

SECTION 00 11 16

INVITATION TO BID

On behalf of the City of Lowell, Massachusetts (Owner and Awarding Authority), the Lowell Regional Water Utility (LRWU and Bidding Authority) invites Bidders to submit Bids for Contract No. 2, MA DEP Project No. DWSRF-3531, Water System Improvements, which includes, but is not limited to the Work described in Section 01 11 00 Summary of Work; and all materials, equipment, services and construction inherent to the Work.

The Work shall be substantially complete within 365 calendar days from the commencement of Contract Time and completed and ready for final payment 395 calendar days from the commencement of Contract Time.

This Project is to be funded in part with monies made available by the Drinking Water State Revolving Fund (SRF) and the Massachusetts Water Pollution Abatement Trust (the "Trust"), and compliance with the following is required: Diesel Retrofit Program; Disadvantaged Business Enterprise Program; the American Iron and Steel requirements of P.L. 113-76 (the Consolidated Appropriations Act of 2014); Federal Minimum Wage Rates as determined by the United States Department of Labor under the Davis-Bacon Act; and other MassDEP/DMS provisions and policies.

The Project being bid is subject to Massachusetts General Laws, Chapter 149, Sections 44A-J. Sealed Sub-Bids are required for the following classes of Work.

roofing and flashing
painting
heating, ventilating and air-conditioning
electrical work
masonry work
elevators

General Bidders must be certified by the Commonwealth of Massachusetts Division of Capital Asset Management and Maintenance (DCAMM) for **Pumping Stations** ~~and or~~ **Sewage and Water Treatment Plants**. Sub-Bidders must be DCAMM certified for their respective class of Work.

A mandatory pre Bid conference will be held at 10:00 AM local time on ~~Thursday, March 19, 2015~~ Monday, April 13, 2015 at the Lowell Water Treatment Plant, 815 Pawtucket Boulevard, Lowell, MA 01854 for General Bidders. All General Bidders are required to attend and participate in ~~the this~~ conference regardless of whether or not they attended and participated in the pre Bid conference held on March 19, 2015.

Sub-Bids will be received until 11:00 AM local time on ~~Tuesday, March 31, 2015~~ Thursday, April 2, 2015 at the City of Lowell Purchasing Department, City Hall, 375 Merrimack Street, Lowell, MA 01852, Attention: Mr. P. Michael Vaughn, Chief Procurement Officer. Sub-Bids

filed will then and there be publicly opened and read aloud. Sub-Bids received after the time of announced opening will not be accepted.

General Bids will then be received until 11:00 AM local time on ~~Wednesday, April 15, 2015~~Thursday, April 23, 2015 at the City of Lowell Purchasing Department, City Hall, 375 Merrimack Street, Lowell, MA 01852, Attention: Mr. P. Michael Vaughn, Chief Procurement Officer. General Bids will then and there be publicly opened and read aloud. General Bids received after the time of announced opening will not be accepted.

General Bidders must submit the DCAMM Prime/General Certificate of Contractor Eligibility and the DCAMM Prime/General Contractor Update Statement. Sub-Bidders must submit the DCAMM Filed Sub-Bid Certificate of Contractor Eligibility and the DCAMM Sub-Bidder Update Statement.

Sets of Bidding Documents may be examined at the following location(s) on or after 10:00 AM local time on Wednesday, March 11, 2015.

Issuing Office:
City of Lowell Purchasing Department
City Hall
375 Merrimack Street
Lowell, MA 01852
Attention: Mr. P. Michael Vaughn, Chief Procurement Officer
Phone: (978) 674-4110

Sets of Bidding Documents may be obtained on or after 10:00 AM local time on Wednesday, March 11, 2015

in electronic format at no cost by registering on the City of Lowell website.

<http://www.lowellma.gov/purchasing>

Bidding Documents can be found by click "Open Solicitations" under the Department Facts tab on the left hand side.

Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of the incomplete sets of Bidding Documents or for modifications to the Bidding Documents including electronic conversion.

Bid security in the amount of 5 percent of the prices bid must accompany each General Bid and each Sub-Bid in accordance with the Instructions to Bidders.

Minimum wage rates as issued by the Executive Office of Labor and Workforce Development, Department of Labor Standards under the provisions of Massachusetts General Laws, Chapter 149, Sections 26 to 27D inclusive, as amended, apply to this Project. It is the responsibility of the Bidders, before Bid opening, to request if necessary, any additional information on Minimum

Wage Rates for those trades people who may be employed for the proposed Work under the resulting Contract. Federal Minimum Wage Rates as determined by the United States Department of Labor under the Davis-Bacon Act also apply to this Project per SRF requirements.

Disadvantaged Business Enterprise (DBE) goals are applicable to the total dollars paid under the resulting construction Contract. The goals for this Project are a minimum of **3.40 percent D/MBE participation and 3.80 percent D/WBE participation** by certified DBEs. **The two lowest responsive Bidders shall submit completed DBE forms (EEO-DEP-190 & EEO-DEP-191) by close of business on the third business day after Bid opening.** Failure to comply with these requirements may render a Bid non-responsive. No waiver of any provision of the D/MBE & D/WBE Requirements will be granted unless approved by the MassDEP.

Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be eligible or responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project or the public to make an award to that Bidder. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.

END OF SECTION

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SECTION 00 41 02

FORM FOR GENERAL BID

To the Awarding Authority:

A. The Undersigned proposes to furnish all labor and materials required for the Water System Improvements in Lowell, MA, known as Contract 2 and corresponds with DWSRF-3531 and Project number 224802.20, in accordance with the accompanying Plans and Specifications prepared by Woodard & Curran, for the Total Contract Price written below, subject to additions and deductions according to the terms of the Contract Documents.

B. This Bid includes Addenda numbered: _____

C. The proposed Contract Price (excluding sales and use tax) is:

TOTAL LUMP SUM PRICE FOR ITEMS G1, G2, OC1, U1-U2, and S1-S56
\$ _____
(in figures)

_____ Dollars and
(in words)

_____ Cents
(in words)

D. The subdivision of the proposed Contract Price is as follows (excluding sales and use tax).

**Item G1 – Work of the General Contractor
(being all Work other than that covered in
Item G2, Owner’s Contingency Allowance OC1, Owner’s Contingency Allowance OC2,
Unit Priced Items U1—U3, and Sub-Bids Items S1-S56)**

G1 General Contractor Work for completing the Water System Improvements Project as specified and shown on the Drawings. \$ _____

Item G2 – Work of the General Contractor for Wheelchair Lift (SRF INELIGIBLE)

G2 General Contractor Work to provide Wheelchair Lift as specified and shown on the Drawings including Elevator Filed Sub-Bid Work. \$ _____

**Item OC1 – Owner’s Contingency Allowances
 per Paragraph 11.02 of the General Conditions (excluding Item G1, Item G2 and Sub-
 Bids Items S1-S~~56~~)**

- OC1 Owner’s Contingency Allowance: General Contractor Work for additional Work associated with replacement of the Stackpole Street Pump Station. Not to exceed \$ 200,000.00
- OC2 Owner’s Contingency Allowance: General Contractor Work for additional Work associated with abatement of hazardous materials at the Raw Water Pump Station. Not to exceed \$ 30,000.00

Items U1-~~U3~~ -- Unit Priced Items

Item No.	Item Description with Unit Price in Written Words	Estimated Quantity & Unit	Unit Bid Price		Total Bid Item Price	
			Dollars	Cents	Dollars	Cents
U1	Stucco Finish @ _____ _____ Dollars and _____/100 PER SQUARE FOOT	2331 SF				
U1 ₂	Rock Removal @ _____ _____ Dollars and _____/100 PER CUBIC YARD	10 CY				
U3	Concrete Spall Repair @ _____ _____ Dollars and _____/100 PER SQUARE FOOT	25 SF				

