



Orion<sup>®</sup>  
LU/LA  
Commercial  
Elevator

Planning  
Guide

 savaria.

**Applicable Codes:**

ASME A17.1, Section 5.2  
CAN/CSA B44, Section 5.2

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## GENERAL

This planning guide is designed to assist architects, contractors and lift professionals in planning for a Orion Elevator to meet the requirements of the following codes and standards:

- ASME A17.1/CSA B44 2000, Section 5.2
- ASME A17.1/CSA B44 2004, Section 5.2
- ASME A17.1 2004, Addendum 2005, Section 5.2
- ASME A17.1/CSA B44 2007, Section 5.2
- ASME A17.1/CSA B44 2004, Addendum 2008, Section 5.2
- ASME A17.1/CSA B44 2010, Section 5.2
- ASME A17.1/CSA B44 2013, Section 5.2
- ASME A17.1/CSA B44 2016, Section 5.2
- ASME A17.1/CSA B44 2019, Section 5.2

This unique elevator is designed to help solve accessibility problems in commercial buildings, and meets state and national codes covering the Limited Use/Limited Application (LULA) elevators.

We strongly recommend you contact the Authority Having Jurisdiction (AHJ) in the region where the equipment will be installed. Become familiar with all requirements governing the installation and use of elevators in public and private buildings. It is extremely important for you to know and adhere to all regulations concerning installation and use of elevators.

### IMPORTANT NOTICE

This Planning Guide provides nominal dimensions and specifications useful for the INITIAL planning of an elevator project. BEFORE beginning actual construction, be sure to receive application drawings customized with specifications and dimensions for your specific project.

**NOTE: The cab dimensions provided in this manual are based on a PLAM cab.**

Lift configurations and dimensions are in accordance with our interpretation of the standards set forth by the codes listed above. Please consult Savaria or the authorized Savaria dealer in your area for more specific information pertaining to your project, including any discrepancy between referenced standards and those of any local codes or laws (AHJ).

The dimensions and specifications in this Planning Guide are subject to change (without notice) due to product enhancements and continually evolving codes and product applications.

- Determine customer's intention for use.
- Determine code requirements of site.
- Determine installation parameters of site.
- Use page 6 to determine the car type and hoistway size requirements.
- Use pages 7, 8 and 27 to plan for machine room and electrical requirements.

## DOCUMENT REVISION HISTORY

Initial Release - September 1, 2006  
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Revised - June 17, 2020  
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Revised - August 20, 2020  
Revised - August 02, 2022  
Revised - December 02, 2022  
Revised - January 04, 2023  
Revised - July 10, 2023

**Summary:** This document highlights two major changes on commercial elevators with respect to the ASME A17.1 2019 code year. This change brings an increase in cost, an added complexity to project management/installation, and new requirements for ongoing 24/7 remote monitoring.

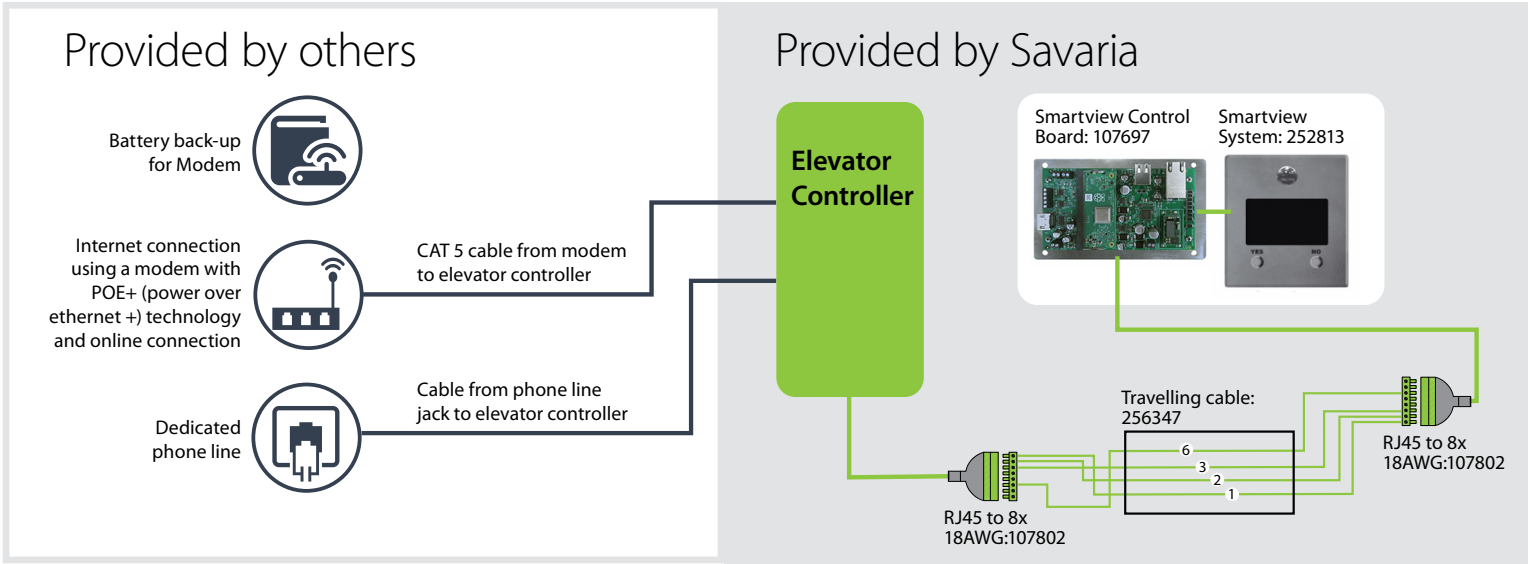
**Reason for the change:** Provide hearing-impaired riders with an improved method of communication with emergency services and monitor the elevator entrance space to assist approaching traffic.

**Solution:** The elevator will now be equipped with an audio/visual, two-way communication and 3D cab entrance monitoring device on each entrance. Remote monitoring services must be able to see the entire cab and communicate via LCD screen.

Elevator Equipment

When quoting and ordering the equipment from Savaria it is imperative that you select the correct code year. If the 2019 code is not selected, these additional items—that have a substantial cost—will not be budgeted.

Savaria provides the main components. However, there are several items that need to be supplied by others to accommodate the system.



Component	Provided by Savaria
SmartView System: Adjustable camera, SmartView control board, LCD display	YES
3D cab entrance monitoring device	YES
Battery backup for modem	NO
Modem with POE+ (Power-Over-Ethernet Plus) technology	NO
Modem CAT5 cable	NO
Dedicated phone line	NO
Internet	NO

## Key Points

- The supplied connection must use Power Over Ethernet Plus (POE+) technology.
- The 2019 code still requires a regular dedicated phone line, just like previous versions of the code.
- At the time of installation, the elevator contractor must set up a pre-recorded message to identify the elevator and note the elevator camera's SmartView ID number. This ID number is located on the back of the camera and will be provided to the owner and monitoring company.

## 24/7 Remote Monitoring

The monitoring company you currently recommend and/or use may not be set up to handle the new system, or even know what's involved. It's important that you understand what's needed under the new code and ensure you work with someone who has the capabilities to support this system.

### Here's how it works

1. When an emergency call is received by the monitoring company, they will need to understand if the elevator in question is installed in accordance with 2019 code and has emergency audio/visual capabilities.
2. The elevator will still have a regular auto-dialing phone. The monitoring company can either identify the unit from the incoming phone number and cross reference the camera SmartView ID number on file, or the pre-recorded message will notify the monitoring company of which specific elevator is dialing in.  
The elevator contractor must set up the pre-recorded message at time of install. The message can include the business name, building address, elevator number and SmartView ID. If there are multiple elevators in the same location, the pre-recorded messages must be set up to uniquely identify each unit.
3. If there is no audio communication on the received emergency call, the monitoring company will need to view the inside of the elevator cab by going online to **Rath SmartView Portal Link** and inputting the specific SmartView ID number.
4. Once connected through SmartView, the monitoring company will be able to see inside the elevator and communicate with any riders using text on the LCD screen and yes and no buttons on the COP.

## Other Useful Links

Link to Rath website SmartView Page



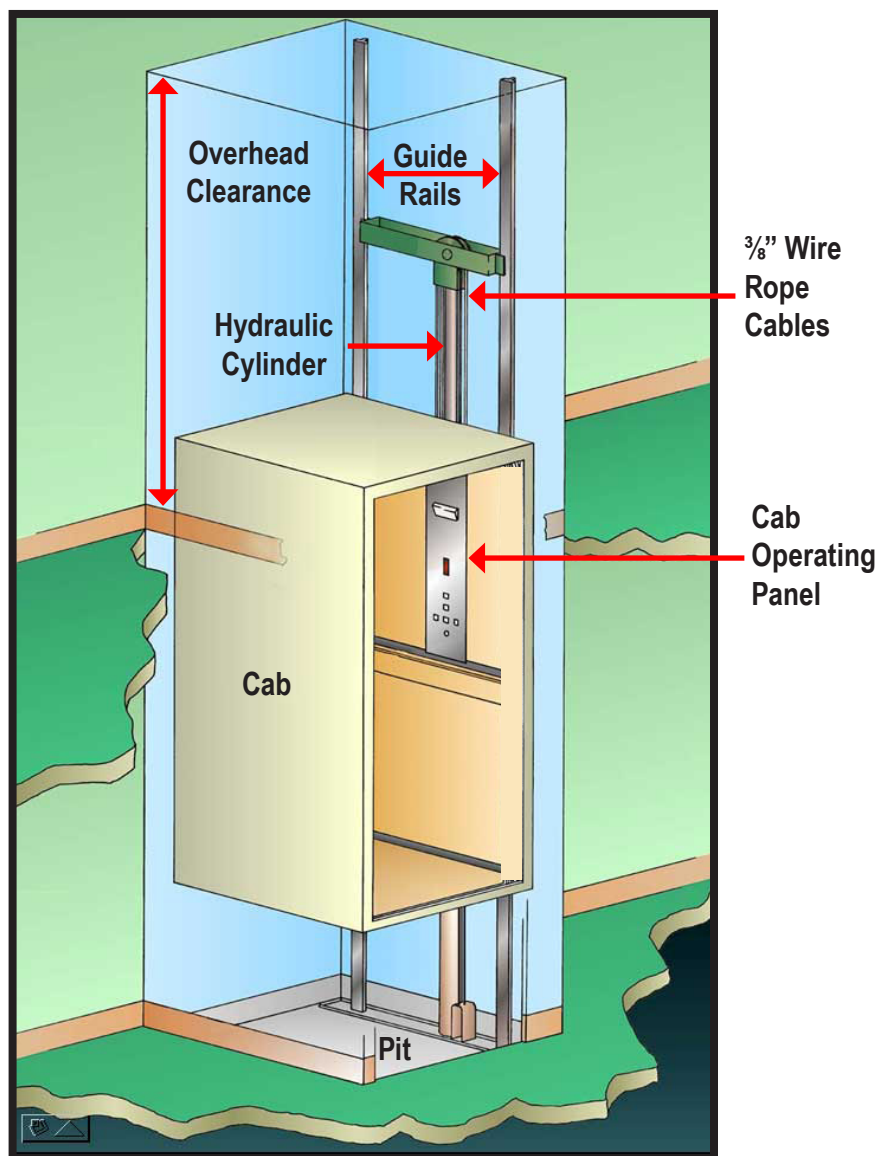
## 3D Cab Entrance Monitoring Device

The monitoring device is mounted inside the cab above the entrance.





## PRODUCT DESCRIPTION



**Orion in Hoistway**

### **Meets (ADA) Americans with Disabilities Act Requirements**

The Orion meets the requirements of the ADA Accessibility Guidelines as a means to provide public building access.

### **Design Assistance**

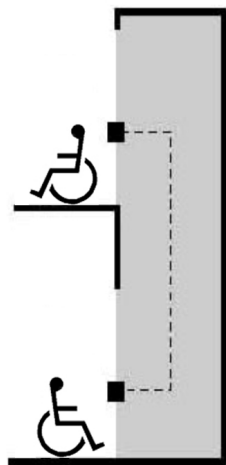
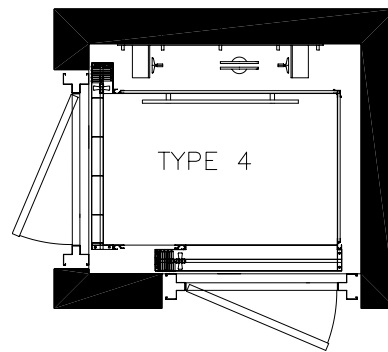
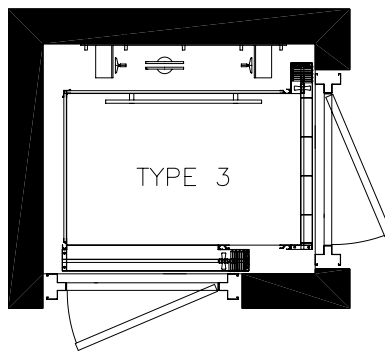
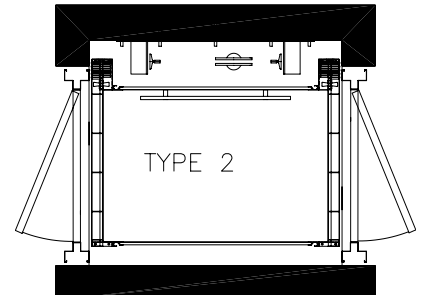
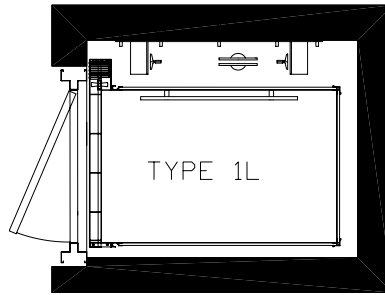
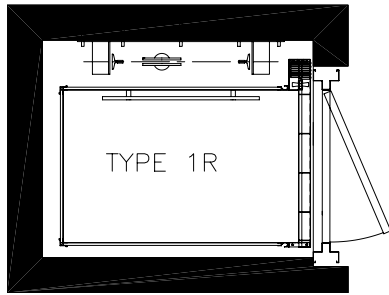
With over 30 years of experience, Savaria has the expertise to provide solutions to practically every design challenge you face. Please call our Customer Service Department for professional advice at (800)661-5112 or (905)791-5555.

