

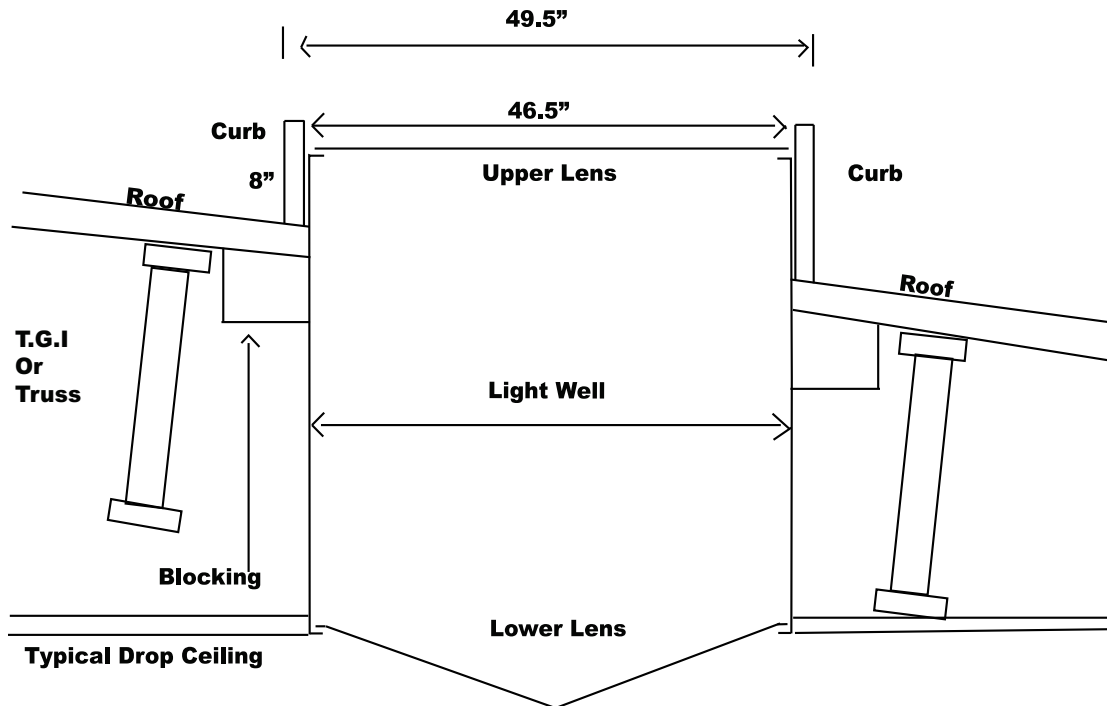


Eco-\$mart, Inc.

TOLL FREE:(888)329-2705 FAX:(941)377-9460 info@eco-smart.com

SunTrackerTwo Preparation

Cutting Holes and Preparing Curbs



■ ■ ■ Cutting Holes and Preparing Curbs

To determine roof location of skylight curbing, consult architects drawings and proceed:

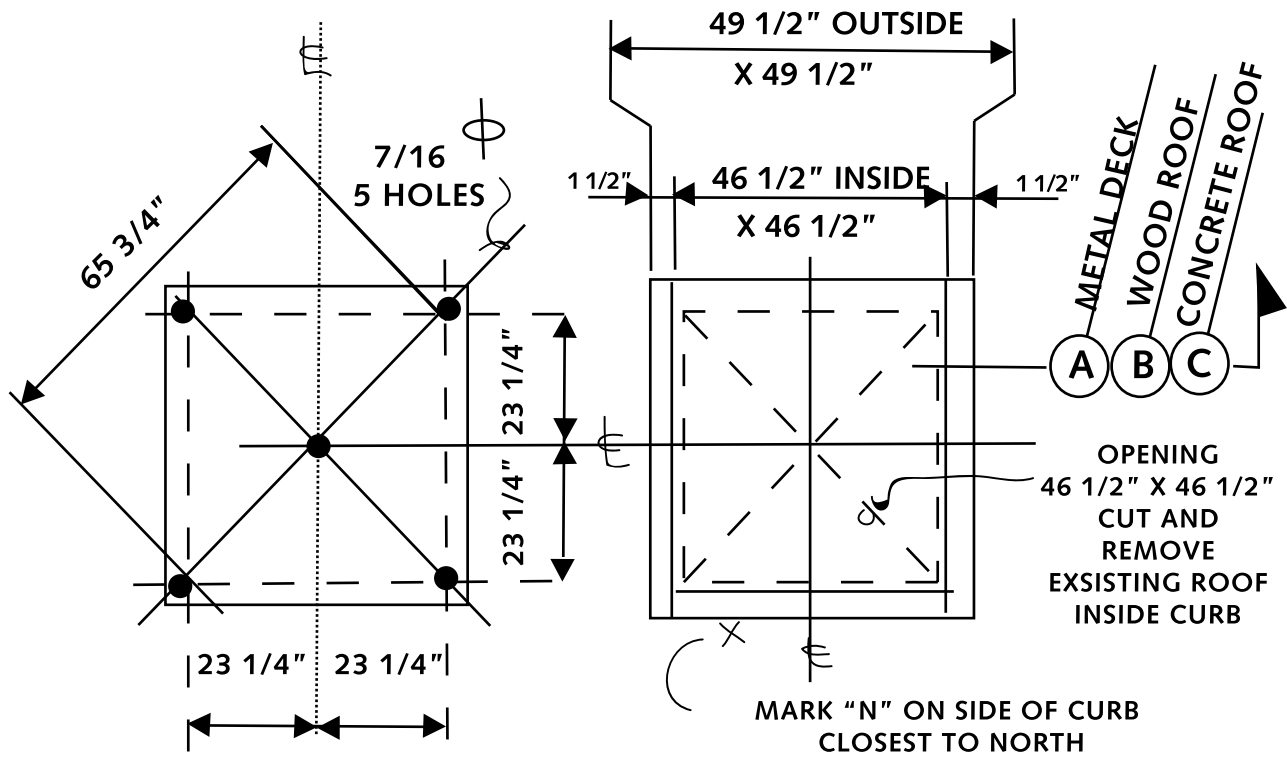
Before cutting or drilling through a roof, it is the responsibility of the contractor to ensure that there are no obstructions above or below the roof.

1. From the underside of the roof, locate the first bay (area between trusses) that will contain skylights. Locate the position of the first skylight within this bay by measuring off the nearest adjacent wall. The exact center of the skylight should be positioned along a center line between the trusses. Drill your first hole here completely through roof.
2. At the opposite end of the same bay, find the center of the last skylight in this row (keeping uniform spacing between each skylight). Drill your second hole here completely through the roof.
3. From on top of roof, snap a chalk line between the two drilled holes. This will establish the center line for all skylights in this row (and will keep them centered between the trusses below). Repeat this process in each bay that is to contain next skylights.
4. You can now proceed with cutting the holes in the roof (making and using a 461/2' template, can be very helpful).
5. Cut away (soft) existing roofing material and install curbing directly on a hard surface.
6. The finished curb must be securely fastened to the roof. See details A, B, C for suggested method for metal, wood or concrete roofs. (See page 5)
7. New flashing and waterproofing to the roof shall be done following accepted practices and consistent with existing conditions.
8. Contractor will provide a temporary watertight cover to remain in place until SunTrackerOne installation is made.

The SunTrackerTwo light wells require an unobstructed opening (that is the inside diameter of the curb) which extends from the top of the curb to the bottom of it's lowest lens (often a pyramid shape that can add additional length to the light well). Standard issue light wells are two feet in length. But, depending on the height of the drop ceiling, custom light wells can be as long as eight feet.

There should be no intrusion into this space by water pipes, duct work, electrical conduit, etc.

