

*City of Foster City*

**ESTERO MUNICIPAL IMPROVEMENT DISTRICT**

610 FOSTER CITY BOULEVARD  
FOSTER CITY, CA 94404-2299  
(415) 286-3200  
FAX: (415) 574-3483

**FOSTER CITY  
RECEIVED**

**FEB 25 2004**

**PLANNING  
DIVISION**

CITY OF FOSTER CITY  
COMMUNITY DEVELOPMENT DIRECTOR'S ACTION  
NOTICE OF DECISION

ACTION DATE: May 19, 1997

CASE NO.: AR-97-057

APPLICANT: Bay Vista Townhomes c/o The Manor Association

APPLICANT ADDRESS: P.O. Box 4657, Foster City, CA 94404

APPLICATION FOR: Prototype Design for Rectangular and "Solatube" Skylights and Roofing Materials

LOCATION: Bay Vista Townhomes Planned Development

ZONING: R-T/PD (Townhouse Residence/Planned Development) District

ACTION TAKEN: Approved with Conditions

On the date listed above, the Community Development Director of the City of Foster City, took the action described above on the subject Architectural Review application based on the following findings:

1. That the proposal is consistent with the Foster City General Plan and Title 17, Zoning, and Chapter 2.28, Planning, of the Foster City Municipal Code because (a) the rectangular and "Solatube" skylights will enhance the interior of the townhouse by providing more natural light, and (b) the new roofing material for the residential complex will provide necessary maintenance and repair, and all proposed improvements will preserve "the quality of the City's residential neighborhoods" as stated in the Land Use and Circulation Goals (LUC-A) and Land Use Policies (LUC-38 and LUC-39) contained in the Land Use and Circulation Element of the Foster City General Plan, and will be consistent with the residential use of the subject property.
2. That the design of the proposal is appropriate to the City, the neighborhood and the lot in which it is proposed because the location, size, design, colors, materials and finish of the rectangular and "Solatube" skylights will reasonably blend with the new roofing material of the existing townhouse and will be in keeping with similar improvements in the neighborhood.
3. That the design of the proposal is compatible with its environment with respect to use, forms, materials, colors, setbacks, location, height, design, or similar qualities as specified in Section 17.58.010, Intent and Purpose, of Chapter 17.58, Architectural Control and Supervision, of the Foster City Municipal Code because the rectangular and "Solatube" skylights and the new

roofing material be will be compatible with the architectural style and appearance of the existing townhouse.

4. That the proposal will not, under the circumstances of the particular case, be detrimental to the health, safety, morals, comfort and general welfare of the persons residing or working in the neighborhood of such proposed use, and will not be injurious or detrimental to property and improvements in the neighborhood or the general welfare of the City because the rectangular and "Solatube" skylights and the new roofing material will be compatible with the design of the townhouse and other houses in the neighborhood, will meet the requirements of Section 17.58.010, Intent and Purpose, of Chapter 17.58, Architectural Control and Supervision, of the Foster City Municipal Code, and will not have detrimental visual impacts on the neighborhood.

This action is subject to any conditions contained in Exhibit A, attached.

#### Expiration

Any Architectural Review/Use Permit Modification approval shall, without further action, become null and void if not used within two (2) years from the date of approval thereof, or within any shorter or longer period of time if so approved by the Community Development Director.

#### Appeal

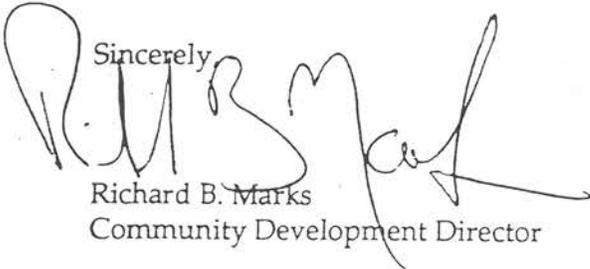
Pursuant to Section 17.06.150 of the Foster City Municipal Code, an action of the Community Development Director on an application may be appealed within ten (10) calendar days after the date of the Community Development Director's decision, in writing, to the Planning Commission. Appeals may be filed using the appeal form available in the Community Development Department or by letter. There is a fee for filing an appeal. All appeals must be filed in accordance with Section 17.06.150.

#### Acknowledgment by Applicant

Pursuant to Section 17.58.040.E of the Foster City Municipal Code, any Architectural Review/Use Permit Modification decision shall not be effective until the permittee acknowledges acceptance of any conditions of approval and any appeal period has lapsed, or if there is an appeal, until a final decision has been made on the appeal.

In order to demonstrate that you are aware of and understand the Architectural Review/Use Permit Modification conditions of approval (attached hereto as Exhibit A), please sign the original of this letter and return it to the Planning/Code Enforcement Division. Please keep the duplicate for your records.

Sincerely,



Richard B. Marks  
Community Development Director

for Amie Tyler  
(Applicant) (Please Print)

by \_\_\_\_\_  
(Contact Person)

Planners Initials: VEJ

## EXHIBIT A

### BAY VISTA HOMEOWNERS' ASSOCIATION

#### Rectangular and "Solatube" Skylight, and Roofing Material Prototypical Design Guidelines

---

The following guidelines shall govern the installation of rectangular and "Solatube" skylights and new roofing materials at the Bay Vista Planned Development.

#### CONDITIONS OF APPROVAL

1. All construction shall be designed, constructed, installed and maintained in a professional manner and appearance.
2. All materials and colors shall be as approved. Once constructed or installed, all improvements shall be maintained in accordance with the approved plans. Any changes which affect the exterior character of the work shall be resubmitted for approval.
3. All vents, gutters, downspouts, flashings, etc. shall be painted to match the color of the adjacent surfaces. No electrical conduits or similar piping shall be allowed on the exterior of the building unless approved prior to installation by the Community Development Director.
4. Standard residential security requirements as established by Chapter 15.28 of the Foster City Municipal Code shall be provided.
5. Prior to installation, a Building Permit shall be obtained from the Building Division. Four (4) sets of final drawings shall be submitted with the building permit application.
6. Prior to any final inspection approval, these conditions and all improvements shall be completed to the satisfaction of the City.
7. All architectural elements such as soffits, screens, etc., not shown or detailed on the plans shall be finished in a material and color in harmony with the exterior of the building.
- \* 8. All rectangular and "Solatube" skylights shall have clear or smoke-colored glass and shall not extend more than 10" above the roof-line.
- \* 9. All rectangular and "Solatube" skylights shall conform to the design and construction requirements of the Uniform Building Code, including the minimum 3-foot setback from any property line (including common walls).
- \* 10. The improvements approved with this Architectural Review request shall supersede the previously approved skylight prototypical design under File# AR-94-121, on file with the Community Development Department. All new skylight installations shall conform to the conditions established in this approval (File# AR-97-057).
- \* 11. All roofing materials installed shall be comprised of 40-year, Elk Prestique Plus in the "Weatheredwood" color.
- \* 12. All buildings within the Bay Vista Development (including garages, recreation rooms, utility rooms, equipment sheds, etc.) shall be roofed consistent with the roofing materials approved under this Architectural Review request at the same time the residential buildings are reroofed.
- \* Site Specific Conditions

**APPROVAL PROCESS**

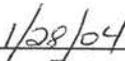
*For a Skylight and/or Solatube:*

1. The homeowner shall submit an Architectural Review application and filing fee (one-half the typical fee for skylights). The submittal shall include a sketch and/or photograph indicating the location, type, and size of the skylight, including distance from adjoining units. An approval letter for the Homeowners' Association for each skylight shall not be required as agreed to by the Bay Vista Homeowners' Association.
2. The Planning/Code Enforcement Division will review the Architectural Review application and plans/photographs to confirm that the proposal conforms with the Prototypical Design Guidelines.
3. Simultaneous with or subsequent to the Architectural Review approval, the homeowner or contractor shall submit a Building Permit application, including four (4) copies of drawings indicating where the skylight will be located, including the proposed size, materials, color, and a framing detail (typical framing details are available from the Building Division).

