SECTION 14 20 00

Elvoron LU/LA ELEVATOR

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\*\* NOTE TO SPECIFIER \*\* Garaventa Lift; Elvoron LU/LA (Limited Use Limited Application) Elevator.

This section is based on the products of Garaventa Lift, which is located at:

 United States

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 Blaine, WA 98231-1769

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 18920 36th Ave.

 Surrey, BC V3Z 0P6

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 [[click Here] for additional information.](http://www.garaventalift.com/en.html)

Garaventa Lift is an international company specializing in the manufacturing of wheelchair lifts and elevators. A world leader in the accessibility industry with a reputation for reliability, safety, and innovation, Garaventa Lift has over 50,000 installations worldwide.

**This specification includes the Elvoron LU/LA (Limited Use Limited Application) elevator. The LU/LA elevator is an automatic passenger elevator where the use and application is limited by size, capacity, speed and rise. Check with local code authorities, or your local Garaventa Lift representative to see if this product is an appropriate solution for your project.**

1. GENERAL
	1. SECTION INCLUDES
		1. Commercial LULA Elevators.
	2. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

1. Section 03300 - Cast-in-Place Concrete: Concrete for elevator machine foundation, and pit and required sleeves for service penetrations.
2. Section 06100 – Rough Carpentry.
3. Section 05500 - Metal Fabrications: Miscellaneous supports, lintels, etc.
4. Section 07724 - Roof Hatches: Smoke venting hatch at top of hoistway.
5. Section 07100 - Waterproofing: Pit waterproofing.
6. Section 08310 - Access Doors and Panels: Fire rated access doors into hoistway.
7. Section 09260 - Gypsum Board Assemblies: Gypsum shaft walls.
8. Section 09650 - Resilient Flooring: Floor finish in cab.
9. Section 09686 - Carpet: Floor finish in cab.
10. Section 13850 – Detection and Alarm: Fire and smoke detectors and interconnecting devices.
11. Section 15440 - Sump Pumps.
12. Division 16 - Electrical:
	* + 1. Electrical characteristics and wiring connections.
			2. Electrical service to lockable fused disconnect in elevator machine room.
			3. Electrical service for machine room, machine room convenience outlets, machine room lighting and lighting in elevator pit.
			4. Telephone service.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

1. ASME A17.1 /CSA B44 – Section 5.2 Safety Code for Elevators and Escalators, Limited-Use/Limited Application Elevators.
2. NFPA 70 - National Electric Code.
3. CSA – C22.1 Canadian Electric Code.
4. ADAAG - Americans with Disabilities Act, Architectural Guidelines.
	1. REGULATORY REQUIREMENTS

\*\* NOTE TO SPECIFIER \*\* Verify local regulatory requirements. Delete one of the two following paragraphs as required to suit local requirements. First paragraph is for installations in the United States as applicable. Second paragraph is for installations in Canada as applicable.

1. Provide passenger elevator in compliance with:
	* + 1. ASME A17.1 - Safety Code for Elevators and Escalators, Section 5.2, Limited-Use/Limited Application Elevators.
			2. NFPA 70 - National Electric Code.
2. Provide passenger elevator in compliance with:
	* + 1. CSA B44 - Safety Code for Elevators and Escalators, Limited-Use/Limited Application Elevators.
			2. CSA - C22.1 Canadian Electric Code.

\*\* NOTE TO SPECIFIER \*\* Include the following paragraph as required for ADA requirements. Delete if not required.

1. ADA: Provide passenger elevator in accordance with the requirements of Americans with Disabilities Act.
	1. SUBMITTALS
2. Submit under provisions of Section 01300.
3. Product Data: Manufacturer's data sheets on elevator, including:
	* + 1. Preparation instructions and recommendations.
			2. Storage and handling requirements and recommendations.
			3. Installation methods.
4. 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 hoistway.

\*\* NOTE TO SPECIFIER \*\* Delete selection samples if colors have already been selected.

1. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.
2. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
3. Closeout Submittals: Provide manufacturer’s maintenance instructions that include recommendations for periodic checking and adjustment of cable tension and periodic cleaning and maintenance of all railing and infill components.
	1. PRE-INSTALLATION MEETINGS
4. Convene minimum two weeks prior to start of work of this section.
5. Review hoistway, electrical, fire alarm and other requirements with appropriate representatives.
	1. DELIVERY, STORAGE, AND HANDLING
6. Store products in manufacturer's unopened packaging until ready for installation.
7. Store components off the ground in a dry covered area, protected from adverse weather conditions.
	1. PROJECT CONDITIONS
8. Do not use elevator for hoisting materials or personnel during construction period.
	1. WARRANTY

\*\* NOTE TO SPECIFIER \*\* The manufacturer’s basic warranty is a limited 2-year warranty for the replacement at no cost of defective parts but does not include the labor costs required to replace the defective parts. Delete if not required.