Sub-Bid Items S1 through S6:

Sub-trade	Name of Sub-Bidder	Amount	Bonds required (Yes or No)
Item S1: Roofing & Flashing		\$	
Item S2: Painting		\$	
Item S3: HVAC		\$	
Item S4 (SRF INELIGIBLE): Electrical		\$	
Item S4 (SRF ELIGIBLE): Electrical		\$	
Item S5: Masonry		\$	
Item S6 (SRF INELIGIBLE): Elevators		\$	

The Undersigned agrees that each of the above named Sub-Bidders will be used for the Work indicated at the amount stated, unless a substitution is made. The Undersigned further agrees to pay the premiums for the performance and payment bonds furnished by Sub-Bidders as requested herein and that all of the cost of all such premiums is included in the amount set forth in Item 1 of this Bid.

The Undersigned agrees that if selected as general Contractor, Undersigned will promptly confer with the Awarding Authority on the question of Sub-Bidders; and that the Awarding Authority may substitute for any sub-Bid listed above, a sub-Bid filed with the Awarding Authority by another Sub-Bidder for the sub-trade against whose standing and ability the Undersigned makes no objection; and that the Undersigned will use all such finally selected Sub-Bidders at the amounts named in their respective Sub-Bids and be in every way as responsible for them and their Work as if they had been originally named in this General Bid, the total Contract Price being adjusted to conform thereto.

- E. The Undersigned agrees that, if selected as general Contractor, Undersigned will within 5 days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the Awarding Authority, execute a Contract in accordance with the terms of this Bid and the Contract Documents and furnish a performance bond and also a labor and materials or payment bond, each of a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the Awarding Authority and each in the sum of the Contract Price, the premiums for which are to be paid by the general Contractor and are included in the Contract Price; provided however that if there is more than 1 surety company, the surety companies shall be jointly and severally liable.

The Undersigned hereby certifies that Undersigned is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work; that all employees to be employed at the Work Site will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that Undersigned will comply fully with all Laws and Regulations applicable to awards made subject to MGL Chapter 149, Section 44A.

The Undersigned further certifies under the penalties of perjury that this Bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection, the word "person" shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The Undersigned further certifies under penalty of perjury that the said Undersigned is not presently debarred from doing public construction work in the Commonwealth under the provisions of Chapter 29, Section 29F, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or Regulation promulgated thereunder.

This Bid is submitted by the Undersigned.

A Corporation

Corporation Name: _____

State of incorporation: _____

Type: _____
(General Business, Professional, Service, other)

By: _____
(Signature – attach evidence of authority to sign)

Name *(typed or printed)*: _____

Title: _____

(CORPORATE SEAL)

Attest: _____
(Signature of Corporate Secretary)

Business Address: _____

Phone & Facsimile Nos: _____

Email address: _____

Date of qualification to do business as out-of-state corporation: _____

A Limited Liability Company (LLC)

LLC Name: _____

State in which organized: _____

By: _____
(Signature – attach evidence of authority to sign)

Name *(typed or printed)*: _____

Title: _____

Business Address: _____

Phone & Facsimile Nos: _____

Email address: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner – attach evidence of authority to sign)

Name *(typed or printed)*: _____

Business Address: _____

Phone & Facsimile Nos: _____

Email address: _____

A Joint Venture

First Joint Venturer Name: _____

By: _____
(Signature – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business Address: _____

Phone & Facsimile Nos: _____

Email address: _____

Second Joint Venturer Name: _____

By: _____
(Signature – attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Business Address: _____

Phone & Facsimile Nos: _____

Email address: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, corporation and limited liability company that is a party to the joint venture should be in the manner indicated above.)

