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Ultimo

Submission concerning the design for an expanded Ultimo Public School.

I support this design as a school for 560 students (with minor amendments) and object to it as a school for 800 students.

The design for the expanded Ultimo Public School is innovative, attractive and impressive. I love the use of space and the way class rooms open into a 3 storey library space that also doubles as a sound barrier against Wattle Street traffic. But this is a plan for a <624 student capacity school, not an 800 capacity school. There are also some other issues.

1. The design has **no reverse cycle air conditioning**, which makes it not fit for use as a modern primary school in Australia. Good design can reduce energy costs but not to the point of eliminating the need for air conditioning in the Sydney climate. There is no office block or equivalent that is successfully managing all year around without air conditioning in the local area. NONE. This design will be too cold in winter and there will be days when it is too hot. Temperature control is directly related to educational achievement. (http://www.ncef.org/content/study-relationship-between-air-conditioned-classrooms-and-student-achievement)
   Yes we managed without air conditioning back in the day but it damaged kids learning back then also. It is not acceptable in our office blocks to swelter and freeze, why do we do this to our kids?
2. The minimum standard for outdoor space for a primary school is 10m^2 per student. Despite the multi-level design there is only 6,240 m^2 of playground space including the open corridors and basketball court. So **the maximum capacity of the school is capped at 624 students in this design**. Wentworth Park is a public park not school property and cannot be used in the design calculations. It is already very heavily used (including by 3 other schools) and usage is expanding rapidly. This park is flood- prone and was allocated as a military camp during the war. We can use it but not rely upon it. For a capacity of 800 students we would need at least an additional 1,760m^2 of indoor playground space just to meet the minimum standard, and this is not present in this particular design. The Basketball court could be internal/underground freeing up outdoor green space for planting. The hall could be internal/underground. Squash courts could be underground. There just is not enough running around space in this design and it could easily be built into the design with another floor or two.
3. Some of the 6,240 m^2 of playground space is exposed concrete. Primary school students are not permitted run on concrete surfaces. **So some of the designed playground space is not currently fit for use**.
4. The school hall is 224 m^2. About half of this space is terraced. Some of this space will be allocated to a stage. Every school assembly I have attended has a significant parent

presence (seated or standing in the space behind the current hall). Major events involve at least one adult per child. The design standard for standing room is 0.3 m^2 per person. If the space was flat and ALL the space was used for people standing it would hold 747 people (224/0.3). However maybe 25% of the space will be allocated to the stage, and teacher seating around the perimeter as is the case for the current hall. So the remaining 168 m^2 might have a capacity of 560 people standing up (168/0.3). But they will be sitting down, on terraces, sometimes with parents, all of which increase the space requirement. **The hall is just not big enough**. I am not sure of the exact capacity of the school hall is but it is much less than 800 students and their school entourage. Never mind the parents. We need a hall that can hold the school population and open out to include a significant parent presence on portable chairs for special events.

5. The design does **not include enough storage space** for a school this size. IMO more of the soft, crumbly sandstone described in the geological report should be dug out for underground storage space. I was also surprised that there was no ground floor car park doubling as a flood barrier. Car parking space could be an earner.
6. There are 30 planned classrooms around 60 m^2, which sounded great at first glance. I particularly liked the efficient use of space, wet areas are shared between 2 classes and a lot of rooms open to play areas that double as corridors. On second glance it is not so great. At around 300 students we have 3 Kindergarten classes. The new school will have at least 6 Kindergarten classes at 20 students per class leaving 24 classrooms for the rest of the school. Until the school got too full we had specialized class rooms for music and art. Operating without these specialized spaces is exceeding the school capacity IMO. One of the few advantages of a larger school is specialized classes. In a well designed school I would expect English as a second Language (ESL, SP room 1), Learning Support (SP room2), Special Needs (SP room 3), 3-4 specialized subject classrooms. Perhaps Art, Music, Computers, Science and the canteen doubling for basic Home Economics. Space for individual music lesson/practice. Something like that. So maybe 4 specialized classrooms.
    a. If there are 4 specialized classrooms and 800 students, then that is 120 Kindergarden students (6x20 kids) and 680 older students (20x34 kids).
    b. If there are 3 specialized classrooms and 800 students, then that is 120 Kindergarden students (6x20 kids) and 680 older students (21x32 kids).
    c. If there are 2 specialized classrooms and 800 students, then that is 120 Kindergarden students (6x20 kids) and 680 older students (22x31 kids).
    d. If there is 1 specialized classroom and 800 students, then that is 120 Kindergarden students (6x20 kids) and 680 older students (23x30 kids).
    e. If there are no specialized classrooms and 800 students, then that is 120 Kindergarden students (6x20 kids) and 680 older students (24x28 kids).

