



Department of Planning

TECHNICAL BULLETIN

TB 0001-May 2020

DESIGN CRITERIA FOR THE 2016 CAYMAN ISLANDS BUILDING CODES

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Purpose

The Department of Planning in an initiative to improve customer service has developed this Technical Bulletin to aid the in the design of buildings and structures.

Scope

The following wind and seismic design criteria are amendments to the relevant Cayman Islands Building Codes as provided in the Building Code Regulation (Revision 2016).

2009 Cayman Islands Building Code

All Buildings except 1 & 2 Family Dwellings and Townhouses (Maximum. 3 Stories)

- **Wind Design Data:** Section 1609.3 (ASCE 7-05)
Basic Wind Speed = 150 mph 3 second gust
- **Seismic Design Data:** Section 1613.5 (ASCE 7-05)
(mapped spectral response accelerations) $S_s = 0.659g$, $S_1 = 0.300g$
- **Rainfall Design Criteria:** Section 1611.1
4.68" (based on a 30-year average, Cayman Islands National Weather Service)
- **Termite Infestation Requirements:** Very Heavy

2009 Cayman Islands Residential Code

1 & 2 Family Dwellings and Townhouses (Maximum. 3 Stories)

- **Wind Design Data:** Section R301.2 (ICIRC) (ASCE 7 -05')
Basic Wind Speed = 150 mph 3 second gust

- **Seismic Design:** R301.2 (1) 209 CIRC with values per the 2016 Building Code Regulations
Exposure Category = Category C
(mapped spectral **modified** response accelerations) $S_s=0.659g \times (75\%)^{0.75} = 0.494g$
- **Rainfall Design Criteria:** Section R903.4
4.68" (based on a 30-year average, Cayman Islands National Weather Service)

Termite Infestation Requirements: Very Heavy

- Prescriptive Design Criteria shall comply with one of the following:
 - R301.2.1.1 Cayman Islands Residential Code
 - ICC-600 2008 edition
 - AF&PA WFCM 2008 edition
 - AISI S230 2007 edition
 - ASCE 7-2005 edition

NOTE:

- When a building contains structural elements exceeding the elements of the prescriptive design criteria's or otherwise not conforming to the code, these elements shall be designed in accordance with acceptable engineering practices and drawings affixed with a signed engineer seal.
- If the design professional would like to design the structure using ASCE-10, the "Alternative Design Criteria" is allowed as noted on the next page.

Alternative Design Criteria

2009 Cayman Islands Building Code <i>(all buildings except 1 & 2 family and Townhouses up to 3 stories)</i>		
	2009 Cayman Code ASCE7-05	Alternate for Structural Design ASCE 7-10
Wind Speed Design	150 (3 sec)	Risk I 170 mph Risk II 186 mph Risk III-IV 200 mph
Surface Roughness	C (all hurricane areas)	D
Exposure Category	C (all hurricane areas)	D =water edge to 600 ft. inland C =over 600 ft.
Seismic (earthquake)		
S _s Data	0.659g	0.659g
S ₁ Data	0.30g	0.30g
To be provided by an engineer	F _a , D ₂ , and S _{Ds}	F _a , D ₂ , and S _{Ds}
2009 C.I. Residential Code <i>(1 & 2 family and Townhouses up to 3 stories)</i>		
Wind Speed Design	150	186
Seismic Design Category (mod 75%)	C	C
Seismic (earthquake)		
S _s Data	0.659g	0.659g
S ₁ Data	0.30g	0.30g
To be provided by engineer	F _a , D ₂ , and S _{Ds}	F _a , D ₂ , and S _{Ds}

For additional information, please email the Department of Planning at info@planning.gov.ky or call (345) 244-6501 or visit our website at www.planning.ky.