

SOLAHART INDUSTRIES PTY LTD

REQUEST FOR A VARIATION TO DEVELOPMENT STANDARDS CLAUSE 4.3 MAXIMUM BUILDING HEIGHT PURSUANT TO CLAUSE 4.6 OF WARRINGAH LOCAL ENVIRONMENTAL PLAN 2011

SOLAR PHOTOVOLTAIC INSTALLATION ST AUGUSTINES COLLEGE NO. 37 FEDERAL PARADE, BOOKVALE

1. Introduction

Cause 4.6 of Warringah Local Environmental Plan 2011 (WLEP 2011) allows for flexibility in the application of certain development standards to achieve *'better outcomes for and from development by allowing flexibility in particular circumstances.'*

In the case of the solar installation at St Augustines College, both buildings currently exceed the maximum height of 8.5m from ground level. Because the solar panels are roof mounted and may increase the total height of the building it is necessary to submit a WLEP clause 4.6 submission for a variation to the subject development standard, in order to enable development consent to be issued.

2. The relevant development standard

Clause 4.3 of WLEP 2011 sets out requirements in relation to heights of buildings. Sub-clause 4.3(2) requires that a building on any land is not to exceed the maximum height shown for land on the height of buildings map. The maximum height in this zone is 8.5m.

3. Requested variation to the standard

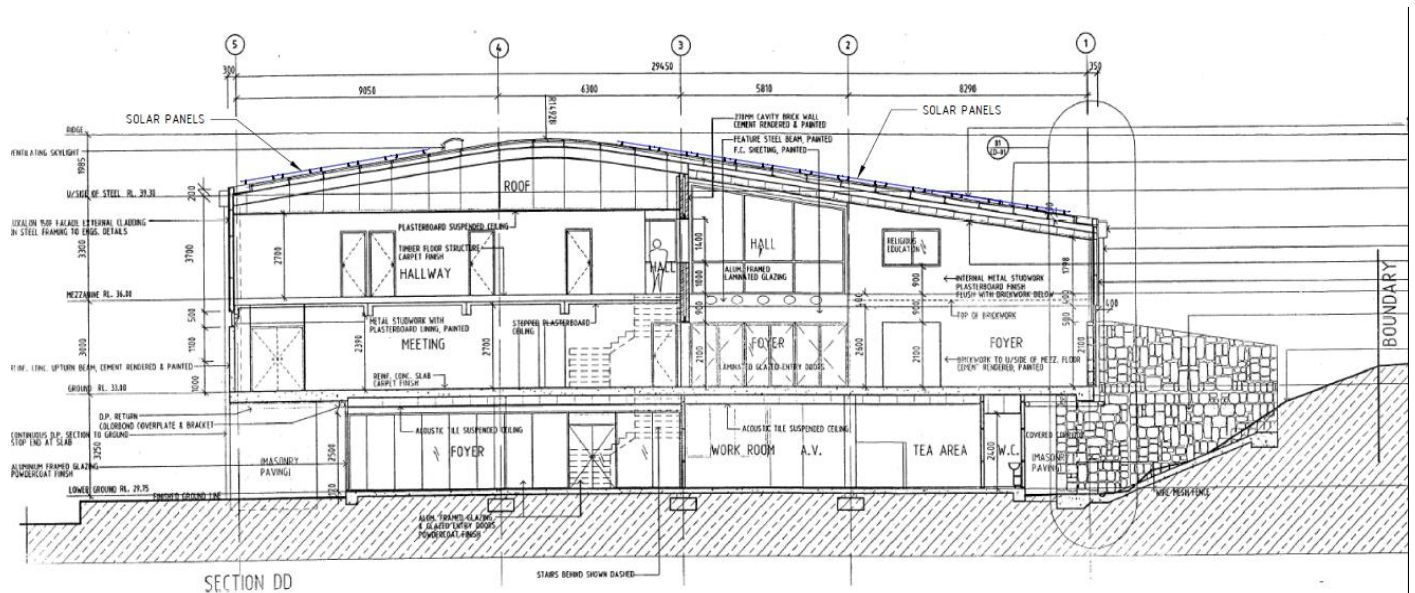
The proponent requests consent to install PV panels on the roof of Brimson Hall as the panels do not exceed the maximum height of the building and also do not exceed the height of ventilation ducting mounted on the roof. The proponent also requests consent to install panels on the roof of the newly renovated Gould building as the panels do not exceed the height of the building due to the slope of the roof, does not exceed the height of ventilation units and is hidden from public view by a parapet wall.

