



National Reach. Local Service.

Section 144216

**VERTICAL WHEELCHAIR LIFTS**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES:**

- A. UL – Unenclosed.
- B. SL – Shaftway.
- C. EL – Enclosed.
- D. Hybrid (Elevator Style Lift).

**1.02 RELATED SECTIONS:**

- A. Section 00330 - Cast-in-Place Concrete: Concrete shaftway and anchor placement.
- B. Section 04800 - Masonry Assemblies: Masonry shaftway and anchor placement.
- C. Section 06100 - Rough Carpentry: Blocking in framed construction for lift attachment.
- D. Section 09260 - Gypsum Board Assemblies: Gypsum shaft walls.
- E. Division 16 – Electrical: Dedicated telephone service and wiring connections.
- F. Division 16 – Electrical: Lighting and wiring connections at top of shaft.
- G. Division 16 – Electrical: Electrical power service and wiring connections.

**1.03 REFERENCES:**

- A. This lift shall be designed and tested in accordance with ICC/A117.1, NEC and ASME A18.1 Guidelines.
- B. All designs, clearances, construction, workmanship and installation shall be in accordance with the requirements and code adopted by the authority having jurisdiction.
- C. This platform lift shall be subject to local, city and state approval prior to and following installation.

**1.04 SUBMITTALS:**

- A. Submit under provisions of Section 01300.
- B. Product Information:
  - 1. Submit manufacturer's installation instructions including preparation and equipment handling requirements.
  - 2. Show maximum and average power necessity.
- C. Drawings shall include:
  - 1. Typical details of assembly, erection and anchorage.
  - 2. Wiring diagrams for power, control, and signal systems.
  - 3. Complete layout with location of equipment.
- D. Manufacturer's Certificates must certify products meet or exceed specified requirements.

**1.05 QUALITY ASSURANCE:**

- A. Manufacturer: Company shall contain personnel with not less than ten (10) years of experience in the design and fabrication of vertical wheelchair lifts.

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**Comment [1]: PRINTING INSTRUCTIONS:**  
To print document WITHOUT comments.

\* Press Print

\* In the Print Box in the option "Print What" select "Document" in the drop down menu.

Any Questions call 877.568.5804 for immediate assistance.

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**Comment [2]:** This section is based on the products of Symmetry Elevating Solutions. Tel: 877-568-5804, Web: [www.symmetryelevator.com](http://www.symmetryelevator.com)

Symmetry Elevating Solutions is a US Owned & Operated company specializing in the manufacturing of Wheelchair Lifts, Residential Elevators and Limited Use/Limited Application Elevators. A leader in the accessibility industry with a reputation for quality and reliability, Symmetry is industry leading with innovative products.

The Symmetry Elevating Solutions Vertical Wheelchair Lift is available in UL (unenclosed), SL (Shaftway), EL (Enclosed & Hybrid, all models are suitable for indoor or outdoor use. The UL is a self-contained unenclosed VPC designed for lifting heights up to 60" and can be mounted directly to the floor or in a shallow pit. The SL is installed in a shaftway with a lifting height up to 168". The lift platform and drive tower are located in the shaftway while each landing consists of a door or gate. The EL travels up and down within its own, self-contained enclosure. In addition to the drive tower, lift platform, and enclosure, this unit also has landing doors and/or gates fully integrated into the walls themselves. Lifting height up to 168". The Hybrid VPC looks and feels like an elevator, but operates like a lift. Available in many different size and configurations, features include full a height cab, non-load bearing ceiling and a wide variety of finishes. Lifting height up to 168".

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**Comment [3]:** Select Vertical Wheelchair Lift(s) required for this project and delete one(s) not required.

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**Comment [4]:** Delete any sections below not relevant to this project; add others required.

- B. Technical Services: Manufacturer and authorized dealer shall work with architects, engineers and contractors to adapt the vertical wheelchair lift to the design and structural requirements of the building, site, and code requirements.
- C. Unit must be assembled and tested in factory before shipment. Vertical Wheelchair Lift equipment shall meet or exceed the National and Local standards.
- D. All load ratings and safety factors shall meet or exceed those specified by all governing agencies with jurisdiction and shall be certified by a professional engineer.
- E. Installer Qualifications: Factory trained and licensed to install equipment of this scope, with evidence of experience with specified equipment. Installing company shall have qualified people available to ensure fulfillment of maintenance and callback service.

1.06 REGULATORY REQUIREMENTS

- A. Provide Vertical Wheelchair Lift complying with:
  - 1. ASME A18.1 – Safety Code for Platform Lifts
  - 2. ASME A17.1 – Safety Code for Elevators and Escalators
  - 3. ASME A17.5 – Elevator and Escalator Electrical Equipment

1.07 DELIVERY, STORAGE, AND HANDLING:

- A. Products stored in manufacturer's unopened packaging until ready for installation.
- B. Components stored off the ground in a dry covered space, protected from weather conditions.

1.08 PROJECT CONDITIONS:

- A. Vertical Wheelchair Lift not to be used for hoisting materials or personnel during construction.

1.09 WARRANTY:

- A. Unit shall have a FOUR (4) year limited parts warranty covering replacement of defective parts of the basic unit, including all electrical and drive system components, at no cost. Labor costs required to replace parts is not included. Preventative maintenance agreement required.
- B. Extended Warranty: Provide an extended manufacturer's warranty covering the vertical wheelchair lift components for the following additional period beyond the initial standard four year warranty. Preventative Maintenance every six (6) months required.
  - 1. 3 years (7 years total).
  - 2. 6 years (10 years total).
  - 3. Lifetime.

1.10 MAINTENANCE

- A. Maintenance of the vertical wheelchair lift unit shall consist of regular cleaning, inspection, and adjustment of the unit at intervals not longer than every six (6) months. Rule 10.2.1 of ASME A18.1 required all Vertical Wheelchair Lifts to be inspected every six (6) months. Provide maintenance contract for the following years:
  - 1. 4 years.
  - 2. 7 years.
  - 3. 10 years.
  - 4. Lifetime.

PART 2 PRODUCT

2.01 MANUFACTURER:

- A. Acceptable Manufacturer: Symmetry Elevating Solutions  
Email: [customerservice@symmetryelevator.com](mailto:customerservice@symmetryelevator.com)  
Toll Free: 877-568-5804  
Website: [www.symmetryelevators.com](http://www.symmetryelevators.com)

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**Comment [5]:** The manufacturers basic warranty is a 4 year limited parts. Warranty requires maintenance agreement during the warranty period.

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**Comment [6]:** Extended Warranty is optional. Select the Extended Warranty option and delete ones not required.

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**Comment [7]:** Include this section if Standard or Extended warranty is specified above. Select one of the Maintenance Service options and delete the ones not required.

- B. U.S. OWNED AND OPERATED: Manufacturer must registered U.S. owned company and manufacturing operation located in the United States of America – America Owned, American Operated.
- C. No Substitutions Allowed.
- D. Request for substitutions will be considered in accordance with provisions of section 01600.

