

20 December 2022

P1853 SRD Christian College primary school Forster TIA

Site R&D Pty Ltd
P O Box 134
Kotara NSW 2289

Attn: Stuart Murray

Dear Stuart,

Proposed Primary school, Southern Parkway, Forster NSW.

Further to your various emails, we have completed our site work and assessment for the proposed primary school development located on Southern Parkway, Forster. We have reviewed the documentation provided for the proposed development and are pleased to provide the following traffic impact assessment to support the development application.

This assessment has been prepared in accordance with the Austroads Guidelines and Section 2.3 of the RMS Guide to Traffic Generating Developments (note that RMS are now renamed Transport for NSW (TfNSW)), which provides the structure for the reporting of key issues to be addressed when determining the impacts of traffic associated with a development. This guide indicates that the use of this format and checklist ensures that the most significant matters are considered by the relevant road authority.

The report has also taken into consideration the planning requirements outlined in the MidCoast Council Development Control Plan dated 4 April 2014 which includes reference to the MidCoast Council DCP 2010 (manning Region) that provides details on car park requirements for schools.

Site Location and Context

The proposed development is located on The Southern Parkway to the immediate north of Akala Avenue within the suburb of Forster as shown in Figure 1. The site has road frontage to The Southern Parkway only and the surrounding land use is predominantly residential with an aged care facility located along its northern boundary.

Transport Assessment

It is acknowledged that a school such as the subject site can generate a high demand for traffic and parking over a short timeframe. Whilst the parking on site provision is in accordance with the Council DCP, the impact of the traffic and parking demands off site have been assessed allowing for an overall transport strategy for the project.

The school shall allow for up to 300 students and will actively support travel to the school by means other than private vehicles. Discussions with the local bus provider, Forster Busline provides the following advice:

- For primary school children, a Free Bus pass is provided if they are located further than 1.2 kms from the school
- For secondary school children, the Free Bus pass is provided if they live further than 1.8 kms from the school.
- There are a number of bus routes operated by Buslines that services the nearby high school. These buses are currently close to capacity.

- Once the school is committed for development, Buslines will look to modify their existing routes to allow for servicing of this school and if required will provide additional buses to service the existing and future school demands.
- These buses currently provide three services that connect from the south as far as Seal Rocks.

Based on the above, it is considered reasonable to assume that students within a 1.2 km radius from the school could walk or cycle to the school as they are not eligible for the school pass. Our original assessment indicated an allowance for 30% of the students to walk or cycle to the school. The location of the school with a 2.0 km radius is shown below and covers a reasonable area of residential development. It also covers areas of future residential areas to be developed which could allow for more students looking to walk.

For students walking, a radius of 1.2 kms has been allowed for and is shown below



Figure 1 -- 1.2 km radius centred on the school site for walking

From the current responses showing interest in the school, the figure below indicates that 77 students live within 5 kms of the school site and 49 live within 2.0 kms. It is reasonable to assume the majority of these students living within 2.0 kms could walk or cycle to the school site via the existing network of paths. 77 students represents 37% of the total school capacity of 300 students.

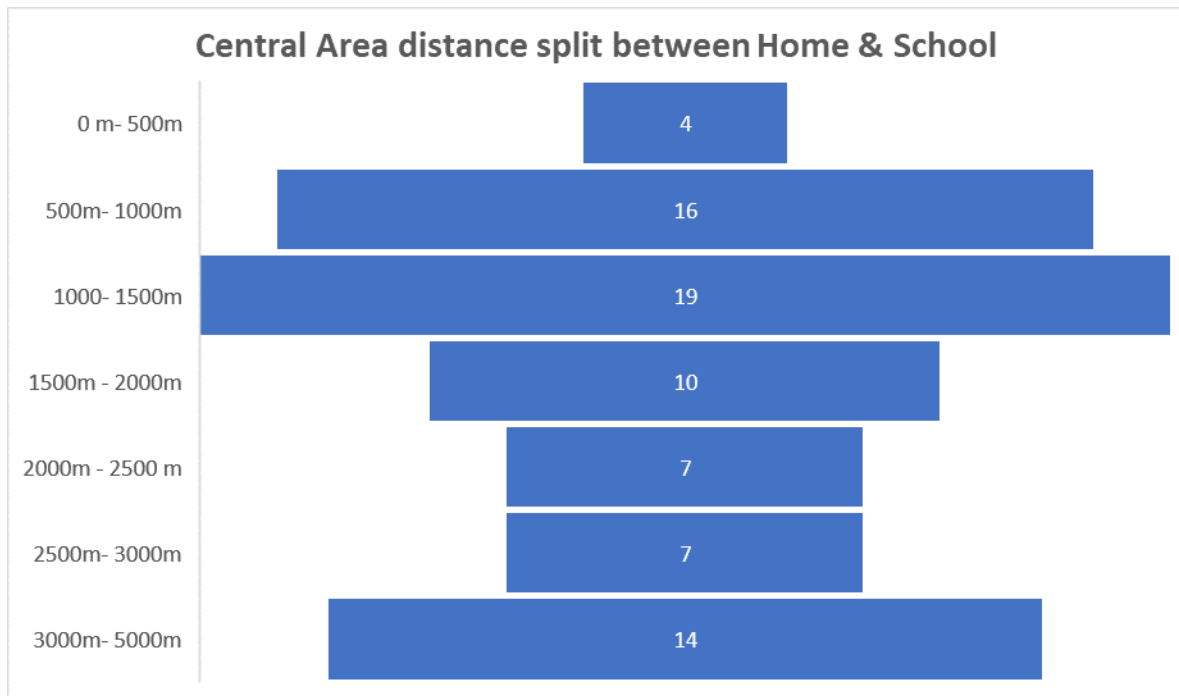


Figure 2 - Central area (being within Forster-Tuncurry) location data

For students cycling, a radius of 2.0 kms has been allowed for and is shown below.

