Planning Guide

CABLE DRUM
500 lb.
Introduction

It started over 85 years ago with a passion to help an ailing friend access his multi-level home. Now, almost a century later, the Inclinator craftsmanship can be found in more American homes today than any other brand. We want to use our heritage of service to enhance each stage of your building or remodeling experience and to help you create a uniquely personalized elevator for your home.

Of all the stages, none is quite as exciting as the initial design phase. It’s where you begin to imagine the possibilities of something that’s uniquely yours. A home is personalized by the components you choose to fit your needs.

Our Planning Guide is designed to simplify and assist architects, contractors, home owners and dealers in planning for a home elevator that meets the requirements of ASME A17.1.

We recommend you contact an authorized dealer in the area where the elevator will be installed. They will be knowledgeable about local codes and restrictions. Become familiar with all requirements governing the installation and use of elevators in private residences. It is extremely important for you to know and adhere to all regulations concerning installation.

This Planning Guide provides nominal dimensions and specifications useful for the initial planning of an elevator project. Before beginning actual construction, be sure to contact a local authorized dealer and obtain approval drawings customized with specifications and dimensions for your specific project. Call 1-800-343-9007 to find a local dealer or visit our website, www.inclinator.com. Inclinator elevators manufactured and installed under the proper parameters are warranted for 2 years. We assume no liability for equipment not installed in compliance with national, state, and local codes.
Table of Contents

Hoistway Layout............................................... 4-8
Hoistway Construction ........................................ 9
Hoistway Specifications .................................... 10
Hoistway Elevation............................................ 11
Pit Specifications............................................... 12
Technical Specifications.................................. 12
Machine Room Specifications........................... 13
Sheave Configurations................................. 14-16
Gearbox Assembly ............................................ 17
Travel Sheaves .................................................. 17
Warranty............................................................ 18

Steps of planning for an Inclinator Elevette

1. Locate local dealer and together determine the following:
   a. Select a drive system, cab type and design specifications
   b. Address national, state and local code requirements
   c. Determine installation parameters of site
2. Obtain approval drawings before building hoistway, doorways, pit and any other construction related to the elevator
3. Coordinate with dealer to order and install the elevator
Hoistway Layout

The following specs are to be provided by the General Contractor (GC), except as noted, prior to Elevator Contractor (EC) installing the elevator equipment.

1. Enclosed, plumb and square hoistway with smooth interior surfaces. Include for fascias or furring of hoistway interior.
2. Doors, frames and door hardware.
3. Finish openings as per elevator contractor’s shop drawings.
4. Jamb boxes shall be flush to finish surface at specified height at each hoistway door.
5. Hoistway door security: All hoistway doors require door locking devices (provided by Inclinator) as well as a door handle and a latch set. All doors must be swing type (single hinge). Solid core doors are recommended.
6. Unfinished/Un-installed door: EC may prefer a minimum of one hoistway door and associated framing be left unfinished to accommodate elevator installation and prevent possible damage to door/framing. Preferably at the lowest floor.


**Hoistway Layout**

The following data is for typical industry size elevators.

Any size cab is available in ¼” increments to dimensions A and C or B and D within the maximum and minimum dimensions shown in the diagram on page 4 not to exceed 12 SQ. FT.

- Applicable to standard size wheelchairs

### CODE 1

<table>
<thead>
<tr>
<th>CODE 1</th>
<th>CAR SIZE (O.D.)</th>
<th>A CAR DEPTH (I.D.)</th>
<th>B CAR WIDTH (I.D.)</th>
<th>C SHAFT DEPTH</th>
<th>D SHAFT WIDTH</th>
<th>E CENTER OF RAIL</th>
<th>F CENTER OF DOOR</th>
<th>G DOOR SIZE</th>
<th>H CLEAR OPENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>38” x 50”</td>
<td>35.75”</td>
<td>48.50”</td>
<td>45.75”</td>
<td>55.00”</td>
<td>27.00”</td>
<td>21.25”</td>
<td>36”</td>
<td>UP TO 38”</td>
<td></td>
</tr>
<tr>
<td>42” x 44”</td>
<td>39.75”</td>
<td>42.50”</td>
<td>49.75”</td>
<td>49.00”</td>
<td>24.00”</td>
<td>21.25”</td>
<td>36”</td>
<td>UP TO 34”</td>
<td></td>
</tr>
</tbody>
</table>

