

**ADDENDUM NO. 2**

TO

**CONTRACT DOCUMENTS**

**IMPROVEMENTS TO WAYLAND HIGH SCHOOL ATHLETIC FACILITIES  
Wayland, MA**

**IFB #19-1057**

March 20, 2019

**NOTICE TO BIDDERS**

The attention of all bidders submitting proposals for “Improvements to Wayland High School Athletic Facilities” is called to the following Addenda to the specifications and plans. The items set forth herein, whether of omission, addition or substitution are to be included in, and form part of the specifications and plans of the above-named project for bids to be received as advertised.

**PLEASE BE SURE TO ACKNOWLEDGE  
THIS ADDENDUM ON BID PRICING PAGE**

The following clarifications, modifications, deletions and additions are hereby incorporated into and become part of the Contract Documents.

For reference and public record, see attachment, - Attendance List: Pre-Bid Site Walk, dated March 14, 2019

For reference and public record, see attachment – Site Photos

**WRITTEN CHANGES AND CLARIFICATIONS TO SPECIFICATIONS**

1. **DELETE:** Specification Section 32 18 13 – SYTHETIC GRASS INFILL SYSTEM

**ADD:** Specification Section 32 18 13 – SYNTHETIC GRASS INFILL SYSTEM

2. **DELETE:** Specification Section 14 40 00 – LIFTS

**ADD:** Specification Section 14 40 00 - LIFTS

**ATTACHMENTS:**

Specification Section 32 18 13 – SYNTHETIC GRASS INFILL SYSTEM  
Specification Section 14 40 00 - LIFTS  
Pre-Bid Attendee List  
Site Photos

**END OF ADDENDUM NO. 2**

## SECTION 32 18 13

### SYNTHETIC GRASS INFILL SYSTEM

#### 1. General

##### A. Work Included

1. Provide all labor, materials, equipment and tools necessary for the complete installation of Synthetic Grass Infill System over a graded stone base as outlined in these specifications and in strict accordance with the manufacturer's written specifications with a specially formulated resilient infill of rounded sand and ambiently recycled rubber.
  - a. Excavation and placement of graded stone sub-base.
  - b. A drainage system consisting of a flat drains and collector piping.
  - c. A synthetic grass system with 2.25" to 2.5" long 100% polyethylene fibers, tufted on a 3/8" -3/4" tufting machine. A minimum of 10,800 denier monofilament yarn, and 10,000 denier low friction parallel slit film yarn specifically designed to reduce abrasion in AB tufting configuration if 3/8" gauge or a combination of minimum 5000 denier slit film and minimum 7200 denier monofilament in single needle stitching, with a fiber weight of not less than 46 ounces per square yard. The turf shall be of dual fiber construction with multi-structured monofilament and slit-film fibers tufted together in same needle stitching if 1/2" or 3/4" gauge, or AB tufting configuration if 3/8" gauge. The system shall include a single, dimensionally stable, two or three-component backing, and have a minimum of 20 ounces of urethane secondary backing per square yard and a total weight of 74 ounces per square yard. The finished product shall also include perforations (1/4" holes on 4" centers) to ensure maximum drainage. Systems that are tufted on larger than 3/4" gauge tufting machines, are not perforated or include any type of nylon fiber "thatch zone" shall not be acceptable.
  - d. A resilient infill system, consisting of a course, rounded, uniformly sized silica sand and graded virgin EPDM crumb rubber. (Minimum total weight of 7 lbs. (4 lbs sand and 3 lbs rubber) per square foot with a 57/43 sand and rubber ratio – No Exceptions). Infill shall be installed to a minimum height of 2 inches providing no more than 1/2 inch exposed fiber.
  - e. Or an Engineer approved equivalent.