The proponent also asks the council to consider the positive environmental impact the installation of this system will have on the environment if permission to install was granted.

a) BRIMSON HALL

The location of the panels in relation to the building height can be seen in **Figure 1**.

Figure 1 – Location of proposed panels and possible height encroachment. (taken from drawing PV-2 gymnasium building)



Although the panels on the norther face (left hand side) of the Brimson Hall can be seen from Federal Parade, they do not exceed the height of the building and they do not obstruct any vision or cast any shadows on the surrounding properties.

The mounting height of the panels in relation to the height of the buildings can be seen in **Figure 2**.

Figure 2 – Panel height above roof line. (taken from drawing PV-5 gymnasium building)

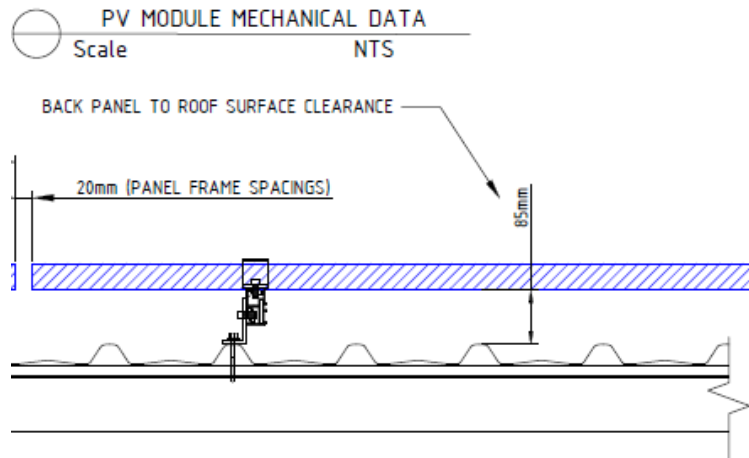
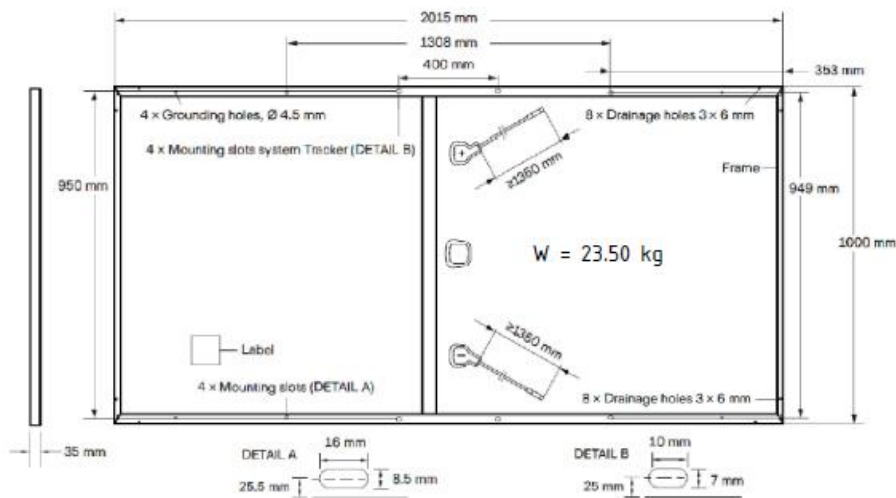