■ ■ ■ Template for Roof Openings



BEFORE ROOF CUTS ARE MADE, CONTRACTOR WILL DETERMINE IF ADDITIONAL ROOF REINFORCING IS REQUIRED & INDICATE SAME ON INSTALLATION DRAWING

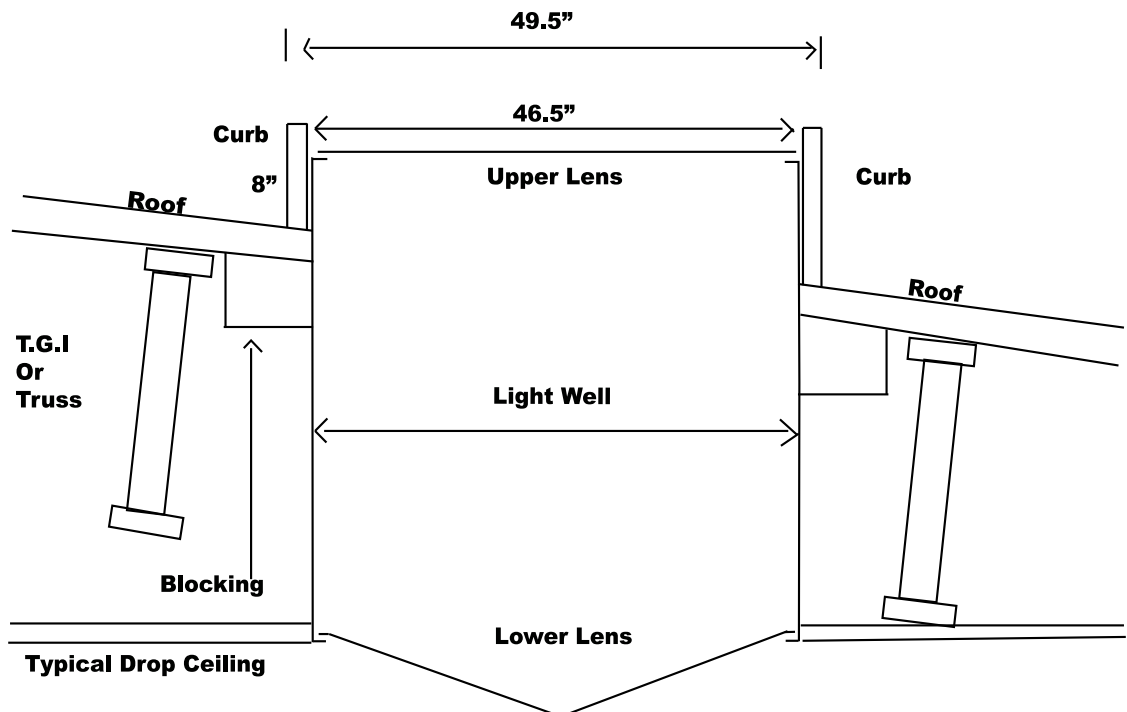
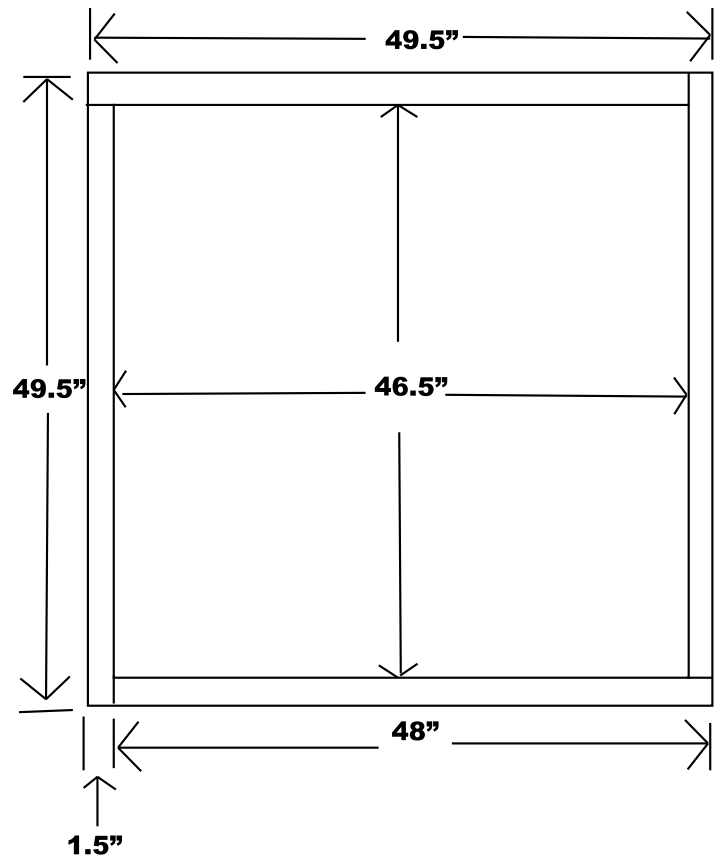
■ ■ ■ Building the Curb