SUBMITTED ON:
State License No. (if applicable)
EIN/FEIN:

END OF SECTION

Vertical external and internal members minimum 2" (50 mm) square, spaced maximum 8' 0" (2.44 m) on center. Gates having fabric greater than 8' 0" (2.44 m) in height require a horizontal member. The top horizontal member shall be a one-piece precision extruded structural framing member having an integral enclosed track. Bottom horizontal member to be minimum 2" x 4" (50 x 100 mm). Adjustable diagonal X trusses shall be installed in each gate panel to transfer the alternating forces as the gate slides. The gate opening portion shall be filled with chain link fabric stretched taut and secured to the frame members. Chain link fabric shall match the fence system specification. The overall gate structure shall be a minimum of 40% larger than the gate opening to support the cantilevered portion of the gate in the closed position with minimum deflection per ASTM F1184. The minimum 40% back frame does not require the installation of chain link fabric for those gates not to be electrically operated. ~~[Electrically operated gates per ASTM F2200 and UL 325 required the back frame to be filled with fabric.]~~ Single leaf cantilever design for openings larger than 30' 0" (9.15 m) up to 40' 0" (12.2 m) shall be fabricated by welding together two horizontal top structural/track members creating a dual track system. Single track gates up to 30' 0" (9.15 m) opening require two support posts and two internal truck assemblies. Dual track gates over 30' 0" (9.15 m) up to 40' 0" (12.2 m) require two sets of dual posts and four internal truck assemblies.

- B. Internal truck assemblies shall be capable of swiveling to accommodate gate movement and ensure full contact of the four support wheels and two guide wheels to the internal track surface. The galvanized steel truck assembly post bracket, truck assembly vertical support axle as well as the support wheels shall be designed to handle static and dynamic forces required to support and operate the gate. The truck assembly, support axle and internal wheels shall be comprised of stainless steel or galvanized steel components.
- C. Galvanized steel bottom guide roller brackets containing two 3" (75 mm) rubber wheels shall be supplied to keep the bottom of the gate plumb and in proper alignment.
- D. Single gates shall be supplied with a galvanized steel latch mechanism capable of securing the gate with a padlock accessible from either side. Double gates to have galvanized drop rod to hold inactive leaf and a latch mechanism capable of securing the gate with a padlock accessible from either side. Provide drop rod receiver to engage center drop rod. ~~[Electrically operated gates per ASTM F2200 and UL325 shall not contain any latch or locking mechanism]~~
- E. Cantilever gate posts shall be 4.00" (101.6 mm) OD [Grade 1 pipe ASTM F1083] [Grade 2 pipe ASTM F1043 Group IC] per section 2.03. Single leaf cantilevers up to 30' 0" (9.15 m) require three 4" (101.6 mm) OD posts, dual track single leaf cantilevers over 30' 0" (9.15 m) up to 40' 0" (12.2 m) require two sets of pre fabricated dual 4.00" (101.6 mm) OD support posts and one 4" (101.6 mm) latch post. (Gate is supported in the center of the dual posts.)

2.05 FENCE SLATS

- A. Fence slats shall be compatible with fences specified in this specification. Fence Slats shall provide a natural hedge look.
- B. Core shall be made with 16-gauge, braided galvanized wire and needles shall be made with 3 millimeter PVC.
- C. Fence slats shall provide approximately 90% wind load and privacy factor, be flame retardant, and be UV stabilized.
- D. Manufacturer: Pexco HedgeLink™ or Engineer Approved Equal.

PART 3 – EXECUTION

3.01 GENERAL

- A. Do not begin installation and erection before final grading is completed, unless otherwise permitted.
- B. Install equipment of this section in strict accordance with the company's printed instructions unless otherwise shown on the contract drawings.

3.02 EXCAVATION

- A. Drill holes for posts of diameters and spacings shown, in firm, undisturbed or compacted soil.
- B. If not shown on DRAWINGS, excavate holes to minimum diameters as recommended by fence manufacturer.
- C. Unless otherwise indicated, excavate hole depths approximately 6" lower than post bottom, with bottom of posts set not less than 4" below finish grade surface.