## 2. APPROVED MANUFACTURERS

- a. Sprinturf
- b. Fieldturf
- c. Astroturf
- d. Shaw Sports Turf
- e. Greenfields
- f. Act Global
- g. Approved Equal

### B. Qualifications and Submittals

1. Prospective Bidders and / or installers of the turf shall be required to comply with the following:
  - a. The successful turf contractor must be a member of the Synthetic Turf Council (STC), Sports Turf Managers Association (STMA), or American Sports Builders Association (ASBA). This requirement may be waived by the Owner should the successful bidder be able to prove they are competent and meet all other qualifications and bid submittal requirements as specified. The proof of qualifications is on the contractor.
  - b. The turf contractor and / or the turf manufacturer must be experienced in the manufacture and installation of this specific type of sand and rubber infill synthetic grass system, for at least five (5) years and provide references of ten (10) specific installations in the last five (5) years.
  - c. The turf manufacturer shall have a minimum of ten (10) installations in the State of Massachusetts.
  - d. The turf manufacturer shall have a minimum of Ten (10) NFHS Division 1 game and/or practice fields installed for football or soccer.
  - e. The turf contractor and/or turf manufacturer must provide in-house competent workmen skilled in this specific type of synthetic grass installation with a minimum of 10 fields installed. The designated supervisory personnel on the project must be certified in writing by the turf manufacturer as competent in the installation of this material, including the gluing of seams and the proper installation of the infill mixture. The manufacturer shall have a representative on site to certify the installation and warranty compliance.
  - f. All designs, marking, layouts, materials shall conform to current NFHS rules and other standards that may be applicable to this type of synthetic

grass installation unless there is a specific exception identified. Submit a full color rendering/drawing indicating all field markings for final approval prior to placing turf order. Failure to do so shall be at the contractor's risk and cost.

2. All bidders of the turf contract must submit to the Engineer the following information:
  - a. The Contractor shall submit to the Engineer, after the bid, prior to award, a 1' x 1' minimum sample of the exact synthetic turf and infill system that is specified for this project. A sample of the Resilient Performance Base material shall also be submitted.
  - b. The turf contractor / manufacturer shall submit with the bid, a sample copy of the material warranty demonstrating compliance with the warranty requirements.
  - c. The turf contractor shall provide evidence - direct from the turf manufacturer corporate headquarters- that the installer is certified by the manufacturer to install this type of synthetic grass installation.
  - d. Certified copies of independent (third-party) laboratory reports on ASTM tests as follows:
    - i. Pile Height, Face or Pile Weight & Total Fabric Weight, ASTM D418 or D5848
    - ii. Primary & Secondary Backing Weights, ASTM D418 and D5848
    - iii. Tuft Bind, ASTM D1335
    - iv. Grab Tear Strength, ASTM D1682 or D5034
    - v. Infill Materials, ASTM F3188-16
  - e. List of Ten (10) similar existing installations that have been installed in Massachusetts including, Owner representative and telephone number(s).
  - f. The Turf Contractor and Turf Manufacturer (if different from the company) shall provide evidence that their turf system does not violate any other manufacturer's patents, patents allowed or patents pending. Evidence shall be in the form of a written document stating such and signed by the Turf Manufacturers Corporate Headquarters.
  - g. The Turf Contractor and Turf Manufacturer (if different from the company) shall provide a sample copy of insured, non-pro-rated warranty and NON-CANCELABLE third-party warranty insurance policy with a policy minimum claim limits of at least \$5,000,000 and annual aggregate limit of at least \$15,000,000.00 in order to fully cover the full replacement of the turf system in the event of total failure.

- h. Letter stating the products anticipated lifespan.
  - i. A letter and specifications sheet certifying that the products in this section meet or exceed specified requirements including certification from the turf manufacturer that lead or lead chromate are not used in the manufacturing of the specified system.
  - j. Warranty must cover full 100% of replacement value of total square footage installed. Minimum \$10.00 per square foot.
3. The General Contractor / Site Contractor shall be defined as the contractor who is responsible for the construction of the site components related to and located beneath the turf product, inclusive of but not limited to all cuts and fills as needed to establish an approved subgrade, the dynamic stone drainage system, the flat drains, the perimeter collection system. The turf supplier / installer is a subcontractor to the general contractor. The General Contractor / Site Contractor shall have installed a minimum of five (5) Turf Fields in the last three (3) years and shall provide documentation and contact information for such.