1. Use (nominal) 48" quality pressure treated lumber, 2x8 2x10 or 2x12, as needed.
2. Curbs must be 8" minimum on the high side of the roof.
3. Top of the curbs must be level and plum. (All the way to the bottom of the light well.)
4. All corners must be square.
5. Curb should measure 65 3/4" across the inside diagonal (inside corner to inside corner).

Please Note:

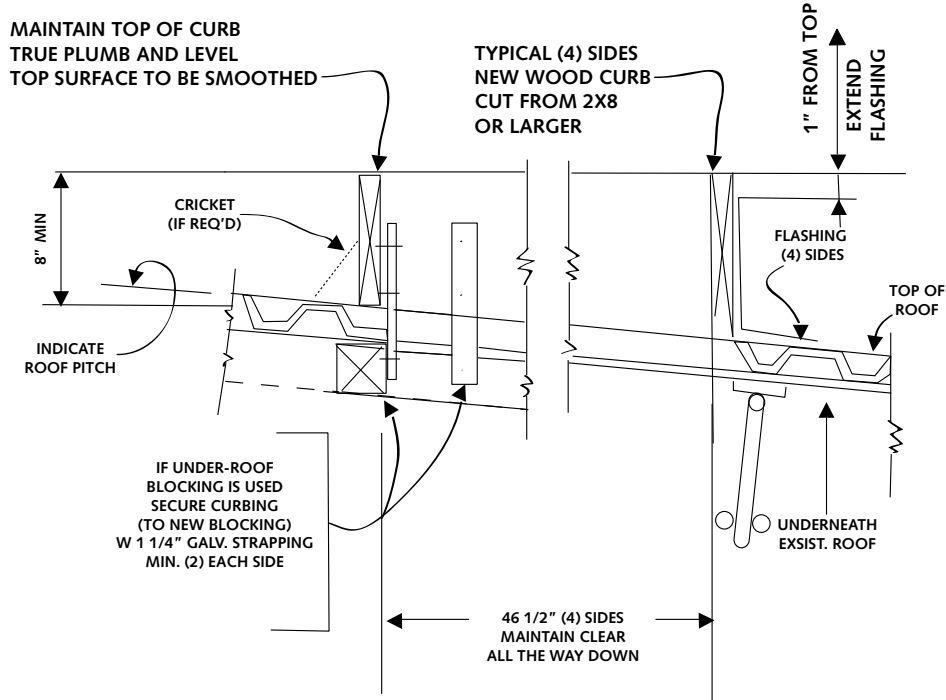
On a slanted roof, the low side of the curb will need to be taller than the high side so as to maintain a level top to the installed curb. (see diagram)

Metal curb can be substituted for wood.



■ ■ ■ Attaching Curb to Roof

Securely fasten curb(s) to the roof bracing structure to give it strength and support for the unit (dome, light well and lenses).



Attaching Options for Different Roof Types

If roof curbs require additional reinforcing at any opening, such details will be indicated and must be signed off by building owner.

