**PART 1 - GENERAL**

* 1. **SUMMARY**

1. Provisions of Division 01 apply to this section.
2. Section Includes:
   * + 1. Permanently installed wheelchair lifts as indicated.
3. Related Sections:
   * + 1. Division 15: Mechanical.
       2. Division 16: Electrical.
   1. **SUBMITTALS**
4. Materials Lists: Submit a complete list of proposed items to be furnished and installed.
5. Shop Drawings: Submit complete Shop Drawings indicating dimensions and locations of items, including required supporting structure, controls and power. Shop drawings shall include dimensioned plans of wheel chair lift. Submit scaled drawings indicating elevation views of lift operating controls and fixtures, including position and directional indicators, and emergency switch. Shop drawings shall indicate motor(s), valves, controller, and other component locations. Indicate weight of principal components and clearances required.
6. Deferred Approval: Submit complete details and engineering calculations.
   1. Fabrication and/or installation of wheelchair lift shall not be started until detailed plans, calculations and specifications are approved by the Division of the State Architect (DSA).
   2. DSA approval: Manufacturer shall furnish complete shop drawings and calculations as specified above, certified and stamped by a Structural Engineer currently licensed in California. Manufacturer shall employ and pay all Engineering costs for certification of drawings and calculations.
7. Product Data: Provide materials list together with manufacturer’s specifications, catalog cut sheets, and other data demonstrating compliance with the specified requirements.
8. Installation Instructions: Submit manufacturer's printed installation instructions.
9. Project Record Drawings: Submit 11 inch x 17 inch reproducible sheets and a CD with construction drawings in AutoCad format.
   1. **QUALITY ASSURANCE**
10. Manufacturer’s Qualifications; Manufacturer shall have been regularly engaged in the business of manufacturing wheelchair lifts of the type specified for at least 10 years, and shall have a minimum of five years local history of successful installations.
11. Installers Qualifications: Installer shall be fully trained and certified by manufacturer to install, adjust and service controller and all other wheelchair lift components.
    1. Installer shall furnish a letter from manufacturer of equipment certifying equipment has been installed according to factory standards and that the lift is operating properly.
    2. Prior to start construction Installer shall submit proof of certification from the equipment manufacturer indicating that installer is manufacturer certified and trained on the installation, operation, and maintenance of the system.
12. Wheelchair lifts shall comply with the CBC Chapter 30.
13. ASME A17.1 Safety Code for Elevators and Escalators
14. [ASME A18.1 National Safety Standard for](http://www.constructionbook.com/asme-a171-2004-safety-code-for-elevators-escalators-handbook-0791829332/asme-standards/) Platform Lifts and Stairway Chairlifts.
15. ASW D1.1- Structural Welding Code.
16. CBC Section 1116B.2.
17. California Electrical Code Chapter 600, Article 620.
18. Doors and frame assemblies shall conform to NFPA 80 and UL 10B.
19. IEEE C1- National Electrical Safety Code.
    1. **DELIVERY, STORAGE AND HANDLING**

A. Protect materials required by this section before, during, and after installation and protect related and adjacent Work. Prevent damage, by rust or corrosion, materials with any visible evidence of rust or corrosion are not permitted to be installed and shall be replaced with like products or components in new condition. In the event of damage, immediately provide necessary repairs and replacements.

* 1. **EQUIPMENT START UP**

1. Work of this section shall be completed, inspected, and tested prior to date of Substantial Completion.
2. Equipment startup and testing shall be performed under the direct observation of the PI and OAR. Contractor at this time shall provide a legible half size reproduction of the original completed wheel chair lift installation red-line drawings.
3. PI will arrange DSA inspection.
   1. **WARRANTY AND MAINTENANCE**
4. Wheelchair lift Contractor shall provide a 1 year installation, materials and equipment warranty in compliance with provisions established under Division 1 requirements.
5. Wheelchair Contractor shall provide a one year maintenance period. Service and DOSH mandated inspection shall be performed semi-annually once during the sixth month and once during the twelfth month after Substantial Completion.
6. Wheelchair lift Contractor shall provide and maintain a log book for each wheelchair lift installed. Service, maintenance, repair and inspection visits shall be recorded in the log book. Clear and concise summaries of all work performed shall be recorded. As a minimum, the recorded information shall include the date, work performed, any deficiencies noted that are not resolved and may require a return visit or work by others. The technician’s printed first name initial, last name and name of company shall also be recorded as the conclusion of each visit. The log book shall be kept in a lock box as described in 3.02 – B of this Section.