C. Shock Attenuation Evaluation:

- 1. Near the completion of the turf, hire an independent testing laboratory to perform ten (10) in place G max tests in compliance with ASTM F1936 and F355. If any test results exceed 125, modify the infill material ratios as necessary to achieve satisfactory results. Perform additional testing to verify the results as required by the Owner's Representative.
- 2. Guarantee: During the eight (8) year guarantee period, the G max rating shall remain less than 165. The Contractor shall contract with an independent testing laboratory to perform three (3) in place G max tests each on site during the first, third, fifth, seventh and eighth years. If any test results meet or exceed 165, modify the infill material ratios as necessary to achieve satisfactory results. Perform additional testing to verify the results as required by the Architect. If the G max rating exceeds 165 after three attempts to repair the high rating, replace the field within 90 calendar days at no cost to the Owner.

D. Pre-Installation Meeting:

- 1. Convene One (1) Week After Bid Opening:
  - a. An interview shall take place at a time and date to be determined by the Engineer at the district office or other location determined by the Engineer and Owner. Present at this meeting shall be the Engineer, Owner's Representative(s), the Project Manager and Site Superintendent for the Prime Contractor and the Project Manager and Project Foreman for the Turf Installer. The purpose of this meeting will be to review turf product

and installation means and methods, to interview and ascertain the experience and competence of the Turf Installer, as well as, the onsite Project Foreman for this project and to review the project schedule. The basis of choosing this product shall be in part due to the results of this interview process. Contractor shall submit all required submittals before this meeting.

2. Convene One (1) Week Prior to Stone Blanket Completion:

- a. A second meeting shall take place at a location, time and date to be determined by the Engineer. Present at this meeting shall be the Engineer, Owner's Representative(s), and the Project Manager for the Site Contractor. The purpose of this meeting shall be to review and confirm schedule. (with attention on the turf installation) and to confirm that the turf product has been ordered by way of notarized copies of the original confirmed Purchase Order and guaranteed delivery date.

E. Delivery, Storage, and Protection

1. Convene Deliver products to project site in wrapped condition.
2. Store products under cover and elevated above grade.
3. Protect all products and installation area from vandalism, theft, other construction, etc.

F. Warranties

1. The Turf Manufacturer shall provide a Warranty to the Owner that covers defects in materials and workmanship of the turf for a period of eight (8) years from the date of Substantial Completion. The turf manufacturer must verify that their onsite representative has inspected the installation and that the work conforms to the manufacturer's requirements. The turf fabric shall not lose more than an average 2% per year. The manufacturer shall guarantee the availability of replacement material for the synthetic turf system installed for the life of the warranty.
2. The Manufacturer's Warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, and acts of God beyond the control of the Owner or the manufacturer.
3. The Turf Manufacturer's Warranty must be supported by an insurance policy of the full eight (8) year period.
4. The Turf Contractor shall provide a Warranty to the Owner that covers defects in the installation workmanship, and further warrant that the installation was done in accordance with both the Manufactures' recommendations and any written

directives of the Manufacturer's onsite representative.

5. The synthetic grass turf must maintain an ASTM F355 and ASTM F1936 G-max between 125-165 for the life of the Warranty. Refer to 1.3, B.
6. Any repairs or service to the field requested by the Owner or Owner's representative shall be addressed within 14 days from the date of written notification.

The Turf Manufacturer shall be 100% responsible for and warranty all products installed as part of his system inclusive of the fibers whether the fibers are manufactured by the turf company or by others.

G. Maintenance Service

1. The Turf Contractor will train the Owner's facility maintenance staff in the use of the specified maintenance attachments and equipment to routinely groom and sweep the field. Equipment shall be in good working condition.

H. ADA Handicap Accessible

1. Synthetic turf system shall be approved as ADA compliant as determined by Test-Method ASTM 1951-99.
2. Proof of passing must be submitted for approval.

2. Products

A. Base Stone and Drainage System

Sieves	Base Stone-Type 1	Base Stone-Type 2	Finishing Stone
3"			
2"	100		
1 1/2"	90-100		
1"	75-100	100	
3/4"	65-95	90-100	
1/2"	55-85	80-100	100
3/8"	40-75	70-100	85-100

1/4"	25-65	60-90	75-100
US#4	15-60	50-85	60-90
US#8	0-40	30-65	35-75
US#16	0-20	10-50	10-55
US#30	0-10	0-35	0-40
US#60	0-8	0-15	0-15
US#100	0-6	0-8	0-8
US#200	0-5	0-2	0-2