<p>A Metal Roof</p>	<p>PRE-DRILL PILOT HOLES FROM UNDERNEATH THE DECK AND ATTACH THE CURB USING 3" - #10 HEX HEAD SCREWS</p>
<p>B Wood Roof</p>	<p>TOE-NAIL NEW CURBING TO EXIST. WOOD. IF UNDER-ROOF WOOD BLOCKING IS USED, INSTALL 9" OR 12" GALV. STRAPPING (AS SHOWN)</p>
<p>C Concrete Roof</p>	<p>MUST USE PRESSURE TREATED LUMBER (OR PREFAB SHEET METAL) FOR CURBS. USE SMALL CLIP ANGLES FASTENED WITH EXPANSION BOLTS TO ANCHOR CURBS TO CONCRETE</p>

Attachment of curbs should meet with all building codes and requirements.

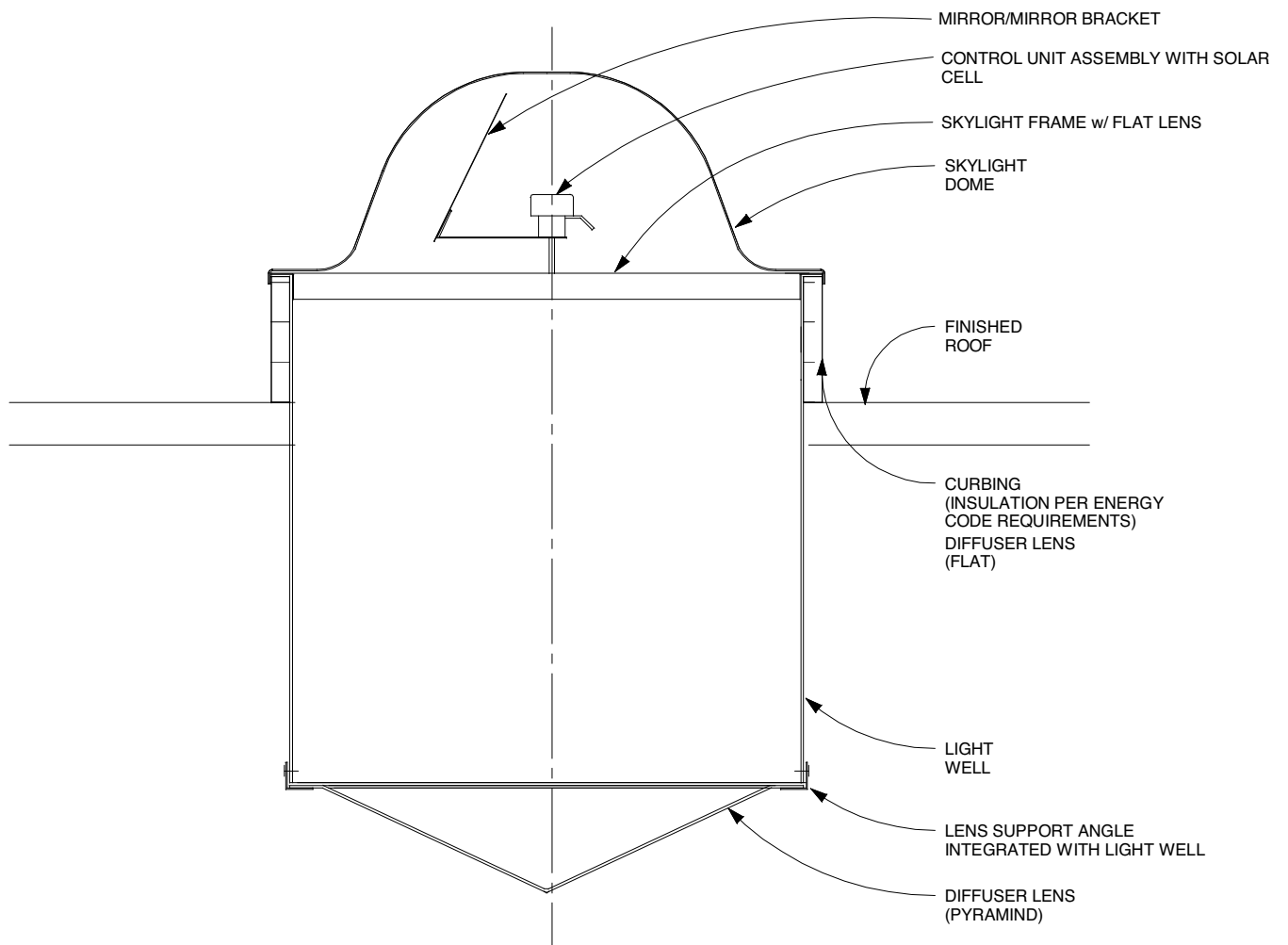




Eco-\$mart, Inc.