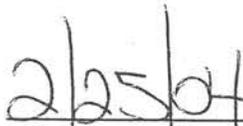
*For Reroofing:*

1. Prior to installation, a Building Permit shall be obtained indicating the roofing material and color proposed.

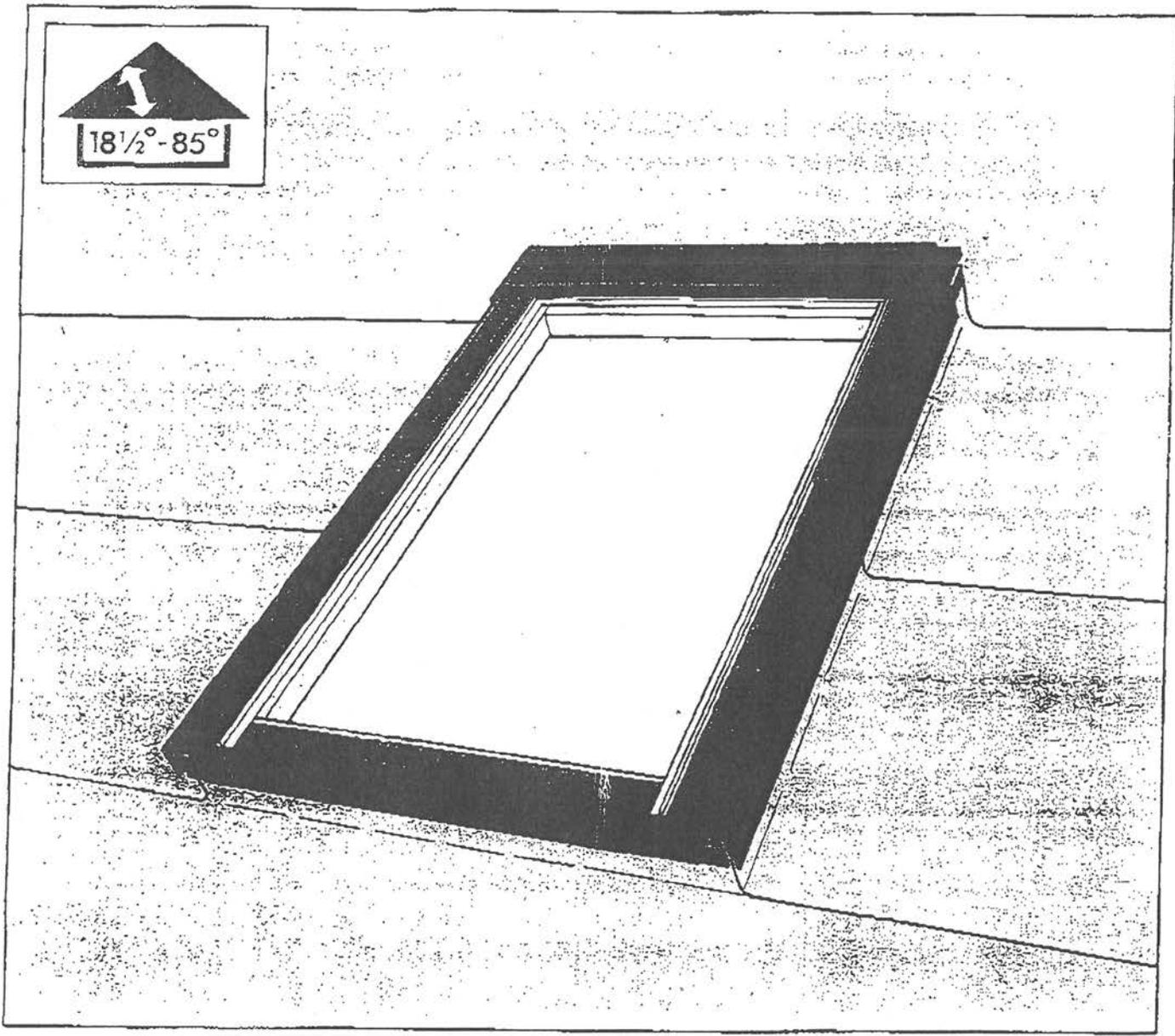
  
\_\_\_\_\_  
[REDACTED] Managing Agent  
The Manor Association  
Bay Vista Homeowners' Association

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Richard B. Marks, Community Development Director  
City of Foster City

  
\_\_\_\_\_  
Date

English: Installation instructions for roof window  
Español: Instrucciones de instalación para ventana de tejado  
Français: Feuillet d'instructions pour l'installation de la fenêtre de toit



Index:

- P.2 Introduction
- P.3 Planning for your VELUX® roof window
- P.4 Description of roof window
- P.5 Positioning and attaching brackets to roof window
- P.6 Positioning roof window to roof
- P.7 Adjustment of roof window
- P.8 Final attachment, underlayment and flashing
- P.9 Details of roof window installation

Índice:

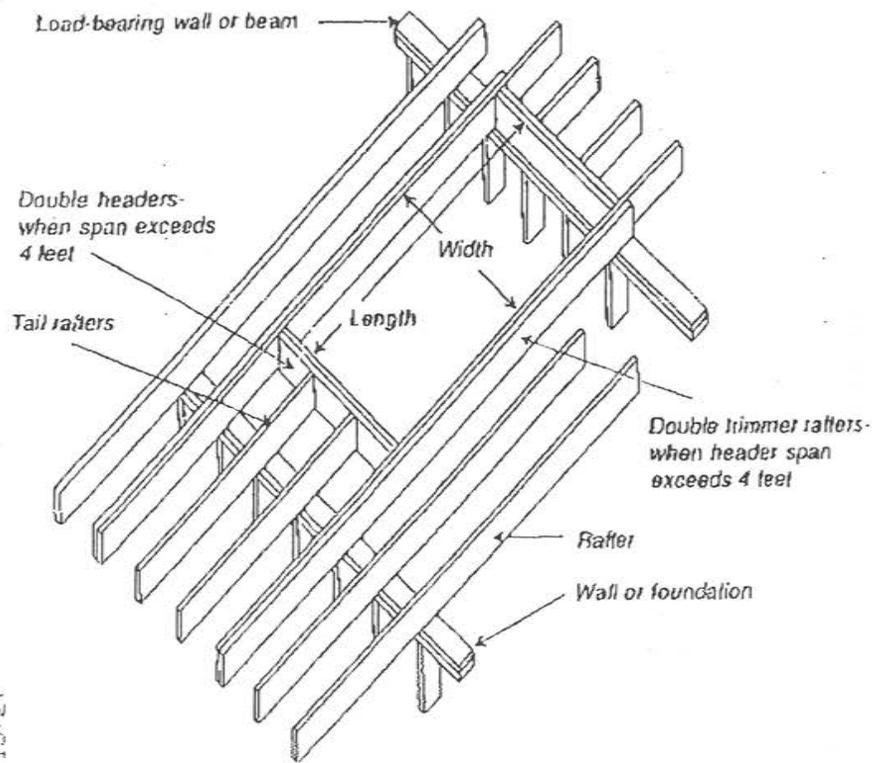
- P.2 Introducción
- P.3 Preparación para su ventana de tejado VELUX®
- P.4 Descripción de la ventana de tejado
- P.5 Colocación y fijación de las escuadras a la ventana de tejado
- P.6 Colocación de la ventana en el tejado
- P.7 Ajuste de la ventana de tejado
- P.8 Fijación final, recubrimiento impermeable y tapajuntas
- P.9 Detalles sobre el montaje de la ventana

Index:

- P.2 Introduction
- P.3 Pour planifier l'installation d'une fenêtre de toit VELUX®
- P.4 Préparation de la fenêtre de toit
- P.5 Mise en place et fixation des équerres à la fenêtre de toit
- P.6 Positionnement de la fenêtre sur le toit
- P.7 Ajustements de la fenêtre de toit
- P.8 Fixation finale, papier noir et solin
- P.9 Détails sur l'installation de la fenêtre de toit

Section 2517(h)4  
OF FRAMING AROUND OPENINGS

UBC page 287



Section 2517(h)4  
Roof Framing Around Openings

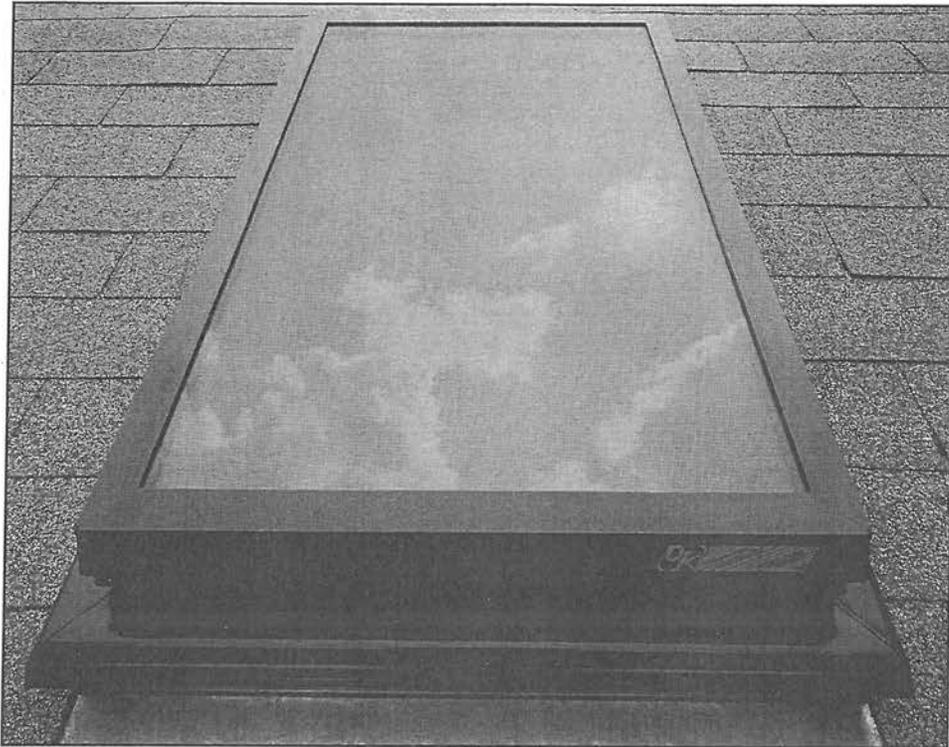
Section 2517(h)4. Framing around openings. Trimmer and header rafters shall be doubled, or of lumber of equivalent cross-section, when the span of the header exceeds 4 feet. The ends of header rafters more than 6 feet long shall be supported by framing anchors or rafter hangers unless bearing on a beam, partition or wall.

This new item provides requirements for roof framing at openings such as skylights, fireplaces, etc. In the previous code there was no language in the roof-framing section to detail framing around openings in roofs.

Now, headers with a span exceeding 4' must be framed with trimmers and header rafters that are doubled or of lumber of equivalent cross-section. Also, the ends of rafters more than in length shall be supported by framing anchors or rafter hangers unless the rafters bear on a beam, partition or wall.

# HorizonLite™

G L A S S   S K Y L I G H T S



Superior design and construction make the HorizonLite glass skylight a true value in daylighting. Simple installation, energy efficient and beauty by design make the HorizonLite very popular with home owners and contractors.

O'Keeffe's Inc., manufacturers of quality building products since 1939, confidently gives a lifetime WaterTite™ warranty on all HorizonLite skylights.

FOSTER CITY  
RECEIVED  
MAY 09 1997  
PLANNING  
DIVISION

*The low profile of the  
HorizonLite makes it as  
attractive from the outside  
of your home as it is  
from the inside.*

## The Glass

O'Keeffe's offers several glazing options to suit your preferences and requirements.