**PLEASE NOTE THAT THE BASE STONE AND DRAINAGE STONE SYSTEM IS A SPECIAL MANUFACTURED PRODUCT AND ANY DEVIATION FROM THIS MATERIAL SHALL REQUIRE WRITTEN APPROVAL FROM THE TURF MANUFACTURER'S CORPORATE HEADQUARTERS. THE BASE STONE AND FINISHING STONE PRODUCT IS A 100% CLEANED WASHED QUARRY STONE MIXTURE. GRAVEL AND SAND MIX MATERIAL SHALL NOT BE ALLOWED (NO EXCEPTIONS)**

**RESTRICTIONS:**

1. To ensure structural stability:  $D_{60}/D_{10} > 5$  and  $1 < D_{30}^2 < 3$   
 $D_{10} D_{60}$  Fragmentation must be 100%.
2. To ensure separation of both stones:  $D_{85}$  of finishing stone  $> 2$   
 $D_{15}$  of base stone and  $3 < D_{50}$  of base stone  $< 6$   
 $D_{50}$  of finishing stone
3. To ensure proper drainage: Permeability of base stone  $> 50$  in/hr. ( $3.5 \times 10^{-2}$  cm/sec)  
Permeability of finishing stone  $> 10$  in/hr. ( $7.0 \times 10^{-3}$  cm/sec)  
Porosity of both stones  $> 25\%$   
(When stone is saturated and compacted to 95% Proctor.)

B. Perimeter Edge: Concrete curb (see Contract Drawings and Specifications).

C. Underdrain System

1. ADS AdvanEdge



- a. 1 inch by 12-inch flat drain.
- b. ADS AdvanEdge end connector with 4-inch ADS pipe.
- c. 12-inch diameter perforated collector drain pipe.
- d. 6-inch diameter solid wall HDPE cleanout with 8 inches by 8 inches by 8-gauge aluminum plate with synthetic surface glued directly to plate.

2. Approved equivalent.

#### D. Synthetic Grass Infill System Materials

1. Manufacturer: Subject to compliance with all specified requirements,

A. THE CONTRACTOR SHALL PROVIDE WITH HIS BID, IN THE BID FORM, THE SYNTHETIC GRASS INFILL SYSTEM MANUFACTURER AND SYSTEM HIS/HER BID IS BASED ON.

2. The Synthetic Grass Material and resilient infill shall be in strict accordance with the following:

A. The fiber shall be a 7,200 to 12,000 denier 260 micron minimum thickness monofilament, and 5,000-10,000 denier 100 micron minimum thickness parallel slit film 100% polyethylene, low-friction fiber, measuring not less than 2.25-2.5 inches high, as manufactured by Bonar Yarns & Fabrics, Tencate, Field Turf or ITS/Sprinturf. The low friction fiber shall be specifically designed to virtually eliminate abrasion. The fiber shall be a hybrid fiber combo with multi-structured monofilament and slit-film fibers tufted together in same or alternating needle construction per General specification part A-1-c.

B. The tufted fiber weight shall not be less than 43 ounces per square yard for 2.25" pile height or 46 ounces per square yard for 2.5" pile height. The fiber shall be tufted on a 3/8" to 3/4" tufting machine. The overall product weight must not be less than 74 ounces per square yard. The low friction non-abrasive fiber shall be 100% polyethylene, treated with a UV inhibitor. Systems that use polyethylene/ polypropylene blended fibers and systems that include any type of nylon fibers are unacceptable.

C. The carpet shall be delivered in 15' wide rolls. The rolls shall be of enough length to go from edge of field to edge of field. Head seams will not be acceptable.

D. All field lines, numbers and markings indicated on the plans shall be permanently inlaid.

E. The fiber shall be Field Green/Rye Green in color to simulate natural grass as closely as possible and treated with UV inhibitor, guaranteed a

minimum of eight (8) years.

- F. The infill system shall consist of a non-compacting mixture of specifically graded, coarse, rounded, uniformly sized silica sand and coarse, virgin EPDM crumb rubber. EPDM rubber shall conform to all STC regulation standards for safety. The contractor shall submit to the engineer for approval all EPDM product data inclusive of material size and content. Failure to do so shall be at the contractor's risk and cost.

