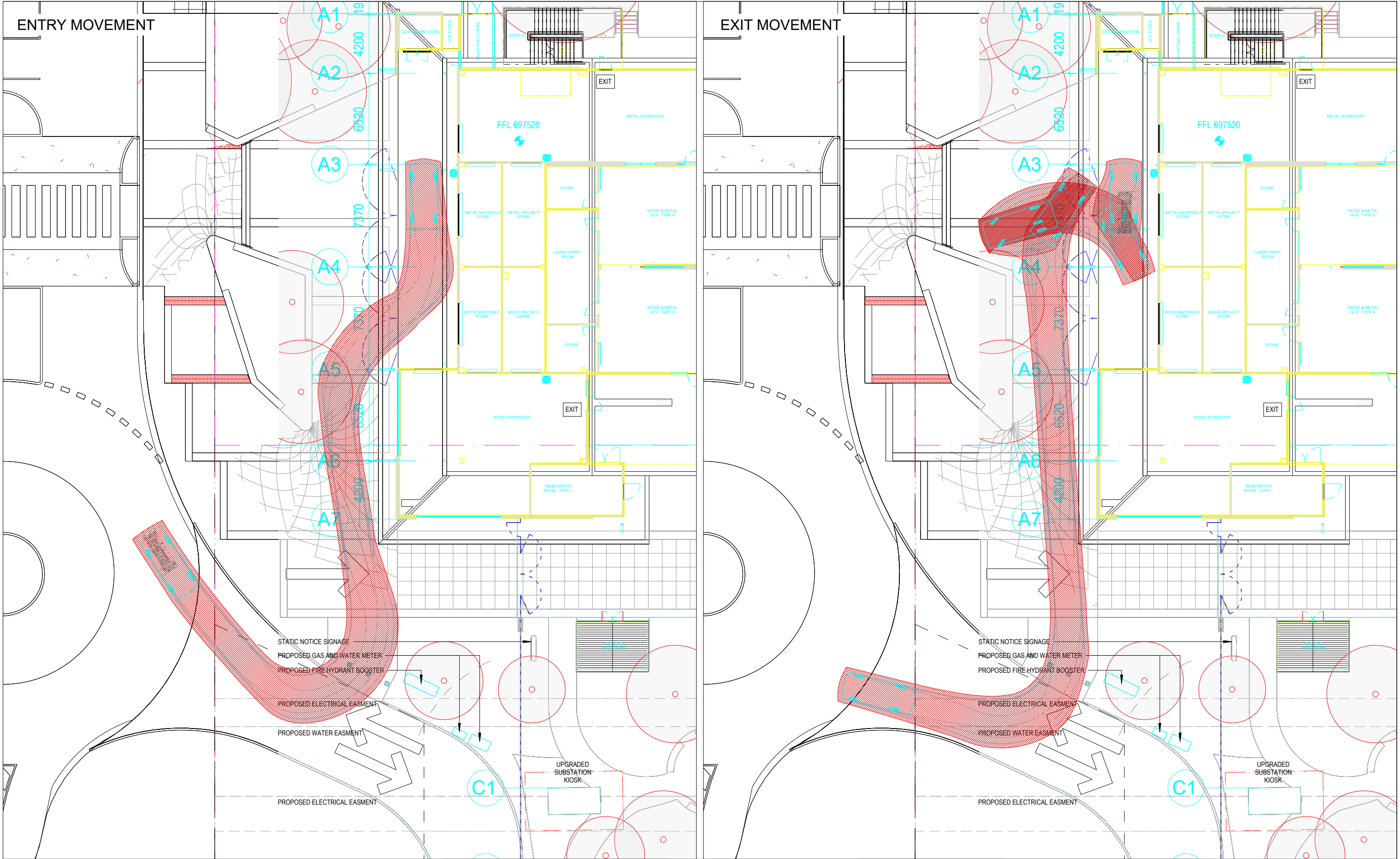
Appendix A



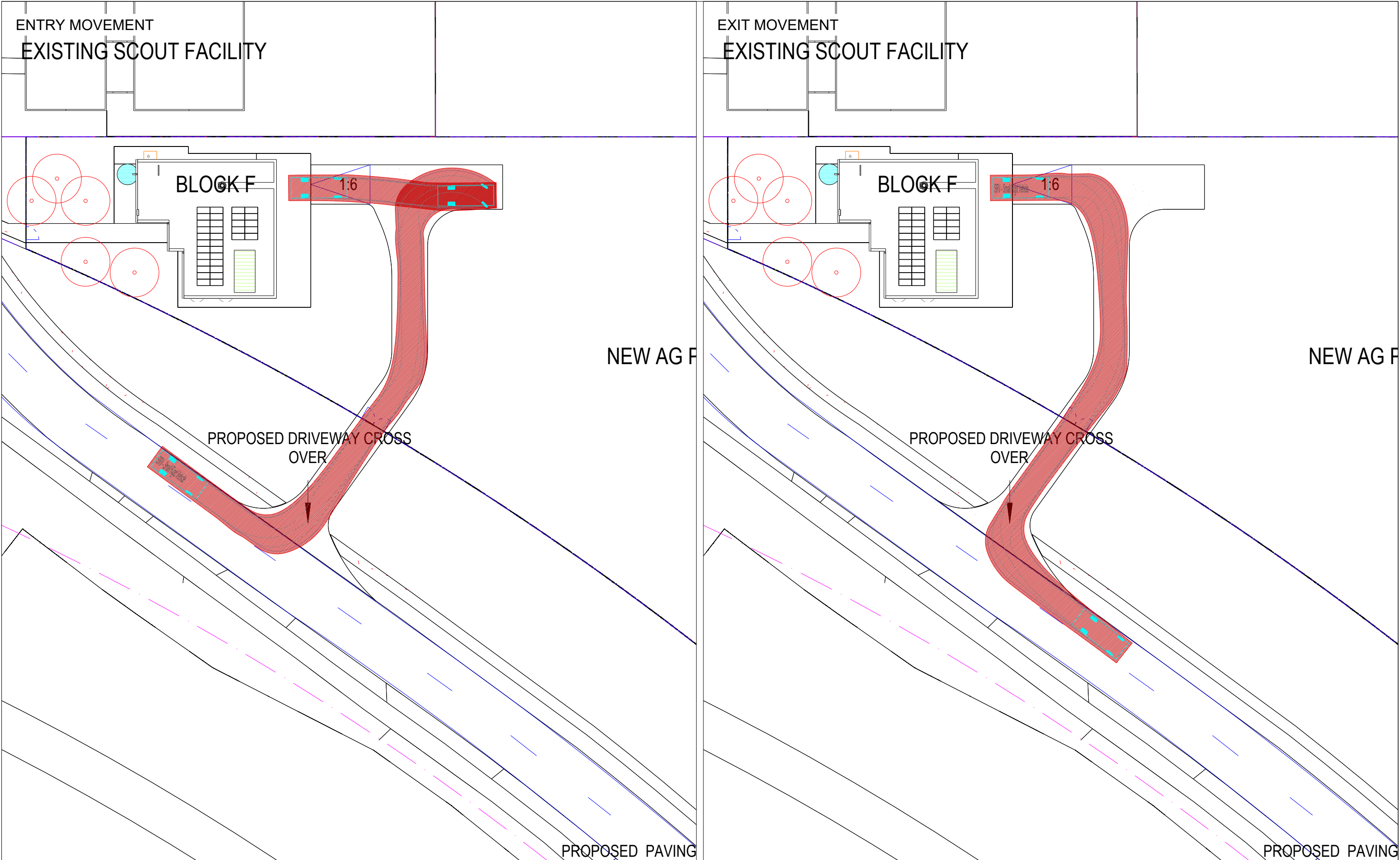
No.	Date	Description	Swept Path Key ----- Vehicle Wheel Path ----- Vehicle Body Envelope ----- 300mm Vehicle Clearance	North 	Drawing Prepared By  PDC Consultants Level 14, 100 William Street Woolloomooloo NSW 2011 t: +61 2 7900 6514 w: www.pdcconsultants.com.au ABN: 70 615 064 670	Architect -	Project New High School in Bungendore	Drawing Title Proposed Site Plan B99 & B85 Design Vehicle Swept Path Analysis Site Entry / Exit Movements	Drawing No. 001 Drawn By JB	Revision No. - Date 13/07/2022
						Client Hindmarsh Construction Australia Pty Ltd	Project No 0593	Sheet Status NOT FOR CONSTRUCTION	Scale 1:250 @ A3 	




No.	Date	Description	Swept Path Key	North	Drawing Prepared By	Architect	Project	Drawing Title	Drawing No.	Revision No.
			----- Vehicle Wheel Path ----- Vehicle Body Envelope ----- 300mm Vehicle Clearance		 PDC Consultants Level 14, 100 William Street Woolloomooloo NSW 2011 t: +61 2 7900 6514 w: www.pdcconsultants.com.au ABN: 70 615 064 670	-	New High School in Bungendore	Proposed Site Plan B99 Design Vehicle Swept Path Analysis Vehicle Movements to / from Turning Bay	003	-
						Client Hindmarsh Construction Australia Pty Ltd	Project No 0593	Sheet Status NOT FOR CONSTRUCTION	Scale 1:250 @ A3 	Date 13/07/2022