2.02 UNENCLOSED VERTICAL WHEELCHAIR LIFT:

- A. General Description: The Unenclosed vertical platform lift is designed for lifting heights up to 60". Versatile enough for indoor or outdoor use, this unit can either be mounted directly to the floor or in a shallow pit.
- B. Capacity:
  - 1. 750 lbs.
- C. Lifting Height
  - 1. Up to 42 inches.
  - 2. Up to 60 inches.
  - 3. Up to 72 inches (Residential Application only).
  - 4. Up to 96 inches (Residential Application only).
  - 5. Up to 120 inches (Residential Application only).
  - 6. Up to 144 inches (Residential Application only).
  - 7. Up to 168 inches (Residential Application only).
- D. Platform Size:
  - 1. 36" W x 48" D
  - 2. 36" W x 54" D
  - 3. 36" W x 60" D
  - 4. 38" W x 54" D
  - 5. 42" W x 60" D
  - 6. Custom Size \_\_\_\_\_ W x \_\_\_\_\_ D
- E. Platform Configuration:
  - 1. Straight Through.
  - 2. Enter/Exit same side.
  - 3. 90 Degree.
- F. Gate/Door:
  - 1. Gate Height: 42 inches.
  - 2. Platform Gate: Travels with platform and opens at lower landing.
  - 3. Upper Landing Gate: Detached, freestanding type.
- G. Landing Openings:
  - 1. Lower Landing: Door.
  - 2. Lower Landing: Gate.
  - 3. Upper Landing: Door.
  - 4. Upper Landing: Gate.
- H. Door Construction:
  - 1. 42 inch tall Landing/Platform Gate.
  - 2. 80 inch tall gate.
    - a. Lower Landing
    - b. Upper Landing
  - 3. A CSD-Rated (R) Fire Rated (B Label) flush mounted steel door and frame shall be provided. Door shall include wire mesh vision panel with delay action door closure, dead latch, dummy trim door handle and electric strike.

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**Comment [8]:** Select one of the Substitution options and delete the one not required.

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**Comment [9]:** Note to Specifier:  
Select one or more of the following four Vertical Wheelchair Lift types based on the application needed for this project. Delete the ones not required.

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**Comment [10]:** Select one of the Lifting Height options and delete the ones not required.

Lifting height for pitted application: Distance from the bottom of the pit to the upper floor level.

Lifting height for non-pitted application: Distance from the floor to the upper floor level.

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**Comment [11]:** Select one of the Platform Size options and delete the ones not required. Custom platform sizes are also available in 1" increments. Maximum platform size is a code related item. Verify maximum platform size with local city and state authority having jurisdiction. Contact Symmetry Elevating Solutions for details.

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**Comment [12]:** Select one of the Platform Configuration options and delete the ones not required.

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**Comment [13]:** Select Landing Opening options for Upper and Lower landing. Delete the ones not required.

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**Comment [14]:** Select the Door Construction options needed for this Project. Delete the ones not required.

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**Comment [15]:** If choosing this door application choose at which landing(s).

4. A CSD – Non-Rated (NR) Low profile flush mounted steel door and frame shall be provided. Door shall include mesh vision panel with delay action door closure, dead latch, dummy trim door handle, lock plate cover and electric strike.
  - a. Panels of 16 gauge galvanized steel.
  - b. Panels of clear Plexiglas.
  - c. Panels of bronze Plexiglas.
  - d. Panels of ¼ inch laminated safety glass.
5. A CWS – Flush mounted, solid core oak laminated door and (oak) frame shall be provided. Door shall include mesh vision panel with delay action door closure, dead latch, dummy trim door handle, lock plate cover and electric strike.
6. Flush mounted, 42 inches high, solid core oak laminated gate and (oak) frame shall be provided at the upper landing. Gate includes spring hinges, dead latch, dummy trim gate handle, lock plate cover and electric strike.

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**Comment [16]:** If choosing this door application choose one of the following 4 panel options and delete the ones not required.

I. **Power Gate Operators:**

1. **Location:**
  - a. Platform Gate.
  - b. Upper landing Gate.
2. "Smart Operation" Power Gate Operator: Allows operator to open, stop at obstruction, close and remain in NORMAL operation mode. Operator will not stop mid cycle and leave unit non-operational.
3. Opens automatically when platform arrives at landing, pressing the call button, or pulling on the gate.
4. ADA compliant.
5. Low voltage, 24 VDC.

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**Comment [17]:** If Power Gate Operators are not required for this project delete this section. Power Door Operators are required in many jurisdictions, certain platform configurations, and if min. 18" strike side clearance is not met.

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**Comment [18]:** Select the paragraphs below for the landings to be equipped with a Power Gate Operator. Delete the landing not needed if necessary.

J. **Screw Drive:**

1. Drive Type: Acme Screw Drive.
2. Travel speed: 10 fpm.
3. Motor: 1HP, 115 volt, 1 phase.
4. **Power Supply:**
  - a. 115 VAC, 30 Amp, Single Phase.
  - b. 230 VAC, 15 Amp, Single Phase.
5. **Battery Powered Emergency Lowering:**
  - a. Battery powered platform lowering device which automatically activates in the event of power failure.
  - b. Capable of running lift up and down for a minimum of 5 trips with rated load.
6. The drive mechanism shall be a stationary nut on a rotating 1" diameter Acme screw with a secondary safety nut.

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**Comment [19]:** Select one of the Power Supply options and delete the one not required. Standard: 115 VAC, 30 Amp, Single Phase

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**Comment [20]:** Optional. Delete if not required.

K. **Hydraulic Drive:**

1. Drive Type: Chain Hydraulic.
2. Travel speed: 17 to 20 fpm.
3. Motor: 2HP, 24 VDC. AC powered primary drive.
1. Power Supply: 115 VAC, 15 Amp, Single Phase
  - a. Powered by continuous building mains converted to 24 VDC equipped with auxiliary battery power system. Battery power system capable of running lift up and down for a minimum of 5 trips with rated load.
4. Standard on board 24 VDC standby battery power to operate the lift up and down in the event of a power failure.
5. Drive mechanism shall be a 1:2 #60 roller chains hydraulic equipped with a type "A" instantaneous slack chain safety device.

6. Hydraulic connections shall be metal and have rated pressure that withstands the working pressure with a 5 times safety factor.
7. Bi-directional leveling, factory supplied oil collection means as required by A18.1-8.1.4.7, Angled pressure gage standard, roller bearing sprockets, vibration isolated hydraulic power unit.

L. Lift Components:

1. Symmetry Elevating solutions PLC Controller with self diagnostics and digital display. A.W.A.R.E. System (Active Wiring, Accessories, Relay & Electronics Diagnosis System) generates on-demand diagnostic codes identifying trouble or maintenance codes.
2. The Drive Tower support shall be a combination 7 gauge C Channel, 7 gauge interface plates and 16 gauge exterior skin.
3. Platform shall be constructed of 12-gauge minimum hot rolled steel. If unit is not installed in a 3-inch pit, an auto-retracting ramp, or stationary ramp, shall be provided that extends to meet lower landing.
4. Platform side panels shall be 42" high, Side panel framework shall be a minimum of 1"x1 ½" steel. Solid infill panels shall be a minimum of 18 gauge steel.
5. Carriage platform supports shall be a minimum of ½" steel. Solid infill panels shall be a minimum of 18 gauge steel.
6. Elevator style (Nylon) rollers shall be used for axial carriage guidance and wear pads shall be used for horizontal stability.
7. Loaded fasteners shall be grade eight or higher. Locking fasteners shall be used in all critical locations.
8. **Outdoor Protection:** Lift shall include modifications recommended by manufacturer for reliable performance in extreme outdoor environment.

M. Platform Base & Frame Installation:

1. Pit Mount: (recess application) Level pit floor slab recessed min. 3" by others as outlined on site specific show drawings. This application does not require ramp and allows for smooth transition from landing into lifting equipment.
2. Floor Mount: (non-recess application) If unit is not installed in a min. 3" pit, an auto-retracting ramp shall be provided that extends to meet the lower landing. Optional fixed mounted ramp is available. (verify clear landing requirements if fixed ramp selected)
  - a. **Platform Access Ramp:** 12 gauge galvanized steel plates; slip resistant surfaces.
    1. Ramp: Stationary type.
    2. Ramp: Automatic folding type.
3. Carriage to be equipped standard with articulating base and carriage design, which allows the carriage to be folded to reduce the tower and carriage width to 21" for ease of installation, without removal of the carriage.