Typ. Part. Size Distr. *Mesh (ASTM E-11)	Typ. Part. Size Distr. *Mesh (ASTM E-11)
8 -----	8 -----
12 0.3%	10 Trace
16 57.8%	12 20%
20 32.6%	16 80%
30 5.1%	20 100%
40 -----	PAN 0%
50 -----	
PAN 0.4%	

Minimum total weight of infill to be 7 lbs./square foot with a 57/43 sand and rubber ratio (NO EXCEPTIONS)

\*Represents the typical mean percentage (%) retained on individual sieves

G. Turf Data

Pile Weight:	Min. 43 oz/sy for 2.25", Min. 46 oz/sy for 2.5"
Face Yarn Type:	100% Polyethylene
Yarn Size:	
Monofilament	7200-12,000 Denier (260-micron minimum thickness) Depending on gauge and tufting
Slit Film	5,000-10,000 Denier (100-micron minimum thickness) Depending on tufting
Pile Height (Finished)	2.25"-2.5"
Color:	Field Green
Construction:	Broadloom Tufted
Stitch Rate:	10/3"
Tufting Gauge:	3/8" to 3/4" depending on

gauge and stitching

Primary Backing:	Woven and non-woven, fiber reinforced backing (three component system)
Secondary Backing:	20 oz/sy Urethane
Total Product Weight:	73 oz/sy ( ± 2 oz ) Min.
Finished Roll Width:	15'
Finished Roll Length:	Up to 220'
Perforation (Outdoors):	3/16" Holes on Staggered 4" (approximate)
Center Permeability:	20" ± Per Hour

Turf contractor shall provide independent study data on permeability requirements

Infill Composition:	Rounded, Uniformly-Sized Silica Sand and virgin EPDM Rubber Mixture (43% rubber / 57% sand by weight)
Field Lines & Markings:	Tufted, Inlaid and Painted

H. An Owner's Representative approved equivalent.

## C. Installation

### 1. Subgrade / Subbase Approvals

- A. Prior to the installation of the Synthetic Grass Infill System, the General/Site Contractor shall provide written certification that all subgrade, subbase, leveling course and slopes and elevations are in compliance with the Contract Documents and meets or exceeds all manufacturer's requirements. This certification shall be prepared by an approved Installer. The finished grade of the subbase shall not vary more than 3/16" in ten (10) feet. A laser grader must be used to meet the requirements.
- B. The General/Site Contractor shall also provide an as-built survey of the finished subgrade and finished leveling course with spot grades every 25 feet on center each way for approval.
- C. The General/Site Contractor shall prepare a minimum 25'x25' (twenty-five foot by twenty-five foot) mock-up of the approved materials for the subbase and leveling course system in order to evaluate porosity and stability prior to installing material over the entire field. If acceptable the mock-up may become part of the finished field.

#### D. Synthetic Grass Infill System

1. Verification of Conditions (by Installer): Examine conditions under which synthetic grass surfacing is to be installed in coordination with Installer of materials and components specified in this Section and notify affected Prime Contractors and Owner's Representative in writing of any conditions detrimental to proper and timely installation. Do not proceed with installation until unsatisfactory conditions have been corrected in a manner acceptable to Installer.
  - A. When Installer confirms conditions as acceptable to ensure proper and timely installation and to ensure requirements for applicable warranty or guarantee can be satisfied, submit to Owner's Representative written confirmation from applicable Installer. Failure to submit written confirmation and subsequent installation will be assumed to indicate conditions are acceptable to Installer.
  - B. Synthetic Grass Infill System: Provide manufacturer's inspection and certification that surface to receive synthetic turf is ready for installation of synthetic turf system, is perfectly clean in accordance with manufacturer's standards, and will be maintained in acceptable clean condition throughout installation.
2. Installation: Install in strict accordance with manufacturer's written specifications and recommendations.
  - A. Unless otherwise recommended by turf and base manufacturer, lay turf loosely across field, stretched, and attached to perimeter edge detail with enough length to permit full cross-field installation without head or cross-seams. (Head and cross-seams shall not be permitted)
  - B. Unless otherwise recommended by the turf and base manufacturer, this shall be a 100% sewn installation. (Gluing of seams shall not be permitted)
  - C. Provide Infill material properly mixed on site and applied/spread evenly with a large fertilizer type spreader (minimum six (6) foot wide) in strict accordance with manufacturer recommendations. Between each application of infill, the field area shall be brushed with a motorized rotary nylon broom. Minimum infill depth shall be 2.0 inches. Comply with manufacturer's recommendations regarding environmental requirements for installation such as dryness and absence of moisture. Please note that prior to final approval of the field the Owner's Representative shall perform field infill height measurements and infill weight tests throughout the field to ensure the proper infill height and weight have been met. The infill weight tests shall include removing a square foot of material and weighing accordingly, in the presence of the turf manufacturer / turf