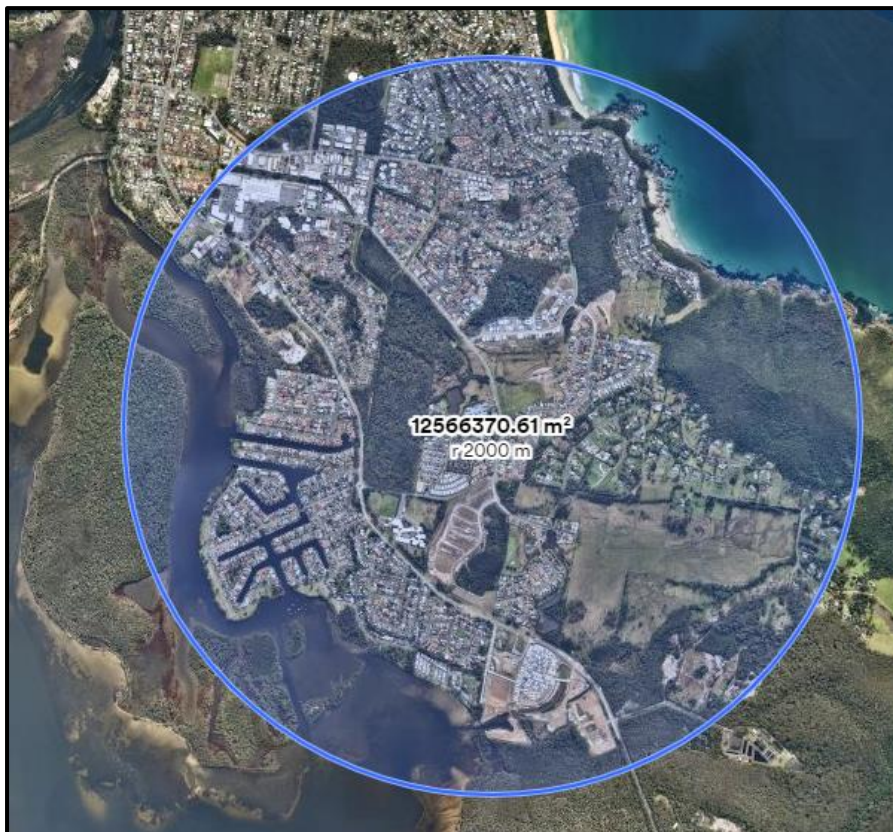


Figure 3 - 2.0 km radius centred on the school site for cycling

The above Figure 2 covers a much larger area of residential development including the Forster keys area and the South Forster Urban Release Area.

The target value of 30% of the students walking or cycling to school is therefore considered to be appropriate.

Buslines indicated that they will look to expand the existing bus routes they operate, to allow for this school proposal by either continuing the existing runs to service this site or adding in additional runs to suit the school. The information provided for the catchment, based on responses from people who have expressed interested in the school are summarised below. This indicates that 31% of the students live outside of the Forster-Tuncurry area and they are eligible for a free bus pass and will be serviced by existing school buses (and potential future expansion if required). An additional 11% of the students live in Tuncurry and would also be eligible for free bus passes. A total of 41% of students for the future school are eligible for free bus travel and a reasonable assumption of 30% of students to travel to the school by bus is considered appropriate.

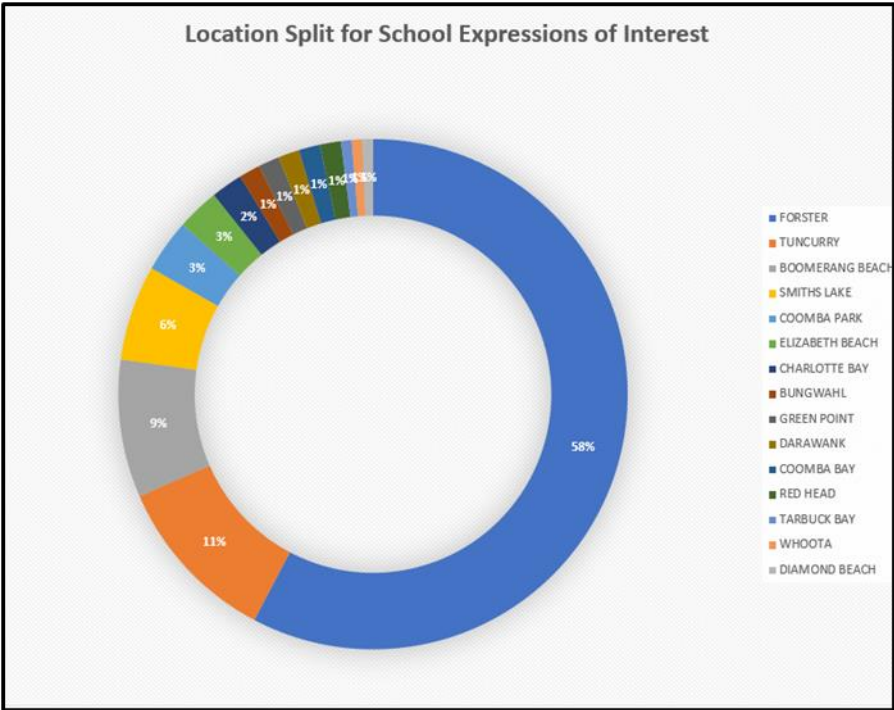


Figure 4 - Location split for school via expressions of interest

Allowing for 30% of students to travel to the school by walking or cycling and 30% of students to travel by bus, this indicates that 40% of the students (or 120 students) could travel by private vehicle for access to the site. Assuming 1.8 students per car, for this gives 67 cars.

Allowing for 6 metres per car, this gives a queuing space requirement of around 400 metres. The plans prepared for the project show 7 or more cars could be accomdoated wihtin the drop off / pick up zone at any one time which would reduce this above value by 50 metres or more.