3.03 INSTALLATION

- A. Setting Posts:
 - 1. Center and align posts in holes 6" above bottom of excavation. Place concrete around posts and vibrate or tamp for consolidation. Check each post for vertical and top alignment, and hold in position during placement and finishing operations.
- B. Top Rails:
 - 1. Run rail continuously through post caps, bending to radius for curved runs. Provide expansion couplings as recommended by fencing manufacturer.

- C. Brace Assemblies:
 - 1. Install braces so posts are plumb when diagonal rod is under proper tension.
- D. Tension Wire:
 - 1. Install tension wires before stretching fabric and tie to each post with not less than 6 gauge galvanized wire. Fasten fabric to tension wire using 11 gauge galvanized steel hog rings spaced 24" o.c.
- E. Fabric:
 - 1. Leave approximately 2" between finish grade and bottom selvage, unless otherwise indicated. Pull fabric taut and tie to posts, rails, and tension wires. Install fabric on security side of fence, and anchor to framework so that fabric remains in tension after pulling force is released.
- F. Stretcher Bars:
 - 1. Thread through or clamp to fabric 4" o.c., and secure to posts with metal bands spaced 15" o.c.
- G. Gates:
 - 1. Install gates plumb, level, and secure for full opening without interference. Install ground-set items in concrete for anchorage, as recommended by fence manufacturer. Adjust hardware for smooth operation and lubricate where necessary.
- H. Tie Wires:
 - 1. Use U-shaped wire, conforming to diameter of pipe to which attached, clasping pipe and fabric firmly with ends twisted at least 2 full turns. Bend wire to minimize hazard to persons or clothing.
- I. Fasteners:
 - 1. Install nuts for tension bands and hardware bolts on side of fence opposite fabric side. Peen ends of bolts or score threads to prevent removal of nuts.
- J. Signs: Install along each of the two fences.
- K. Sliding Gate ~~and Operator~~:
 - 1. The gate system is to comply with ASTM F2200 and UL 325.

~~2. Obstruction Sensing Systems:~~

- ~~a. The inherent motor current sensors shall be part of the gate operator system and shall not be removed or bypassed.~~
- ~~b. The installing contractor shall be responsible to ensure that appropriate external secondary entrapment protection devices be installed for the specific site conditions to protect against all potential entrapment zones. Proper operation of these safety devices shall be verified and training as to the operation and maintenance of these devices for the users and owners shall be documented.~~

3.04 SYSTEM ACCEPTANCE & VALIDATION

- A. Acceptance Test:
 - 1. Test each system function.
 - 2. Supply all equipment necessary for system adjustment and testing.
- B. Test and Explain Safety Features:
 - 1. Each system feature and device is a separate component of the gate system.
 - 2. Read and follow all instructions for each component.
 - 3. Ensure that all instructions for mechanical components, ~~safety devices and the gate operator~~ are available for everyone who will be using the gate system.
 - 4. The warning signs shipped with the gate operator shall be installed in prominent position on both sides of the gate.
- C. System Validation:
 - 1. The complete system shall be adjusted to assure it is performing properly.
 - 2. The system shall be operated for a sufficient period of time to determine that the system is in proper working order.
 - 3. Ensure the owner is clear with regard to the safety points concerning the basic operational guidelines ~~of the safety features~~ of the gate ~~operator~~ system. ~~These safety points are listed in the operator manual and shall be read prior to system use.~~

3.05 FIELD QUALITY CONTROL

- A. Provide in accordance with Division 01 General Requirements.

SECTION 14 42 00

VERTICAL WHEELCHAIR LIFTS
~~(FILED SUB-BID REQUIRED)~~
(SRF INELIGIBLE)

PART 1 – GENERAL

1.01 SUMMARY

- A. Section Includes
 - 1. Provide enclosed vertical wheelchair lift in accordance with this Section and applicable reference standards listed in Article 1.03.

