



Graham N. RUNDLE BE M.I.PENZ
Professional Engineer LTD

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Western Bay of Plenty District Council

Reference: 2030/PS.DOC

19 January, 1999

Building Consent issued with number

64225

Private Building certifier

re: PRODUCER STATEMENT - DESIGN

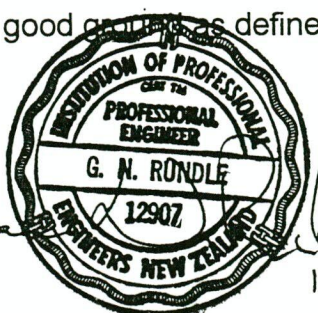
ACCESS ELEVATORS - WATER HYDRAULIC PLATFORM HOIST

I, Graham Nelson Rundle, being registered under the provisions of the Engineer's Registration Act 1924, and currently holding an Annual Practising Certificate, hereby certify that having examined the manufacturing and installation details relating to the two and three station water hydraulic platform hoists produced and installed by ACCESS ELEVATORS, P.O. Box 3141 TAURANGA. and having inspected existing installations, I have produced calculations to check the loading conditions and safety factors for these hoists.

As a result of these examinations, inspections and calculations I believe on reasonable grounds that an installation, carried out in accordance with the standard drawings, installation instructions and component schedule produced by Access Elevators, will comply with Clause D2 'Mechanical Installations for Access' of the New Zealand Building Code, as contained in the First Schedule of the Building Regulations 1992.

This compliance is based on the following assumptions:

- 1) The installation is in a private dwelling requiring a floor loading of 1.5 kPa.
- 2) The installation is not on an accessible route as defined in the NZ Building Code.
- 3) The rated capacity of the hoist is 4 persons or maximum of 300 kg and that this is displayed in accordance with the NZ Building Code.
- 4) The installation is maintained in good working order and that any damage to any component is repaired to the satisfaction of Access Elevators before the hoist is reused.
- 5) A routine maintenance inspection and service is carried out by Access Elevators at least every 12 months.
- 6) The ram is founded on good ground as defined in NZS 3604.



19/1/99

Graham N. RUNDLE BE MIPENZ
Professional Engineer LTD

Approved

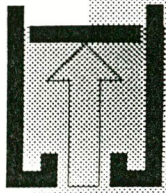
These plans/specs are approved in accordance with The N.Z. Building Code.
Ross Hamilton, Building Certifier # 21.

Date 7/1/2000

Building Certificate # 186

New Zealand
Building Certifiers Limited.

Access Elevators Ltd



A Most Versatile and Affordable Elevator

Simple, compact, versatile, and cost-effective, with 20 years proven reliability

Primarily designed for houses but also suitable for light commercial applications, the water hydraulic Access Elevator is now normally powered by a pump which recirculates the water. Performance is improved and provides for up to 5 person carrying capacity at 18 to 27 seconds per floor dependant on the pressure system chosen. Standard battery back-up allows for descent at all times, and the optional 230 volt failure/mains pressure system provides full operation (subject to sufficient water pressure).

Call Free on

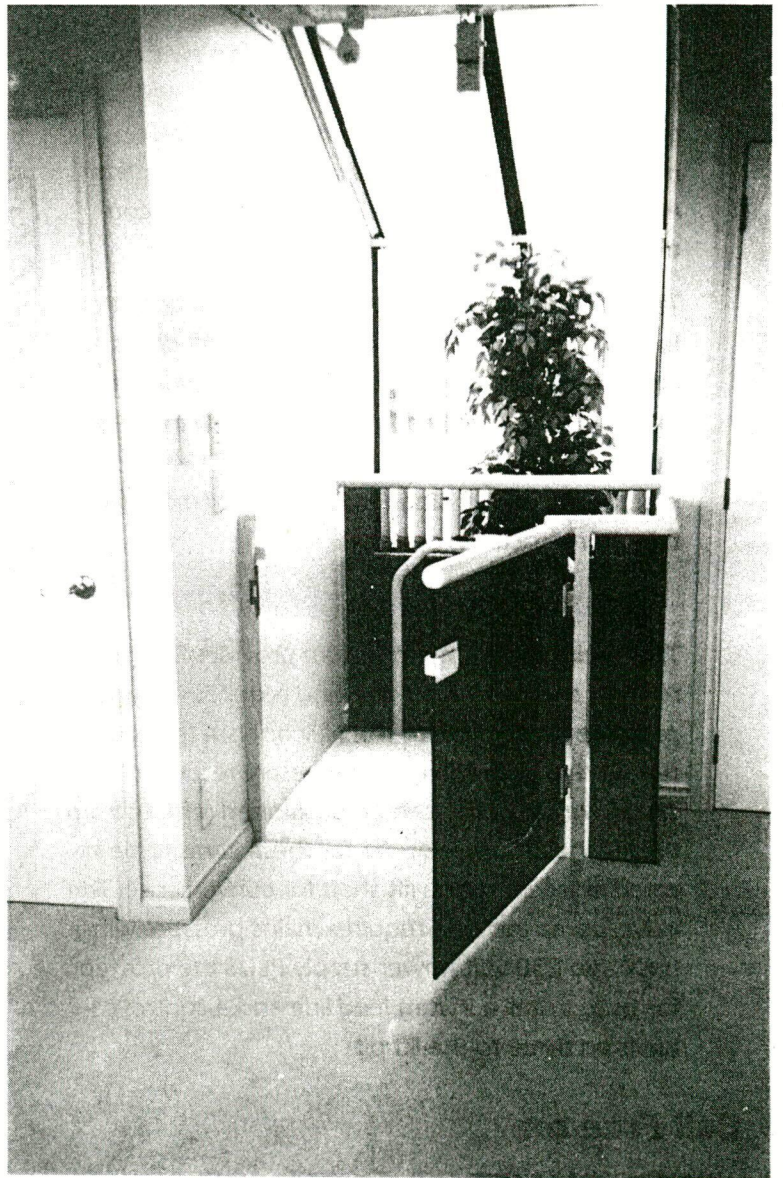
**0800 PH LIFT
74 5438**

For Nation-wide sales and service.

ACCESS ELEVATORS LTD.

2 Tangmere Place
PO Box 3141
TAURANGA

Phone: 07 541 3733
Fax: 07 541 3734



The Access elevator is simple and cost effective, but quality is not compromised. The heavy-duty hydraulic ram is made from non-corrodible stainless steel and is made to a length directly proportional to the total floor/floor height. The ram is located in the ground and coupled to a support structure and floor of the required size and shape. Our standard system moves this platform vertically within smooth liftwell walls and is buffered from the walls by wrapping the floor with a complete carpet overlay. Conventional lift car models are available. One piece side-hinged automatic doors can be supplied as an optional extra on all models.

Access Elevators Ltd

Operation and service

Water: Negligible water use on recirculating pump systems, otherwise 22 litres/floor.

Power: 60 complete cycles require the equivalent power consumption of a 60 watt light bulb operating for one hour.

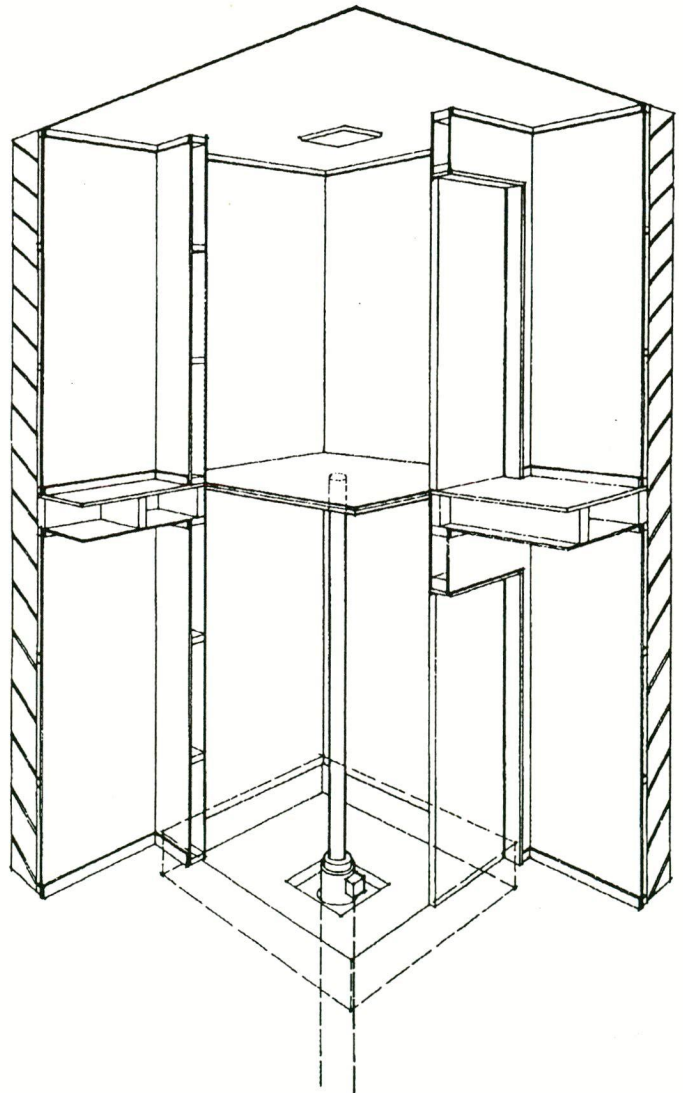
Maintenance: Is minimal; the cup washer seal requires replacement when worn. We are currently replacing seals approximately every 4 years at a cost of around \$120.

Simple, compact, versatile, and cost-effective, with 20 years proven reliability

Operation is controlled by push button switches from the standard HPM domestic range (available in designer colours at special request). The floor mounted handrail provides support for the infirm and also incorporates the internal travelling controls, installed at a convenient height.

The circuit is low voltage with an automatic battery back-up/mains charger power supply. All doors are electro-mechanically interlocked and provision is made for emergency opening from both inside and outside the lift. An externally mounted 120 dB emergency siren is standard and a floor mounted telephone socket is optional.

The recirculating pump system provides for quiet, reliable, smooth, operation and requires a mains pressure connection to the ballcock but this is only required to guarantee the necessary reservoir level. The valves or pump can be positioned remote from the lift shaft, but we prefer for these items to be located adjacent to the lift shaft for convenience. The valve/pump location requires mains pressure wing-back and 230 volt power supply PLUS the provision for us to install a 25mm feed line and a control cable from there to the lift pit.



Call Free on

**0800 PH LIFT
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**FOR NATION-WIDE
SALES AND SERVICE**

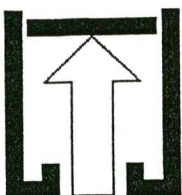
The liftwell is basically a tall cupboard, lined with a smooth, resilient material and fitted with standard interior doors in specialised jambs.

This can be built by any person capable of forming vertical walls to within plus or minus 3mm of parallel. We will not complete an installation into sub-standard liftwells.

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ACCESS ELEVATORS Ltd.

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Manufacturers and installers of affordable water hydraulic lifts.

18 June, 1998

LIFTWELL CONSTRUCTION FOR MOVING FLOOR SYSTEM

A PERFECT LIFT REQUIRES AN ACCURATE LIFTSHAFT, it is imperative that the builder works to detail and forms a shaft with walls parallel ± 3 mm. The corners do not have to be square, but please make every attempt to set the lower door returns at 90° as we have noted a tendency for them to finish well outside the right angle. After walls are framed, choose the best adjacent two walls and plane or pack the studs straight then make & use story rods to gauge the adjustment required on the opposite walls.

THE RAM IS 400mm LONGER THAN THE HEIGHT TO BE SERVED, the hole is normally bored by the lift installer after the roof is fitted. A CAISSON IS ONLY USED IN AREAS OF UNSTABLE GROUND AND IS NORMALLY OPEN ENDED. Depending on ground conditions, it may be more cost effective to have the hole machine bored at the foundation stage. PLEASE CONSULT WITH ACCESS ELEVATORS REGARDING THIS ITEM.

PIT: Ideally 400mm deep, but this must be 600mm for Auckland customers. Form a concrete floor with a 250mm hole in the centre and pit walls that allow the framing to overhang by 10-20mm. 100mm is the MINIMUM pit depth required to finish the lift level with the lower floor, and a pit less than 400mm deep requires a minimum 300mm square hole in the pit floor. A 40mm pit drain is a regulation requirement, but the ram is installed in the ground and backfilled with sand which effectively forms a drainage medium. An 80mm PVC conduit should be installed from the pump location, entering the pit through the wall. If the pump is immediately adjacent to the liftshaft then the conduit should be installed @ 45°. The conduit to a remote pump location should be installed just under the floor slab with a 90° elbow and a short upstand at the pump end to bring the conduit just clear of the floor.

LIFT SHAFT: The walls must be plumb and parallel. Choose framing timber carefully, straight and dry with a minimum of knots and ideally running 'continuous lengths through all floor levels. Studs @ 600mm centres, or 400mm centres for lining materials less than 9mm thick. Ensure a 70mm minimum door return (including jamb) at lowest level and provide a 60mm cavity between studs on the handle side of the doors if possible. Wall linings must extend at least 50mm below lowest floor level, and any skirting/capping which protrudes into the shaft above the upper floor (even by only 10mm) must not extend below floor level and requires the lower edge beveled to 60°. As the floor must be sized to the smallest dimension, variations will produce loose zones and should be kept to a minimum. The buffer zone between the platform and walls comprises carpet and underlay, which will accommodate ± 3 mm without any loss of stability. If taper exists, it is more acceptable to have the largest dimension closest to the lower floor as the inherent stability of the system increases as the ram descends.

WALL LININGS must be hard and resilient; Gib board is not acceptable. Suggested options: Tempered hardboard, Aquapanel, Seratone, Tudorwood, Plywood, Villaboard, Vertical shiplap. Paint finished 9mm customwood is the most popular. Do not use horizontal jointers on wall linings. Do not fully line both sides of shaft framing until after wiring looms have been installed, concrete block shafts require battening to allow for loom installation. Door jambs should be fitted prior to the installation of wiring looms.

DOORS MUST BE FLUSH TO LIFTSHAFT INTERIOR: Plan 6 details rebates and jambs, the hinge side packer enables removal of hinge pins and can be eliminated if rebates are made for the hinge boss. This is useful when modifying existing jambs or to preserve minimum returns in cramped enclosures. The 16mm packer on the handle side is to suit the interlock, if a packer of a different size is used, the interlock nosing will not sit neatly against the jamb. Deep paneled doors may be used provided interior faces of all lower & intermediate doors are re-paneled flush. HUSH-SHUTTER DOORS UNACCEPTABLE unless modified to suit flush interior detail.

VENTILATION SHOULD BE PROVIDED, allowing air to vent freely into/from static space both above and below the lift floor. The platform fits tightly against the walls and approx 3 cubic metres of air is moved per floor level, gaps around the doors will allow for some of this air movement but the draught will be lessened if additional venting is possible. It should be noted that there is no draught evident when the platform is stationary. Customers with fully enclosed liftwells should consider having a combination light/vent fixture in the roof, particularly for jobs which exceed 4.5m floor-floor as the ram can easily be installed through such a fixture.

HARDWARE REQUIRED, to be supplied by others: Dummy knobs for the outside of all lower and intermediate doors, a pair of handles (of the square shaft drive type) for all full height top doors, power, water supply & waste, and lighting. DO NOT FORM ANY OPENINGS FOR LIFT DOOR HARDWARE.

PAINT: The carpet runs in contact with the walls and a low friction finish is required. This can be achieved or made impossible by a combination of paint type and application. Spray or brush will produce a smooth finish for most paint types whether oil or acrylic, and from gloss to satin; but some short nap rollers may be capable of producing such a finish. We recommend leveling out all roller applied paint with a brush. Be warned that it is possible to prevent the lift from descending empty and also possible to induce an unpleasant shudder in the lift as a direct result of a high friction paint finish.

ELECTRICAL: A dedicated 230v supply is preferred, 10 amp supply to pump location, but the lift master control box (battery charger) may be fed off a lighting supply. All pumps are supplied with a starter box which includes an isolating switch, this box is fitted by us and is permanently connected to the power feed located at between 900-1200mm above the floor.

The preferred location for the master control box is on the outside of the lift shaft, on a side wall adjacent to the lower door (handle side) provided this location is unobtrusive. Liftwells of block construction usually dictate the master box be surface mounted or fitted above the lower door.

LIGHTING must be supplied and installed by others, and 2 way switching is the most economical. We can supply an **OPTIONAL** automatic lighting control (activated by opening the lift door), which requires your electrician to fit the light and to install an isolator & feed into a flushbox at the upper level only, usually @ door head height.

PLUMBING: Recirculating pumps are now used on most installations, these systems require a 15mm mains pressure feed which keeps the reservoir topped up by way of an isolating valve and ballcock. On a speed differential, most 2 level lifts use a pump & reservoir with a water input @ 300mm above the floor and most 3 level lifts use a pump & reservoir with the water inlet @ 800mm above the floor. Mains pressure lifts require a 20mm **DIRECT MAINS FEED** to a wingback at the nominated valve location. **ALL SYSTEMS REQUIRE A GRAVITY DELIVERY OVERFLOW/WASTE FACILITY.**

See also "PIT" (page 1) for conduit required from pump/valve location to lift pit and pit drain details.

Access Elevators Ltd

Box 3141 TAURANGA

Ph/Fax 07 5413733

LIFT MASTER
CONTROL BOX
(230v power required)

PUMP LOCATION TO BE SUPPLIED
WITH 230v POWER, 15mm WINGBACK
PLUS WASTE (reservoir overflow)

NOMINAL
HEIGHT ABOVE FLOOR:

PUMP	POWER @	WATER @
20-5, MB11	800mm	400mm
D21, D28	1500mm	800mm

ALLOW BOTTOM PLATE
TO OVERHANG PIT WALL
BY 20mm

LININGS TO FINISH AT LEAST
50mm BELOW FLOOR LEVEL

NOM. 100mm

80mm PVC CONDUIT TO PUMP LOCATION

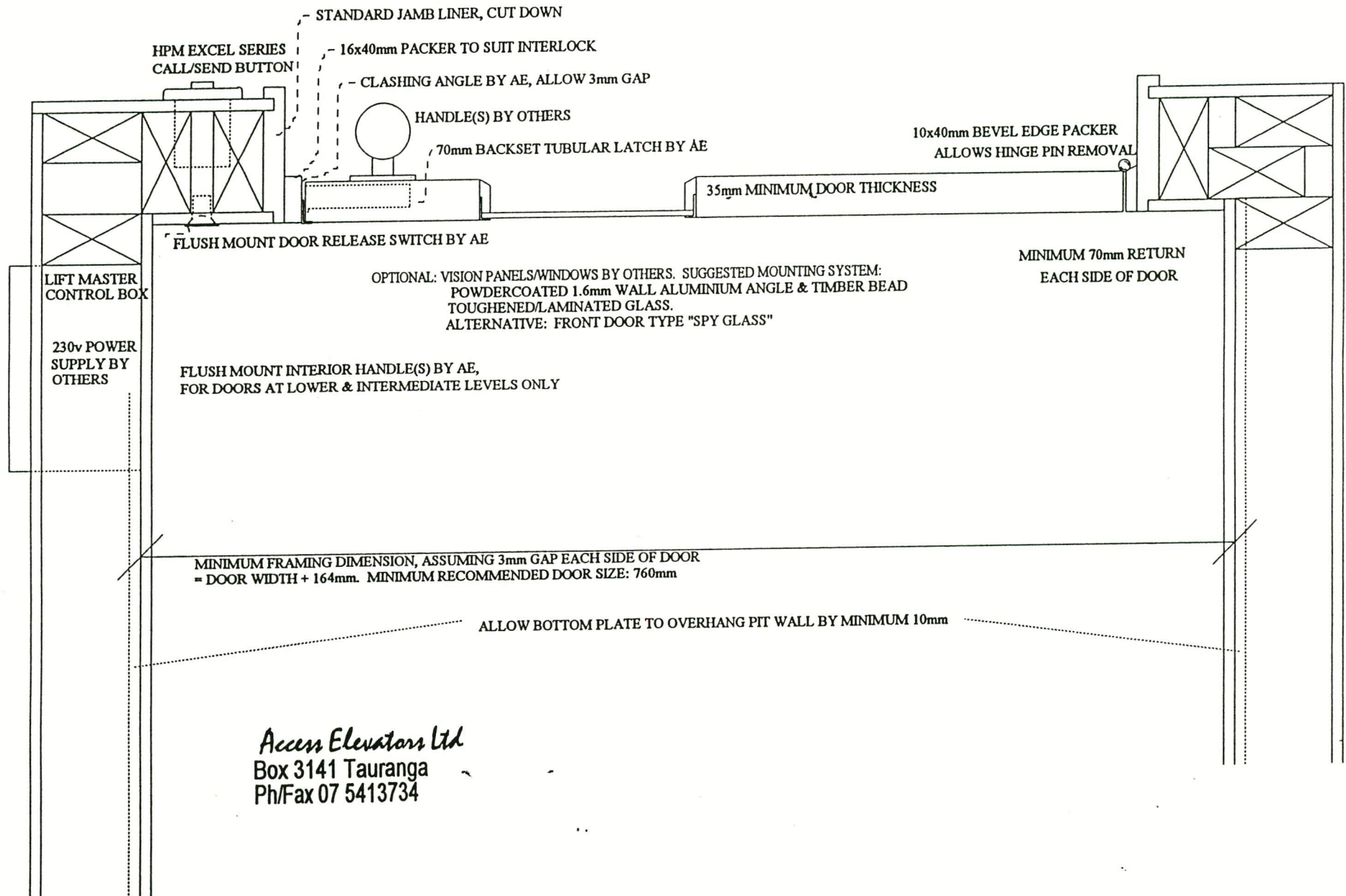
ANGLE CONDUIT IF MACHINE ROOM IS ADJACENT

40mm PIT DRAIN
(if possible)

CENTRALLY LOCATED
250mm SQUARE HOLE
(for hydraulic ram)

RECOMMENDED PIT DEPTH
DOMESTIC: 400mm
COMMERCIAL: 700mm

HOLE MANUALLY BORED BY LIFT INSTALLER
(provided ground conditions permit) OR BY OTHERS



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