N. Platform Controls:

1. Constant pressure up/down control switches shall be installed on the platform. All switches meet IP66 requirements.
2. An illuminated emergency stop switch / Audible alarm switch shall be provided on the car as a means of signaling for assistance in the event of an emergency.
3. **Keyless operation.**
4. **Keyed operation.**
5. **Emergency Telephone:**

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**Comment [21]:** Select this optional feature when weather protections is required. Delete if not required.

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**Comment [22]:** Lift can be mounted in a pit or floor mounted with a ramp. Select one of the Lower Landing Base Mounting options. Delete the one not required.

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**Comment [23]:** Select one of the Ramp Types if a ramp is being used. Ramps are not required if lift mounts in a pit.

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**Comment [24]:** Select one of the Keyed options. Standard: Keyless Operation.

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**Comment [25]:** Select one of the Emergency Telephone options. Emergency phone may be required by local jurisdiction based on application. Delete if not required.

- a. Wiring Only.
- b. Platform shall be equipped with a telephone meeting the following requirements:
  - 1. ADA compliant.
  - 2. Shall be operational in the event of power failure.
  - 3. Specified under Division 16 a telephone line shall be supplied to the lift.

O. Call Station Controls:

- 1. Constant pressure up/down control switch installed on the platform.
- 2. Constant pressure, elevator-style, hall call control stations provided at each landing.
- 3. Keyless operation.
- 4. Keyed operation.
- 5. Call Station Mounting:
  - a. Lower:
    - 1. In-Frame.
    - 2. Surface Mount.
    - 3. Flush Mount.
  - b. Upper:
    - 1. In-Frame.
    - 2. Surface Mount.
    - 3. Flush Mount.

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**Comment [26]:** Elevator style buttons are indoor use only.

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**Comment [27]:** Select one of the Keyed options. Standard: Keyless Operation.

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**Comment [28]:** Select Call Station Mounting required. Delete the ones not required.

P. Safety Features/Devices:

- 1. Grounded electrical system with upper, lower, and final limit switches.
- 2. Safety Pan (Required).
- 3. Obstruction Panel, preventing unit from moving downward when an obstruction is encountered.
- 4. A grab rail shall be provided on the platform.
- 5. A gate with a min. height of 42" and a combination mechanical lock with an electric contact shall be provided at the upper landing, lock must be engaged for lift to move from landing.
- 6. At all landings an electromechanical interlock shall be used to keep doors closed when lift is on another floor.
- 7. Electrical disconnect which will shut off power to the lift.
- 8. Pit stop switch mounted on Drive Tower.

Q. Finishes:

- 1. Finish shall be powder coating, oven baked.
- 2. Color:
  - a. Ivory.
  - b. White.
  - c. Black.
  - d. Grey.
  - e. A selection from 213 RAL colors.

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**Comment [29]:** Pit Stop switch is optional. Delete if not required.

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**Comment [30]:** Select one of the Color options. Delete the ones not required. Standard: Ivory.

2.03 SHAFTWAY VERTICAL WHEELCHAIR LIFT:

- A. General Description: The Shaftway vertical platform lift (wheelchair lift) is installed in a shaftway or hoistway built by others. The lift platform and drive tower are located within the shaftway, while each landing consists of a door or gate, integral to the operation of the lift. At the uppermost landing, the shaftway can extend all the way to the ceiling or to a minimum of 42" beyond the upper landing, for a more "open" application.
- B. Capacity:

1. 750 lbs.
- C. **Lifting Height**
1. Up to 42 inches.
  2. Up to 60 inches.
  3. Up to 72 inches.
  4. Up to 96 inches.
  5. Up to 120 inches.
  6. Up to 144 inches.
  7. Up to 168 inches.
- D. **Platform Size:**
1. 36" W x 48" D
  2. 36" W x 54" D
  3. 36" W x 60" D
  4. 38" W x 54" D
  5. 42" W x 60" D
- E. **Platform Configuration:**
1. Straight Through.
  2. Enter/Exit same side.
  3. 90 Degree.
- F. **Gate/Door:**
1. Gate Height: 42 inches.
  2. Upper Landing Gate: Detached, freestanding type.
- G. **Landing Openings:**
1. Lower Landing: Door.
  2. **Intermediate Landing: Door.**
  3. **Upper Landing: Door.**
  4. **Upper Landing: Gate.**
- H. **Door Construction:**
1. A CSD-Rated (R) Fire Rated (B Label) flush mounted steel door and frame shall be provided. Door shall include wire mesh vision panel with delay action door closure, dead latch, dummy trim door handle and electric strike.
  2. A CSD – Non-Rated (NR) Low profile flush mounted steel door and frame shall be provided. Door shall include mesh vision panel with delay action door closure, dead latch, dummy trim door handle, lock plate cover and electric strike.
    - a. Panels of 16 gauge galvanized steel.
    - b. Panels of clear Plexiglas.
    - c. Panels of bronze Plexiglas.
    - d. Panels of ¼ inch laminated safety glass.
  3. A CWS – Flush mounted, solid core oak laminated door and (oak) frame shall be provided. Door shall include mesh vision panel with delay action door closure, dead latch, dummy trim door handle, lock plate cover and electric strike.
  4. Flush mounted, 42 inches high, solid core oak laminated gate and (oak) frame shall be provided at the upper landing. Gate includes spring hinges, dead latch, dummy trim gate handle, lock plate cover and electric strike.
- I. **Upper Landing Gate Construction:**
1. A minimum 42 inch high gate with combination mechanical lock and electrical contact, pre-hung on a steel tubular frame. Gate hinges designed to auto close. Gate framework to be 1" x 1 ½" steel with 16g solid infill steel panel. Optional mid mount gate operator can be designed and integrated into gate design.

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**Comment [31]:** Select one of the lifting height options and delete the ones not required.

Lifting height for pitted application: Distance from the bottom of the pit to the upper floor level.

Lifting height for non-pitted application: distance from the floor to the upper floor level.

Symmetry Elevating S..., 6/6/12 11:25 AM

**Comment [32]:** Select one of the platform size options and delete the ones not required. Custom platform sizes are also available in 1" increments. Maximum platform size is a code related item. Verify maximum platform size with local city and state authority having jurisdiction. Contact Symmetry Elevating Solutions for details.

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**Comment [33]:** Select one of the Platform Configuration options and delete the ones not required.

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**Comment [34]:** Delete this paragraph when lift has only two stops.

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**Comment [35]:** Select Landing Opening options for the Upper Landing. Delete the one not required.

Symmetry Elevating S..., 6/6/12 11:26 AM

**Comment [36]:** Select Door Construction options required for this project. Delete the ones not required.

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**Comment [37]:** If choosing this door application choose one of the following 4 panel options and delete the ones not required.