1.02 PRICE AND PAYMENT PROCEDURES

- A. Measurement and payment requirements: per Division 01 General Requirements.

1.03 REFERENCES

- A. Reference Standards
 - 1. ASME A17.1 - Safety Code for Elevators and Escalators
 - 2. ASME A17.5 - Elevator and Escalator Electrical Equipment
 - 3. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts
 - 4. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities
 - 5. NFPA 70 - National Electric Code
- B. Related Requirements
 - 1. Division 03 - Concrete
 - 2. Division 26 - Electrical (Electrical Sub-Bid)

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordination, Sequencing, and Scheduling: per Division 01 General Requirements.

1.05 SUBMITTALS

- A. Submit in accordance with Division 01 General Requirements.
- B. Product Data

1. Manufacturer's installation instructions, including preparation, storage and handling requirements
 2. Complete description of performance and operating characteristics
- C. Shop Drawings
1. Typical details of assembly, erection and anchorage
 2. Wiring diagrams for power, control, and signal systems
 3. Complete layout and location of equipment, including required clearances and coordination with shaftway
- D. Samples and Mockups: as specified in Article 1.06.
- E. Qualification statements of manufacturer and installer
- F. Closeout and Maintenance Material Submittals: per Division 01 General Requirements.

1.06 QUALITY ASSURANCE

- A. Provide in accordance with Division 01 General Requirements.
- B. Manufacturer qualifications: minimum 10 years experience in manufacturing of vertical platform lifts, with evidence of experience with similar installations of type specified.
- C. Installer qualifications: licensed to install equipment specified, with evidence of experience with specified equipment.
- D. Samples: 2 complete sets of color chips representing manufacturer's full range of available colors and patterns for each finished product specified.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Provide in accordance with Division 01 General Requirements.
- B. Deliver materials in their original packages, containers, or bundles bearing the brand name and the name and type of the material.
- C. Store products in manufacturer's unopened packaging until ready for installation.

1.08 PROJECT CONDITIONS

- A. Existing Conditions: per Division 01 General Requirements.

1.09 MAINTENANCE

- A. Provide a 2-year service contract by a certified manufacturer's representative. Contract shall include two visits per year for preventative maintenance inspections and cover 100% of costs associated with replacement parts under warranty.
- B. Installer to maintain an adequate stock of replacement parts and have qualified people available to promptly provide maintenance and callback service.

1.10 WARRANTY

- A. Special Warranty/Extended Correction Period
 - 1. Provide a 2 year warranty for wheelchair lift materials and workmanship covering parts and labor.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable level of quality: equivalent to 1. Garaventa Lift; United States - P.O. Box 1769, Blaine, WA 98231-1769. Canada - 7505 134 A St., Surrey, BC V3W 7B3. ASD. Toll Free: (800) 663-6556. Tel: (604) 94-0422. Fax: (604) 594-9915. Email: productinfo@garaventalift.com. Web: www.garaventalift.com..

2.02 ENCLOSED VERTICAL WHEELCHAIR LIFT

- A. Capacity: 750 pounds (340 kg) rated capacity.
- B. Mast height: 75 inches maximum lifting height.
- C. Nominal clear platform dimensions: 46 inches by 57 inches.
- D. Platform Configuration: 90 degrees.
- E. Entry/Exit: front and side openings.
- F. Landing Openings
 - 1. Lower landing: door.
 - 2. Upper landing: door.
- G. Doors and gates: self-closing type.
 - 1. Door Height: flush mount, 80 inches (2,032 mm).

2. Door construction: aluminum frame with 3/16 inch bronze plexiglass panels with 16 gauge galvanized steel kick plate and 12 inch offset D-handle pull.
3. Power door/gate operator: to automatically open door/gate when platform arrives at a landing and open at landing by pressing call button or gently the pulling door.
 - a. Location: upper landing, door.