1. Standard Warranty: Provide a two-year limited warranty covering replacement of defective parts and excluding labor. Preventive maintenance agreement required.
2. Extended Warranty: Provide an additional five-year limited warranty covering replacement of defective parts and excluding labor for a total of seven years. Preventive maintenance agreement required.

\*\* NOTE TO SPECIFIER \*\* Include the following paragraph if required and delete if not required. Adjust to match extended warranty period above.

* 1. MAINTENANCE SERVICE
1. Furnish service and maintenance for elevator system and components for the following period from Date of Substantial Completion.
	* + 1. One year.
			2. Two years.
			3. Three years.
			4. Four years.
			5. Five years.
			6. Six years.
			7. Seven years.
2. Include systematic examination, adjustment, and lubrication of elevator equipment. Repair or replace parts whenever required. Use parts produced by manufacturer of original equipment. Replace wire ropes when necessary to maintain required factor of safety.
3. Provide emergency call back service for this maintenance period.
4. Perform maintenance work using competent and qualified personnel approved by elevator manufacturer or original installer.
5. PRODUCTS
	1. MANUFACTURERS
6. Acceptable Manufacturer: Garaventa Lift; United States - P.O. Box 1769, Blaine, WA 98231-1769. Canada – 18920 – 36th Ave., Surrey, BC V3ZA 0P6. Toll Free Phone: 800-663-6556 Email: productinfo@garaventalift.com. Web [www.garaventalift.com](http://www.garaventalift.com).

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs: coordinate with requirements of Division 1 section on product options and substitutions.

1. Substitutions: Not permitted.
2. Requests for substitutions will be considered in accordance with provisions of Section 01600.
	1. COMMERCIAL PASSENGER ELEVATOR
3. Limited Use Limited Application Elevator
	* + 1. Model: Elvoron LULA
			2. Capacity: 1,400 pounds (635 kg)

\*\* NOTE TO SPECIFIER \*\* Select one of the following car size options and delete the ones not required.

* + - 1. Car Size: Maximum of 18 SF (1.67 sm)
				1. Style 1L: 48 inches by 54 inches (1220 by 1372 mm) with one side right sliding doors.
				2. Style 1L: 42 inches by 54 inches (1067 by 1372 mm) with one side right sliding doors.
				3. Style 1L: 42 inches by 60 inches (1067 by 1524 mm) with one side right sliding doors.
				4. Style 1R: 48 inches by 54 inches (1220 by 1372 mm) with one side left sliding doors
				5. Style 1R: 42 inches by 54 inches (1067 by 1372 mm) with one side left sliding doors
				6. Style 1R: 42 inches by 60 inches (1067 by 1524 mm) with one side left sliding doors.
				7. Style 2: 48 inches by 54 inches (1220 by 1372 mm) with sliding doors at each end.
				8. Style 2: 42 inches by 54 inches (1067 by 1372 mm) with sliding doors at each end.
				9. Style 2: 42 inches by 60 inches (1067 by 1524 mm) with sliding doors at each end.
				10. Style 3: 51 inches by 51 inches (1295 by 1295 mm) with sliding doors on two sides.
				11. Style 4: 51 inches by 51 inches (1295 by 1295 mm) with sliding doors on two sides.
			2. Travel:

\*\* NOTE TO SPECIFIER \*\* Select one of the following two travel paragraphs and delete the one not required. Enter total travel in feet as required. This series has a standard travel of 25 feet (7.6 m) for additional travel options contact Garaventa Lift.

* + - * 1. \_\_\_\_\_\_\_\_\_ inches.
				2. As indicated on the Drawings.
			1. Stops:

\*\* NOTE TO SPECIFIER \*\* Select one of the following stop paragraphs and delete the one not required. Enter total number of stops as required. This series has a maximum of 6 stops with automatic operation.

* + - * 1. 2 stops.
				2. 3 stops.
				3. 4 stops.
				4. 5 stops.
				5. 6 stops.
				6. As indicated on the Drawings.
			1. Speed: Nominal 30 feet per minute (0.15 m/sec).
			2. Pit Depth:

\*\* NOTE TO SPECIFIER \*\* Select one of the following pit depths and delete the one not required.

