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| **0.0** | |
| **Submission for** | |
| Carlingford West Public School Upgrades | |
| Construction and refurbishment of permanent learning spaces, new library, reconfigured open space, access and play areas. Also includes construction of additional parking spaces on site, new driveway and turning circle to Felton Road west. | |
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| **0.1** | |
| **Project Details** | |
| Application Number: SSD-10879802 | |
| Assessment Type: State Significant Development | |
| Development Type: Educational establishments | |
| Local Government Areas: City of Parramatta | |
| | |
| **0.2** | |
| **Submission by** | |
| Adam Lee | |
| Architects Registration Board NSW 8579 | |
| Secretary, P&C Executive Committee, CWPS | |
| 26 July 2021 | |

| **1.0** | |
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| **Overview** | |
| The proposed alterations and additions to Carlingford West Public School (CWPS), including the scope of this SSD application (SSD-10879802) and ancillary works (exempt development and CDC), is aiming to meet the DoE Educational Facilities Standards and Guidelines (EFSG) and to improve the operation of the school and enhance the overall presentation of the site.<br>As stated on *page 12 in the Environmental Impact Statement Revision 02 dated 25 June 2021*, the "Renewal of the school will deliver the following important benefits:<br>▪ New permanent contemporary teaching spaces that support the delivery of a high quality education.<br>▪ Increasing open space along the common boundaries with residences by placing buildings centrally within the site.<br>▪ Reducing demand for on on-street parking by increasing the number of on-site parking spaces.<br>▪ Improved safety and efficiency of pick-up and drop-off zones.<br>▪ Opening the ground plane making large areas available for recreation and outdoor teaching, through vertical arrangement of teaching spaces.<br>▪ Holistic landscaping including retention of significant trees on site, and tree replacement planting at a ratio of 231:1. [*Page 85 stated the ratio is 2.1:1*.]<br>▪ Provision of equitable access by providing new pathways and lifts in Buildings X and Y.<br>▪ Enhanced presentation of the site to its Felton Road entries giving the school a better presence at the public domain."<br><br>As stated on *page 5 in the Design Statement dated June 2021*, "The Department of Education has initiated the Carlingford West development project to meet the current enrolments needs for the school."<br>**The concern is the development project is NOT meeting the current enrolments needs for the school, nor the future needs.** | Note:<br><br>As stated on *page 18 in the Concept Design Traffic Report dated 08 April 2020*, "The project objectives for the Carlingford West Public School redevelopment include:<br>▪ Increase permanent capacity of the school to 1600 students.<br>▪ Removal of all demountable teaching spaces<br>▪ Address existing undersized core school facilities.<br>▪ Optimise open space reconfiguration of the current kiss-and-drop zone."<br><br>**The original design concept was based on a master plan that had failed to address the then current and projected numbers of enrolments.** |

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| **2.0** | |
| **The Concerns** | |
| **The current number of enrolments at CWPS is 1750 as of 20 July 2021, which is 140 students more than the proposed design for a capacity of 1,610 students.** Similarly, the design capacity of the number of staff is less than the current status, as staff to student ratio is relative to each other. **The enrolment is expecting to increase, that a prediction of 1850 students to be enrolled at CWPS in 2022.**<br>The concern is that **the proposed CWPS upgrade will NOT deliver** the above-mentioned benefits as the set objectives are already outdated. The outcome of the **CWPS upgrade is INADEQUATE to accommodate the current and future conditions**.<br>1. **Inadequate new permanent contemporary teaching spaces.**<br>2. **Inadequate open space.**<br>3. **No improvement of traffic safety and efficiency.**<br>4. **Unnecessary tree replacement planting.**<br>5. **Departure from regulatory design criteria.**<br>As stated on *page 10 in the Environmental Impact Statement Revision 02 dated 25 June 2021*, "The proposal redevelopment is prepared on a base design size of 1,610, but with flexibility to accommodate a higher number if needed. While the current student enrolment numbers exceed this base design size, a rebalancing of students attending the various public schools within the school catchment is underway which will readjust the catchment boundaries to closer align the Carlingford West PS enrolments to the 1,610 figure. This will be incrementally undertaken over the course of the next few years."<br>The question of "**WHEN** exactly is the catchment boundaries to be readjusted" becomes critical to determine "**WHAT** extent is the flexibility to accommodate a higher number of enrolments". | Note:<br><br>As stated on *page 5 in the Design Statement dated June 2021*, "Part of the project brief is to utilise a DfMA component of an existing precedent school, Barramurra PS (Catherine Fields)."<br><br>Barramurra Public School is new school development. It is a different setting to CWPS, which is an alterations and additions development. The utilisation of DfMA component, as in building typology, requires exploration not only on the design aspect, but also the practicality of such as in the construction benefits and risks. |