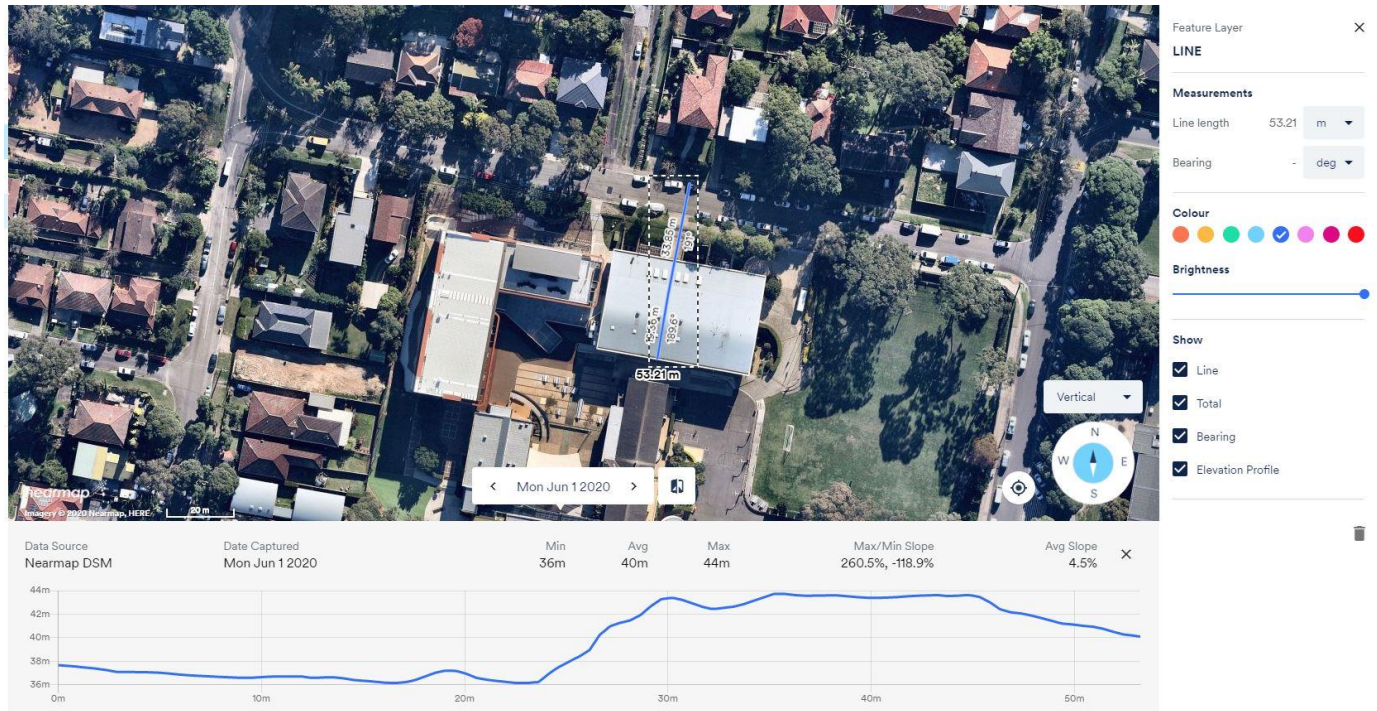
Figure 2 shows from the top of the roofline to the bottom of the panel is a distance of 85mm. The panels are 35mm in thickness (**Figure 3**), therefore the total height of the installation on Brimson Hall is 120mm above the height of the roofline.

Figure 3 – PV Panel Dimensions.



The height of Brimson Hall building in relation to the street level of Federal Parade can be seen in **Figure 4**.

