deboke
ENGINEERING CONSULTANTS

Our Reference: SW21052_L01-Design Certificate
28th of January, 2022

Penrith City Council
PO Box 60, Penrith
NSW 2751 Australian

RE: DA Stormwater At 198 Bennett Road, St Clair

Dear Sir/Madam,

This Letter has been prepared in response to the RFI points listed for Stormwater management for the Childcare proposal at the subject site. Please refer to Deboke Engineering Consultants (DEC) response in blue;

Development Engineering
Stormwater:
As requested in pre-lodgement meeting PL20/0073, the stormwater engineering plans are required to provide suitable calculations demonstrating that the stormwater line within the existing easement has adequate capacity to drain the proposed development. It is noted that the proposal includes approximately 690m2 of hardstand, which represents a significant increase to the existing site scenario for which the easement was designed (single dwelling approximately 250m2 roof area). If the stormwater line is found to be undersized, a number of solutions can be adopted as specified within the prelodgement notes; OSD can be provided to reduce post-development flows to pre-development flows, the stormwater line within the easement can be upgraded or partial discharge of the site to the kerb can be accepted (if the chosen portion of the site can drain to the street via gravity).
The stormwater pipe within easement was found to be 150mm as per site inspection from onpoint locating on 26.01.2022. As raised by council, the increase in impervious area will result in an insuficcient capacity by the existing pipe. Due to the limitations of OSD locations within play areas and achieving functionality at the lowest part of the site, DEC have achieved drainage of approximately 93% (857.8m^2) of the site to Bennett Road and the remaining area 7% (58.2m^2) to be drained via the easment at the rear. This will significantly alleviate the capacity of the easement and is functional due to the fill required to achieve suitable access in play areas.

Overall, the entire roof will be drained to the rainwater tank and discharged via gravity to Bennett Road. The remaining landscape and hardstand areas have been diverted to achieve drainage to Bennett Road and undrained landscaped area in the side and rear setback will drain into the easement. Refer to catchment plan on s201.

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Include pump capacity calculations as part of the basement stormwater plan.
As per clause 3.4 c) of Council's Stormwater Drainage for Building Developments Specification, a minimum two pumps with a minimum capacity of 5L/s or that which is required to drain the basement in the 1% AEP 5-min event (whichever is greater).
DEC have shown the pump capacity graph and calculation in the latest Stormwater plans (Revision B) on page S200. The dual pumps have been designed to achieve a capacity of 10L/s.

Include a section of the proposed pump out pit on this plan sheet, demonstrating that the all inlet pipes will be 100mm above the top water level in the pump out pit. as per the requirements of AS3500.3.
DEC have provided a section of the pump out pit in the latest Stormwater plans (Revision B) on page S200. The top water level has been designed to be 100mm below the furthest inlet pipe.

Overall, DEC have amended the Stormwater Drainage Design to reflect the updated consultants plans and have achieved compliance with the relevant council standards and requirements.

Yours Faithfully,

Mr Andrew Arida
For and on behalf of
Deboke Engineering Consultants
B.E. Honours (Civil – Structures), Dip. Eng. Prac. MIEAust
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