TOLL FREE:(888)329-2705 FAX:(941)377-9460 info@eco-smart.com

SunTrackerTwo Installation



SunTrackerTwo Installation



Make sure light wells have been properly installed before proceeding to this stage.



1 Tray assembly, as it is shipped.

The Mirror, short vertical post and the mirrors mounting bracket, are shipped within the tray assembly.

It is not recommended to do an installation of the SunTracker Two during high wind conditions. Even in light wind conditions, care should be taken so that the mirrors and trays are not damaged by a sudden gust.

2 Remove Mirror from tray assembly.



3 Taking care so as not to bend the mirror, peel off the protective tape from the reflective surface (there is tape only on the reflective side of the mirror).

4 Run the pre-attached bolts of the mirrors mounting bracket through the two holes in the mirror. Make sure the mounting bracket is positioned as shown, and that it is on the reflective side of the mirror (the bend at the base of the mirror faces away from the reflective surface). Attach two black plastic nuts (provided) to the bolts and hand tighten.



SunTrackerTwo Installation



- 5** While supporting the mirror, pass the pre-attached bolts of the controller (and the controller's shaft) through the three holes in the mounting bracket. Attach the two remaining black plastic nuts to the bolts and hand tighten (do not use a wrench). Please note that the solar panel of the controller faces away from the mirror. (The blue controller is shipped in its own box)



- 6** Place tray assembly into position (flange resting on top of curb)

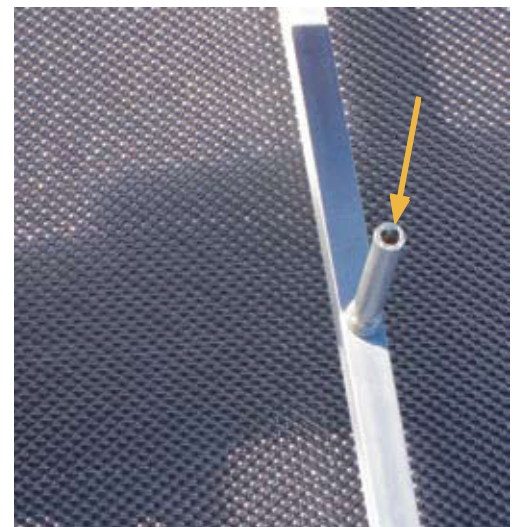


- 7** Place the base of the vertical post into the hole of the horizontal support bar and press down until the two fit snug. (Make sure the small set screw on the side of the horizontal support bar is backed out far enough so as to allow the vertical post to seat down correctly).



- 8** Tighten the set screw (on the side of the horizontal support bar) until it is just possible to rotate the vertical post. Rotate the vertical post until the D-flat (see picture with arrow pointing to D-flat) is facing true south

(THIS IS IMPORTANT). Once the D-flat is facing true south, tighten the set screw fully.



SunTrackerTwo Installation



9 Line up the flat side of the controllers shaft with that of the D-flat at the top of the vertical post. Gently push down on the controller until the shaft is completely inserted into the vertical post. SLOWLY rotate the controller until the solar panel (and mirror) is facing the sun. This will allow the controller to charge properly.

IMPORTANT — Once the controller / mirror is in place, care should be taken to not leave the unit unattended as long as it remains uncovered. Wind can cause the mirror to spin out of control, possibly doing damage to the inner workings of the controller. Cover the unit with the dome before moving on to install other controllers.



Please note, the unit will need time to properly charge before any movement of the mirror takes place (this charge time can vary depending on sunlight levels).