**PART 2 - PRODUCTS**

* 1. **ACCEPTABLE MANUFACTURERS**

1. Porch-Lift vertical wheelchair lifts, as manufactured by American Elevator, The National Wheel-O-Vator, Ascension vertical wheelchair lift as manufactured by AGM, **or equal.**
   1. **MANUFACTURED UNITS**
2. Type: Vertical wheelchair lift powered by a maximum, of 120 VAC, 60 Hz, 20 amp circuit. Drive shall be ball bearing nut and screw or hydraulic pump and ram.
3. Rated Load: Minimum rated capacity shall be 750 lb. with a weight safety factor of not less than 8, based upon the rated load.
4. Speed: Vertical platform speed shall be 9.6 feet per minute. Speed shall not exceed 20 feet per minute.
5. Brakes: If required the lift shall be furnished with an electro-mechanical brake. Stops shall be positive and accurate without coasting once control button is released.
6. Limit Switches: Lift shall be furnished with upper-, lower- and final-limit switches. Final-limit switch shall be activated if either of the other 2 switches should fail. Final- limit switch shall cut off all power to the unit.
7. Car Controls: The lift car shall be equipped with momentary push buttons or a momentary three position rocker switch for Up or Down operation, a key operated Control On or Off switch, Emergency Stop button and Alarm button.
8. Landing Controls: The upper and lower landings shall be equipped with momentary push buttons or a momentary three position rocker switch for Up or Down operation, and a key operated Control On or Off switch
9. Emergency Stop Button: The Emergency Stop Button shall be red in color and immediately stop the lift and also sound the audible alarm. The stop button shall lock into the downward position when depressed and require manual reset to resume operation.
10. Alarm Button: The momentary Alarm Button shall be red in color and activate the audible alarm when the button is depressed.
11. Key Operated Switches: The key operated Control On or Off switches shall permit the key to be removed only while in the off position. The activation of a single switch shall enable the controls at that location only. The switches shall operate with either a Chicago # 2252 or #2207 Key.
12. Audible Alarm: The lift shall be equipped with an audible signaling device having a rated sound pressure of not less than 80 dba nor greater that 90 dba at 10 feet. The audible signaling device shall be powered by the DC power source used for the battery powered back up system or a separate rechargeable battery system. All installed batteries shall have the installation date marked on the outside of the battery case(s) with a permanent marking pen. The use of a non-rechargeable battery/power source is not acceptable.

L. Manual Lowering Device: A manual lowering device/system shall be furnished to manually lower the platform in case of a power or control system failure. Any removable handles required for this feature shall be stored in the lock box as described in 3.02 – B of this specification.

M. Battery Backup Power Source: The lift shall be equipped with a backup power source consisting of a sealed lead acid battery(s) capable of operating the lift for three full up – down cycles with the rated load and an automatic battery charger capable of recharging the battery(s) to full capacity within 24 hours. Batteries shall be marked with installation date as indicated in “K” above.

N. Lift shall be furnished with a safety pan cover, which will automatically shut off the lifting device if any obstruction under the platform interferes with its downward travel.

O. Lift platform and top landing shall be furnished with a door or gate 3 feet-6 inches high. Door or gate shall be furnished with both mechanical and electrical contacts, which prevent operation of the platform unless they are properly closed.

P. A ramp shall be provided between the platform and the lower landing. Ramp shall be furnished with a non-skid surface.

Q. Construction: Lift shall be constructed of welded or bolted panels and frames.

* 1. Machine Tower: 16 gage galvanized steel sheet.
  2. Base Frame: 2 inches square x 3/16 inch wall structural steel tubing and 2 inch x 2 inch x 3/16 inch hot-rolled steel angle.
  3. Lift Weldment: 3/8 inch hot-rolled steel plate and 2 inches square x 1/4 inch wall structural steel tubing.
  4. Header: 1/4 inch hot-rolled steel plate.
  5. Side Guard Panels: 22 gage, double wall steel galvanized steel panel in one inch square x 16 gage galvanized steel tubing (frame) with one inch thick styrofoam filler. Panels shall be 42 inches high.
  6. Front Panel: 18 gage galvanized steel sheet.
  7. Platform: 11 gage galvanized steel plate with slip resistant surface.
  8. Access Ramp: 11 gage galvanized steel plate with slip resistant surface.
  9. Welded parts shall be provided by a certified welder in accordance with AWS D 1.1.

R. Size: Platform inside dimensions may range from 42 inches to 50 inches on one side, by 53 inches to 60 inches on the other side.

S. Mechanical and electrical mechanisms shall be totally enclosed and protected from the elements.

T. Operation: Lift shall be operated by a key-actuated constant-pressure control designed to be easily operated by a disabled person. Provide a push-bar control designed for accessibility by disabled persons or a control providing equivalent accessible control and operation.

U. Finish:

1. Provide a 5-step pre-treatment and Nordson 500 series powder-coated paint process. Tested for maximum adhesion, durability, abrasion, humidity and corrosion as follows:

a) Alkaline detergent wash.

b) Fresh water rinse.

c) Iron-phosphate preparation coating.

d) Fresh water rinse.

e) Non-chromic rinse.

2. Convention dry-off and powder cure. Color as selected by the Architect from manufacturer's standard color chart. Top coat shall be baked-on coating which, when intact and cured, provides protection of the substrate steel against atmospheric corrosion at least equivalent to that provided by hot-dipped galvanized coating that meets the G-90 coating designation of ASTM A525.