# ORION LU/LA ELEVATOR SPECIFICATIONS

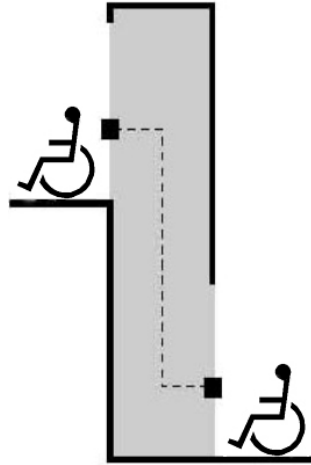
Load Capacity	1400 lb (635 kg)
Rated Speed	30 fpm (0.15 mps)
Power Supply (circuit by others)	208 Volt, three-phase, 30 Amps, 60 Hz or 240 Volt, single-phase, 40 Amps, 60 Hz
Lighting Supply (circuit by others)	120 Volt, 15 Amps, 60 Hz
Drive System	1:2 cable hydraulic with slack cable safety device 5 hp submersed motor Two 1" diameter steel aircraft cables; rope wedge sockets
Cab Size	W48" x 54" x H84" (1219 mm x 1371 mm x 2134 mm), Type 1, 2, 3, 4 W42" x L60" x H84" (1067 mm x 1524 mm x 2134 mm), Type 1, 2, 3, 4 W51" x L51" x H84" (1295 mm x 1295 mm x 2134 mm), Type 3, 4
Floor By Others (in cab)	5/8" (15.9 mm) maximum
Cab Panel Finish	Steel panel cab with optional laminates
Maximum Travel	18 inches (457 mm) to 25 feet (7.6 m) ANSI, up to 40 feet residential and CSA
Control System	Automatic user interface; Programmable Logic Controller (PLC)
Controller Specs	Operating Temperature: 50 to 80 degrees F (10 to 27 degrees C) Humidity: 20 to 80% (non-condensing) Vibration: 2G, Shock: 11G, Weight: Approx. 90 lbs
Distance between 2 landings	18" (457 mm) minimum
Noise level (typical installation)	73.2 dBA; measured at a height of 1m, distance of 1m, in front of tank, in closed machine room
Daily cycle	Normal: 30, Heavy: 75, Excessive: 100 Maximum starts in 1 hour on standard installation: 15 NOTE: Consult your Sales Representative if there's a chance you may exceed these amounts.
Maximum machine room temperature	80 degrees F (27 degrees C); tank generating ~ 3200 BTU/HR to 6400 BTU/HR
Levels and Openings	Up to 6 stops (maximum 6 landing doors on all cab types)
Pit Depth Required	14 inches (355 mm) minimum up to 96 inches (2438 mm)
Minimum Overhead Clearance	108 inches (2743 mm) for existing construction without overspeed governor 120 inches (3048 mm) for existing construction with overspeed governor 134 inches (3404 mm) for new construction 110 inches (2794 mm) for Orion17 cab
Hall Station and Control Panel Finish	Rectangular stainless steel (standard) or brass (optional)
Standard Features	8 lb/ ft T-rail system Anti-creep device Architectural white ceiling Automatic cab ON/OFF lighting Car top stop switch and car top prop (where required) Data plates, capacity tags and rope tags Digital floor and directional indicator Emergency manual lowering, stop key switch and alarm buttons Emergency battery back-up for lighting, alarm and emergency lowering Floor specific battery lowering Illuminated cab operating buttons Limited warranty covers the repair or replacement of any defective parts for a period of 36 months from date of shipment Magnetic floor selection, stopping and re-leveling Manual reset slack rope safety switch Maintenance pit props Pit switch Pit clearance switch Presentation drawings Pump run timer Rail sections (8 ft standard or 16 ft optional) LED lights in stainless steel Recessed plywood floor Two 12V, 4AH, sealed no maintenance batteries with 24 V, 4 Amp Smart Charge™ battery charge Variable speed pressure compensated valve with manual lowering Upper and lower terminal limits
Options	2 speed sliding doors for drywall or Masonry hoistway finish 2 speed steel doors with infrared closing sensors in black, architectural white or stainless steel Steel panels with plastic laminate in a variety of colors 15 ft, 20 ft, or 25 ft hose with flow control 90 degree entry/exit cab Automatic cab gate operator and automatic hoistway door operator Automatic home landing to pre-selected floor Brass COP, hall call stations, handrail and recessed down lights Buffer springs, 15" (381 mm) minimum pit depth required Conductor cable for hoistway to pump wiring, 40 ft (12.19 m), 60 ft (18.29 m) or 80 ft (24.38 m) Firefighter service - phase 1 and 2 (dependable on applicable code year) Flow control, overspeed valve and pipe rupture valve Hands-free telephone Overspeed governor Fire recall service Raised plastic laminated panels in a choice of 7 colors Recessed stainless steel or brass telephone cabinet Savaria Link remote monitoring



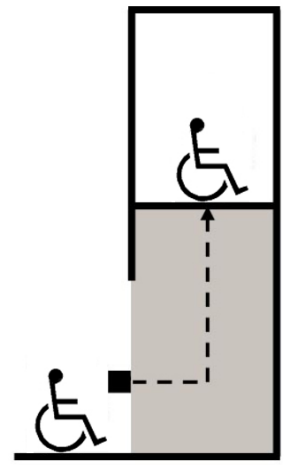
## CAB TYPE SELECTION SHEET



Type 1



Type 2

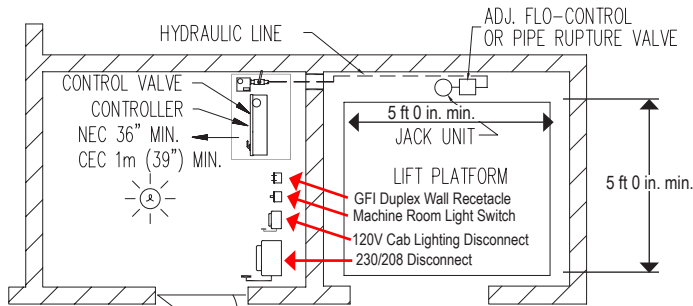


Type 3 and 4

### IMPORTANT

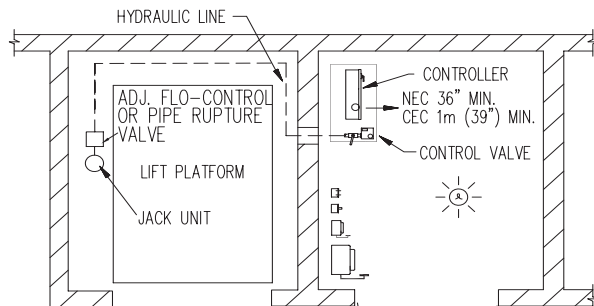
Finished hoistway dimensions must include the drywall. Determine the fire rating of the hoistway, the type and layers of sheet rock and build only off the final shop drawings specific to your project.

# MACHINE ROOM OPTIONS



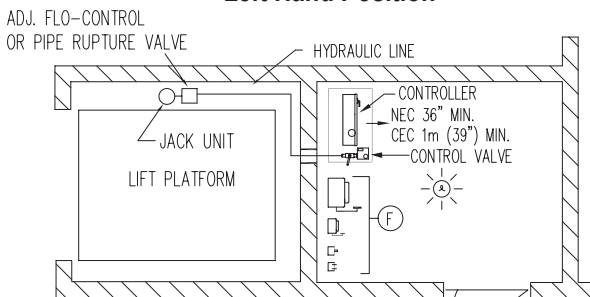
M/R PLAN AT LOWER LEVEL

**Left Hand Position**



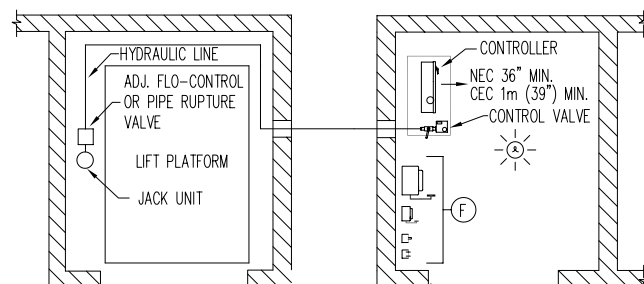
M/R PLAN AT LOWER LEVEL

**Right Hand Position**



M/R PLAN AT LOWER LEVEL

**Back Position**



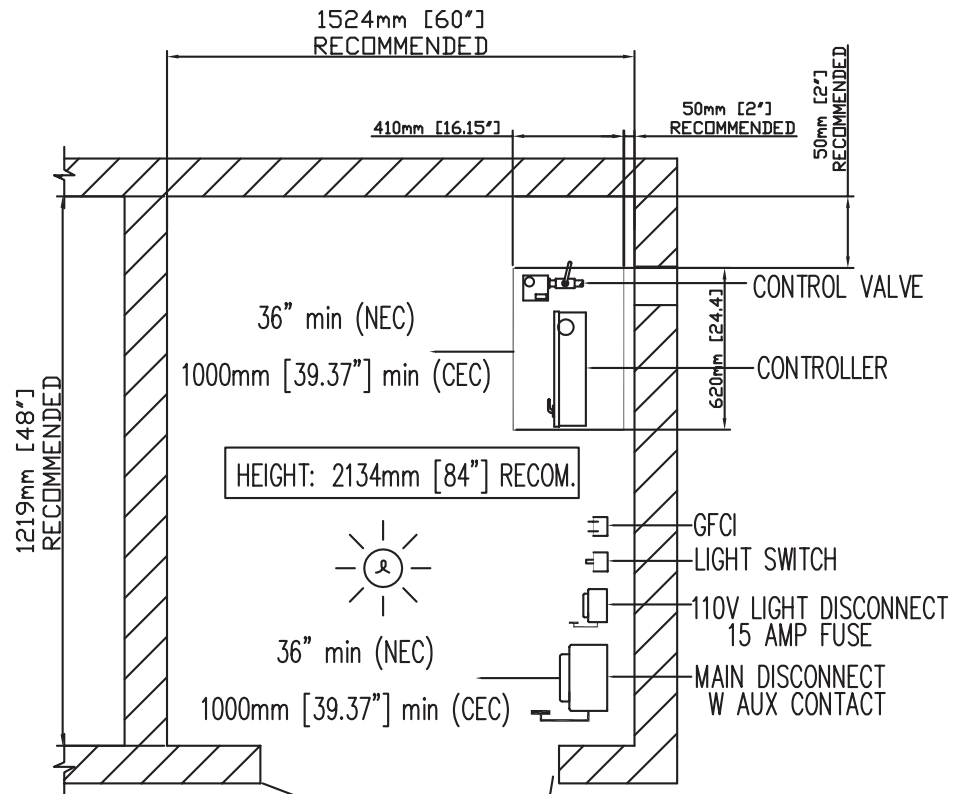
M/R PLAN AT LOWER LEVEL

**Remote Position**

- Machine room must be built in accordance with elevator manufacturer and applicable building codes and regulations. Adequate ventilation is required to maintain a temperature of 50° to 80°F (10 to 27°C) for output of 3600 BTU per hour.
- A convenience outlet of 120 VAC 15 Amp single-phase with G.F.I. shall be located next to the light switch in the machine room (provided and installed by others).
- Provide lockable, in open position, fused disconnect switches located adjacent to the elevator controller. Fusing must be selectively coordinated. Fuse either 208V three-phase w/30 Amp or 240V single-phase w/40 Amp service; fuse 120V for 15 Amp service for cab lighting. (Must comply with applicable codes.)
- The electrical circuit provided shall be either 30 Amp 208V three-phase or 40 Amp 240V single-phase, dedicated circuit with equipment ground. The circuit shall terminate on the line side terminal lugs of the disconnect. The electrical circuit is provided and installed by others.
- Disconnect switch to have auxiliary normally open interlock switch. Interlock equal to Square D EK-300-Z.
- 30" wide x 36" deep work space required in front of the disconnects and the elevator controller.
- Machine room lighting shall be a minimum of 19 foot-candles (204 lux) at working surfaces. The switch for the light must be within 18" of the strike side of the machine room door. The light must be guarded to prevent accidental breakage or contact with the hot bulb. The switch, light, wiring, and guard are provided and installed by others.
- A telephone line circuit is to be provided and installed by others. This circuit shall be brought to the machine room controller in conduit. This circuit must be connected to a dedicated outside line or a 24 hour central exchange.
- The elevator controller/pump unit dimensions - 27.5" wide x 62.8" high x 16.15" deep with 39" clear space in front.
- Machine room access door must be self closing, self locking, key locked and have a spring return latch.
- Consult local building codes for door construction. The door and hardware are both provided and installed by others.
- Machine room is required to be free of all pipes, wiring and obstructions not related to the operation of the elevator. Provide a 4 inch conduit from the lift shaft to the remote machine room.

# MACHINE ROOM DIMENSIONS

IMPORTANT NOTE:  
CONFIRM REQUIREMENTS WITH LOCAL CODE

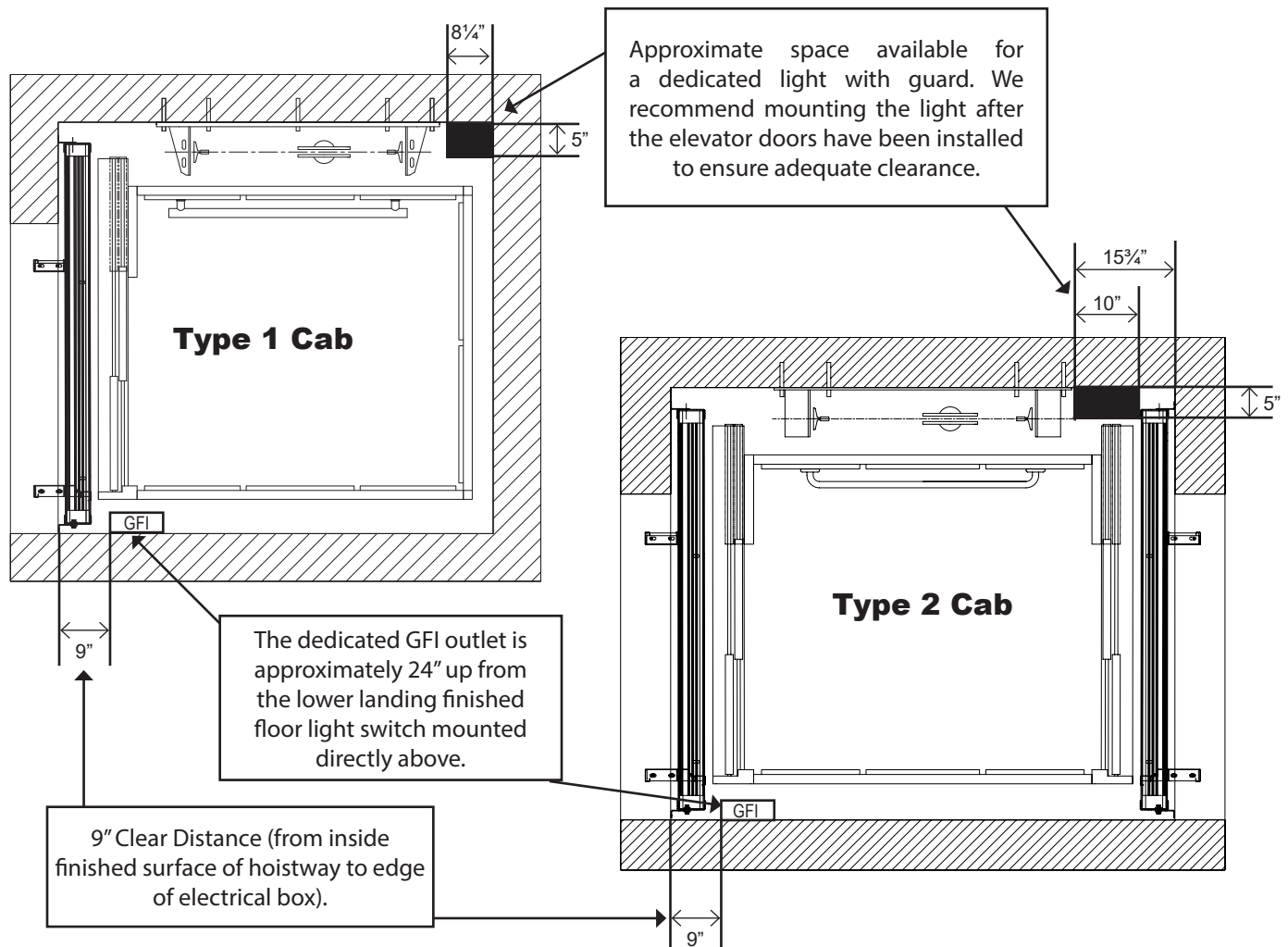


NOTE A:  
POSITION OF DOORS AND COMPONENTS CAN VARY  
AS LONG AS THE MINIMUM DISTANCE IN FRONT OF COMPONENTS IS RESPECTED

NOTE B:  
A RACEWAY BETWEEN THE MACHINE ROOM AND HOISTWAY WILL NEED TO BE PROVIDED.  
CONSULT YOUR INSTALLATION COMPANY FOR SIZE AND LOCATION