**Clear Tempered over Clear Laminated** allows maximum daylighting and clear viewing. Tempered safety glass resists breakage. Laminated glass helps protect you and your furnishings against UV rays.

**Bronze Tempered over Clear Laminated** filters out some of the sun's rays therefore reducing heat gain and glare. Tempered safety glass resists breakage. Laminated glass helps protect you and your furnishings against UV rays.

**Clear Tempered over Argon Filled Clear Low E Clear Laminated** adds insulation to keep summer heat out and winter warmth in while reducing UV ray penetration.

**Clear Tempered over White Laminated** allows daylighting with privacy. Tempered safety glass resists breakage. Laminated glass helps protect you and your furnishings against UV rays.

Sun screening shads reduce the amount of light as needed and increase the R value of the unit. Attractive functional pleated shads are available pre-installed.

## Fixed or Operable

The location of the skylight in your home along with the need for ventilation determines whether you select a fixed or operable (opening) model. Bathrooms, kitchens and enclosed patio rooms are areas that frequently require additional ventilation.

The choice of a manual or electrical operator depends on the height of the roof, personal preference and budget. Electric operators with a control switch make it possible to operate skylights in difficult to reach areas. Add to this a remote control and you can operate up to 20 skylights. Rain sensors added to electrically operable units remember to close an open skylight for you.

**B**ring the beauty and comfort of natural light into your home with the energy efficient HorizonLite glass skylight. You will appreciate the ease of installation on new or existing construction for all roof types. HorizonLite glass skylights come in a wide variety of sizes with many options so you can create the perfect skylight system for you. On the back of this sheet you will find detail drawings, options, accessories and a size chart. Other sizes or special configurations are manufactured and shipped within 3-4 weeks. Should you require additional information to determine your specific needs contact your local dealer or home improvement center.

## The Frame

HorizonLite skylights may be curb mounted or self-flashing. Curb mount installs onto a wood curb attached to the roof. Self-flashing attach directly to the roof. HorizonLite's special sill design requires a near 1/4" per foot pitch and can be installed on a flat roof.

Three finishes are available: mill finish (aluminum with no coating), dark bronze polyester paint finish or choose from five custom powder coat frame colors.

## The Size

The size of the skylight depends on the amount of light required. A rule of thumb is one square foot of skylight area for each 20 square feet of floor.

**O'Keeffe's Inc.**

## Standard Sizes

MODEL # SIZE	INSIDE CURB ROUGH OPENING	OUTSIDE CURB	DAYLIGHT AREA SQ.FT.	VENTING AREA SQ.FT.
24 x 24	22.5 x 22.5	25.5 x 25.5	3.06	1.63
24 x 32	22.5 x 30.5	25.5 x 33.5	4.22	1.94
24 x 36	22.5 x 34.5	25.5 x 37.5	4.72	2.15
24 x 48	22.5 x 46.5	25.5 x 49.5	6.39	2.67
24 x 54	22.5 x 52.5	25.5 x 55.5	7.22	2.94
24 x 64	22.5 x 62.5	25.5 x 65.5	8.89	3.21
24 x 72	22.5 x 70.5	25.5 x 73.5	9.72	3.72
24 x 96	22.5 x 94.5	25.5 x 97.5	13.56	4.04
32 x 32	30.5 x 30.5	33.5 x 33.5	5.83	2.33
32 x 36	30.5 x 34.5	33.5 x 37.5	6.61	2.50
32 x 48	30.5 x 46.5	33.5 x 49.5	8.94	3.02
32 x 54	30.5 x 52.5	33.5 x 55.5	10.11	3.28
32 x 64	30.5 x 62.5	33.5 x 65.5	12.28	3.65
32 x 72	30.5 x 70.5	33.5 x 73.5	13.61	4.06
32 x 96	30.5 x 94.5	33.5 x 97.5	18.73	4.41
36 x 36	34.5 x 34.5	37.5 x 37.5	7.56	2.67
36 x 48	34.5 x 46.5	37.5 x 49.5	10.22	3.30
36 x 60	34.5 x 58.5	37.5 x 61.5	12.94	3.85
36 x 72	34.5 x 70.5	37.5 x 73.5	15.56	4.24
48 x 48	46.5 x 46.5	49.5 x 49.5	14.06	4.11

**Note:** These sizes can be turned or hinged on long or short side.

## Glazing Assembly

**Values U R**

Clear Tempered over Clear Laminated	.57	1.75
Bronze Tempered over Clear Laminated	.60	1.67
Clear Temp. over Clear Lami. w/Argon Fill Low-E	.30	3.33
Clear Tempered over White Laminated	.45	2.22
Shade "Patina" Semi-Opaque (add glass value)	.52	1.92

**NOTE:** Laminated glass reduces UV rays up to 99.9%

Other Glazings available.

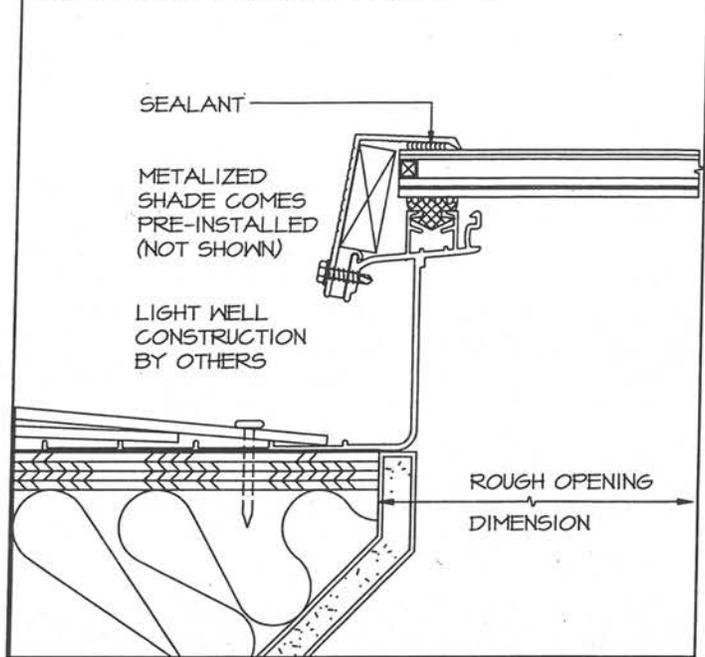
## Accessories

- Electric Operator with Control Switch
- Electric Operator with Rain Sensor and Control Switch
- Wireless Remote Control (Optional add to electric options)
- A single Remote Control can operate up to 20 skylights)
- Motorized Shade w/ Control Switch
- Poles and Extensions
- Motorized Pole Handle Crank

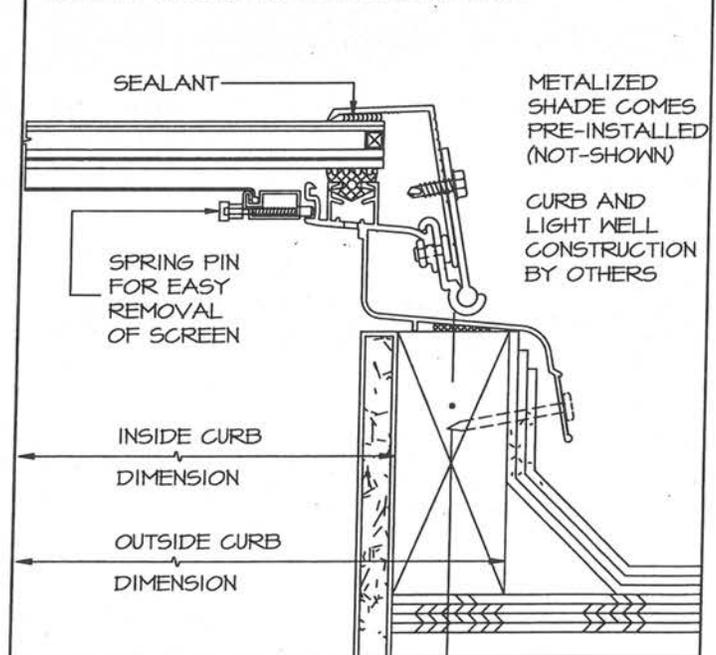
## Custom Colors Stocked

Black	Red	Brown
Green	White	

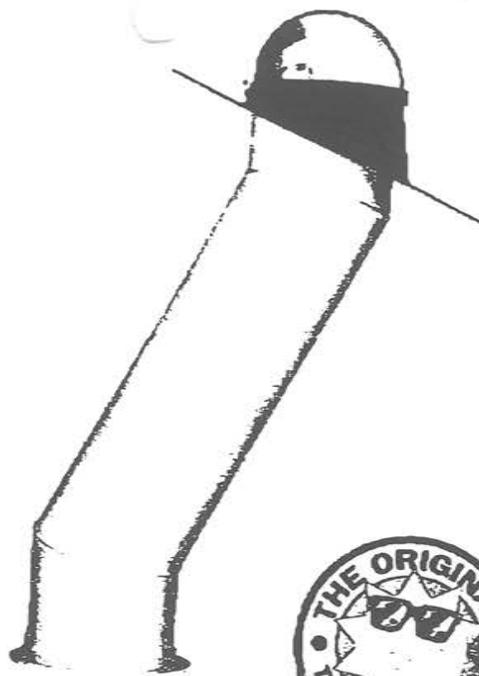
## Fixed Self-Flashing Cross Section Detail



## Operable Curb Mount Cross Section Detail



**Distributed By:**



## THE ORIGINAL SOLATUBE

Our 10-inch SOLATUBE, the original tubular skylight, is the best system in the world for natural daylighting. Studies show natural daylight creates a healthier environment.