installer, at 8 chosen areas throughout the field of play. Upon completion of the test, the turf manufacturer shall replace the extracted material accordingly. If it is deemed the proper infill weight is not in compliance with the contract documents, the turf manufacturer, at his/her cost, shall import and install added infill material (in the presence of the Owner's Representative) throughout the field until it has been deemed the infill weight is acceptable.

D. Field markings: Apply and install fixed markings as indicated herein and in accordance with the Contract Drawings.

i. Soccer: All lines/markings shall be inlaid yellow.

All markings can be sheared/shaved or cut and glued.

E. Provide final cleaning of synthetic grass surfacing installations and maintain area clean and free from debris during installation. Clean surfaces, recesses, enclosures, and similar areas as required leaving area of installation in clean, immaculate condition ready for immediate occupancy and using by Owner.

F. Protect installed synthetic grass from subsequent construction operations. Do not permit traffic over unprotected surfacing.

G. The turf manufacturer shall provide training for the Owner's facility maintenance staff in use of grooming equipment recommended by the manufacturer.

#### D. Maintenance and Warranty

1. The turf installer and/or the turf manufacturer must provide the following:

A. The turf manufacturer shall provide a warranty to the Owner that covers defects in materials and workmanship of the turf for a period of eight years from the date of Substantial Completion. The turf manufacturer must verify that their on-site representative has inspected the installation and that the work conforms to the manufacturer's requirements. The polyethylene yarn manufacturer shall provide an eight (8) year "UV stabilization" warranty.

B. The manufacturer's warranty shall include general wear and damage caused from UV degradation. The warranty shall specifically exclude vandalism, acts of War and acts of God beyond the control of the Owner of the manufacturer.

- C. The turf contractor shall provide a warranty to the owner that covers defects in the installation workmanship, and further warrant the installation was done in accordance with both the manufacturer's recommendations and any written directives of the manufacturer's on-site representative.
- D. All turf warranties shall be limited to repair or replacement of the affected areas and shall include all necessary materials, labor, transportation costs, etc. to complete said repairs. All warranties are contingent on the full payment by the Owner of all pertinent invoices.

END OF SECTION

## SECTION 14 40 00

### LIFTS

#### PART 1 GENERAL

##### 1.1 SECTION INCLUDES

- A. Enclosed, self-contained vertical platform wheelchair lift.

##### 1.2 RELATED SECTIONS

- A. Division 03 – Cast-In-Place Concrete
- B. Division 26 – Electrical

##### 1.3 REFERENCES

- A. ASME A17.1 - Safety Code for Elevators and Escalators.
- B. ASME A17.5 - Elevator and Escalator Electrical Equipment.
- C. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
- D. CSA B44 - Safety Code for Elevators and Escalators.
- E. CSA B355 - Lifts for Persons with Physical Disabilities.
- F. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
- G. NFPA 70 - National Electric Code.
- H. CSA - National Electric Code.

##### 1.4 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
  - 1. Submit manufacturer's installation instructions, including preparation, storage and handling requirements.
  - 2. Include complete description of performance and operating characteristics.
  - 3. Show maximum and average power demands.

- B. Shop Drawings:
  - 1. Show typical details of assembly, erection and anchorage.
  - 2. Include wiring diagrams for power, control, and signal systems.
  - 3. Show complete layout and location of equipment, including required clearances and coordination with shaftway.
- C. Selection Samples: For each finished product specified, provide two complete sets of color chips representing manufacturer's full range of available colors and patterns.
- D. Verification Samples: For each finished product specified, two samples, minimum size 1-3/4" x 2-1/4" inches, representing actual product, color, and patterns.

