

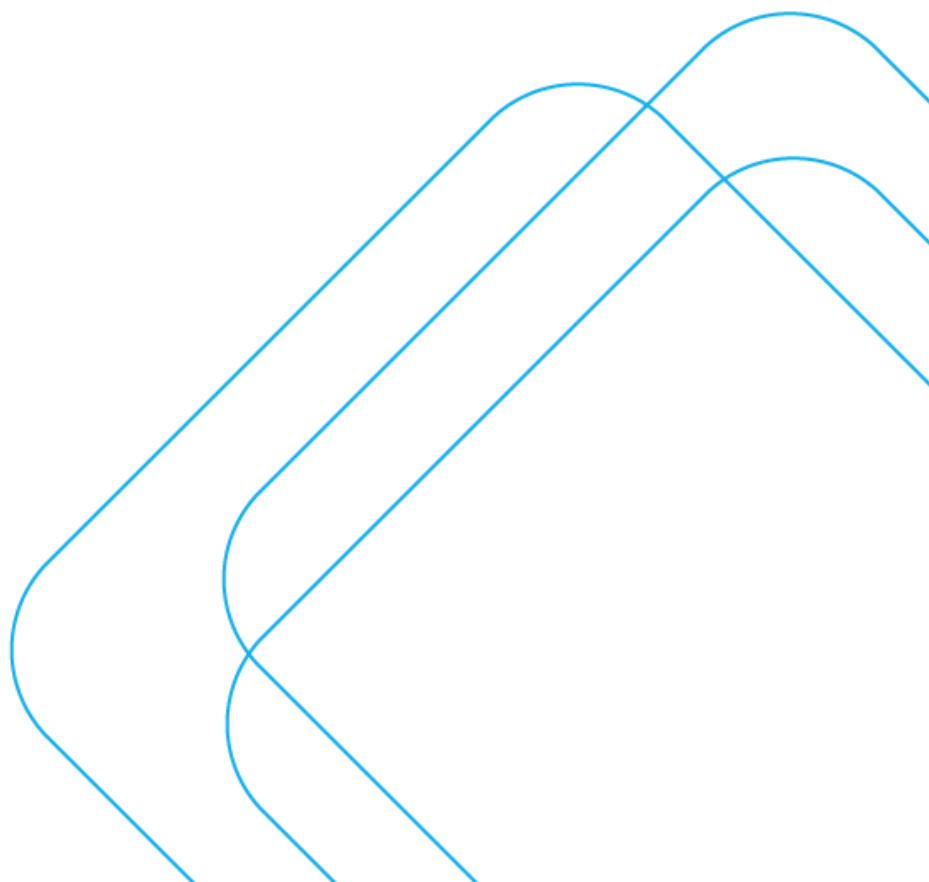
NSW AIP TRANCHE 1 – CAVES BEACH

Transport Impact Assessment

5 DECEMBER 2025

SCT Consulting acknowledges
the traditional owners of the lands
on which we work.

We pay our respects to Elders
past, present and emerging.



Quality Assurance

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Appendix A AS2890 Review

Executive Summary

Health Infrastructure is proposing a new ambulance station in Caves Beach on Kayuga Close as part of the NSW Ambulance Infrastructure Program (AIP). This is the result of a 2022 NSW Government announcement to provide a \$1.76 billion investment to boost frontline emergency care, including funding for additional paramedics and the delivery of 30 new ambulance stations across the state.

Site context

The Caves Beach site is zoned E4 General Industrial, with two existing warehouses currently on the two lots. The extent of the industrial zoning is relatively small and the majority of the surrounding land is classified as general, low density, or medium density residential, along with areas of national park or environmental management/conservation.

The closest bus stops are located on Park Avenue, approximately five minutes' walk away. However, the frequency of the one bus route that services the bus stops is low, with two buses during the peak hour. Public transport use for accessing the site is expected to be low.

Despite the lack of footpaths on the surrounding roads, permeability for walking is high, thanks to a green corridor reserve just north of the site, which links to a grade separated underpass of the Pacific Highway.

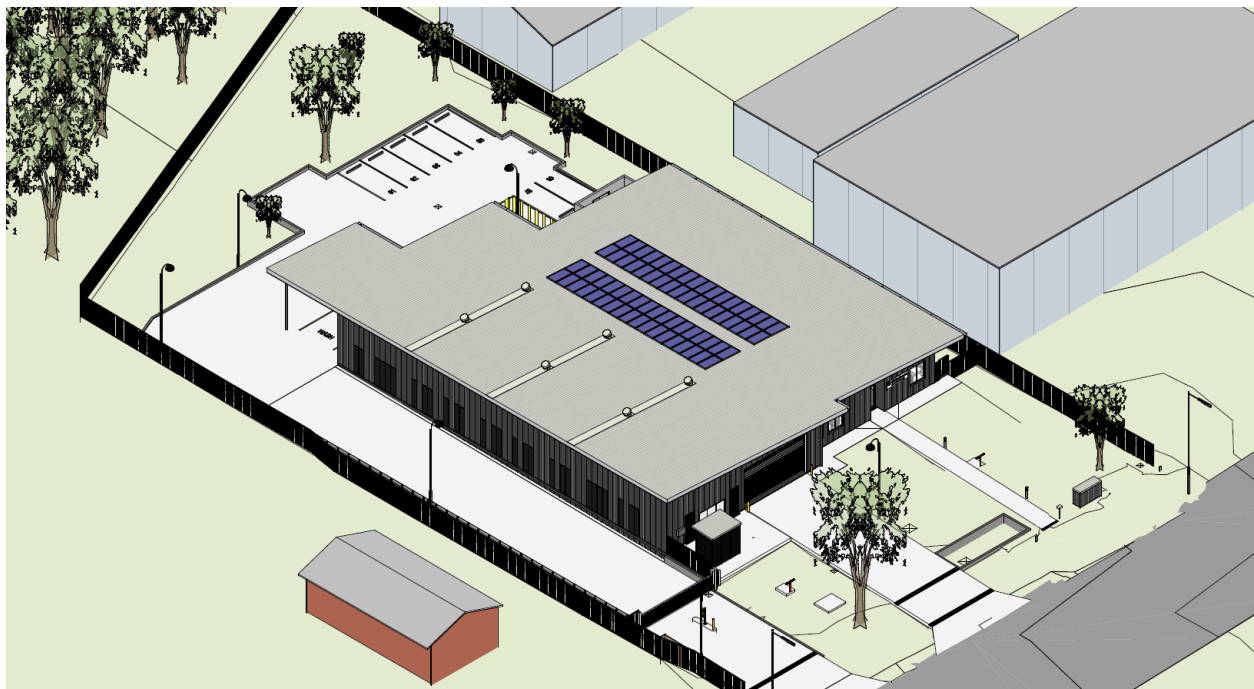
Proposed development

The proposed ambulance station, illustrated in **Figure E-1**, is a single level facility with a staff car park, a plant room, which houses ambulance vehicles and supports their maintenance and dispatch, and the main building, which accommodates the core operational and support spaces, including administrative offices and staff amenities. The plant room is sized for eight standard ambulances.

The site has a dedicated exit driveway for ambulances leaving the station, and a combined driveway for all other vehicle movements. The parking area and circulation is largely consistent with Australian Standards (AS2890) except for the location of wheel stops in the staff car park (to be adjusted in next phase of works) and a reduced headroom clearance of 3.8m into the ambulance plant room. This height restriction is not an issue for NSW operations, but suppliers may need to be notified if their vehicle is required to pass through the plant room.

The nine parking spaces (accessible space included) provided on site for staff parking meets the requirements of the AIP Functional Brief.

Figure E-1 Proposed Caves Beach ambulance station development



Source: DJRD Architects, 2025

The ambulance plant room has been sized as per the New South Wales Ambulance (NSWA) AIP Functional Brief and can readily accommodate the standard ambulance sprinter fleet. Swept path analysis demonstrates that in addition to the regular fleet, the HARA vehicle, the MPV and the Bariatric ambulance from the NSW specialist fleet can circulate the plant room and park in the bays without adversely impacting access of the regular sprinter ambulance fleet. However, since the bays themselves are not designed for the specialist fleet, it is not recommended that these vehicles rely regularly on this station for operations. The Rescue Truck vehicle can also circulate through the plant room but would not fit in the bays.

