SOLAR SCREEN SHADES SPECIFICATION

PART I - GENERAL

1.1 SUMMARY

A. All Solar Screen Shades shall be motorized (either 115v ac or solar powered) or manually operated retractable solar screen shades. The homeowner will be allowed one (1) solar screen shade per residence. The solar screen shade must be located on the western/bay side of the residence and can only be mounted on the inside wall or soffit. No roof mounted solar screens shades are allowed.

1.2 DEFINITIONS

A. Solar Screen Shade is an architecturally designed retractable shade that uses a densely woven solar screen fabric to provide protection from the harsh sun. It is wholly supported by the building to which it is attached. The solar screen shade supported by protective a lightweight, rigid housing with which it is attached.

B. Solar Screens shades: A screen with a frame that retracts into a frame and mounted against a building or other structure to which it is entirely supported.

1.3 PERFORMANCE REQUIREMENTS

A. General: The solar screen shade is be designed and fabricated to withstand loads from gravity, wind, pounding, drift, and structural movement, including thermally induced movement; and to resist, without failure, other conditions of in-service use, including exposure to weather.

PART 2 - PRODUCTS

2.1 MANUFACTURERS
A. Manufacturers: Obtain solar screen shades from one of the following (or obtain waiver from Board of Directors):
1. Retractable Solutions California Door & Window Inc. Cranston RI, ph 401-943-0003

2. Sun Setters Products 184 Charles St. Malden MA ph 800-876-2340

2.2 SOLAR SCREEN SHADE FABRICS
A. Products:
1. Sheer weave fabric approved for solar screens shades, including the following:

a. Solids:
    1. Sheerweave 4000 series (Pewter)
    2. Easy Shade Vinyl (Desert Sand)

2. Other fabrics only by waiver from the Board of Directors. The availability of these fabrics may change over time and replacement fabrics will be identified.

2.3 SOLAR SCREEN SHADE FRAMES

A. Aluminum Frames: Alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated and with not less than the strength and durability properties of alloy and temper required by structural loads.

1. Aluminum Plate and Sheet: ASTM B 209.
2. Aluminum Extrusions: ASTM B 22 1.
Unless another weight is indicated or required by structural loads.
3. Aluminum Finish: Mill and/or Manufacturer's standard decorative Baked-enamel or Powder-coat finish at visible areas complying with finish manufacturer's written instructions for surface preparation including pretreatment, application, baking, and minimum dry film thickness.

B. Anchors, Fasteners, Fittings, Hardware, and Installation Accessories: Complying with performance requirements indicated and suitable for exposure conditions, supporting structure, anchoring substrates, and installation methods indicated. Corrosion-resistant or non-corrodible units; weather-resistant, compatible, non-staining materials. Provide as required for solar screen shades, assembly, mounting, and secure attachment. Number as needed to comply with performance requirements and to maximize appearance; evenly spaced. Where exposed to view, finish white or cream.

2.4 RETRACTABLE SOLAR SCREEN SHADE MECHANISM

A. Motorized Operation: Plug-in or Solar powered or manual provide factory-assembled retractable solar screen shade operation systems designed for retracing solar screen shades of type, size, weight, construction, use, and operation frequency indicated. Provide operation systems of size and capacity and with features, characteristics, and accessories suitable for Project conditions and recommended by solar screen shade manufacturer, complete with electric motors and factory -prewired motor controls, remote control stations, remote-control devices, power disconnect switches, enclosures protecting controls and all operating parts, and accessories required for reliable operation without malfunction. Include wiring from motor controls to motors. Coordinate plug-in operator wiring requirements and electrical characteristics with building electrical system.

B. Comply with NFPA 70.

C. Control Equipment: Comply with NEMA ICS 1, NEMA ICS 2, and NEMA ICS 6.

D. Electric Motors: UL-approved or -recognized, totally enclosed, insulated motor, complying with NEMA MG 1, with thermal-overload protection and internal
limit switches; sized by solar screen shade manufacturer to start and operate size and
weight of solar screen shade considering service factor or considering Project's service conditions without exceeding nameplate ratings.