### CODE 2

<table>
<thead>
<tr>
<th>CODE 2</th>
<th>CAR SIZE (O.D.)</th>
<th>A CAR DEPTH (I.D.)</th>
<th>B CAR WIDTH (I.D.)</th>
<th>C SHAFT DEPTH</th>
<th>D SHAFT WIDTH</th>
<th>E CENTER OF RAIL</th>
<th>F CENTER OF DOOR</th>
<th>G DOOR SIZE</th>
<th>H CLEAR OPENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>38” x 50”</td>
<td>35.75”</td>
<td>48.50”</td>
<td>45.75”</td>
<td>55.00”</td>
<td>28.00”</td>
<td>21.25”</td>
<td>36”</td>
<td>UP TO 38”</td>
<td></td>
</tr>
<tr>
<td>42” x 44”</td>
<td>39.75”</td>
<td>42.50”</td>
<td>49.75”</td>
<td>49.00”</td>
<td>25.00”</td>
<td>21.25”</td>
<td>36”</td>
<td>UP TO 34”</td>
<td></td>
</tr>
</tbody>
</table>

### CODE 3

<table>
<thead>
<tr>
<th>CODE 3</th>
<th>CAR SIZE (O.D.)</th>
<th>A CAR DEPTH (I.D.)</th>
<th>B CAR WIDTH (I.D.)</th>
<th>C SHAFT DEPTH</th>
<th>D SHAFT WIDTH</th>
<th>E CENTER OF RAIL</th>
<th>F CENTER OF DOOR</th>
<th>G DOOR SIZE</th>
<th>H CLEAR OPENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>38” x 50”</td>
<td>36.50”</td>
<td>47.75”</td>
<td>48.00”</td>
<td>53.00”</td>
<td>27.00”</td>
<td>24.00”</td>
<td>32”</td>
<td>UP TO 30”</td>
<td></td>
</tr>
<tr>
<td>42” x 44”</td>
<td>40.50”</td>
<td>41.75”</td>
<td>52.00”</td>
<td>47.00”</td>
<td>24.00”</td>
<td>26.00”</td>
<td>36”</td>
<td>UP TO 34”</td>
<td></td>
</tr>
</tbody>
</table>
Hoistway Layout

The following data is for typical industry size elevators.

Any size cab is available in $\frac{1}{4}''$ increments to dimensions $A$ and $C$ or $B$ and $D$ within the maximum and minimum dimensions shown in the diagram on page 4 not to exceed 12 SQ. FT.

<table>
<thead>
<tr>
<th>CODE 4</th>
<th>CAR SIZE (O.D.)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>38&quot; x 50&quot;</td>
<td>36.50''</td>
<td>47.75''</td>
<td>48.00''</td>
<td>53.00''</td>
<td>27.00''</td>
<td>27.50''</td>
<td>32&quot;</td>
<td>UP TO 32&quot;</td>
</tr>
<tr>
<td></td>
<td>42&quot; x 44&quot;</td>
<td>40.50''</td>
<td>41.75''</td>
<td>52.00''</td>
<td>47.00''</td>
<td>25.00''</td>
<td>29.00''</td>
<td>36&quot;</td>
<td>UP TO 36&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CODE 5</th>
<th>CAR SIZE (O.D.)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>38&quot; x 50&quot;</td>
<td>36.50''</td>
<td>47.75''</td>
<td>48.00''</td>
<td>53.00''</td>
<td>26.00''</td>
<td>27.50''</td>
<td>32&quot;</td>
<td>UP TO 32&quot;</td>
</tr>
<tr>
<td></td>
<td>42&quot; x 44&quot;</td>
<td>40.50''</td>
<td>41.75''</td>
<td>52.00''</td>
<td>47.00''</td>
<td>24.00''</td>
<td>29.00''</td>
<td>36&quot;</td>
<td>UP TO 36&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CODE 6</th>
<th>CAR SIZE (O.D.)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>38&quot; x 50&quot;</td>
<td>36.50''</td>
<td>47.75''</td>
<td>48.00''</td>
<td>53.00''</td>
<td>27.00''</td>
<td>24.00''</td>
<td>32&quot;</td>
<td>UP TO 30&quot;</td>
</tr>
<tr>
<td></td>
<td>42&quot; x 44&quot;</td>
<td>40.50''</td>
<td>41.75''</td>
<td>52.00''</td>
<td>47.00''</td>
<td>24.00''</td>
<td>26.00''</td>
<td>36&quot;</td>
<td>UP TO 34&quot;</td>
</tr>
</tbody>
</table>
### Hoistway Layout