Provisions have been made for service and delivery vehicles, up to a medium rigid vehicle (MRV), to access the site, which can enter and exit the site in a forward direction without going through the plant room. Servicing and deliveries can also be made directly from the street, as the delivery and waste rooms are accessible from the site frontage. This may be necessary in cases where the station is unmanned.

Impact assessment

As part of a general industrial precinct, the impact of the proposed development on the road network is expected to be minimal. The typical peak trip generation is expected to be 24 vehicle movements during the peak hour, which is a small increase of movements compared to if the site was used for industrial purposes instead.

With nine parking spaces within the site, there is a shortage of seven parking spaces to meet the expected parking demand of 16 spaces. Some staff may be required to park on the frontage street (Kayuga Close) or the adjacent Strathmore Road, which have no parking restrictions and provide for over 100 spaces within 200m of the site. This is typical practice of industrial areas and was observed in the vicinity of the site. With a large supply of unrestricted on-street parking, the proposed development will have minimal impact on parking supply.

With a low expected uptake of non-car travel modes, the impact on walking, cycling, or public transport networks is considered to be negligible.

A Construction Traffic Management Plan is to be developed by the Contractor prior to the start of construction and be prepared in consultation with Transport for NSW and Lake Macquarie City Council.

1.0 Introduction

1.1 Project background

In June 2022, the NSW Government announced a \$1.76 billion investment to boost frontline emergency care, including funding for additional paramedics and the delivery of 30 new ambulance stations across the state.

These stations are being delivered under the NSW Ambulance Infrastructure Program (AIP), with Health Infrastructure working in partnership with NSW Ambulance to plan and deliver the new facilities. The program responds to the growing demand for emergency care services and aims to improve coverage and response times for communities across NSW.

SCT Consulting has been engaged by Health Infrastructure to support the design development and planning approval process for eight ambulance station sites that have progressed to the final stages of land acquisition and design. The sites are located in:

- North Sydney
- South Windsor
- Oran Park
- Berowra
- Macquarie Park
- Gateshead
- Swansea (Caves Beach)
- Lisarow.

1.2 Purpose of report

This transport impact assessment report has been prepared to support the planning approval process for the proposed ambulance station in **Caves Beach**. This report includes the following:

- A review of existing traffic and transport conditions
- Future vehicle trip generation from the proposed development
- A review of carpark layout in relation to AS2890.1, AS 2890.2 and AS2890.6
- Functional review of the ambulance plant room against the AIP template
- Swept path review of vehicles moving in and out of the site
- Assessment of cumulative impacts on the road, active transport, and public transport network.

1.3 Structure of report

The report has the following structure:

- **Section 2.0** provides an overview of the site and its existing transport conditions
- **Section 3.0** describes the proposed development
- **Section 4.0** details the likely traffic and parking impacts
- **Section 5.0** outlines considerations for the Construction Traffic Management Plan
- **Section 6.0** summarises the report and presents the conclusion

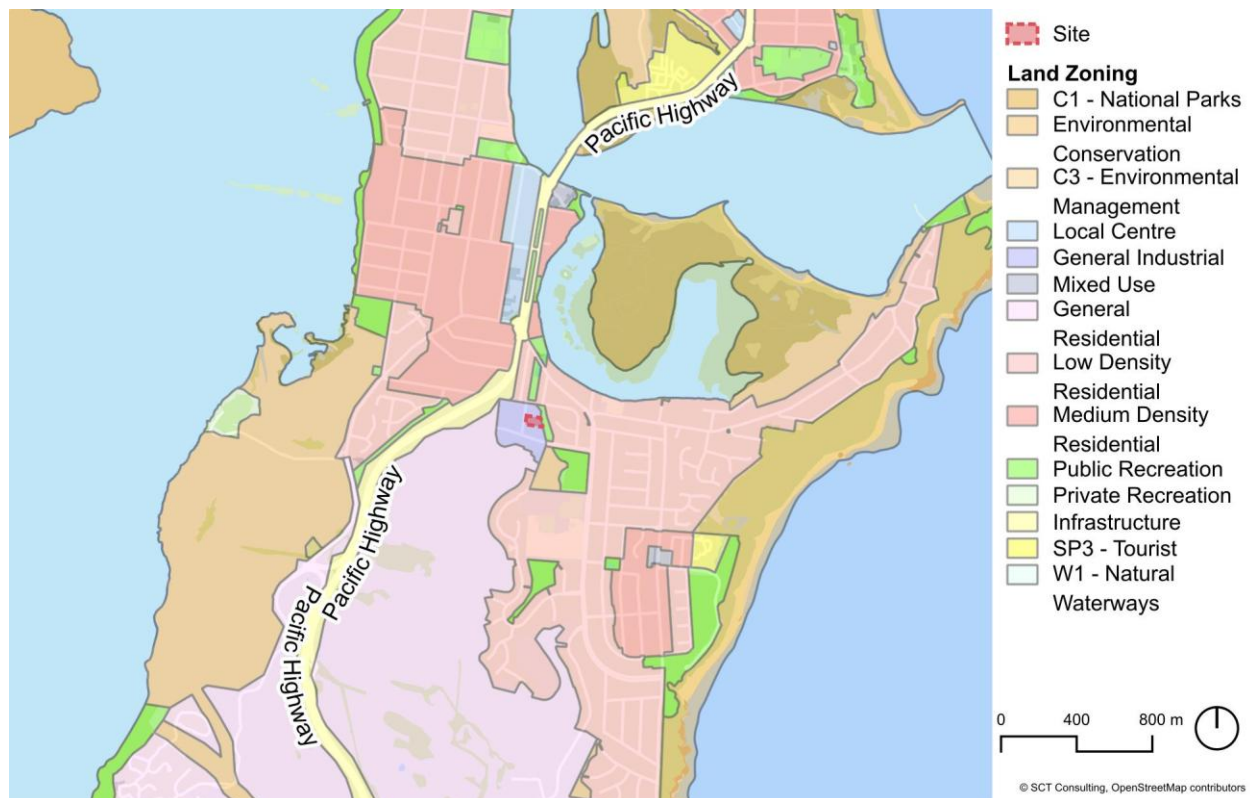
2.0 Existing conditions

2.1 Site context

The site is located at 2-4 Kayuga Close, Caves Beach, NSW 2281, within the Lake Macquarie Local Government Area (LGA), and is zoned E4 General Industrial (see **Figure 2-1**). There are currently two large warehouses on the site, one on each lot.

The land directly adjacent to the site is also general industrial, although most of the surrounding land is classified as general, low density, or medium density residential, with areas of national park or environmental management/conservation. Neighbouring/bordering roads are primarily local roads, with the exception of the Pacific Highway to the north.