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| **3.0** | |
| **Inadequate New Teaching Spaces** | |
| The proposed development within the scope of this SSD application is to create 46 new learning spaces, in addition to the 24 learning spaces that are to be retained, there will be a total of 70 learning spaces at completion in late-2022. Assuming all the 70 learning spaces are to accommodate permanent classes (disregard assigning learning spaces for special learning purposes) for the design capacity of 1,610 students, each learning space to hold 23 students.<br>Applying the equation to the predicted 1,850 enrolments for 2022, **the School will need 80 learning spaces, which is 10 short.** | |
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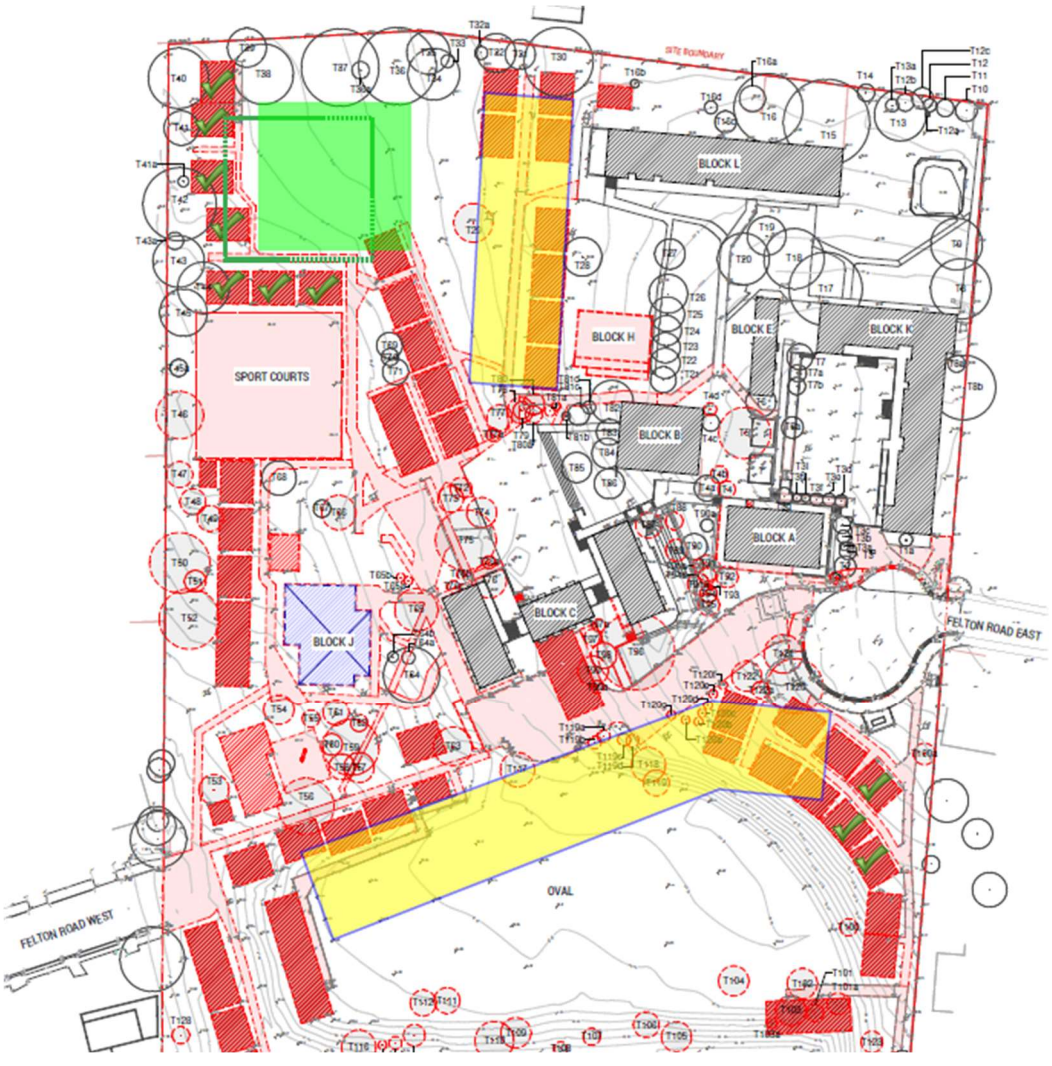
| **3.1** | |
| **Possible solution #1** | |
| Retain the 10 marked existing demountables to make up for the shortage of learning spaces. 7 to the northwest near the existing tennis courts and 3 near Blenheim Road gate. The multi-purpose sport court need to shift to the east.<br>  <br> | Note:<br><br>Downside of this solution is to reduce the open space for students.<br><br>Advantage of this solution is the most economical and immediate resolve the shortage of learning space. |