#### CODE 4,5

<table>
<thead>
<tr>
<th>CAR SIZE (O.D.)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>CLEAR OPENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>38&quot; x 50&quot;</td>
<td>36.50&quot;</td>
<td>45.00&quot;</td>
<td>48.00&quot;</td>
<td>52.00&quot;</td>
<td>26.00&quot;</td>
<td>27.50&quot;</td>
<td>32&quot;</td>
<td>UP TO 32&quot;</td>
<td></td>
</tr>
<tr>
<td>42&quot; x 44&quot;</td>
<td>40.50&quot;</td>
<td>41.00&quot;</td>
<td>52.00&quot;</td>
<td>46.00&quot;</td>
<td>23.00&quot;</td>
<td>29.50&quot;</td>
<td>36&quot;</td>
<td>UP TO 36&quot;</td>
<td></td>
</tr>
</tbody>
</table>

#### CODE 3,6

<table>
<thead>
<tr>
<th>CAR SIZE (O.D.)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>CLEAR OPENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>38&quot; x 50&quot;</td>
<td>36.50&quot;</td>
<td>45.00&quot;</td>
<td>48.00&quot;</td>
<td>52.00&quot;</td>
<td>26.00&quot;</td>
<td>24.00&quot;</td>
<td>32&quot;</td>
<td>UP TO 30&quot;</td>
<td></td>
</tr>
<tr>
<td>42&quot; x 44&quot;</td>
<td>40.50&quot;</td>
<td>41.00&quot;</td>
<td>52.00&quot;</td>
<td>46.00&quot;</td>
<td>23.00&quot;</td>
<td>26.00&quot;</td>
<td>36&quot;</td>
<td>UP TO 34&quot;</td>
<td></td>
</tr>
</tbody>
</table>

#### CODE 5,1

<table>
<thead>
<tr>
<th>CAR SIZE (O.D.)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>CLEAR OPENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>38&quot; x 50&quot;</td>
<td>35.75&quot;</td>
<td>47.75&quot;</td>
<td>45.75&quot;</td>
<td>54.00&quot;</td>
<td>26.00&quot;</td>
<td>26.50&quot;</td>
<td>32&quot;</td>
<td>UP TO 32&quot;</td>
<td>21.25&quot;</td>
<td>36&quot;</td>
<td>UP TO 36&quot;</td>
<td></td>
</tr>
<tr>
<td>42&quot; x 44&quot;</td>
<td>39.75&quot;</td>
<td>41.75&quot;</td>
<td>49.75&quot;</td>
<td>48.00&quot;</td>
<td>23.00&quot;</td>
<td>28.50&quot;</td>
<td>36&quot;</td>
<td>UP TO 34&quot;</td>
<td>21.25&quot;</td>
<td>36&quot;</td>
<td>UP TO 34&quot;</td>
<td></td>
</tr>
</tbody>
</table>

#### CODE 5,2

<table>
<thead>
<tr>
<th>CAR SIZE (O.D.)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>J</th>
<th>K</th>
<th>L</th>
<th>CLEAR OPENING</th>
</tr>
</thead>
<tbody>
<tr>
<td>38&quot; x 50&quot;</td>
<td>35.75&quot;</td>
<td>47.75&quot;</td>
<td>45.75&quot;</td>
<td>54.00&quot;</td>
<td>26.00&quot;</td>
<td>26.50&quot;</td>
<td>32&quot;</td>
<td>UP TO 32&quot;</td>
<td>22.25&quot;</td>
<td>36&quot;</td>
<td>UP TO 36&quot;</td>
<td></td>
</tr>
<tr>
<td>42&quot; x 44&quot;</td>
<td>39.75&quot;</td>
<td>41.75&quot;</td>
<td>49.75&quot;</td>
<td>48.00&quot;</td>
<td>23.00&quot;</td>
<td>28.50&quot;</td>
<td>36&quot;</td>
<td>UP TO 36&quot;</td>
<td>22.25&quot;</td>
<td>36&quot;</td>
<td>UP TO 34&quot;</td>
<td></td>
</tr>
</tbody>
</table>
There are many additional layout options available. Please contact Inclinator or your local dealer for further assistance on shaft configurations.
**Hoistway Construction**

**STABILIZER DETAILS**

Note: Stabilizer is most commonly placed in the middle of a wall opposite the rail. If there is an opening on that wall, the stabilizer may be relocated to a wall adjacent to the rail.