* + - * 1. Hydraulic Drive: Minimum 14 inches (355 mm) required
				2. Electric Drive: Minimum 17 inches (432 mm) required.
			1. Overhead:

\*\* NOTE TO SPECIFIER \*\* Select one of the following overhead clearances and delete the one not required.

* + - * 1. Hydraulic Drive: Total overhead clearance (Refuge Space) 135 inches (3429 mm) above the finished upper landing floor. This space allowance can be reduced to 108” (2743 mm) with the use of a car top prop.
				2. Electric Drive: Total overhead clearance (Refuge Space) 138 inches (3505 mm) above the finished upper landing floor. This space allowance can be reduced to 111 inches (2819 mm) with the use of a car top prop.

\*\* NOTE TO SPECIFIER \*\* Select one of the following two Drive System and delete the one not required.

* + - 1. Drive System:
				1. Hydraulic Drive (1:2 Rope)

Suspension means: aircraft cable 2x 3/8” (10 mm) diameter

Guide rails and brackets: 8 lb. per foot steel T-rails installed on adjustable rail brackets

Type A safeties brake system

Overspeed pipe rupture valve

Low oil protection timer function

Quiet submersed pump and motor

Control valve: Factory pre-set and tested 2-speed valve for smooth starts and stops

Motor and pump: 5HP, 240V 1Phase or 208V 3Phase

Control location: separate machine room.

Duty Cycle: normal 30 trips per day, heavy 75 trips per day, excessive 100 trips per day with a maximum of 15 starts per hour.

* + - * 1. Electric Drive (1:1 Counterweighted traction drive system with direct drive gearbox)

Suspension means: elevator traction cable 3x 3/8” (10 mm) diameter

Guide rail system: Steel 8lb per ft guide rails shall be used for guide rails and counterweight rails. Roller guide shall be used on the cab sling and guide shoes on the counterweight to further reduce noise

Bi-directional type A safeties brake system

Overspeed governor protection

Runtime protection timer function

Unintended car movement protection

Control location

\*\* NOTE TO SPECIFIER \*\* Select one of the following two controller location options and delete the one not required.

Controller located in door buck.

Controller located in machine room.

Motor: 6 pole 3 phase motor coupled to a product specific gearbox for noise reduction.

A Safe Working Load (SWL) Beam must be provided in the overhead. This lifting beam must be temporary when overhead <138” (3505mm).

Smooth starts and stops at each landing.

Emergency lowering by battery power

Duty Cycle: normal 200 trips per day, heavy 300 trips per day, excessive 450 trips per day with a maximum of 45 starts per hour.

* + - 1. Power Requirements:
				1. Per manufacturer’s shop drawings
				2. A Separate 115-Volt, 15 Amp Circuit is required for car lighting.
			2. Controls:
				1. Garaventa-Design PLC Controller with integrated self diagnostics.
				2. Fully automatic push button at car and landings with Braille markings.
				3. Automatic car light control upon entry
				4. Digital floor indicator in Car
			3. Standard Features:
				1. Car direction lantern comes with audio and visual signals
				2. Full height photo-electric door sensors
				3. Automatic home park feature (can be disengaged during installation if desired)
				4. Car arrival lanterns on car door jamb
				5. Arrival gong
			4. Additional Safety Features:
				1. Emergency back-up power with a manual lowering device
				2. Car operator with integral gate switch
				3. Automatic bi-directional floor leveling
				4. Emergency alarm button in car, Emergency keyed stop switch in car.
				5. Terminal Stopping Device
				6. Final Stopping Device
			5. Options:

\*\*\* NOTE TO SPECIFIER \*\* Select the options required from the following paragraphs and delete the ones not required.

* + - * 1. Fireman service (Phase 1)
				2. 3D landing door monitoring (2019)
				3. Integrated ADA compliant hands-free telephone
				4. Emergency video communication (2019)
				5. Hoistway overhead refuge device (required where overhead clearance < 135” for Hydraulic Drive and < 138” for Electric Drive)
				6. Buffer springs (increases your pit depth)
				7. Keyed hoistway access
				8. Independence service
	1. ELEVATOR CAB DESIGN

\*\* NOTE TO SPECIFIER \*\* Edit the following cab design paragraphs as required. Delete those not required. Floors are wood construction, provided unfinished with finishes provided by others.

1. Cab Design:
	* + 1. Interior Walls: Laminate panel sections.

\*\* NOTE TO SPECIFIER \*\* Select one of the following color paragraphs and delete the ones not required.