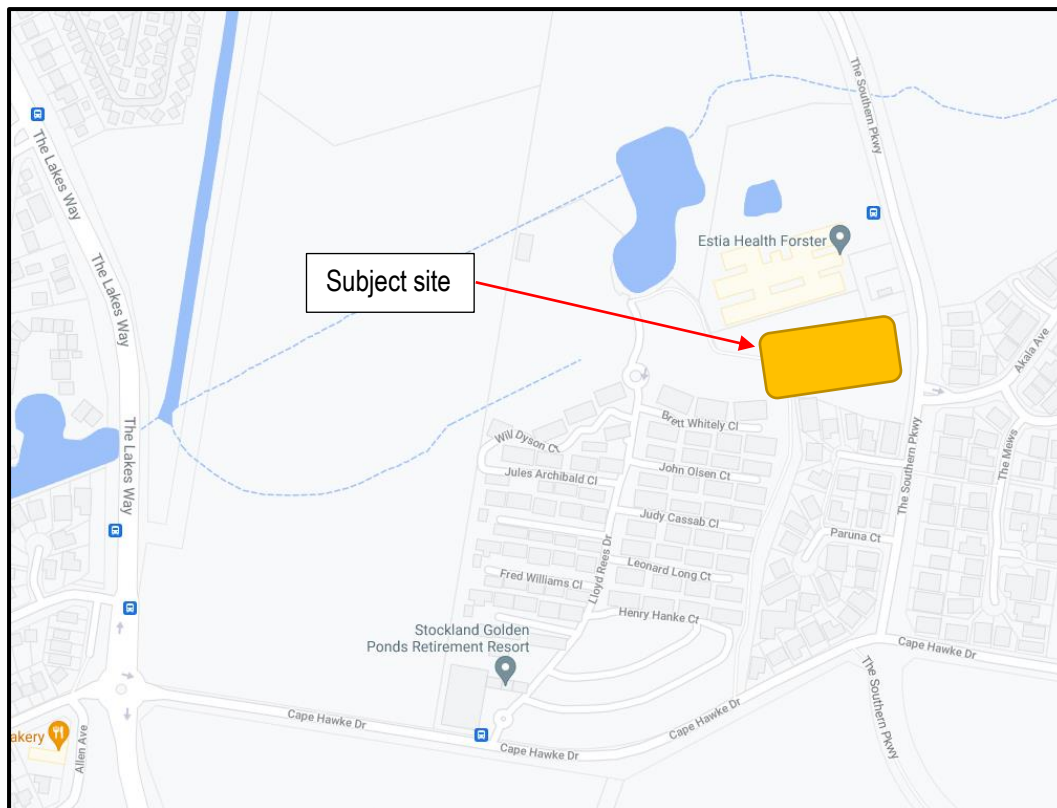


Figure 5 – Subject site in the context of the local road network

A summary of the key issues and their comments are provided below:

Item	Comment
Existing Situation	
2.1 Site Location and Access	The proposed development is located to the west of The Southern Parkway within Forster as shown in Figure 1 above. Access to the site is provided via The Southern Parkway only.
2.2.1 Road Hierarchy	The Lakes Way is the major arterial road through the locality, which forms part of the regional road network connecting Forster-Tuncurry to the Pacific Highway to the south near Bulahdelah as well as providing connection through to the north to connect to the Pacific Highway. North of Forster-Tuncurry the road is proposed to be upgraded to State Road status. It typically provides a single lane of travel to the north and south of Forster-Tuncurry with additional travel lanes and turn lanes provided in Forster-Tuncurry to ensure capacity is maintained. Through Forster it operates under the posted speed limit of 60 km/h. Footpaths are typically provided within the urban built area to one or both sides. Its key intersections are controlled by traffic signals or roundabouts. The site is located on The Southern Parkway which provides a single lane of travel in both directions and typically allows for kerb side parking to both sides. This road has a footpath on the eastern side of the road and operates under the posted speed limit of 50 km/h. It allows for direct residential driveway connections to this road as well as other residential roads

Item	Comment
	connections. To the north this road connects with Breese Parade via a 3-way roundabout controlled intersection. Breese Parade connects with The Lakes Way via a 3-way roundabout controlled intersection to the west. To the south, this road connects with Cape Hawke Drive via a 4-way roundabout controlled intersection. Cape Hawke Road provides a connection to the Lakes Way via a 4-way roundabout controlled intersection. These local roads are under the control and care of MidCoast Council.
<i>2.2.2 Current and Proposed Roadworks, Traffic Management Works and Bikeways</i>	There are no road works currently occurring within the locality of the subject site. The Southern Parkway is planned by Council to continue south and connect to The Lakes Way at Sweet Pea Road, with a 3-way roundabout proposed at this location. The construction and extension of this road is continuing as land is developed in this location.
2.3 Traffic Flows	Traffic surveys were completed on The Southern Parkway in the vicinity of the subject site, to determine the current traffic flows on this road during the typical morning and afternoon peak periods associated with school drop off in the morning and pick up activities in the afternoon. These traffic surveys were completed on Monday 16th November 2020. These surveys were undertaken during both the morning period between 7.45 and 9.00 AM and in the afternoon between 2.15 and 3.15 PM. A summary of the peak hour traffic volumes obtained from these surveys is provided below: • 2-way flow of 422 in the AM peak with 232 northbound towards Forster (55%) • 2-way flow of 379 vehicles in the PM peak with 210 southbound (55%)
<i>2.3.1 Daily Traffic Flows</i>	The Austroads Guide shows that peak hours represent between 8-12% of daily traffic volumes. Adopting the average of 10%, this would indicate daily traffic volumes on The Southern Parkway are in the order of 4,000 vehicles per day (vpd).
<i>2.3.2 AADT</i>	There is no current AADT data available in the locality.
<i>2.3.3 Daily Traffic Flow Distribution</i>	The surveys undertaken indicate a slight bias in traffic northbound in the AM peak and southbound in the PM peak, representative of commuter demands towards the north and other facilities in Forster-Tuncurry all located to the north of this location. Over the course of a day, traffic would be reasonably balanced along The Southern Parkway.
<i>2.3.4 Vehicle Speeds</i>	No speed surveys were completed as part of the study work. Observations on site indicate that traffic travels at the posted speed limit, with minimal side friction not impacting the traffic speed.
<i>2.3.5 Existing Site Flows</i>	The subject site is currently vacant and as such generates no traffic movements.