# HOISTWAY AND PIT ELECTRICAL NOTES

- A load bearing wall is required to sustain rail reactions. See page 18 for rail reactions.
- Suggested hoistway pit floor construction consists of an 8" (203 mm) concrete slab poured on a natural or compacted soil with a minimum allowable bearing pressure of 1.0 KSF.
- The minimum compressive strength of the concrete at 28 days must be no less than 3000 PSI. #5 reinforcing steel (grade 60) must be placed at the bottom of the slab in 2 traverse directions and at a spacing of 12" (305 mm).
- Hoistway pit floor to support a load of 10 kips (10,000 lbs)/44.48KN (includes impact).
- 108" (2743 mm) minimum overhead clearance required above the top landing floor (for existing construction without overspeed governor).
- 120" (3048 mm) minimum overhead clearance required above the top landing floor (for existing construction with overspeed governor).
- 134" (3404 mm) minimum overhead clearance required above the top landing floor (for new construction).
- 14" (356 mm) minimum pit. (A clearance device is provided to attain required 36" (914 mm) refuge space).
- Hoistway sizes reflect running and access clearances only. Consult your local AHJ to assure compliance with local codes.
- Hoistway is required to be free of all pipes, wiring and obstructions not related to the operation of the elevator.
- If a dedicated pit light is required by your local AHJ, please follow the guidelines below for accommodating this in your hoistway

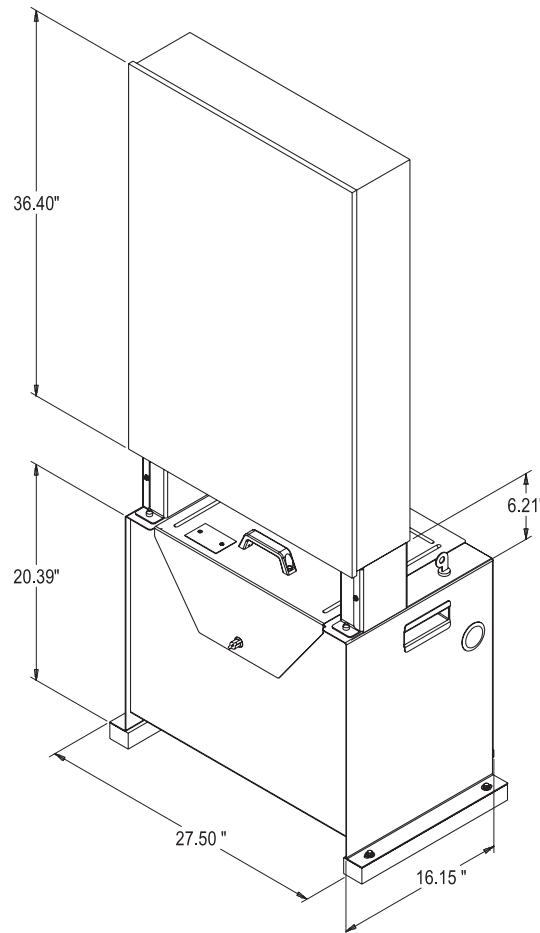


## CONTROLLER TANK SPECIFICATIONS

<b>Dimensions (inches)</b>	H 57" x W 28" x D 17" (approx.)
<b>Minimum Required Clearance in Front (inches)</b>	39"
<b>Valve and Manual Lowering Handle Location</b>	Inside tank
<b>Rupture Valve Test</b>	T-fitting factory installed
<b>Tank to Controller Wiring</b>	Quick connect valve and motor wiring
<b>Controller Layout</b>	PLC
<b>Keyed Lock to Tank</b>	Yes
<b>Machine Room Required</b>	Yes
<b>Tank Capacity (gal/ltr)</b>	15-16.5 gal/57-63 ltr
<b>Max. Dry Weight (lbs/kgs)</b>	147 lbs/55 kg
<b>Max. Filled Weight (lbs/kgs)</b>	312 lbs/117 kg
<b>Operating Environment</b>	50°F - 80°F / 10°C - 27°C
<b>Operating Volume</b>	57 dBA

### Controller Tank Features

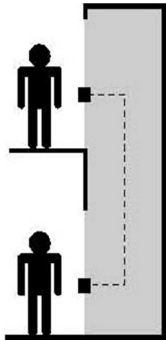
- Hydraulic hose connection ports on either side of the tank
- Built in handles on either side of the tank
- Isolation mounting of pump motor valve assembly minimizes operating noise



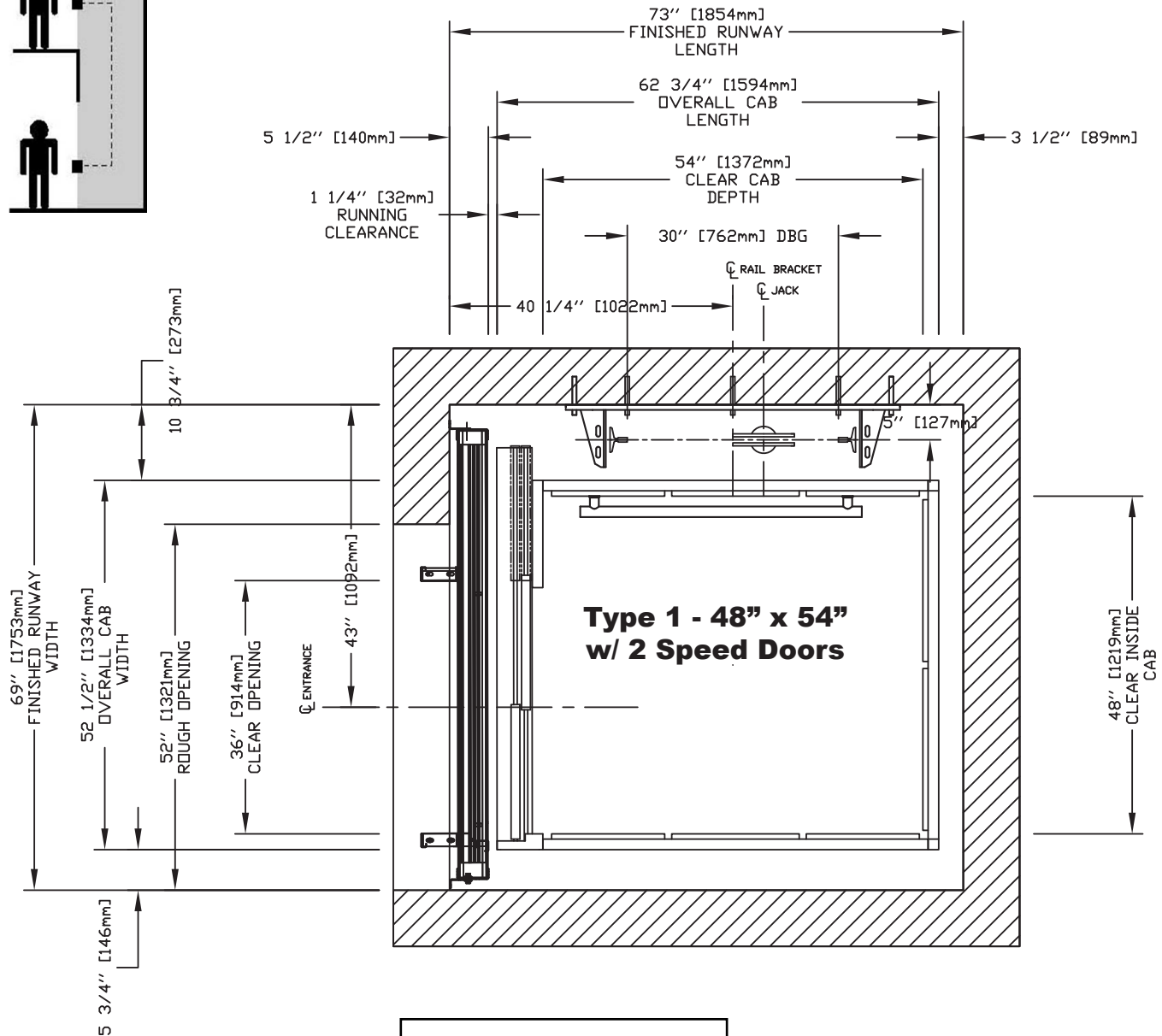
**PLC Controller Tank**

# ORION 48" X 54" TYPE 1 WITH 2 SPEED DOORS

Type 1



Finished hoistway dimensions must include the drywall (where applicable). Determine the fire rating of the hoistway, the type and layers of sheet rock. Build only from shop drawings specific to your project.



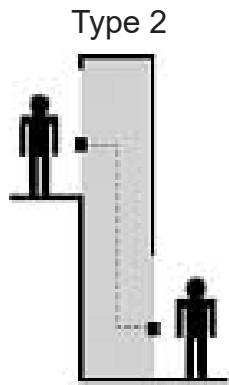
For Masonry or Drywall Entrance Details, refer to drawings on pages 21-24

## NOTE

Plan view drawing can be reversed for Right Hand applications.  
The cab dimensions provided in this manual are based on a PLAM cab.

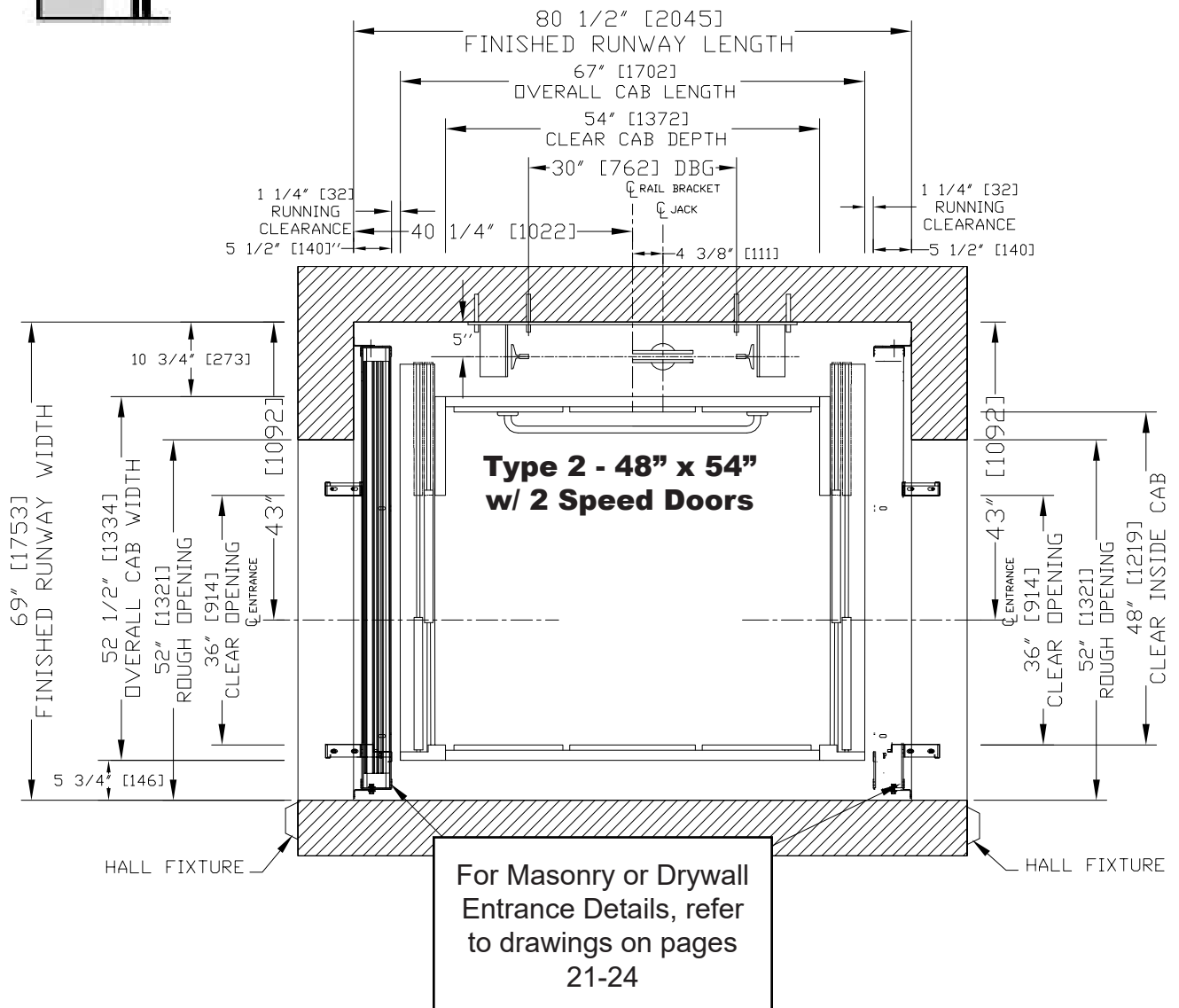


# ORION 48" X 54" TYPE 2 WITH 2 SPEED DOORS



Type 2

Finished hoistway dimensions must include the drywall (where applicable). Determine the fire rating of the hoistway, the type and layers of sheet rock. Build only from shop drawings specific to your project.

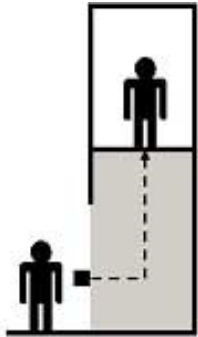


## NOTE

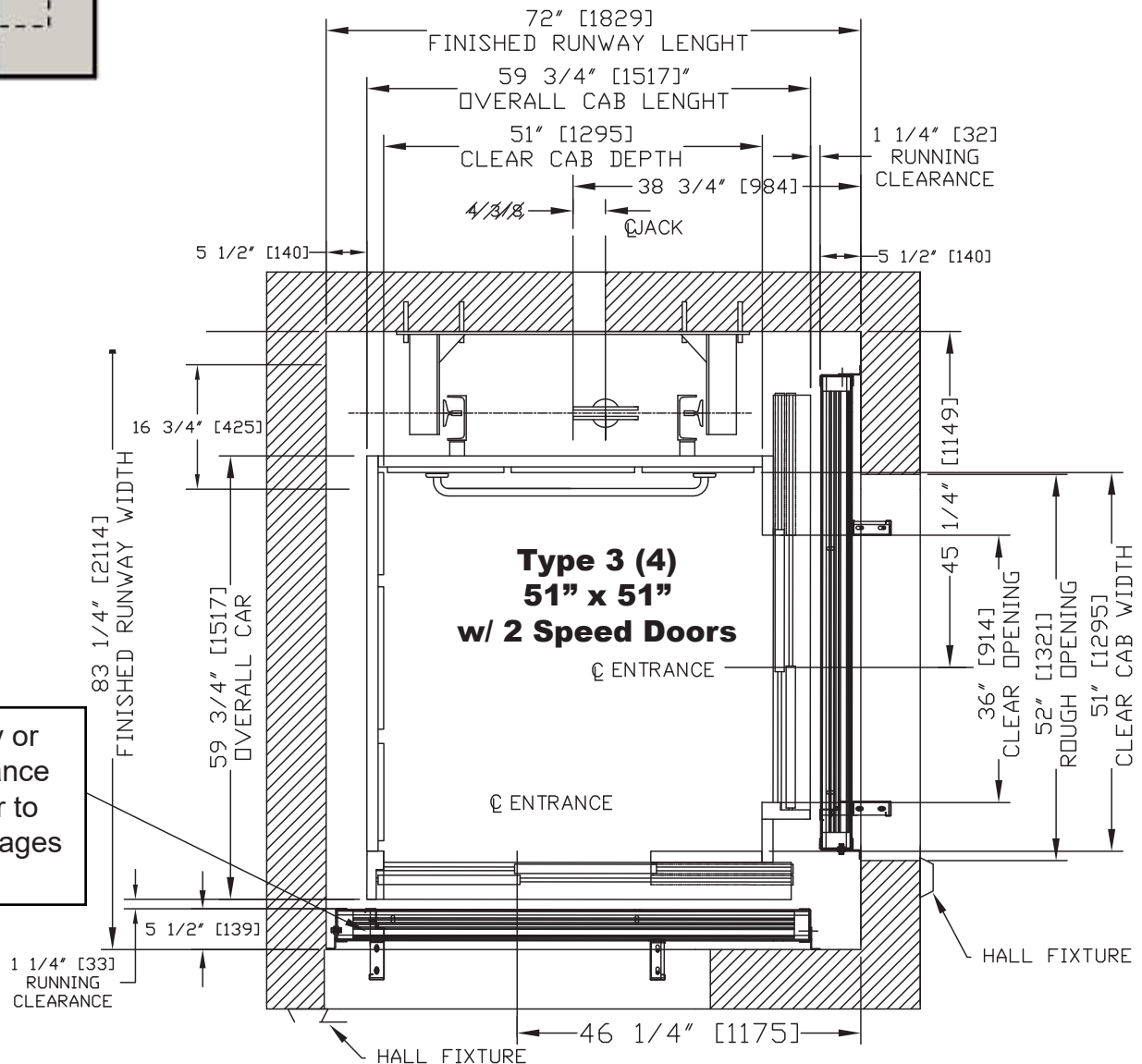
The cab dimensions provided in this manual are based on a PLAM cab.