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| **3.2** | |
| **Possible solution #2** | |
| Create more learning spaces by adding a floor to Building Y. That is, instead of 3 levels above ground level, there will be 4 levels to the major wing. The library wing remains as 3 levels. The addition of floor space and building height has less impact to the neighbouring properties in comparison to Block X and other proposed or existing buildings.<br>  | Note:<br><br>The downside of this solution is the increase in cost and construction duration.<br><br>In terms of cost increase, value engineering is required on items such as mechanical system, civil works, finishes and FFE schedules.<br><br>In terms of duration increase, modular components are recommended. |
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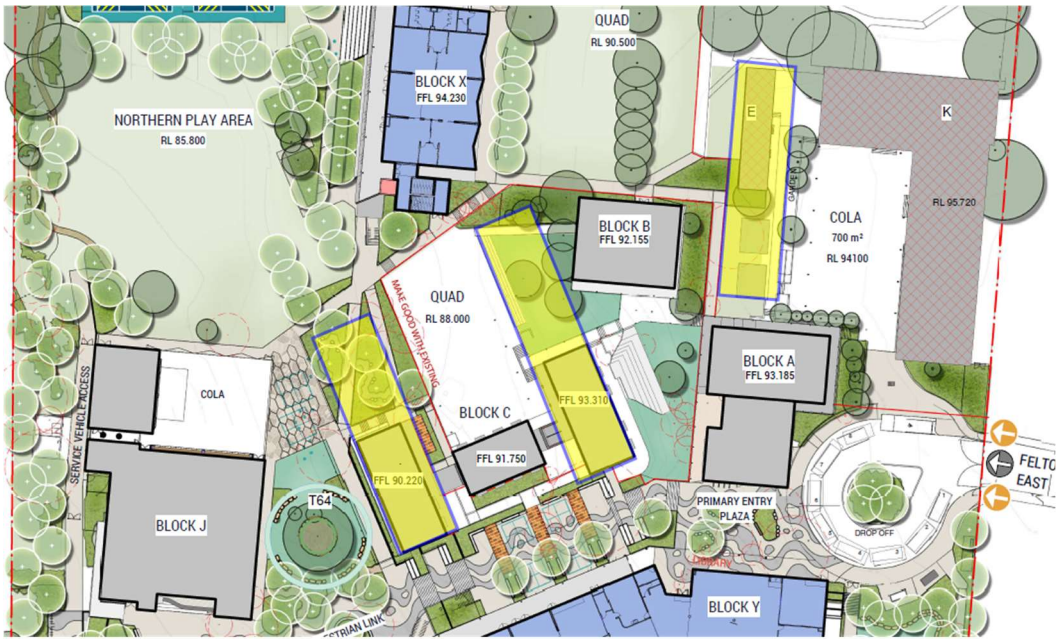
| **3.3** | |
| **Possible solution #3** | |
| More learning spaces can be created by modification and extension to Block C and E, inclusive of reinstating the amenities within. The addition will mean a decrease in minor open spaces, not affect major open spaces for students.<br>  | Note:<br><br>This is not part of the SSD application; hence, Block C and E belongs to the exempt development and/or CDC applications.<br><br>Downside of this solution is that the learning spaces created are different to the modular home base unit offered in Block X and Y. |