Duradome™ is more than 10 times stronger than traditional skylight domes

Proprietary ALCOA SPECTRALIGHT™ 2000 tubing material and patented dome reflector exclusive to SOLATUBE outperform competitors for optimum reflectivity

Easy installation with no structural changes

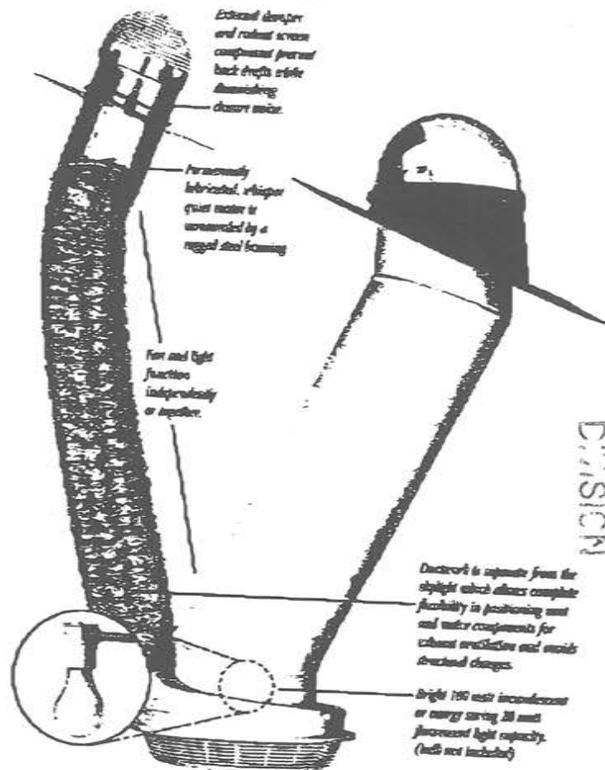
Maintenance-free system is sealed to lock out dust, bugs, moisture

Easily brightens a 150 square foot area

Saves money—reduces need for artificial lighting

Has building code approvals (ICBO)

10-year product warranty



Designed to connect into existing ceilings. Replace existing square vent units without patching or to be installed as part of new construction.

## THE SOLATUBE VENTED UNIT

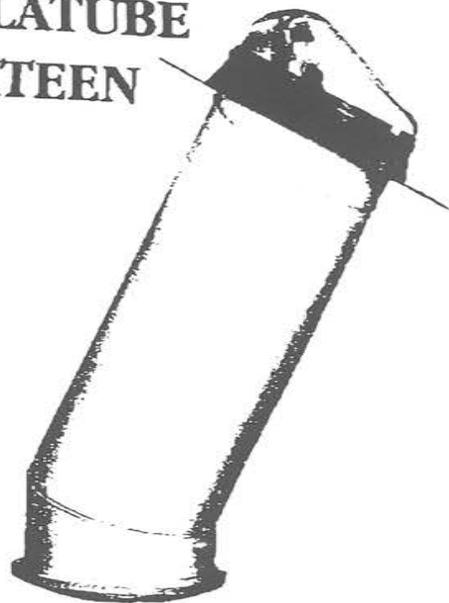
Ideal for bathrooms and laundry rooms, our Vented Unit provides the natural sunlight of SOLATUBE and removes moisture and odors by combining our 10-inch tubular skylight with high performance ventilation. Both functions are combined in one attractive ceiling fixture.

- Fan is set at roof level for quiet operation
- UL-listed for your safety
- 3-year warranty on electrical components

### The SOLATUBE Lighted Unit

An optional electric light can be added to any 10-inch SOLATUBE for your convenience. The light option is UL-listed with a 3-year warranty.

## THE SOLATUBE SIXTEEN



MAY 07 1997

FLEXINGTON CITY REC. DEPT.

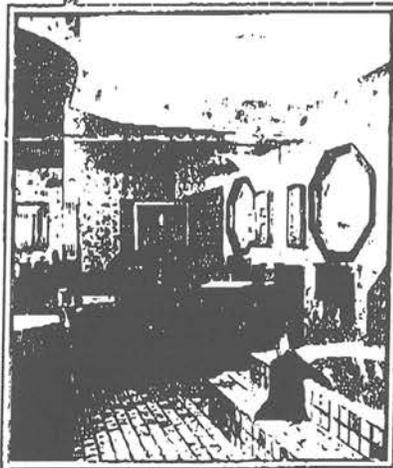
EXHIBIT DIVISION

## THE SOLATUBE SIXTEEN PROVIDES EVEN MORE LIGHT FOR RESIDENTIAL AND COMMERCIAL APPLICATIONS

Manufactured with the same attention to product design and quality as the original 10-inch SOLATUBE, the SOLATUBE Sixteen brings twice as much light into your home to enhance your living environment. Plus, the 16-inch unit is ideal for commercial applications, especially office and school environments.

- 150% larger than the original 10-inch SOLATUBE, providing 200% more light
- Low-profile dome with patented reflector is aesthetically pleasing on rooftops
- Prismatic diffuser spreads light evenly over a wide area
- 10-year product warranty
- Especially good for two-story stairwells, vaulted ceilings, garages, workshops and industrial applications

SOLATUBE™  
 DESIGNED TO  
 EXPAND YOUR  
 OPTIONS WITH  
 INNOVATIVE  
 DAYLIGHT AND  
 VENTILATION  
 SYSTEMS.



*Skylights/fan/light energy-efficient combinations.*



*SPECTRALIGHT™ - the original tubular skylight.*



*Ongoing research and development assures state-of-the-art products.*



*Quality control and proprietary manufacturing processes ensure product durability and performance.*



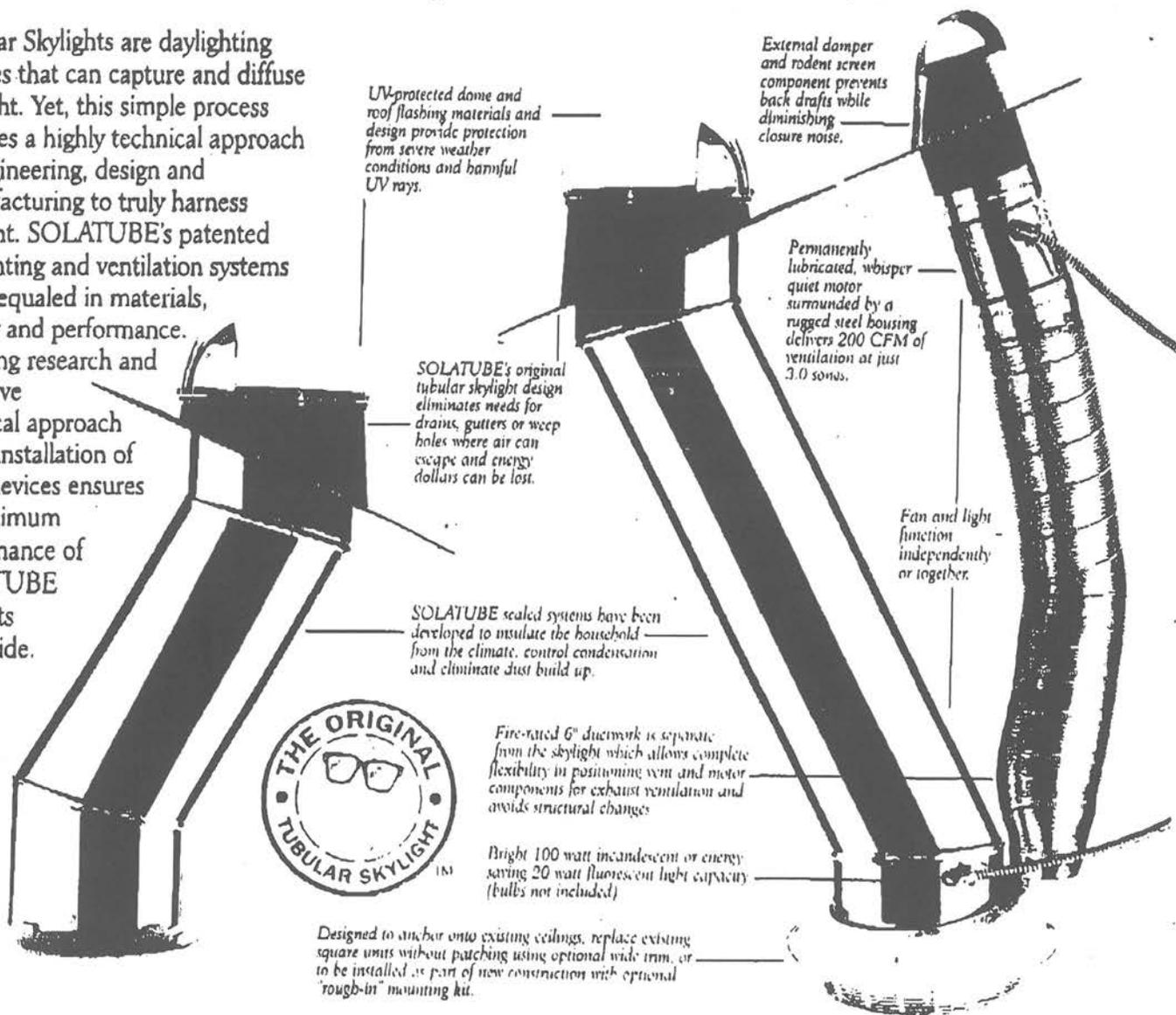
*Award winning and innovative design continues to set the standard for tubular skylights.*



**SOLATUBE**

# IT'S EASY TO PUT THE POWER OF QUALITY REFLECTIVE MATERIALS AND SUPERIOR VENTILATION IN YOUR SKYLIGHT DESIGN PROJECTS WITH SOLATUBE™.

Tubular Skylights are daylighting devices that can capture and diffuse sunlight. Yet, this simple process requires a highly technical approach to engineering, design and manufacturing to truly harness sunlight. SOLATUBE's patented daylighting and ventilation systems are unequalled in materials, quality and performance. Ongoing research and extensive technical approach to the installation of these devices ensures the optimum performance of SOLATUBE products worldwide.



