

APPENDIX P

LIFTING REQUIREMENTS LETTER - ARUP

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Dear Dominic

Vertical Transportation Design Statement – 505 George Street, Sydney

We are writing with reference to the vertical transportation design for the proposed residential development at 505 George Street, Sydney, NSW, which consists of:

3 x 1600kg / 21 passenger low rise lifts running at 3.5 mps, serving levels LG (Kent St), 4 - 25

3 x 1600kg / 21 passenger mid-rise lifts running at 5.0 mps, serving levels LG (Kent St), 26 - 46

4 x 1600kg / 21 passenger high rise lifts running at 6.0 mps, serving levels LG (Kent St), 47 - 74

Design Methodology

For the purpose of our analysis we have referenced the performance criteria for residential buildings as discussed within the Chartered Institute of Building Services Engineer's – Transportation Systems in Buildings (CIBSE) Guide D. CIBSE Guide D is an internationally recognised document for defining the parameters of elevator equipment and performance outcomes when designing vertical transportation systems.

Performance Targets

The following system performance has been targeted which is commensurate with a normal to high end type residential development.

Target Performance Levels	
Interval	50 – 60 seconds
Balanced 2 – Way Handling Capacity	7%

Population

The theoretical building population has been estimated using the below assumptions for a normal residential type as summarised below.

Occupancy Ratio's	
Studio	1.5 persons
1 Bedroom	1.8 persons
2 Bedroom	3.0 persons
3 Bedroom	4.0 persons
Car Park	1 person / car with 50% churn during peak period

We hereby certify that the above discussed vertical transportation system has been designed in accordance with acceptable industry engineering and design practices.

Furthermore it is the intent of the Vertical Transportation specification that the equipment and installation shall conform to the requirements of all relevant codes and standards issued by recognised Codes, Standards and Legislative bodies, applicable for the location where the installation will take place, including but not limited to:

- AS 1735 - Lifts, Escalators and Moving Walks
- AS 1735.1 - General Requirements
- AS 1735.11 - Fire-rated landing doors
- AS 1735.12 - Facilities for persons with disabilities
- Building Code of Australia

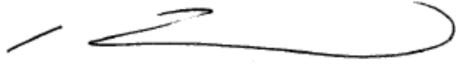
Notwithstanding anything to the contrary contained in this certificate we are obliged to exercise reasonable skill and care in the performance of our services under the appointment and we shall not be liable except to the extent that we have failed to exercise reasonable skill and care and this certificate shall be read and construed accordingly, and in particular shall be subject to the terms and conditions of the Appointment.

I am an appropriately qualified and competent person in this area and as such can certify that the design complies with the above.

Full Name of Designer	Peter Tomlinson Associate Principle Discipline Leader – Vertical Transportation
Address of Designer	Level 10, 201 Kent Street, Sydney (Ph) 02 9320 9320 (Fax) 02 9320 9321
Name of Employer	Ove Arup Pty Ltd

We trust the information meets with your requirements however should you have any questions or would like to discuss further any aspect of the above please feel free to contact me at any time.

Yours sincerely

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke.

Peter Tomlinson
Associate Principle - Vertical Transportation