Figure 2-1 Land use zoning



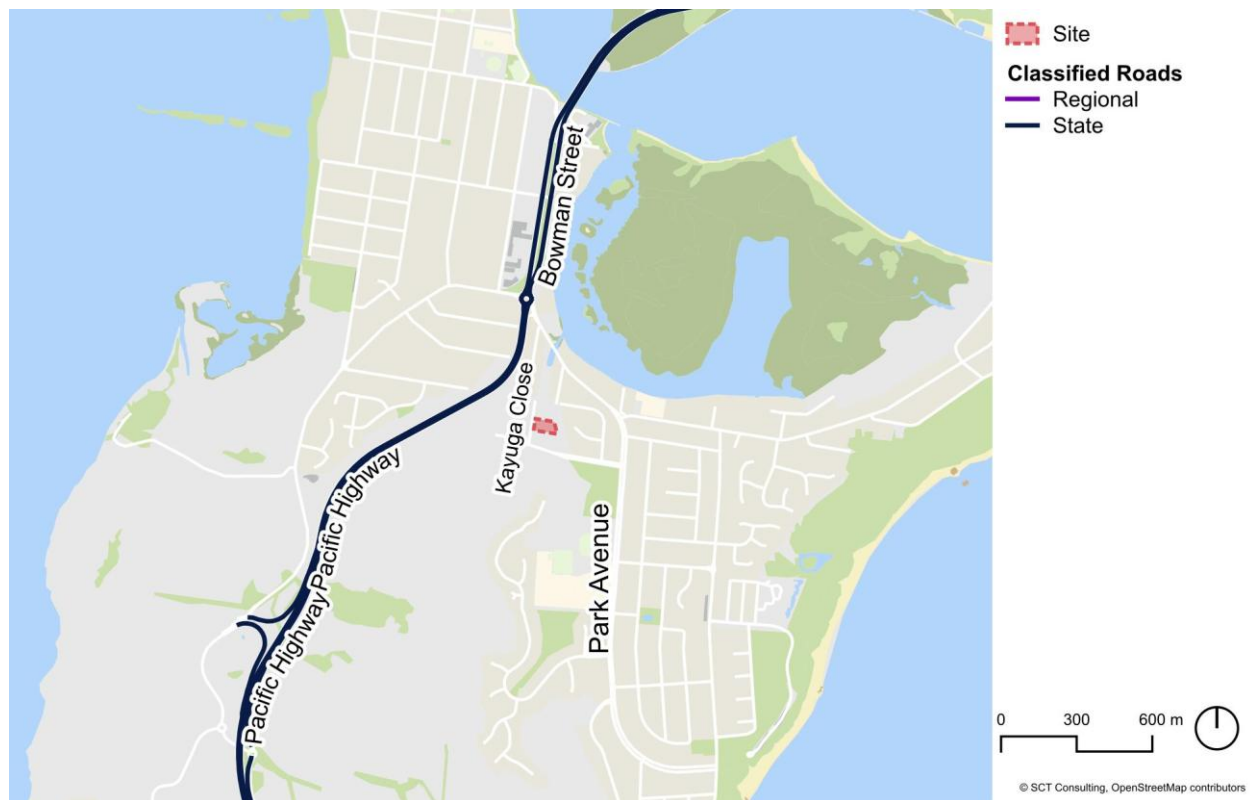
Source: NSW Department of Planning, Housing and Infrastructure, 2025

2.2 Road network

The road network in vicinity of the site is shown in **Figure 2-2**. The key characteristics are:

- **Pacific Highway** is a classified state road with a 100km/h speed limit, functioning as a key north-south arterial route between Gosford, Ourimbah and other key regional centres. Where it passes through Caves Beach, the highway is a dual carriageway with two lanes in each direction.
- **Kayuga Close** forms the sites frontage, running along its west boundary. It is a local no through road with access provided from Strathmore Road (a local road) to the south. Kayuga Close is a two-way road, which has no lane marking and has unrestricted parking available on either side.
- **Park Avenue** is a key local road with a typical speed limit of 50km/h (with the exception of school zones), providing a north-south connection through Caves Beach. It is a bus capable corridor and serves Caves Beach High School and Public School. It is a dual carriageway with one lane in each direction. Unrestricted parking is available on both sides of the road.

Figure 2-2 Road network



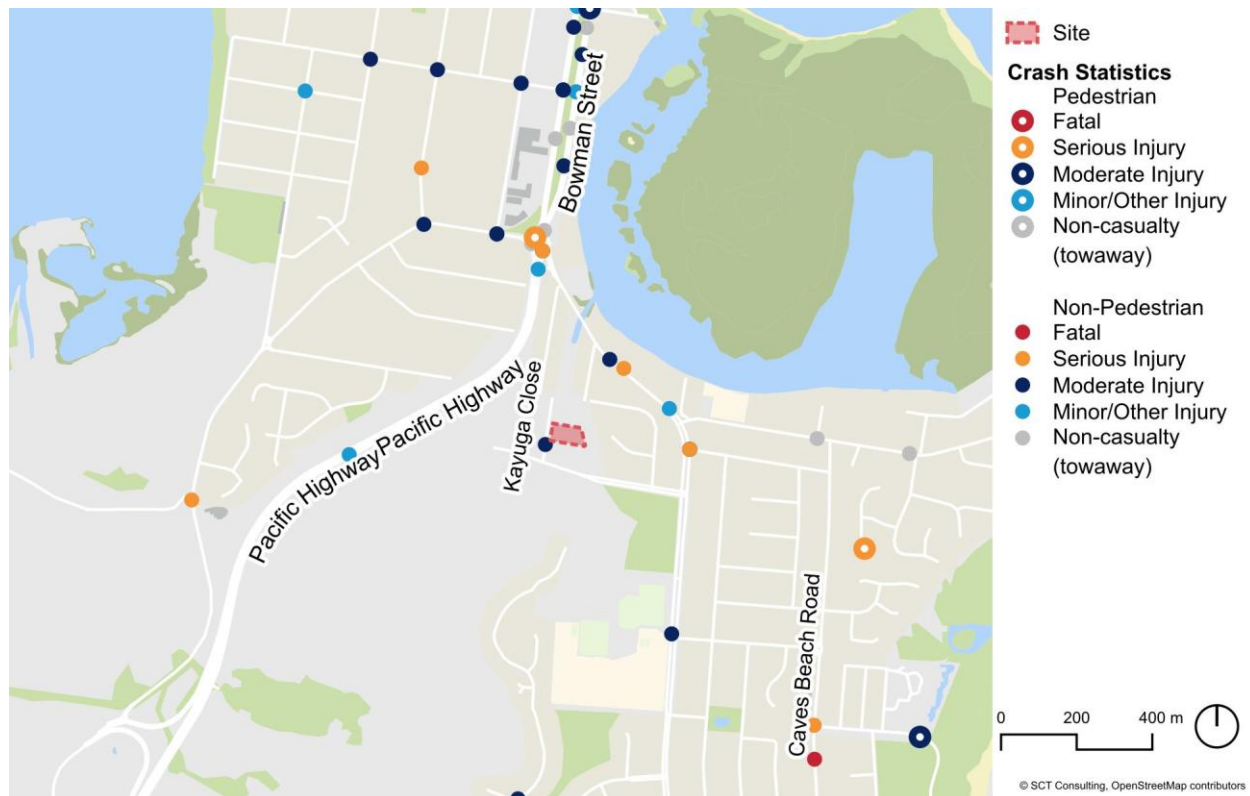
Source: TfNSW, 2025

2.3 Crash history

Crash data between 2019 and 2023 was obtained from the Transport Open Data Hub (TfNSW, 2025) to develop an understanding of the nature of road crashes that occurred near the site. The locations of the crashes recorded in the five-year period are shown in **Figure 2-3**.

One fatal crash occurred in 2020 on Caves Beach Road, involving a vehicle and a motorcycle overtaking. The crash that occurred closest to the site on Kayuga Close resulted in a moderate injury as a result of a right-angle collision emerging from a driveway.

Figure 2-3 Crash statistics 2019 – 2023



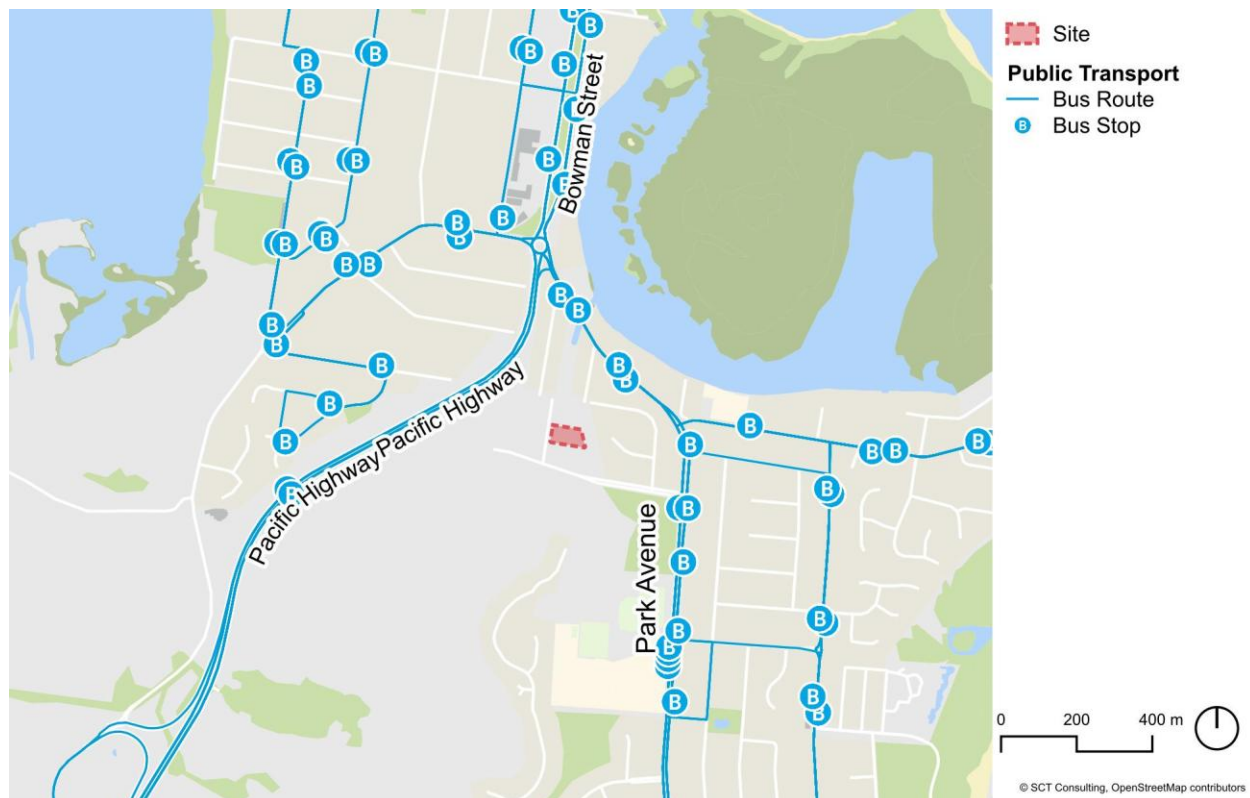
2.4 Public transport

Figure 2-4 shows the public transport network surrounding the site. The area is serviced by buses, with the closest stops being located on Park Avenue approximately 450m away (just over five minutes' walk away). These bus stops are serviced by Route 14, which has two buses per hour, and by school buses, with services only operating during AM peak times.

Table 2-1 Bus frequency

Route number	Route description	Number of trips during weekday peak
14	Newcastle to Swansea Heads via Kotara, Charlestown and Belmont	2 per hour
749	Swansea High School to Belmont South	1 (AM only)
786	Marks Point to St Patricks Primary School	1 (AM only)
797	Swansea High School to Swansea Shops	1 (AM only)
799	St. Patricks Primary, Swansea to Pacific Hwy and Marks Point Rd	1 (AM only)

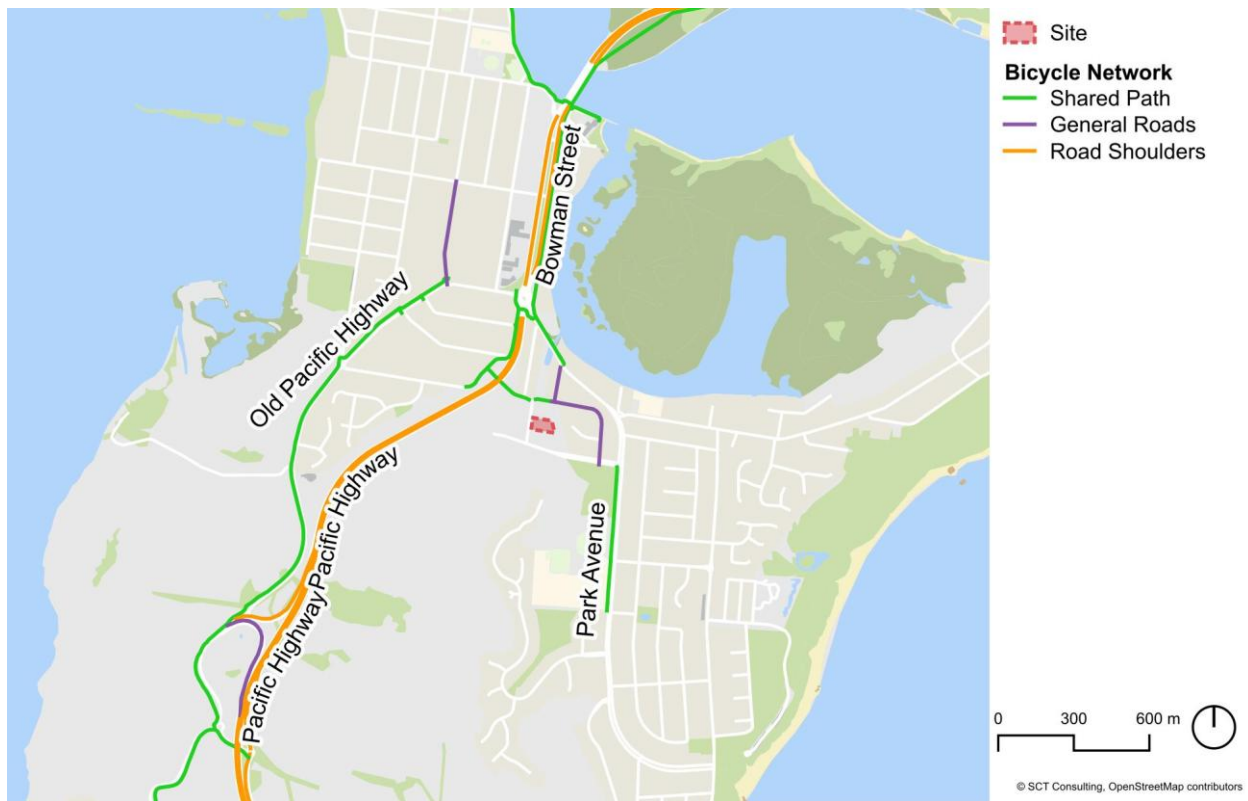
Figure 2-4 Public transport



2.5 Cycling network

As shown in **Figure 2-5**, the Pacific Highway provides road shoulders for cyclists, with shared paths available to the north of the site. Cyclists are also accommodated through shared paths along Old Pacific Highway to the west of the site, and a short segment of shared path along Park Avenue to the east. Although there are no direct connections between the site and the cycle network, surrounding streets are quiet local roads with widths capable of facilitating cyclists as well as vehicles.

Figure 2-5 Cycling network



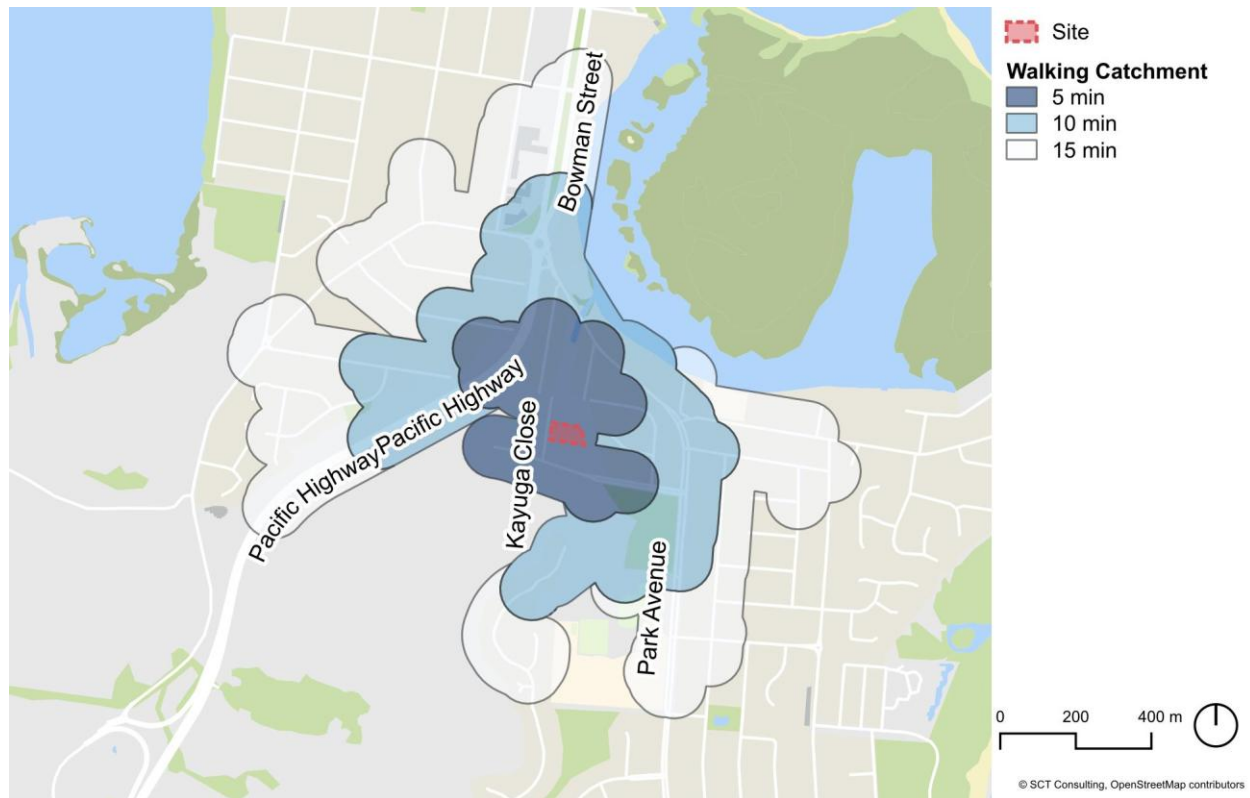
Source: TfNSW, 2025

2.6 Walking network

The 1,200 metre (15-minute) walking catchment from the site is shown in **Figure 2-6**.

There are no footpaths along Kayuga Close, as is the case for most of the roads in Caves Beach. However, permeability for pedestrians is relatively strong around the site due to a grade separated underpass of the Pacific Highway and a green link reserve extending from the underpass through to Park Avenue.

Figure 2-6 Walking catchment



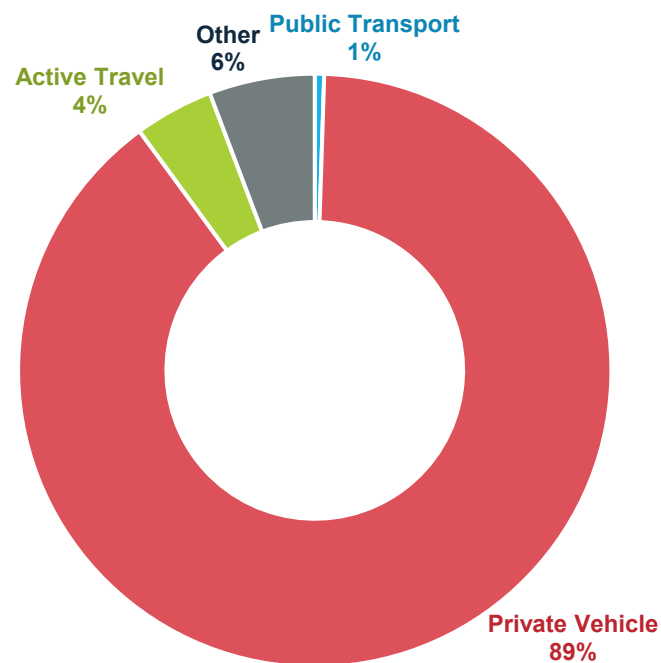
2.7 Travel behavior

The Australian Bureau of Statistics (ABS) 2016 Census data was analysed to understand the travel behaviour of people working in the Swansea – Caves Beach area. The 2016 dataset was used over the 2021 Census, which was conducted during a state-wide COVID-19 lockdown and is not considered representative of typical conditions. While the data reflects the travel patterns of workers in general rather than ambulance staff specifically, it provides the best available indication of likely travel modes and offers a useful basis for considering potential staff travel behaviour at the proposed station.

Travel mode share was derived from the Method of Travel to Work data, which asked people about the method(s) they typically used to travel to their place of work.

Figure 2-7 summarises the travel mode share of the workers within the area. In 2016, private vehicle (including driver and passenger) was the main mode of transport among the residents, being used by 89 per cent of the employed persons. Walking and cycling (active transport) users accounted for four per cent of the workers, while public transport accounted for one per cent. Due to the shift work nature of ambulance work, the travel behaviour of paramedics may not completely reflect the census pattern.

Figure 2-7 Journey to work mode share for persons working in the Swansea – Caves Beach area



Source: Australian Bureau of Statistics, 2016

3.0 Proposed development

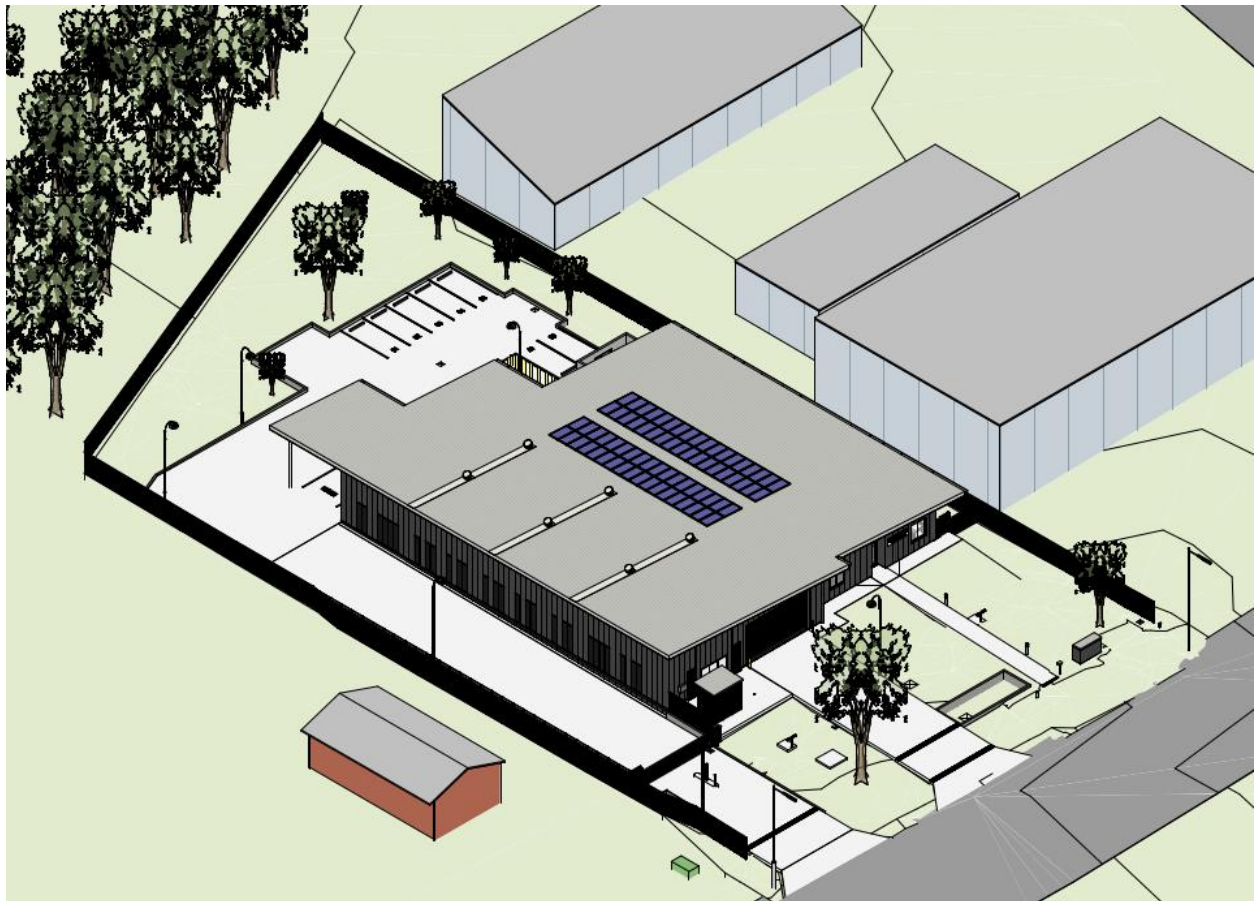
3.1 Proposed site layout

The proposed ambulance station is a single storey facility with eight ambulance bays, comprising of an outdoor staff car park with a plant room adjacent, as shown in **Figure 3-1**. The station is organised into three main functional zones, as summarised in **Table 3-1**.