## REFLECTIVE MATERIALS

SPECTRALIGHT™ and SPECTRALIGHT 2000™ provide the most effective means to maximize daylighting requirements.

When making a daylighting design decision consideration includes roof slope, length of tube, room size, amount of light desired and the lighting effects or concentration of light. Skilled SOLATUBE technicians are readily available to help advise you of the most efficient materials and light placement for the daylighting effects you desire.

## Reflective Value Chart

Reflect Surface Type/Name	Substrate Material	Specular Reflectance <sup>1</sup>	Total Reflectance <sup>2</sup>
SPECTRALIGHT™	anodized aluminum	70.0	87.0
SPECTRALIGHT 2000™	silver film on aluminum	92.0	95.0
Silver film	aluminum, mylar & others	71.1	96.9
Drywall	paper composites	5.0	90.0
Aluminized flex-tube	wire frame & polyester	0.5	84.0
Mirrored steel	stainless steel	42.0	56.0

Excerpted from independent testing conducted at the University of Arizona, Tucson, AZ, 1987. See ENR 10/19/87 p. 46.

1. Specular Reflectance - the precise measure of reflected light from a surface at an angle that is specifically equal to the angle of incidence.

As light travels down a SOLATUBE, it is reflected off the surface of the material, loses some luminance, and reflects again until it reaches the bottom of the tube. The measure of the directed light as it bounces down the tube is called specular reflectance. When comparing a traditional 2' x 2' skylight to a 10" diameter SOLATUBE, the traditional skylight lets in far more light. However, the relatively low specular reflectance properties of a painted drywall shaft between the roof and ceiling, limit light performance to levels well below those of SOLATUBE's.

2. Total Reflectance - the measure of all light reflected from a surface at any angle. This measure indicates the ability of a material to reflect light in all directions without concern for directing the light. The measure of un-directed light has limited value in determining the capability of a skylight to efficiently and effectively illuminate an area.

## Features and Benefits

### SPECTRALIGHT

- Tube installation length up to 6 feet
- Cost-effective
- High-performance
- Maximum durability
- Corrosion and fire resistant
- 10 year warranty

### SPECTRALIGHT 2000

- Tube installation length up to 10 feet
- Ultra high specular reflectance
- Patented UV block
- Virtually no incandescence
- Scratch resistant
- 10 year warranty

# VENTILATION and LIGHT

SOLATUBE ventilation systems surround the natural luminance of a skylight with moisture protection to control the high humidity of today's bathroom environments.

Easy-to-install combination units allow for one manifold ceiling fixture that integrates natural daylight with high performance ventilation; removes moisture and odors for a fresher, cleaner bathroom. An optional electrical light can be added to any SOLATUBE system for complete comfort and convenience at night.

**HVI** SOLATUBE's ventilation units are tested and certified by the Home Ventilation Institute. This is your assurance that SOLATUBE meets the standards of an independent agency, and is found to consistently deliver the air and sound performance specified.

**UL** UL and UL/C vented unit (E170664), and lighted unit (E169572), are both listed for use over bathtubs and showers when connected to a GFCI protected branch circuit. 110 volt 15 amp circuit required.

# SOLATUBE Flashings Recommended Application Chart

	SHINGLES/SHAKE	CEMENT TILE	FLAT ROOF	S-TILE
Roof Style				
Roof Pitch	Composite Shingle Shake/Shingle Mobile Home	Cement Tile	Site Cured Foam Hot Mop Torch Down Cold Application	S-Tile Clay U-Tile Clay
Special Note	Up to 6:12 for north Roof Slope  Minimum 3:12 for other roof slope	Minimum 3:12  Roof Pitch > 6:12 not recommended for north roof slope	Used for problem drainage areas	Up to 6:12 for northern inclination  Minimum 3:12 for other inclinations
		Interlock mechanism Tile thickness 1"		Additional model for Maxtile



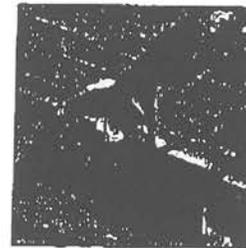
Before



After



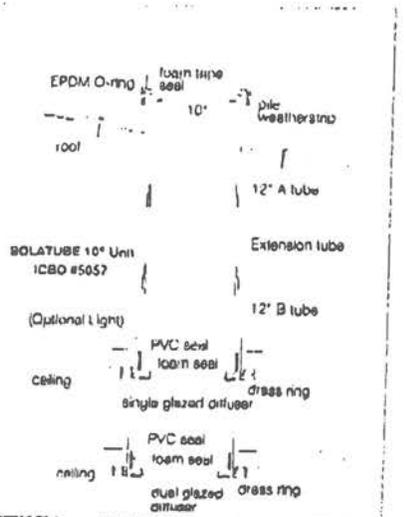
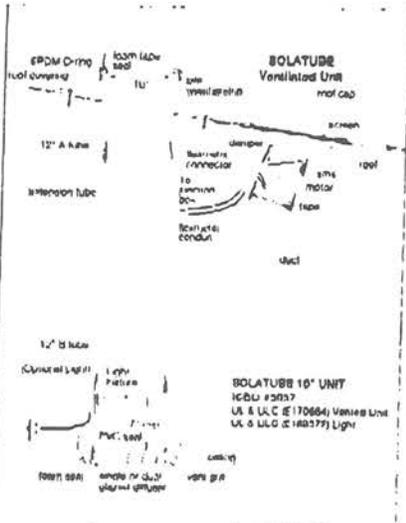
Universal application — A full range of leakproof, formfitting roof flashings are available to fit almost any roof style or profile.



More daylighting — SOLATUBE's patented skylight reflector and directed daylighting system outperforms a 2' by 2' traditional skylight.



Easier, faster installation — Small size and innovative design eliminates the need to cut framing or construct attic shafts, thus saving time, energy and money for the homeowner and installer.



## DIFFUSER OPTIONS

SOLATUBE offers a range of diffusers and trim options including curved prismatic for broad light diffusion, frosted flush-profile with dress ring (gold, silver and white) and a dual-glazed diffuser for greater insulation from extreme temperatures.

Tube Length (ft) BTU/Hr SqFt°F	U Value, HrsSqFt°F/BTU	R Value	UV Blockage Coefficient	Shading
3	0.53	1.89	99.99%	0.18
6	0.56	1.78	99.99%	0.08
9	0.58	1.72	99.99%	0.07

Note: 1 U values are calculated using Enermodel Engineering Ltd. + FRANE 3.01 computer program  
2 Shading coefficients are calculated using modified RADIANCE program with ray-tracing technique and Monte Carlo sampling  
Prismatic diffuser not available in vented SOLATUBE system

# GENERAL SPECIFICATIONS

## 1.1 SUMMARY

- A. Section Includes: Individual plastic dome skylights.

## 1.2 REFERENCES

- A. AA - Aluminum Association
- B. ASTM B 209 - Specification for Aluminum and Aluminum™ Alloy Sheet and Plate
- C. ASTM D 635 - Test Method for Rate of Burning and/or Extent and Time of Burning of Self-Supporting Plastics in a Horizontal Position
- D. ASTM D 1929 - Test Method for Ignition Properties of Plastics
- E. ASTM D 2843 - Test Method for Density of Smoke from the Burning of Decomposition of Plastics
- F. ASTM E 330 - Structural Performance of Exterior Windows, Curtain Walls, and Doors
- G. ASTM E 331 - Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Static Air Pressure Difference
- H. ICBO Evaluation Services, Inc. - Acceptance Criteria for Plastic Skylights
- I. ICBO Evaluation Services, Inc. - Acceptance Criteria for Skylights with Plastic Frames
- J. US Patent - No. 5 099 822
- K. Canadian Patent - No. 1 303322

## 1.3 SYSTEM DESCRIPTION

The skylight system consists of a field assembly of an exterior clear acrylic dome and flashing collar and an interior ceiling mounted acrylic diffuser joined by an adjustable aluminum duct.

## 1.4 SUBMITTALS

- A. Shop Drawings: Submit shop drawing fabrication and installation of skylights, including plans, elevations, sections, details of components, and attachments to other work.
- B. Product Data: Submit product data including details of construction relative to materials, dimensions of components, profiles, finishes, and light transmission and thermal characteristics. Include thickness, type, grade, and class of materials; dimensions; details of construction and installation details.
- C. Test Reports: Submit copies of the skylight manufacturer's current test reports verifying compliance with requirements.

## 1.5 QUALITY ASSURANCE

THE PARAGRAPH BELOW SHOULD BE RETAINED FOR PRODUCTS GOVERNED BY THE UNIFORM BUILDING CODE

- A. Regulatory Requirements: Plastic skylights shall comply with the Uniform Building Code (UBC) Sec. 6207

Furnish and install skylights in accordance with the skylight manufacturer's current ICBO Evaluation Report No. 5057

THE PARAGRAPH BELOW SHOULD BE RETAINED FOR PRODUCTS GOVERNED BY CODES OTHER THAN THE UNIFORM BUILDING CODE AND SHOULD BE MODIFIED TO SUIT REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

## B. Regulatory Requirements:

1. Fire-Test-Response Characteristics: Provide plastic sheets identical to those tested for the following fire-test-response characteristics, in accordance with ASTM test method specified below, by UL or other testing and inspecting agencies acceptable to authorities having jurisdiction. Identify plastic sheets with appropriate markings of applicable testing and inspecting organization.
  - a. Self-Ignition Temperature: As follows when tested in accordance with ASTM D 1929
    - (1) Acrylic Sheet: 797 degrees F or greater when tested on acrylic sheets in the thickness intended for use.
    - (2) Polypropylene Sheet: 950 degrees F or greater when tested on sheets in the thickness intended for use.
  - b. Smoke Density: 8.0 percent or less for dome and diffuser when tested in accordance with ASTM D 2843 on plastic sheets in the thickness intended for use.
  - c. Relative-Burning Characteristics: As follows when tested in accordance with ASTM D 635.
    - (1) Acrylic Sheet: Burning rate of 0.7 inch per minute when tested on plastic glazing specified with a nominal thickness of 0.118 inch.
    - (2) Polypropylene Sheet: Burning rate of 0.8 inch per minute when tested on plastic specified with a nominal thickness of 0.125 inch.