Figure 4 – Elevation report from Federal Parade to Brimson Hall

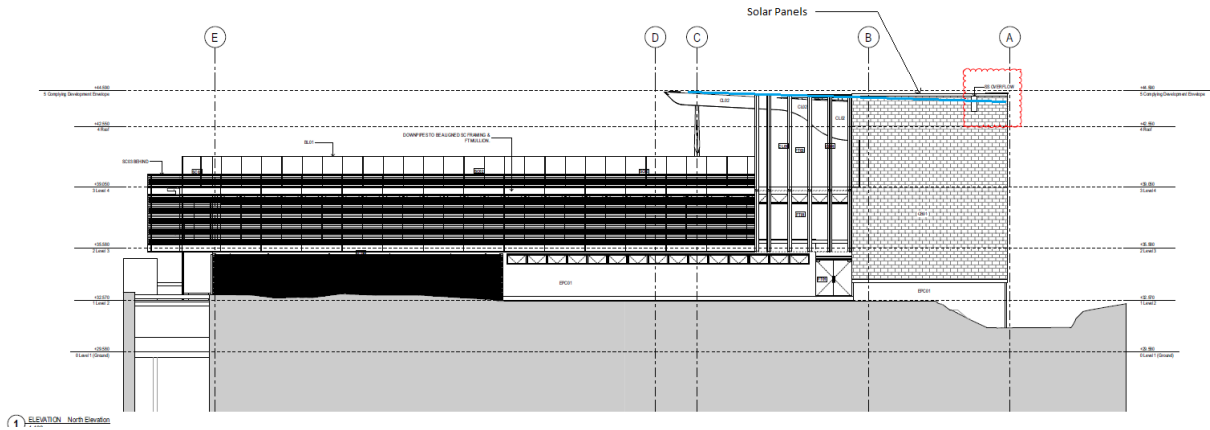


The elevation report from **Figure 4** shows that there is only 6m in height difference between Federal Parade and the roof of Brimson Hall. Although the height of the building is above 8.5m from the lowest point of the building, it is under 8.5m in relation to the boundary of public traffic.

b) Gould Building

The location of the panels in relation to the building height of the Gould Building can be seen in **Figure 5**.

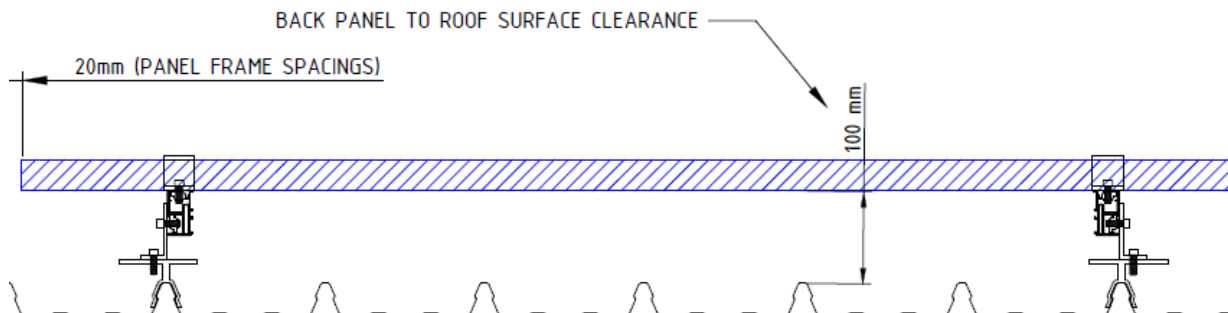
Figure 5 – Gould Building North Elevation.



The slope of the roof of the Gould building is 10°. A simple trigonometry calculation shows that the installation of the solar panels will be under the buildings total height due to the distance of the panel closest to the edge of the roof being 1.5m meters away.

$X (\text{height}) = 1500\text{mm} * \tan 10 = 264\text{mm}$. The permissible height of an object at 1.5m away from the edge of the highest point of the building (eastern side) is 264mm. The height of the panels will be 135mm above the roofline based on **Figure 6**. This means the height of the panels at the closest point to the eastern edge is 29mm under the complying development approved height of the building as per the schools development approval for their building works.

Figure 6 – Panel Height on Gould Building.



Further to the panels being mounted under the buildings maximum height, the panels will not be visible to the public due to the parapet wall surrounding the western side, northern side and eastern side of the building.