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| **4.0** | |
| **Inadequate open space** | |
| As stated on *page 86 in the Environmental Impact Statement Revision 02 dated 25 June 2021*, "EFSG requires 16,100m2 for Carlingford West PS (10m2 per student). The proposed scheme will provide 18,450m2 in excess of these requirements."<br>Although the proposed 18,450m$^2$ of open space is in excess of the aim for 1,610 students, but as stated in point 2.0 that the estimated number of enrolments at completion is 1,850, which means the **proposed scheme is non-compliances of less than 10 square m$^2$ per student**. | |
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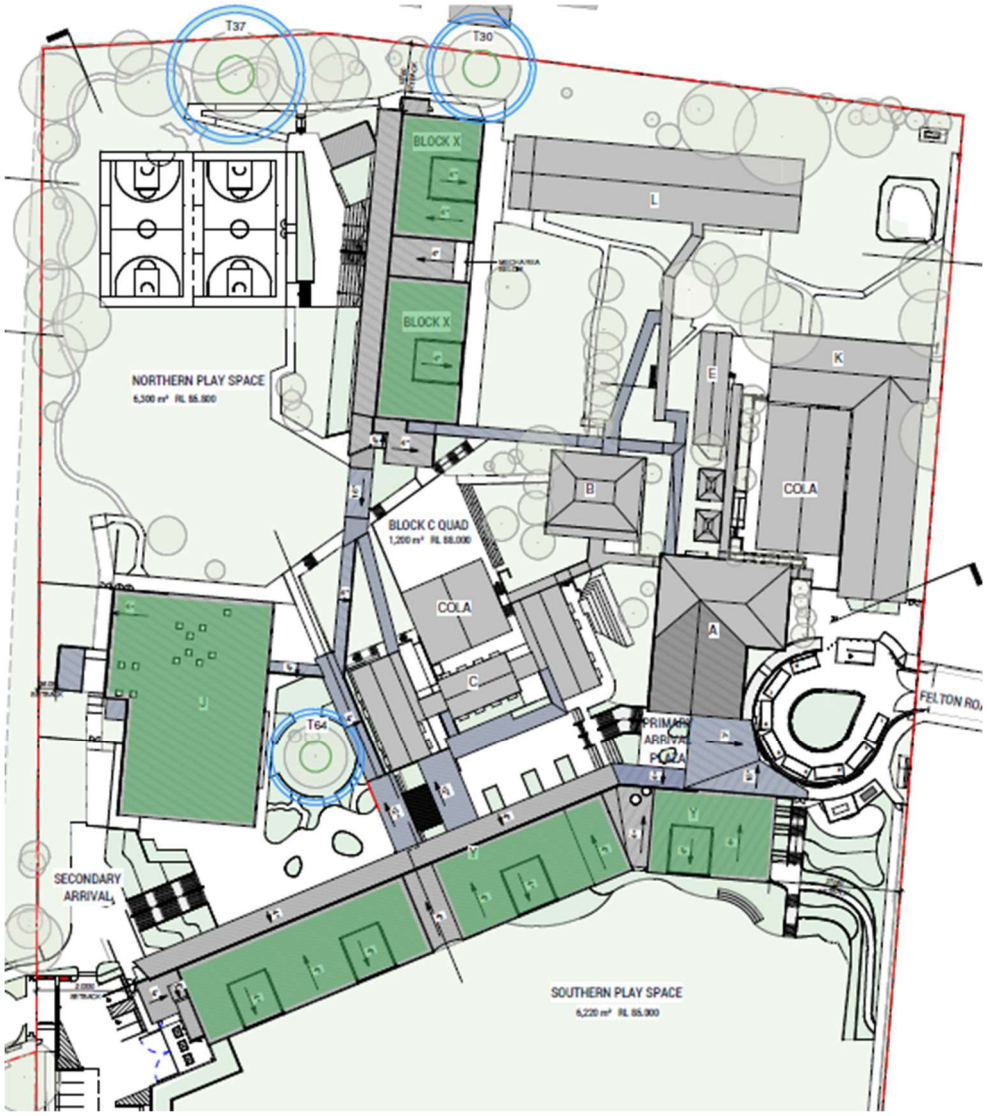
| **4.1** | |
| **Possible solution** | |
| Utilise roof space to create more open areas for students (and staffs). Integrate roof structure with cost effective landscape design to increase outdoor learning spaces. Artificial turf and movable planters with shading to create urban farm for learning.<br>  <br> | Note:<br><br>The downside of this solution is the increase in cost and construction duration, by introducing issues with waterproofing and structural loading. |

