



Additional Tips For Designing Your  
Destiny Residential Elevator

Or

What the Manufacturer Doesn't Tell You

From years of experience, **All-Ways Accessible, Inc.** has put together this booklet to help you plan your Destiny Residential Elevator project. In this guide, you will find some additional information not provided in the manufacturer's copy of the Destiny Residential Elevator Design Guide

Both guides are generic in nature and should NOT be used for actual construction. With any lift project, you should have a set of site specific technical drawings from which to build your shaft-way, etc. For more detailed information, please contact your sales representative at 800-725-4387.

## **1) Timelines And The Installation Of Your Residential Elevator**

### **a) *How Manufacturer's Lead Time Effects The Installation***

- i) Every elevator is built to order – that means it is designed and built specifically for your project. If you work construction, you understand that time lines are in constant motion. So are lead times. And just like any construction project, all sorts of things can impact lead times; weather, holidays, strikes, etc. Make sure you contact your Accessibility Specialist for current lead-times.

### **b) *How Your Time Line Effects The Installation***

- i) At the time the contract is executed, we will ask for a target install date for the elevator. This date is very critical, as it defines the timeline for the entire project. If we are going to meet your time line, then we need to be constantly updated as to changes in your time line. If you are running behind schedule, and will need the elevator installed later than anticipated, you need to let us know ASAP. Depending on when you give us this information, we can sometimes push back production. The elevator arrives on our dock in a huge crate and weighs several thousand pounds; space being a premium on the dock, the elevator needs to be delivered to the job site as soon as it arrives. Our goal is to work within your time line and to be there to when you need us.

## **2) Typical Residential Elevator Installation Schedule**

- a) Day 1: Installation of rails, sling and mounting of motor
- b) Day 2: Mechanical room set-up, door interlocks, call stations
- c) Day 3: Building of the cab, install car gates, car top wiring, finish-up
- d) Day 4: Depending on the size and complexity of the elevator this is a finish day
- e) Day 5: Usually only necessary if we ran into problems in previous days

## **3) Prior to Installing Drywall in the Shaft-way**

- a) We must install low voltage wiring in the walls – we refer to this as a PRE-Wire. At the same time, we verify the shaft-way dimensions to ensure they match the drawings.
- b) A pre-wire can be performed as soon as the shaft-way has been framed.
- c) Contact our Project Coordinator to schedule the Pre-wire

## **4) The Shaft-way**

- a) **Blocking** (See pages 6&7 of the design guide)
  - i) We highly recommend that you sheath the rail wall of the shaft with  $\frac{3}{4}$ " plywood. The plywood should be glued and screwed to the blocking and the surrounding studs. If fire rating is an issue you can use fire-rated plywood. The reason we recommend the plywood is to prevent squeaking when the wood shrinks and dries. It is difficult to eliminate the squeaks afterwards.
- b) **Shaft-way Dimensions** (Refer to design guide pages 4, 5&6 for your configuration)
  - i) The dimensions given are finished dimensions (Paint to Paint). You will need to back off the thickness of your wall board for the framing dimensions. This is done this way because different jurisdictions have different wall board requirements.
- c) **Pick-point in Shaft-Way**
  - i) We require a pick point in the shaft-way that is capable of supporting 1,000 lbs. This pick point does two things:
    - (a) It provides a place for the installer to tie off to during the installation.
    - (b) In the event we need to winch something up the shaft-way during installation or later on for service, we have a means of doing so.
  - ii) The pick point should be positioned in the ceiling approx 8" out from the rail wall between the rails. If you have any questions, please call our office (800-725-4387)
- d) **Mechanical Room** (See pages 8 & 9 in the Destiny Design Guide)

- i) The door shall be self-closing and have a store-room lock set installed (a store-room lock set is one that is only able to be opened with a key and always unlocked on the inside)
- ii) The light switch must be within arms reach of the door.
- iii) If the shaft-way is required to be fire-rated then so should the mechanical room

