



**ELEVATOR MODERNIZATION  
ASSOCIATED WORK BY OTHERS TO COMPLETE**

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**PART 1 -GENERAL**

1.1 RELATED WORK -  
CITY OF TORONTO'S  
RESPONSIBILITY

COMMON TO ELEVATORS 2 and 3 - COMMON MACHINE ROOM

- .1 Include subcontracts and all coordination and supervision of related work usually covered off by other trades to accomplish a working elevator system, accepted by Provincial authorities and suitable for intended use, including:
  - .2 Fire Alarm:

Currently **no firefighter's emergency operation exists** so providing manual recall operation (ie. Not from the fire alarm) is acceptable in accordance with Code requirements. Should you require automatic recall operation, the following should be provided:

    - .1 Install new fire signals to the elevator controller. This includes signal for main fire alarm, signal for a fire alarm emanating from the elevator machine room and/or elevator hoistway, and thirdly a signal for a fire alarm emanating from the ground floor - used to drive the elevator to the alternate recall floor.
    - .2 If surface mounted conductors are used, employ low-profile.
    - .3 Install new fire alarm initiating devices (smoke detectors) in front of the elevator at each floor's lobby.
    - .4 Pull stations at the main floor should not initiate recall, nor should detectors other than those in the elevator lobbies.
    - .5 Provide for this work being done by a certified fire alarm technician and provide required engineered drawings, permits, commissioning and testing of modifications to the fire alarm panel.
  - .3 Electrical
    - .1 Install new three-phase main line disconnect switch per elevator (3) to accommodate elevator motor power with properly sized new fusing and including for any required auxiliary contacts for battery emergency lowering.
    - .2 Existing car lighting disconnect switches for each elevator can be retained.

.3 Provide two (2) x 120 volt duplex GFI receptacles in the elevator machine room and one (1) in each elevator pit (3).

.4 Provide a direct connection to earth ground from the electrical supply to the mainline disconnects in elevator machine room.

.5 Provide new lighting in the elevator machine room, operated by new switch. Lighting to provide 200 lux ambient lighting measured across at the machine room floor level employing a minimum of two dual 1220 mm (48") high efficiency T8 equivalent LED type fixtures at 4100 K per new fixture installed. Provide metal mechanical guarding of all existing and new lights.

.6 Arrange for live internet connection in the elevator machine room if none exists or existing is not compatible with new two-way audio and video communication system. Internet line to be monitored 24/7.

.7 Provide new vapour-proof guarded LED lighting in each pit(3). Guard with substantial, rust-proof metal cages over polycarbonate lens. Lighting to provide 100 lux ambient at the pit floor level employing a minimum of one dual 610 mm (24") bulb, high efficiency T8 equivalent LED type fixtures at 4100 K per new fixture installed. Provide instant start, ballast factor greater than 0.9, and 85% reflector. Provide illuminated light switches in each pit accessible from the pit ladder.

.8 Emergency Power - Confirm if elevators currently operate or are to operate on emergency power. Currently there is no emergency power indicator light present in the main floor elevator hall station of any elevator, meaning they do not currently operate on EP. Battery Operated Emergency Lowering has been specified in case of power failure.

If emergency power is to be supplied, provide the following:

- i. Provide a dry contact from emergency power transfer switch to the main elevator controller. Provide a 10 second to 30 second advance warning signal of power source change.

- ii. Provide subcontract for testing of existing emergency power system including verifying dry contact, advance warning signal and sequencing of elevators. Complete this testing within 30 days of contract award and provide written results to owner and consultant.
- iii. The emergency power source is capable of providing sufficient power to run one elevator at contract speed and capacity.
- iv. The emergency power will be provided on the same lines and the same disconnect as the normal power.
- v. Two pairs of signal wires will be run to the elevator controller.
- vi. One pair of wires will be shorted together giving a closed circuit to indicate that the elevator will be supplied by normal power.
- vii. The same pair of signal wires will give an open circuit to indicate that the elevator will be supplied by emergency power.
- viii. The second pair will provide an advanced warning signal that is closed for normal power and opens 20 seconds prior to transfer from emergency to normal power or from normal power to emergency power during an emergency power test.

.4 Mechanical

Provide the machine room with a split zone ductless air conditioning unit or other means) sized to 25,000 BTUs/hr/elevator (total of 75,000 BTU/hour) heat release and taking into account other sources of heat. Include for electrical connection and locate exterior condenser, including mounting, to the Owner's approved location.