Item	Comment
2.3.6 Heavy Vehicle Flows	The Southern Parkway does not encourage through traffic movements and as such the extent of heavy vehicle movements on this road were very low, associated with Council waste trucks only and occasional delivery vehicles.
2.3.7 Current Road Network Operation	Observations on site indicate that the local roads and the local intersections show that the road network works very well with minimal delays. There are some delays at the roundabouts to the north and south of the site on The Southern Parkway, however these are low and outside of the peak periods these delays are lower still. Traffic flows in Forster are heavily influenced by peak summer holiday demands, although it is noted that these typically occur over the weekend and school holidays when the proposed school would not be open.
2.4 Traffic Safety and Accident History	A review of accident data provided by TfNSW shows that there have been limited recorded accidents within the vicinity of the site, with a single accident occurring on The Southern Parkway and a couple of minor accidents at the roundabouts at the northern and southern end of this road over the 5 year timeframe. The local roads and intersections in the vicinity of the site are generally well aligned and provide an acceptable level of traffic safety as reflected in the number of accidents recorded in this location. A site inspection of the surrounding roads and intersections has not identified any significant safety concerns.
2.5 Parking Supply and Demand	
2.5.1 On-street Parking Provision	Opportunities for on-street parking are available along The Southern Parkway to both sides with no parking restrictions noted.
2.5.2 Off-street Parking Provision	No formal public off-street parking is provided in the locality.
2.5.3 Current Parking Demand and Utilisation	Existing on-street parking demands were observed during the site work in the morning drop off period and the afternoon pick up period associated with the proposed school. The following roads were observed: • The Southern Parkway to both sides of the road to the north and south of the subject site • Akala Avenue On both of these streets, minimal parking was observed with the surrounding residential lots providing for off-street parking. Some parking noted associated with the adjacent aged care facility, considered to be associated with staff parking demands. There were no cars parked on The Southern Parkway to either side of the road to the north of this aged care facility.
2.5.4 Short term set down or pick up areas	There are no set down or pick up areas in the immediate vicinity of the site.
2.6 Public Transport	
2.6.1 Rail Station Locations	This location is not served by rail.

Item	Comment
2.6.2 Bus Stops and Associated Facilities	The nearest bus stops are located on The Southern Parkway to the north of the site within 100 metres of the site boundary, with a sign only for services.
2.6.3 Transport Services	Bus services operate by Forster Buslines with route 306 passing the subject site only. A number of school buses also operate throughout the locality associated with nearby schools in Forster allowing access from other localities in this area. Discussion with the operator of Forster Buslines indicates that they currently provide a number of school buses services in this location that provide access to the nearby Great Lakes College and other schools in the Forster / Tuncurry area. Their buses provide connection to the south to Blueys Beach as well as other townships in this general area.
2.7 Pedestrian Network	There is a footpath along the eastern side of The Southern Parkway on the opposite side of the road from the subject site. This allows connection to the north and south as well as the residential development in this location.
2.8 Other Developments	There is ongoing residential development planned within this area of Forster, including development of The Lakes Way to the south and north of the site and development allowing for the extension of The Southern Parkway to connect to The Lakes Way at Sweet Pea Road. There is a rezoning application for land to the east of The Southern Parkway to the north of the site. However there is no proposal for rezoning of land to the west of this road to the north of the site due to the environmental constraints to the west of the road created by the waterways in this location. The concept for this development is provided in Appendix xxxxx to this assessment.
The Development	
3.1.1 Nature of Development	The proposed development allows for the primary school for up to 300 students. The site has frontage to The Southern Parkway only and will allow for on-site parking in accordance with the Council DCP. There will be 20 full time staff and 2 part time staff at the school, inclusive of administration staff. The site shall also act as a transport hub for senior students, with a pick-up / drop off bus service to connect through to the Taree senior campus. The school shall take approximately 5 years to develop to full capacity. The following assessment has been provided for the full development of up to 300 students.
3.1.2 Access and Circulation Requirements	The layout of the site shall be consistent with the MidCoast Development Control Plan. The site shall have vehicle access to The Southern Parkway only via a 4-way roundabout to be constructed at the intersection of The Southern Parkway and Akala Avenue and shall allow for all vehicles to enter and exit the site in a forward direction.

Item	Comment
	The site layout will allow for connection for all modes of transport with the design of pedestrian, cycle and bus routes to take precedence over vehicle routes. Internal driveways shall be designed and constructed in accordance with Council standard drawings and specifications.
3.2 Access	Access for the school is proposed via a new driveway to connect to The Southern Parkway only via a 4-way roundabout. The new driveways shall be designed in accordance with Council standard drawings and design specifications.
3.2.1 Driveway Location	The driveway access point is located opposite Akala Avenue.
3.2.2 Sight Distances	Sight distance requirements for the driveway within AS2890 and are also specified by the Austroads Guide to Road Design, which requires two criteria to be met: • Safe Intersection Sight Distance which is the minimum sight distance for the major road approaches; and • Approach Sight Distance which is the minimum sight distance for the minor road approaches. For the posted speed limit of 50 km/hr along The Southern Parkway Austroads Guide specifies a minimum safe intersection sight distance (SISD) of 90 metres. The Southern Parkway provides a mostly straight and flat road alignment, which ensures that adequate sight distance can be achieved. This will be confirmed as part of the detailed design of these intersections. It is noted that at the busy drop off and pick up times, there will be a 40 km/h speed limit as part of the school zone along the site frontage, reducing the sight distance requirements at these times. The sight distance requirement for 50 km/h will however be required across the day when there could be drivers entering or exiting the site.
3.2.3 Service Vehicle Access	Future servicing of the site shall be minimal, with waste collection and minor deliveries. The waste collection will be managed to occur outside of the drop off and pick up period. Other deliveries could occur across the normal operating hours of the school and will typically require the use of vans and small trucks. There could be the occasional delivery by larger delivery truck up to 12.5 metres long, but this will be managed outside of the busy periods for the school. All delivery vehicle access shall be via the driveway provided and the internal layout shall allow for vehicles to enter and exit in a forward direction only.
3.2.4 Queuing at entrance to site	The project shall allow for drop off / pick up to occur within the site with a designated kiss and drop zone providing space for 7 or more cars (subject to detailed design). Additional parking is available on The Southern Parkway with parents / carers able to park on both sides of The Southern Parkway adjacent to the kerbs to both sides with minimal impact upon the through traffic movements.

Item	Comment
	It is proposed that a designated school drop off / pick up zone is developed on The Southern Parkway to the north of the existing aged care facility along the western side of this road. As the land adjacent to this section of the road will not be developed it can be seen that there is no future demand for parking here and the impact of the school traffic shall be minor. Typically, staff arrive on site prior to the drop off period and then the same staff vehicles exit the site after the pick-up activities in the afternoon. At these times, the traffic on The Southern Parkway is lower and as such no queuing is expected for the traffic entering and exiting the site.
3.2.5 Comparison with existing site access	There is currently no vehicle access to the subject site.
3.2.6 Access to Public Transport	As part of the development of the school, bus access shall be provided for the students as well as allowance for pick up / drop off for senior students accessing senior schools in Taree.
3.3 Circulation	
3.3.1 Pattern of circulation	All vehicles will be able to enter and exit the site in a forward direction. Vehicles shall circulate in a manner to ensure that the students can exit or enter the vehicle from the passenger side and avoid crossing the internal driveways when being dropped off or picked up.
3.3.2 Internal Road width	All internal driveways will be designed in accordance with the requirements of the MidCoast Council Development Control Plan.
3.3.3 Internal Bus Movements	
3.3.4 Service Area Layout	No dedicated service area is required for this type of development. Majority of deliveries shall be via small vans that can park within the car park as required or the circulating driveway. The waste shall be in a designated area near the site entry for ease of access by waste collection vehicle. The management of this shall require a site specific management plan and can be managed to occur outside of the morning drop off period and afternoon pick up period.
3.4 Parking	
3.4.1 Proposed Supply	Parking shall be provided on site within the car park to the front of the site, with 16 spaces providing including a single designated disabled parking space. There is also a designated bicycle parking area as well as a drop off / pick up zone to the front of the site allowing for 7 or more vehicles to stand.
3.4.2 Authority Parking	The MidCoast Council DCP provides a rate of 1 space per 2 full time staff and 1 space per 10 year 11 / 12 students. Visitor parking is also required at a rate of 1 space per 100 students. As the school shall be for primary students only no student parking is required.

Item	Comment
3.4.3 Parking Layout	Driveways and parking spaces within the site for staff will be designed in accordance with Council DCP requirements and AS2890.
3.4.4 Parking Demand	Normal parking demands for staff will be accommodated on site with the peak staff on site being 20 giving a demand for 10 parking spaces. The parking allows for 16 spaces in total, giving 6 visitor parking spaces requirement. Whilst the DCP requirement is for 13 spaces, the provision of 16 shall ensure that parking demands throughout the day can be accommodated on site. Parents / carers shall park on The Southern Parkway as no parking is to be provided on site for parents / carers. This is consistent with the RTA Guide to Traffic Generating Developments and the Council DCP. Allowing for 60 cars to park in the designated zone on The Southern Parkway to the north of the site and allowing 6 metres per car, this could generate a kerb side parking demand in the order of 360 metres during the critical afternoon peak period, when all the parents / carers are parked and waiting for the students. Allowing this to be dispersed across the 2 sides of The Southern Parkway and to the north of the school, this could see kerb side parking occurring over a distance of 180 metres to the north of the subject site. This would create on-street parking demands for a 15-30 minute impact over the area shown below in the PM period. In the AM period associated with the drop off, the impact would be much lower as typically students are dropped off over a 15-30 minute timeframe with vehicles leaving the area and hence the peak impact would be much lower. The predicted impact shown below would occur in the PM pick up period only. In the morning drop off, the vehicles can arrive on site over a 20-30 minute period and as such the majority of this drop off can occur within the site and create minimal on-street parking demands accordingly.

Item	Comment
	 The impact area shown above is considered to be acceptable over the short timeframe in the afternoon pick up period. At this time, the on-street parking demand is very low, with local residents potentially at work and not at home.
3.4.5 Service Vehicle Parking	No dedicated service vehicle parking required on site. The occasional service vehicle will be able to park on the internal driveways or the parking spaces as required, with separate access available for the waste collection vehicle for the site.
3.4.6 Pedestrian and Bicycle Facilities	Pedestrian and bicycle pathways shall be provided to provide a quality link to The Southern Parkway. It is recognised that pedestrian and cyclist access to the school is an important feature, reflective of the local demands and observed demands by school children in this area. A bike storage area will be included within the site to accommodate parking for bicycles for student and staff, with convenient access and a secure weatherproof facility.

Item	Comment
Traffic Assessment	
4.1 Traffic Generation	There are no standard trip generation rates for schools, so the extent of traffic generated by the school has been determined based on the number of staff and students. The following traffic volumes are expected associated with this school development: • Staff shall arrive prior to the commencement of drop off activities and leave after the pick-up period. In this way they do not impact upon the busiest period for the school activities. • As a worst-case scenario all staff have been assumed to drive to the school, giving 25 inbound traffic movements prior to 8.30 AM and then 25 outbound traffic movements after 3.30 PM. A detailed assessment of the potential traffic numbers associated with the school is provided above and shows that there could be 67 cars accessing the site for student drop off and pick up.
4.1.1 Daily and Seasonal Factors	No flows generated by the school over a weekend or during the school holidays.
4.1.2 Pedestrian and Cyclist Movements	The site is located within an established residential area with on-going residential development, which is driving the demand for this new school. Observations on site show that there is a high number of students currently walking and cycling along The Southern Parkway, showing that there is good support for students to walk and cycle to schools in Forster. The local road network accommodates these movements well, with off road footway / cycleways and the topography is generally flat which further encourages walking and cycling to school. A quality connection will be provided within the school to connect to The Southern Parkway to accommodate the pedestrian and cycling demands. Storage facilities will be provided within the school to encourage and support students cycling to the school. The existing footway is located on the opposite side of The Southern Parkway from the school and provides a quality connection to the north and south of the site. As part of the school zone, a crossing will need to be provided on The Southern Parkway on the site frontage that will allow for direct and safe connection to this path from the school. The detailed design of the school zone shall be completed in consultation with TfNSW, and an assessment made with regards to the potential requirement for a crossing controller.
4.2 Hourly distribution of trips	Consistent with normal school operations, there will be peak demand in the morning associated with school drop off and then a second peak associated with the school pick up operations. It is further noted that the afternoon pick-up activities typically have a greater impact, as these all occur at the same time. Parents / carers arrive prior to pick up and then all look to depart the school shortly after the bell has rung and the students exit the school. In the morning, the drop off activity can

Item	Comment
	occur over a 20-30 minute timeframe and as such the absolute peak traffic movements are not as intense as the pick-up. Outside of the drop off and pick up activities it is considered that there would be very low traffic movements associated with the project.
4.2.1 <i>Origin / destinations assignment</i>	The proposed school shall service the Forster-Tuncurry area and as such it is considered that the majority of the traffic shall have an origin / destination to the north of the site. The following distribution of traffic is proposed for the project site: • 10% of the students shall have an origin / destination to the east of the site via Cape Hawke Drive / Akala Avenue • 30% of the students shall have an origin / destination to the south and west of the site via The Lakes Way / Cape Hawke Drive • 60% of the students shall have an origin / destination to the north of the site via The Southern Parkway Applying these splits to the generated traffic demand of 67120 cars inbound then outbound for the drop off and pick up activities would give the following distribution of traffic associated with the project: • 7 vehicles accessing the site via Cape Hawke Drive (east) and Akala Avenue • 20 vehicles accessing the site via The Lakes Way / Cape Hawke Drive (west) • 40 vehicles accessing the site from the north along The Southern Parkway It is noted that the above movements are one-way and there would be a corresponding reverse traffic movement. However, in the morning a higher portion of the traffic would continue their trip towards the north associated with commuter trips whilst in the pick up period there could be more traffic arriving from the north before departing in the above splits. It can be seen that the traffic associated with the project site could be split over a number of routes and as such reduce the impact at any single intersection.
4.3 Impact on Road Safety	The key intersection in the locality of the subject site are controlled by roundabouts, being: • The Lakes Way and Cape Hawke Drive • Cape Hawke Drive and The Southern Parkway • The Southern Parkway and Breese Parade • The Lakes Way and Breese Parade • Boundary Street and Kularoo Drive • Kularoo Drive and The Lakes Way All of these intersections are well laid out and based on observations on site during the morning and afternoon peak periods associated with school

Item	Comment
	activities operate well with minor delays and congestion. It is considered that the additional traffic movements associated with the project shall have a minor impact upon the operation of these intersections and a corresponding low impact on road safety. As discussed above, a high portion of the students are expected to walk or cycle to the school, in a similar manner to students in Forster as observed during the site work for the project. These students are able to access the site in a safe manner, utilising the existing network of footpaths in the Forster area. There is a footpath along the full length of The Southern Parkway on the eastern side of the road that provides access to the school, with a crossing point to be provided directly outside the school frontage to allow for the safe crossing of The Southern Parkway. Overall, it is considered that the proposed project shall have a minor and acceptable impact upon the overall road safety in the locality of the subject site. The internal driveway and footpaths shall be designed and constructed in accordance with Council requirements and allow for the safe and appropriate movement of pedestrians and vehicles. It is noted that the staff shall arrive prior to the morning drop off for students and leave after the students, thereby eliminating any interaction on site between staff vehicles and students.
4.4 Impact of Generated Traffic	
4.4.1 <i>Impact on Daily Traffic Flows</i>	The overall impact upon daily traffic flows within the local road network would be reasonable and within the capacity of the local roads. The proposed school could generate some 134 vehicles movements in the morning (67 inbound 67 outbound) and a similar number in the afternoon, together with staff movements being in the order of 50 trips per day. This would give a total of 318 additional trips, increasing the daily traffic flows on The Southern Parkway from 4,000 vehicles per day to 4,318. It is noted that this could be a worse case scenario with no allowance for existing parents / carers who could be travelling on The Southern Parkway passing the subject site. Whilst there are no limits on daily traffic flows, the Guide to Traffic Generating Developments provides performance standards for assessing the mid-block capacity of a road based on the peak hour traffic demands. The hourly volume on a major collector road such as The Southern Parkway has a capacity of 900 vehicles per hour per direction. Current peak hour flows are in the order of 422 and 379 in the AM and PM peak respectively. These could increase to 502 and 459 respectively, well within the limit of 900 vehicles per hour per direction. Outside of the peak hour, the traffic flows would be much lower and the proposed school shall generate minor traffic movements.
4.4.2 <i>Peak Hour Impacts on Intersections</i>	The assessment above shows that the traffic associated with the project will be distributed across a number of different routes and accordingly the traffic impact is dispersed across a number of different intersections. Observations on site show that the intersection and road network in the general vicinity of the subject site operate well with minor delays and congestion.