* + - * 1. Designer White
				2. Dove Gray
				3. Cloud Nebula
				4. Kensington Maple
				5. New Age Oak
				6. Empire Mahogany
				7. Custom laminate as selected by the Architect
			1. Cab Frame:

\*\* NOTE TO SPECIFIER \*\* Select one of the following finish paragraphs and delete the ones not required.

* + - * 1. Mild steel powder coated black
				2. Mild steel powder coated white
				3. Stainless Steel
				4. Mild steel powder coated in a custom color as selected by the Architect.
			1. Ceiling Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following handrail finish paragraphs and delete the ones not required.

* + - * 1. White.
				2. Stainless Steel brushed finish.
				3. Mild steel powder coated in a custom color as selected by the Architect.
			1. Handrail Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following handrail finish paragraphs and delete the ones not required.

* + - * 1. Stainless Steel brushed finish.
			1. Car Operating Panel Finish:

\*\* NOTE TO SPECIFIER \*\* Select one of the following operating panel finish paragraphs and delete the ones not required.

* + - * 1. Stainless Steel brushed finish.
			1. Floor: Unfinished plywood.
			2. Lighting: Four recessed L.E.D. down lights.

\*\* NOTE TO SPECIFIER \*\* Select one of the following car light trim finishes and delete the one not required.

* + - * 1. White Trim.
				2. Black Trim.
				3. Chrome Trim.
			1. Car Direction Lantern: Car direction lantern complete with auto and visual signaling device indicating direction of travel and arrival at selected floor.
			2. Car Doors: When open the doors provide a 36 inch (915 mm) by 80 inch (2032 mm) clear opening.
				1. Two Speed Horizontal Sliding equipped with full height photo-electric door sensors; color as follows:

\*\* NOTE TO SPECIFIER \*\* Select one of the following finish paragraphs and delete the ones not required.

Matching cab wall finish.

Stainless steel brushed finish.

* 1. HOISTWAY ENTRANCES
1. Hoistway Entrances: When open the doors provide a 36 inch (915 mm) by 80 inch (2032 mm) clear opening. Door type to be Two-Speed Horizontal Side Sliding Doors with finishes:

\*\* NOTE TO SPECIFIER \*\* Select one of the following landing door options and delete the one not required.

* + - 1. Primed painted.
			2. Stainless Steel brushed finish.
1. Hall Call Stations:
	* + 1. Hall Station Type:

\*\* NOTE TO SPECIFIER \*\* Select one of the following hall station options and delete the one not required.

* + - * 1. Keyless Push Button.
				2. Keyed Push Button.
			1. Finish:
				1. Stainless Steel brushed finish.
1. EXECUTION
	1. EXAMINATION
2. Do not begin installation until preliminary work including hoistway, landings and machine space has been properly prepared.
3. Verify hoistway is constructed in accordance with ASME17.1 /CSA B-44 and all local codes.
4. Verify hoistway and machine room environment is designed to have maintainable temperatures between 50 degrees F (15 degrees C) and 90 degrees F (32 degrees C) and humidity between 5% and 90% non-condensing.
5. Verify machine room if required provided with lighting, light switch and convenience outlet and conforms to NFPA/CEC and clear space requirements and local codes.
6. Verify hoistway shaft and openings are of correct size and within tolerance.
7. Verify electrical power is available and of correct characteristics.
8. If preliminary work is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
	1. PREPARATION
9. Clean surfaces thoroughly prior to installation.
10. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	1. INSTALLATION
11. Install elevator in accordance with applicable regulatory requirements including ASME A17.1 /CSA B-44 and the manufacturer's instructions.
12. Install system components and connect to building utilities.
13. Accommodate equipment in space indicated.
14. Startup equipment in accordance with manufacturer’s instructions.
15. Adjust for smooth operation.
	1. FIELD QUALITY CONTROL
16. Perform tests in compliance with ASME A17.1 /CSA B-44 and as required by authorities having jurisdiction.
17. Schedule tests with agencies and Architect, Owner, and Contractor present.
	1. FIELD SERVICES
18. Obtain required permits to perform tests. Perform tests required by regulatory agencies.
19. Schedule tests with agencies and Architect and Contractor present.
20. Submit test and approval certificates issued by jurisdictional authorities.
	1. ADJUSTING
21. Adjust for smooth acceleration and deceleration of car so not to cause passenger discomfort.
22. Adjust automatic floor leveling feature at each floor to provide stopping zone of 1/4 inch (6 mm).
	1. CLEANING
23. Remove protective coverings from finished surfaces.
24. Clean surfaces and components ready for inspection.
	1. PROTECTION
25. Protect installed products until completion of project.
26. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION