ARCHITECTURAL DETAIL
corporation of logan

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STRUCTURAL COLUMN WITH BALCONY INSTALLATION

IMPORTANT NOTICE: **If you are not going to be installing the columns immediately, place something underneath the ends so that one end is higher than the other. This allows air to pass beneath them, preventing moisture from damaging the paint primer on the columns.**

Three types of installation for columns with balcony cuts:

1) The short shaft with steel interior column.
2) The full shaft with pultruded fiberglass interior column.
3) The full shaft with pultruded fiberglass interior column and Simpson Strong-Tie built in.

Type (1) installation:

The column shaft has been built with a shorter fiberglass shaft than necessary. The reason this is done is to allow the interior steel column to be attached to the substrate and the soffit using the plate that has been welded to the steel column.

- **Step 1:** The capital, base, fiberglass column, and interior steel column are slid into the final location. Make sure that the cut for the balcony is lined up and square. Leveling and positioning should be done using basic carpentry.
- **Step 2:** Now that the column is in place and the interior shaft is perfectly vertical, the plate at the top can be bolted / welded to the soffit; see **Figure 1a** below. Once the top is attached, the fiberglass column can be lifted a few inches to attach the bottom plate to the substrate; see **Figure 1b** below.
- **Step 3:** The fiberglass column is then fixed in place when the top of the capital is pressing up against the soffit. Shim the 4-6” gap using galvanized 18-gauge drywall studs or plastic load-bearing material; see **Figure 1b** below.
- **Step 4:** The capital is rotated to the desired angle and adhered in place. The fiberglass base slides down over the bottom of the shaft and is also adhered to the substrate. The small 1/8” gap between the top of the base and the column shaft is caulked and the column installation is completed.

- **Step 5:** The balcony can now be attached to the interior steel column and steel balcony bracket. A good trick here is to use Simpson Strong-Tie “L” brackets to attach the joist as needed.

Type (2) installation:

The column shaft has been built exactly to length.

- **Step 1:** The capital, base, fiberglass column, and interior fiberglass column are slid into the final location. Make sure that the cut for the balcony is lined up and square. Leveling and positioning should be done using basic carpentry.
- **Step 2:** Now that the column is in place and the interior shaft is perfectly vertical, make sure that there is no gap between the soffit and the top of the shaft. If there is a gap, the bottom of the shaft must be shimmed up. Be sure to shim underneath the fiberglass pultruded interior structure. To gain access to the pultruded shaft a small “window” is cut into the column below the height of the base; see **Figure 2** below. If a degradable material is used to shim the column, automotive body filler or another high-compression strength material should be used around the bottom of both shafts. This way if the shim rots away the column shaft is still supported.
- **Step 3:** Now that the column is in place the fiberglass covered gusset at the top of the shaft can be attached to the soffit using Simpson Strong-Tie “L” brackets; see **Figure 2** below.
- **Step 4:** The capital is rotated to the desired angle and adhered in place. The bottom of the fiberglass shaft is attached to the substrate using Simpson Strong-Tie “L” brackets at a four locations around the shaft (preferably at 90º from each other); see **Figure 2** below. The fiberglass base slides down over the bottom of the shaft covering hardware and the shimming window. The base is also adhered to the substrate. The small 1/8” gap between the top of the base and the column shaft is caulked and the column installation is completed.
- **Step 5:** The balcony can now be attached to the interior fiberglass column and steel balcony bracket. A good trick here is to use Simpson Strong-Tie “L” brackets to attach the steel balcony bracket to the joist.

Type (3) installation:

The column shaft has been built exactly to length and a Simpson Strong-Tie steel strap is included with the column shaft.

- **Step 1:** The capital, base, fiberglass column, and interior fiberglass column are slid into the final location. Make sure that the cut for the balcony is lined up and square. Leveling and positioning should be done using basic carpentry.
- **Step 2:** Now that the column is in place and the interior shaft is perfectly vertical, make sure that there is no gap between the soffit and the top of the shaft. If there is a gap, the bottom of the shaft must be shimmed up. Be sure to shim underneath the

fiberglass pultruded interior structure. To gain access to the pultruded shaft a small "window" is cut into the column below the height of the base; see **Figure 3** below. If a degradable material is used to shim the column, automotive body filler or another high compression strength material should be used around the bottom of both shafts. This way if the shim rots away the column shaft is still supported.

