

To:

Department of Planning, Housing and Infrastructure
 4 Parramatta Square, 12 Darcy St,
 Parramatta, NSW 2150

Dear Sir/Madam,

Consultant Advice Notice – Lift Traffic Study

From	Dabin Paek	Advice No	CAN-VT-01
Project No	SYD3063	Project Name	Llewellyn Street
Date	28/08/2025	Pages	10
Subject	VT Compliance with the NSW ADG	Revision	2

[1] Introduction

This Consultant Advice Notice (CAN) is in response to the highlighted email query below (Figure 1) from Billbergia regarding the Llewellyn Street housing development (application reference SSD-67508739).

Figure 1 Billbergia RFI

1. Architectural plans design report (design and layout)
 - o Demonstrate that there is equal access for all residents to the rooftop common open space (COS) and pool area in the Concord East building.
 - o For the SW and NW towers, the one-bedroom/studio units next to the main entry lobby on various levels have bedrooms without windows (ADG 4D-1 and NCC requirements). Compliance must be demonstrated.
 - o Common circulation and spaces – the number of lifts and maximum number of apartments do not comply with the ADG. A lift traffic study report is required to support any variation request.
 - o Provide a summary table of building separation, noting that internal building separation between the two towers was treated as non-habitable due to window treatments (screening and directed views).

The currently proposed Llewellyn Street development comprises of the following as per the 'SSDA Architectural Design Report' documentation dated 25th July 2025:

- **North-West Tower:** 244 apartments w/ 4 Lifts
- **South-West Tower:** 196 apartments w/ 3 Lifts
- **South-East Tower:** 70 apartments w/ 2 Lifts
- **East Tower:** 55 apartments w/ 2 Lifts
- **North-East Tower:** 75 apartments w/ 2 Lifts

The ADG non-compliance response is applicable to the North-West, and South-West towers only.



[2] NSW ADG Requirements

It is the opinion of ADP Consulting that, through expert review and analysis, the provisions of four (4) and three (3) passenger lifts to service the North-West and South-West towers respectively, provides a good level of theoretical lift service quality and is therefore sufficient to accommodate the proposed population and movement of goods and achieves the objective of the NSW Apartment Design Guide Part 4 Objective 4F-1 to ensure “*common circulation spaces achieve good amenity and properly service the number of apartments*”

It is acknowledged that, per figure 1, the ratio of apartments to lifts for the North-West and South-West towers are greater than that recommended by ‘ADG Part 4 Objective 4F-1 Design Criteria 2’.

As per the description of ‘Objective 4F-1’, the objective of this to ensure “*common circulation spaces achieve good amenity and properly service the number of apartments*”. Design Criteria 2 provides a rule of thumb ratio of lifts to apartments to achieve the objective, being 1 lift per 40 apartments.

There are often a myriad of internal and external characteristics, factors, and influences including the size and location of car parking, proximity to public transport, location and attractiveness of building amenities, and the overall building population which need to be expertly considered when assessing appropriate requirements for lift services.

Determining the appropriate number of lifts in a building using a rule of thumb ratio approach is not always practical because the level of lift service quality does not have a straightforward correlation with the number of lifts.

Consequently, following this approach may result in a greater number of lifts needed to achieve *good amenity and properly service the number of apartments* subsequently impacting the feasibility of a development due to the spatial requirement of lifts reducing the sellable or rentable area.

Figure 2 ADG Part 4 Objective 4F-1

Objective 4F-1 Common circulation spaces achieve good amenity and properly service the number of apartments
Design criteria
1. The maximum number of apartments off a circulation core on a single level is eight
2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40

The impracticality of the rule of thumb approach is however appreciated in the NSW Apartment Design Guide “Introduction Section” document Page 11 (Figure 3 below) in that it allows “other design responses” to demonstrate achievement of the objective of design criteria where the design criteria is not directly satisfied. To support the “other design response”, it also requires that the design guidance be referenced when demonstrating.

Figure 3 ADG Introduction Section

The key to working with Parts 3 and 4 is that a development needs to demonstrate how it meets the objective and design criteria. The design criteria set a clear measurable benchmark for how the objective can be practically achieved. If it is not possible to satisfy the design criteria, applications must demonstrate what other design responses are used to achieve the objective and the design guidance can be used to assist in this.

[3] Design Methodology & Traffic Study

For the Llewellyn Street development, ADP Consulting have conducted an expert review and analysis in considering the achievement of the objective of ADG Part 4 Objective 4F-1. A lift traffic analysis (**design response**) has been conducted in accordance with the simulation method, and residential assumptions and service quality criteria outlined in ISO8100-32:2020 “Planning and selection of passenger lifts to be installed in office, hotel and residential buildings” (**design guidance**) as referenced by AS 1735.1.1.