**5.0**

**No improvement of traffic safety and efficiency**

The *Transport and Accessibility Impact Assessment Revision 1.3 issued on 24 June 2021* had **NOT address the future traffic issues, hence, only passive and localised solutions were proposed**. By merely upgrading both ends of Felton Road does not solve the current nor the future traffic conditions. **Current issues on road safety and traffic congestion were NEGLECTED in the proposal**.

A summary table of changes to student and staff capacities is shown in Table 4.1.

**Table 4.1: Summarised existing and future capacities**

| | Existing (permanent) | Existing (enrolment) | Proposed |
|---|---|---|---|
| **Students** | 550 | 1,678[2] | 1,610 |
| **Staff** | 36[3] | 110[3] | 106 |

The proposed capacity and staffing of the site is lower than the existing enrolment of the site. This is due to a current high density of residents within the catchment intake area. The increasing density of the catchment intake area and the population growth is proposed to be addressed separately in other School Infrastructure projects to reduce the school population to a suitable level on this site.

The proposed overall site plan is shown in Figure 4.1. It is noted that this site plan includes a potential through-site pedestrian/cyclist link corridor between Felton Road East and Felton Road West. This through-site link is shown for corridor planning purposes only and does not form part of the works to be constructed under this SSDA.

Extraction from *Page 50 of Transport and Accessibility Impact Assessment Revision 1.3 issued on 24 June 2021*, stated that "The proposed capacity and staffing of the site is lower than the existing enrolment of the site." meaning **the road network surrounding CWPS does NOT have the capacity to accommodate the traffic**. ".. potential through-site pedestrian/cyclist link corridor .. not form part of the works .." meaning a **solution is given but NOT to be built**.

### 5.3 Future Traffic Condition

Future traffic conditions as a result of the proposed works will be consistent with the existing conditions, as there is no proposed increase relative to today's student population.

It is acknowledged that there are existing congestion issues in some parts of the road network. Therefore the transport strategy for this development (as captured throughout this report) aims solely to reduce car volumes and replace this with alternative modes. This will assist in reducing/improving the existing congestion issues.

Additionally planned works along Pennant Hills Road at Baker Street to provide a signalised intersection will improve the flow of traffic out of Baker Street and therefore improve general traffic flows along the Baker Street corridor. Similarly potential future works at Tintern Avenue (replacing the signalised pedestrian crossing with a signalised T-intersection) would better regulate traffic flows along the Pennant Hills Road corridor and improve existing delays experienced at Tintern Avenue.