1. Service Factor: According to NEMA MG 1, unless otherwise indicated.
2. Motor Characteristics: Single phase, 110 V, 60 Hz.
3. Coordinate wiring requirements and electrical characteristics of motors with building electrical system.
4. Motor Mounting: Within manufacturer's standard roller enclosure.

E. Remote Controls: Electric controls with NEMA ICS 6, Type 4 enclosure for recessed or flush mounting. Provide the following devices for remote-control activation of solar screen shade:

1. Control Stations: Momentary-contact, three-position, toggle-style, wall switch-operated control station with open, close, and center off functions. Color: White or Cream.
2. Radio Controls: Digital system consisting of code-compatible universal coaxial receiver, one per solar screen and portable single-channel transmitters for operating a single motor with a single button to open and close solar screen shade.

F. Limit Switches: Adjustable switches, interlocked with motor controls and set to automatically stop solar screen shade at fully raised and fully lowered positions.

G. Operating Function: Stop and hold solar screen shade at any position.

H. Operating Features: Backup gear and crank operator for manual operation during power failures with detachable handle, manufacturer's standard length.

I. Solar Screen Hood: Sheet metal enclosure sized to fit solar screen shade roller and operating hardware inside and designed for UV-light, dust, and weather protection.
Finish and color: white or cream

PART 3 - FABRICATION AND INSTALLATION

3.1 SOLAR SCREEN SHADE FABRICATION

A. Fabrics: Reinforce wear points and hardware attachment points with nonwoven, mesh, or polypropylene mesh webbing.
1. Fabric Edges and Seams: Manufacture's standard hemming and seaming methods.
B. Frames: Preassemble solar screen shade frames in the shop to greatest extent possible.
Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
1. Form bent-metal comers to smallest radius possible without causing grain separation or otherwise impairing work.
2. Form exposed work true to line and level with accurate angles and surfaces and straight edges.
3. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Fabricate slip-fit connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
finishing and contour of welded surface matches that of adjacent surface.
4. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications in place and to properly transfer loads.

C. Colors of Metal and Plastic Components Exposed to View: White or Cream.

3.2 EXAMINATION OF LOCATION

A. Field Measurements: Where solar screen shade installation is indicated to fit to other work, determine dimensions by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for the entire operating range.
B. Examine substrates, areas, and conditions for compliance with requirements for supporting members, blocking, inserts, installation tolerances, and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.3 INSTALLATION

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit installation of solar screen shades in exterior locations according to manufacturers' written instructions and warranty requirements.

B. General: Install solar screen shades and motor controls at locations and in position indicated, securely connected to supports, free of rack, and in proper relation to adjacent construction. Use mounting methods of types

described and in compliance with Shop Drawings and fabricator's written instructions.

C. Attach fabric to frames as recommended by fabricator, to ensure tight, wrinkle-free fit of fabric to frame.

D. Slip fit frame connections accurately together to fontal hairline joints and tighten to secure.

E. Anchoring to In-Place Construction: Use anchors, fasteners, fittings, hardware, and installation accessories where necessary for securing solar screen shades to structural support and for properly transferring load to in-place construction.

G. Corrosion Protection: Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint (if applicable).

H. Coordinate solar screen shade installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed exterior wall (if applicable).

I. Connections: Connect motorized operators to building electrical system.

J. Solar powered screens The Solar-Powered EasyShade features a matching-colored solar collection panel attached to the outside of the shade housing. The panel does not require direct sunlight to maintain a charge, indirect sunlight is all it needs and does not require mounting outside the deck building. There's no electrical cord needed,

3.4 ADJUSTING

A. Adjust solar screen shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.

3.5 CLEANING AND PROTECTION

A. Clean solar screen shade surfaces after installation, according to manufacturer's written instructions.

B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and installer, that ensure that solar screen shades are without damage or deterioration at time of Substantial Completion.

C. Replace damaged solar screen shades that cannot be repaired, in a manner approved by manufacturer, before time of Substantial Completion.

3.6 DEMONSTRATION

A. A factory-authorized service representative shall demonstrate to the Owner how to operate, and maintain solar screens.

END OF SECTION