



**BUILDING CODE MANUAL
COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
BUILDING AND SAFETY DIVISION
Based on the 2017 LACBC**

**No. 029
1503.4
Article 1
06-19-17
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ROOF DRAINAGE AND RAIN LOADS

ROOF DRAINAGE

Roof drains shall be designed using the criteria contained in Section 1503 of the Building Code, and Chapter 11 (Sections 1101.12, 1101.13, 1102, and 1103) of the Plumbing Code based upon a rainfall rate of 3 inches per hour. More exact methods of design are permissible; however, the roof drains shall be adequate to convey the water tributary to roof drains without using the overflows. Any drain located within the building shall be referred to the Plumbing Section for plan check when the roof area exceeds 6,000 square feet.

The roof drainage system, including secondary (emergency overflow) drains and/or scuppers, shall be designed per Section 1503.4 of the Building Code and Section 1101.12 of the Plumbing Code. As an alternative to such design, and although there are no provisions for the design of roof scuppers as primary roof drains, the Chief Plumbing Inspector has determined that a scupper with an attached downspout is also permitted. Since Section 220.0 of the Plumbing Code defines a roof drain as "a drain installed to receive water collecting on the surface of a roof and to discharge it into a leader, downspout, or a conductor," it is the opinion of the Chief Plumbing Inspector that a scupper with a downspout would also satisfy this definition and may be specified in place of a required primary roof drain, subject to the following conditions:

1. A separate scupper shall be specified for each primary and secondary roof drain.
2. Each scupper shall be sized with a height of 4 inches minimum and width of equal to the circumference of the roof drain required for the area served, sized in accordance with a 3 inch per hour rainfall rate in Table 1101.12 of the Plumbing Code.
3. The bottom of the primary scupper shall be located at the low point of the roof surface.
4. The bottom of the secondary scupper shall be located not less than 2 inches above the roof surface.
5. Dimensions of the primary scupper shall not be reduced beyond the parapet wall (downspout booth).
6. A downspout is optional at a secondary roof drain, and if specified, shall comply with Item 5 provision.

7. Vertical portion of downspout shall be sized in accordance with a 3 inch per hour rainfall rate in Table 1101.12 of the Plumbing Code.

In accordance with Section 3201.4 of the Building Code, drainage water collected from a roof, awning, canopy, or marquee, and condensate from mechanical equipment shall not flow over a public walking surface.

RAIN LOADS

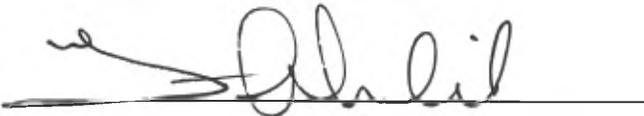
Section 1611 of the Building Code and Chapter 8 of ASCE 7 shall be used to properly design the roof supporting system. Where slopes are less than 1/4 inch per foot, ponding shall be considered in the structural design per Section 8.4 of ASCE 7 and Section 1611.2.

Supersedes BCM 1611.2 Article 1 dated 01-26-15

WRITTEN BY: CIARA BARNETT
Senior Civil Engineer

REVIEWED BY: POLICY COMMITTEE

APPROVED BY:

A handwritten signature in black ink, appearing to read 'Fady Khalil', is written over a horizontal line. The signature is stylized and cursive.

FADY KHALIL
Principal Engineer