**RAIL DETAILS**

Note: When stud and sheetrock construction is used on the guide rail support wall, 4"x4" studding is needed behind the 2"x12" plank.

---

**5–3 RULE / DOOR FRAME DETAILS**

Note: Framing on the door side of the hoistway must be of 2x4 construction to apply to 5-3 rule of ANSI 17.1 code.

---

**NOTE:**
- Framing on the door side of the hoistway must be of 2x4 construction to apply to 5-3 rule of ANSI 17.1 code.
- Additional supports may be needed depending on machine room location.

**CABLE DRUM 500 PLANNING GUIDE** 9
Hoistway Specifications

The following specs are to be provided by the General Contractor (GC), except as noted, prior to Elevator Contractor (EC) installing the elevator equipment.

1. **Environmental requirements** for hoistway:
   a. Temperature should be maintained between 40°F to 125°F.
   b. Should not be exposed to the elements.

2. **Pit Requirements**:
   a. Substantial level pit floor slab to support 2,700 lbs. impact load.
   b. Waterproof pit minimum 6” below lowest floor level.

3. **Overhead Requirements**:


<table>
<thead>
<tr>
<th>DOOR HEIGHT</th>
<th>INSIDE CAB HEIGHT</th>
<th>OVER ALL CAB HEIGHT</th>
<th>OVERHEAD REQUIREMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>6' - 8&quot;</td>
<td>80&quot;</td>
<td>7' - 0&quot;</td>
<td>8' - 0&quot;</td>
</tr>
<tr>
<td>7' - 0&quot;</td>
<td>84&quot;</td>
<td>7' - 4&quot;</td>
<td>8' - 4&quot;</td>
</tr>
<tr>
<td>8' - 0&quot;</td>
<td>92&quot;</td>
<td>8' - 0&quot;</td>
<td>9' - 0&quot;</td>
</tr>
<tr>
<td>8' - 0&quot;</td>
<td>96&quot;</td>
<td>8' - 4&quot;</td>
<td>9' - 4&quot;</td>
</tr>
</tbody>
</table>

   a. If minimum 8'0" OH is not possible, consult Inclinator, or EC, about possible solutions.

4. **Rail Wall Requirements**:
   a. Single steel guide rail (provide by Inclinator) to be mounted to a 2”x12” plank, #1 fir or better.
   b. Plank to be installed plumb and straight and shall securely hold the guide rail in a plumb and straight position regardless of car loading.
   c. Guide rail shall be capable of supporting the loads imposed. Plank shall be fastened with (2) 3/8”x5” lags every 2’ OC located at the edge of the plank. Countersink lag heads. 4”x4” studding, or equivalent, behind plank. See drawing detail.
   d. Studs in rail wall must be of wood unless alternative steel studding is used that contains an inner wood section of equal strength. Studs shall be located per drawing.
   e. Consult factory or local dealer for concrete or steel framed construction.

5. **Stabilizer system requirements**: In line studs for stabilizer are to be located opposite rail wall unless code 1 or 2, see drawings.

6. **ASME 17.1 Part 5.3**: Hoistway to be constructed in accordance with this code and all local codes. It is the responsibility of the GC and the EC to comply with all appropriate codes.
HOISTWAY ELEVATION

2"x12" PLANK PLUMB AND SQUARE IS SECURED WITH TWO 3/8"x5" LAGS 2'-0" O.C. AT EDGES. COUNTERBORE LAGS.

CONTROLER

240v, 1PH SLACK CABLE DISCONNECT SWITCH

DISTANCE FROM DRUM TO SHEAVE (VARIES—DEPENDS ON TRAVEL)

SLACK CABLE ROLLER

NOTE: WHEN MOUNTING CIRCUIT BREAKER BOX, ANGLE OF CHAIN MUST BE BETWEEN 20° AND 60°

GEARBOX MUST BE MOUNTED WITH SOUND INSULATION BASE WITH 10 1/2" FASTENERS MIN. PULLOUT 10,000#
Pit Specifications

6" MINIMUM 3000 PSI REINFORCED CONCRETE #4 AT 12" O.C. EACH WAY.