V. Wheelchair lift shall be capable of and listed for indoor or outdoor use. Unit shall be anchored on a level, 4-inch thick, 3,000 psi reinforced concrete slab or an equivalent concrete pad furnished as part of the Work of this section.

**PART 3 - EXECUTION**

* 1. **EXAMINATION**

1. Examine the areas and conditions under which Work of this section will be performed; verify that Work is completed so that installation may properly commence.
   1. **INSTALLATION**
2. Installation of the work of this section shall be in strict accordance with reviewed Shop Drawings, Specifications, and applicable regulations and codes.

B. Provide and install a 12 X 12 X 6 inch NEMA 3R box with hinged door with Corbin CAT 60 lock in the vicinity of the lift for securing the log book, instruction and service manuals, handle for the manual lowering device, etc. The installed location of this storage shall be in an area that does not disturb the aesthetics of the room or hinder the path of egress. The box shall be a Wire Guard Systems 12126RTC4B Keyed To Corbin CAT 60 or equal. The door of the storage box shall be labeled “WHEELCHAIR LIFT MANUALS AND LOG BOOK” with 3/4 inch black lettering on a white background “P Touch” type label or equal. The log book and lowering device handle shall be placed inside the box and the box shall be locked at time of completion.

C. Install a FUSD provided blue emergency sign on the outside of the lower and upper lift door. Sign shall be securely mounted to door to deter vandalism or theft.

D. At the lower landing provide and install a reflective red painted two inch wide safety line three inches away from and on all accessible sides of the lift or ramp lip if so equipped. The installation or use of tape is not acceptable.

E. Provide and install an Adams #CFS4080 or equal certificate frame for posting the permit on an exposed side of the lift unit.

F. Lift shall be connected with seal-tite conduit and #12 wires to building wiring system. The use of a plug and receptacle is not acceptable. Electrical Contractor shall provide a keyed 20 amp toggle switch with an engraved stainless switch plate indicating “WHEELCHAIR LIFT DISCONNECT” with black paint filled lettering.

* 1. **TESTING AND INSPECTION**

A. Obtain and pay for state and local permits and inspections required by elevator inspection authorities and perform tests required by regulations of such authorities. Tests shall be performed in the presence of authorized representatives of such authorities and the IOR. Requests for testing and inspection shall be provided at least 48 hours in advance of the desired date.

B. Upon completion and approval of inspection by the State DOSH Elevator Unit, the Elevator Contractor shall post the temporary Permit to Operate in the certificate frame as indicated in 3.02 – E. Owner of the lift shall be listed as:

Fontana Unified School District

Attn: M&O Construction, Facilities Director

9851 Catawba Avenue

Fontana, CA 92335

1. If the Elevator Contractor receives the permanent copy of the Permit to Operate, the Contractor shall forward the permit to the above address.

* 1. **NOTIFICATION**

A. The PI shall be notified upon completion of equipment testing and approval by the state authority.

* 1. **TRAINING**

1. At the time of Substantial Completion, provide Owner site based personnel a 2 hour minimum instruction period in operating the equipment correctly and safely and meet the requirements of the State of California Title 8 for maintenance of special access lifts. As a minimum the Contractor shall cover the following:
   1. Demonstrate the proper and safe operation of the lift from the car and at least one of the landings including the Stop and Alarm features.
   2. Demonstrate the proper and safe operation of the manual lowering device or system.
   3. After simulating a power failure, the Contractor shall demonstrate the proper and safe operation of the battery backup system.
   4. The Wheelchair Contractor shall coordinate Owner Training with OAR. This training shall be performed in presence of the PI and representatives of the M&O Electrical & Special Services Departments.
2. Maintenance Manuals: Furnish to OAR, before Substantial Completion, 2 bound maintenance manuals containing specifications and instructions for maintenance and adjustment of operating equipment and controls. Manuals shall include wiring diagrams. Also include special control directions, and indicate any required special tools.
3. Manuals shall include the following information:
   1. Full maintenance and operating instructions, parts list, recommended spare parts, emergency parts inventory, and sources of purchasing.
   2. Installation and user manuals. Catalog cut sheets are not acceptable.
   3. Final test report.
   4. Detailed explanation of the operation of the system.
   5. Instructions for routine maintenance.
   6. Detailed wiring diagrams.
   7. An electronic copy (CD) of the record drawings.
   8. A single reproducible set of record drawings reflecting the system exactly as it was installed including exact location of all components.

D. Operation Keys: The Wheelchair Contractor shall deliver to the OAR six copies of the lift operating keys and 2 copies of the storage box keys that shall be forwarded to the Construction Specialist overseeing the project.

* 1. **CLEANUP**

1. Remove rubbish, debris and waste materials and legally dispose of off the Project site.
   1. **PROTECTION**
2. Protect the Work of this section until Substantial Completion.

**END OF SECTION**