

Overshadowing from SSD-68230714 4 Delmar Pde & 812 Pittwater Rd Dee Why

- Impact on Stony Range Regional Botanic Garden

The tables below compare the most recent monthly shadow diagrams (dated 6/12/2024) with those for the approved development (dated 5/7/2023). These monthly diagrams show greater and clearer detail than the comparative winter diagrams dated 5/11/2024.

The tables show the overshadowing created by both the SSD application and the approved development for the months in which each area is overshadowed.

The codes are O = overshadowed, P = partly overshadowed, M = minor overshadowing. Of course, the difference between each code is a matter of judgement. This analysis is further complicated for some areas due to the difficulty in locating the examined areas precisely on the diagrams.

1. New additional picnic area (north of stage)

Our initial thought was to have the area as close as possible to the bbq (near the point of land between the two stormwater channels). However the area closest to the stage was preferred as it reduced possible overshadowing from the approved development.

However, the increased heights of the SSD application greatly reduce the value of even this area as a sunny winter lunchtime location.

	1pm	2pm	3pm
May - SSD		P	M
appd			
June - SSD	P	O	M
appd			M
July - SSD		P	P
appd			

The comparative winter diagrams dated 5/11/2024 also clearly show the difference caused by the increased heights for this area between 1pm and 3pm.

If the SSD application is approved without amendment, we'll have to decide whether it is worth establishing an additional picnic area near the stage.

We have been asked about other areas that were considered for an additional picnic area which is sunny in winter.

The areas that are flat & wouldn't need many trees to be cleared are near the Magic Circle (east of the rented cottage and north of the Officeworks/Fitness First carpark) and in the Grasslands near the back (service) gate. We felt that both these areas are too far away from our entry to be practical.

We considered the area between the Pavilion and the Pond as it is flat and near the entry but it has far too many large trees that would need to be removed. In any event, it is also impacted by some overshadowing under the SSD application. There is also the area near the tables/benches north-west of the Pavilion, but that also has too many large trees and is close to the rented cottage's driveway.

2. The tables/benches near the Pavilion

2a) North-west of the Pavilion

	9am	10am	11am
April – SSD	O	M	
appd			
May - SSD	O	O	P
appd	O	P	
June - SSD	O	O	P
appd	O	O	M
July - SSD	O	O	P
appd	O	P	
August - SSD	O	M	
appd			

2b) East of the Pavilion

	10am	11am	12pm
May - SSD	P	M	
appd			
June - SSD	O	O	P
appd			
July - SSD	O	P	
appd			

2c) Summary

Both areas will be overshadowed by the SSD application in more months compared with the approved development. Also, the overshadowing will be for longer in the mornings than with the approved development.

The SSD application will therefore have a clear impact on these areas as sunny places to sit in groups during mornings over the cooler months.

3. Children's play area

	9am	10am	11am	12pm	1pm	2pm	3pm
April – SSD	M				P	O	O
appd						M	M
May - SSD	O	O	P	P	O	O	O
appd	O	P		M	O	O	O
June - SSD	O	O	O	O	O	O	O
appd	O	M	M	P	O	O	O
July - SSD	O	O	P	P	O	O	O
appd	O			M	P	O	O
Aug - SSD	P				P	O	O
appd							

Again the SSD application's overshadowing occurs over more months and for longer each day.

As mentioned previously, our concern here is the impact of less sunshine on this low-lying and shaded area, i.e. longer periods of increased soil moisture, with no sun to evaporate the moisture, create the potential for greater numbers of mosquitos, leeches, etc.

4. Picnic/bbq area

	9am	10am	11am	12pm	1pm	2pm	3pm
Mar - SSD	P	P	P	P	M	P	P
appd	M	M	M	M			M
April – SSD	P	P	O	P	P	O	O
appd	P	P	P	P	P	P	O
May - SSD	O	P	O	O	O	O	O
appd	P	P	O	O	O	O	O
June - SSD	O	P	O	O	O	O	O
appd	O	P	O	O	O	O	O
July - SSD	O	P	O	O	O	O	O
appd	P	P	O	O	O	O	O
Aug - SSD	P	P	O	P	P	O	O
appd	P	P	P	P	P	P	O
Sept - SSD	P	P	P	P	M	P	P
appd	M	M	M	M			M

Overshadowing from the SSD application and approved development will cause virtually identical overshadowing each lunchtime in May, June and July. However, in autumn and spring the SSD application's overshadowing is more likely to impact lunches than it would with the approved development.