# ORION 51" X 51" TYPE 3 (4) WITH 2 SPEED DOORS

Type 3 or 4



Finished hoistway dimensions must include the drywall (where applicable). Determine the fire rating of the hoistway, the type and layers of sheet rock. Build only from shop drawings specific to your project.



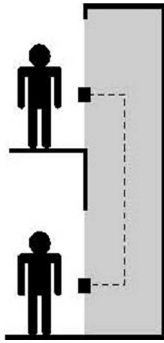
For Masonry or Drywall Entrance Details, refer to drawings on pages 21-24

## NOTE

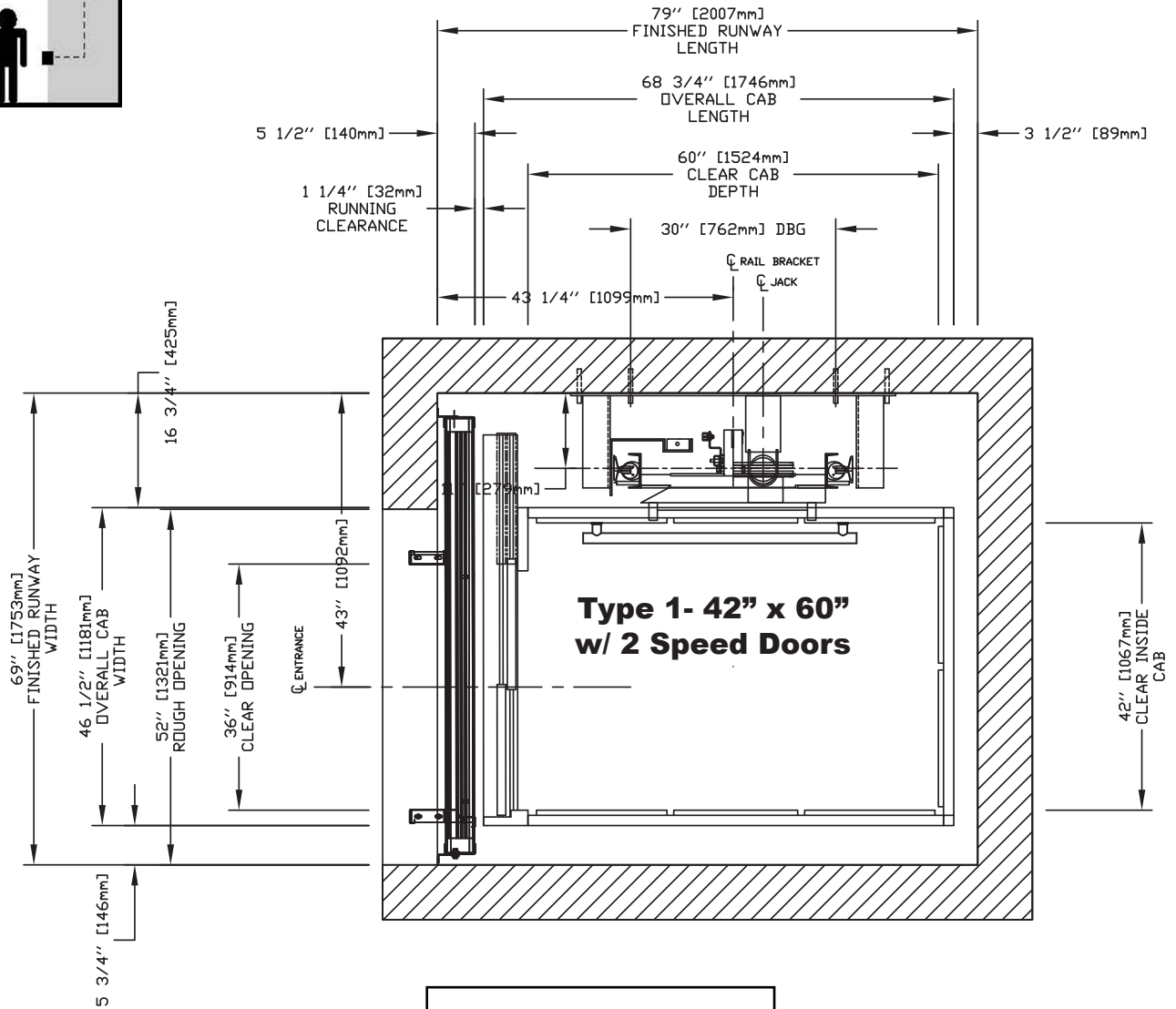
Plan view drawing can be reversed for Type 4 applications.  
The cab dimensions provided in this manual are based on a PLAM cab.

# ORION 42" X 60" TYPE 1 WITH 2 SPEED DOORS

Type 1



Finished hoistway dimensions must include the drywall (where applicable). Determine the fire rating of the hoistway, the type and layers of sheet rock. Build only from shop drawings specific to your project.



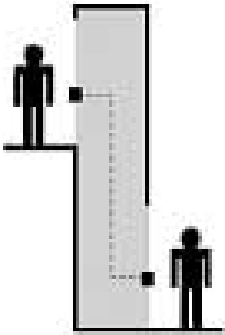
For Masonry or Drywall Entrance Details, refer to drawings on pages 21-24

## NOTE

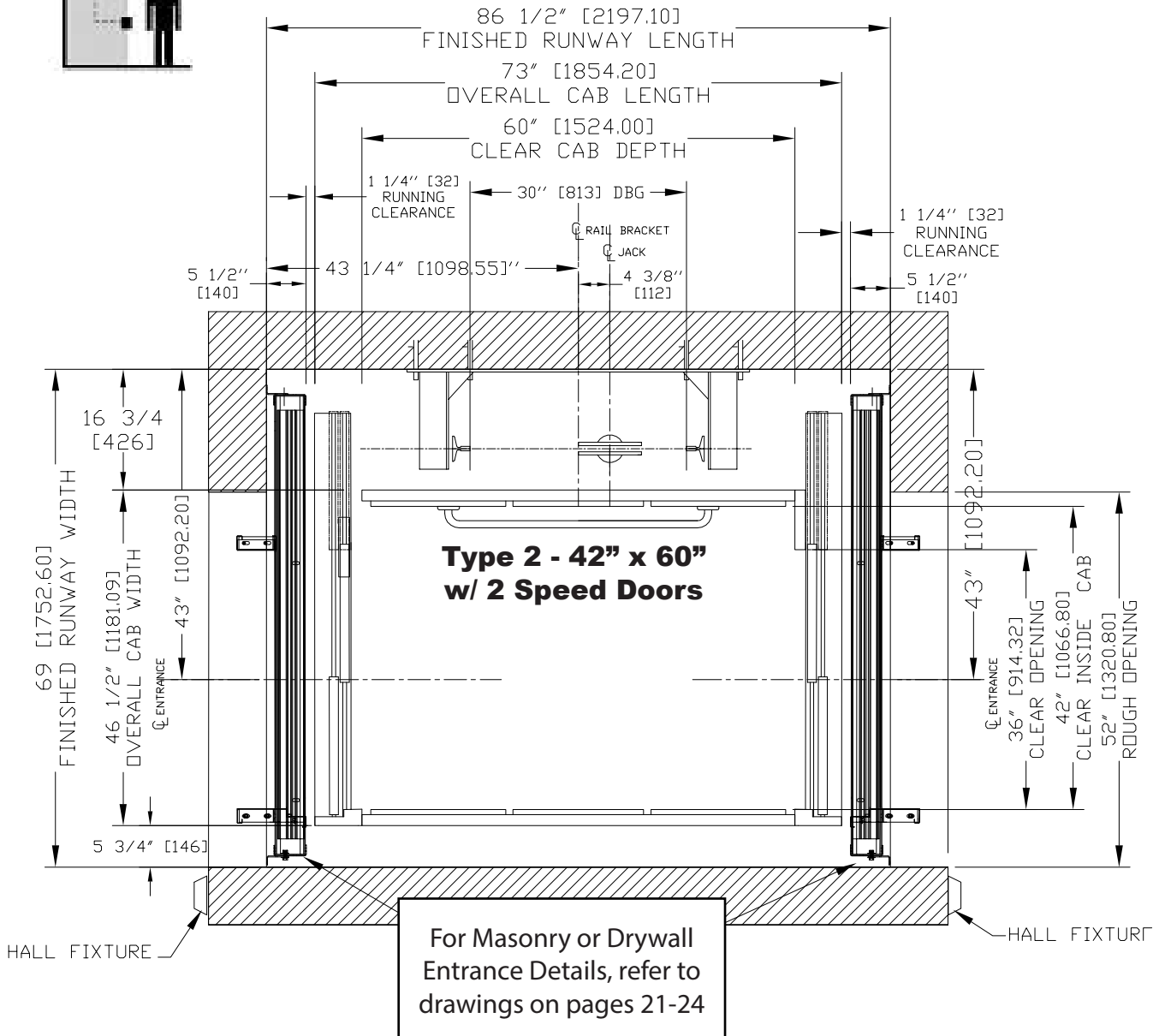
Plan view drawing can be reversed for Right Hand applications.  
The cab dimensions provided in this manual are based on a PLAM cab.

# ORION 42" X 60" TYPE 2 WITH 2 SPEED DOORS

## Type 2



Finished hoistway dimensions must include the drywall (where applicable). Determine the fire rating of the hoistway, the type and layers of sheet rock. Build only from shop drawings specific to your project.

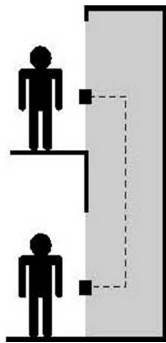


## NOTE

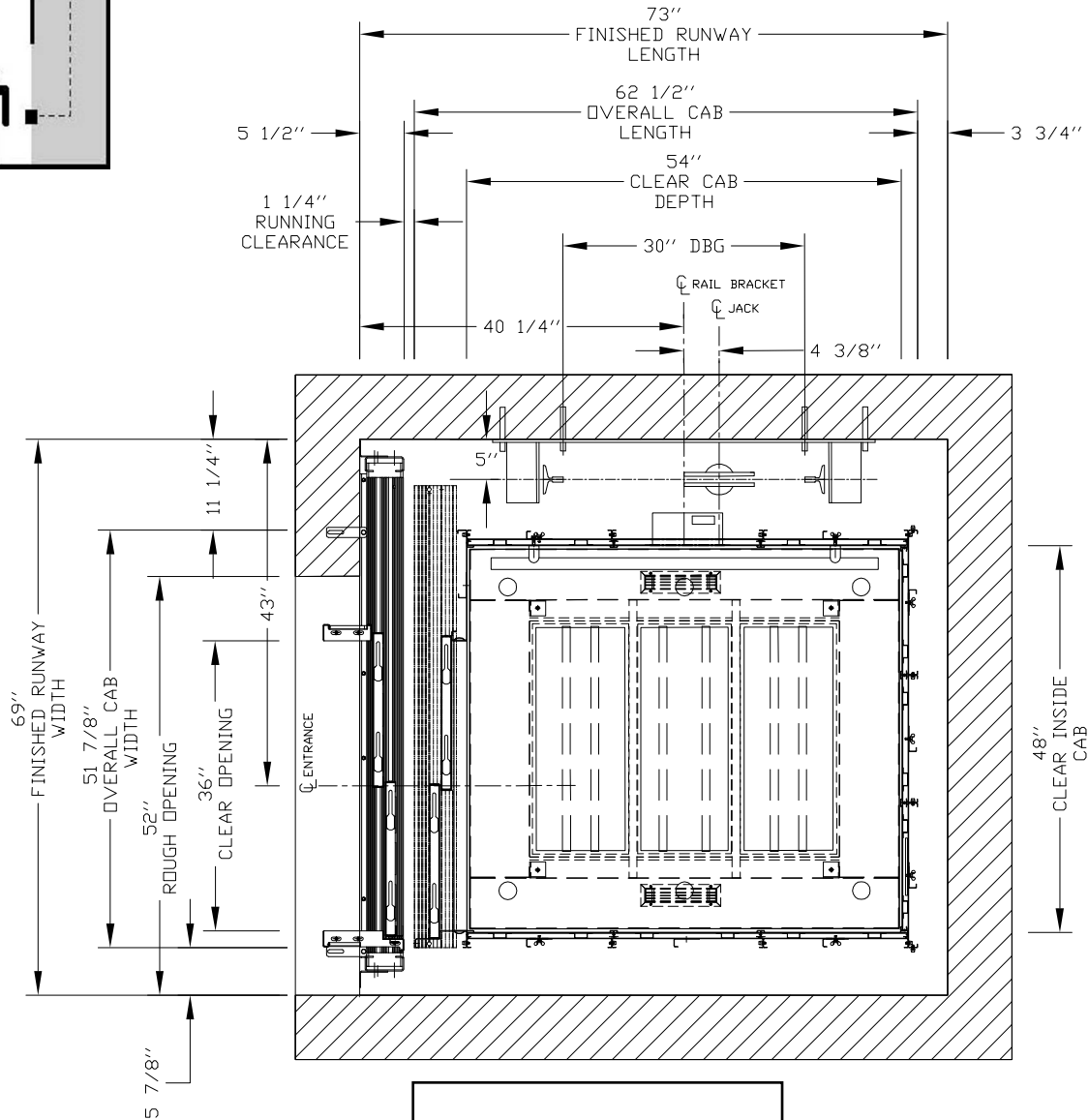
The cab dimensions provided in this manual are based on a PLAM cab.

# ORION17 48" X 54" TYPE 1 WITH 2 SPEED DOORS

Type 1



Finished hoistway dimensions must include the drywall (where applicable). Determine the fire rating of the hoistway, the type and layers of sheet rock. Build only from shop drawings specific to your project.

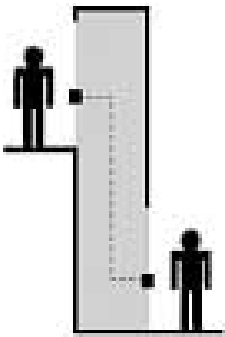


## NOTE

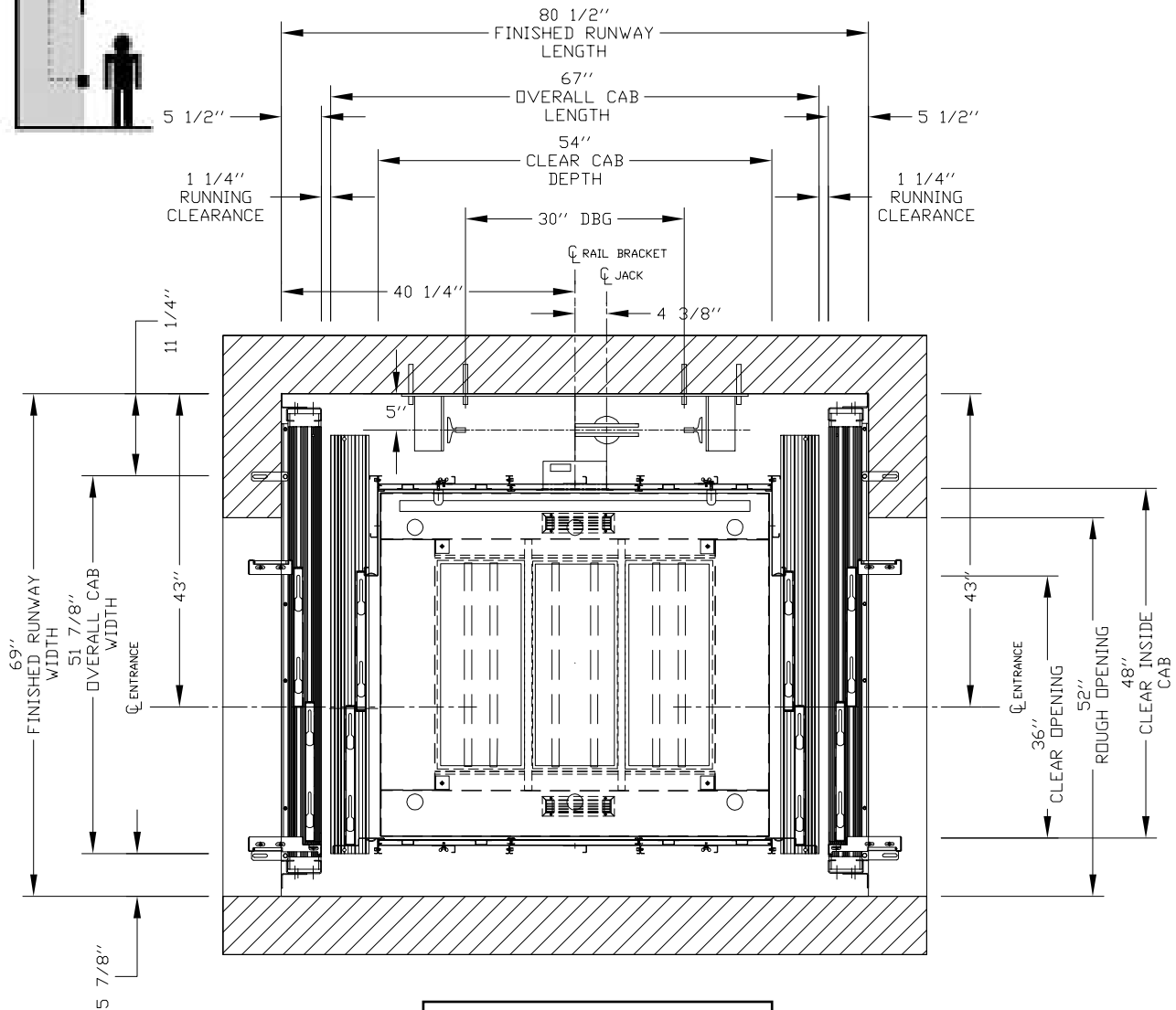
Plan view drawing can be reversed for Right Hand applications.  
The cab dimensions provided in this manual are based on a PLAM cab.

# ORION17 48" X 54" TYPE 2 WITH 2 SPEED DOORS

## Type 2



Finished hoistway dimensions must include the drywall (where applicable). Determine the fire rating of the hoistway, the type and layers of sheet rock. Build only from shop drawings specific to your project.



For Masonry or Drywall Entrance Details, refer to drawings on pages 21-24

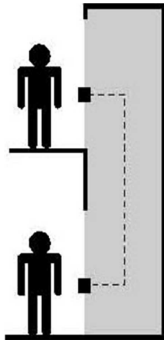
## NOTE

The cab dimensions provided in this manual are based on a PLAM cab.

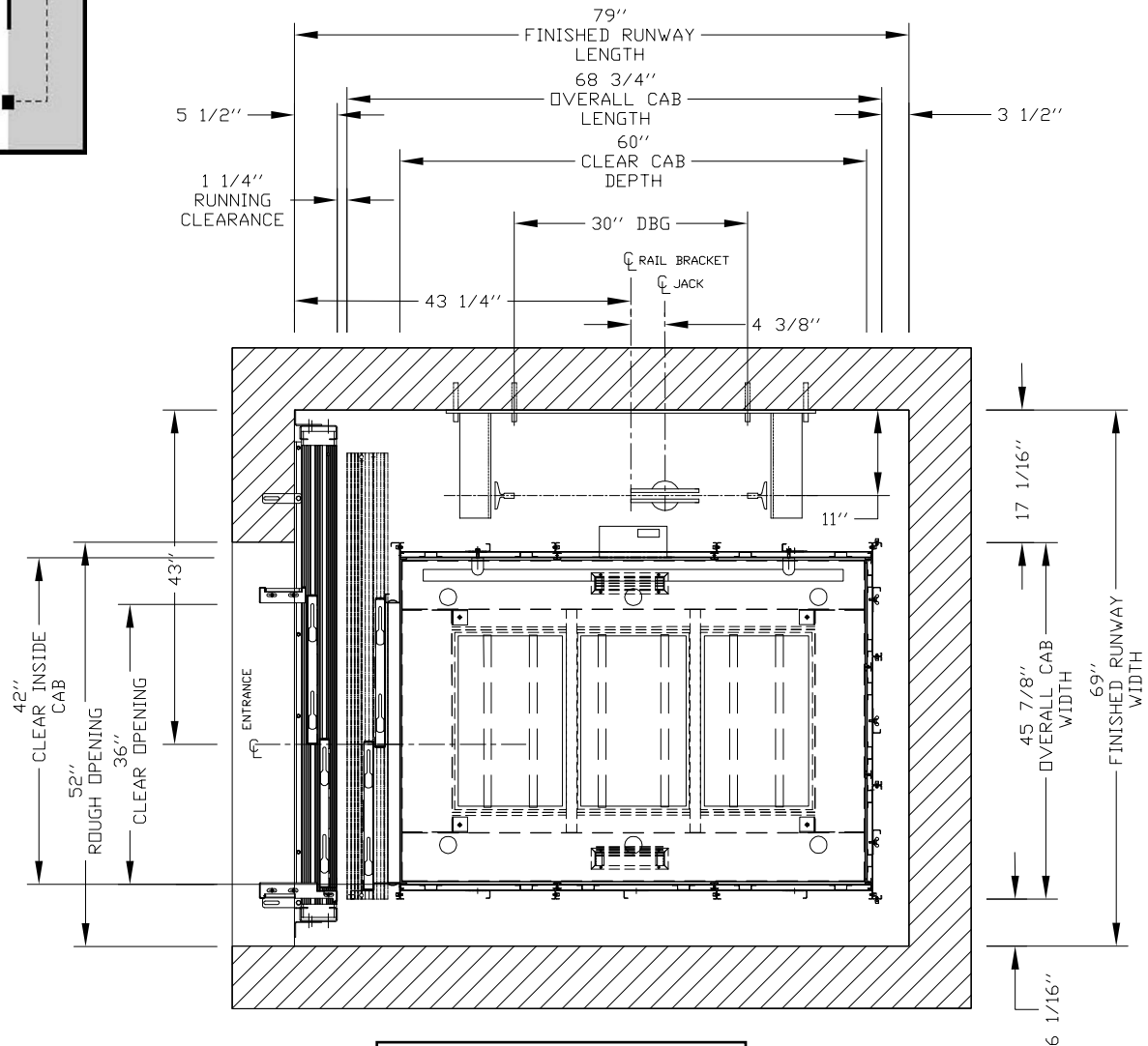


# ORION17 42" X 60" TYPE 1 WITH 2 SPEED DOORS

Type 1



Finished hoistway dimensions must include the drywall (where applicable). Determine the fire rating of the hoistway, the type and layers of sheet rock. Build only from shop drawings specific to your project.



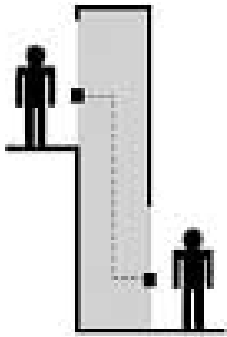
For Masonry or Drywall Entrance Details, refer to drawings on pages 21-24

## NOTE

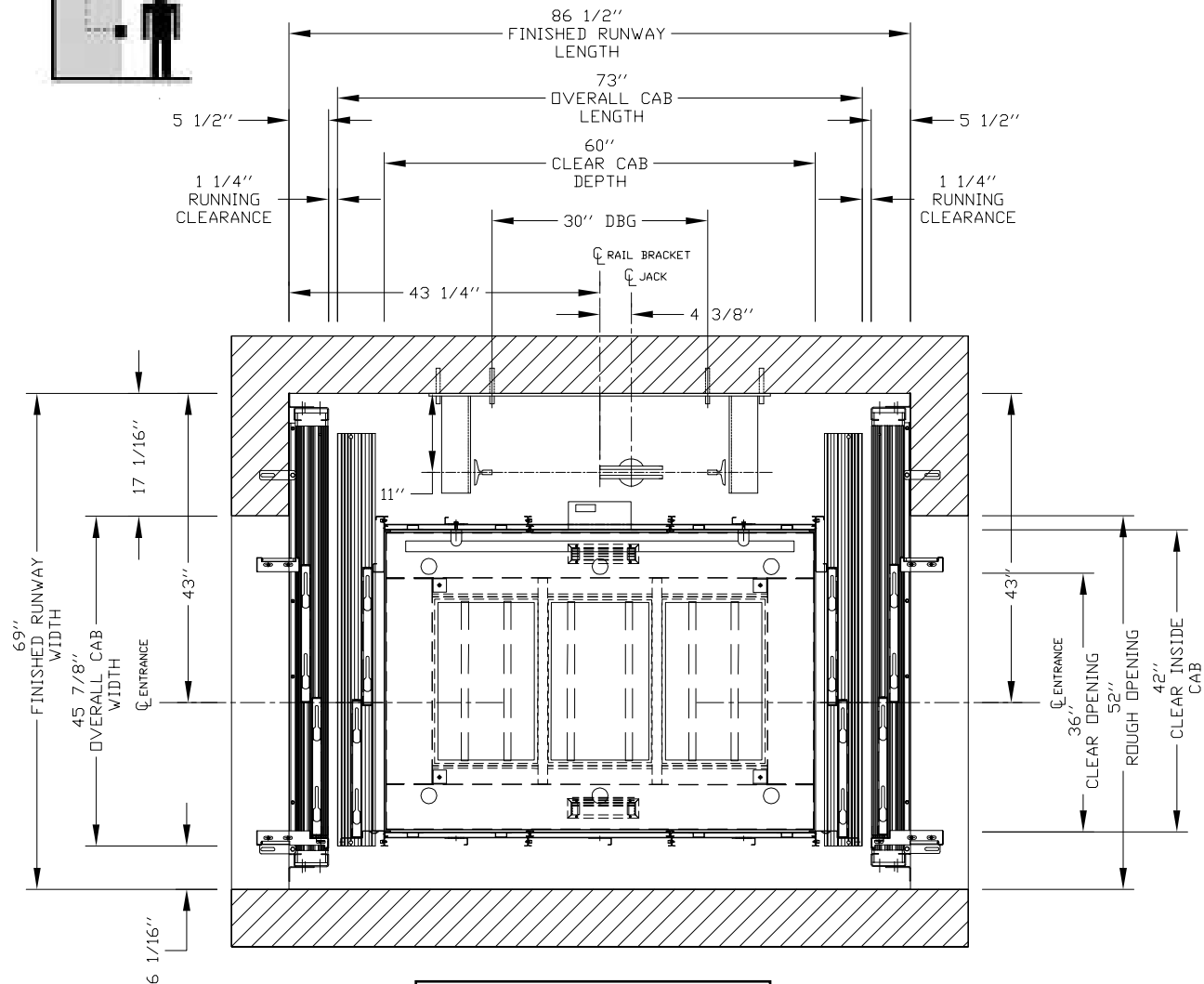
Plan view drawing can be reversed for Right Hand applications.  
The cab dimensions provided in this manual are based on a PLAM cab.

# ORION17 42" X 60" TYPE 2 WITH 2 SPEED DOORS

## Type 2



Finished hoistway dimensions must include the drywall (where applicable). Determine the fire rating of the hoistway, the type and layers of sheet rock. Build only from shop drawings specific to your project.

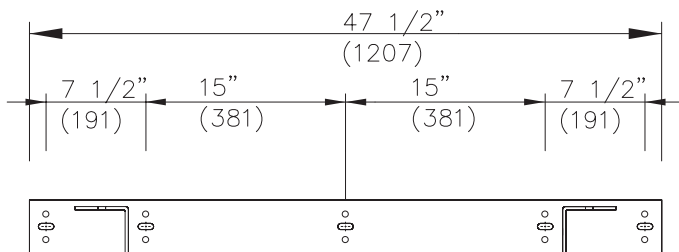
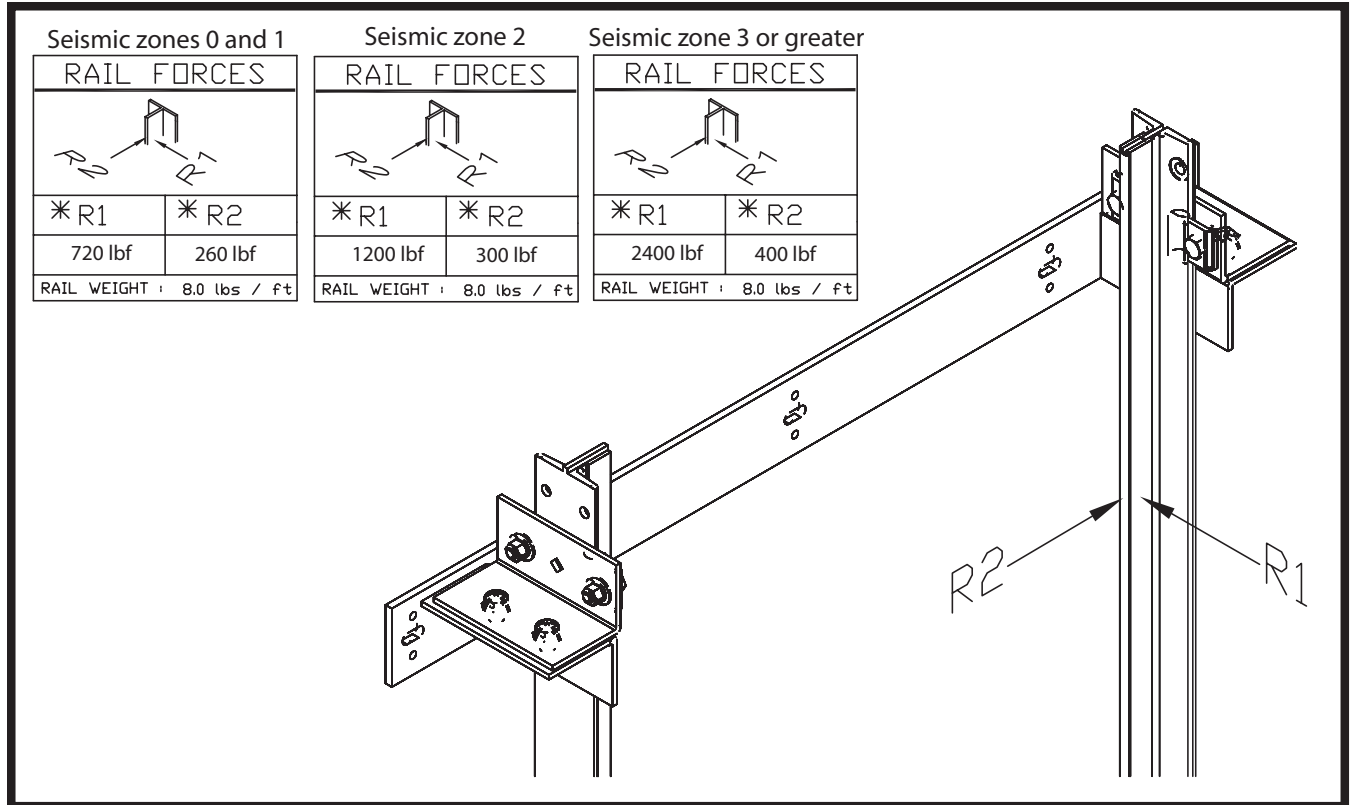


For Masonry or Drywall Entrance Details, refer to drawings on pages 21-24

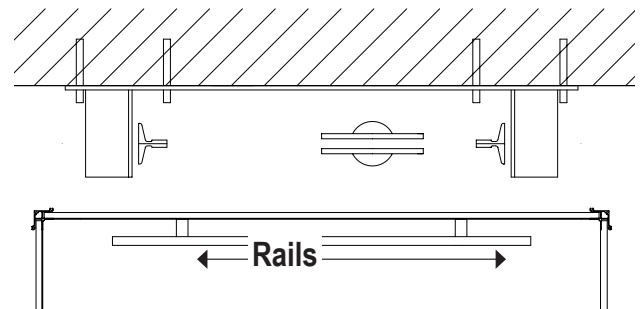
## NOTE

The cab dimensions provided in this manual are based on a PLAM cab.

