

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section includes: Residential, holeless, hydraulic elevator complete with platform, cab, hydraulic drive unit, controller, hoistway doors, and car gate.
- B. Related sections:
 - 1. Section 03300 – Cast-in-place Concrete: Elevator pit.
 - 2. Section 05500 – Metal Fabrications: Steel access ladder for pit and supports for rail brackets.
 - 3. Section 09260 – Gypsum Board assemblies: Construction of hoistway and elevator equipment room.
 - 4. Section 09310 – Ceramic Tile: floor finish for elevator cab.
 - 5. Division 16000 – Electrical: Electrical service for elevator, conduit, copper feeder, branch wiring, disconnect switch, convenience and telephone outlets, GFI outlet and light fixture in pit, and heat and smoke detectors.

1.2 SUBMITTALS

- A. Provide in accordance with Section 01330 – Submittal Procedures:
 - 1. Product data for principal components with descriptions of features, performance and operating characteristics, electrical characteristics, controls, and connection requirements.
 - 2. Shop drawings: Present plans, elevations, sections, and details showing dimensions, clearances, tolerances, component locations, elevator equipment room layout, control diagrams, loadings and installation details. Indicate variations from specified requirements, maximum static and dynamic loads imposed on building structure at points of support.
 - 3. Samples of exposed finishes.
 - 4. Manufacturer Certificates: Signed by elevator manufacturer certifying that hoistway, pit, and machine room layout and dimensions, as shown on Drawings, and electrical service, as shown and specified, are adequate for elevator system being provided
 - 5. Copy of written warranty required by Paragraph 1.4 for review by architect.
 - 6. Copy of maintenance contract required by paragraph 1.5 for review by owner and architect.
- B. Operation and maintenance data.
- C. Inspection and Acceptance Certificates and Operating Permits: As required by authorities having jurisdiction for normal, unrestricted elevator use.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with ASME A17.1, and NFPA 70.
- B. Accessibility Requirements: Comply with Section 4.10 in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."
- C. Comply with NFPA 80 and provide fire rated hoistway entrances tested and labeled by Underwriters Laboratories, Inc (UL).
- D. Products requiring electrical connection shall comply with NFPA 70 and be listed by Underwriters Laboratories, Inc. (UL) as suitable for the purpose indicated.
- E. Qualifications:
 - 1. Manufacturer: Company specializing in manufacturer of hydraulic elevators with 20 years minimum documented experience.
 - 2. Installer: Either employee or certified installer of elevator manufacturer.

1.4 WARRANTY

- A. Special Manufacturer's Warranty: Manufacturer's standard form in which manufacturer agrees to repair, restore, or replace defective elevator work within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion for all components
 - 2. One year for labor.

1.5 MAINTENANCE SERVICE

- A. Initial Maintenance Service: Beginning at Substantial Completion, provide one year's full maintenance service by skilled employees of elevator Installer. Include bi-annual examination, providing preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper elevator operation at rated speed and capacity.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

- B. Manufacturers: Subject to compliance with requirements, provide products by:
 - 1. Liftavator, Inc., 5299 Enterprise Drive, Lockport, NY 14094; 800-660-2629; www.liftavator.com
- C. Requests to use equivalent products of other manufacturers shall be submitted in accordance with Section 01600 – Product Requirements.

2.2 ELEVATOR

- A. Type: Residential, holeless, hydraulic elevator; as manufactured by Liftavator, Inc.
- B. Platform size: 36" X 48" Standard, Many other sizes available. Please Call factory.
- C. Minimum clear hoistway: 58 1/2" X 54".
- D. Clear car height: 82 inches.
- E. Pit depth: 12 inches minimum.
- F. Rated net capacity: 750 pounds.
- G. Rated speed: 40 feet per minute.
- H. Travel Distance: ___ feet, ___ inches.
- I. Number of stops: Up to 5.
- J. Number of car openings: 2 back-to-back or single
- K. Operation: Automatic with illuminated car and landing push call buttons. Car station shall contain keyed on/off switch, light switch, stop button, alarm bell, and push button for each landing. Leveling shall be automatic.

2.3 EQUIPMENT

- A. Equip elevator with hydraulic cylindrical plunger to move car up and down hoistway and operated by electric, self-contained drive unit located in elevator equipment room. Drive unit shall allow for 2 speeds.
 - 1. Reservoir: 14 gage steel with 25 gallon capacity.
 - 2. Motor: 5 HP, 220 volts, single phase, 30 amp.
 - 3. Pump: 3 screw, pulsation free, under oil type.
 - 4. Control valve: Unitized type with power-off manual lowering.
 - 5. Equip drive unit with low oil cut-out switch, oil tank level and temperature sight gauge, oil tank filler breather and strainer, and rubber isolation pads.

- B. Cylinder: Direct coupled holeless jack assembly complying with ANSI A17.1, 1302.1A, 1302.1, and 1302.34 and equipped with internal bearing, bronze head, bearing gland assembly, removable steel foot plate, air bleed port, and oil drain port.
- C. Controller: House controller components in metal cabinet with hinged door. Provide power relays, overload device, and microprocessor unit for logic control and safety circuits. Protect components with fused circuits. Incorporate emergency battery operated circuits in control logic to automatically provide lightning and lower lift during power failure.
- D. Provide steel "T" section guide rails bolted to welded steel wall brackets, anchors, and other hardware designed and sized according to code with appropriate safety factors.
- E. Piping: Provide size, type, and weight recommended by manufacturer. Provide isolation couplings to prevent sound and vibration transmissions from power unit.
- F. Electrical components: Conform to NFPA 70. Include wiring and connections to elevator devices remote from hoistway.

2.4 CAR AND PLATFORM

- A. Frame: Cantilever design fabricated from welded steel sections. Fit with neoprene faced roller guide shoes and broken rope car safety and slack cable switch to cut off control valve power if rope becomes slack or broken. Or direct couple 4 inch structural car frame.
- B. Platform: Fabricated with welded steel channels and angles with 11 ga. Steel floor with ½ inch underlay.

2.5 CAB

- A. Exterior panels: Construct with 11 ga steel panels with interior wood paneling color chosen by architect. Interior paneling to be raised natural wood paneling pre finished. Wood type chosen by owner.
- B. Flooring: as per architect or owner
- C. Interior wall and ceiling finish: Wood veneer face of species and factory applied finish selected by architect or owner.
- D. Cab gate: Full height, electrically operated, accordion folding gate with flush panels finished with wood veneer with factory applied finish as selected by architect. Equip gate with electrical interlock to prevent opening when elevator is not at landing.
- E. Ceiling lighting: Manufacturer's standard recessed down lights. (4)
- F. Fixtures: Stainless steel with brushed No. 4 finish.
 - 1. Handrail: ¾ by 3 inches.

2. Telephone cabinet with phone.
3. Inspection certificate and instructions frame.
4. Operation panel.

2.6 HOISTWAY ENTRANCE

- A. Hoistway door assembly: Manually operated, swinging, 90 minute fire-rated, flush door and frame assembly; EZ Entry Door as manufactured by Liftavator, Inc.
- B. Size: 36 by 80 inches
- C. Equip door assembly with electro-mechanical interlocks to prevent door opening when elevator is not at landing.
- D. Hardware: Adjustable hydraulic delayed action closer, lever handle latchset, and vision light.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Coordinate work with other trades to ensure proper timing and sequencing and to avoid delays. Provide inserts and other anchorage devices for proper installation in concrete floors and walls. Coordinate requirements for structural attachment of rails.
- B. Examine and verify that hoistway, pit, openings, and elevator equipment room are correctly sized and ready for installation of elevator system. Do not proceed until deficiencies have been corrected.

3.2 INSTALLATION

- A. Install elevator in accordance with manufacturer's instructions and approved shop drawings.
- B. Install cylinder/plunger unit plumb and accurately centered for car position and travel. Anchor securely in place.
- C. Connections: Welded unless bolted connections are required for subsequent removal for inspection, maintenance, adjustment, or replacement of parts.
- D. Sound isolation: Mount rotating and vibrating equipment on vibration and acoustic isolators to prevent transmission of vibrations to structure. Securely fasten equipment and prevent lateral displacement.

- E. Guide rails: Accurately align and coordinate with entrance locations. Form smooth joints with machined splice plates. Compensate for expansion and contraction movement of rails.
- F. Hoistway entrances: Install door sills and frames in hoistway halls. Grout sills in place. Set entrances in vertical alignment with car openings.
- G. Cleaning: Remove protective coverings from finished surfaces. Clean surfaces and components.

3.3 TESTING AND DEMONSTRATION

- A. Upon completion and prior to use of elevator, perform tests to verify load rating and safety factors meet or exceed ASME A17.1 specifications.
- B. Correct, adjust, and retest as required.
- C. Instruct owner in proper use, operation, and maintenance of elevators. Review emergency provisions and procedures for checking malfunctions.

END OF SECTION