Sydney North Planning Panel member, John Brockhoff, concluded that overshadowing of this area by the approved development was unreasonable. As you can see, that overshadowing makes a sunny lunchtime meal impossible in three months each year, and marginal in five months. The SSD application may extend that time to as much as seven months, which we believe is even more unreasonable.

5. Queensland Tree Waratahs

	9am	10am	11am
Mar - SSD	M	M	M
appd			
April – SSD	O	O	P
appd	O	O	M
May - SSD	O	O	P
appd	O	O	P
June - SSD	O	O	P
appd	O	O	P
July - SSD	O	O	P
appd	O	O	P
Aug - SSD	O	O	P
appd	O	O	M
Sept - SSD	M	M	
appd			

Again, the SSD application increases the number of months when overshadowing occurs, with a slight increase in impact each day during autumn and spring.

As mentioned in our submission to the NSW Department of Planning, the Queensland Tree Waratahs are a prominent feature of Stony Range. They are next to our entry, have masses of spectacular red flowers in spring and summer and were planted in 1986 for the Bi-centenary.

The July 2024 updated Flora and Fauna Report states 'Given the plants in reserve are well established and by nature shade tolerant, it is my opinion that they are unlikely to be significantly detrimentally affected by the increased shade the proposal would generate.'

We don't believe that is a definitive statement, for two reasons.

- a. The description 'shade tolerant' is a general term, which covers a range of situations which can vary for each plant. These variances can be caused by factors such as how much daytime sun the plant receives each day; what percentage and which part of the plant is shaded; whether any change in overshadowing is gradual or sudden; and how each plant responds to its specific shade levels. There is no discussion of how any of these factors impact the shade tolerance of these specific trees.

For example, is the description relevant to the Queensland Tree Waratahs that have been growing & flowering well for nearly 40 years in their current position but may (suddenly and permanently) lose varying levels of morning sun for five months of the year under the approved development, and possibly have that shade increased by the SSD application?

- b. The sentence ends with an opinion, 'unlikely to be significantly detrimentally affected', but this opinion stops short of saying there will be no impact.

We have a varying opinion – that the overshadowing may cause these trees to suffer reduced flowering. It would be a significant loss to Stony Range if this occurred.

The Flora and Fauna Report points out that the height of individual trees may cause them to receive more sun than is suggested by the shadow diagrams because the height of each tree may reduce the actual shadowing of each tree. On the other hand, for the trees closer to the entry gate and where the overshadowing is recorded as 'partial', those trees may actually be wholly overshadowed at ground level because the 'P' and 'O' refer to the total area in which the Waratahs are planted and not to the overshadowing of individual trees.

These points are more indications that judging the impacts of overshadowing on plants is a complex area. The Flora and Fauna Report seems to minimise those impacts. However, as the Queensland Tree Waratahs are important to Stony Range, we would like a more cautious approach to be taken – one that minimises any chance of negative impacts.

6. Final thoughts

There are many statements, similar to the one mentioned in 5b above, made in the EIS & accompanying documents that are opinions about the impact of the development. Are there any repercussions for the people making those statements if the future doesn't turn out as they suggest?

For example, if the SSD application is approved without change & the Queensland Tree Waratahs suffer, is any penalty imposed on the writer of the report? Or is the developer required to make amends?

We would be very surprised if such repercussions apply currently. Perhaps they should?

Similarly, the developers continue to say that the overshadowing is 'minor' because only 10% of Stony Range is overshadowed in mid-winter, and this statement has been accepted by the NSW Department of Planning.

However, it is a misleading statement and a poor use of statistics because it ignores the purpose of the 10%. It is similar to saying that the overshadowing of a cricket ground by a new building in summer is minor because only 10% of the ground is shadowed, and it's only between 5pm & 7pm each day. However the 10% includes the most important part of the ground – the pitch. You can probably think of many similar analogies.

So we ask that you ignore the statement that the overshadowing created by the approved development is minor.

The developers also say the increase in overshadowing created by the SSD application is 'minor'. This is true but, as you can see from this analysis, this 'minor' increase heightens the impact of the approved overshadowing.

For this reason we urge you to consider the impact of the overshadowing created by both the approved development and the SSD application, despite your lack of authority to change the previous approval.

Finally, thank you for the opportunity to meet on Thursday, for providing us with the shadow diagrams and for inviting us to submit this supplementary submission. We apologise if anything in this submission is irrelevant to your considerations.

Stony Range Regional Botanic Garden committee
16 December 2024