## 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Firm with minimum 10 years experience in manufacturing of vertical platform lifts, with evidence of experience with similar installations of type specified.
- B. Installer Qualifications: Licensed to install equipment of this scope, with evidence of experience with specified equipment. Installer shall maintain an adequate stock of replacement parts, have qualified people available to ensure fulfillment of maintenance and callback service without unreasonable loss of time in reaching project site.

## 1.6 REGULATORY REQUIREMENTS

- A. Provide platform lifts in compliance with:
  - 1. ASME A18.1 - Safety Standard for Platform Lifts and Stairway Chairlifts.
  - 2. ASME A17.1 - Safety Code for Elevators and Escalators.
  - 3. ASME A17.5 - Elevator and Escalator Electrical Equipment.
  - 4. NFPA 70 - National Electric Code.
- B. Provide platform lifts in compliance with:
  - 1. CSA B355 - Lifts for Persons with Physical Disabilities.
  - 2. CSA B44.1/ASME A17.5 - Elevator and Escalator Electrical Equipment.
  - 3. CSA - National Electric Code.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store components off the ground in a dry covered area, protected from adverse weather conditions.



## 1.8 PROJECT CONDITIONS

- A. Do not use wheelchair lift for hoisting materials or personnel during construction period.

## 1.9 WARRANTY

- A. Warranty: Manufacturer shall warrant the wheelchair lift materials and workmanship for two years following completion of installation.

## PART 2 PRODUCTS

### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, Genesis Vertical Lift by Garaventa Lift, 735 East Industrial Park Drive, Suite C, Manchester, NH (603) 669-6553, [www.garaventlift.com](http://www.garaventlift.com) or approved equal

### 2.2 ENCLOSED VERTICAL WHEELCHAIR LIFT

- A. Capacity: 750 lbs (340 kg) rated capacity.
- B. Mast Height:
  - 1. Model GVL-EN-144; 147 inches maximum lifting height.
  - 2. Model GVL-EN-168; 171 inches maximum lifting height, using hydraulic drive, only.
- C. Nominal Clear Platform Dimensions:
  - 1. Mid-Size: 37-1/4 inches by 56 7/8 inches.
- D. Platform Configuration:
  - 1. Straight Through Entry/Exit: Front and rear openings.
  - 2. 90 Degree Entry/Exit: Front and side openings.
  - 3. On/Off Same Side Entry/Exit: One front opening only.
- E. Landing Openings:
  - 1. Lower Landing: Door.
  - 2. Upper Landing: Door.
- F. Doors and Gates: Doors and gates shall be self closing type.
  - 1. Door Height: Flush mount, 80 inches.
  - 2. Gate Height: Flush mount, 42-1/8 inches.
  - 3. Door Construction: Aluminum frame with:
    - a. Panels of 16 gauge (1.5 mm) painted galvanized steel.
    - b. Panels of 3/16 inch (5 mm) clear Plexiglas with 16 gauge galvanized steel kick plate.

- c. Panels of 3/16 inch (5 mm) bronze Plexiglas with 16 gauge (1.5 mm) galvanized steel kick plate.
- d. Panels of 1/4 inch (6 mm) laminated safety glass with 16 gauge (1.5 mm) galvanized steel kick plate.
- e. D-Handle Pull: 12 inch (305 mm) offset D-Handle.
- 4. Power Door/Gate Operator: Automatically opens the door/gate when platform arrives at a landing. Will also open at landing by pressing call button.
  - a. ADA Compliant and obstruction sensitive.
  - b. Low voltage, 24 VDC with all wiring concealed.
  - c. Location:
    - 1) Lower Landing: Door.
    - 2) Intermediate Landing: Door.
    - 3) Upper landing: Door or Gate.

G. 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. Custom aluminum extrusion tubing frame.
- 4. Enclosure Panels:
  - a. 16 gauge painted galvanized steel sheet.
  - b. 3/16 inch clear Plexiglas.
  - c. 3/16 inch bronze Plexiglas.
  - d. 1/4 inch laminated safety glass.

H. Enclosure Height Above Upper landing:

- 1. Enclosure shall extend 83-3/4 inches above the upper landing level.