## 1.8 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Package and protect assemblies during shipment and inspect for damage, dampness and wet storage stains upon delivery
- B. Storage and Handling: Do not uncrate assemblies until they are ready for use. Store materials in dry, weathertight, ventilated areas

## 1.7 PERFORMANCE REQUIREMENTS

- A. Uniform Positive Load: Installed SOLATUBE 10" unit was tested in accordance with ASTM E 330 and the maximum allowable positive design load was tested at 146.8 psf with a safety factor of 3.
- B. Uniform Negative Load: Installed SOLATUBE 10" unit was tested in accordance with ASTM E 330 and the maximum allowable negative design load was tested at 98 psf with a safety factor of 2.

- C. Water Penetration: No water penetration noted when measured in accordance with ASTM E 331 on a 10" SOLATUBE unit installed on a 3:12 vertical/horizontal slope with a test pressure differential of 2.68 psf.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURER

- A. Drawings and specifications are based on plastic unit skylight manufactured by SOLATUBE North America, Limited, 5825 Avenida Encinas, Suite 101, Carlsbad, California, 92008, (800) 773-SOLA.

### 2.2 MATERIALS

#### A. Acrylic Plastic:

1. Roof Dome: Injection molded acrylic plastic classified as CC2 Plexiglass DR, 0.118 inch thick, with 92 percent visible light transmittance and 0.3% UV light transmittance.

2. Ceiling Diffuser: Injection molded, dual/single glazed acrylic plastic classified as CC2 Plexiglass DR, 0.098 inch thick, with 0.3% UV light transmittance and a special prismatic design on inside face of each sheet. Dual glazed diffuser sheets are joined at perimeter with IPHormoset urethane adhesive.

- B. Roof Flashing: Polypropylene classified as CC2 material, 0.125 inch thick. Mold Tech pattern MT11365 finish.

- C. Aluminum Duct and Reflector: Fabricate from aluminum sheet meeting the requirements of ASTM B 209, alloy and temper required by the manufacturer to suit forming operations and finish requirements, 0.020 inch thick.

1. Finish: Provide exposed aluminum surface with a high polished specular finish meeting the requirements of AA designation M2C3A31.

#### D. Accessories:

1. Ceiling Ring: 30 percent latex filled polypropylene.
2. Sealant: Kraton "Flexible Seal FSC666", nonhardening, nonskinning, nonshrinking, nonmigrating sealant.

#### 3. Seals:

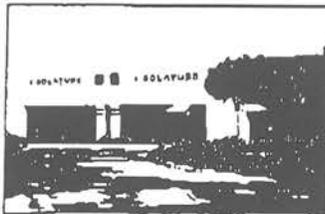
- a. Weather Seal: Medium density poly weatherstripping and light density polyvinyl chloride foam tape.
- b. Ceiling Diffuser Seal: Closed cell neoprene foam of the type recommended by the manufacturer and white polyvinyl chloride strip, butt joint welded.
- 4. Fasteners: Same as metals being fastened, or nonmagnetic stainless steel or other noncorrosive metal as recommended by the manufacturer. Match finish of exposed fasteners with finish of material being fastened.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Install skylights in accordance with manufacturer's printed installation instructions.

SOLATUBE was founded in 1990 in Sydney, Australia and invented the tubular skylight concept. The company has grown to include international distribution with worldwide facilities and operations. The corporate headquarters is located in Carlsbad, California and manufacturing is located in Vista, California. Research and development facilities are located in Carlsbad and Sydney.



Corporate headquarters - Carlsbad, California



**SOLATUBE**

Lighting the World Naturally

5825 Avenida Encinas, Suite 101  
Carlsbad, CA 92008  
619-929-6060  
Fax 619-929-6067



Manufacturing facilities - Vista, California

Approved by the International Conference of Building Officials (ICBO) See ICBO Evaluation Services, Inc., Evaluation report No. 5057 for allowable values and/or conditions of use concerning material presented in this document. It is subject to re-examination, revisions and possible cancellation. Originally issued 12/93 and renewed 3/95.

Recognized and awarded as the best product and best design by the Standards Association of Australia, Housing Industry Association, Home Center Institute, Environmental Achievement, National Retail Hardware Association (U.S.), Building Products (U.K).

Due to a commitment for product development and improvement SOLATUBE reserves the right to change or discontinue any product without notice. All specifications represented in the collateral material are subject to change without notice.

## THE NATURAL LIGHTING COMPANY

3021 Teagarden Ave.

San Leandro, CA 94577

(510) 352-5210

### ENERGY REBATES

These products may qualify for energy-saving rebates from local electric companies. Confirmation of rebate offerings must come directly from your utility.

### 10-YEAR WARRANTY

Superior quality manufacturing of non-corrosive, non-flammable reflective materials that will not darken, crack or peel help ensure long-term performance and return on investment.

Canadian Patent No. 1 303322 U.S.A. Patent No. 5 099 822  
© 1995 SOLATUBE North America, Ltd. Carlsbad, CA  
Printed in U.S.A. P1300 REV A



# ICBO Evaluation Service, Inc.

5360 WORKMAN MILL ROAD • WHITTIER, CALIFORNIA 90601-2299

A subsidiary corporation of the International Conference of Building Officials

## EVALUATION REPORT

Copyright © 1996 ICBO Evaluation Service, Inc.

Report No. 5057  
Reissued March 1, 1996

Filing Category: SKYLIGHTS AND SMOKE VENTS (232)

### SOLATUBE SKYLIGHT

SOLATUBE INTERNATIONAL, INC.  
5825 AVENIDA ENCINAS, SUITE 101  
CARLSBAD, CALIFORNIA 92008

#### I. Subject: SOLATUBE Skylight.

**II. Description: A. General:** SOLATUBE Skylights are constructed of components which include a dome, reflector, support base, reflective tubing, ceiling ring and a light diffuser. The SOLATUBE skylight domes are 10-inch-diameter hemispheric domes made of CC2 Plexiglass DR acrylic plastic recognized in Evaluation Report No. 1084. The resulting dome thickness is 0.125 inch. Support for the dome is provided by a 0.125-inch-thick polypropylene base. The dome is attached to the vertical section of the base (turret) with four stainless steel screws. An optional turret extension is available for applications requiring greater turret height. An aluminum tube is attached under the dome to the interior of the base. The tube is 0.020-inch-thick and is constructed of specular anodized aluminum lighting sheet. The interior is highly polished to reflect sunlight downward through the aluminum tubing. The tubing ranges in length from 0.3 feet to 12 feet. A light diffuser made of CC2 plexiglass DR acrylic, 0.100-inch-thick is at the lower termination of the tube. The skylights can resist positive or negative loads up to 100 pounds per square foot.

**B. Installation:** The SOLATUBE skylights are prepackaged for field installation with all components, attachments, and instructions in the shipping carton. A 10.5-inch-diameter hole is cut in the roof sheathing and ceiling below the attic space. The skylight base is attached to the roof sheathing with six No. 10 by 2-inch stainless steel sheet metal screws. The 10-inch-diameter reflective tube is then inserted into the base and a foam sealant is applied between the base and the aluminum tube. A curved reflector is mounted inside the dome. The dome is next secured to the base with four No. 8 by 0.5-inch stainless steel panhead sheet metal screws. The SOLATUBE terminates at the ceiling into a CC2 polypropylene ceiling ring installed with either four No. 10 by 1.5-inch steel screws or

four plastic self-locking anchors. The light diffuser is secured onto the ceiling ring with a one-eighth clockwise turn.

1. **Roof Slope less than 3:12:** On roof slopes of less than 3:12, the lowest edge of the base turret must be at least 4-inches above the plane of the roof. Application of the optional SOLATUBE 2-inch polypropylene turret extension satisfies this requirement. See Figure 2.

2. **Classified Roof Coverings:** Where Class A or Class B roof coverings are required, the lowest edge of the base turret must be at least 4-inches above the plane of the roof and the entire turret and dome edge must be protected by metal or other noncombustible materials. Application of the optional SOLATUBE 2-inch polypropylene turret extension over which is placed a SOLATUBE 0.040-inch-thick aluminum turret shroud, satisfies these requirements. See Figures 2 and 3. For additional details refer to Figures 1 and 2.

**C. Identification:** SOLATUBE skylight components are packaged in boxes bearing the manufacturer's name, address, and an ICBO ES evaluation report number. Additionally a label bearing the manufacturer's name "SOLATUBE" is attached to the SOLATUBE base. The dome, ceiling ring, and diffuser have the words "U.S. Patent No. 5099622" inscribed on their surfaces.

**III. Evidence Submitted:** Manufacturer's brochures, specifications, installation instructions and report of appropriate tests in accordance with the ICBO ES Acceptance Criteria for Plastic Skylights dated January 1989.

### Findings

**IV. Findings:** That the SOLATUBE Skylight described in this report complies with the 1994 *Uniform Building Code*<sup>™</sup>, subject to the following conditions:

1. Installation is in accordance with this report and the manufacturer's instructions.
2. Maximum positive and negative load is 100 psf.

This report is subject to re-examination in one year.

Evaluation reports of ICBO Evaluation Service, Inc., are issued solely to provide information to Class A members of ICBO, utilizing the code upon which the report is based. Evaluation reports are not to be construed as representing aesthetics or any other attributes not specifically addressed nor as an endorsement or recommendation for use of the subject report.

