SECTION 14 26 00

LU/LA PASSENGER ELEVATORS - CABLE HYDRAULIC AND IN-LINE GEARED

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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 Avenue
Surrey, BC, V3Z 0P6

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[ [Click Here](http://www.arcat.com/company/32685) ] for additional information.

The Garaventa Lift Group is a global organization that provides solutions to improve the quality of life for people worldwide. Our name stands for reliability, safety and innovation.
Reliability: Reliable products, reliable services, on-time deliveries.
Safety: Passenger safety, public safety, safe practices.
Innovation: Innovative products, design creativity, unique solutions.
What we stand for: We promise to always look for the best possible solutions.

1. GENERAL
	1. SECTION INCLUDES
		1. Passenger Elevators:
			1. Drive: Roped hydraulic passenger elevators.
			2. Drive: In-line geared traction machine room-less drive.
	2. RELATED SECTIONS

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

* + 1. Section 03 30 00 - Cast-in-Place Concrete. Concrete for elevator machine foundation, and pit and required sleeves for service penetrations.
		2. Section 06 10 00 - Rough Carpentry.
		3. Section 05 50 00 - Metal Fabrications: Miscellaneous supports, lintels, etc.
		4. Section 07 72 40 - Roof Hatches: Smoke venting hatch at top of hoistway.
		5. Section 07 10 00 - Waterproofing: Pit waterproofing.
		6. Section 08 31 16 - Access Doors and Panels: Fire rated access doors into hoistway.
		7. Section 09 21 16 - Gypsum Board Assemblies: Gypsum shaft walls.
		8. Section 09 65 00 - Resilient Flooring: Floor finish in cab.
		9. Section 09 68 00 - Carpet: Floor finish in cab.
		10. Section 28 35 00 - Detection and Alarm: Fire and smoke detectors and interconnecting devices.
		11. Section 22 14 29 - Sump Pumps.
		12. Division 26 - 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 and wiring connections.
	1. REFERENCES

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

* + 1. American Disabilities Act (ADA):
			1. ADAAG - Americans with Disabilities Act, Architectural Guidelines.
		2. American Society of Mechanicaql Engineers (ASME):
			1. ASME A17.1 /CSA B-44 - Section 5.2 Safety Code for Elevators and Escalators, Limited-Use/Limited Application Elevators.
			2. ASME A17.5 - Elevator and Escalator Electrical Equipment.
		3. National Fire Protection Association:
			1. NFPA 70 - National Electric Code.
		4. Canadian Standards Association (CSA):
			1. CSA B44 - Safety Code for Elevators and Escalators.
			2. CSA C22.1 - Canadian Electrical Code.
		5. International Code Council (ICC):
			1. ICC/ANSI A117.1 - Accessible and Usable Buildings and Facilities.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00.
		2. Product Data: Manufacturer's data sheets on elevators, including:
			1. 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.
			4. Storage and handling requirements and recommendations.
		3. 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. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Firm with minimum 10 years' experience in manufacturing of elevators, with evidence of experience with similar installations of type specified.
		2. 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.
	2. PRE-INSTALLATION MEETINGS
		1. Convene minimum two weeks prior to start of work of this section.
		2. Review hoistway, electrical, fire alarm and other requirements with appropriate representatives.
	3. DELIVERY, STORAGE, AND HANDLING
		1. Store products in manufacturer's unopened packaging until ready for installation.
		2. Store components off the ground in a dry covered area, protected from adverse weather conditions.
	4. PROJECT CONDITIONS
		1. Do not use elevator for hoisting materials or personnel during construction period.
	5. WARRANTY

\*\* NOTE TO SPECIFIER \*\* Delete warranty option not required. The standard warranty is for the replacement at no cost of defective parts but does not include labor costs required to replace the defective parts.

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

\*\* NOTE TO SPECIFIER \*\* Delete warranty period option not required.

* + - 1. Warranty Period: 5 years.
			2. Warranty Period: \_\_ years.

\*\* NOTE TO SPECIFIER \*\* Delete the following article if not required or delete maintenance period options not required.