10 Place the dome over the mirror assembly making sure it is seated down firmly on all sides of the curb. (As a rule, two persons should be involved when moving, or working with the dome).

11 Affix dome to the curb by screwing fasteners through the holes in the frame (three per side). Recommended fasteners are #10 hex head Zinc plated screws 1½ inches long (fasteners are not provided).



When attaching fasteners, take care to drill straight in or slightly downward so as not to penetrate the interior gutter system of the dome.



Eco-\$mart, Inc.

TOLL FREE:(888)329-2705 FAX:(941)377-9460 info@eco-smart.com

Light Well Assembly and Installation

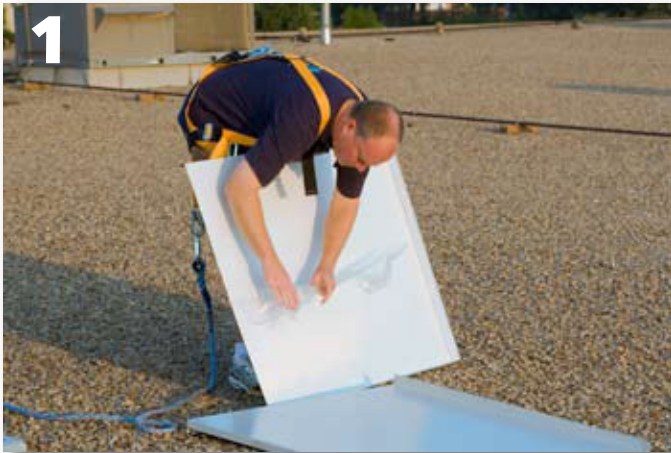


**This photo sequence is for one piece, non-adjustable light wells.
For two piece, (adjustables), see end of manual.**

Light Well Assembly and Installation



Before installing any light wells, make sure that all curbs are square over the hole, level at the top and plum (the same inside diameter top to bottom), and that there are no obstructions intruding into the space that the light well is to occupy.



Remove protective film (if there is any)

Make sure the outward facing flange of each section (that will rest on the curb) is on the top, and the inward facing flange (that will support the bottom lens) is on the bottom (doing a dry fit the first time to see how the unit should look is recommended).



If the sections come with pre-attached double-sided tape for connecting the light well together, peel the outer cover off the tape of one section.

Butt the flat side of another section into the corner of the first (and over the tape) making sure the two sections are even top and bottom before pressing together.

Some suppliers do not provide pre attached tape. If that is the case, the contractor has the option of using #10, 1/2" truss washer lath screws with neoprene bonded washer (screwing from the outside in), or using their own double-sided tape to connect the light well together.

Light Well Assembly and Installation



Repeat this process with the remaining sections until all four sections are connected and you have an open ended box with an outward facing flange on the top and an inward facing flange at the bottom.



Gently lower the bottom lens into place, and seal lens into place with double-sided foam tape or caulk.

On longer light wells, it is recommended that the bottom lens be put into place from inside the building after the light well is attached (this may require a lift).



With the lower lens in place, lift the light well over the curb and allow it to slide down into place.



Check that the well fits snugly onto the top of the curb all the way around.

Light Well Installation (Continued)



Longer “adjustable” Light Wells

If there is a need for longer light wells that must match up with drop ceilings, these light wells will come in eight pieces per well as apposed to the four on standard versions. The construction of these longer wells is similar to the shorter version.

When laying out the pieces, the upper four sections will have an outward facing flange at their top (to rest on the curb) and no flange at the bottom.

The lower four sections will have an inward facing flange at their bottom (to support the lower lens) and no flange on the top. When assembled, you will have two “open ended” boxes. Measure the correct distance from the top of the curb to where the well is to meet the drop ceiling. Slide the upper section of the well (non flange side) into the lower section of the well (non flange side). Slide these sections together until the proper length is achieved. Connect the two sections together where they overlap with #10, 1/2” truss washer lath screws with neoprene bonded washer. Use several workers to support the light well, and set it into the hole and onto the curb.

Proceed to SunTrackerTwo installation manual.