



REPORT

ON

THE LIFTS

AT

'PACIFIC PARK'

**41 ROCKLANDS ROAD
WOLLSTONECRAFT**



THE OWNERS CORPORATION STRATA PLAN 47991

C/-

BRIGHT AND DUGGAN PTY LTD

JULY 2014

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EXECUTIVE SUMMARY

This report details the results of our audit of the six (6) passenger lifts at 41 Rocklands Road, Wollstonecraft.

The purpose of the audit was to inspect the lift equipment with regard to condition, ability to perform, compliance with the regulations and the life cycle of the current equipment.

Summarising we advise that:

- ***These lifts were installed in about 1993 and since that time they have not had any major upgrades and all operating equipment is as originally installed.***
- ***There are areas of this lift installation which do not comply with the current Building Code of Australia (BCA) and the Lift Code.***
- ***In our opinion consideration should be given to upgrading the operating equipment for these lifts and that upgrade should at least include, control and drive systems, car door operators and landing door locks, car operating panels, landing buttons, car and hall indication and areas of non compliance with the Lift Code and BCA.***

We now expand on the foregoing as follows:

1. COMMENTS ON EXISTING LIFT EQUIPMENT

There are six (6) geared AC passenger lifts numbered 1 to 6 in this building.

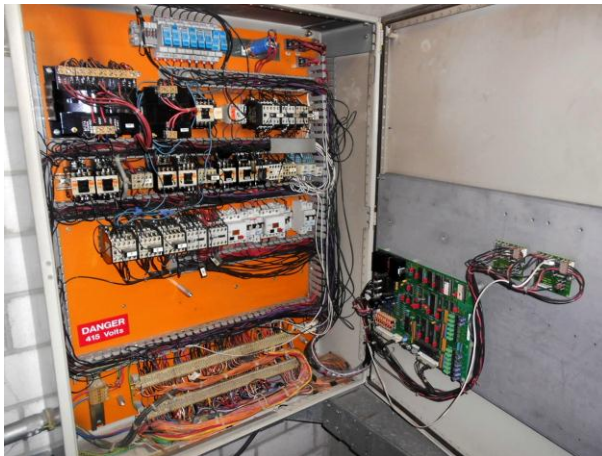
The lifts have a load capacity of 900Kg (13 persons) and operate at a speed of 1.0 metre per second. Lift Nos. 1, 2 and 3 serve levels 2 to 10 inclusive, a total of 9 openings. Lift No. 4 serves levels 2 to 9 inclusive, a total of 8 openings, whilst Lift Nos. 5 and 6 serve levels 1 to 8 inclusive, a total of 8 openings.

The lifts were installed in about 1993 by Otis Elevators Pty Ltd and are currently being maintained by that company.

The lift controls are known as 'MCS310' (*Refer Photograph No.1*) which is a microprocessor based system and contains numerous solid state and relay components. This control system is no longer installed and spare parts are becoming hard to source.

The drive systems are variable frequency (VF) AC which control the operation of the geared hoist machines and motors. Spare parts for these drive controls are difficult to source and this model of control would be considered obsolete.

The geared hoist machines are in good condition, however they do not incorporate dual acting brakes and do not have upward runaway protection fitted as required by the current lift code. (*Refer Photograph No.2*)



Photograph No. 1 – Control System



Photograph No. 2 – Geared lift machine

The car power door operators and landing door locks are as originally installed. (*Refer Photograph Nos.3 and 4*) Spare parts for the car power door operator and landing door locks are still available however, this door system is no longer installed.



Photograph No. 3 – Car power door operator



Photograph No. 4 – Landing door locks

The car operating panels in all lifts are original with all lifts six lifts having one (1) splayed front wall car operating panel (Refer Photograph No.5). The car operating panels currently installed do not comply with AS1735.12 ‘Facilities for Persons with Disabilities’.

The landing buttons panels (Refer Photograph No.6) and hall position indicators are as originally installed. Spare parts for the hall position indicators are becoming more difficult to source and this indication would be considered obsolete.

Each lift car contains a rear stretcher facility which is accessed via the hinged rear wall of the lift car. The stretcher facility does not comply with the latest edition of the BCA.



Photograph No.5 – Front splayed car operating panel



Photograph No.6 – Landing button panel

2. COMPLIANCE WITH REGULATIONS

These lifts were installed in about 1993 and since that time the regulations have changed. Consequently, there are a number of areas of this lift installation that no longer comply with the latest version of regulations.

Under the latest regulations governing lifts and in particular the Work Health and Safety (WH&S) Regulation 2011, the Building Owner has become more responsible for all plant in a building.

Whilst the Lift Code is not retrospective, the risk analysis required by the current regulations effectively introduces the 2001 edition of the Lift Code to this building.

The main regulations and standards governing lifts are the AS 1735 Lift Code, Building Code of Australia (BCA) and Work Health and Safety Regulations (WH&S) and the areas of non-compliance with those standards and regulations are identified as follows.

AS1735 Part 2 (Lift Code)

- .1 Well access devices to all landing doors are not provided.
- .2 Communication on top of the lift cars and in the lift pits are not provided.
- .3 Man clearance signage in the lift pits is not provided.
- .4 GPO's in the lift pits with RCD protection are not provided.
- .5 Stop/run switches in the lift pits do not comply.
- .6 Governor tension switches in the lift pits are not provided.
- .7 Lift pit egress devices are not provided.
- .8 Dual acting brakes to the hoist machines are not provided.
- .9 Upward runaway protection to the hoist machines is not provided.
- .10 Shaft lighting switches are not provided in the machine room.

BCA

- .1 The car and landing button panels do not comply with the requirements of AS 1735 Part 12 'Facilities for Persons with Disabilities'.
- .2 Audible and visual indication is not provided on each landing.
- .3 The car fire service control switches do not comply.
- .4 The lifts do not comply with the requirements for stretcher provision.

The Owners do, however, need to be aware that regardless of whether or not an upgrade of these lifts is undertaken, the Owners will, at some point in time, need to address the items nominated above.

3. UPGRADE OPTIONS

The operating equipment for these lifts is now about 21 years old and in our opinion consideration should be given to upgrading if the Owners intend to improve performance, longevity and maintain reliability and address the areas of non compliance with the regulations.

Therefore, the following are options which relate to an upgrade which we recommend are applicable to these lifts.

1. Control and Drive Systems

Due to the age and unavailability of spare parts, replace the existing control and drive systems with new microprocessor controls and variable voltage variable frequency drive systems.

2. Hoist Machines

Due to the fact that the existing hoist machines do not comply with the regulations and are approaching 21 years of age, we would recommend that the existing machines be replaced with new hoist machines incorporating dual acting brakes and upward runaway protection.

3. Car Power Door Operators and Landing Door Locks

Replace the existing power door operators and landing door locks, hangers and tracks to all levels served. Two areas that impact on lift performance and reliability are the control/drive system and door operation. Therefore, by providing a new power door operator, door locks and top tracks in conjunction with a new control and drive system, together with a new lift machine would provide maximum benefits in terms of performance, reliability and longevity.

We point out that as part of the work involved with changing the lift landing door locks the lift contractor should be requested to provide an opinion from a recognised fire testing authority that the final landing door arrangement is fire rated.

4. Car Operating Panels and Indication

Provide each lift car with a new AS 1735 Part 12 compliant panel including new voice annunciation and car position indication.

5. Landing Button Panels

Provide new landing button panels complying with AS 1735 Part 12.

6. Hall Position Indication

Due to the age and unavailability of spare parts, provide new digital hall position indicators to all floors complying with the BCA.

7. Lift Car Interiors

Provide new lift car interiors and at that same time modify the stretcher boot facility complying with the BCA.

8. AS 1735 Lift Code 2001 and BCA.

We recommend that the Owners address the areas of noncompliance with the Lift Code and BCA. The well access devices are not included as these would be provided at the same time the landing door locks, tracks and hangers are upgraded.

4. BUDGET ESTIMATES

We provide the following budget estimates for the work applicable to the lifts together with time frames on when we recommend the work be carried out due to the life cycle of the equipment.

With an upgrade of this magnitude, breaking components into individual estimates results in a total estimated cost being far in excess of the works when estimated as a single package.

Item	Upgrade Detail (Per Lift)	0-2 Years \$	3-5 Years \$	6-10 Years \$
1.	Lift Controller and Drive Systems.	90,000.00		
2.	Hoist Machines.			25,000.00
3.	Car power door operators and landing door locks and tracks.		80,000.00	
4.	Car operating panels and car position indication.	15,000.00		
5.	Landing Buttons.	5,000.00		
6.	Hall Position Indication.	10,000.00		
7.	Lift Car Interiors (Provisional Sum Only)			25,000.00
8.	Lift Code Items	20,000.00		
	Total Excluding GST	140,000.00	80,000.00	50,000.00

Note: our estimates are based on the following:

1. Per Lift;
2. Competitive tendering, and;
3. Estimates based at today's rate.

5. REPLACEMENT OPTION AND BUDGET ESTIMATES

An alternate option to the upgrades works would be a full replacement of each lift. This would consist of new 'Machineroomless' lifts in which the existing lift installation would be entirely stripped out and replaced with a completely new lift which would be installed to comply with the current lift code and regulations.

Advantages

- A machineroomless lift does not require the use of the existing machine room and therefore, the non-compliances in this area become irrelevant.
- None of the existing obsolete equipment would be retained.
- The existing door frame widths of 1000mm could be retained.
- The new lifts would accommodate a complying stretcher provision without the need of a rear boot section.
- The new lifts will comply with the current requirements of the Building Code of Australia. (BCA).

Disadvantages

- If the existing landing door frames cannot be retained there will be a significant increase in the scope of building works required and the increased noise levels associated with these works.

A machineroomless lift is a complete lift package and offers considerable improvement on the type of lift currently installed. A new machineroomless lift here would be in the order of \$180,000.00 - \$200,000.00 (per lift) excluding GST.

This price excludes any building works and is based on keeping the existing door frames at each landing which currently comply with the BCA. If the existing door frames were replaced the price would increase considerably as each landing door frame would be cut out and replaced with a new frame.

There is a number of lift contractors who provide this type of equipment however it should be stressed the existing lift shaft would need to be surveyed in order to establish if this equipment will fit.

5. CONCLUSIONS AND RECOMMENDATIONS

The lifts here are approaching the end of their life cycle and in our opinion, the Owners should start making budgetary provisions for future upgrading of the installation to improve condition, reliability, compliance with the regulations and future serviceability.

We would recommend that an upgrade consist of at minimum the items nominated in the next 0 to 2 year period.

If the Owners did not intend to carry out the items nominated in the 0 to 2 year period, then we would recommend that consideration be given to replacing the lifts with new 'Machineroomless' lifts.

It is possible to obtain tenders for this type of work as all major lift contractors offer new machines, microprocessor control systems and variable frequency variable voltage drive equipment and alternatively 'machineroomless' lifts.

Prices from at least three contractors should be obtained, by the calling of tenders we have found the above amount could vary from contractor to contractor by some 30%. At the same time prices for ongoing lift maintenance can be sought.

We are available to meet with you and the Owners to discuss this report at their convenience.

JCA LIFT CONSULTANTS



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Director