Technical Specifications

1. VERTICAL LOAD FORCES
   STATIC = 1,100 LBS
   IMPACT = 2,200 LBS.

2. BOLT FASTENING OF CAR TO TROLLEY ½” - 13 x 4”
   SOCKET HD CAP SCREWS

3. RAIL FASTENING TO 2”x12” PLANK
   #14 x 1 ¾” TYPE A S.M.S.
   RAIL IS PRE-DRILLED AT FACTORY

4. ALL SHEAVE DIA. 8 5/16”
Machine Room Specifications

1. Permanent 230 volt, single phase, 30 amp power to operate the elevator. Inclinator will provide a lockable circuit breaker disconnect switch with auxiliary contacts for battery lowering.
2. 120 volt lighting supply and disconnect by others.
3. Machine room area to meet local and national codes.
4. Machine room must be lockable by code.
5. Telephone connection: Code requires a telephone connection. A phone line must be installed leading to the controller.
6. N.E.C. Regulations
   a. Minimum 30" x 36" clear unobstructed floor space in front of controller.
   b. Minimum Floor to ceiling height of control room 6' 6"
7. The temperature should be maintained between 40°F – 60°F and should not be exposed to the elements.

NOTE: MACHINE ROOM LAYOUT MUST COMPLY WITH LOCAL, STATE, AND NATIONAL CODES. REVISE AS NECESSARY FOR COMPLIANCE IN YOUR AREA.

NOTE: MACHINE ROOM TO HAVE NATURAL/MECHANICAL VENTILATION IF REQUIRED BY STATES OR LOCAL CODES.

NOTE: FLOOR TO CEILING HEIGHT OF 6’ 6”
Machine Room Configurations

MACHINE ROOM ADJACENT

In this configuration the machine room is located either to the right or left of the main rail. Requires:

(2) Flat Bracket Sheaves

(1) Rail Jaw

SEE "RAIL" DETAIL
2"x12" PLANK & GUIDE RAIL
2"x12" PLANK SECURED TO WALL FOR SHEAVE ANCHORAGE

240v, 1PH SLACK CABLE DISCONNECT SWITCH
Machine Room Configurations

MACHINE ROOM BEHIND RAIL

In this configuration the machine room is located directly behind the main rail. Requires:

(1) Stand Sheave

(1) Flat Bracket Sheave w/ Welded Angle

(1) Rail Jaw

14" MINIMUM

TOP OF HOISTWAY

RAIL JAW

GUIDE RAIL

PLATFORM

HOISTWAY

STAND SHEAVE

2x12 PLANK & GIDE RAIL

STAND SHEAVE

2x12 PLANK SECURED TO WALL FOR SHEAVE ANCHORING

240V. 1PH SLACK CABLE DISCONNECT SWITCH

SUSPENSION ROPES

MACHINE ROOM

500# WD

RAIL

2x12 PLANK

FLAT BRACKET SHEAVE w/WELDED ANGLE

840V. 1PH SLACK CABLE DISCONNECT SWITCH
Machine Room Configurations

MACHINE ROOM
OVERHEAD

In this configuration the machine room is located overhead in the attic. Requires:

(1) Stand Sheave

NOTE: HOISTING MACHINE IS MOUNTED TO (2) 4’-0”x8’-3/4” PLYWOOD PLANKS, GLUED AND LAGGED TO JOISTS THROUGH BOLT HOISTING MACHINE WHENEVER POSSIBLE

GEARBOX MUST BE MOUNTED w/SOUND BASE:
10 1/2” FASTENERS, MIN. PULLOUT 10,000#

NOTE:
SHEAVES AND GEARBOX SHOULD BE MOUNTED ON SAME PLANK

PHONE SERVICE
BY OTHERS

CONTROLLER
(18”x6”x24”)
FIELD LOCATE TO MEET N.E.C. AND/OR LOCAL CODES

120v, 20 AMP SERVICE OUTLET w/ G.F.I. BY OTHERS

240v, 1PH SLACK CABLE DISCONNECT SWITCH
Gearbox Assembly

Travel Sheaves
Reactions on all sheaves rated at 1100lbs

Flat Bracket Sheave  | Stand Sheave  | Center of Plank Sheave
Flat Bracket Sheave With Angle  | RAIL JAW  | Floating Stand Sheave
Warranty

This warranty and all implied warranties including the implied warranties of merchantability and fitness for a particular purpose, for this product are limited to a period of two years from the time this product is first installed.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

The manufacturer is not responsible for consequential damages resulting from the use of this product, including labor charges for removal and reinstallation of parts. The manufacturer’s liability for any damages resulting from use of this product or breach of this or any implied warranties is limited solely to parts, repair or replacement in accordance with the terms set forth above and these are the exclusive remedies available to purchasers of this product.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.