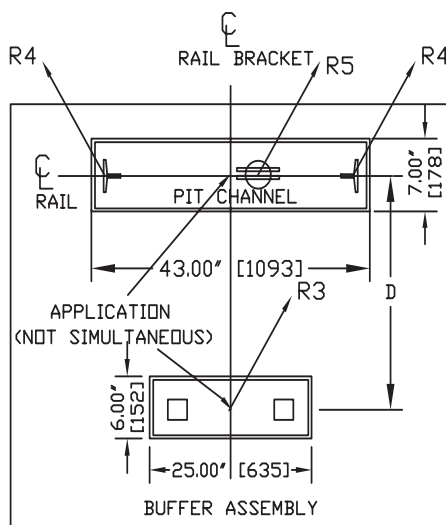
# LOADS ON BUILDING AND PIT LOADING



**Rail Bracket Dimensions**



**Support Wall Orientation**

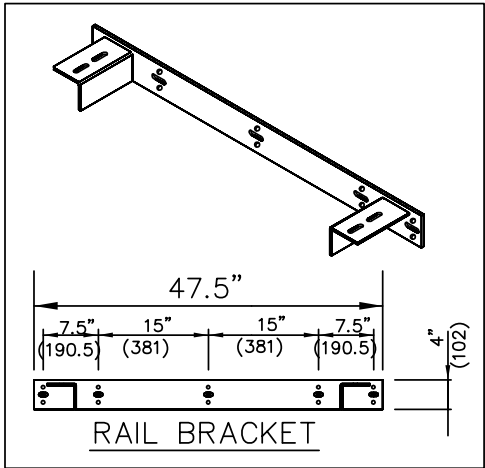


CAB WIDTH	DIST (D)
42'	31.625'
48'	31.625'
51'	31.625'
54'	31.625'

PIT PRE-ACTION FORCE	
R3	8000 LBS
R4	3000 LBS
R5	9000 LBS

R3 - Condition I: when fully loaded car hits buffer (bumper)  
 R4 - Condition II: when safeties engage on rails with 110% loaded car at governor tripping speed  
 R5 - Condition III: normal running with 1.2 times impact for starting and stopping jerks

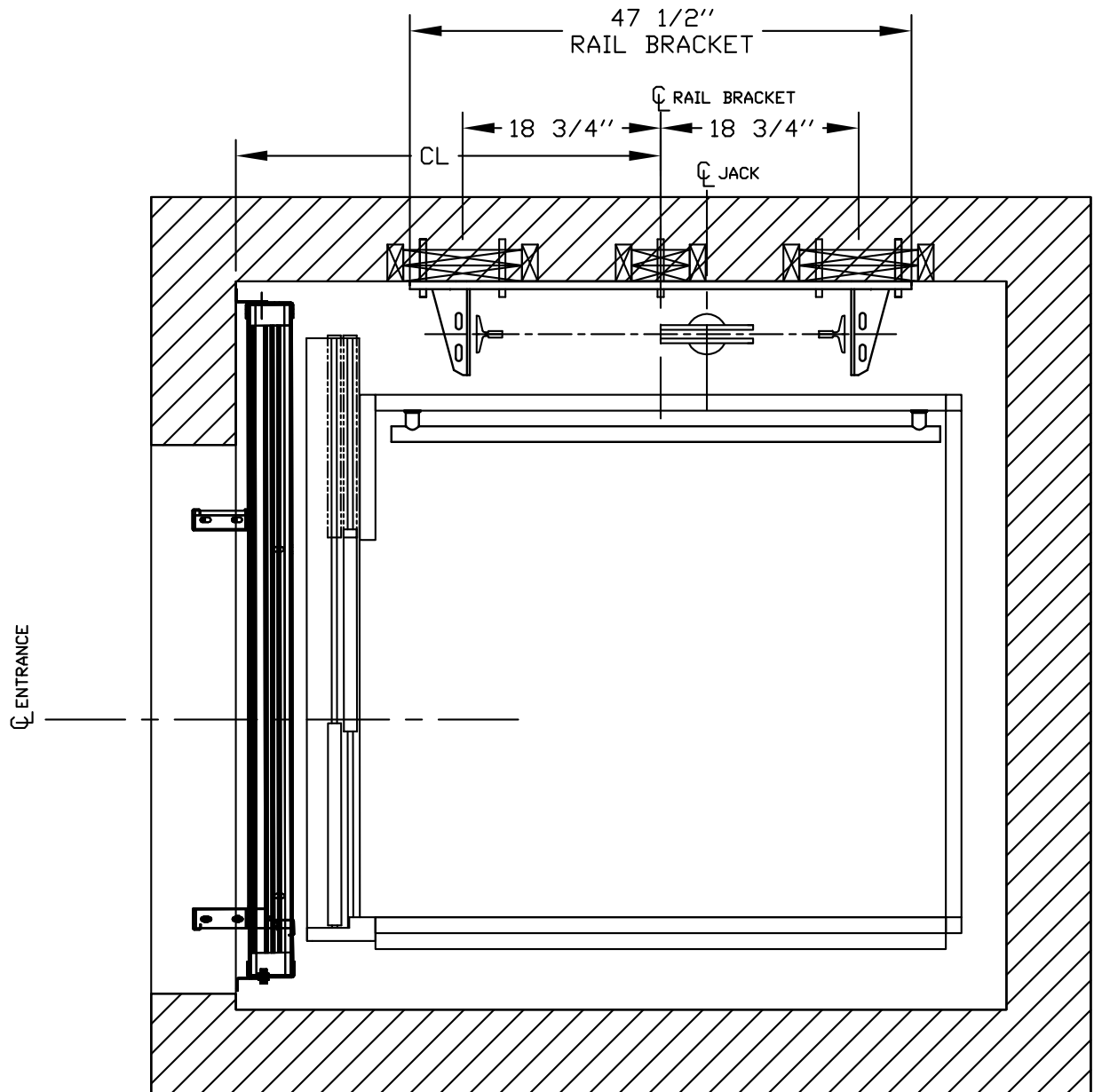
## RAIL SUPPORT WALL STRUCTURE



**NOTES:**  
BUILDING STRUCTURAL ENGINEER TO  
ASSURE THAT BUILDING AND SHAFT  
WILL SAFELY SUPPORT ALL LOADS  
IMPOSED BY THE ELEVATOR EQUIPMENT.

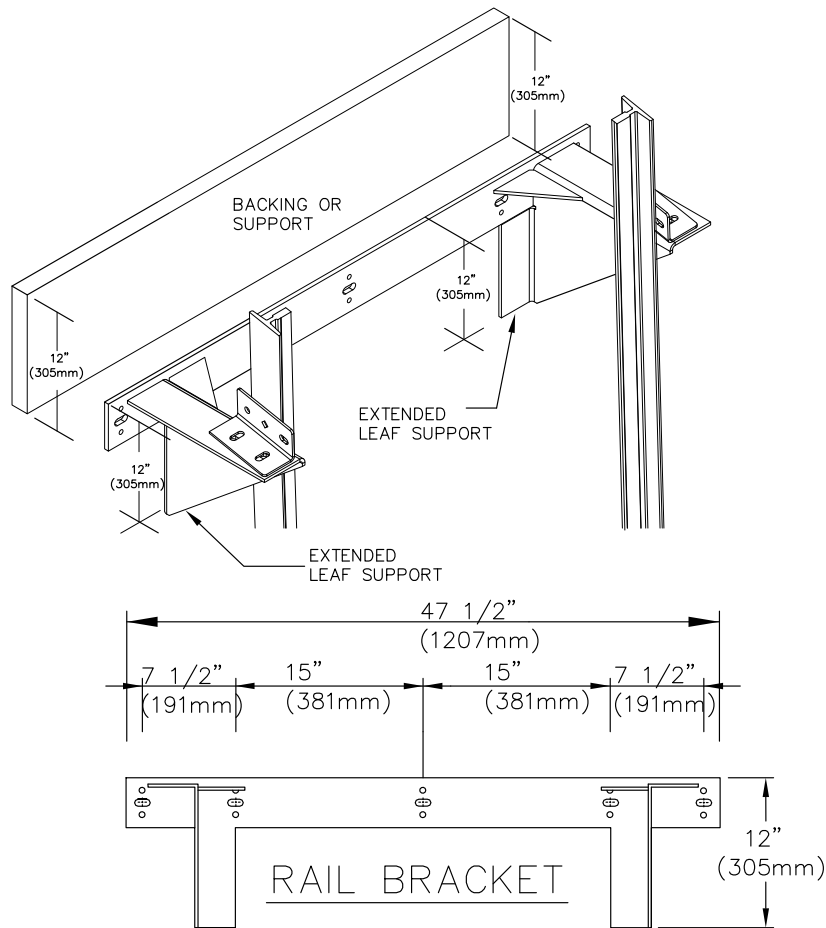
NOTE: Check Seismic Zone to see if the structure is allowed by your Local Building Code.

## RAIL SUPPORT WALL TOP VIEW



NOTE: Follow the centerline matching your job drawing. Type 1L shown above for reference only.

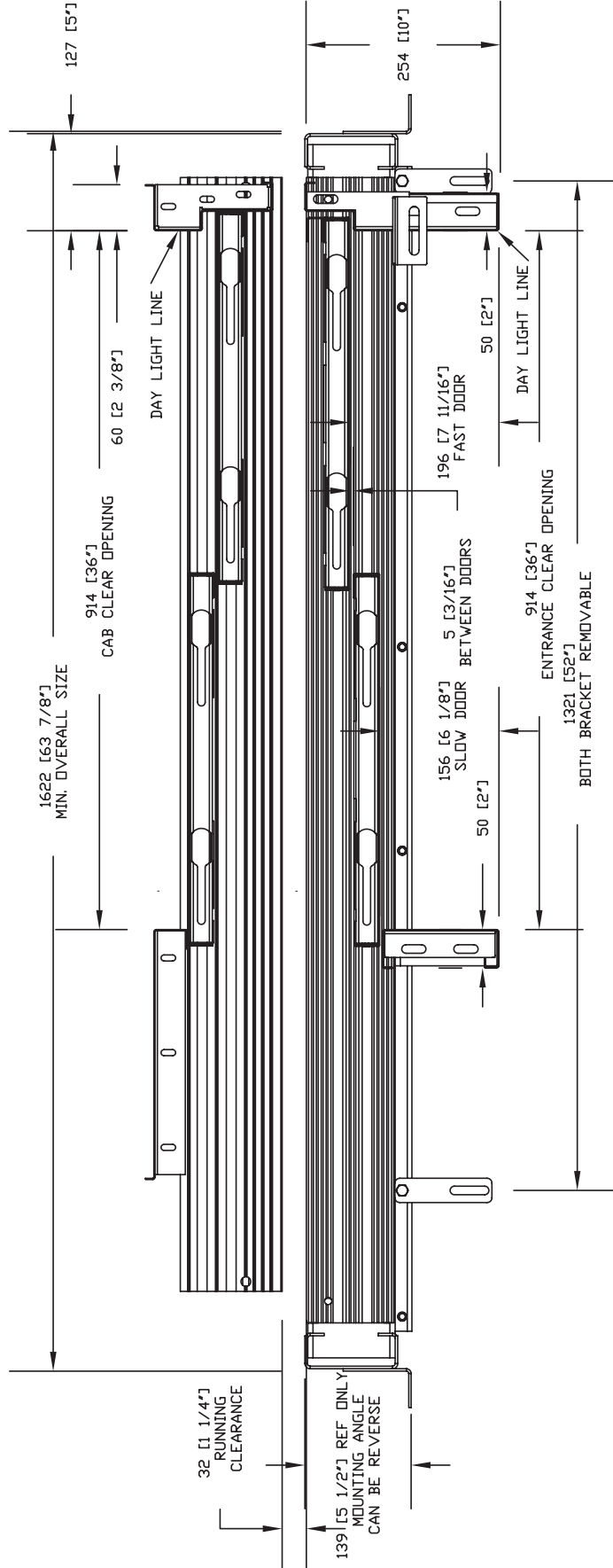
# BIG RAIL BRACKET BACKING



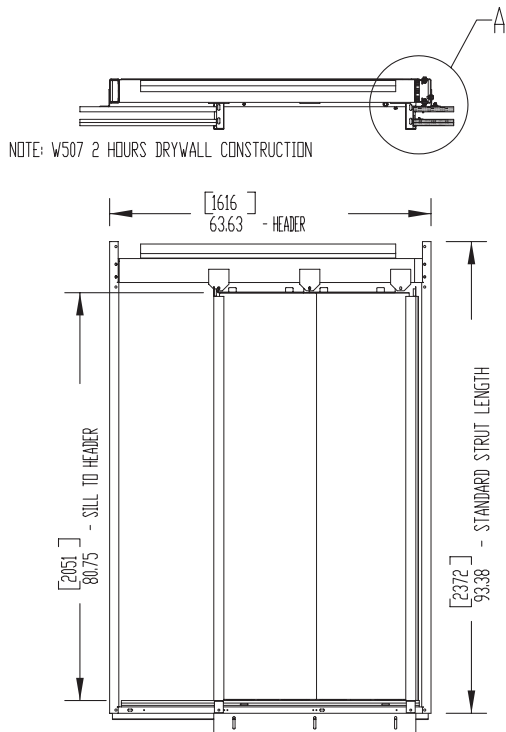
NOTE: IF THE INSTALLATION CALLS FOR HORIZONTAL BRACING OR THE EXTENDED RAIL BRACKETS, MAKE SURE THERE IS SUFFICIENT SUPPORT THAT EXTENDS THE FULL HEIGHT OF THE RAIL BRACKET BACK PLATE INCLUDING THE EXTENDED LEAF SUPPORTS.



