c. Traveling cables between car and hoistway shall be NEC Type E with thermoplastic insulation. Each cable conductor shall be color coded and have at least two spare conductors. Cables exceeding 100 feet in length shall have steel supporting fillers. Cables shall be flexible and shall be suitably supported to reduce strain on individual conductors to a minimum and always be free from contact with the hoistway construction or other equipment.

d. All insulated conductors and conduit or tubing as well as fittings including metal boxes, troughs and ducts, shall comply with the requirements of the National Electric Code.

49. CALL REGISTER LIGHTS:

a. Each car and hall push button shall be provided with round integral illuminated buttons arranged so that when a button is pressed the surrounding translucent plastic jewel shall illuminate to indicate that a call has been registered. The center of each button shall be of opaque high impact plastic into which white floor numerals and/or letters for car, and Up and Down arrows for hall are permanently molded.

50. CAR POSITION INDICATOR

a. An electric position indicator shall be provided in each elevator car. The indicator shall consist of a finished stainless steel face plate with plastic or glass numerals behind each of which shall be a small shielded light, so arranged that as the car travels through the hoistway, its position shall be indicated by the illumination of the numeral corresponding to the landing at which the car is stopped or passing.

51. LANDING BUTTON FIXTURES

a. One riser of landing button fixtures each containing up and down buttons at intermediate floors and single button at terminal floors shall be provided. Integral illumination shall be provided in each button which shall light upon registration of a call and be extinguished when a car responds to that call. If a landing button is operated while the doors at that landing are closing, a call shall be registered for the next car. A call so registered shall be cancelled if the closing doors are reopened. Exposed metal portion of fixtures shall be stainless steel. Note that one riser of buttons shall be provided on all floors except the first floor.

52. COMBINATION HALL BUTTON AND POSITION INDICATOR:

a. At the first floor landing provide in the entrance frame of each hoistway a dual purpose fixture. Fixture shall combine landing buttons and illuminated position indication with plastic or glass numerals all in a vertical arrangement. Fixture shall provide registration of landing calls and indicate the position and direction of travel of each car. Face plate shall be stainless steel.

53. CAR DIRECTION FIXTURE:

a. Furnish and install, one on each car, a flush mounted fixture in the car entrance post to function as a hall lantern fixture. Fixture shall consist of illuminated "Up - Down" direction arrows and a single stroke gong to give an audible signal of the arrival of the car at a landing. The fixtures shall be mounted on opposite entrance posts. Face plates shall be stainless steel.

b. As the car reaches a floor at which it is going to stop the gong shall sound. The fixture shall be illuminated whether the hall button has been pressed or not. The illumination of a direction arrow shall indicate the direction in which the car is set to travel or the direction in which the car will travel in response to hall push button calls at that landing.

54. OPERATION:

a. Operation without Attendant.

(1) The operation shall be Duplex Selective Collective Automatic type with a flush mounted operating device in each car which shall include buttons marked to correspond with the landings served, a switch for the car light, an alarm button connected to a bell which serves as an emergency signal, an emergency stop switch. A single riser of landing buttons shall be installed at each terminal landing and UP and DOWN buttons at each intermediate landing.

(2) The operation shall be such that one car shall normally be "parked" at the main floor or first floor and the other, a "free" car, at the landing last served.

(3) An idle "free" car shall answer landing calls either above or below the landing at which the car is standing, except:

(a) Main floor landing calls.
(b) Basement landing calls.

(4) When the "free" car is clearing calls, the other car shall automatically start to answer landing calls under any of the following conditions:

(a) Registration of an UP call from a landing below the "free" car while it is traveling UP.

(b) Registration of an UP or DOWN call from a landing a above the "free" car while it is traveling DOWN.

(c) Inability of the "free" car to clear all registered landing calls within approximately forty seconds, or to move in response to registered landing calls within this time limit.

(5) Each car shall be arranged so that momentary pressure of one or more of its car buttons shall cause that car to start. When a car has been started, either in response to car button calls or landing calls, it shall respond to its own car button calls and to landing call registered for the direction in which the car is traveling in the order in which the landings are reached, irrespective of the sequence in which the calls were registered. When both cars are clearing calls, only one car shall stop in response to any one landing call. The first car to clear all its calls shall return to the main floor. Should both cars finish their calls at the main floor, the car which arrived there first shall become the "free" car.

(6) A time relay shall hold the car for an adjustable interval of a few seconds at the landings at which stops are made to enable passengers to enter or leave the car. Pressure of a car button for another landing before this time elapses shall cause the car to start provided the car door and hoistway doors are closed. When a car has answered the farthest call, this interval shall permit a car call to be registered to establish the direction of car travel, even if other landing calls are registered.

(7) If a basement landing is served, calls from there shall be answered by the car normally "parked" at the main floor unless the "free" car is at that landing.

(8) If either car is removed from service, the other car shall answer all its own car calls as well as all landing calls.

(9) It shall be impossible to start either car unless the car door is in the closed position and all hoistway doors of that car are locked in the closed position.

(10) The opening of the emergency-stop switch shall interrupt the power supply and apply the brake independently of the regular operating device. Opening the emergency-stop switch shall not cancel registered calls, and after the switch is closed, the car shall continue to answer calls in the normal manner.

(11) The motor generator of the proper car shall start upon registration of any car or landing call. The motor generator shall run for a predetermined interval after the car answers the last call and then, automatically stop until another call is registered.

b. Independent Service

(1) The operating panel in the car shall contain a two-position key-operated switch. With the independent service switch in the "on" position the car shall operate from its car buttons only. The power operated hoistway and car door shall remain open while the car is at a floor until a car button for another landing is momentarily pressed. If a number of car buttons are registered, subsequent pressing of a car button shall be required to effect door closing after each stop.