I. Base Mounting and Access to Lift at Lower Landing:

- 1. Floor Mount: Base of lift shall be mounted on the floor surface of the lower landing. For access onto the platform provide a ramp of 16 gauge galvanized steel sheet with a slip resistant surface.
- 2. Pit Mount: Lift to be mounted in pit with dimensions to meet manufacturers requirements for the platform size specified. Pit construction shall be in accordance to Section 03300.

J. Options:

- 1. Enclosure Dome: Plexiglas type to cover top of lift enclosure.
- 2. Ventilation System: Two exhaust fans, thermostatically controlled with a 12 VDC battery backup. Requires continuous mains power for Hydraulic Drive.
- 3. Outdoor Protection: Lift shall include modifications recommended by manufacturer for reliable performance in outdoor climate of project site.

K. Hydraulic Drive:

- 1. Drive Type: Chain hydraulic.

2. Emergency Operation: Manual device to lower platform and use auxiliary battery power to raise or lower platform.
  3. Safety Devices:
    - a. Slack chain safety device.
    - b. Shoring device.
  4. Travel Speed: 17 fpm.
  5. Motor: 3.0 hp (2.2 kW); 24 volts DC.
  6. Power Supply:
    - a. 120 VAC single phase; 60 Hz on a dedicated 15-amp circuit.
    - b. 208/240 VAC, single phase; 50 Hz on a dedicated 16-amp circuit.
    - c. Powered by building continuous mains converted to 24 VDC and equipped with auxiliary battery backup power system capable of running the lift up and down for a minimum of 5 trips with rated load. Required for high use lifts and lifts equipped with a fan and ventilation system.
    - d. Powered by continuously charged battery system.
- L. Platform Controls: 24 VDC control circuit with the following features.
1. Direction Control: Constant pressure rocker switch.
  2. Direction Control: Illuminated tactile and constant pressure push buttons with dual platform courtesy lights and safety light.
  3. Illuminated and audible emergency stop switch shuts off power to lift and activates audio alarm equipped with battery backup.
  4. Keyless operation.
  5. Arrival Gong and Digital Floor Display.
- M. Call Station Controls: 24 VDC control circuit with the following features.
1. Direction Control: Constant pressure rocker switch.
  2. Direction Control: Illuminated tactile and constant pressure push buttons with illuminated "In Use" indicator.
  3. Keyless operation.
  4. Call Station Mounting:
    - a. Lower:
      - 1) Frame mounted.
      - 2) Wall mounted surface.
      - 3) Wall mounted recessed.
    - b. Upper:
      - 1) Frame mounted.
      - 2) Wall mounted surface.
      - 3) Wall mounted recessed.
- N. Safety Devices and Features:
1. Grounded electrical system with upper, lower, and final limit switches.
  2. Tamper resistant interlock to electrically monitor that the door is in the closed position and the lock is engaged before lift can move from landing.
  3. Pit stop switch mounted on mast wall.
  4. Electrical disconnect shall shut off power to the lift.
- O. Finishes

1. Aluminum Extrusions color shall be standard color with anodized finish.
2. Ferrous Components: Electrostatically applied baked powder finish, fine textured, color shall be standard color selected by Owner.
3. Lift Finish: Baked powder coat finish, color shall be standard color by the Owner from manufacturers color chart.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Verify shaft and machine space are of correct size and within tolerances.
- C. Verify required landings and openings are of correct size and within tolerances.
- D. Verify electrical rough-in is at correct location.
- E. If substrate preparation is the responsibility of another installer, notify Owner's Representative of unsatisfactory preparation before proceeding.

### 3.2 PREPARATION

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

### 3.3 INSTALLATION

- A. Install platform lifts in accordance with applicable regulatory requirements including ASME A 17.1, ASME A 18.1 and the manufacturer's instructions.
- B. Install platform lifts in accordance with applicable regulatory requirements including CSA B355, and manufacturer's instructions.
- 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.

### 3.4 FIELD QUALITY CONTROL

- A. Perform tests in compliance with ASME A 17.1 or A18.1 and as required by Owner and Town of Wayland Building Department and other authorities having jurisdiction.
- B. Perform tests in compliance with CSA B355 and required by authorities having jurisdiction.
- C. Schedule tests with agencies and Owner's Representative, Owner, and Contractor present.

### 3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION































































