* 1. MAINTENANCE SERVICE
		1. Service and maintenance for elevator system and components for the following period from Date of Substantial Completion.
			1. Maintenance Period: One year.
			2. Maintenance Period: Two years.
			3. Maintenance Period: Three years.
			4. Maintenance Period: Four years.
			5. Maintenance Period: Five years.
			6. Maintenance Period: Six years.
			7. Maintenance Period: 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.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Garaventa Lift; United States - P.O. Box 1769, Blaine, WA 98231-1769. Canada - 18920 36th Ave., Surrey, BC V3Z 0P6. ASD. Toll Free: 800-663-6556. Tel: (604) 594-0422. Fax: (604) 594-9915. Email: productinfo@garaventalift.com; Web: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 01 60 00.
	1. PERFORMANCE AND DESIGN 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. Passenger Elevators are to be in Compliance with the Following:
			1. ASME A17.1 - Safety Code for Elevators and Escalators, Limited-Use/Limited Application Elevators.
			2. ASME A17.5 - Elevator and Escalator Electrical Equipment.
			3. NFPA 70 - National Electric Code.
		2. Provide Passenger Elevator in Compliance with:
			1. CSA B-44 - Safety Code for Elevators and Escalators, Limited-Use/Limited Application Elevators.
			2. CSA - 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. PASSENGER ELEVATORS (LU/LA)
		1. Basis of Design: Garaventa Elvoron LU/LA Hydraulic and Electric Elevator.
			1. Capacity: 1,400 pounds (635 kg).
			2. Car Size: Maximum of 18 sq ft (1.67 sq m).

\*\* NOTE TO SPECIFIER \*\* Delete style options not required.

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

\*\* NOTE TO SPECIFIER \*\* Delete travel option not required. Enter total travel in feet as required. This series has a standard travel of 25 feet (7.6 m) and an optional maximum travel of 50 feet (15.2 m) contact Garaventa for additional information.

* + - 1. Travel: \_\_\_ inches (\_\_\_ mm).
			2. Travel: As indicated on the Drawings.

\*\* NOTE TO SPECIFIER \*\* Delete stops options not required. This series has a maximum of 6 stops with automatic operation.

* + - 1. Stops: 2.
			2. Stops: 3.
			3. Stops: 4.
			4. Stops: 5.
			5. Stops: 6.
			6. Stops: As indicated on the Drawings.
			7. Speed: Nominal 30 ft per min (0.15 m/sec).
			8. Pit Depth: Minimum depths required.

\*\* NOTE TO SPECIFIER \*\* Delete drive option not required.

* + - * 1. Hydraulic Drive: 14 inches (355 mm).
				2. In-line Geared Drive: 17 inches (432 mm).
			1. Total Overhead Clearance (Refuge Space):

\*\* NOTE TO SPECIFIER \*\* Delete clearance options not required.

* + - * 1. Hydraulic Drive: 135 inches (3330 mm) above finished upper landing floor.
				2. Hydraulic Drive: 108 inches (2743 mm) with use of a car top prop where permitted.
				3. In-line Geared Drive: 139 inches (3530 mm) above finished upper landing floor.
				4. In-line Geared Drive: 114 inches (2896 mm) with use of a car top prop where permitted.

\*\* NOTE TO SPECIFIER \*\* Delete drive system option not required.

* + - 1. Drive System: 1:2 Cable Hydraulic.
				1. Heavy Duty car sling.
				2. Roller guide shoes running on 8 lbs per ft steel T-rails.
				3. Quiet submersed pump and motor.
				4. Factory pre-set and tested 2-speed valve for smooth start and stop.
				5. Electronic Control Box Location: Machine room.
				6. Safety Features:

Emergency back-up power with a manual lowering device.

Safety brake system.

Car operator with integral gate switch.

Automatic bi-directional floor leveling.

Emergency alarm button in car, Emergency keyed stop switch in car.

Final limit switch.

Overspeed valve.

Low oil protection timer circuit.

* + - 1. Drive System: In-line geared.
				1. Counterweighted geared drive.
				2. Heavy duty car sling.
				3. Roller guides running on 8 lb. per ft steel T-rails.
				4. Motor mounted above rails.
				5. Electronic control box. Location: Buckbox beside the Hall door.
				6. Safety Features:

Emergency back-up power with a manual lowering device.

Safety brake system.

Car operator with integral gate switch.

Automatic bi-directional floor leveling.

Emergency alarm button in car, Emergency keyed stop switch in car.

Final limit switch.

Overspeed governor.

* + - 1. Power Requirements: Per manufacturer's shop drawings.
				1. 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 switch upon entry.
				4. Digital floor indicator in car.
				5. Car arrival lanterns in car door jamb.
				6. Arrival gong.
			3. Car and Hoistway Doors (W x H): Nominal 36 x 80 inch (914 x 2032 mm).
				1. Two-speed.
				2. Horizontal sliding.
			4. 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.

\*\* NOTE TO SPECIFIER \*\* Delete options not required.

* + - 1. Options:
				1. Integrated hands free telephone.
				2. Fireman service (Phase 1).
				3. Car top prop; required where overhead clearance is less than 135 inches (3249 mm).
				4. Buffer springs; requires increased pit depth.
				5. Keyed hoistway access.

