

SECTION 14 20 00

1. GENERAL

1.1. INSTRUCTIONS

1.1.1. The Elevator Contractor must report in writing to the General Contractor / Consultant any defects of surfaces or work prepared by other trades which may affect the quality or dimensions of their work. Commencement of the Elevator Contractor's work must imply complete acceptance of all work by other trades.

1.2. SYSTEM DESCRIPTION

1.2.1. A Wildeck RML-2500 (Rideable Material Lift)

1.2.1.1. Capacity of 2,500 lbs

1.2.1.2. Car size of 72" wide by 72" deep by 80 high car

1.2.1.3. Maximum travel of 14'-0" (actual lift height to be shown on architectural drawings) and with

1.2.1.4. Two level operation.

1.3. WARRANTY

1.3.1. The supplier shall warrant the lift materials to be free from manufacturing defects beginning after shipment to the customer.

1.3.1.1. Structural Components - Five years' parts and labor.

1.3.1.2. Non-Structural Components - One year parts and 90 days labor.

1.3.2. 2. Warranty does not cover damage caused by conditions beyond the control of the supplier or installer; such as abuse, negligence or failure to operate or maintain properly.

2. QUALIFICATIONS

2.1. STANDARDS

2.1.1. To establish a standard for tendering purposes, the Drawings and Specifications are based on a WILDECK, INC. – RML (Rideable Material Lift).

2.1.2. The lifting Device to be WILDECK, INC. RML - TYPE B (with riders) Material Lift or approved equal.

2.1.3. Employ only Elevator Contractors who have been satisfactorily supplying and installing similar elevating equipment over a period of at least the immediate past five years.

2.2. QUALITY ASSURANCE

2.2.1. Employ fully trained and licensed mechanics who are regularly employed in this field.

2.3. SHOP DRAWINGS

2.3.1. Submit five (5) copies of all shop drawings for the Architect to review.

2.3.2. Do not commence work until reviewed drawings have been reviewed, approved and returned.

2.4. GUARANTEE

2.4.1. The Elevator Contractor must guarantee the work and materials and must make good all defects (but not those due to ordinary wear and tear or to improper use or care) which may develop within one (1) year from the date of completion provided same has been properly used, oiled, and cared for by a registered Elevator Contractor through a Code compliant maintenance agreement, and provided all payments due by the terms of the contract have been made in full when due.

2.4.2. Workmanship and any materials supplied and used in this work to be in strict accordance with this specification.

2.5. MEASUREMENTS

2.5.1. General Contractor to confirm all site measurements and plumb-ness as per shop drawings.

2.6. MAINTENANCE

2.6.1. A preventive maintenance service contract, consisting of regular (choose one: annual, bi-annual, or quarterly) examinations, adjustments and lubrication of the elevating equipment must be provided by the Elevator Contractor after the elevating equipment has been turned over for the owner's use for a period of:

[Select one of the following]

Twelve (12) months

Twenty-four months

2.6.2. All work must be performed by competent employees during regular working hours of regular working days and must include emergency 24-hour call back service. This service must not cover adjustments or repairs due to negligence, misuse, abuse or accidents caused by persons other than the Elevator Contractor. Only genuine parts and supplies as used in the manufacture and installation of the original equipment must be provided.

2.7. SCOPE OF WORK

2.7.1. Elevator Contractor shall do all work related to the elevator from the main power disconnect to the finished installation of elevator and accessories except for items listed in **s.2.8. WORK BY OTHERS.**

2.8. WORK NOT INCLUDED UNDER THIS CONTRACT BUT SUPPLIED AND/OR INSTALLED BY OTHERS

2.8.1. Access to the control space as required by the governing Code or Authority Having Jurisdiction.

2.8.2. Suitable control space with legal access and ventilation, with concrete floor. Temperature of control space to be thermostatically controlled and maintained between 10° C (50° F) and 32° C (90° F).

2.8.3. A lockable fused disconnect switch with auxiliary contact for each elevating device in the control space National Electric Code with feeder or branch wiring to controller(s) or starter. Permanent single phase and permanent or temporary three-phase power must be available for elevating equipment installation. Temporary power must meet the specified power requirements.

2.8.4. Dry pit if required to be supplied by others and reinforced to sustain normal vertical forces from hoisting masts and impact loads. Pit waterproofing, drains, etc. where required.

2.8.5. Where access to a pit over 900 mm (35") in depth is by means of the lowest hoistway entrance, pit ladder(s) extending a minimum of 1220 mm (48") above the sill of the lowest access door, with centreline of rung 115 mm (4.5") from wall with 300 mm (12") vertically between rungs. Ladder width is 400 mm (15.75"). Ladder location as shown on drawings. Ladder and attachments must sustain a minimum load of 135 kg (298 lb.).

2.8.6. Any cutting, patching, and painting of walls, floors, or partitions together with finish painting of entrance doors and frames.

2.8.7. Necessary electric power for light, tools, hoists, etc., during erection as well as electric current for starting, testing and adjusting the elevating device.

2.8.8. Pit lighting if required.

2.8.9. Feeders, dedicated ground wire and lockable, fused disconnects wired to the elevating device controller.

2.8.10. Control space lighting level to be 200 LX minimum. Must contain a 120 VAC light fixture, switch and GFCI convenience outlet.

2.9. CODES

2.9.1. Installation, elevating device, components, accessories and operation must comply with the ASME A17.1 (CSA B44) Elevator Code currently in effect and all other governing Codes, Regulations, and By-Laws.

2.9.2. All welding of elevating device components must be done by a certified company according to all applicable codes and standards.

2.10. PERMIT AND INSPECTIONS

2.10.1. The Elevator Contractor must furnish all licenses and permits and must arrange for and make all inspections and tests required thereby.

2.11. KNOW SITE CONDITIONS

2.11.1. The Elevator Contractor to be familiar with job conditions on the site.

2.12. MAINTENANCE CONTROL PROGRAM

2.12.1. The Elevator Contractor must provide and leave on site a Maintenance Control Program in compliance with the requirements of the ASME A17.1 (CSA B44) Elevator Code. The procedures and logbook of records must be available to the inspector having jurisdiction upon request.

3. PRODUCTS

3.1. ELEVATING DEVICE

3.1.1. Wildeck RML (Rideable Material Lift) Hydraulic Material Lift, Type B (with riders)

3.1.2. Rated Load: 2,500 lbs

3.1.3. Loading Class: Class C3 – Heavy Load Concentrations

3.1.4. Drive Configuration: Direct-Acting Hydraulic

3.1.5. Rated Speed: 20 fpm.

3.1.6. Car Inside Dimensions: 72" wide by 72" long by 80" high.

3.1.7. Overall foot-print: Refer to Architectural Drawings

3.1.8. Operation: Constant pressure push buttons.

3.1.9. Entrance Type: Bi-Parting Swing door

3.1.10. Door Operation: Manual

3.1.11. Travel: Refer to Architectural Drawings. Maximum 14'-0". (State Actual)

3.1.12. Stops: Refer to Architectural Drawings. Maximum 2 floors.

3.1.13. Openings: Refer to Architectural Drawings.

3.1.14. Power Supply:

[Select one of the following]

208 VAC, 3 phase, 60 Hertz

240 VAC, 3 phase, 60 Hertz

480 VAC, 3 phase, 60 Hertz

3.1.15. Elevating device must comply with the ASME A17.1 (CSA B44) Elevator Code version currently in effect, including Supplements.

3.2. CAR CAB SPECIFICATIONS

3.2.1. The cab enclosure must consist of 14 ga. sheet metal panels fastened to a welded steel frame. The cab must have enclosed sides, which are a minimum of 2030 mm (80") high. Other standard features of the cab enclosure include:

- Car emergency lights to automatically operate when the landing gate is opened or when the car control switch is activated
- Audible alarm to operate when STOP button is pressed
- Alarm to remain operational in the event of a failure in the normal building power supply
- Battery powered emergency lowering will allow the lift to move in a down direction in event of a building power failure
- Cab must have removable panels for ease of access of all serviceable components from inside the cab enclosure
- Limit and levelling switches must be behind the removable cab walls in a vandal resistant location
- Key switch and stop button to be pre-assembled, mounted and pre-wired to the cab enclosure
- To prevent interference with the persons using the lift, the cab key switch, when activated, will prevent the hall buttons from operating
- The cab platform must be constructed of a steel frame with all welding to be done by certified welders. The cab platform must be of steel, cantilever-designed and securely bolted together plumb and square.
- Lighting: one low voltage LED fixture
- Handrail / grab-rail to be cylindrical and located below car control panel

3.2.2. Cab Options:

(Optional selections)

Telephone Inset

3.2.3. Emergency Car Lighting: The emergency power unit must illuminate the car and provide current to the alarm bell in the event of normal power failure. The equipment must comply with the requirements of the current applicable codes.

3.3. CYLINDER AND PLUNGER (JACK UNIT)

3.3.1. The jack must be designed and constructed in accordance with the applicable requirements of the ASME A17.1 Code. It must be of sufficient size to lift the gross load the height specified, and must be factory tested to insure adequate strength and freedom from leakage.

3.3.2. The jack unit must consist of the following parts: A plunger of heavy seamless steel tubing accurately turned and polished; a stop ring electrically welded to the plunger to prevent the plunger from leaving the cylinder; a packing seal of suitable design and quality; a drip ring around the cylinder top; a cylinder constructed of steel pipe complete with a pipe connection and air bleeder.

3.4. POWER UNIT

3.4.1. The pumping unit must be a unit of integral design and must include an electric motor connected to a pump, a hydraulic control system, a storage tank, necessary piping connections, and a controller, all compactly designed as a single self-contained unit. Standard features include:

- Adjustable pressure relief valve
- High & Low-pressure sensor in hydraulic valve
- Manually operable down valve to lower lift in the event of an emergency
- Pressure gauge
- Gate valve, to isolate cylinder from pump unit
- Electrical solenoid for down direction control
- 24V control and safety circuit with code approved components
- Non-interference timer to allow time for users to leave the cab before control is given to landing stations
- Lockable machine cabinet / enclosure

3.5. PUMP

3.5.1. The pump must be a positive displacement gear type to give smooth operation and must be designed and manufactured for elevating device service.

3.6. MOTOR

3.6.1. The motor must be of the alternating current, poly-phase squirrel cage induction type and must be of a design adapted to electro-hydraulic requirements.

3.7. HYDRAULIC CONTROL SYSTEM

- 3.7.1. The hydraulic control system must be of compact design suitable for operation under the required pressures. The control valve must be a manifold with up, down, and check valve sections. A control section including solenoid valves will direct the main valve and control up and down starting, up and down stops, pressure relief and manual lowering. Down speed and up levelling will be controlled at the main valve sections. All of these functions must be fully adjustable for maximum smoothness and to meet contract conditions. All control systems must be pre-adjusted at the factory.
- 3.7.2. The manual lowering feature must permit lowering the elevating device at slow speed in the event of power failure or for adjusting purposes.

3.8. LEVELLING DEVICE

- 3.8.1. The elevating device must be provided with an automatic levelling device which brings the car to a stop within 25.4 mm (1") of the landing level regardless of load and in "up travel" only. Landing level will be maintained within the levelling zone irrespective of the hoistway doors being open or closed.

3.9. STORAGE TANK

- 3.9.1. The storage tank must be constructed of steel, and must be provided with a cover and a filter screen mounted over the suction inlet. Tank design must incorporate a reserve capacity. An initial supply of oil sufficient for proper operation must be provided.

3.10. PIPING

- 3.10.1. Pipe of adequate size and thickness must be installed between the pumping unit and the cylinder head. Rubber High Pressure Hose must have a Burst Pressure rated at 10x working pressure. A shut off valve must be provided for maintenance and adjusting purposes.

3.11. CONTROLLER

- 3.11.1. A microprocessor controller with a diagnostic display must be provided, including necessary starting switches of adequate size together with all relays, switches and hardware required to accomplish the operation specified. Overload protection must be provided to protect the motor against overloading.

3.12. CAR STALL PROTECTIVE CIRCUIT

- 3.12.1. A protective circuit must be provided which will stop the motor and the pump and return the car to its lowest landing in the event the car does not reach its designed landing with a predetermined time interval. This circuit will permit a normal exit from the car but prevent further operation of the elevating device until the issue has been corrected.

3.13. WIRING

- 3.13.1. All wiring and electrical interconnections must comply with the governing Codes.

3.14. HOISTWAY OPERATING DEVICES

3.14.1. Normal terminal stopping devices must be provided.

3.15. PIT SWITCH

3.15.1. An emergency stop switch must be located in the pit when pit is greater than 24" deep.

3.16. PIT MAINTENANCE STAND

3.16.1. Provide a non-removable means to mechanically hold the car above the pit floor to provide an area in the pit for maintenance and inspection as per requirements of the ASME A17.1 Elevator Code.

3.17. PLATFORM

3.17.1. The car platform must have a fabricated frame of formed and structural steel shapes, rigidly welded.

3.18. CAR FRAME

3.18.1. A suitable car frame fabricated from formed or structural steel members must be provided with adequate bracing to support the platform and car enclosure. The crosshead must be of sufficient strength to lift the fully loaded car when slung from the lifting points.

3.19. GUIDES

3.19.1. Steel wide flange guide beams must be furnished to guide the car, erected plumb and securely fastened to the building structure.

3.19.2. Guides must be mounted on top and bottom of the car per manufacturers design and instructions.

3.20. PERIMETER GUARDING

3.20.1. The lift system must be protected at all points where the equipment can be accessed by persons.

3.20.2. The guarding (in conjunction with any existing building wall) should provide a fully enclosed shaft-way for the lift.

3.20.3. Guarding to be constructed of structural steel framing with flattened expanded metal mesh panels.

3.21. DOOR / GATE OPERATION

3.21.1. An approved positive interlock must be provided for each landing entrance which must prevent operation unless all doors / gates are closed and must maintain the doors in their closed position while the elevating device is away from the landing. Provide emergency access to the hoistway as required by governing Codes.

3.21.2. Gates must have a secured emergency release.

3.21.3. The door / gate locking mechanism (beak) must be of the 'hidden mounting' type, fastened to a framing of the door / gate system.

3.22. HALL (CALL/SEND) STATIONS

3.22.1. The hall station controls must consist of call buttons, and an emergency stop button and there must be lift operating instructions at each entrance.

3.23. FINISH

3.23.1. All metal surfaces, fabricated by Wildeck, will be cleaned and coated with a polyurethane paint system.

3.23.2. All purchased components to be manufacturers standard paint and color.

3.23.3. Color: Wildeck Gray

4. OPTIONAL FEATURES (DELETE ITEMS NOT REQUIRED) NOT PROVIDED BY LIFT

MANUFACTURER.

4.1. TELEPHONE

4.1.1. If required, an ADA-approved AUTODIAL telephone must be furnished and installed as part of the car station. A separate phone line to the elevating device controller must be provided and located in the machine room under another section of the specifications.