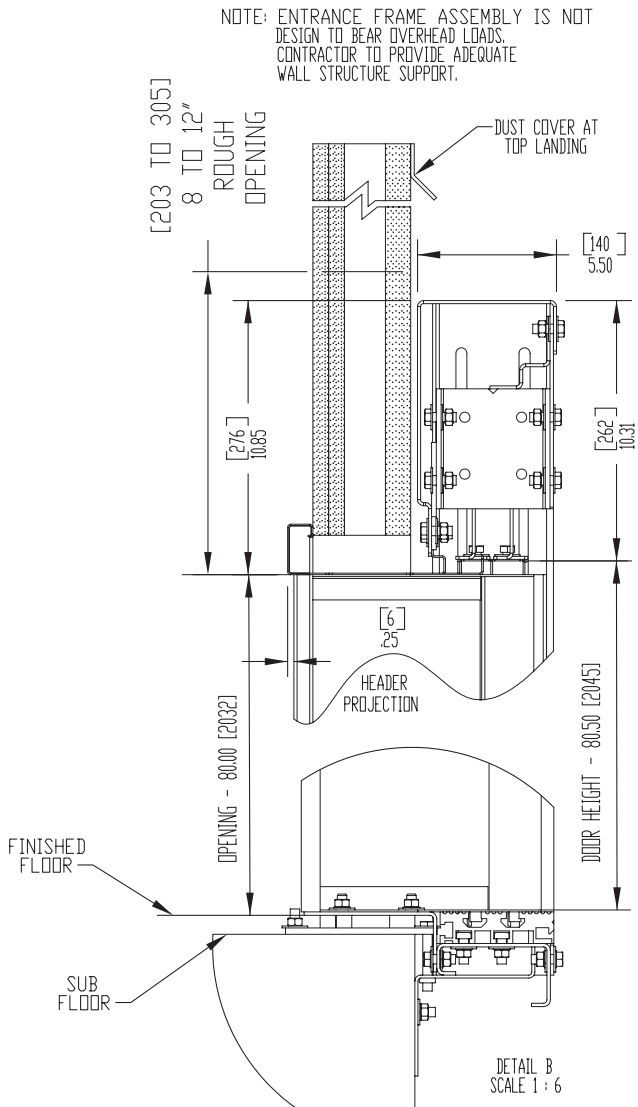
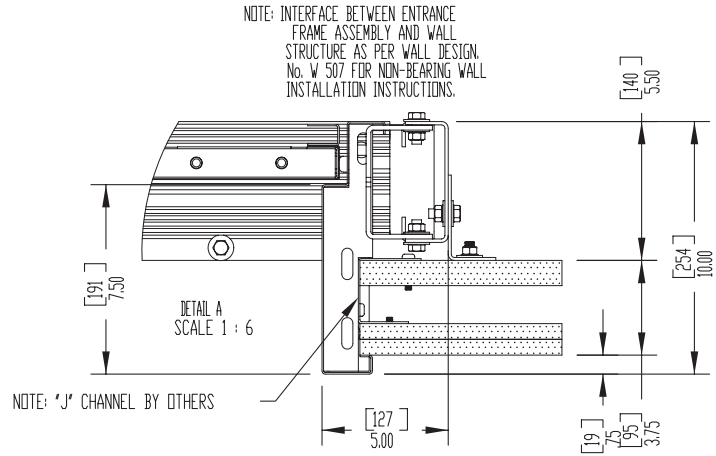
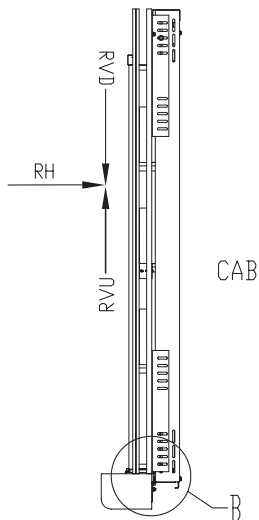
# ENTRANCE MOUNTING DETAILS FOR 2 SPEED DOORS WITH DRYWALL CONSTRUCTION



# ENTRANCE MOUNTING DETAILS FOR 2 SPEED DOORS WITH DRYWALL CONSTRUCTION

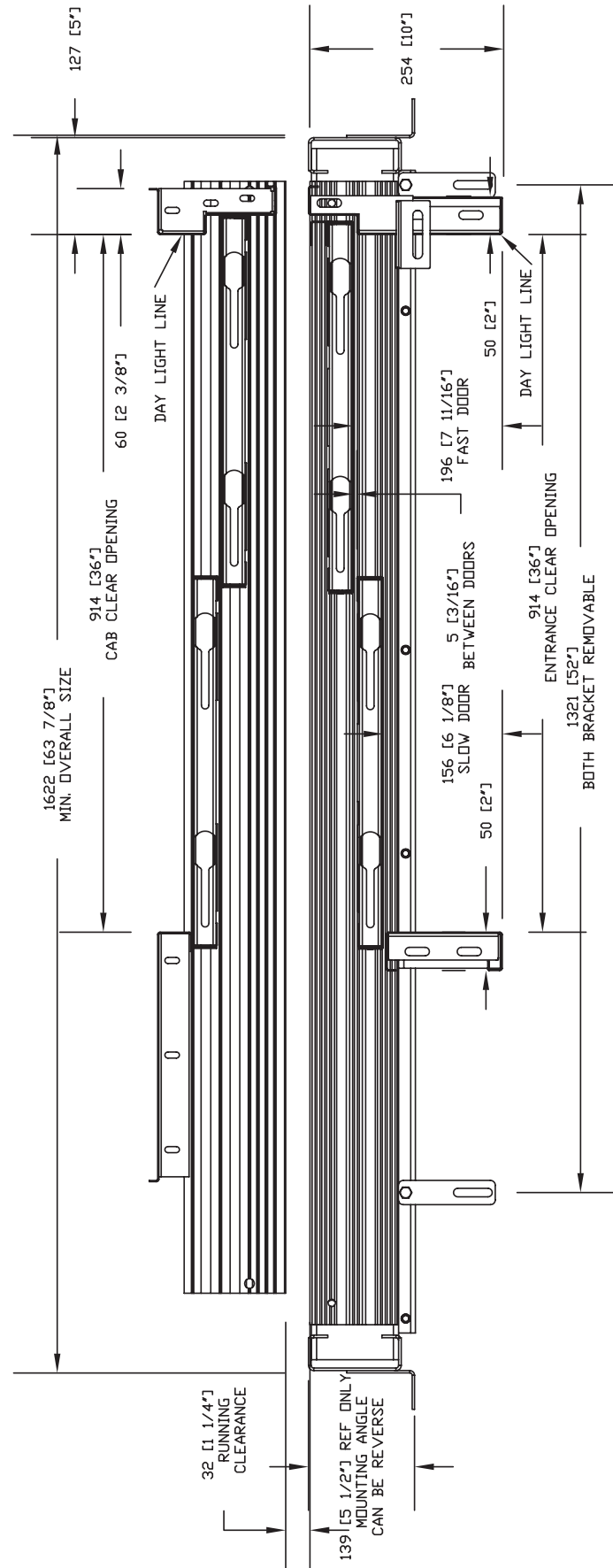


ENTRANCE LOADS ON BUILDING  
 RH = 5000 N (1125 lbf)  
 RVD = 1550 N (350 lbf)  
 RVU = 1000 N (225 lbf)  
 PER SECTION 2.11.11.8.

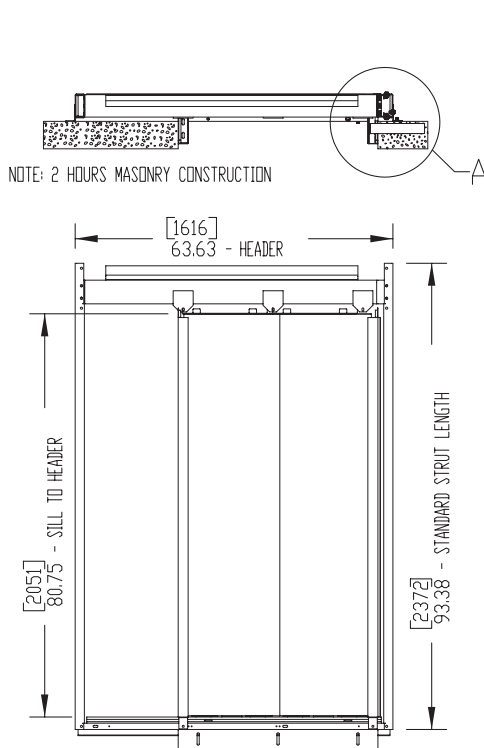


Contractor please note:  
 Grouting at the sill may be required after the door frames are set.

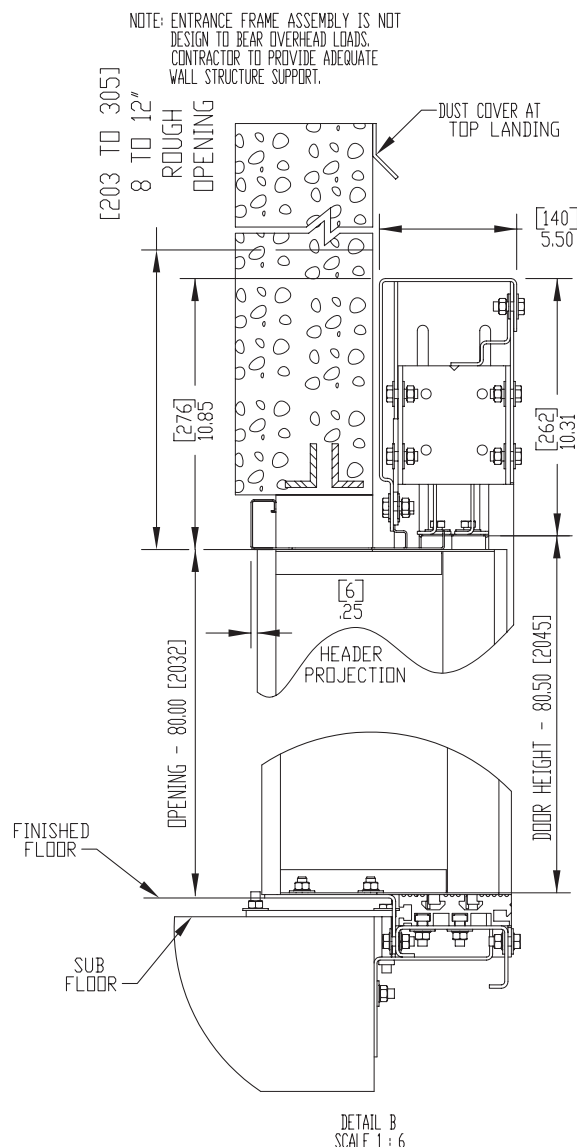
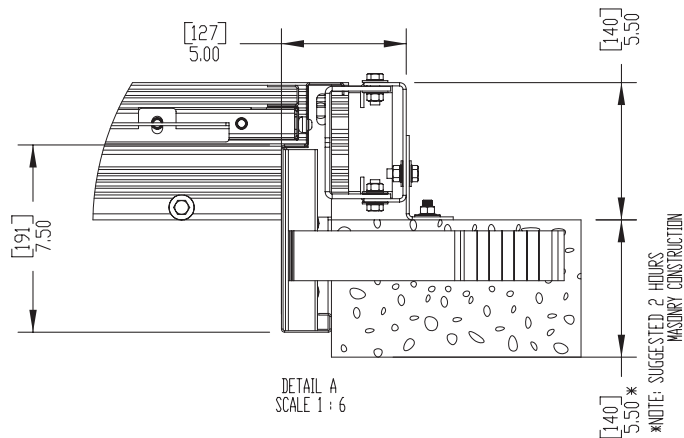
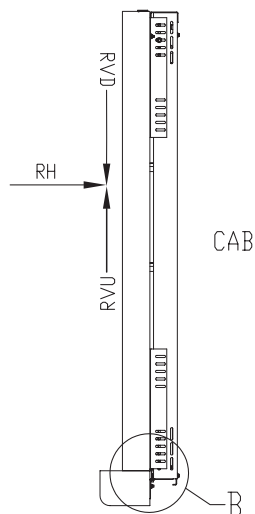
# ENTRANCE MOUNTING DETAILS FOR 2 SPEED DOORS WITH MASONRY CONSTRUCTION



# ENTRANCE MOUNTING DETAILS FOR 2 SPEED DOORS WITH MASONRY CONSTRUCTION

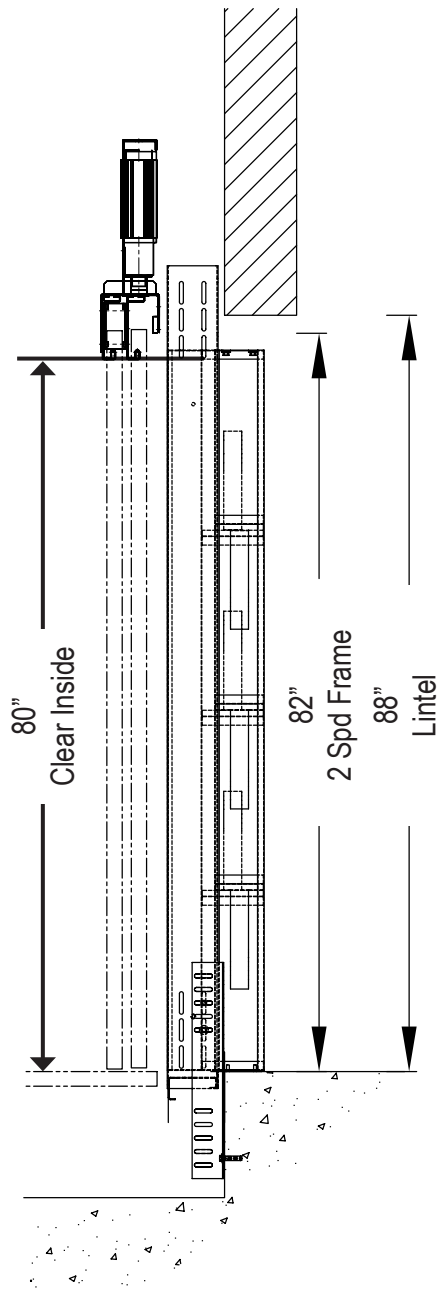


ENTRANCE LOADS ON BUILDING  
 RH = 5000 N (1125 lbf)  
 RVD = 1550 N (350 lbf)  
 RVU = 1000 N (225 lbf)  
 PER SECTION 2.11.11.8.

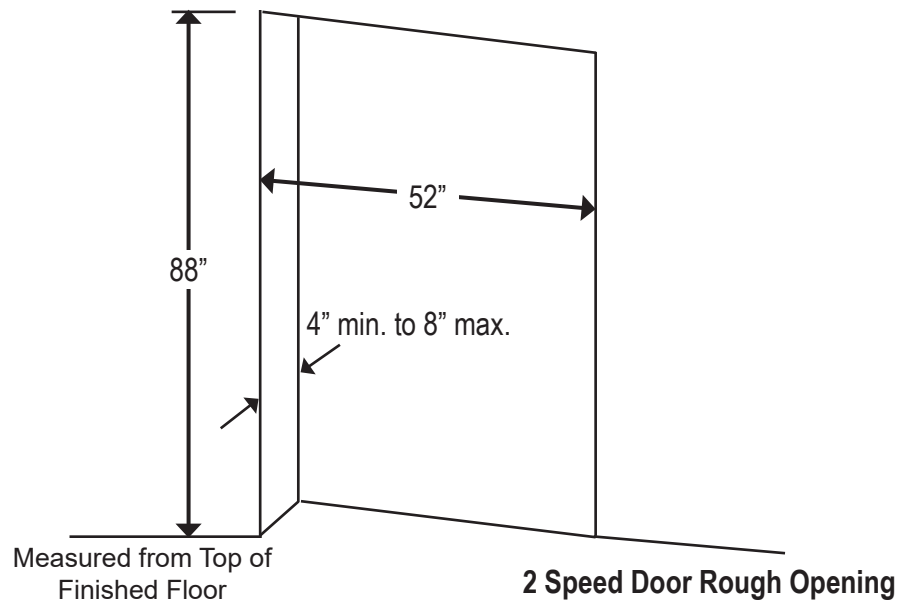


Contractor please note:  
 Grouting at the sill may be required after the door frames are set.