Item	Comment
	The key intersection that could be impacted upon is the roundabout controlled intersection of The Southern Parkway and Breese Parade, with an additional 80 vehicle, split between 40 vehicles in one direction then the same number returning in the opposite direction. The total flow of 80 could occur over a 30-40 minute period and will have a minor impact upon the overall operation of this roundabout. During the morning and afternoon traffic surveys on site, the traffic movements in and out of Akala Avenue were observed and there were no delays noted at the intersection of The Southern Parkway and Akala Avenue. The provision of a 4-way roundabout controlled intersection at this location shall create minimal traffic delays and allow for ease of access for school related traffic. When reviewing the impacts associated with the school, the morning drop off will typically coincide with peak traffic demands in this location, with parents typically diverting to the school on their commute to work. However, for the afternoon pick up period, these flows typically do not coincide with the peak traffic demands associated with commuters in this location with very low background traffic flows along The Southern Parkway during the school pick up activities. It is understood that Council have identified the option to connect Akala Avenue to Kentia Drive in the future. This could encourage some through traffic movements to use Akala Drive, however Kentia Drive connects to The Southern Parkway to the north of the school site and provides a convenient route for traffic on Kentia Drive and is considered the more appropriate route for traffic movements. Similarly, the other intersections are all roundabout controlled and operate very well with minor delay and congestion and accordingly shall continue to operate to an acceptable level for all road users.
4.4.3 <i>Impact of Construction Traffic</i>	All construction work associated with the proposed school will be located on site with minimal impacts to the surrounding road network. There may be some external disruptions to The Southern Parkway associated with the connection of services and construction of the new access points, however these would be short term works and subject to the preparation of a construction traffic management plan which outlines the necessary traffic control to complete these works. This shall be prepared by the contractors at the commencement of work on site to the satisfaction of Council. The construction traffic will be significantly less than that associated with the proposed subdivision and shall therefore have an acceptable impact upon the external road network. No significant earthworks involving the importation or removal of fill is anticipated for the site.
4.4.4 <i>Other Developments</i>	There is continual residential subdivisions being developed in this location and Council have developed the road network to accommodate these traffic movements. The development of The Southern Parkway by Council has allowed for this growth in traffic in this location.

Item	Comment
	The land to the north of the site is being developed for residential but it is noted that no development will occur to the west of The Southern Parkway due to the significant constraints in this location.
4.5 Public Transport	
4.5.1 Options for improving services	No proposal to improve services in conjunction with this development.
4.5.2 Pedestrian Access to Bus Stops	The design of the site shall allow for direct connection to The Southern Parkway and connection to the footpath to allow for connection to the bus stops in this location. A school bus zone will be provided on the site frontage to allow for direct connection for students using buses to access the school.
4.6 Recommended Works	
4.6.1 Improvements to Access and Circulation	Ensure access and internal roads / driveways are designed and constructed in accordance with Council requirements.
4.6.2 Improvements to External Road Network	Upgrade of The Southern Parkway along the site frontage in accordance with Council design requirements and allow for a designated bus zone on the school frontage. Construct a 4-way roundabout at the intersection of The Southern Parkway and Akala Avenue to provide direct safe access to the school development.
4.6.3 Improvements to Pedestrian Facilities	Provide pedestrian crossing and potential manned control for students to cross the Southern Parkway during the school zone control times. This will need to be discussed and agreed with the road authority and TfNSW.
4.6.4 Effect of Recommended Works on Adjacent Developments	Nil.
4.6.5 Effect of Recommended Works on Public Transport Services	Nil.
4.6.6 Provision of LATM Measures	Installation of a school zone and crossing point at the site frontage during the school drop off and pick up activities.
4.6.7 Funding	All works directly linked to the school shall be funded by the applicant.

Site Photos



Photo 1 – View south along The Southern Parkway adjacent to the subject site. Note footway on left hand side of photo.



Photo 2 – View to left for driver exiting subject site into The Southern Parkway



Photo 3 -- View to right for driver exiting subject site into The Southern Parkway

Conclusion

From the above assessment and the review of the proposal development for up to a 300 student primary school against the requirements of the Guide to Traffic Generating Developments and Austroads Guide to Traffic Management, it is considered that the proposed development should be approved on traffic and access grounds.

The additional traffic movements generated by the new school will have a minor and acceptable impact upon the surrounding road network. The traffic movements shall be dispersed across a number of routes thereby reducing the impact at any one location. The school shall also encourage and support students accessing the school by foot or bicycle, with students in this location observed currently walking and cycling to local existing schools.

Parking for the school will be provided in accordance with the Council DCP with 16 parking spaces provided on site to accommodate the staff and visitor parking rates as per the DCP. A drop off / pick up zone is provided within the school grounds for students and a management plan will be developed for the balance of parking to be accommodated on The Southern Parkway with an acceptable impact for local residents in this location.

A school zone should be provided on The Southern Parkway in consultation with Council and TfNSW which should include a manned crossing at the school frontage to allow for direct and safe linkages to the existing path on the eastern side of The Southern Parkway. A bus zone will also be provided on the school frontage to encourage and support bus travel to the site.

A roundabout at the site access will allow for safe and appropriate access to the school and shall have a minimal impact upon the overall operation of the local road network.

Please feel free to contact our office on 4032 7979, should you have any queries.

