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CONSULTANT ADVICE

Project Name	Wilson Street Chatswood	Project #	230368
Subject	Pit Depth Requirements	Revision	JHA CAN-VT001 17/07/2025

General

This Consultant Advice relates to the RFI raised by the DPHI regarding the purpose of the lift plant room on Basement 7 and why it cannot be located on another level. This is related to the lifts at the Chatswood Grand Residences project located at 2 Wilson Street, Chatswood NSW.

These lifts require a lift speed of 3.0 m/s to achieve a good level of lift performance, consequently, a deeper pit is required to comply with the lift design standard (AS 1735.1.1 / EN 81-20) which means a pit floor access door is required. The area referenced as the 'lift plant room located on Basement 7' is part of the access way to the lift pit floor, no components or machinery will be located in this area, only inside the liftwell. Note that the motor and controller are located in the headroom, the upper space in the liftwell between the top floor served and the underside of the liftwell lid. Therefore, the area outside of the liftwell is not the lift plant room.

Details

The pit is the space in the liftwell between the bottom floor served and the liftwell floor. There are mechanical components fixed there and provides mechanical clearance for components located under the lift car floor see **Figure 1**.

The main components below the lift car floor are:

- Floor support
- Sling including car safety gear
- Buffers
- Governor, part of car safety gear

Most low-rise and medium rise buildings with lifts have a pit depth range 1.0-2.5 m which is suitable for lifts with speeds ≤ 2.5 m/s. High-rise buildings have faster lifts, > 2.5 m/s, consequently those lifts require deeper pits, > 2.5 m, to accommodate larger components or additional components, see **Figure 2**. Pit depths > 2.5 m pose a hazard to installers and maintenance staff when using the pit ladder to reach the pit floor from the bottom landing. In these instances, the lift design standard has a requirement that a pit floor access door be provided, see **Figure 3**, instead of using pit ladder from the bottom floor served, see **Figure 4**, EN 81-20:2020 Cl 5.2.2.4 b), this also means an access way and stairway will be required comply with AS 1657.

Figure 1: Section view of pit space for lift pits ≤ 2.5 m

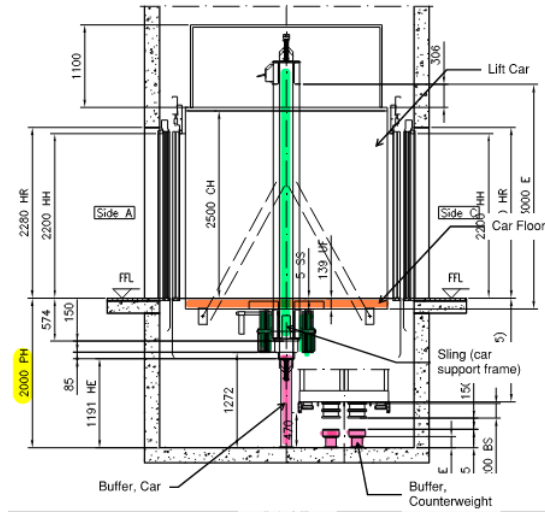


Figure 2: Section view of pit space for pits > 2.5 m

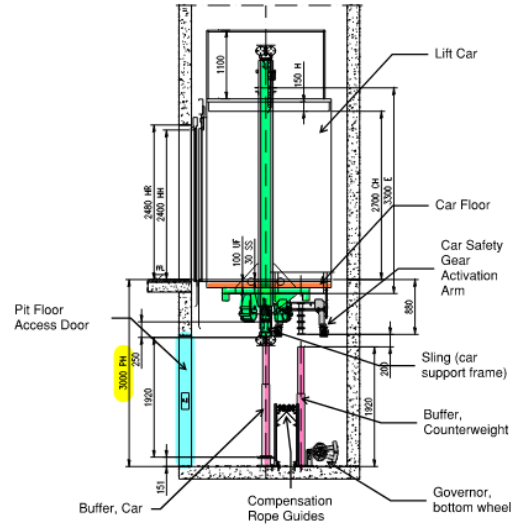


Figure 3: Example of pit access for lifts with pit depths > 3.0 m

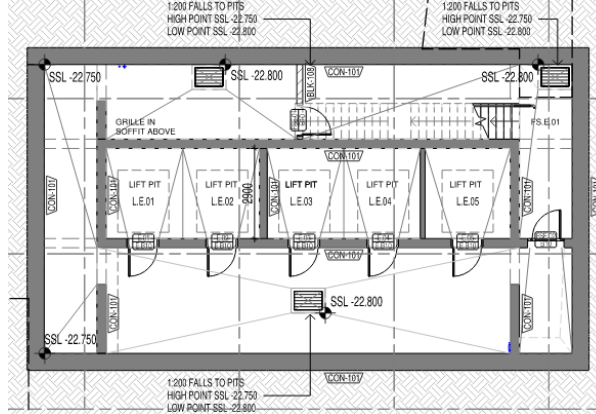
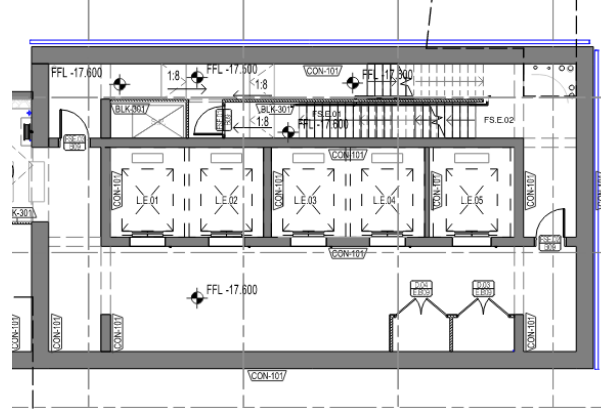


Figure 4: Layout of bottom floor served



Yours sincerely,

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