This report is based upon independent tests or other technical data submitted by the applicant. The ICBO Evaluation Service, Inc., technical staff has reviewed the test results and/or other data, but does not possess test facilities to make an independent verification. There is no warranty by ICBO Evaluation Service, Inc., express or implied, as to any "Finding" or other matter in the report or as to any product covered by the report. This disclaimer includes, but is not limited to, merchantability.

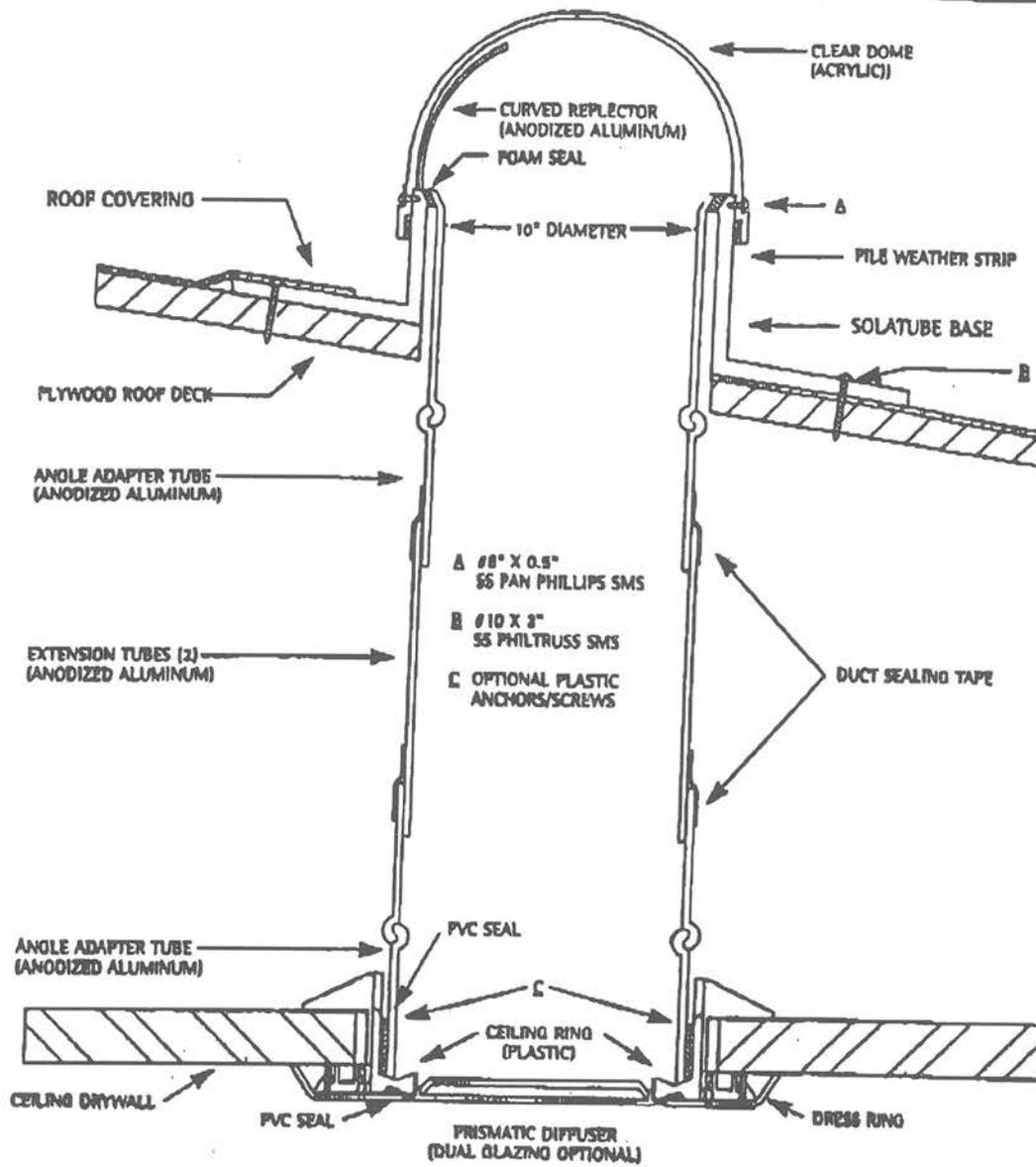


FIGURE 1

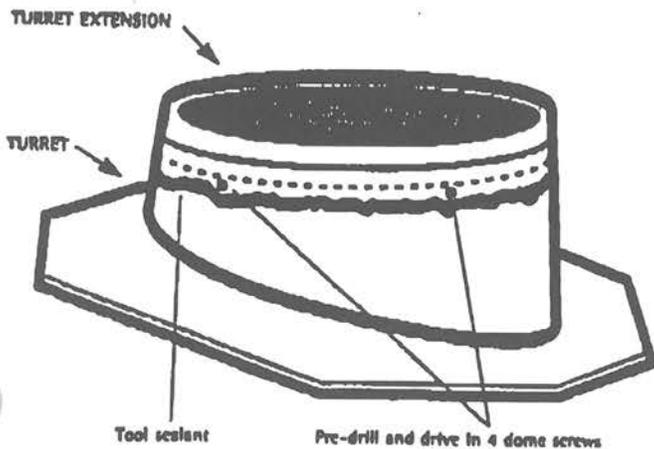


FIGURE 2

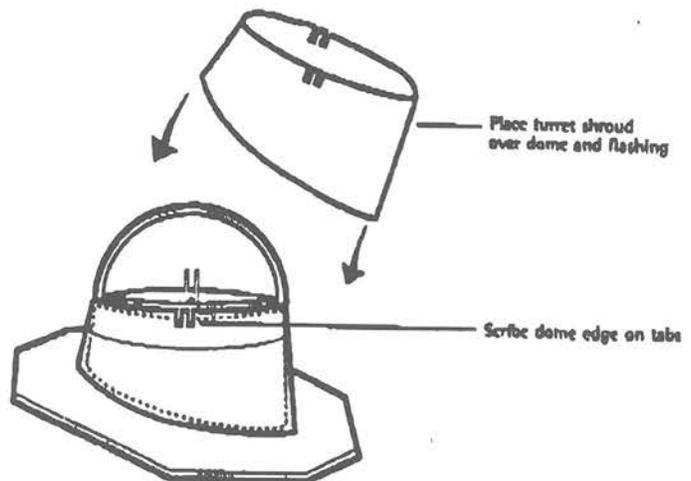


FIGURE 3

# SOLA-TUBE 250 MODEL

## TEST RESULT DATA SHEET

### ULTRA VIOLET TRANSMISSION TESTING

**COMPONENTS TESTED:** *Dome and Diffuser*

**TESTING AUTHORITY:** *Australian Radiation Laboratory  
Lower Plenty Road, Yallambio  
Victoria, Australia [23, March, 1993]*

*The problems associated with harmful UV rays are becoming more relevant in our daily lives. SOLA-TUBE Australia are often asked if the effect of standing beneath our products is harmful to the furnishings or their skin. SOLA-TUBE commissioned the Australian Radiation Laboratory to test our Dome and Diffuser to see if the transmission of UV through our products were harmful. To understand the results we were advised that there are two types of UV to consider in this case, they are UVB and UVA. The most harmful is UVB which causes skin cancer whereas the UVA causes aging. The chart below lists the results of testing and shows the percentage of UV that transmits through the components.*

	% Transmission	
	UVB	UVA
Dome	0.2%	10.9%
Diffuser	3.9%	28.8%
<b>Total:</b>	<b>0.0078%</b>	<b>3.08%</b>

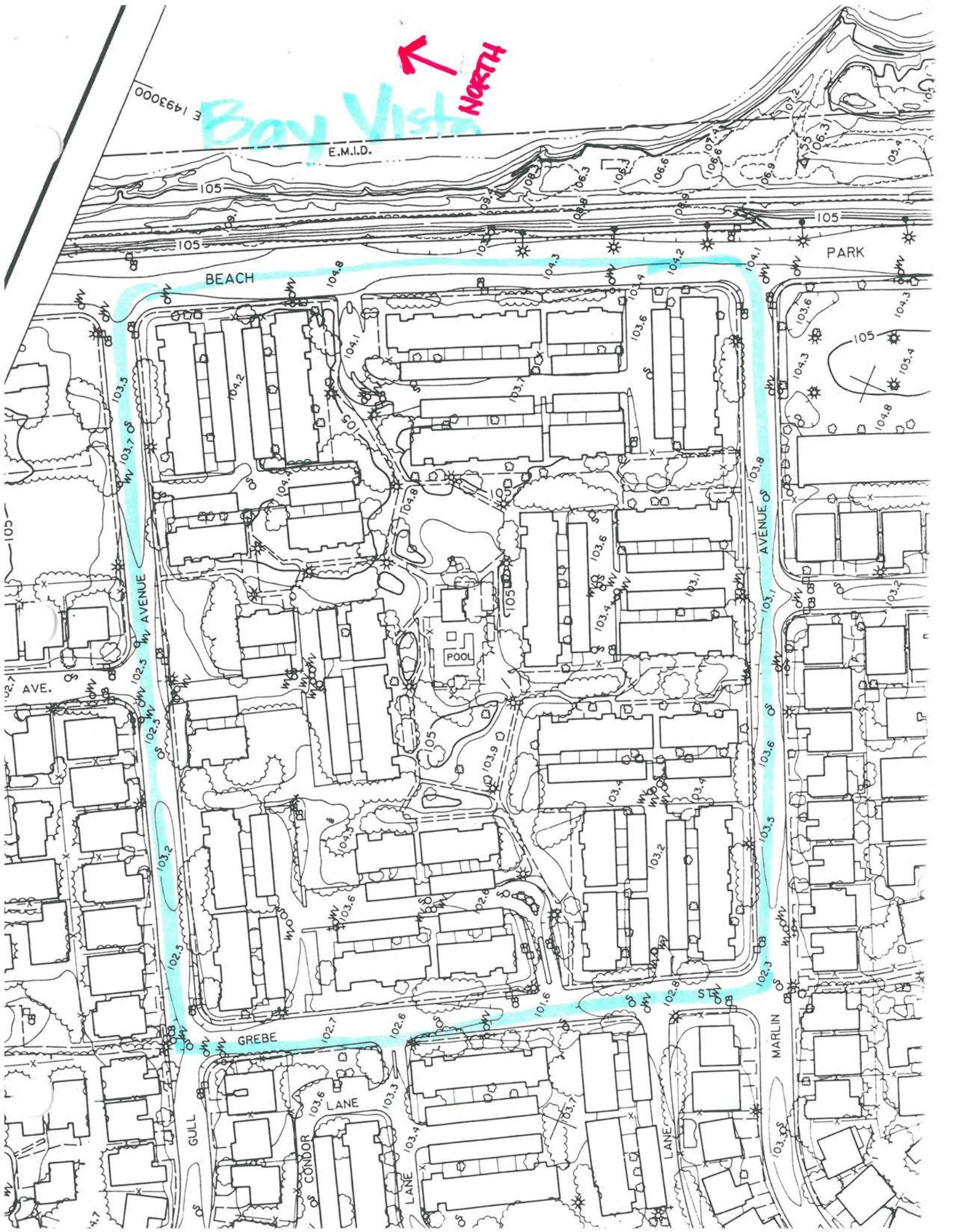
*The total shows what amount actually transfers from the sun to the inside of the home. From these results, the Australia Radiation Laboratory suggest that there is no need for concern of the effects of UV beneath our product.*