\*\* NOTE TO SPECIFIER \*\* Various arrangements are available to accommodate most machine room configurations but must be within 10 ft of the elevator hoistway and hydraulic jack. Coordinate the machine room size and location with the manufacturer.

* + - 1. Machine Location: As indicated on the Drawings.
	1. 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. Interior Walls: Laminate panel sections.

\*\* NOTE TO SPECIFIER \*\* Delete options not required.

* + - 1. Color: Designer White.
			2. Color: Dove Gray.
			3. Color: New Age Oak.
			4. Color: Cocoa.
			5. Color: Linen.
			6. Custom Laminate: As selected by the Architect.
			7. \_\_\_\_\_\_\_\_.
		1. Cab Frame:

\*\* NOTE TO SPECIFIER \*\* Delete material and color options not required.

* + - 1. Mild steel. Powder coated.
				1. Color: Black.
				2. Color: White.
				3. Color: As selected by the Architect.
			2. Stainless steel.
		1. Ceiling Finish:
			1. Painted: White.
			2. Stainless Steel: Brushed finish.
			3. Mild steel. Powder coated. Color: As selected by the Architect.
		2. Handrail Finish:
			1. Stainless Steel: Brushed.
			2. Premium Stainless Steel: Brushed.
			3. Premium Stainless Steel: Polished.
		3. Car Operating Panel Finish:
			1. Stainless Steel: Brushed.
			2. \_\_\_\_\_\_\_\_.
		4. Floor: Unfinished plywood.
			1. Floor Finish: By others.
		5. Lighting: Four recessed L.E.D. down lights.
		6. Trim:

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - 1. Color: White.
			2. Color: Black.
			3. Color: Chrome.
		1. Car Direction Lantern: Auto and visual signaling device indicating direction of travel and arrival at selected floor.
		2. Car Doors: Two speed horizontal sliding.
			1. When Opened (W x H): 36 x 80 inch (915 x 2032 mm) clearance.
			2. Sensors: Full height photo-electric door sensors.

\*\* NOTE TO SPECIFIER \*\* Delete finish options not required.

* + - 1. Finish: Match cab.
			2. Finish: Stainless steel. Brushed.
	1. HOISTWAY ENTRANCES
		1. Hoistway Entrances: Two speed horizontal doors.
			1. When Open (W x H): 36 x 80 inch (915 x 2032 mm) clearance.
			2. Sensors: Full height photo-electric door sensors.

\*\* NOTE TO SPECIFIER \*\* Delete finish option not required.

* + - 1. Finish: Primed painted.
			2. Finish: Stainless Steel. Brushed.
		1. Hall Call Stations:

\*\* NOTE TO SPECIFIER \*\* Delete push button option not required.

* + - 1. Push Button: Keyless.
			2. Push Button: Keyed.
			3. Finish: Stainless Steel. Brushed.
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until preliminary work including hoistway, landings and machine space has been properly prepared.
		2. Verify the Following:
			1. Hoistway is constructed in accordance with ASME17.1 /CSA B-44 and local codes.
			2. Hoistway and machine room environments have a maintainable temperature between 50 and 90 degrees F (15 and 32 degrees C) and between 5 and 90 percent non-condensing.

\*\* NOTE TO SPECIFIER \*\* Delete if machine room is not required.

* + - 1. Machine Room is provided with lighting, light switch and convenience outlet and conforms to CEC/NFPA and clear space requirements and local codes.
			2. Hoistway shaft and openings are of correct size and within tolerance.
			3. Electrical power is available and of correct characteristics.
		1. If preliminary work is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.
	1. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
	2. INSTALLATION
		1. Install elevator in accordance with applicable regulatory requirements including ASME A17.1 /CSA B-44 and the manufacturer's instructions.
		2. Install system components and connect to building utilities.
		3. Accommodate equipment in space indicated.
		4. Startup equipment in accordance with manufacturer's instructions.
		5. Adjust for smooth operation.
	3. FIELD QUALITY CONTROL
		1. Perform tests in compliance with ASME A17.1 /CSA B-44 and as required by authorities having jurisdiction.
		2. Schedule tests with agencies and Architect, Owner, and Contractor present.
	4. FIELD SERVICES
		1. Obtain required permits to perform tests. Perform tests required by regulatory agencies.
		2. Schedule tests with agencies and Architect and Contractor present.
		3. Submit test and approval certificates issued by jurisdictional authorities.
	5. ADJUSTING
		1. Adjust for smooth acceleration and deceleration of car so not to cause passenger discomfort.
		2. Adjust automatic floor leveling feature at each floor to provide stopping zone of 1/4 inch (6 mm).
	6. CLEANING
		1. Remove protective coverings from finished surfaces.
		2. Clean surfaces and components ready for inspection.
	7. PROTECTION
		1. Protect installed products until completion of project.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION