



TOTAL FLAT ROOF AREA = 45,787 SF  
 SOLAR PANEL AREA REQUIRED = 45,787 X 0.15 = 6,868 SF  
 TOTAL PROVIDED = 7,208 SF

**SINGLE-PLY ROOFING DESCRIPTION**  
 SHALL BE SUBMITTED BY "SINGLE" OR EQUAL  
 WITH A 100% TEST

**SIZE OF HORIZONTAL RAINWATER PIPING**  
 PER TABLE 11-2.1(C)  
 SIZE OF RAINWATER PIPING FOR 4" PER HOUR RAINFALL INTENSITY  
 TO HORIZONTAL PROJECTED ROOF AREA IN SQUARE FEET

SIZE OF PIPE IN INCHES	200' W/	400' W/	600' W/
3	802	1,180	1,644
4	1,407	2,050	2,820
5	2,100	3,220	4,380
6	2,800	4,390	5,940
8	4,200	6,580	8,910
10	5,600	8,770	11,880
12	7,000	10,960	14,850
15	9,800	14,150	19,440

ROOF DRAIN AREA IN SQUARE FEET  
 ROOF DRAIN OVERFLOW DRAIN, AND RAINWATER PIPING  
 SHALL BE SUBMITTED BY "SINGLE" OR EQUAL WITH A 100% TEST  
 FOR TESTING DRAIN, WASTE, AND VENT SYSTEMS

TOTAL FLAT ROOF AREA = 36,864 SF  
 SOLAR PANEL AREA REQUIRED = 36,864 X 0.15 = 5,529 SF  
 TOTAL PROVIDED = 6,847 SF

**SINGLE-PLY ROOFING DESCRIPTION**  
 SHALL BE SUBMITTED BY "SINGLE" OR EQUAL  
 WITH A 100% TEST

**SIZE OF HORIZONTAL RAINWATER PIPING**  
 PER TABLE 11-2.1(C)  
 SIZE OF RAINWATER PIPING FOR 4" PER HOUR RAINFALL INTENSITY  
 TO HORIZONTAL PROJECTED ROOF AREA IN SQUARE FEET

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 SHALL BE SUBMITTED BY "SINGLE" OR EQUAL WITH A 100% TEST  
 FOR TESTING DRAIN, WASTE, AND VENT SYSTEMS

**9.1 SOLAR READY NOTE:**  
 THE REQUIREMENTS FOR SOLAR READY BUILDINGS ARE ALL MANDATORY. THERE ARE NO PRESCRIPTIVE AND PERFORMANCE COMPLIANCE PATHS FOR SOLAR READY BUILDINGS. SINCE THE PROVISIONS ARE MANDATORY, THERE ARE NO TRADEOFFS ALLOWED, AND APPLICANTS MUST DEMONSTRATE COMPLIANCE WITH EACH MEASURE.

**9.4 CONSTRUCTION DOCUMENTS**  
 CONSTRUCTION DOCUMENTS MUST INCLUDE INFORMATION ABOUT THE AS-DESIGNED STRUCTURAL LOADS AND PLANS FOR INTERCONNECTING A PV AND SWH SYSTEM TO THE BUILDING'S ELECTRICAL OR PLUMBING SYSTEMS.

**9.4.1 STRUCTURAL DESIGN LOADS**  
 THE STRUCTURAL DESIGN LOAD REQUIREMENTS APPLY IF ANY PORTION OF THE SOLAR ZONE IS LOCATED ON THE ROOF OF THE BUILDING. FOR THE AREAS OF THE ROOF DESIGNATED AS THE SOLAR ZONE, THE STRUCTURAL DESIGN LOADS FOR ROOF DEAD LOAD AND ROOF LIVE LOAD SHALL BE CLEARLY INDICATED ON THE CONSTRUCTION DOCUMENTS. THIS IS REQUIRED SO THAT THE STRUCTURAL LOADS ARE KNOWN IF A SOLAR ENERGY SYSTEM IS INSTALLED IN THE FUTURE.

THE ENERGY STANDARDS DO NOT REQUIRE ROOF ON WHICH THE SOLAR ZONE IS LOCATED TO INCLUDE FUTURE DESIGNED T LOADS OF THE SOLAR EQUIPMENT. IN OTHER WORDS, THERE ARE NO REQUIREMENTS FOR THE INCLUSION OF ANY COLLATERAL LOADS FOR FUTURE SOLAR ENERGY SYSTEMS.

**9.4.2 INTERCONNECTION PATHWAYS**  
 §110.10(C)  
 ALL BUILDINGS MUST INCLUDE A SOLAR ZONE, A PLAN FOR CONNECTING A PV, AND SWH SYSTEM TO THE BUILDING'S ELECTRICAL OR PLUMBING SYSTEM. THE CONSTRUCTION DOCUMENTS MUST INDICATE:

1. A LOCATION FOR INVERTERS AND METERING EQUIPMENT FOR FUTURE SOLAR ELECTRIC SYSTEMS. THE ALLOCATED SPACES SHOULD BE APPROPRIATELY SIZED FOR A PV SYSTEM THAT WOULD COVER THE ENTIRE SOLAR ZONE.
2. A PATHWAY FOR ROUTING CONDUIT FROM THE SOLAR ZONE TO THE POINT OF INTERCONNECTION WITH THE ELECTRICAL SERVICE. THERE IS NO REQUIREMENT TO INSTALL CONDUIT. RATHER, THE DESIGN DRAWINGS MUST SHOW WHERE THE CONDUIT WOULD BE INSTALLED IF A SYSTEM WERE INSTALLED AT A FUTURE DATE.
3. A PATHWAY FOR ROUTING OF PLUMBING FROM THE SOLAR ZONE TO THE WATER-HEATING SYSTEM. THERE IS NO REQUIREMENT TO INSTALL PIPING.

