MIAMI-DADE COUNTY, FLORIDA
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ADVISORY MEMO

TO: **All Building Officials in Miami-Dade County**

FROM: **Michael L. Goolsby, Director, Board and Code Administration Division**

DATE: **January 19, 2017**

SUBJECT: **Solar Thermal and Solar Electric Guideline Update**

At their meeting of January 19, 2017, the Miami-Dade County Board of Rules and Appeals revised the *Solar Thermal and Solar Electric Guidelines*. Specifically the Board revised Florida Building Code (FBC) references necessary to accurately reflect relevant sections as currently contained in the FBC 5th Edition (2014).

A copy of the revised *Solar Thermal and Solar Electric Guidelines* is attached.

Should you have any questions, contact Mr. Michael Goolsby at (786) 315-2509.

Miami-Dade County
Boards of Rules and Appeals
Solar Thermal/Electric
Instructions and Recommendations

The Uniform Permit Submittal Matrix for Solar Thermal and Solar Electric Installations in the High Velocity Hurricane Zone is adopted as a "BORA Approved Guideline" establishing minimum code requirements regarding permit application submittals, thereby creating and instituting countywide uniformity. In addition:

A.) Building Departments shall establish an individual master permit for both Solar Thermal and Solar Electric installations to which applicable subsidiary categories are to be tied. Adding additional categories to the master permit may not require an additional permit obtained by a separate contractor, but will require a separate trade review in every instance.

B.) It is established that Certified Solar Contractors may obtain the master permit in either the Solar Thermal or Solar Electric categories. Certified or Registered Plumbing Contractors may obtain the master permit in the Solar Thermal category. Certified or Registered Electrical Contractors may obtain the master permit in the Solar Electric category. Registered Solar Contractors may obtain the master permit in the solar thermal category, restricted to residential installations only. Each of these contractors may perform all work identified in their individual scopes of work including the installation of appurtenances, apparatus, or equipment. However, such contractor shall subcontract all other work which is specified as being the work in the trade of another contractor.

C.) Building Departments shall provide inspections of solar thermal and solar electric systems. More than one inspection may be performed during any inspection visit.

Solar Thermal

Building/Structural/Roofing – Time of Installation and Final

Plumbing – Final

Solar Electric

Building/Structural/Roofing – Time of Installation and Final

Electrical – Rough and Final
Hybrid Systems (Complete PV Panel System combined with integral solar water panels)

Building/Structural/Roofing – Time of Installation and Final

Electrical – Rough and Final

Plumbing – Final

D.) The Board recommends Building Departments establish an inspection procedure to ensure all required inspections are completed within a specified two hour timeframe.

E.) Recommend that Building Departments include an Owner notification on all solar thermal or solar electric permit applications, for existing structures, using substantially the language provided below:

> *"Installation of roof mounted photovoltaic or solar support systems typically require roof system penetrations to allow attachment to the structure which may create additional long-term roof system maintenance requirements and/or jeopardize roof system manufacturer's warranties. Roof mounted solar systems generally require removal and reinstallation of solar panels/arrays in order to perform routine roof system maintenance, repair or replacement."*

F.) Building Departments shall maintain accurate records regarding the type, number and location of Solar Energy installations.

G.) Recommend and encourage Building Departments to expand access of renewable energy technology to the community by not imposing needless or excessive oversight measures and through a program of streamlined permitting and inspections.

H.) Recommend and encourage Manufacturers to pursue optional product approval as a means of accelerating the permit approval process by ensuring a less complicated and less expensive process for consumers.

I.) The Regulatory and Economic Resources Department to continue the ongoing awareness program designed to ensure all certified personnel understand the process of permitting and inspecting Solar Thermal and Solar Electric installations.

J.) The Regulatory and Economic Resources Department will provide guidance and assistance to the Solar Energy industry, provide mediation, and assist with the BORA appeal process as necessary.

UNIFORM PERMIT SUBMITTAL MATRIX
for
SOLAR THERMAL AND SOLAR ELECTRIC INSTALLATIONS
in
THE HIGH VELOCITY HURRICANE ZONE
(Revised January 2017)

General Requirement	Submittal Requirements	F.S./Code Section
1. Permit Application		
		FBCB 105.3 BCAP 105.3
2. Building/Equipment Layout Plan		
		FBCB 107 BCAP 106
3. Structural Design		
• Photovoltaic Roof Mounted Panel & Solar Thermal Equipment	Submit signed and sealed drawings & design calculations by licensed Professional Engineer or Registered Architect showing: • Documentation/verification exposed solar panel equipment meet wind loads. • Documentation/verification support framing meets both uplift and lateral forces. • Design of connections for the wind loads. • Documentation/verification structural supports will accommodate additional dead loads.	FBCB 1522.1 FBCEB 504 FBCB 1616.1.2 FBCEB 706 FBCB 1605 FBCB 1620.1 FBCB 1620.2 FBCB 1620.3 FBCB 1621 Note: Dead load compliance with the Exception contained in the FBCEB Section 706.2 may be demonstrated by Providing the Dead Load criteria from the original plans.
4. Roof Design		(FBCEB 708.3 References Sec. 1512-1525 FBC)
• Building Integrated Photovoltaic (BIPV)	Submit a Uniform HVHZ Permit Application.	FBCB 1512.3 FBCB 1512.2.1 FBCB 1516.2
• Photovoltaic Roof Mounted Panel	Submit a detail of the roof penetration flashing Submit clearance requirements.	FBCB 1514 FBCB 1522.3.1
• Solar Thermal	Submit a detail of the roof penetration flashing. Submit clearance requirements.	FBCB 1514 FBCB 1522.3.1

5. System Components		
• Solar Water Heater	Submit FSEC Approval/Listing and System Reference Drawing.	FBCB 107 FBCEC R403.4.3 BCAP 101
• Solar Water Heater using a PV powered pump	Submit listing for PV panel and pump.	NEC Article 690
• Solar Swimming Pool Water Heater	Manufacturers selected system installation manual/detail and system specifications.	FBCB 107 BCAP 106
• Solar Swimming Pool Water Heater	Submit FSEC Approval/Listing and System Reference Drawing.	FBCB 107 F.S. 377.705 BCAP 101
• Photovoltaic System • Electrical Engineer Requirements	Plans must be signed and sealed by a Professional Engineer if: a.) The system has a value of more than $50,000, or; b.) The systems has an aggregate service capacity of 600 amperes (240 volts) or more for a residential electrical system, or; c.) The system has an aggregate service capacity of 800 amperes (240 volts) or more for a commercial or industrial electrical system.	F.S. 471.003(h)
• Statutory Requirement	FSEC will generate a System Certification Approval Form.	F.S. 377.705
• Electrical Diagram	Submit electrical diagram designed in accordance to the National Electrical Code Article 690 Solar Photovoltaic Systems and include components interconnects, conductor types and sizes, conduit types and sizes, disconnects, and point of interconnection.	NEC Article 690
• Component Documentation	FSEC Certification.	F.S. 377.705
Abbreviations	BCAP - Broward County Administrative Provisions FBCB - Florida Building Code, Building Volume FBCEB - Florida Building Code, Existing Building Volume FBCEC – Florida Building Code, Energy Conservation Volume F.S - Florida Statute FSEC - Florida Solar Energy Center NEC - National Electric Code	