Furthermore, the planned provision of a School Crossing Supervisor on the zebra crossing on Baker Street north of Felton Road (under TfNSW funding) will assist in regulating pedestrian and traffic flows through this area, which is a particular area of existing congestion.

Extraction from *Page 60 of Transport and Accessibility Impact Assessment Revision 1.3 issued on 24 June 2021*, "..no proposed increase relative to today's student

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| population.“ is an **INCORRECT statement that misguided the proposed traffic improvement measures**. “.. solely to reduce car volumes and replace this with alternative modes.” This is a **passive solution to a long standing problem**. “.. planned works .. potential future works ..” When are these going to happen? “.. School Crossing Supervisor ..” long-term volunteering by the community is not a traffic management solution, but a last option to heal the wound.<br><br>8.2 Findings<br><br>This TAIA has analysed the proposed development and its transport strategy and found the following:<br>• The proposed permanent capacity of the school is lower than the existing level of enrolment, and therefore traffic and transport conditions/demands are not expected to increase beyond today's levels.<br>• The proposed external improvements for pedestrian, cyclist, and public transport modes will assist in reducing the total volume of vehicles accessing the kiss & ride zones.<br>• The proposed physical works at Felton Road East and West would improve the safe traffic flow of those spaces, and these areas would experience further improvements as vehicle travel modes decrease<br><br>The proposed development is deemed suitable on consideration of the traffic and transport elements of the site and its surrounds, and the transport strategy proposed for its management. Only minor items are required to be resolved during further design (see below).<br><br>Extraction from *Page 82 of Transport and Accessibility Impact Assessment Revision 1.3 issued on 24 June 2021*, “.. permanent capacity .. traffic and transport conditions/demands are not expected to increase ..“ the current enrolment number already exceeded all proposed figures and the **estimated number of enrolments at completion is 12% more than the aim of 1,610 students**. “.. pedestrian, cyclist, and public transport modes will assist ..” similar **PASSIVE approaches to reduce traffic volume were proven to fail**. “.. physical works at Felton Road East and West ..” is **only a localised upgrade which has an aesthetic value, NOT improving the traffic conditions**.<br><br>Unless a permanent solution is sorted, the measures proposed in this development is of minimal improvement to the current and future traffic conditions, which is affecting the entire neighbourhood. | |
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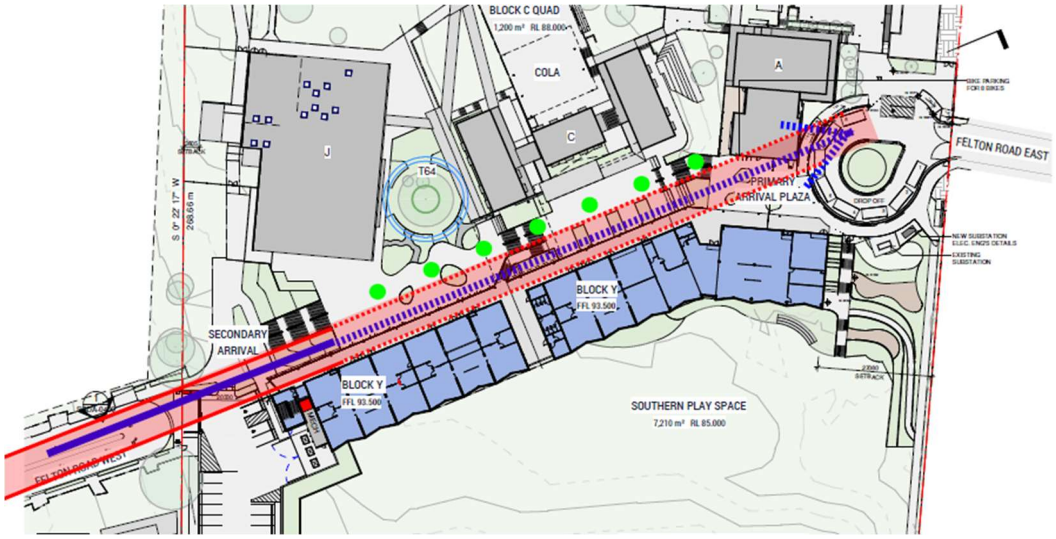
| **5.1** | |
| **Possible solution** | |
| Reinstate the link between Felton Road East and West by creating a one-way underground thoroughfare. The one-way traffic is to maintain between Edinburgh Avenue and Karingal Avenue. Traffic enters the thoroughfare from Edinburgh Avenue junction, drop off or pickup under the on-grade arcade where vertical accesses stairs are connected to ground level, then exit to the existing turning circle towards Karingal Avenue junction. | Note:<br><br>This solution is a major work and will significantly impact the cost and construction duration. |