**9.4.3 DOCUMENTATION**  
 1. A COPY OF THE CONSTRUCTION DOCUMENTS THAT SHOW THE SOLAR ZONE, THE STRUCTURAL DESIGN LOADS, AND THE INTERCONNECTION PATHWAYS MUST BE PROVIDED TO THE BUILDING OCCUPANT. THE BUILDING OCCUPANT MUST ALSO RECEIVE A COPY OF THE COMPLIANCE FORMS: NRCC-SRA-01-E, NRCC-SRA-02-E AND NRCC-SRH-01-E. PROVIDING INFORMATION TO THE BUILDING OCCUPANT IS REQUIRED SO THAT THE SOLAR READY INFORMATION IS AVAILABLE IF THE OCCUPANT DECIDES TO INSTALL A SOLAR ENERGY SYSTEM IN THE FUTURE.

**9.7 CALIFORNIA FIRE CODE SOLAR ACCESS REQUIREMENTS**  
 1. PURSUANT TO REGULATIONS ESTABLISHED BY THE OFFICE OF THE STATE FIRE MARSHAL, THE 2013 VERSION OF PARTS 2, 2.5 AND 9 OF TITLE 24 NOW INCLUDE REQUIREMENTS FOR THE INSTALLATION OF ROOFTOP SOLAR PHOTOVOLTAIC SYSTEMS. THESE REGULATIONS COVER THE MARKING, LOCATION OF DC CONDUCTORS, AND ACCESS AND PATHWAYS FOR PHOTOVOLTAIC SYSTEMS. THEY APPLY TO RESIDENTIAL AND NONRESIDENTIAL BUILDINGS REGULATED BY TITLE 24 OF THE CALIFORNIA BUILDING STANDARDS CODES, PROVIDED BELOW IS A BRIEF SUMMARY OF THE FIRE CODE REQUIREMENTS FOR NONRESIDENTIAL BUILDINGS. PV ARRAYS SHALL NOT HAVE DIMENSIONS IN EITHER AXIS THAT EXCEED 150 FEET. NONRESIDENTIAL BUILDINGS SHALL PROVIDE A 6-FOOT WIDE ACCESS PERIMETER AROUND THE EDGES OF THE ROOF. SMOKE EXHAUSTION OPTIONS MUST EXIST BETWEEN ARRAY INSTALLATIONS AND NEXT TO SKYLIGHTS OR SMOKE AND HEAT VENTS. BUILDERS SHALL REFER DIRECTLY TO THERELEVANT SECTIONS OF TITLE 24 (MOST CURRENTLY PART 2, SECTION 3111; PART 2.5, SECTION 6331; AND PART 9, SECTION 903.3) FOR DETAILED REQUIREMENTS IN THE FIRE CODE. THE CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION - OFFICE OF THE STATE FIRE MARSHAL (CAL FIRE - OSFM), LOCAL FIRE DEPARTMENTS (LFD), AND THE SOLAR PHOTOVOLTAIC INDUSTRY PREVIOUSLY DEVELOPED A SOLAR PHOTOVOLTAIC INSTALLATION GUIDELINE TO INCREASE PUBLIC SAFETY FOR ALL STRUCTURES EQUIPPED WITH SOLAR PHOTOVOLTAIC SYSTEMS. THE INTENT OF THIS GUIDELINE IS TO PROVIDE THE SOLAR PHOTOVOLTAIC INDUSTRY WITH INFORMATION THAT WILL AID IN THE DESIGNING, BUILDING, AND INSTALLATION OF SOLAR PHOTOVOLTAIC SYSTEMS IN A MANNER THAT SHOULD MEET THE OBJECTIVES OF BOTH THE SOLAR PHOTOVOLTAIC INDUSTRY AND THE REQUIREMENTS NOW SET FORTH IN THE CALIFORNIA FIRE CODE. THE GUIDELINES INCLUDE ILLUSTRATIONS WITH EXAMPLES OF COMPLIANT SOLAR PHOTOVOLTAIC SYSTEM INSTALLATIONS ON NONRESIDENTIAL BUILDINGS. THE ENTIRE SOLAR PHOTOVOLTAIC INSTALLATION GUIDELINE CAN BE ACCESSSED AT: [HTTP://OSMFIRE.CA.GOV/ROOF/REPORTS/SOLARPHOTOVOLTAICGUIDELINE.PDF](http://OSFM.FIRE.CA.GOV/ROOF/REPORTS/SOLARPHOTOVOLTAICGUIDELINE.PDF).