(2) The other car shall operate as a Simplex Collective elevator from the hall buttons and its own car buttons.

c. In addition to the automatic operation without attendant described in paragraph (a) above, note the following. If both an "UP" and a "DOWN" call are registered at the same landing the car arriving at that landing shall cancel only one of the calls and the other call shall remain registered and its hall button remain illuminated. Which call is cancelled and which call remains registered will depend on previously registered calls and what direction if any the car is set to travel in. In this situation the direction arrow fixture on the car shall indicate the direction the car will take when it leaves that landing.

55. LOAD WEIGHING DEVICE:

a. Load weighing bypass operation shall operate when a car is filled to a predetermined percentage of capacity to have that car bypass additional hall calls until capacity is reduced. The device shall not prevent the car from stopping in response to car calls.

56. LUBRICATION:

a. Provision shall be made for lubrication of all parts requiring lubrication. Lubrication points shall be readily accessible. Ball or roller bearings shall be permanently lubricated or with provision for greasing or grease gun connections. All grease gun connections shall be Alemite pin type, the same type, to fit the same gun. The manufacturer shall provide lubrication schedule for all parts and lubricants to be used.

57. WIRING DIAGRAMS:

a. The Contractor shall furnish for approval complete and legible wiring diagrams, and straight line diagrams showing the electrical connections, functions and sequence of operation of all apparatus connected with the elevator (including door operators), both in machine room and in hoistway, together with photographs or cuts of controller repair parts with part numbers listed shall be furnished.

b. Every device on wiring diagrams and also on the controller panels shall be properly identified by name, letter or number. Identification markings for devices on the controller panels shall be neatly stencilled painted (or otherwise permanently marked) on the device or panel. A list of all devices together with identifying marks therefore shall be provided on the wiring diagrams.

58. CLEANING:

a. The elevator shaftways, pits and machine room areas shall be cleaned to the approval of the Engineers and all debris removed from the premises.

59. TEST FOR ACCEPTANCE:

a. Upon completion, the elevator must be tested at the expense of the Contractor in the presence of the Engineer, or his authorized representative. Rated load shall be provided on car and elevator must perform all functions as specified and required by Code. Also each of the safety devices shall be tested and found satisfactory to the Engineer. All tests performed for the various state and municipal and County authorities shall be witnessed by the Engineer who shall be notified in advance of the date of such tests. If the Contractor neglects to do this, the various tests must be repeated by the Engineer.

60. REQUIRED BID:

a. The bidders' proposal shall be based only on the material, equipment, etc. as furnished by the manufacturers named below:

(1) General Elevator Company
(2) Otis Elevator Company
(3) Westinghouse Electric Corporation, Elevator Division

61. MISCELLANEOUS ITEMS:

a. A porcelain lamp socket and plug receptacle shall be installed on top of car and same under the car. Receptacles shall be wired hot, lamp sockets controlled by work light switch in the car operating panel.

b. The Contractor shall furnish and install approved vent gratings in the machine room floors over each hoistway.

c. The following feature shall be added to Section 47 Telephone Cabinet. The hinged door to the Cabinet shall be arranged with a break glass guard covering the handle latch so that it is necessary to break theglass to get access to the latch to open the cabinet door. A recessed or chain attached hammer shall be provided to break the glass. A key shall also be provided whereby the door may be opened without breaking the glass. Submit shop drawing of the proposed arrangement for approval.

d. Note in connection with Section 41, Hoistway Entrances, the cutout in the soffit of the entrance frame for lighting fixture shall be located as close to the hoistway doors as possible.

62. ELEVATOR FLOOR LOCKING ARRANGEMENT:

a. The following provisions shall be included as part of Section 51, Landing Button Fixture, and Section 54, Operation. The purpose being to prevent access to certain selected floors of the building from the elevators in response to car button calls. Each landing button fixture above the first floor shall have a key operated two-position switch flush mounted in the fixture face plate. With the switch in position #1 the operation shall be normal with the elevators responding to car and hall calls as previously specified. With the switch in position #2 the car button in each car operating panel for that particular floor shall be cut out of service. Under this condition the elevators shall not stop at that particular floor in response to car button calls for that floor. The elevators shall however, continue to stop at all floors in response to hall button calls.

b. The car operating panel of each car shall be provided with a key operated momentary contact switch mounted alongside of each floor button above the first floor. The momentary operation of this switch shall bypass the cut-out condition and permit or provide registration of a car button call for that particular floor. Thus by the momentary operation of these switches it shall be possible to gain access to any particular floor which has been "locked out".

c. Key switches in the landing button fixtures shall have the two positions clearly indicated with the key removable from the lock in either position. Provide different key for each floor and the number of keys as directed.

d. Switches in the car operating panels shall have cylinder type locks as directed by the Architect. Furnish five different keys and master key. Number of keys shall be as directed.

63. EXPLOSION PROOF EQUIPMENT:

a. Attention of the Contractor is called to the fact that since the basement level is an automobile parking space the requirements of the National Fire Protection Association (NEC) require that electrical equipment in theelevator pits (below 18" above the basement level) be enclosed in explosion proof enclosures.

MICROFILMED

REVISIONS

| NO. | DATE | ITEM | REF. |
|---|---|---|---|

FIRM H.A. INC.
DESIGNED BY —
DRAWN BY —
CHECKED BY CTA
APPROVED BY CTA

SEAL H.A. JOB NO. N-16
STATE OF MARYLAND CLARENCE T. ADAMS 386 REGISTERED PROFESSIONAL ENGINEER

SPECIFICATIONS

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|---|---|
| JOB NO. | 6522 |
| SCALE | — |
| DATE | SEPT. 27, 1966 |
| LAST REV. | |

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