H. Lift Components

1. Machine tower: custom aluminum extrusion.
2. Base frame: structural steel.
3. Platform side wall panels: 42-1/8 inches high, 16 gauge galvanized steel sheet with custom aluminum extrusion tubing frame.
4. Enclosure Panels: 3/16 inch bronze plexiglass. Enclosure shall be weather tight and suitable for an exterior application.

I. Enclosure height above upper landing: extending 83-3/4 inches above the upper landing level.

J. Base mounting and access to lift at lower landing: pit mounted with dimensions to meet manufacturer's requirements for the platform size specified. Pit construction: in accordance with Section 03 30 00.

K. Accessories

1. Enclosure Dome: plexiglass type to cover top of lift enclosure, weather tight and suitable for an exterior application.
2. Ventilation System: 2 exhaust fans, thermostatically controlled with a 12 VDC battery backup.

L. Hydraulic drive: chain hydraulic type.

1. Emergency Operation: Manual device to lower platform and use auxiliary battery power to raise or lower platform.
2. Safety devices:
 - a. Slack chain safety device
 - b. Shoring device
3. Travel speed: 17 fpm (5.2 m/minute).

4. Motor: 3.0 hp (2.2 kW); 24 VDC.
5. Power supply: 120 VAC single phase; 60 Hz on a dedicated 15 amp circuit.
 - a. Provide power converter within lift enclosure for converting building continuous mains power to 24 VDC.
 - b. Equip with auxiliary battery backup power system capable of running lift up and down for a minimum of 5 trips with rated load.
- M. Platform controls: 24 VDC control circuit with the following features.
 1. Direction control: illuminated tactile and constant pressure push buttons with dual platform courtesy lights and safety light.
 2. Illuminated and audible emergency stop switch to shut off power to lift and activate audio alarm equipped with battery backup
 3. Keyless operation
 4. Arrival gong
- N. Call station controls: 24 VDC control circuit with the following features.
 1. Direction control: illuminated tactile and constant pressure push buttons with illuminated "In Use" indicator.
 2. Keyless operation
 3. Call station mounting
 - a. Lower: frame mounted.
 - b. Upper: wall mounted surface.
- O. Safety devices and features:
 1. Grounded electrical system with upper, lower, and final limit switches.
 2. Tamper resistant interlock to electrically monitor that door is in closed position and lock is engaged before lift can move from landing.
- P. Finishes
 1. Aluminum extrusions: champagne anodized finish.
 2. Lift finish: baked powder coat finish, color as selected by the Owner from manufacturer's optional RAL color chart.

2.03 SOURCE QUALITY CONTROL

- A. Provide in accordance with Division 01 General Requirements.

PART 3 – EXECUTION

3.01 EXAMINATION

- A. Do not begin installation until substrates are properly prepared.
- B. Verify required landings and openings are correct size and within tolerances.
- C. Verify electrical rough-in is correctly located.

3.02 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using methods recommended by manufacturer for achieving best result for the substrate under the Project conditions.

3.03 INSTALLATION

- A. Install lifts in accordance with applicable regulatory requirements including ASME A 17.1, ASME A 18.1 and the manufacturer's instructions.
- B. Ventilation System: Electrical Subcontractor to provide continuous mains power for hydraulic drive.
- C. Install system components and connect to building utilities.
- D. Accommodate equipment in space indicated.
- E. Startup equipment in accordance with manufacturer's instructions.
- F. Adjust for smooth operation.

3.04 FIELD QUALITY CONTROL

- A. Provide in accordance with Division 01 General Requirements.
- B. Perform tests in compliance with ASME A 17.1 or A18.1 and as required by local authorities.

3.05 PROTECTION

- A. Do not use wheelchair lift for hoisting materials or personnel during construction period.
- B. Protect installed products until completion of Project.
- C. Touch-up, repair or replace damaged products prior to Substantial Completion.

END OF SECTION