- **Step 3:** A Simpson Strong-Tie CS16-R is used to attach the top of the shaft to the soffit; see **Figure 3** below. The ends of the Strong-Tie pass through the capitals top flashing and using a palm driver to drive a 3/8" lag bolt or equivalent through the holes in the Strong-Tie into the soffit. Doing this at an angle pulls the Strong-Tie and shaft tight up against the soffit.
- **Step 4:** The capital is rotated to the desired angle and adhered in place. The bottom of the fiberglass shaft is attached to the substrate using Simpson Strong-Tie "L" brackets at a four locations around the shaft (preferably at 90º from each other); see **Figure 3** below. The fiberglass base slides down over the bottom of the shaft covering hardware and the shimming window. The base is also adhered to the substrate. The small 1/8" gap between the top of the base and the column shaft is caulked and the column installation is completed.
- **Step 5:** The balcony can now be attached to the interior fiberglass column and steel balcony bracket. A good trick here is to use Simpson Strong-Tie "L" brackets to attach the steel balcony bracket to the joist.

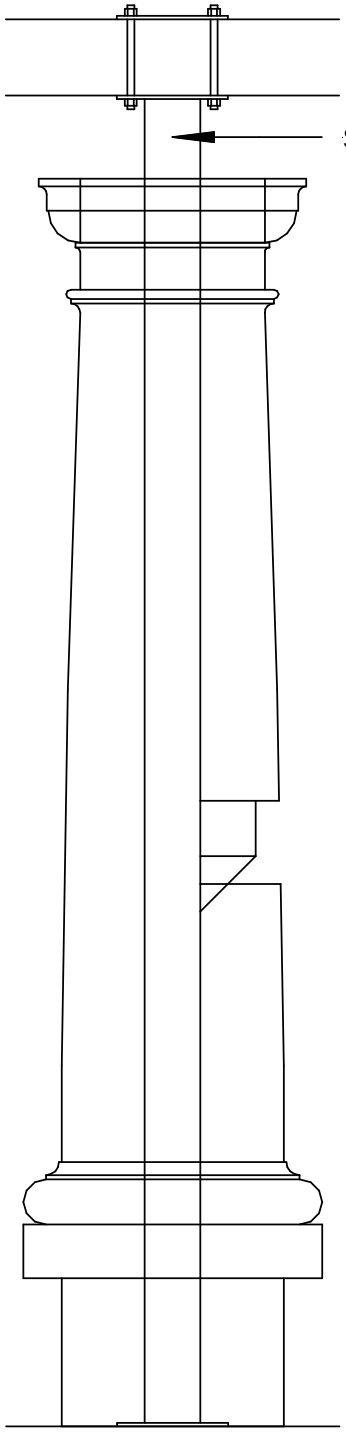

Figure 1a

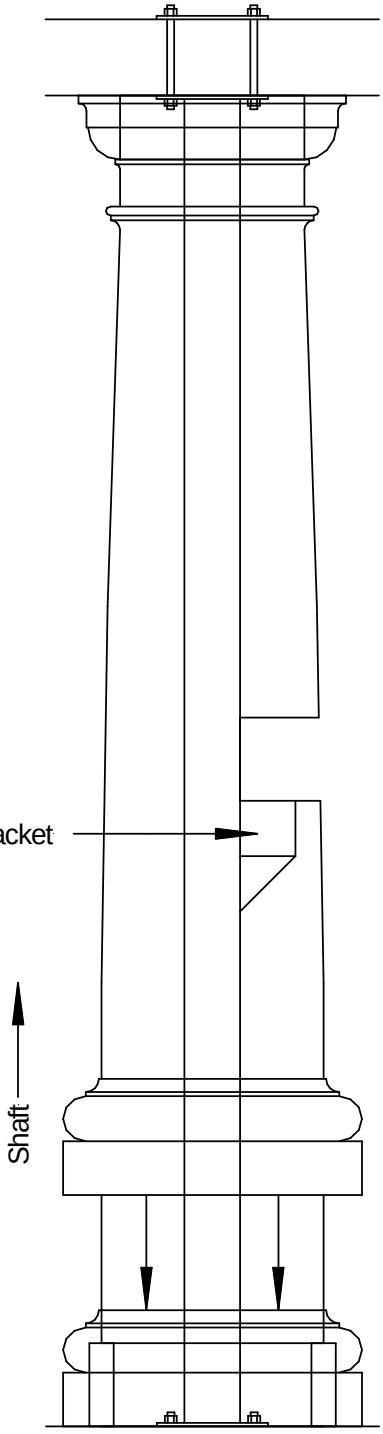

Figure 1b

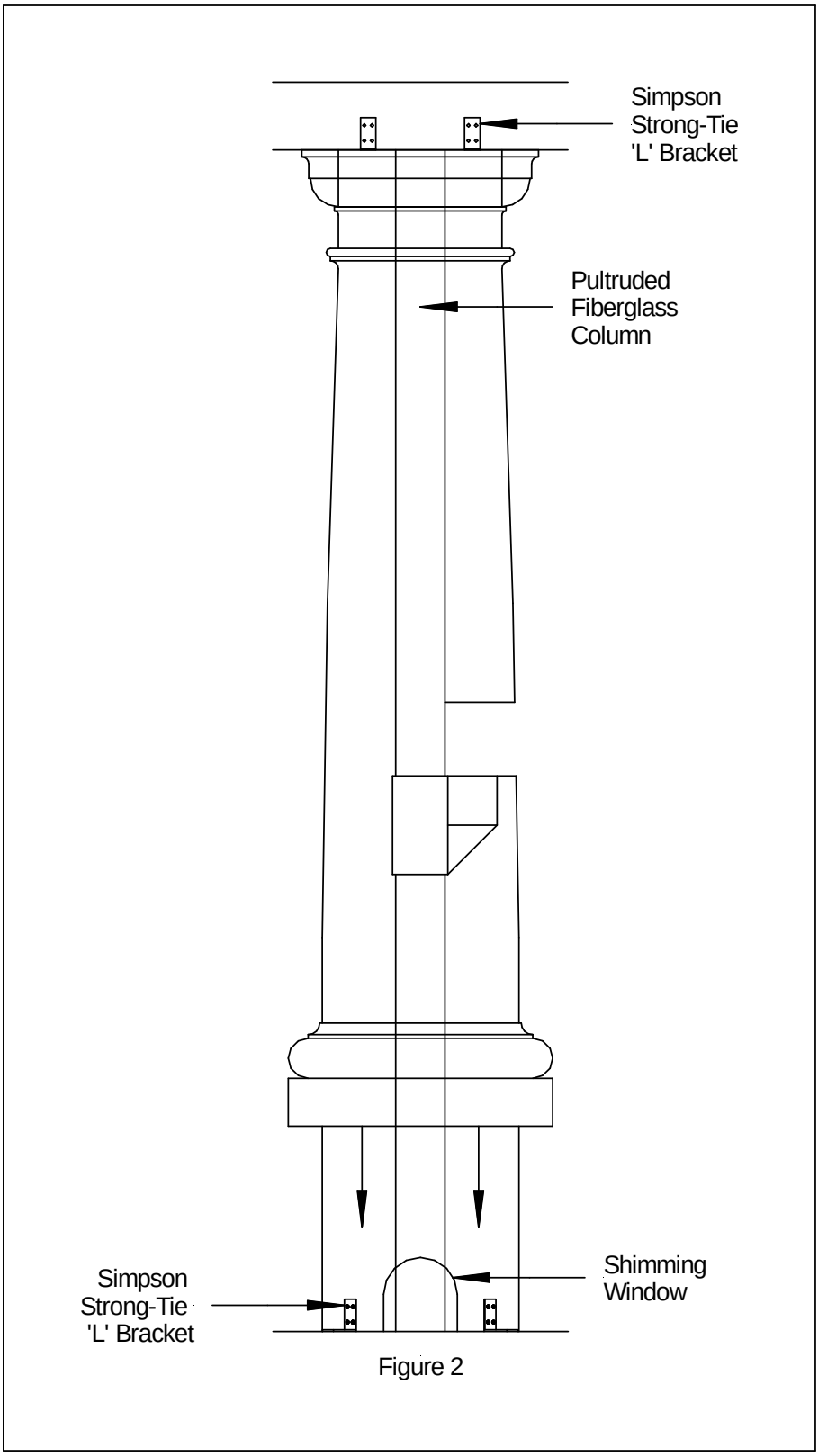
Simpson
Strong-Tie
'L' Bracket
Pultruded
Fiberglass
Column
Simpson
Strong-Tie
'L' Bracket
Shimming
Window

Figure 2

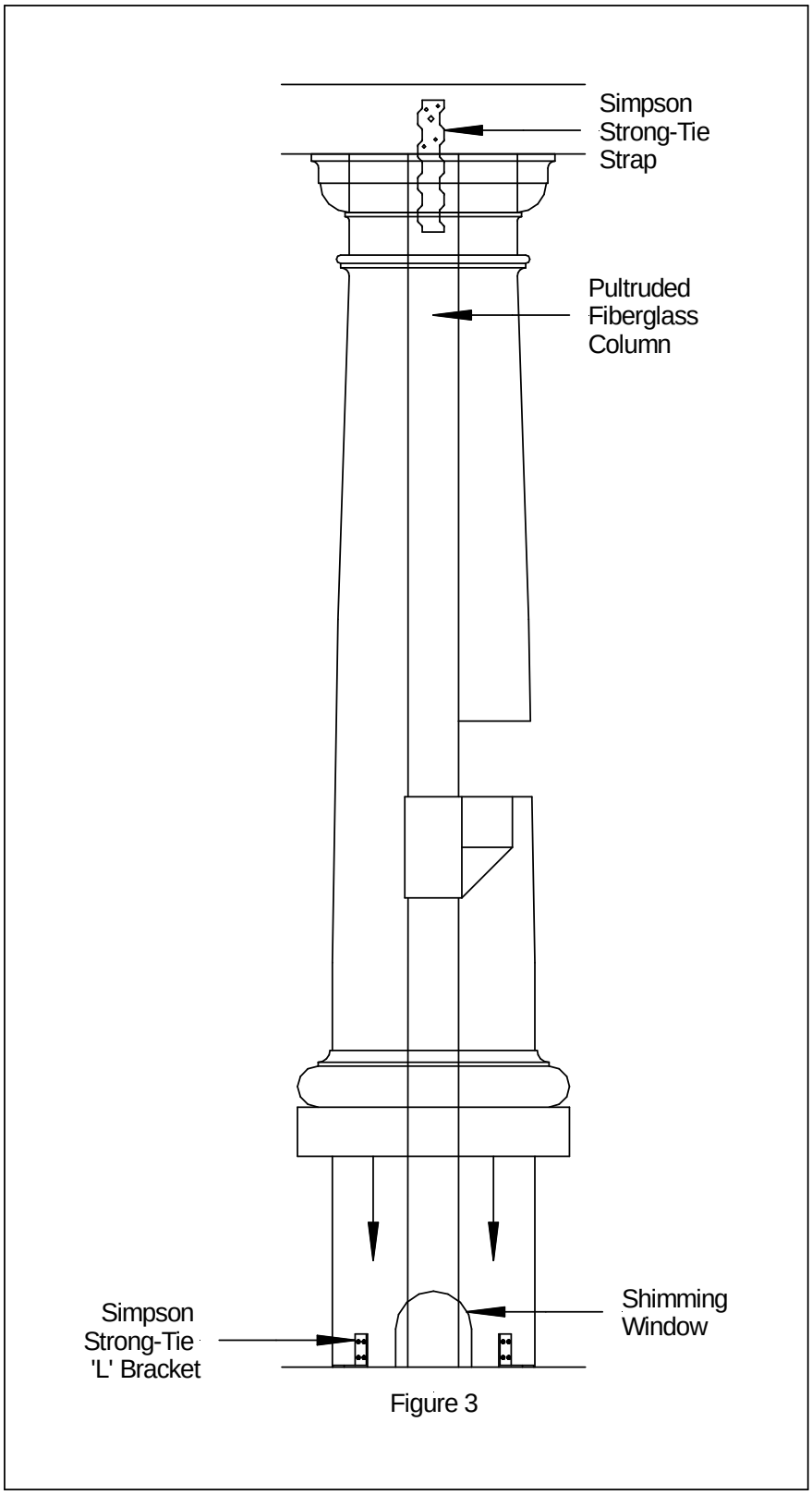
Simpson
Strong-Tie
Strap
Pultruded
Fiberglass
Column
Simpson
Strong-Tie
'L' Bracket
Shimming
Window

Figure 3