[3.1] North-West Tower

The apartment yield and mix for the North-West tower is presented in Figure 4 below.

Figure 4 North-West Tower Building Data

North-West Tower Overview				North-West Tower Data					
Level	Height (m)	RL (m)	Description	1-Bed	2-Bed	3-Bed	Penthouse	TTL Apts	Pop.
Roof		113.29	Roof						
Level 29	3.30	109.99	Plant						
Level 28	3.30	106.69	Plant						
Level 27	3.30	103.39	Apartments						
Level 26	3.30	100.09	Apartments				2	2	10
Level 25	3.30	96.79	Apartments		1	1	2	4	17
Level 24	3.30	93.49	Apartments		2	2	2	6	24
Level 23	3.20	90.29	Apartments		4	4		8	28
Level 22	3.20	87.09	Apartments		4	4		8	28
Level 21	3.20	83.89	Apartments		4	4		8	28
Level 20	3.20	80.69	Apartments		4	4		8	28
Level 19	3.20	77.49	Apartments		4	4		8	28
Level 18	3.20	74.29	Apartments		4	4		8	28
Level 17	3.20	71.09	Apartments		4	4		8	28
Level 16	3.20	67.89	Apartments		4	4		8	28
Level 15	3.20	64.69	Apartments		4	4		8	28
Level 14	3.20	61.49	Apartments		4	4		8	28
Level 13	3.20	58.29	Apartments		4	4		8	28
Level 12	3.30	54.99	Apartments	1	6	2		9	28
Level 11	3.30	51.69	Apartments	2	6	2		10	30
Level 10	3.30	48.39	Apartments	2	4	4		10	32
Level 9	3.20	45.19	Apartments	2	4	4		10	32
Level 8	3.20	41.99	Apartments	2	4	4		10	32
Level 7	3.20	38.79	Apartments	2	4	4		10	32
Level 6	3.20	35.59	Apartments	2	4	4		10	32
Level 5	3.20	32.39	Apartments	2	4	4		10	32
Level 4	3.20	29.19	Apartments	2	4	4		10	32
Level 3	3.30	25.89	Apartments	9	3	3		15	37
Level 2	3.20	22.69	Apartments	9	3	3		15	37
Level 1	3.20	19.49	Apartments	9	1	3		13	31
Ground	3.20	16.29	Main Entrance / Apartments	4	3	2		9	24
B1 - Lower Ground	3.20	13.09	Apartments	1	2			3	8
B2	3.29	9.80	Parking						
B3	3.00	6.80	Parking						
B4	3.00	3.80	Parking						
			TOTAL:	49	99	90	6	244	775

Traffic analysis result for the North-West tower is presented in Table 1 below.

Table 1 North-West Tower – Lift Traffic Analysis Results

Key Parameters	
Controls	Conventional
Rated Speed (m/s)	2.5
No. Lifts in Group	4
Rated Load (kg / ppl)	1350 / 18
ISO 8100-32 Simulation Method	
Methodology	2-Hour Constant Traffic Profile
Traffic	Two-Way (50% incoming / 50% outgoing)
ISO 8100-32 Criteria	
Handling Capacity (HC, %)	≥ 7
Average Waiting Time (AWT, s)	≤ 60
Results	
Handling Capacity (HC, %)	7
Average Waiting Time (AWT, s)	31
Criteria Satisfied	Yes

- Four (4 off.) Residential lifts at 2.5 m/s rated speed satisfies the ISO8100-32:2020 ‘Standard’ residential type building design criteria during peak periods with an AWT of 31 seconds at 7% HC demand.

[3.2] South-West Tower

The apartment yield and mix for the South-West tower is presented in Figure 5 below.

Figure 5 South-West Tower Building Data

South West Tower Overview			
Level	Height (m)	RL (m)	Description
Roof	3.30	96.79	Roof
Plant	3.30	93.49	Plant
Plant	3.20	90.29	Plant
Level 23	3.20	87.09	Apartment
Level 22	3.20	83.89	Apartment
Level 21	3.20	80.69	Apartment
Level 20	3.20	77.49	Apartment
Level 19	3.20	74.29	Apartment
Level 18	3.20	71.09	Apartment
Level 17	3.20	67.89	Apartment
Level 16	3.20	64.69	Apartment
Level 15	3.20	61.49	Apartment
Level 14	3.20	58.29	Apartment
Level 13	3.30	54.99	Apartment
Level 12	3.30	51.69	Apartment
Level 11	3.30	48.39	Apartment
Level 10	3.20	45.19	Apartment
Level 9	3.20	41.99	Apartment
Level 8	3.20	38.79	Apartment
Level 7	3.20	35.59	Apartment
Level 6	3.20	32.39	Apartment
Level 5	3.20	29.19	Apartment
Level 4	3.30	25.89	Apartment
Level 3	3.20	22.69	Apartment
Level 2	3.20	19.49	Apartment
Level 1	3.20	16.29	Apartment
Ground	3.20	13.09	Main Entrance / Apartment
B2	3.29	9.80	Parking
B3	3.00	6.80	Parking
B4	3.00	3.80	Parking
			TOTAL:

South West Tower Data					
1-Bed	2-Bed	3-Bed	Penthouse	TTL Apts	Pop.
	1		1	2	8
	1		2	3	13
	2	2	2	6	24
	4	4		8	28
	4	4		8	28
	4	4		8	28
	4	4		8	28
	4	4		8	28
	4	4		8	28
	4	4		8	28
	4	4		8	28
	4	4		8	28
1	6	2		9	28
1	4	4		9	30
1	4	4		9	30
1	4	4		9	30
1	4	4		9	30
1	4	4		9	30
1	4	4		9	30
1	4	4		9	30
1	4	4		9	30
7	3	3		13	34
7	3	3		13	34
7	1	3		11	28
5	4	2		11	29
35	81	75	5	196	631

Traffic analysis result for the South-West tower is presented in Table 2 below.

Table 2 South-West Tower – Lift Traffic Analysis Results

Key Parameters	
Controls	Conventional
Rated Speed (m/s)	2.5
No. Lifts in Group	3
Rated Load (kg / ppl)	1350 / 18
ISO 8100-32 Simulation Method	
Methodology	2-Hour Constant Traffic Profile
Traffic	Two-Way (50% incoming / 50% outgoing)
ISO 8100-32 Criteria	
Handling Capacity (HC, %)	≥ 7
Average Waiting Time (AWT, s)	≤ 60
Results	
Handling Capacity (HC, %)	7
Average Waiting Time (AWT, s)	40
Criteria Satisfied	Yes

- Three (3 off.) Residential lifts at 2.5 m/s rated speed satisfies the ISO8100-32:2020 'Standard' residential type building design criteria during peak periods with an AWT of 40 seconds at 7% HC demand.

[3.3] South-East Tower

The apartment yield and mix for the South-East tower is presented in Figure 6 Figure 5below.

Figure 6 South-East Tower Building Data

South East Tower Overview				South East Tower Data					
Level	Height (m)	RL (m)	Description	1-Bed	2-Bed	3-Bed	Penthouse	TTL Apts	Pop.
Roof		112.8	Roof						
Level 10	3.2	42.4	Apartment						
Level 9	3.2	39.2	Apartment			1	1	2	9
Level 8	3.2	36.0	Apartment		1	3	1	5	20
Level 7	3.2	32.8	Apartment	2	2	3		7	22
Level 6	3.2	29.6	Apartment	2	2	3		7	22
Level 5	3.2	26.4	Apartment	2	2	3		7	22
Level 4	3.2	23.2	Apartment	3	4	1		8	21
Level 3	3.2	20.0	Apartment	3	4	1		8	21
Level 2	3.2	16.8	Apartment	3	4	1		8	21
Level 1	3.2	13.6	Apartment	3	4	1		8	21
Upper Ground	3.2	10.4	Apartment	2	3	3		8	25
Ground	3.2	7.2	Main Entrance / Apartment	2				2	4
			TOTAL:	22	26	20	2	70	208

Traffic analysis result for the South-East tower is presented in Table 3 below.

Table 3 South-East Tower – Lift Traffic Analysis Results

Key Parameters	
Controls	Conventional
Rated Speed (m/s)	1.6
No. Lifts in Group	2
Rated Load (kg / ppl)	1350 / 18
ISO 8100-32 Simulation Method	
Methodology	2-Hour Constant Traffic Profile
Traffic	Two-Way (50% incoming / 50% outgoing)
ISO 8100-32 Criteria	
Handling Capacity (HC, %)	≥ 7
Average Waiting Time (AWT, s)	≤ 60
Results	
Handling Capacity (HC, %)	7
Average Waiting Time (AWT, s)	15
Criteria Satisfied	Yes

- Two (2 off.) Residential lifts at 1.6 m/s rated speed satisfies the ISO8100-32:2020 ‘Standard’ residential type building design criteria during peak periods with an AWT of 15 seconds at 7% HC demand.