Table 3-1 Functional zones

Functional Zone	Function
Staff car park	Dedicated parking area for station staff.
Plant room	Houses ambulance vehicles and incorporates ancillary spaces to support fleet preparation and readiness.
Main building	Accommodates the core operational and support functions, including administrative offices, meeting rooms and staff amenities.

Figure 3-1 Proposed Caves Beach ambulance station development



Source: DJRD Architects, 2025

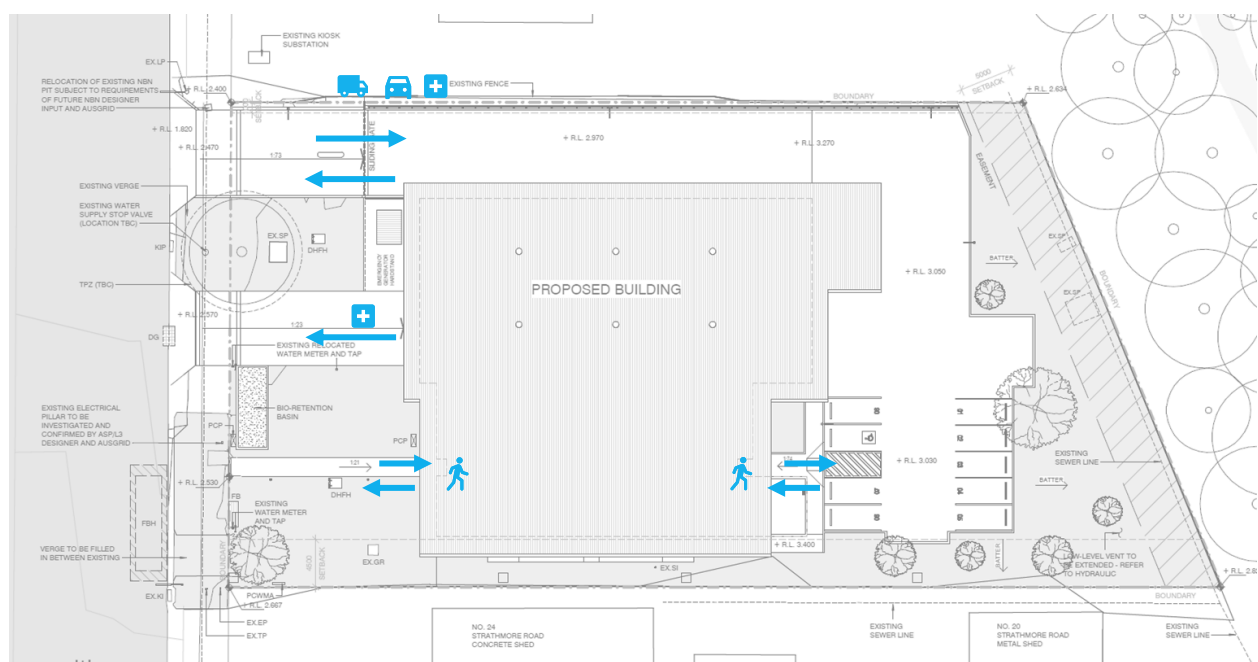
3.2 Access locations

3.2.1 Vehicular access

As illustrated in **Figure 3-2**, the proposed ambulance station will be serviced by two driveways on Kayuga Close. Site entry will be via the northern driveway, which is shared by staff, delivery/servicing and ambulance vehicles. This driveway provides entry for ambulance vehicles and entry/exit for staff vehicles, separating each direction of travel by a median. Ambulance exit is provided on the southern driveway, to prevent conflict between ambulances and staff vehicles when attending an emergency.

Vehicle access to the site will be restricted to authorised personnel only. The plant room will be secure with roller shutter doors at its entry and exit points, while the staff car park will operate with a bi-directional gate at the entry/exit driveway. Access to these points will be managed via keypads or swipe cards, with additional access provided through an audio intercom system and remote operation from ambulance vehicles.

Figure 3-2 Access locations



Source:DJRD Architects, 2025

3.2.2 Pedestrian access

Pedestrian access to the site is restricted to authorised personnel only. A footpath at the front of the building leads to a secure entry. The access from the car park is located directly adjacent to staff parking. These entrances are not intended for public access and are managed through controlled access measures.

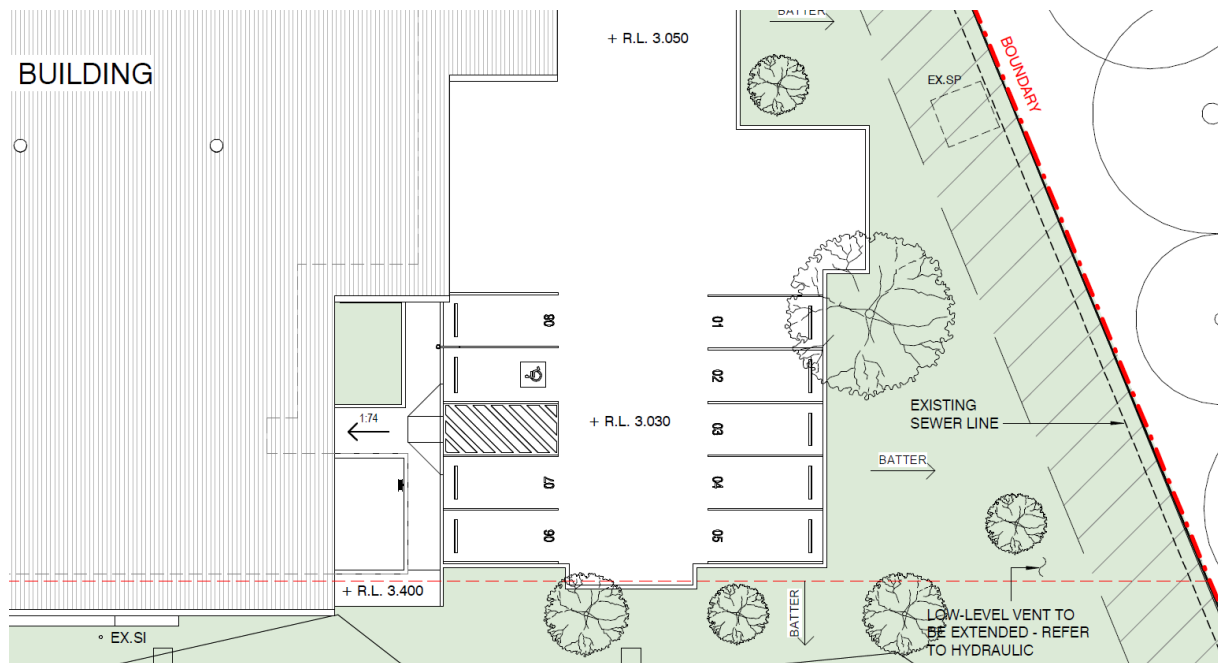
3.3 Parking provision

A secure on-site staff car park is proposed at ground level, providing a total of nine spaces including one accessible space. This provision aligns with the requirements of the AIP Functional Brief, which specifies that parking provision should be equivalent to 40 per cent of peak-shift staff numbers. For an eight-bay ambulance station, the peak shift size consists of 16 staff.