## 5) **Before The Elevator Can Be Installed**

- a) **Power Requirements** (See page 12 of the Destiny Design Guide)
  - (1) On the technical drawings provided by the manufacturer, the specific power requirements for your project will be listed. However, as a general rule, we tell customers that a 220vac, 30 amp, single phase electrical line (provided by others) for the main controller and a 110vac, 15 amp line (provided by others) for the cab lights.
  - (2) You will be required to have a switched light and a duplex outlet in the mechanical room or at the controller if the motor is in the shaft-way.
- b) **Disconnects**
  - i) We will supply and install the disconnects when we install the elevator (unless the disconnects are to be supplied by others)
- c) **Telephone**
  - i) A telephone line must be run to the mechanical room (or controller if the motor is in the shaft-way). Just leave a pair of wires and All-Ways Accessible, Inc. will make the connection.
- d) **Shaft-way Finish**
  - i) The shaft-way must be dry-walled, taped and painted on the inside; there may be some minor touch-up painting afterward.
  - ii) **Painting of the Shaft-way**
    - (1) On all the walls that have a door, the walls should be painted the color of your choice.
    - (2) Suggestion: Draw a line on the inside of the shaft-way from top to bottom even with the edge of the interior door trim. There should be approximately 43" between the lines if 1x4 flat stock is used to trim the door. Once the line is drawn carefully paint between the lines with the color of your choice (you will see this). Now on the outside of the lines you will paint to the corners of the shaft-way in flat black. We also like to make the flat black turn the corner by a few inches. What this does is gives you a nice clean finish on the walls that you can see and the flat black stops reflections in the small spaces around the cab.
- e) **Residential Elevator Shaft-ways Doors** (See Page 6 of the design guide)
  - i) Shaft-way Doors should be installed, including the passage sets, prior to the elevator being installed.
  - ii) **Code Compliance**
    - (1) A17.1 is the national elevator code. This code is updated annually. The purpose of this code is to provide safety standards for elevators on a national level. While many jurisdictions do not inspect residential elevators, All-Ways Accessible is obligated to follow the A17.1 code regardless if it is going to be inspected or not.
    - (2) Key areas of concern are the doors to the shaft-way. A standard, off the shelf, pre-hung door will not meet the code requirements. The reason a standard door will not meet the A17.1 requirements is that the jamb is constructed in a way that it leaves too much space between the back edge of the door and the door sill.
    - (3) For residential elevators the pertinent part of A17.1 code is Part 5.3.1.7.2.
      - (a) Part 5.3.1.7.2 Clearance between Shaft-way Doors or Gates and Landing Sills and Car Doors and Gates. The clearance between the shaft-way doors or gates and the



shaft-way edge of the landing sill shall not exceed 75mm (3 in). The distance between the shaft-way face of the landing door or gate and the car door or gate shall not exceed 125mm (5 in).

- (b) What this means is the face of the door on the shaft-way side cannot be more than 3 inch from the edge of the floor as it ends in the shaft-way when the door is closed. The part that refers to the 5 inch from the gate to the door will automatically be within code if we meet the 3-inch rule. (for more information, please see [Swing Doors The Safety Risk, Private Residence](#))

(4) *Construction methods for meeting code:*

- (a) In most applications the inside of the shaft-way door casing is trimmed with  $\frac{3}{4}$ " flat stock and the floor (sill) protrudes into the shaft-way the same  $\frac{3}{4}$ ". Effectively you create a picture frame around the door. This makes a nice clean finish for the elevator to match up to when at the landing.
- (b) Typically 2x4 walls are used in the construction of the shaft-way. With a standard split jamb casing and  $\frac{3}{4}$ " (shaft side) flat trim and  $\frac{3}{4}$ " floor protrusion (sill) the door is typically  $3\frac{3}{4}$ " from the edge of the floor (sill). If you are using 2x6's to build the shaft-way wall, the distance is even greater. *NOTE: If you don't understand the above dimensions or do not replicate them exactly – you will have problems – contact your accessibility specialist for assistance.*

**All-Ways Accessible, Inc. WILL NOT TURN THE ELEVATOR OVER TO THE HOME-OWNER IF THE DOORS DO NOT MEET CODE!**

iii) *Door Passage sets*

- (1) If your elevator has DMI interlocks (this will be listed on your proposal) you can use any type passage set you would like (just make sure it does not protrude past the trim inside the shaft-way – the elevator will take it off if it does). The DMI will lock the door when the elevator is not at that location.
- (2) If for some reason you are using electric strikes you should use a store-room type lock set. A store-room set is always locked on the outside and always unlocked on the inside of the shaft-way.
- (3) The door to the mechanical room must be installed and have a "Store Room" passage set. (If you have a motor that is mounted on the rails in the shaft-way you will not have a traditional mechanical room)
- iv) The sheave hole in the rail wall needs to be cut out (this applies to RMR and BTR winding drum units)

**6) During Installation**

- a) We must be able to get our 20' trailer into the job site.
- b) During winter months, areas must be plowed and treated; if we can't get the trailer in we can't install the elevator.
- c) During installation, the mechanics will require access to all levels of the home that the elevator stops at. Therefore, others subs (such as flooring or painters) must be coordinated so that we can have access to all levels.

**7) Following Installation**

**a) Floor of the cab**

- i) Typically the cab of the elevator is unfinished unless you have specifically ordered it finished.
- ii) We typically leave the sill set at  $\frac{3}{4}$ " of an inch, this allows hardwood to be installed and you will have a nice transition. If you should decide to install carpet on the floor a piece of  $\frac{1}{2}$ " plywood can be added before the carpet is installed and you will still have a nice threshold.

- iii) Because the flooring is not usually installed when we install the elevator, we usually do not install the small trim pieces in the cab. Your finish carpenter can do this in about 15 minutes and it will be a better job if this is done after the flooring is installed.

**b) Elevator Turn-Over**

- i) Before you (if you are the home-owner) or the homeowner uses the elevator we need to go over how it works, maintenance issues, emergency evacuation procedures, etc. Call the office at 1-800-725-4387 to schedule an appointment.



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