PART 1 GENERAL

1.01 SECTION INCLUDES
A. Limited Use / Limited Application (LU/LA) commercial elevator with 1:2 roped hydraulic lift system.

1.02 WORK INCLUDED
A. Furnish all labor and materials, equipment and incidentals necessary to assemble and erect the commercial elevator, complete with a remote power unit and all hoses, rails, brackets, connections and controls essential for proper operation.

1.03 WORK BY OTHERS
A. Hoistway: Construct a hoistway of the size required by the manufacturer, complete with all demolition, additional framing, headers and framing components necessary to prepare the existing building to receive the elevator.
1. Hoistway size: 66" W x 73 1/4" D (dependant upon car size)
2. The hoistway shall be vertical to within 1/8" throughout the entire height.
3. Provide structural members, installed, full length vertically of hoistway between floor plates per manufacturer's recommendation.
4. Pit requirements: Provide 38" deep pit; using an alternative means device the pit depth may be reduced a minimum 14". Install reinforcement and concrete as necessary. Floor must sustain load specified in job drawings.
5. Overhead clearance: 11' new construction; 9' 6" w/ alternate means clearance device for existing construction.
B. Construct a machine room:
1. Provide elevator electrical circuit appropriate for particular motor, such as: 208/230 volt AC/ single or three phase / 60hz (30 amp).
2. Provide elevator lighting electrical circuit: 115 volt (15amp)
C. Provide system to maintain hoistway and machine room temperature between 50-90 degrees Fahrenheit.

1.04 REFERENCES:
A. General: The applicable provisions of the following standards shall apply as if written here in their entirety.
B. American Society of Mechanical Engineers / American National Standards Institute (ASME/ANSI) publications:
1. ASME/ANSI A17.1 "Safety Codes for Elevators and Escalators", Section 5.2.
2. ICC/ANSI A117.1.
C. National Fire Protection Association (NFPA) publications:
1. NFPA 70 National Electrical Code
2. NFPA 101 Life Safety Code

1.05 SYSTEM DESCRIPTION:
A. Travel: _____ (25' max)
B. Stops: _____ (up to 6)
C. Load Capacity: 1400 lb.
D. Speed: 30 fpm

1.06 SUBMITTALS:
A. Submittals shall be in accordance with Section 01300, SUBMITTALS.
B. Product Data: Submit product data, including manufacturer's specifications.
C. Submittal Drawings:
1. Submittal drawings showing all field construction, including dimensions.
2. Hoistway dimensions
3. Color selection charts

1.07 QUALITY ASSURANCE
A. Qualifications:
Installer Qualifications: A company experienced in the assembly and erection of lifts and LU/LA elevators of the type specified; trained and certified by the manufacturer.
Manufacturer Qualifications: A company specializing in the manufacture of lifts for the disabled and LU/LA elevators.
B. Regulatory Requirements: The complete manufacture, fabrication and erecting of the elevator shall be in compliance with all Federal, State and local codes and ordinances. The installer shall verify requirements of the local authority having jurisdiction and shall comply with all local codes and ordinances.

1.08 DELIVERY, HANDLING & STORAGE
A. All components shall be shipped to the site in substantial crates to protect from damage during shipping and handling. Upon arrival, inspect components and keep under cover until installed.

1.09 WARRANTY
A. Unit shall have a two (2) year limited parts warranty.

1.10 MAINTENANCE:
A. Maintenance of the LU/LA elevator shall consist of regular cleaning and inspection at intervals not longer than every 6 months.
B. Inspection: ASME A17.1 requires all LU/LA elevators to be inspected every 6 months.

PART 2 PRODUCTS

2.01 MANUFACTURERS
A. Manufacturer: "Evolution" model by
National Wheel-O-Vator, a division of ThyssenKrupp Access
B. Substitutions: No substitution shall be considered unless written request for approval has been submitted and received by the architect at least ten (10) days prior to the bid date.

2.02 COMPONENTS
A. Car:
1. Size: 42" W x 54" D Clear (others available)
2. Enclosure: Shall be securely fastened to the car frame and platform. Shall be constructed of formed sheet steel panels with powder coated finish. Floorboard shall be constructed of 1-1/2" AC plywood with fire retardant coating.
3. Car entrances: Shall be equipped with D.C. powered automatic operator, horizontal sliding steel doors, automatic reopening system and clutch for hoistway door pick-up.
4. Safety Screen: Doors have full height safety light screen.
5. Car Doors: Shall be 3'0" x 6'8" with powder coated finish.

6. Handrail: Provide one stainless steel handrail located on the car wall and mounted in accordance with ICC/ANSI A117.1 requirements.
7. Telephone: Provide ADA "Hands Free" phone mounted in control panel
8. Control panel: Provide one momentary pressure illuminated button for each landing, keyed in car stop switch, alarm button, all mounted in a control panel having a removable stainless steel cover. Panel shall be designed and mounted so buttons are located in accordance with ICC/ANSI A117.1 requirements.
9. Visual feedback: Provide digital floor position indicator in control panel, indicator lights acknowledging call for car, and arrow lights indicating car's next travel direction.
10. Standard Color: Autumn White
11. Audible feedback: Provide audible signal indicating car arrival and direction of travel.
12. Tactile feedback: Provide tactile/Braille characters on all car and hall call push buttons, and hoistway door jambs
13. Interior lighting: Provide overhead light fixtures that automatically turn on when the car is in operation and turn off by means of a timer circuit

B. Hoistway entrances:
1. Design: Provide each entrance with an automatic operating, horizontal sliding door in frame.
2. Construction: Doors and frames are steel with primed finish.
3. Fire rating: Hoistway doors and frame shall be UL certified for 1 ½ hour fire rating.
4. Doors shall have a concealed locking device, interlocked with the car operation to interrupt electrical power when the door is not securely closed. The entrance door shall be locked until car door opens.

C. Hydraulic power unit:
1. The pump, submerged motor and valve shall be pre-wired, ready for connection to the controller in the field.
2. Up direction acceleration adjustment.
3. Two speed operation.
4. Adjustable pressure relief valves.
5. Manually operated down valve for emergency operation.
6. Pressure gauges and pressure gauge isolation valves.
7. Manual valve isolation between pump unit and jack.
8. Low-pressure switch provided.
9. Testing: Shall be factory tested prior to shipment.

D. Cylinder:
1. Construction: Steel pipe with cylinder head having an internal guide ring and self-adjusting packing.
2. Safety valve: Cylinder shall be equipped with a pipe rupture safety valve to prevent uncontrolled car descent.

E. Plunger:
1. Construction: Shall be a machined steel shaft equipped with a stop, electrically welded to bottom end, to prevent plunger from leaving shaft cylinder.
2. Diameter: 90 mm.

F. Cable system: 1:2 system using (2) 3/8" – 7x19 aircraft cable integrated with rams header sheave mounted to the plunger.

G. Guide rail: Shall consist of two 8-lb. tee rails assembled and fastened. Provide brackets to hold rail assembly to walls. Rail shall be furnished with steel splice plates and hardware.

H. Car frame: Shall be equipped with non-metallic faced roller guide wheels.

I. Leveling device: Provide Hall effect switch system to maintain car within ¼" of the landing.

J. Control systems: Selective collective microprocessor. System components, i.e. car top box and main control panel shall be U.L. listed.

K. Motor (submerged): 5.0 HP, 1750-RPM 208/230 VAC, single phase, (three phase available).

L. Wiring:
1. Provide flexible traveling cable for electrical lights and controls in car.
2. All other electrical wiring shall be insulated, flame retardant and moisture proof copper wiring, installed in flexible metal conduit.

M. Safety Devices:
1. Slack cable protection: Provide a stainless steel linkage device that stops and sustains the car in the event of breakage or slacking of cables.
2. Terminal stopping device: Shall be provided at the top and bottom of the car travel.
3. Over speed protection: Provide a device, which in the event of the car over speeding, stops and sustains the car at that position.
4. Provide a platform toe guard at the car entrance.

N. Two battery emergency operation system:
1. Powers a light in the car.
2. Powers an emergency alarm system.
3. Powers a system to allow car to descend to bottom terminal floor.
4. The batteries shall be a re-chargeable type complete with an automatic re-charging system.

2.03 ACCESSORIES

Specifier Note: - Due to the individual nature of elevator installations, accessories such as, but not limited to, those in the following list are available:

A. Car color.
B. Hoistway door and frame color
C. Finished flooring.
D. Hydraulic tank heater.
E. Electrical disconnect.

PART 3 EXECUTION

3.01 INSTALLATION

A. Inspect the hoistway and determine if the hoistway meets the manufacturer's requirements for clearances and plumb.

B. All components shall be assembled an erected in strict compliance with manufacturer's printed instructions.

C. All wiring shall be in accordance with the wiring diagram furnished by the manufacturer.

3.02 FIELD QUALITY CONTROL

A. Static/Running Load Test: All load rating and safety factors shall meet or exceed those specified in ASME A17.1

3.03 ADJUSTING

A. Test the elevator to assure proper operation under all conditions of use. Make proper adjustments and review operating components for proper operation.

For more details, call National Wheel-O-Vator's Design Line 800-968-5438

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