No.	Date	Description	Swept Path Key	North	Drawing Prepared By	Architect	Project	Drawing Title	Drawing No.	Revision No.
			<div><div>-----</div>Vehicle Wheel Path</div> <div><div>-----</div>Vehicle Body Envelope</div> <div><div>-----</div>300mm Vehicle Clearance</div>		<div><div></div><div>PDC Consultants Level 14, 100 William Street Woolloomooloo NSW 2011 t: +61 2 7900 6514 w: www.pdcconsultants.com.au ABN: 70 615 064 670</div></div>	-	New High School in Bungendore	Proposed Ground Floor Plan B99 Design Vehicle Swept Path Analysis Vehicle Movements to / from Block A (Wood Workshop)	004	A
						Client Hindmarsh Construction Australia Pty Ltd	Project No 0593	Sheet Status NOT FOR CONSTRUCTION	Drawn By JB	Date 13/07/2022
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No.	Date	Description	Swept Path Key ----- Vehicle Wheel Path ----- Vehicle Body Envelope ----- 300mm Vehicle Clearance	North 	Drawing Prepared By  PDC Consultants Level 14, 100 William Street Woolloomooloo NSW 2011 t: +61 2 7900 6514 w: www.pdcconsultants.com.au ABN: 70 615 064 670	Architect -	Project New High School in Bungendore	Drawing Title Proposed Site Plan 6.4m Small Rigid Vehicle Swept Path Analysis Vehicle Movements to / from Block F	Drawing No. 005 Drawn By JB Scale 1:250 @ A3 	Revision No. - Date 13/07/2022
						Client Hindmarsh Construction Australia Pty Ltd	Project No 0593	Sheet Status NOT FOR CONSTRUCTION		