[3.4] East Tower

The apartment yield and mix for the East tower is presented in Figure 7 below.

Figure 7 East Tower Building Data

East Tower Overview				East Tower Data					
Level	Height (m)	RL (m)	Description	1-Bed	2-Bed	3-Bed	Penthouse	TTL Apts	Pop.
Roof		112.8	Roof						
Level 7	3.2	36.0	Apartment						
Level 6	3.2	32.8	Apartment				1	8	23
Level 5	3.2	29.6	Apartment	3	3	1		7	22
Level 4	3.2	26.4	Apartment	2	2	3		7	22
Level 3	3.2	23.2	Apartment	2	2	3		7	22
Level 2	3.2	20.0	Apartment	3	4	1		8	21
Level 1	3.2	16.8	Apartment	2	4	1		7	20
Ground	3.2	13.6	Apartment	3	3	1		7	18
Lower Ground	3.2	10.4	Main Entrance / Apartment	2	2			4	10
			TOTAL:	19	22	13	1	55	157

Traffic analysis result for the East tower is presented in Table 4 below.

Table 4 East Tower – Lift Traffic Analysis Results

Key Parameters	
Controls	Conventional
Rated Speed (m/s)	1.0
No. Lifts in Group	2
Rated Load (kg / ppl)	1350 / 18
ISO 8100-32 Simulation Method	
Methodology	2-Hour Constant Traffic Profile
Traffic	Two-Way (50% incoming / 50% outgoing)
ISO 8100-32 Criteria	
Handling Capacity (HC, %)	≥ 7
Average Waiting Time (AWT, s)	≤ 60
Results	
Handling Capacity (HC, %)	7
Average Waiting Time (AWT, s)	14
Criteria Satisfied	Yes

- Two (2 off.) Residential lifts at 1.0 m/s rated speed satisfies the ISO8100-32:2020 ‘Standard’ residential type building design criteria during peak periods with an AWT of 14 seconds at 7% HC demand.

[3.5] North-East Tower

The apartment yield and mix for the North-East tower is presented in Figure 8 below.

Figure 8 North-East Tower Building Data

North East Tower Overview				North East Tower Data					
Level	Height (m)	RL (m)	Description	1-Bed	2-Bed	3-Bed	Penthouse	TTL Apts	Pop.
Roof		112.8	Roof						
Level 9	3.2	42.4	Apartment						
Level 8	3.2	39.2	Apartment		1		3	4	18
Level 7	3.2	36.0	Apartment	2	2	4		8	26
Level 6	3.2	32.8	Apartment	2	2	4		8	26
Level 5	3.2	29.6	Apartment	2	2	4		8	26
Level 4	3.2	26.4	Apartment	2	2	4		8	26
Level 3	3.2	23.2	Apartment	3	4	2		9	25
Level 2	3.2	20.0	Apartment	3	4	2		9	25
Level 1	3.2	16.8	Apartment	3	4	2		9	25
Upper Ground	3.2	13.6	Apartment	4	4			8	19
Ground	3.2	10.4	Main Entrance / Apartment	2	2			4	10
			TOTAL:	23	27	22	3	75	225

Traffic analysis result for the North-West tower is presented in Table 5 below.

Table 5 North-East Tower – Lift Traffic Analysis Results

Key Parameters	
Controls	Conventional
Rated Speed (m/s)	1.0
No. Lifts in Group	2
Rated Load (kg / ppl)	1350 / 18
ISO 8100-32 Simulation Method	
Methodology	2-Hour Constant Traffic Profile
Traffic	Two-Way (50% incoming / 50% outgoing)
ISO 8100-32 Criteria	
Handling Capacity (HC, %)	≥ 7
Average Waiting Time (AWT, s)	≤ 60
Results	
Handling Capacity (HC, %)	7
Average Waiting Time (AWT, s)	24
Criteria Satisfied	Yes

- Two (2 off.) Residential lifts at 1.0 m/s rated speed satisfies the ISO8100-32:2020 ‘Standard’ residential type building design criteria during peak periods with an AWT of 24 seconds at 7% HC demand.



[4] Conclusion

Overall, the traffic analysis results demonstrate a satisfactory level of theoretical level of lift service quality achieving the recommended ISO 8100-32 criteria for all the towers in accordance with the currently nominated number of lifts per tower.

It is therefore the opinion of ADP Consulting that the current lift provisions are sufficient to accommodate the proposed population and movement of goods and thus achieves the objective of ADG Objective 4F-1 to provide *good amenity and properly service the number of apartments*.

Dabin Paek

Vertical Transportation Engineer

ADP Consulting Pty Ltd