↑ NORTH

Bay Vista

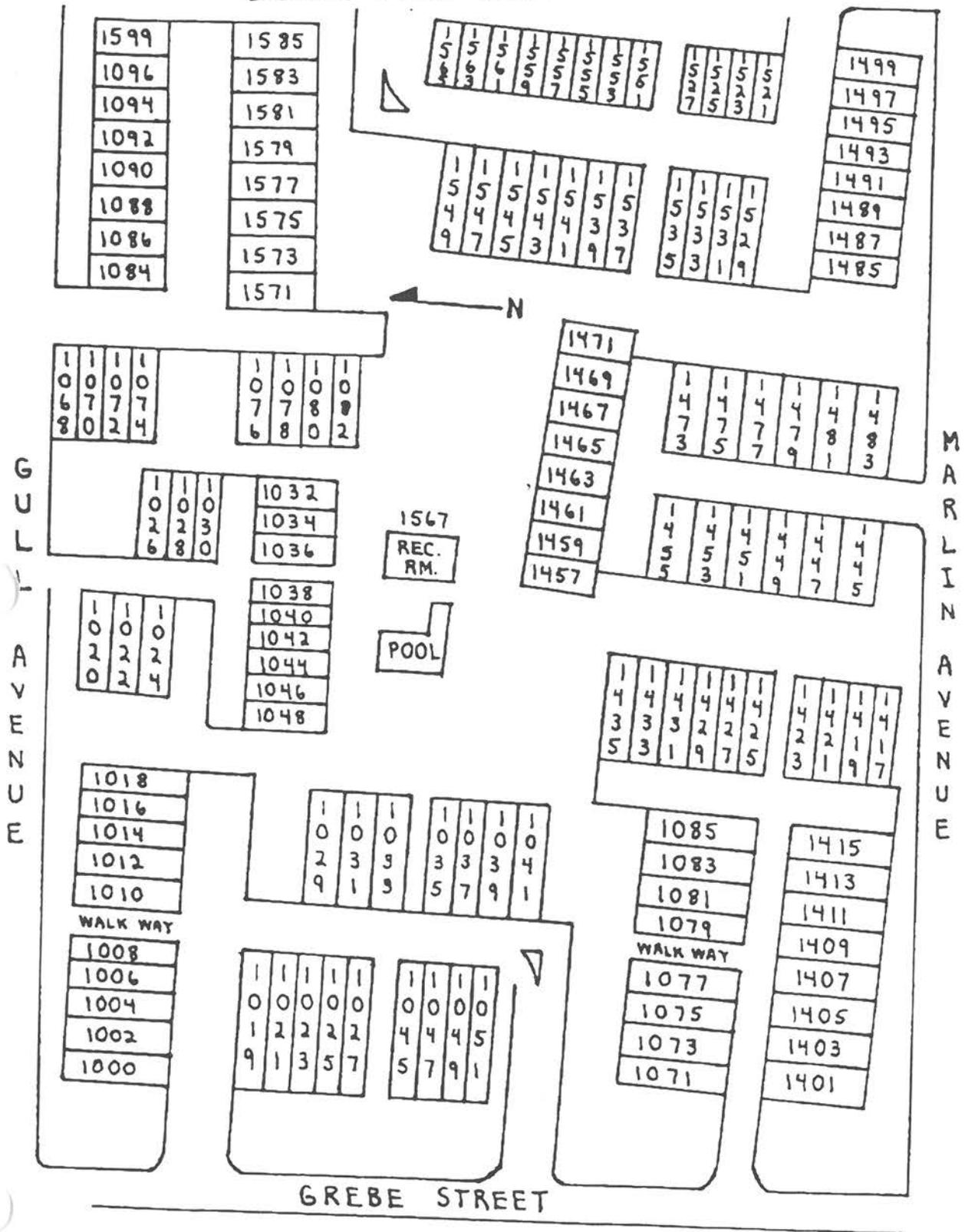
E 1493000

E.M.I.D.



# Bay Vista Map

BEACH PARK BLVD.



# *Bay Vista Townhomes, Foster City*

May 9, 1997

The City of Foster City  
Community Development Department  
Ms. Leslie Carmichael, Senior Planner  
610 Foster City Blvd.,  
Foster City, CA 94404

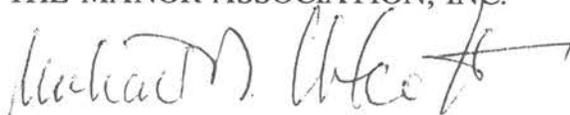
RE: AR94121

Dear Ms. Carmichael:

Per your request, this letter will memorialize the understanding that, in order for Bay Vista to obtain approval of the skylights specified for the Bay Vista reroof project, previously approved skylight designs are no longer acceptable. This will not affect presently installed or applied for skylights.

Sincerely,

THE MANOR ASSOCIATION, INC.



Michael D. Wolcott, PCAM, CCAM  
Managing Agent

MAY 07 1997  
January 2, 1997

DIVISION

- L. Ridge Vents (Alternate Bid): 10-1/2" wide Celotex "Roll Vent", or approved equal.
- M. Attic Vents: Low profile "eyebrow vents" as shown on Detail "L". An acceptable vent is Noll's Model 20, with 48 square inches of net free venting area. Other similar vents with equal or greater venting area are also acceptable.
- N. Primer and flat finish coat paint for new metal flashings: Galvanized metal primer with solvents, etching solutions, and other accessories as recommended by manufacturer. Primer color shall be tinted to tan or gray color. Finish paint color shall match the color of the roofing material, fascias, and wood trim. Acceptable manufacturers include Elk Corporation, Fuller O'Brien Corp., Behr Process Corp., Kelly-Moore, Pratt & Lambert, and Rust-Oleum Corporation. Other manufacturers will be considered, with evidence of product equality. Submit product information and color samples to the Consultant, and receive written acceptance before proceeding.
- O. Paint primer for existing rusty areas of galvanized steel flashings to be left in place: Rust-Oleum "7769 Rusty Metal Primer", or approved equal.
- P. Metal Counterflashing Fasteners for concrete chimneys: Buildex "Tapcon Screws", Molly "Nail Anchors", or approved equal.
- Q. Rectangular Skylights: "HorizonLite" Glass Skylights with lifetime "Water Tite" limited warranty. Curb mounted, 24" x 48", with bronze tempered glass over clear laminated glass. Metal frame shall have a dark bronze polyester paint finish. Manufactured by O'Keefe's Inc., 75 Williams Ave., San Francisco, CA 94124. Phone 800-822-4222.
- R. Round Skylights: "SOLATUBE" plastic tubular skylight, with 10-year limited product warranty and standard ceiling light diffuser and trim ring. Alternate prices are requested for 10-inch and 16-inch diameters. Manufactured by SOLATUBE International, Inc., 5825 Avenida Encinas, Suite 101, Carlsbad, CA 92008. Phone 800-773-SOLA. A local Dealer/Installer is The Natural Lighting Company, 3021 Teagarden, San Leandro, CA 94577. Phone 510-352-5210.

To: <i>CITY OF FOSTER CITY</i> Co./Dept: <i>RECLUB CARMICHAEL</i> Fax: <i>415-286-3227</i> Phone: <i>415-284-3483</i> Note:		<b>QUICK FAX<sup>TM</sup> OFFICE<sup>MAX</sup></b> From: <i>THE NATURAL LIGHTING</i> Co./Dept: <i>JIM HANLON</i> Fax: <i>510-352-5210</i> Phone: <i>352-5213</i> E-Mail:	
---	--	---	--

FOSTER CITY  
RECEIVED

MAY 07 1997

PLANNING  
DIVISION

**THE NATURAL LIGHTING COMPANY**  
3021 Teagarden Ave.  
San Leandro, CA 94577  
(510) 352-5210



*The Natural Lighting Company*

Authorized Solatube Dealer  
**JIM HANLON**  
FREE In-Home Consultations  
Come Visit Our Showroom

3021 Teagarden  
San Leandro, CA 94577

(510) 352-5210  
Fax (510) 352-5213