4. Requirements of clause 4.6 – Exceptions to development standards

The objectives of clause 4.6 are as follows:

- (a) “To provide an appropriate degree of flexibility in applying certain development standards to particular development,*
- (b) To achieve better outcomes for and from development by allowing flexibility in particular circumstances.”*

Clause 4.6(3) requires that a request to contravene the control, to demonstrate:

- (a) “that the compliance with the development standard is unreasonable or unnecessary in the circumstances of the case, and*
- (b) that there are sufficient environmental planning grounds to justify contravening the development standard.”*

In considering whether to grant consent for a development that contravenes a development standard, a consent authority must be satisfied that:

- (i) the applicant’s request has adequately addressed the matters required to be demonstrated by subclause (3), and*
- (ii) the proposed development will be in the public interest because it is consistent with the objectives of the particular standard and the objectives for development within the zone in which the development is to be carried out, and*
- (iii) the concurrence of the Secretary has been obtained.*

These matters are addressed below.

5. Compliance with the development standard is unreasonable or unnecessary

It is considered that enforcing compliance would be unreasonable and unnecessary in this case, for the following reasons.

The proposal achieves the objectives of the height control.

The objectives of the control are noted and commented upon below: The objective for the height control are as follow:

- (a) To ensure buildings are compatible with the height and scale of surrounding and nearby development.*
- (b) To minimise visual impact, disruption of views, loss of privacy and loss of solar access.*
- (c) To minimise any adverse impact of development on the scenic quality of Warringah's coastal and bush environments.*
- (d) To minimise the visual impact of development when viewed from public places such as parks and reserves, roads and community facilities.*

The proposal achieves the above objectives as detailed in the following assessment.

- (a) To ensure buildings are compatible with the height and scale of surrounding and nearby development.*

The proposed solar installation is compatible with the height of both buildings as they do not protrude past the highest point on each building. Because this site is a school, they are permitted to apply for consent to build above the 8.5m restriction. The total height of the building would have been approved and we have kept our panels below the highest point to comply with previous approvals the school obtained during the building process.

- (b) To minimise visual impact, disruption of views, loss of privacy and loss of solar access.*

The installation of the panels have minimal visual impact from public views. In both cases the panels sit no more than 135mm above the roofline, which is already lower than other objects on the roof, such as ventilation units, skylights and parapet walls. Although the panels on the Brimson Hall building are visible from federal parade, they do not have any extra impact on views due to the low profile of the panels. The low profile does not cast any shadowing over surrounding properties, and has no effect on surrounding properties privacy.

- (c) To minimise any adverse impact of development on the scenic quality of Warringah's coastal and bush environments.*

The installation of the panels do not obstruct any scenic quality of Warringah's coastal environment due to the very low profile of the panels outlined above.

(d) To minimise the visual impact of development when viewed from public places such as parks and reserves, roads and community facilities.

Visual impacts have been addressed above. The panels on Gould building will not be visible whatsoever and the visible panels on the northern face of Brimson Hall do not protrude above the maximum height of the building.

6. There are sufficient environmental planning grounds to justify contravening the development standard.

When designing a solar system it is our job to design the most practical solution for the best results. The proposed location of the panels are the best suited for the school to get the best return on investment and the most amount of energy production. We have calculated that the school will reduce their annual power consumption by 39%, they will save \$43,000 on their electricity bill each year and will offset 254,000kgs of carbon each year. This amount of reduction of carbon is not only good for the environment, but is also a great way to educate the students about sustainable living. Instilling into them at an early age the positive effects of solar energy. This will in turn be passed onto the parents of the students and result in more solar power installed for homes in the area. Only positive things can come from the approval of this system.

7. Conclusion

Although the buildings may be over the 8.5m height restrictions for their zone, the panels will not sit above the highest point of each building, therefore will not have any further impact on views from what is already there. The system will have a hugely positive environmental impact, a positive educational impact to the students and the school will be able to divert funds previously allocated to electricity bill to other areas of the school which can only benefit the teachers and students.

Rory Chenoweth

Solahart Industries Pty Ltd

2020