To put this in perspective "Classes that had 13-17 students faired the best, while classes with 22-25 students began to significantly fall behind. " None of the above scenarios are good educational practice. https://www.raymondgeddes.com/determining-the-best-classroom-size

With 4 specialized class rooms there is room or 26 x20 students, 520 student capacity at the school.

With no specialized classrooms 30 x 20 students , 600 students capacity at the school.

With 4 specialized classrooms, 20 student cap for Kindergarden and 30 cap for Grades 1-6 (the public school compromise), the school would have a capacity for 6x20 Kindergarden students (120) and 20 x30 Grades 1-6 (600) leading to a capacity of 720 students at the school.

According to the best educational practice the school capacity is about 520 students; with no specialized classes, 600 students; using the public school compromise and specialized classes, around 720 students.

7. The teaching staff and student body will more than double but the car park almost disappeared. I do not think there is enough space for car parking and waste management on this site. It will be a burden on local parking. There is lots of dirt space available for parking on this site. Sandstone that will almost certainly have to be excavated anyway.
8. The staff room looks awfully small to me.
9. Although I approve of the multiple uses for the site it is not clear to me how this will operate practically as there is not a clear delineation of the areas that will be open to the public after hours.

In summary, the school is not big enough for 800 students. It does not have enough playground space, the hall is too small, there is not enough storage, there is not enough parking space and I believe there are not enough class rooms for best educational practice. The student capacity of a school is set by the lowest design standard number that is achieved. This is a good school for around 520 students if some extra storage and parking can be squeezed in.

Speculation on how the classrooms might be used (below).

Floor	Room Name	Size	Possible Use
2	Special Program 1	51	ESL
2	Special Program 2	36.5	Learning Support
3	Special Program 3	36.5	Special Needs
3	Home Base 1CQ	60.5	Kindergarden
3	Home Base 2CQ	59	Kindergarden
3	Home Base 3CQ	60.5	Kindergarden
3	Home Base 4CQ	60.5	Kindergarden
3	Home Base 5Q	60	Music
2	Home Base 6Q	62	Kindergarden
2	Home Base 7Q	61.5	Kindergarden
2	Home Base 8K	61	Art
2	Home Base 9	60	Year 1
2	Home Base 10	61	Year 1
2	Home Base 11	59.5	Year 1

2	Home Base 12	59.5	Year 2
2	Home Base 13Q	56.5	Year 2
2	Home Base 14	59.5	Year 2
2	Home Base 15	60	Year 3
2	Home Base 16	59	Year 3
2	Home Base 17	60	Year 3
1	Home Base 18Q	59.5	Year 6
1	Home Base 19Q	60	Year 6
1	Home Base 20Q	62	Year 6
1	Home Base 21Q	60	Year 5/6
1	Home Base 22	59.5	Year 5
1	Home Base 23	59	Year 5
1	Home Base 24	60	Year 5
1	Home Base 25	59.5	Science (gas supply, solvents and acids storage cupboards)
1	Home Base 26Q	56.6	Year 4/5
G	Home Base 27	59.5	Year 4
G	Home Base 28	60	Year 4
G	Home Base 29	59	Year 4
G	Home Base 30	60	Information Technology (computers etc)
	Canteen		Home Economics
	?		Individual on site Music Lessons
	Hall		Choir and Band rehearsals
	?		Instrument storage
	Basket Ball court		Dance (as the current Hall design does not have much flat space)