The car park has been reviewed against the requirements of AS2890.1, AS2890.2 and AS2890.6, with assessments provided in **Appendix A**. The review finds no inconsistencies critical to this stage of design. The two inconsistencies are the position of the wheel stops indicated on the drawings (which are too close to the retaining wall to the east) and the clearance height of the station being 3.8m. The limiting factor is the height of the roller shutter door to the plant room, which is 3.8m tall. This height restriction is not an issue for NSW operations, but suppliers may need to be notified if their vehicle is required to pass through the plant room.

Some items, such as signage, pavement markings, lighting and gradient of the parking module, will need to be confirmed as the design progresses and checked for compliance with the AS2890 standards.

Figure 3-3 Staff parking layout



Source:DJRD Architects, 2025

3.4 Servicing / delivery arrangements

The preferred waste collection and delivery method is to park on street where there are no restrictions on parking. The Waste and Delivery rooms are also located on the frontage of the building, which makes access more convenient from Kayuga Close.

For deliveries entering the site, swept path analysis confirms that a Medium Rigid Vehicle (MRV, 8.8m long) can enter and exit the site in a forward direction using the turning bay in the car park without entering the plant room. However, the bay is only sized for a Small Rigid Vehicle (SRV, 6.4m long) and hence larger vehicles are encouraged to park on-street to limit the impact to circulation within the site.

3.5 Number of ambulance bays

The proposed ambulance station will consist of eight ambulance bays; all housed within the ambulance station. The proposed plant room is consistent with the AIP Functional Brief and Template, which is sized so that the regular ambulance fleet can enter and exit their bays in a single manoeuvre.

The site has been designed to accommodate the standard fleet and specialist vehicles are not expected to frequent the site. However, swept path assessments have demonstrated the ability for the Bariatric Ambulance, HARA vehicle, and the MPV to circulate through the plant room and park within the bays while not restricting regular fleet access. The Rescue Truck can also circulate through the plant room but will not be able to park in the bays. It is not recommended that the specialist fleet be based at this facility regularly since the bays are not specifically designed for them.

3.6 Staffing arrangements

For an eight-bay ambulance station, the typical staffing profile comprises 48 full-time equivalent (FTE) paramedics, with a maximum of 16 on duty per shift. Each frontline emergency ambulance is crewed by two rostered paramedics, while some operational vehicles are staffed by a single paramedic or paramedic supervisor. The station will operate on a 24/7 basis and is expected to follow a 3-shift roster. Shift changeovers will be staggered, meaning that not all staff will start or end their shifts at the same time. Roster start and finish times are matched to the demand for ambulance service delivery in the response area and are subject to change.

3.7 Trip generation

The peak number of trips generated by the site is expected to be during the turnover period when ambulances are back at the station and staff are arriving/departing. Located in an area with poor public transport access, it is expected that all staff will use private vehicles to travel to work.

Considering a worst-case scenario where the full shift changeover occurs within the hour, the maximum vehicle movements (inbound and outbound) would be around 48 movements during the changeover peak (inclusive of ambulance movements).

The practical peak is likely lower than this due to staggered shifts where ambulance staff changes are spread over multiple hours to ensure that there are always crewed ambulances that are ready to respond. For the purpose of this analysis, it is assumed that the staggered changeover occurs over a period of two hours, leading to a practical peak of 24 movements.

Shift changeovers occur at different times throughout the day and not necessarily during the road network peak. However, as this varies across stations, this assessment has assumed that the changeover can occur during the peak period.

4.0 Traffic impact assessment

4.1 Road network

For the purpose of this analysis, it is assumed that the staggered changeover occurs over a period of two hours, leading to a practical peak of 24 movements per hour. As part of a general industrial precinct, this level of volume increase is relatively low and would have negligible impact on the road network.

This would be a small increase of approximately 14 movements an hour more than an equivalent site area used for industrial purposes.

4.2 Public transport

Due to the site being located in an area with poor public transport access, the proposed development is likely to introduce minimal additional public transport trips. This will have a negligible impact on the occupancy of existing services. The generated trips would also have a minimal impact on bus operations and travel times.

4.3 Active transport

The total increase in pedestrians and cyclists in the vicinity of the site is expected to be minimal due to the low total number of staff at the station and the low cycling and walking mode shares. With no changes being proposed to the active transport network, minimal impact is expected as a result of the proposed development.

4.4 Parking

With all staff working on site at one time, the parking demand will be for 16 spaces, exceeding the available spaces within the proposed car park by seven spaces. This means that some staff will need to park on-street.

Kayuga Close and Strathmore Road (the adjacent road) have no parking restrictions and provide for over 100 parking spaces within 200m (less than three minute walk) of the site. This is typical practice of industrial areas and was observed around the site.

With a large supply of unrestricted on-street parking, the proposed development will have minimal impact on parking supply.

5.0 Construction traffic management plan

A Construction Traffic Management Plan (CTMP) would be developed by the Contractor prior to the start of construction and updated throughout the project as required. The CTMP would be prepared in consultation with Transport for NSW and Central Coast Council and would seek to minimise traffic, transport and parking impacts during the construction stages of the project. The CTMP would address aspects such as type of construction vehicles, construction transport routes, dilapidation surveys, traffic control plans, including detours and signage, and details of measures to minimise conflicts with other road users or users of the site. Some of the considerations that the CTMP would need to include are detailed below.

Construction vehicle access

Construction vehicle access to and from the site would be from Kayuga Close. As Kayuga Close is located within an industrial area, there should be minimal issues for larger vehicles.

The site is spacious and flat, which will provide flexibility for vehicle access and construction staging. A road occupancy licence from council will be required should any construction staging be conducted on-street.

Construction vehicle impact to road network

The total volume of construction vehicles is not expected to be high as the proposed development is relatively small and at grade. However, this would vary depending on the approach of the appointed contractor and would be confirmed in the CTMP.

Construction worker parking

Construction workers are likely to drive given the limited public transport and active transport options in the area. As the selected site is spacious and flat, the appointed contractor is encouraged to provide parking for workers within the site to limit impacts to on-street parking. However, on-street parking is unrestricted and can be used by construction workers.

6.0 Summary

Health Infrastructure is proposing to deliver an eight-bay ambulance station on Kayuga Close, staffed by up to 16 paramedics at a time. The site consists of two industrial lots with an existing warehouse on each lot, which will be demolished for the ambulance station. The site has a dedicated exit driveway for ambulances leaving the station, a combined driveway for all other vehicle movements, and includes a dedicated off-street car park with nine parking spaces, including one accessible space. This assessment finds that:

- The ambulance station is designed for the regular NSW sprinter fleet, but can also accommodate the HARA vehicle, the MPV, and the Bariatric ambulance from the NSW specialist fleet. These vehicles are able to circulate the plant room and park in most bays without adversely impacting access of the regular sprinter ambulance fleet. The NSW Rescue Truck can also circulate the plant room but cannot park in the bays.
- A review of AS2890 finds two inconsistencies with the proposed parking facilities, though they are not critical at this stage of design and can be rectified in the next phase of works. These are the height restriction of the ambulance bay plant room, which is 3.8m due to the roller shutter door clearance, and the position of the staff parking wheel stops indicated on the drawings, which are too close to the retaining wall to the east. The height restriction is not an issue for NSW operations, but suppliers may need to be notified if their vehicle is required to pass through the plant room.
- While preference is for servicing and delivery to be conducted from the street frontage, these functions can be conducted within the site by vehicles up to MRVs in size. MRVs can enter and exit the site in a forward direction using the turning bay provided on-site without the need to pass through the plant room.
- As part of a general industrial precinct, the impact of the proposed development on the road network is expected to be minimal. The typical peak trip generation is expected to be 24 movements during the peak hour which is only a small amount of movements higher than if the site was used for industrial purposes instead.
- The impact of the development on public transport and walking and cycling networks will be negligible due to the low expected use of these non-car modes.
- With a peak parking demand of 16 spaces and nine on-site spaces, some staff will need to park along surrounding streets, however with a large supply of unrestricted on-street parking there will be minimal impact.
- A Construction Traffic Management Plan (CTMP) is to be developed by the Contractor prior to the start of construction and be prepared in consultation with Transport for NSW and Central Coast Council.