## 2 SPEED AUTOMATIC DOOR AND GUIDE RAIL INFORMATION



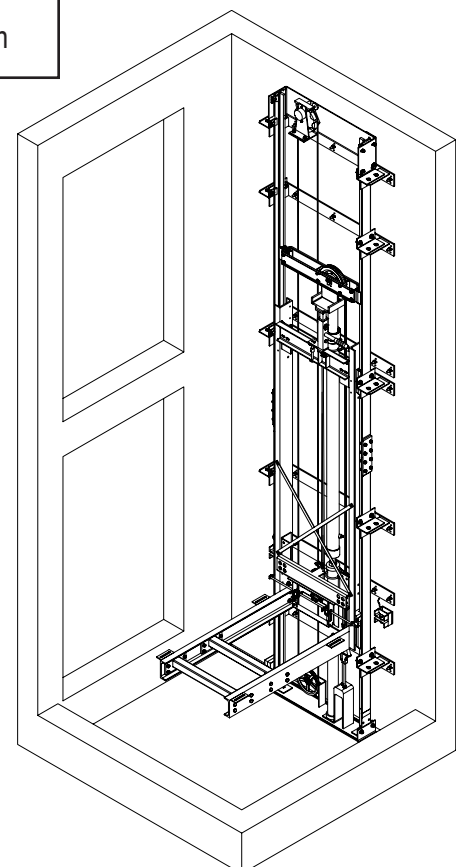
**Door Frame Elevation**



**2 Speed Door Rough Opening**

**For Metric Equivalents**  
Multiply inches times 25.4 for mm

**Example:**  
 $40.25" \times 25.4 = 1022.35 \text{ mm}$

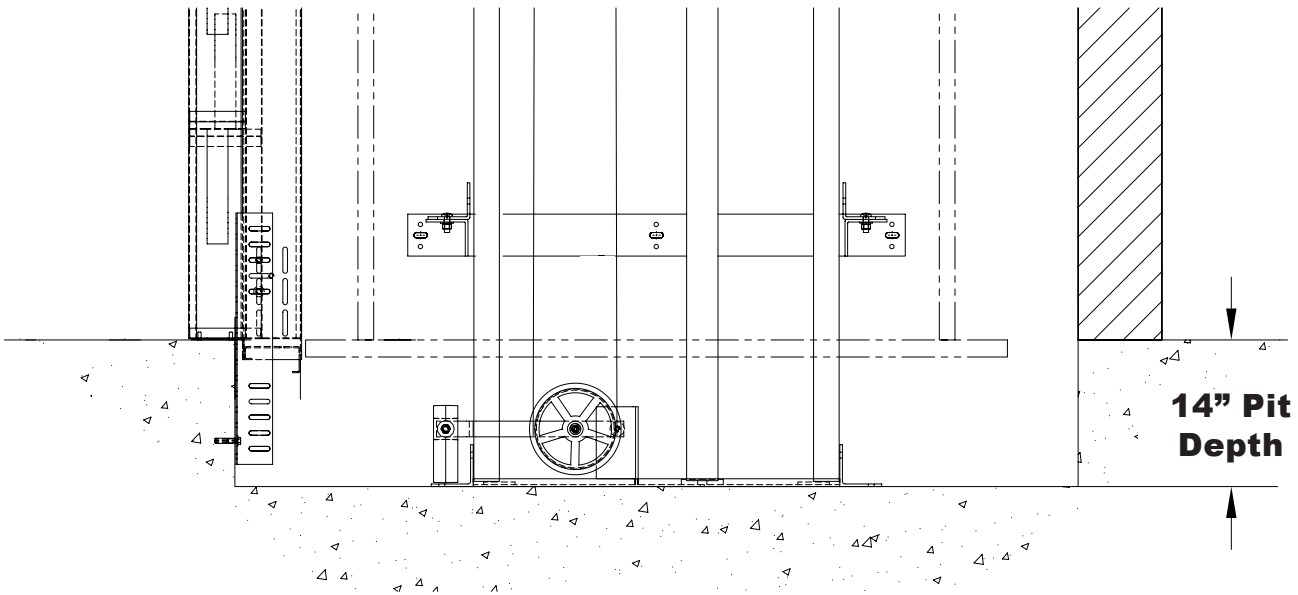


**Rails and Sling in Hoistway**

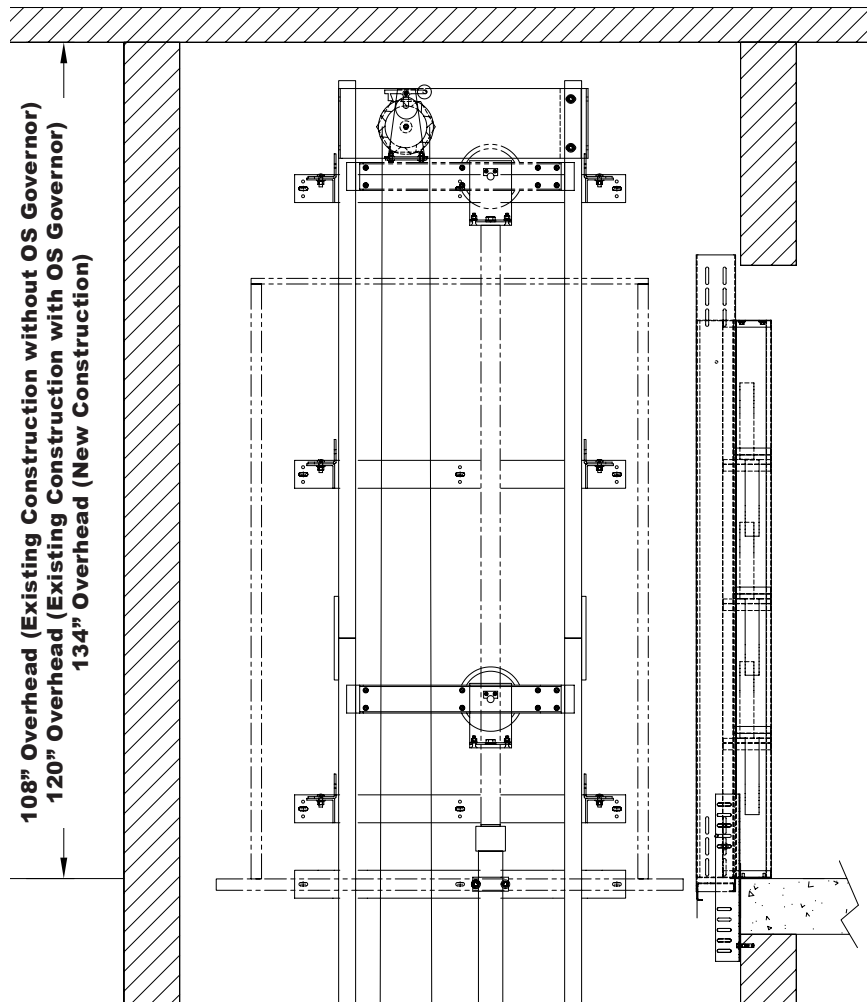
### Notes:

1. See hoistway requirements for the location of the door centerline.
2. Door panels and frame are primed for painting.

## PIT AND OVERHEAD CLEARANCE DETAILS



A minimum pit depth of 14" is required.





# ORION STANDARD NOTES

## HOISTWAY

- The hoistway must be designed and built in accordance with the “Safety Code for Elevators and Escalators” (ASME A17.1) and all state and local codes.
- Due to close running clearances, the owner/agent must ensure that the hoistway and pit (where provided) are level, plumb and square and are in accordance with the dimensions on these drawings.

## MINIMUM OVERHEAD CLEARANCE

- Owner/agent must ensure the minimum overhead clearance is in compliance with codes.

## CONSTRUCTION SITE

- Owner/agent to provide all masonry, carpentry and drywall work as required and shall patch and make good (including finish painting) all areas where walls/floors may need to be cut, drilled or altered in any way to permit the proper installation of the lift.

## DIMENSIONS

- Contractor/customer to verify all dimensions and report any discrepancies to our office immediately.

## STRUCTURAL

- Structural engineer to assure that the building and shaft will safely support all loads imposed by the lift equipment. Refer to the tables on the installation drawings for loads imposed by the equipment.
- Suitable lintels must be provided by the owner/agent. Door frames are not designed to support overhead wall loads.

## ELECTRICAL

- Power supply with a lockable fused disconnect and auxiliary contact to break the battery feed, or circuit breakers with a 3-pole breaker for battery feed required in compliance with electrical code (contact your Savaria dealer or refer to the table below for OEM part numbers).
- Permanent power of 240V single-phase 40 Amp or 208V three-phase 30 Amp must be supplied by others before

Disconnect Switch Types & Accessories	Cutler Hammer	Federal Pioneer	Siemens
<b>1 PHASE 5 H.P. Pump Unit</b>			
<b>2 Pole Solid Neutral 240V 1 PH</b>	1HD222N	1622SN	ID322
<b>Required Auxiliary Contact</b>	DS16CP	E1K-1AEV-W94	MSSAK 116
<b>Required Type “D” Fuse (Buss type “FRN” or equal)</b>	2@40 amp	2@40 amp	2@40 amp
<b>3 PHASE 5 H.P. Pump Unit</b>			
<b>3 Pole Solid Neutral 208V 3 PH</b>	1HD321N	1332SN	ID321
<b>Required Auxiliary Contact</b>	DS16CP	E1K-1AEV-W94	MSSAK 116
<b>Required Type “D” Fuse (Buss type “FRN” or equal)</b>	3@30 amp	3@30 amp	3@30 amp
<b>Cab Lighting</b>			
<b>1 Pole Solid Neutral 120V 1 PH</b>	GP 111N	86211	CFN 211
<b>Required Type “D” Fuse (Buss type “T” or equal)</b>	1@15 amp	1@15 amp	1@15 amp

installation.

- Remote hall call (when supplied) to be installed by the owner/agent at 42” from the landing floor.

## ENTRANCES

- Entrance assemblies must be adjusted to align with the platform and interlock equipment. Others to allow an adequate rough opening.
- Entrance assembly must be securely fastened to walls by the elevator contractor.

## SAVARIA LINK OPTION

- If you have the Savaria Link Ethernet remote monitoring option, ensure that you have an Ethernet connection with Internet capability in the vicinity of the unit’s controller.
- If you have the Savaria Link Wireless remote monitoring option, ensure that you have a wireless signal with Internet capability in the vicinity of the unit’s controller.

# SPECIFICATIONS FOR PART 5.3 COMPLIANCE

## PART 1 GENERAL

### 1.01 SUMMARY

A. The product described herein, manufactured by Savaria is an elevator designed and dimensioned to provide Limited Use/Limited Application (LULA) elevator to suit individual building requirements for use by persons with disabilities.

### 1.2 REFERENCES

A. Elevator shall be designed, manufactured and installed in accordance with the following standards:

1. American National Standards Institute (ANSI).
2. American Society of Mechanical Engineers (ASME).
3. National Electrical Code (NEC) Canadian Electrical Code (CEC)
4. American Society for Testing Materials (ASTM).
5. American Welding Society (AWS).  
Canadian Welding Bureau (CWB)

### 1.3 SYSTEM DESCRIPTION

A. 5 hp submersed motor and pump with electronic proportional valve assembly; Programmable logic controller with collective operation; 1:2 roped hydraulic single stage cylinder with line rupture valve.

B. Number of Stops: (specify:) Two to Four.

C. Car Configuration: (specify:) straight-thru, 90° side exit or enter/exit same side.

D. Maximum Travel: (specify:) Up to 25' (7.62 m)

E. Rated Load: (specify:) 1400 lbs. (635 kg)

F. Rated Speed: 30 fpm (.15m/s)

G. Car Size:

1. 48" x 54" (1219 mm x 1372 mm) platform (standard)
2. 84" (2134 mm) high ceiling

H. Car Walls: (specify:) Steel panels (black or architectural white) with (optional) raised plastic laminate panels (contact Savaria for colors).

I. Car Ceiling: White panel.

J. Car Lighting: Four recessed lights.

K. Operating Features:

1. Car Operating Panel: (specify:) Brushed stainless steel or brushed brass panel with illuminated automatic controls, keyed light switch, emergency stop switch and alarm button
2. Hall Stations: (specify:) Brushed stainless steel or brushed brass panel with illuminated button and (specify option:) key lock provided at each landing.
3. Car Door(s): Fully automatic, side opening, sliding car door with electromechanical interlocks, obstruction sensor, and automatic re-open system.
4. Hoistway Doors: 1 ½ hour fire rated fully automatic side opening, sliding hoistway doors with two side opening panels in steel frame with electromechanical interlocks.
5. Handrail: (specify:) Stainless steel or brass.
6. Pit Switch

7. Car top inspection station with UP and DOWN test switches, emergency stop, light outlet

8. Automatic homing to the lowest floor (optional)

9. Slack rope safety.

10. Anti-creep device.

11. Overspeed governor (may not be required) – consult AHJ

12. Dual direction leveling.

- Upper and lower terminal limit.
- Pump run timer.
- Pit clearance device (where required)
- Automatic battery powered and manual emergency lowering control devices.
- Minimum pressure switch.
- Maintenance stop blocks.
- (specify option:) Fire Fighters Service (available).
- (specify option:) Hall lanterns with chime.
- (specify option:) Recessed telephone cabinet (brushed stainless steel or brushed brass).
- (specify option:) Buffer springs (requires 24" pit).

### 1.4 QUALITY ASSURANCE

A. Manufacturer: Provide elevator manufactured by a firm with a minimum of 10 years experience in fabrication of elevators equivalent to those specified.

B. All designs, clearances, workmanship and material, unless specifically accepted, shall be in accordance with all codes having legal jurisdiction.

C. All load ratings and safety factors shall meet or exceed those specified by all governing agencies with jurisdiction and shall be certified by a professional engineer.

D. Elevator shall be subject to applicable state, local and city approval prior to installation and subject to inspection after installation. Determination of and adherence to these regulations is the responsibility of the elevator contractor.

E. Welders certified in accordance with requirements of AWS D1.1 or CWB shall perform all welding of all parts.

F. Substitutions: No substitutions permitted.

### 1.5 WARRANTY

A. Warranty: Manufacturer shall warrant component parts of the Orion elevator for a period of 36 months from shipping date. This warranty only applies to products installed and maintained by a Savaria Authorized Dealer in conformance with all applicable local and national codes. The warranty is void if regular inspection and maintenance of product is not being carried out by an Authorized Savaria Dealer in accordance with the recommendations contained in the Owner's Manual. It is the Owner's responsibility to keep records of all such service.

## PART 2 PRODUCT

### 2.1 MANUFACTURER

Provide the Orion Commercial LU/LA Elevator manufactured by Savaria.  
Toll Free Number (800) 661-5112  
Phone (905) 791-5555  
Fax (905) 791-2222  
Web site: <http://www.savaria.com>

### 2.2 MATERIAL

- Guide Rail: Dual 8 lbs./ft. machined steel T-rail system.
- Wire Rope: Two 3/8" diameter 7 x 19 ga. IWRC aircraft cables with rope wedge sockets.
- Sling: Structural and formed steel plates with guide shoes.
- Platform Floor: Unfinished plywood flooring.

### 2.3 FINISHES

- A. Components shall be prepared with
- 1) pre-treatment,
  - 2) alkaline detergent wash,
  - 3) clear water rinse,
  - 4) iron phosphate coating,
  - 5) clear water rinse and finished with electrostatically applied and baked thermosstatic powder coat finish. Standard color is architectural white.

### 2.4 ELECTRICAL SYSTEMS

- A. The electrical contractors shall provide:
1. 208V three phase 30 AMP 60 Hz or 230 V single phase 40 AMP 60 Hz source in the machine area with manually operated fused line disconnect.
  2. 120 VAC, single phase, 15 amp, 60 Hz, single phase power source with manually operated fused line disconnect for car lighting and a light outlet inside the hoistway.
  3. Telephone circuit in the machine area.

## PART 3 EXECUTION

### 3.1 ACCEPTABLE INSTALLERS

- A. Installers shall be experienced in performing work of this section who have specialized in work comparable to that required for this project.
- B. Installers shall be certified and trained by the manufacturer.

### 3.2 EXAMINATION

- A. Use field dimensions and approved manufacturer's shop drawings to examine substrates, supports and other conditions under which this work is to be performed. Do not proceed with work until unsatisfactory conditions are corrected.

### 3.3 INSTALLATION

- A. The Orion elevator shall be installed in accordance with manufacturer's instructions and as specified and approved by architect.

### 3.4 DEMONSTRATION

- A. The elevator contractor shall make a final check of the elevator's operation with the Owner or Owner's representative present prior to turning the elevator over for use. The elevator contractor shall determine that operating and safety devices are functioning properly.

### END OF SECTION

Intent of specification is to broadly outline equipment required but does not cover details of design and construction. Dimensions and specifications are subject to constant change and continually evolving codes and product applications. For additional technical information, contact Savaria at (800) 661-5112 or [www.savaria.com](http://www.savaria.com).

**Find more design resources at:**

**savaria.com**

[CAD drawings](#)

[BIM objects](#)

[SpecWizard](#)

[Continuing education calendar](#)

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2 Walker Drive Brampton ON L6T 5E1 Canada

 **savaria**  
**savaria.com**

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