- a. Panels of 16 gauge galvanized steel.
  - b. Panels of clear Plexiglas.
- J. Power Door Operators:
  - 1. Location:
    - a. Lower Landing: Door.
    - b. Intermediate Landing: Door.
    - c. Upper Landing: Door or Gate.
  - 2. "Smart Operation" Power Door Operator: Allows operator to open, stop at obstruction, close and remain in NORMAL operation mode. Operator will not stop mid cycle and leave unit non-operational.
  - 3. Opens automatically when platform arrives at landing, pressing the call button, or pulling on the gate.
  - 4. ADA compliant.
  - 5. Low voltage, 24 VDC.
- K. Screw Drive:
  - 1. Drive Type: Acme Screw Drive.
  - 2. Travel speed: 10 fpm.
  - 3. Motor: 1HP, 115 volt, 1 phase.
  - 4. Power Supply:
    - a. 115 VAC, 30 Amp, Single Phase.
    - b. 230 VAC, 15 Amp, Single Phase.
  - 5. Battery Powered Emergency Lowering:
    - a. Battery powered platform lowering device.
    - b. Automatically activates in the event of power failure.
    - c. Capable of running lift up and down for a minimum of 5 trips with rated load.
  - 6. The drive mechanism shall be a stationary nut on a rotating 1" diameter Acme screw with a secondary safety nut.
- L. Hydraulic Drive:
  - 1. Drive Type: Chain Hydraulic.
  - 2. Travel speed: 17 to 20 fpm.
  - 3. Motor: 2HP, 24 VDC. AC powered primary drive.
  - 2. Power Supply: 115 VAC, 15 Amp, Single Phase
    - a. Powered by continuous building mains converted to 24 VDC equipped with auxiliary battery power system. Battery power system capable of running lift up and down for a minimum of 5 trips with rated load.
  - 4. Standard on board 24 VDC standby battery power to operate the lift up and down in the event of a power failure.
  - 5. Drive mechanism shall be a 1:2 #60 roller chains hydraulic equipped with a type "A" instantaneous slack chain safety device.
  - 6. Hydraulic connections shall be metal and have rated pressure that withstands the working pressure with a 5 times safety factor.
  - 7. Bi-directional leveling, factory supplied oil collection means as required by A18.1-8.1.4.7, Angled pressure gage standard, roller bearing sprockets, vibration isolated hydraulic power unit.
- M. Lift Components:
  - 1. Symmetry Elevating solutions PLC Controller with self diagnostics and digital display. A.W.A.R.E. System (Active Wiring, Accessories, Relay & Electronics Diagnosis System) generates on-demand diagnostic codes identifying trouble or maintenance codes.

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**Comment [38]:** Select one of the Upper Gate Construction options. Delete the ones not required.

Symmetry Elevating S..., 6/6/12 11:31 AM

**Comment [39]:** If Power Gate Operators are not required for this project delete this section. Power Door Operators are required in many jurisdictions, certain platform configurations, and if strike side clearance is not met.

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**Comment [40]:** Select the paragraphs below for the landings to be equipped with a Power Gate Operator. Delete the landing not needed if necessary.

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**Comment [41]:** Select one of the Power Supply options and delete the one not required. Standard: 115 VAC, 30 Amp, Single Phase

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**Comment [42]:** Optional. Delete if not required.



2. The Drive Tower support shall be a combination 7 gauge C Channel, 7 gauge interface plates and 16 gauge exterior skin.
  3. Platform shall be constructed of 12-gauge minimum hot rolled steel. If unit is not installed in a 3-inch pit, an auto-retracting ramp shall be provided that extends to meet lower landing.
  4. Platform side panels shall be 42" high, Side panel framework shall be a minimum of 1"x1 ½" steel. Solid infill panels shall be a minimum of 18 gauge steel.
  5. Carriage platform supports shall be a minimum of ½" steel. Solid infill panels shall be a minimum of 18 gauge steel.
  6. Elevator style (Nylon) rollers shall be used for axial carriage guidance and wear pads shall be used for horizontal stability.
  7. Loaded fasteners shall be grade eight or higher. Locking fasteners shall be used in all critical locations.
- N. Drive Tower Side Wall Panels: Provide panels to cover the front and top of the open area to the top of the top surface drive tower. Panels shall be 16 gauge galvanized steel, mounting hardware include.
- O. Platform Base & Frame Installation:
1. Pit Mount: (recess application) Level pit floor slab recessed min. 3" by others as outlined on site specific show drawings. This application does not require ramp and allows for smooth transition from landing into lifting equipment.
  2. Floor Mount: (non-recess application) If unit is not installed in a min. 3" pit, an auto-retracting ramp shall be provided that extends to meet the lower landing. Optional fixed mounted ramp is available. (verify clear landing requirements if fixed ramp selected)
    - a. Platform Access Ramp: 12 gauge galvanized steel plates; slip resistant surfaces.
      1. Ramp: Stationary type.
      2. Ramp: Automatic folding type.
  3. Carriage to be equipped standard with articulating base and carriage design, which allows the carriage to be folded to reduce the tower and carriage width to 21" for ease of installation, without removal of the carriage.
- P. Platform Controls:
1. Constant pressure up/down control switches shall be installed on the platform. All switches meet IP66 requirements.
  2. An illuminated emergency stop switch / Audible alarm switch shall be provided on the car as a means of signaling for assistance in the event of an emergency.
  3. Keyless operation.
  4. Keyed operation.
  5. Emergency Telephone:
    - a. Wiring Only.
    - b. Platform shall be equipped with a telephone meeting the following requirements:
      1. ADA compliant.
      2. Shall be operational in the event of power failure.
      3. Specified under Division 16 a telephone line shall be supplied to the lift.
- Q. Call Station Controls:
1. Constant pressure up/down control switch installed on the platform.

Symmetry Elevating Sol..., 8/1/12 4:42 PM

**Comment [43]:** Lift can be mounted in a pit or floor mounted with a ramp. Select one of the Lower Landing Base Mounting options. Delete the one not required.

Symmetry Elevating Sol..., 8/1/12 4:42 PM

**Comment [44]:** Select one of the Ramp Types if a ramp is being used. Ramps are not required if lift mounts in a pit.

Symmetry Elevating S..., 6/6/12 11:39 AM

**Comment [45]:** Select one of the Keyed options. Standard: Keyless Operation.

Symmetry Elevating S..., 6/6/12 11:39 AM

**Comment [46]:** Select one of the Emergency Telephone options. Emergency phone may be required by local jurisdiction based on application. Delete if not required.

2. Constant pressure, elevator-style, hall call control stations provided at each landing.
3. Keyless operation.
4. Keyed operation.
5. Call Station Mounting:
  - a. Lower:
    1. In-Frame.
    2. Surface Mount.
    3. Flush Mount.
  - b. Intermediate:
    1. In-Frame.
    2. Surface Mount.
    3. Flush Mount.
  - c. Upper:
    1. In-Frame.
    2. Surface Mount.
    3. Flush Mount.

R. Safety Features/Devices:

1. Safety Pan.
2. Grounded electrical system with upper, lower, and final limit switches.
3. When not installed with a runway enclosure, the platform shall be equipped with an obstruction panel that will stop only the downward travel if an obstruction is encountered.
4. A grab rail shall be provided on the platform.
5. A gate with a min. height of 42" and a combination mechanical lock with an electric contact shall be provided at the upper landing, lock must be engaged for lift to move from landing.
6. At all landings an electromechanical interlock shall be used to keep doors closed when lift is on another floor.
7. Electrical disconnect which will shut off power to the lift.
8. Pit stop switch mounted on mast wall.

S. Finishes:

1. Finish shall be electro statically applied powder coating, oven baked to cure.
2. Color:
  - a. Ivory.
  - b. White.
  - c. Black.
  - d. Grey.
  - e. A selection from 213 RAL colors.

2.04 ENCLOSED VERTICAL WHEELCHAIR LIFT:

- A. General Description: The Enclosure vertical wheelchair lift travels up and down within its own, self-contained enclosure. The enclosure can either have an "open" look with a 42" tall gate and enclosure extension above the upper landing, or be fully enclosed complete with full-height doors, roof and ventilation system for outdoor applications. In addition to the drive tower, lift platform, and enclosure, this unit also has landing doors and/or gates that are fully integrated into the walls themselves.
- B. Capacity:
1. 750 lbs.
- C. Lifting Height:

Symmetry Elevating S..., 6/14/12 1:48 PM

**Comment [47]:** Elevator style buttons are indoor use only.

Symmetry Elevating S..., 6/6/12 11:41 AM

**Comment [48]:** Select one of the two Call Station Control types. Delete the one not required. Standard: A constant pressure hall call control switch.

Symmetry Elevating S..., 6/6/12 11:42 AM

**Comment [49]:** Select one of the Keyed options. Standard: Keyless Operation.

Symmetry Elevating S..., 6/6/12 11:42 AM

**Comment [50]:** Select Call Station Mounting required. Delete the ones not required.

Symmetry Elevating S..., 6/6/12 11:43 AM

**Comment [51]:** Pit Stop switch is optional. Delete if not required.

Symmetry Elevating S..., 6/6/12 11:44 AM

**Comment [52]:** Select one of the Color options. Delete the ones not required. Standard: Ivory.

Symmetry Elevating S..., 6/6/12 11:53 AM

**Comment [53]:** Select one of the Lifting Height options and delete the ones not required.

Lifting height for pitted application: Distance from the bottom of the pit to the upper floor level.

Lifting height for non-pitted application: Distance from the floor to the upper floor level.

1. Up to 42 inches.
2. Up to 60 inches.
3. Up to 72 inches.
4. Up to 96 inches.
5. Up to 120 inches.
6. Up to 144 inches.
7. Up to 168 inches.

D. Platform Size:

1. 36" W x 48" D
2. 36" W x 54" D
3. 36" W x 60" D
4. 42" W x 60" D
5. 42" W x 60" D

E. Platform Configuration:

1. Straight Through.
2. Enter/Exit same side.
3. 90 Degree.

F. Gate/Door:

1. Gate Height: min. 42 inches.
2. Door Height: 80" clear.
3. Platform Gate required on 3" above enclosures.
4. Integrated upper landing gate. 42 inches or 80 inches available.

G. Landing Openings:

1. Lower Landing: Gate.
2. Intermediate Landing: Integrated Lower Landing Gate.
3. Upper Landing: Door.
4. Upper Landing: Gate.

H. Door Construction:

1. A CSD-Rated (R) Fire Rated (B Label) flush mounted steel door and frame shall be provided. Door shall include wire mesh vision panel with delay action door closure, dead latch, dummy trim door handle and electric strike.
2. A CSD – Non-Rated (NR) Low profile flush mounted steel door and frame shall be provided. Door shall include mesh vision panel with delay action door closure, dead latch, dummy trim door handle, lock plate cover and electric strike.
  - a. Panels of 16 gauge galvanized steel.
  - b. Panels of clear Plexiglas.
  - c. Panels of bronze Plexiglas.
  - d. Panels of ¼ inch laminated safety glass.
3. A CWS – Flush mounted, solid core oak laminated door and (oak) frame shall be provided. Door shall include mesh vision panel with delay action door closure, dead latch, dummy trim door handle, lock plate cover and electric strike.
4. Flush mounted, 42 inches high, solid core oak laminated gate and (oak) frame shall be provided at the upper landing. Gate includes spring hinges, dead latch, dummy trim gate handle, lock plate cover and electric strike.
5. A RDI Interlock with steel housing and cam, integrated into door frame that contains electric contacts in insure the door is both closed and locked shall be provided. (This option is required when flush mounted door frames are provided by others).

I. Power Gate Operators:

1. Location:

Symmetry Elevating S..., 6/6/12 11:52 AM

**Comment [54]:** Select one of the Platform Size options and delete the ones not required. Custom platform sizes are also available in 1" increments. Maximum platform size is a code related item. Verify maximum platform size with local city and state authority having jurisdiction. Contact Symmetry Elevating Solutions for details.

Symmetry Elevating S..., 6/6/12 11:54 AM

**Comment [55]:** Select one of the Platform Configuration options and delete the ones not required.

Symmetry Elevating S..., 6/6/12 11:55 AM

**Comment [56]:** Select Landing Opening option for Upper Landing. Delete the one not required.

Symmetry Elevating S..., 6/6/12 11:55 AM

**Comment [57]:** Select Door Construction options and delete the ones not required.

Symmetry Elevating S..., 6/6/12 11:56 AM

**Comment [58]:** If choosing this door application choose one of the following 4 panel options and delete the ones not required.

Symmetry Elevating S..., 6/6/12 11:57 AM

**Comment [59]:** If Power Gate Operators are not required for this project delete this section. Power Door Operators are required in many jurisdictions, certain platform configurations, and if strike side clearance is not met.

Symmetry Elevating S..., 6/6/12 11:57 AM

**Comment [60]:** Select the paragraphs below for the landings to be equipped with a Power Gate Operator. Delete the landing not needed if necessary.

- a. Lower Landing Door.
    - b. Intermediate Landing Door.
    - c. Upper landing Door.
    - d. Upper Landing Gate.
  - 2. "Smart Operation" Power Gate Operator: Allows operator to open, stop at obstruction, close and remain in NORMAL operation mode. Operator will not stop mid cycle and leave unit non-operational.
  - 3. Opens automatically when platform arrives at landing, pressing the call button, or pulling on the gate.
  - 4. ADA compliant.
  - 5. Low voltage, 24 VDC with all wiring concealed.
- J. Screw Drive:
- 1. Drive Type: Acme Screw Drive.
  - 2. Travel speed: 10 fpm.
  - 3. Motor: 1HP, 115 volt, 1 phase.
  - 4. Power Supply:
    - a. 115 VAC, 30 Amp, Single Phase.
    - b. 230 VAC, 15 Amp, Single Phase.
  - 5. Battery Powered Emergency Lowering:
    - a. Battery powered platform lowering device which automatically activates in the event of power failure. Allows platform to be raised and lowered 5 times in event of power loss.
    - b. Capable of running lift up and down for a minimum of 5 trips with rated load.
  - 6. The drive mechanism shall be a stationary nut on a rotating 1" diameter Acme screw with a secondary safety nut.
- K. Hydraulic Drive:
- 1. Drive Type: Chain Hydraulic.
  - 2. Travel speed: 17 to 20 fpm.
  - 3. Motor: 2HP, 24 VDC. AC powered primary drive.
  - 4. Power Supply: 115 VAC, 15 Amp, Single Phase.
    - a. Powered by continuous building mains converted to 24 VDC equipped with auxiliary battery power system. Battery power system capable of running lift up and down for a minimum of 5 trips with rated load.
  - 5. Standard on board 24 VDC standby battery power to operate the lift up and down in the event of a power failure.
  - 6. Drive mechanism shall be a 1:2 #60 roller chains hydraulic equipped with a type "A" instantaneous slack chain safety device.
  - 7. Hydraulic connections shall be metal and have rated pressure that withstands the working pressure with a 5 times safety factor.
  - 8. Bi-directional leveling, factory supplied oil collection means as required by A18.1-8.1.4.7, Angled pressure gage standard, roller bearing sprockets, vibration isolated hydraulic power unit.
- L. Enclosure Panels:
- 1. 16 gauge galvanized steel.
  - 2. Clear Plexiglas.
  - 3. Bronze Plexiglas.
  - 4. Laminated Safety Glass.
- M. Lift Components:

Symmetry Elevating Sol..., 6/6/12 4:30 PM

**Comment [61]:** Select one of the Power Supply options and delete the one not required. Standard: 115 VAC, 30 Amp, Single Phase

Symmetry Elevating S..., 6/6/12 11:58 AM

**Comment [62]:** Optional. Delete if not required.

Symmetry Elevating S..., 6/6/12 11:59 AM

**Comment [63]:** Select one of the Enclosure Panel options. Delete the ones not required.

1. Symmetry Elevating solutions PLC Controller with self diagnostics and digital display. A.W.A.R.E. System (Active Wiring, Accessories, Relay & Electronics Diagnosis System) generates on-demand diagnostic codes identifying trouble or maintenance codes.
  2. The Drive Tower support shall be a combination 7 gauge C Channel, 7 gauge interface plates and 16 gauge exterior skin.
  3. Platform shall be constructed of 12-gauge minimum hot rolled steel. If unit is not installed in a 3-inch pit, an auto-retracting ramp shall be provided that extends to meet lower landing.
  4. Platform side panels shall be 42" high, Side panel framework shall be a minimum of 1"x1 ½" steel. Solid infill panels shall be a minimum of 18 gauge steel.
  5. Carriage platform supports shall be a minimum of ½" steel. Solid infill panels shall be a minimum of 18 gauge steel.
  6. Elevator style (Nylon) rollers shall be used for axial carriage guidance and wear pads shall be used for horizontal stability.
  7. Loaded fasteners shall be grade eight or higher. Locking fasteners shall be used in all critical locations.
- N. **Enclosure Height Above Upper Landing:**
1. Enclosure shall extend 42 inches above the upper landing level.
  2. Enclosure shall extend 80 inches above the upper landing level.
  3. 3 inches above with platform gate.
- O. **Drive Mast Side Wall Panels:** Provide 16 gauge galvanized panels and mounting hardware to cover the void between side of enclosure, drive mast and adjacent wall at the following locations:
1. Lower Landing.
  2. Intermediate Landing.
  3. Upper Landing.
- P. **Platform Base & Frame Installation:**
1. Pit Mount: (recess application) Level pit floor slab recessed min. 3" by others as outlined on site specific show drawings. This application does not require ramp and allows for smooth transition from landing into lifting equipment.
  2. Floor Mount: (non-recess application) If unit is not installed in a min. 3" pit, an auto-retracting ramp shall be provided that extends to meet the lower landing. Optional fixed mounted ramp is available. (verify clear landing requirements if fixed ramp selected)
    - a. **Platform Access Ramp:** 12 gauge galvanized steel plates; slip resistant surfaces.
      1. Ramp: Stationary type.
      2. Ramp: Automatic folding type.
  3. Carriage to be equipped standard with articulating base and carriage design, which allows the carriage to be folded to reduce the tower and carriage width to 21" for ease of installation, without removal of the carriage.
- Q. **Optional Features:**
1. Enclosure Protection: Single sided or double sided roof. Angle and direction options available.
  2. **Ventilation System:** Single exhaust fan, thermostatically controlled with a 12 VDC battery backup. Required continuous main power for Hydraulic Drive.

Symmetry Elevating S..., 6/6/12 12:01 PM

**Comment [64]:** Select Enclosure Height Above Upper Landing options. Delete the one not required.

Symmetry Elevating S..., 6/6/12 12:02 PM

**Comment [65]:** Select the Drive Mast Side Wall Panel section if local jurisdiction requires void spaces on either side of the mast to be covered on the front and top surfaces. Delete if not required.

Symmetry Elevating Sol..., 8/1/12 4:42 PM

**Comment [66]:** Lift can be mounted in a pit or floor mounted with a ramp. Select one of the Lower Landing Base Mounting options. Delete the one not required.

Symmetry Elevating Sol..., 8/1/12 4:42 PM

**Comment [67]:** Select one of the Ramp Types if a ramp is being used. Ramps are not required if lift mounts in a pit.

Symmetry Elevating ..., 6/18/12 12:40 PM

**Comment [68]:** Select one of the Sloped Roof options. Delete if not required.

Symmetry Elevating S..., 6/6/12 12:07 PM

**Comment [69]:** Ventilation System is optional for outdoor applications when lift is exposed to sunlight or in a warm location. Delete if not required.

3. Outdoor Protection Package: Lift shall include modifications recommended by manufacturer for performance in extreme outdoor weather conditions.
- R. Platform Controls:
1. Constant pressure up/down control switches shall be installed on the platform. All switches meet IP66 requirements.
  2. An illuminated emergency stop switch / Audible alarm switch shall be provided on the car as a means of signaling for assistance in the event of an emergency.
  3. Keyless operation.
  4. Keyed operation.
  5. Emergency Telephone:
    - a. Wiring Only.
    - b. Platform shall be equipped with a telephone meeting the following requirements:
      1. ADA compliant.
      2. Shall be operational in the event of power failure.
      3. Specified under Division 16 a telephone line shall be supplied to the lift.
- S. Call Station Controls:
1. Constant pressure up/down control switch installed on the platform.
  2. Constant pressure, elevator-style, hall call control stations provided at each landing.
  3. Keyless operation.
  4. Keyed operation.
  5. Call Station Mounting:
    - f. Lower:
      1. In-Frame.
      2. Surface Mount.
      3. Flush Mount.
    - g. Intermediate:
      1. In-Frame.
      2. Surface Mount.
      3. Flush Mount.
    - h. Upper:
      1. In-Frame.
      2. Surface Mount.
      3. Flush Mount.
- T. Safety Features/Devices:
1. Grounded electrical system with upper, lower, and final limit switches.
  2. A grab rail shall be provided on the platform.
  3. A gate with a min. height of 42" and a combination mechanical lock with an electric contact shall be provided at the upper landing, lock must be engaged for lift to move from landing.
  4. At all landings an electromechanical interlock shall be used to keep doors closed when lift is on another floor.
  5. Electrical disconnect which will shut off power to the lift.
  6. Pit stop switch mounted on mast wall.
- U. Finishes:
1. Finish shall be electro statically applied powder coating, oven baked to cure.
  2. Color:
    - a. Ivory.

Symmetry Elevating S..., 6/6/12 12:07 PM

**Comment [70]:** Outdoor Protection protects lift when weather protection is required. Delete if not required.

Symmetry Elevating S..., 6/6/12 12:08 PM

**Comment [71]:** Select one of the Keyed options. Standard: Keyless Operation.

Symmetry Elevating S..., 6/6/12 12:09 PM

**Comment [72]:** Select one of the Emergency Telephone options. Emergency phone may be required by local jurisdiction based on application. Delete if not required.

Symmetry Elevating ..., 6/18/12 12:42 PM

**Comment [73]:** Elevator style buttons are indoor use only.

Symmetry Elevating S..., 6/6/12 12:10 PM

**Comment [74]:** Select one of the two Call Station Control types. Delete the one not required. Standard: A constant pressure hall call control switch.

Symmetry Elevating S..., 6/6/12 12:10 PM

**Comment [75]:** Select one of the Keyed options. Standard: Keyless Operation.

Symmetry Elevating S..., 6/6/12 12:10 PM

**Comment [76]:** Select Call Station Mounting required. Delete the ones not required.

Symmetry Elevating S..., 6/6/12 12:57 PM

**Comment [77]:** Pit Stop switch is optional. Delete if not required.

Symmetry Elevating S..., 6/6/12 12:58 PM

**Comment [78]:** Select one of the Color options. Delete the ones not required. Standard: Ivory.

- b. White.
- c. Black.
- d. Grey.
- e. A selection from 213 RAL colors.

## 2.05 HYBRID VERTICAL WHEELCHAIR LIFT:

- B. General Description: The Hybrid looks and feels like an elevator, but operates like a lift. Available in many different sizes and configurations, features include a full height cab, non-load bearing ceiling and a wide variety of optional features and finishes. Customize the doors and cab to match the style and décor of your commercial facility or home.
- C. Capacity:
- 1. 750 lbs.
- D. **Lifting Height:**
- 1. Up to 120 inches.
  - 2. Up to 180 inches.
  - 3. Up to 240 inches.
- E. **Platform Size:**
- 1. 36" W x 48" D
  - 2. 36" W x 54" D
  - 3. 36" W x 60" D
  - 4. 42" W x 60" D
  - 5. 42" W x 60" D
- F. **Platform Configuration:**
- 1. Straight Through.
  - 2. Enter/Exit same side.
  - 3. 90 Degree.
- G. Landing Openings:
- 1. All Landings: Doors interlocked with lift controls.
- H. **Door Construction:**
- 1. A CSD-Rated (R) Fire Rated (B Label) flush mounted steel door and frame shall be provided. Door shall include wire mesh vision panel with delay action door closure, dead latch, dummy trim door handle and electric strike.
  - 2. A CSD – Non-Rated (NR) Low profile flush mounted steel door and frame shall be provided. Door shall include mesh vision panel with delay action door closure, dead latch, dummy trim door handle, lock plate cover and electric strike.
    - a. Panels of 16 gauge galvanized steel.
    - b. Panels of clear Plexiglas.
    - c. Panels of bronze Plexiglas.
    - d. Panels of ¼ inch laminated safety glass.
  - 3. A CWS – Flush mounted, solid core oak laminated door and (oak) frame shall be provided. Door shall include mesh vision panel with delay action door closure, dead latch, dummy trim door handle, lock plate cover and electric strike.
  - 4. A 24V DC, fail secure electric strike that contains electric contacts to insure the door is both closed and locked shall be provided. (This option is required when flush mounted door frames are provided by others.)
- I. **Provide Power Door/Gate Operator:**
- 1. ADA Compliant and obstruction sensitive.
  - 2. Door opens and closes at landing.
  - 3. **Location:**
    - a. Lower Landing: Door & Car Gate.

Symmetry Elevating Sol..., 6/6/12 1:02 PM

**Comment [79]:** Select one of the Lifting Height options and delete the ones not required.

Lifting height for pitted application: Distance from the bottom of the pit to the upper floor level.

Lifting height for non-pitted application: Distance from the floor to the upper floor level.

Symmetry Elevating Sol..., 6/6/12 1:01 PM

**Comment [80]:** Select one of the Platform size options and delete the ones not required. Custom platform sizes are also available in 1" increments. Maximum platform size is a code related item. Verify maximum platform size with local city and state authority having jurisdiction. Contact Symmetry Elevating Solutions for details.

Symmetry Elevating Sol..., 6/6/12 1:02 PM

**Comment [81]:** Select one of the Platform Configuration options and delete the ones not required.

Symmetry Elevating Sol..., 6/6/12 1:02 PM

**Comment [82]:** Select Door Construction options and delete the ones not required.

Symmetry Elevating Sol..., 6/6/12 1:03 PM

**Comment [83]:** If choosing this door application choose one of the following 4 panel options and delete the ones not needed.

Symmetry Elevating Sol..., 6/6/12 3:51 PM

**Comment [84]:** If Power Door Operators are not required for this project delete this section.

Symmetry Elevating S..., 6/18/12 1:53 PM

**Comment [85]:** Select the paragraphs below for the landings to be equipped with a Power Door/Gate Operator. Delete the landing not needed if necessary.

- b. Intermediate Landing (s): Door & Car Gate.
- c. Upper Landing: Door & Car Gate.

J. Hydraulic Drive:

1. Drive Type: Roped Hydraulic.
2. Travel speed: 30 fpm.
3. Motor: 3HP, 208/230 VAC. Submersed Power Unit.
4. Power Supply: 208/230 VAC, 30 Amp, Single Phase
5. Standard on board 24 VDC standby battery power to operate the lift up and down in the event of a power failure.
6. Drive mechanism shall be a 1:2 roped hydraulic with type "A" instantaneous slack rope safety device.
7. Hydraulic connections shall be metal and have rated pressure that withstands the working pressure with a 5 times safety factor.
8. Bi-directional leveling, factory supplied oil collection means as required by A18.1-8.1.4.7, vibration isolated hydraulic power unit.

K. Lift Components:

1. Heavy duty car sling with roller guide wheels running on 6-1/4 lb. per foot steel T-rails, quiet submersed pump and motor (3 HP), factory pre-set and tested 2-speed valve for smooth start and stop. Pump unit to be located in a machine room outside of the hoistway.
2. Symmetry Elevating solutions PLC Controller with self diagnostics and digital display. S.M.A.R.T. System (Self-Monitoring Alert Response Technology) generates on-demand diagnostic codes identifying trouble or maintenance codes, and broadcasts these codes to the controller, Hall Stations, and to the Car.
3. Loaded fasteners shall be grade eight or higher. Locking fasteners shall be used in all critical locations.

L. Lower Landing Pit:

1. 6 inches minimum.
2. 8 inches preferred.

M. Car Controls:

1. Fully automatic illuminated push button.
  - a. Braille Illuminated Buttons.
2. An illuminated emergency stop switch / Audible alarm switch shall be provided on the car as a means of signaling for assistance in the event of an emergency.
3. Keyless operation.
4. Keyed operation.
5. Digital Floor Display.
6. Emergency Telephone:
  - a. Wiring Only.
  - b. Platform shall be equipped with a telephone meeting the following requirements:
    1. ADA compliant.
    2. Shall be operational in the event of power failure.
    3. Specified under Division 16 a telephone line shall be supplied to the lift.

N. Call Station Controls:

1. Fully automatic illuminated push button.
  - a. Braille Illuminated Buttons.

Symmetry Elevating S..., 6/18/12 1:59 PM

**Comment [86]:** Select one of the Pit Depth options and delete the one not required.

Symmetry Elevating S..., 6/18/12 2:04 PM

**Comment [87]:** Optional. Delete if not required.

Symmetry Elevating Sol..., 6/6/12 3:56 PM

**Comment [88]:** Select one of the Keyed options. Standard: Keyless Operation.

Symmetry Elevating Sol..., 6/6/12 3:57 PM

**Comment [89]:** Select one of the Emergency Telephone options. Emergency phone may be required by local jurisdiction based on application. Delete if not required.

Symmetry Elevating S..., 6/18/12 2:00 PM

**Comment [90]:** Optional. Delete if not required.



2. **Hall Station Type:**

- a. Keyless Operation.
- b. Keyed Operation.

Symmetry Elevating S..., 5/27/12 1:07 PM

**Comment [91]:** Select one of the Hall Station type paragraphs and delete the ones not required: Standard: Keyless Push Button.

3. **Finish:**

- a. Brushed Stainless.
- b. Polished Stainless.
- c. Brushed Brass.
- d. Polished Brass.
- e. Oil Rubbed Brass.
- f. Vintage Bronze.
- g. Black.
- h. Cooper – Silver.
- i. Brushed Silver.
- j. Natural Metal.
- k. Brushed Bronze.
- l. Japanese Brown.
- m. Antique Brown.

Symmetry Elevating S..., 5/27/12 1:07 PM

**Comment [92]:** Select one of the following finish paragraphs and delete the ones not required. Standard: Brushed Stainless.

4. **Call Station Mounting:**

- a. Lower Floor:
  - 1. Wall mounted recessed.
  - 2. Mounted within the door frame.
- b. Second Floor:
  - 1. Wall mounted recessed.
  - 2. Mounted within the door frame.
- c. Third Floor:
  - 1. Wall mounted recessed.
  - 2. Mounted within the door frame.
- d. Upper Floor:
  - 1. Wall mounted recessed.
  - 2. Mounted within the door frame.

Symmetry Elevating Sol..., 6/6/12 4:13 PM

**Comment [93]:** Select Call Station Mounting required. Delete the ones not required.

O. **Safety Features/Devices:**

- 1. Motor Controller supply disconnect (located in controller).
- 2. Safety switch for car gate(s).
- 3. Electromechanical hoistway door interlocks.
- 4. Recessed Phone box.
- 5. Rupture Valve (Type "C" Safety)
- 6. Emergency alarm button in car, Emergency keyed stop switch in car.
- 7. Battery backup emergency car lights and alarm.
- 8. Upper and lower final limit switches.
- 9. Low oil protection timer circuit.
- 10. Grounded electrical system with upper, lower, and final limit switches.
- 11. Electrical disconnect which will shut off power to the lift.
- 12. Pit stop switch mounted on mast wall.

P. **Cab Design:**

- 1. Interior Walls: Panel selections.
  - a. Flat Panel.
  - b. Shaker Panel.
  - c. Inset Panel.
  - d. Raised Panel.

Symmetry Elevating Sol..., 6/6/12 4:13 PM

**Comment [94]:** Pit Stop Switch is optional. Delete if not required.

Symmetry Elevating S..., 5/27/12 1:06 PM

**Comment [95]:** Select one of the following cab panel paragraphs and delete the ones not required. Standard: Flat Panel.

2. Interior Walls: Wood Species.

- a. Alder.
- b. Birch.
- c. Cherry.
- d. Hickory.
- e. Mahogany.
- f. Maple.
- g. Red Oak.
- h. Walnut.
- i. White Oak.

Symmetry Elevating S..., 5/27/12 1:06 PM

**Comment [96]:** Select one of the following Wood Species paragraphs and delete the ones not required. Standard: Maple, Birch, or Red Oak.

3. Interior Walls: Stain.

- a. No Stain – Unfinished.
- b. Country Pine.
- c. Golden Oak.
- d. Satin Clear Coat.
- e. Traditional Cherry.
- f. Custom as selected by Architect.

Symmetry Elevating S..., 5/27/12 1:06 PM

**Comment [97]:** Select one of the following Stain paragraphs and delete the ones not required. Standard: No Stain – Unfinished.

4. Ceiling: Panel selections.

- a. Flat Panel.
- b. Shaker Panel.
- c. Inset Panel.
- d. Raised Panel.

Symmetry Elevating Sol..., 6/6/12 4:25 PM

**Comment [98]:** Select one of the following ceiling panel paragraphs and delete the ones not required. Standard: Flat Panel.

5. Ceiling: Wood Species.

- a. Alder.
- b. Birch.
- c. Cherry.
- d. Hickory.
- e. Mahogany.
- f. Maple.
- g. Red Oak.
- h. Walnut.
- i. White Oak.

Symmetry Elevating S..., 5/27/12 1:06 PM

**Comment [99]:** Select one of the following ceiling Wood Species paragraphs and delete the ones not required. Standard: Maple, Birch, or Red Oak.

6. Ceiling: Stain.

- a. No Stain – Unfinished.
- b. Country Pine.
- c. Golden Oak.
- d. Satin Clear Coat.
- e. Traditional Cherry.
- f. Custom as selected by Architect.

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**Comment [100]:** Select one of the following stain paragraphs and delete the ones not required. Standard: No Stain – Unfinished.

7. Car Operating Panel Finish:

- a. Brushed Stainless.
- b. Polished Stainless.
- c. Brushed Brass.
- d. Polished Brass.
- e. Oil Rubbed Brass.
- f. Vintage Bronze.
- g. Black.

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**Comment [101]:** Select one of the following operating panel finish paragraphs and delete the ones not required. Standard: Brushed Stainless Steel.

8. Handrail Finish:

- a. Matching Wood.

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**Comment [102]:** Select one of the following handrail finish paragraphs and delete the ones not required. Standard: Matching Wood.

- b. Brushed Stainless.
  - c. Polished Stainless.
  - d. Brushed Brass.
  - e. Polished Brass.
  - f. Vintage Bronze.
  - g. Oil Rubbed Brass.
9. Floor: Unfinished ¾ inch plywood construction.
10. Lighting:
- a. 115 VAC, single phase, 15 Amps.
  - b. Failure of one lamp shall not cause the remaining lamps to extinguish.
  - c. Lights shall illuminate automatically when the elevator door is opened and remain on the entire duration of use. Lights shall automatically turn off after a preset time the elevator is not in use.
  - d. Recessed LED Lights with Trim.
    - 1. (2) Two.
    - 2. (4) Four.
  - e. Finish:
    - 1. Black Trim.
    - 2. Brushed Stainless.
    - 3. Bronze.
    - 4. Polished Brass.

Symmetry Elevating S..., 5/27/12 1:06 PM

**Comment [103]:** Select one of the following LED Lights quantity paragraphs and delete the one not required. Standard: (2) Two.

Symmetry Elevating S..., 5/27/12 1:06 PM

**Comment [104]:** Select one of the following LED light finish paragraphs and delete the one not required. Standard: Black.

### PART 3 EXECUTION

#### 3.01 ACCEPTABLE INSTALLERS:

- A. Subcontractor Qualifications: A company that is listed as an authorized Symmetry Elevating Solutions dealer. See [www.symmetryelevator.com](http://www.symmetryelevator.com) for details.
- B. Electrical devices, service and final connections shall be by a qualified electrician.

#### 3.02 EXAMINATION:

- A. Preliminary work must be properly prepared, including hoistway construction (if needed), landings and machine space, before installation.
- B. Verify hoistway shaft (if needed) and machine space are the correct size and within acceptance.
- C. Verify required landings and openings are the correct size and within acceptance.
- D. When required verify machine room is provided with lighting, light switch, outlets and meets the clear space requirements of ASME A17.1.
- E. Verify electrical power is available and of within acceptance.
- F. Notify Architect of any inadequate preparation when preliminary work is the responsibility of another installer.

#### 3.03 PREPARATION:

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces and unit using the methods recommended by the manufacturer for achieving the optimum performance of vertical wheelchair lift.

#### 3.04 INSTALLATION:

- A. Unit shall be installed and operated in accordance with the ICC/A117.1, NEC and ASME A18.1 Guidelines.
- B. A dedicated electrical supply provided to the disconnect shall be capable of supplying sufficient power.
- C. GC to coordinate "work by others" with lift contractor.

- D. The installation of the vertical wheelchair lift shall be made in accordance with approved plans and specifications and the manufacturer's installation instructions.
- E. Startup and test unit in accordance with manufacturer's instructions.
- F. Adjust for smooth operation.

3.05 FIELD QUALITY CONTROL:

- A. Perform tests in compliance with ASME 17.1 or A18.1 and as required by authorities having jurisdiction.
- B. Load the vertical lift to rated capacity and test for several cycles to insure proper operation. No mechanical failures shall occur and no wear that would affect the reliability of the unit shall be detected.
- C. Schedule necessary tests with Architect, Owner, Contractor, and any authorities having jurisdiction.

3.06 PROTECTION:

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.
- C. Clean unit prior to final inspection.

END OF SECTION