APPENDIX A

AS2890 REVIEW

Technical Advisory Note

Project	NSWA AIP Tranche 1	Project Number	SCT_00676
Client	Health Infrastructure		
Document Name	Caves Beach AS2890 review		
Version	1.0	Date	4 December 2025
Author	Abigail O'Mahoney	Consultant	
Reviewer	Matthew Chow	Principal Consultant	
Authoriser	Nick Bernard	Director	

Background

Health Infrastructure is proposing an ambulance station at Caves Beach, which includes a dedicated staff car park, a plant room for ambulance vehicles, and an at grade accessible parking bay. This AS2890 review supports the Transport Impact Assessment as part of a Review of Environmental Factors.

Scope of review

The scope of this review includes the following:

- 24_421-AR-0101(G)-PROPOSED SITE PLAN
- 24_421-AR-1101(G)-GROUND FLOOR GENERAL ARRANGEMENT PLAN.

These have been reviewed against AS 2890.1-2004, AS 2890.2-2018, and AS 2890.6-2022. SCT Consulting has not reviewed the car park design against slip resistance, lighting, luminance contrast, landscape, or vehicle strike prevention matters.

AS2890.1:2004 Off-street car parking review

AS2890.1:2004 requirements are reviewed in **Table 1**.

Table 1 Review against AS2890.1:2004

AS2890.1 section	Consistent	Comment
2.3.2 Parking angle	Yes	Parking spaces are 90-degree angle parking.
2.3.3 Parking aisle length	Yes	Parking aisle does not exceed 100m.
2.4.1 Angle parking spaces	Yes	Proposed parking spaces are 5.4m long by 2.5m wide, suitable for Class 2 spaces, which is wider than the recommended size for staff parking.
2.4.2 Angle parking aisle	Yes	Aisle is 7m wide and exceeds the required aisle width for Class 2 spaces.
2.4.3 Angle parking module layout	Yes	Car park is a standard 90-degree parking layout.
2.4.5 Physical controls	No	Kerbs and barriers to be installed as per AS2890.1 requirements, recommended in the rear in position. Wheel stop to be located 1100mm from retaining wall on eastern side (as per rear in recommendation of AS2890.1).
2.4.5.5 Other protective devices	Not included in this review as this falls outside the expertise of traffic engineering.	
2.4.6 Gradients within parking modules	Yes	Parking module is flat.
2.5.2 Layout design of circulation roadways and ramps	Yes	Roadways exceed the minimum 5.5m wide with 300mm buffers from vertical obstructions.
2.5.3 Circulation roadway and ramp grades	Yes	Ramps do not exceed 1:4.
2.6 Design of domestic driveways	N/A	Not a domestic driveway.
3.1 General	N/A	Access is Category 1.
3.2 Access driveways – width and location	Yes	Driveway widths meet minimum requirements and are not located on prohibited locations.
3.3 Gradients of access driveways	Yes	Access driveways gradient is 1:73
3.4 Queueing areas	Yes	Queueing is not expected at this at this station, however, there is adequate queue space prior to the gates to hold two vehicles while keeping clear of the frontage road.
3.5 Access to mechanical parking installations	N/A	No mechanical parking installations proposed.
4.1 Pedestrian service	Yes	Pedestrians are provided with separate access to the building and car park.
4.2 Bicycle parking	N/A	No bicycle parking proposed.
4.3 Signposting	TBC	Sign posting that is provided is to be consistent with AS2890 requirements.

AS2890.1 section	Consistent	Comment
4.3.6 Sign size		Not included in this review as this falls outside the expertise of traffic engineering.
4.4 Pavement markings	TBC	Pavement markings, such as arrows and parking space delineation, to be consistent with AS2890 requirements.
4.4.2 Pedestrian crossing markings	N/A	No pedestrian crossing markings proposed.
		Slip resistance not included in this review as this falls outside the expertise of traffic engineering.
4.5 Parcel pick-up	N/A	No dedicated parcel pick up location proposed.
4.6 Shopping trolley requirements	N/A	No shopping trolleys.
4.7 Lighting		Not included in this review as this falls outside the expertise of traffic engineering.
4.8 Landscaping		Not included in this review as this falls outside the expertise of traffic engineering.
4.9 Humps	N/A	No speed humps.
4.10 Special loading/unloading parking spaces	N/A	No loading/unloading spaces.
5.2 Column location and spacing	N/A	No columns within car park.
5.3 Headroom	Yes	Not undercover.
5.4 Design of enclosed garages	N/A	Not an enclosed garage.

AS2890.2:2018 Off-street commercial vehicles review

AS2890.2:2018 requirements are reviewed in **Table 2**.

Table 2 Review against AS2890.2:2018

AS2890.2 section	Consistent	Comment
2.1 General	Yes	General NSW fleet are most similar to SRVs, though the specialist fleet is slightly larger and up to an MRV fleet size.
3.3.1 Width	Yes	Ramps and roadways meet the minimum driveway width requirement of 3.5m kerb to kerb.
3.3.2 Parking on circulation roadway	N/A	No parking on circulation roadway.
3.3.3.2 Maximum roadway and ramp grades	Yes	Ramps do not exceed 1:16.
3.3.4 Maximum rates of change of grade on circulation roadways	Yes	Ramps do not exceed 1:16, the maximum transition grade for an MRV.
3.4.3 (driveway) layout design requirements	Yes	Driveway width has been shown to be adequate through a swept path analysis for vehicles up to MRV.
3.4.5 Sight distance requirements	Yes	No obstructions to required sight lines on Kayuga Close.
4.1 (Service areas) General	Yes	Plant room has been designed for the specified number of ambulances stationed at this facility.
4.2 Dimensions of service bays	No	Clearance height is restricted to 3.8m, which is the limiting height of the roller shutter door. This height restriction is not an issue for NSW operations and is consistent with AIP Functional Brief requirements, but suppliers may need to be notified if their vehicle is required to pass through the plant room. Ambulance bays meet NSW AIP Functional Brief requirements. Service bay is not large enough to hold an MRV for long periods of time. It is recommended that MRV's service from the street where possible.
5. Design turning paths	Yes	Plant room manoeuvring has been tested through swept path analysis

AS2890.6:2022 Off-street parking for people with disabilities review

AS2890.6:2022 requirements are reviewed in **Table 3**.

Table 3 Review against AS2890.6:2022

AS2890.6 section	Consistent	Comment
2.2 Location of accessible spaces	Yes	Within 50m of an accessible entrance.
2.3.1 Shared area	Yes	Shared spaces at rear and one side of the vehicle.
2.3.2 Side of vehicle	Yes	Shared space at side is not located in a circulation roadway.
2.3.3 Rear of vehicle	Yes/TBC	Shared space has unobstructed views from circulating vehicle. Posted limit to be 10km/h.
2.4 Zone for bollard, post and columns	TBC	Bollard to be installed within 750-1,750mm from edge of parking aisle as per AS2890.1
		Luminance contrast not included in this review as this falls outside the expertise of traffic engineering.
2.5.1 Angled parking spaces	Yes	Parking space is 5.4m long with width greater than 2.4m, with a 5.4m long by 2.4m wide shared space adjacent.
2.5.2 Parallel parking spaces	N/A	No parallel parking spaces proposed.
2.6 Pavement slope and surface	TBC	Parking area gradient to be no steeper than 1:33.
		Type of seal and slip resistance not included in this review as this falls outside the expertise of traffic engineering.
2.7 Headroom	N/A	Not undercover.
2.8 Kerb ramps	Yes	Kerb ramp provided directly at the shared space.
3.1.1 Non-residential space identification	TBC	White symbol of access to be implemented as per AS1428.1.
3.1.2 Residential space identification	N/A	Not a residential space.
3.2.1 Space delineation and shared marking		Not included in this review as this falls outside the expertise of traffic engineering.
3.2.2 Pavement markers for accessible spaces	TBC	Markings to be provided as per AS2890.6 during construction phase.
3.2.3 Pavement markers for shared areas	TBC	Markings to be provided as per AS2890.6 during construction phase.
3.2.4 Pavement markings		Not included in this review as this falls outside the expertise of traffic engineering.

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