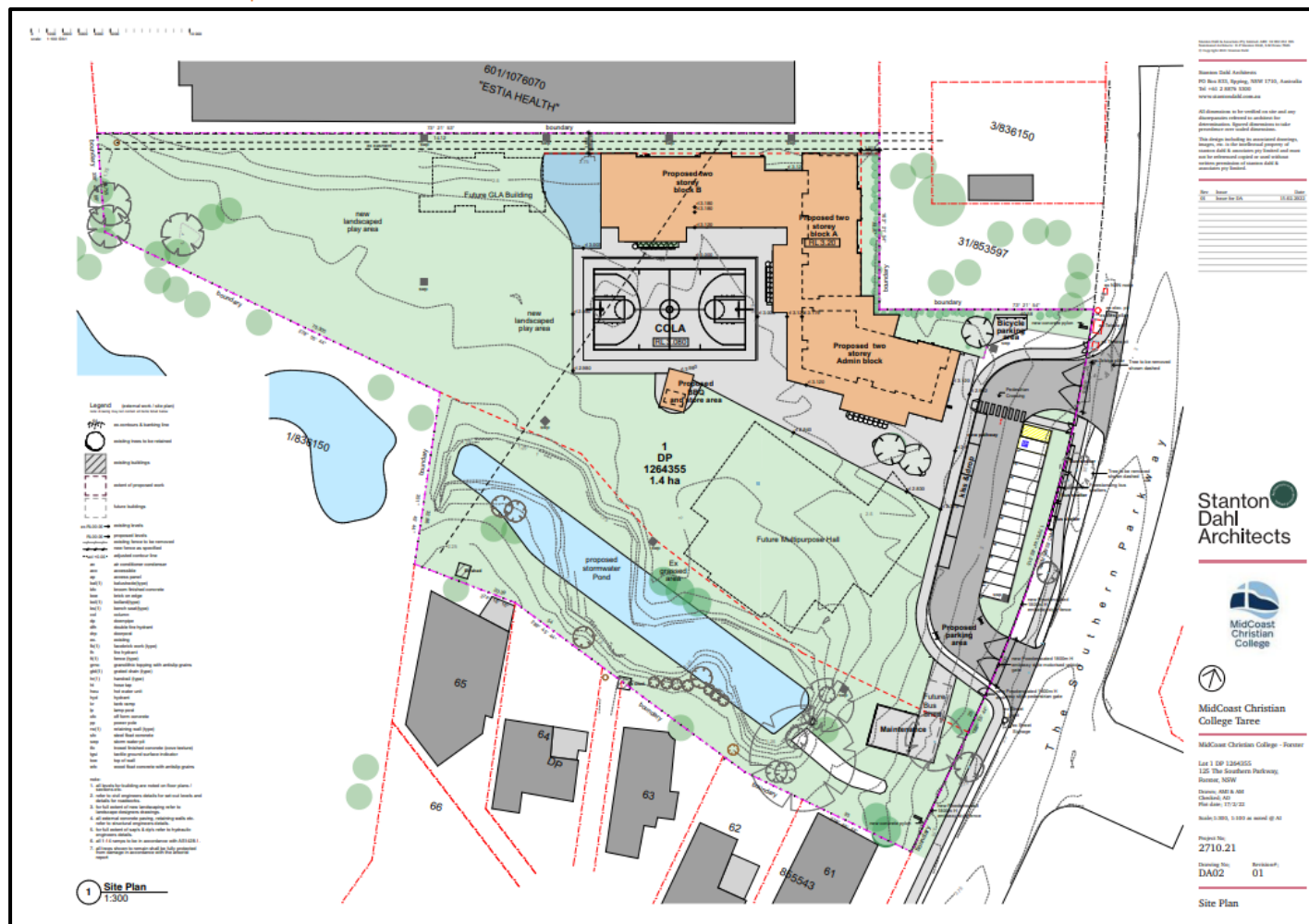
Yours sincerely,

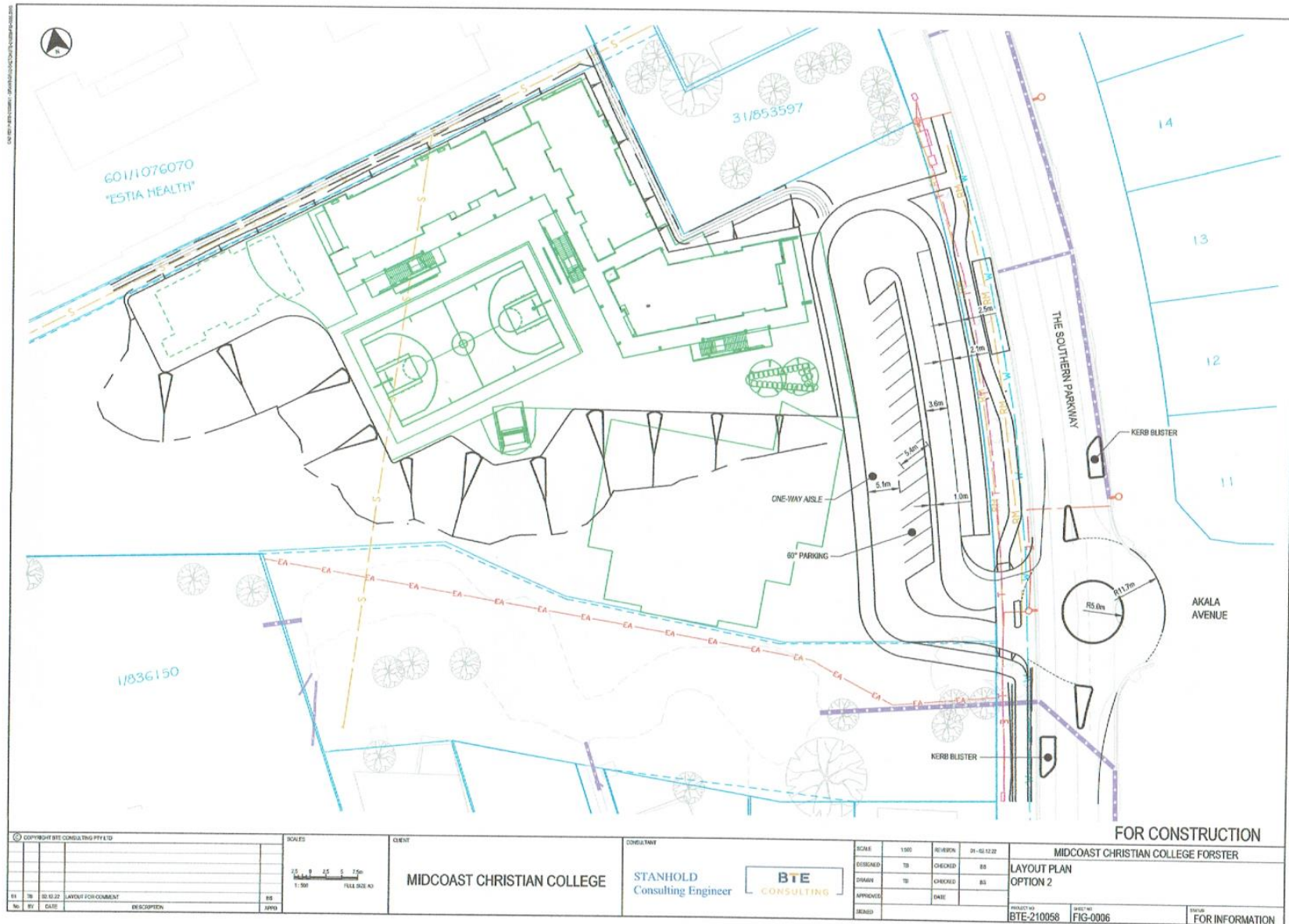


Sean Morgan
Director

Attachment A – site plan

Attachment B – proposed development to the north of the subject site on The Southern Parkway





Attachment B – Development concept for land to the north of the project on The Southern Parkway