One-way traffic allows a smooth movement in one direction only and avoid three-point turn to improve safety and efficiency. The thoroughfare allows complete separation of pedestrians and vehicles.

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| **6.0** | |
| **Unnecessary tree replacement planting** | |
| Extraction from *Page 3 of the Arboricultural Impact Assessment issued on 01 June 2021*, more than 50% of the trees are to be removed, which means 40% of the canopy to be lost.<br><br>1.3 A ground Visual Tree Assessment (VTA) was conducted to assess the potential impacts of the proposed development on approximately one hundred and eighty-three (183) trees in the surrounding area. The proposed development will have anticipated impacts **greater than 10%** on ninety-nine (99) trees/tree groups; and anticipated impacts **less than 10%** on eighty-four (84) trees/tree groups. The following works are proposed as a result of this assessment:<br><br>• The **removal** and **replenishment** of ninety-seven (97) trees/tree groups.<br>• The **retention** and **protection** of eighty-six (86) trees/tree groups.<br><br>1.5 The SEARS relating to canopy cover have been calculated, with an estimated 3484.8m² canopy cover to be lost (~40.4%) from the removal of impacted trees. This canopy cover is proposed to be replenished, as per the master plan.<br><br>Extraction from *Page 32 of the Arboricultural Impact Assessment issued on 01 June 2021*, "11.5 Ninety-seven (97) trees of 75-litre potted volumes are to be planted to replace the amount of canopy cover lost. The planted trees should be specimens that reach a canopy diameter at maturity of 6 to 7 metres wide." **To minimise cost impact and foster environmental sustainability, it is best to integrate existing trees into the newly designed landscape and open areas.** | |
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| **6.1** | |
| **Possible solution** | |
| Unless existing trees are posting risk of safety or significantly impact the development, they should be retained as part of the proposed landscape. Replacement of trees not only being environmental unfriendly, but also costly. Parts of the current courtyards between buildings are well maintained without the need of modification nor upgrade. The major central open space along Building Y should be planned in accordance to retain most of the existing trees.<br><br>Existing T120 and T121 near the turning circle at Felton Road East are of "High Retention Value", which are next to Block Y to the east end. These two trees can be retained with smart detailing of the façade and substructure design. Connection between Block A and Y can be integrated.<br><br>Existing T96 of "High Retention Value" to the south of Block C is away from any new and modification works. This tree can be retained by integrating into the new landscape design. | Note:<br><br>Cost saved by retaining trees can be reallocated to solutions mentioned above. |

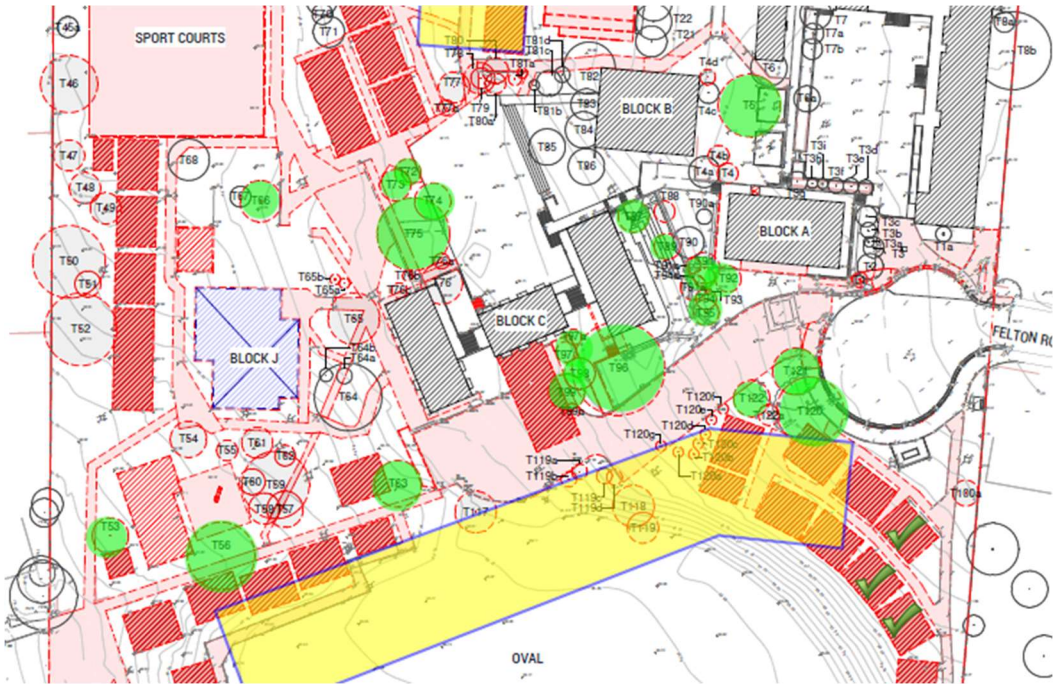
Existing T56 of “High Retention Value” to the south of Block J can be retained by integrating into the new landscape design.

Existing T75 of “Moderate-High Retention Value” to the north of Block C can be retained by integrating into the new landscape design.

Existing group T87, T89, T91, T91a, T92, T93, T94 and T95 in between Block A and C can be retained by integrating into the new landscape design.

Existing T66 of “Moderate-High Retention Value” to the north of Block J can be retained by integrating into the new landscape design.

Existing T5 of “Moderate Retention Value” to the east of Block B can be retained by integrating into the new landscape design.



**7.0**

**Departure from regulatory building codes**

Two items related to the **fire safety provisions of the development are departed from the Building Code of Australia**, of which performance solutions are being sorted in the next design phase.

Extractions from *Page 4 of the BCA Compliance Statement for DA Submission dated -1 June 2021*:

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| **C2.6** | Vertical Separation of Openings in External Walls: In a building of Type A Construction, any part of a window or other opening in an external wall above another opening in the storey next below and its vertical projection falls no further than 450mm outside the lower opening (measured horizontally), the openings must be separated in accordance with this clause.<br>Comment: We understand this matter may potentially be assessed under a fire engineered performance solution which will be developed with the design. |
| **Spec C1.1** | Fire-Resisting Construction: The buildings are required to comply with Table 3 as relevant to FRLs required for buildings of Type A Construction.<br>Comment: We understand fire engineered performance solutions have been proposed to:<br>+ Reduce the fire-rating provided to floors between storeys, and<br>+ Reduce the fire-rating provided to loadbearing structural elements. |

The proposed sanitary facilities satisfied the targeted 1610 enrolled students, but as stated in point 2.0 that the estimated number of enrolments at completion is 1,850, which means **the proposed sanitary facilities may NOT comply with the BCA**.

Extraction from *Page 6 of the BCA Compliance Statement for DA Submission dated -1 June 2021*:

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| **F2.3** | Sanitary Facilities: Sanitary facilities are only required to be provided in accordance with the requirements for Class 9b students and teachers.<br>Based on population numbers provided by the client and a calculation of populations served, the proposed sanitary facilities meet the minimum requirements. |

**7.1**

**Possible solution**

**Reassess** the necessity of downgrading fire rating to the modules. Standardise construction details and consider the practicality of such to minimise any risk.

**Reassess** the amenities to accommodate the predicted enrolment numbers at completion.