City of Gainesville – Building Division

306 NE 6th Ave, Gainesville, FL 32601

GENERAL DESIGN REQUIREMENTS

Codes in effect on December 31, 2023

Florida Building Code, Building - 8th Edition (2023)
Florida Building Code, Existing Building - 8th Edition (2023)
Florida Building Code, Residential - 8th Edition (2023)
Florida Building Code, Energy Conservation - 8th Edition (2023)
Florida Building Code, Plumbing - 8th Edition (2023)
Florida Building Code, Mechanical - 8th Edition (2023)
Florida Building Code, Fuel Gas- 8th Edition (2023)
Florida Building Code, Accessibility - 8th Edition (2023)
National Electrical Code 2020 – NFPA 70-20
Florida Fire Prevention Code – 8th Edition

View FBC - https://floridabuilding.org
View FFPC - https://www.myfloridacfo.com/division/sfm/bfp/florida-fire-prevention-code

Construction Documents

FBC-B 1603.1 General - Construction documents shall show the size, section and relative locations of structural members with floor levels, column centers and offsets dimensioned. The design loads and other information pertinent to the structural design required by Sections 1603.1.1 through 1603.1.8 shall be indicated on the construction documents.

Ultimate Design Wind Speed (Design Resource ASCE Hazard Tool - https://ascehazardtool.org/)

120 mph V_{ult} - RISK CATEGORY I BUILDINGS AND OTHER STRUCTURES (Exposure C at 33 feet above ground)
130 mph V_{ult} - RISK CATEGORY II BUILDINGS AND OTHER STRUCTURES (Exposure C at 33 feet above ground)
140 mph V_{ult} - RISK CATEGORY III BUILDINGS AND OTHER STRUCTURES (Exposure C at 33 feet above ground)
150 mph V_{ult} - RISK CATEGORY IV BUILDINGS AND OTHER STRUCTURES (Exposure C at 33 feet above ground)

Wind Design Data

FBC-B 1603.1.4 Wind Design Data - The following information related to wind loads shall be shown, regardless of whether wind loads govern the design of the lateral force-resisting system of the structure:

1. Ultimate design wind speed, $V_{ult,}$ (3-second gust), miles per hour (km/hr), tornado speed, V_T (mph) and nominal design wind speed, V_{asd}, (mph) as determined in accordance with Section 1609.3.1.
2. Risk category (See FBC-B 1604.5).
3. Effective plan area, A_e, for tornado design in accordance with Chapter 32 of ASCE 7.
4. Wind exposure. Applicable wind direction if more than one wind exposure is utilized.
5. Applicable internal pressure coefficients and applicable tornado internal pressure coefficients.
6. Design wind pressures and their applicable zones with dimensions to be used for exterior component and cladding materials not specifically designed by the registered design professional responsible for the design of the structure, psf (kN/m^2). Where design for tornado loads is required, the design pressures shown shall be the maximum of wind or tornado pressures.

Design Rainfall

FBC-B 1611.1 Design Rain Loads - Each portion of a roof shall be designed to sustain the load of rainwater as per the requirements of Chapter 8 of ASCE 7.

Flood Design Data

FBC-B 1612.1 General - Within flood hazard areas as established in Section 1612.3, all new construction of buildings, structures and portions of buildings and structures, including substantial improvement and restoration of substantial damage to buildings and structures, shall be designed and constructed to resist the effects of flood hazards and flood loads. For buildings that are located in more than one flood hazard area, the provisions associated with the most restrictive flood hazard area shall apply.

See Floodplain Management Ordinance of the City of Gainesville

Design Load-bearing Values of Soils

FBC-B 1603.1.6 Geotechnical Info - The design load-bearing values of soils shall be shown on the construction documents.

Dead Loads

FBC-B 1606.1 General - Dead loads are those loads defined in Chapter 2 of the Florida Building Code. Dead loads shall be considered permanent loads.

Floor Live Loads

FBC-B 1603.1.1 Floor Live Load - Live loads are those loads defined in Chapter 2 of the Florida Building Code.

Roof Live Loads

FBC-B 1603.1.2 Roof Live Load - The roof live load used in the design shall be indicated for roof areas (See 1607.13).

Special Loads

FBC-B 1603.1.8 Special Loads - Special loads that are applicable to the design of the building, structure or portions thereof, including but not limited to the loads of machinery or equipment, that are of greater magnitude than the loads defined in the specified floor and roof loads shall be specified by their descriptions and locations.

FBC-B 1603.1.8.1 Photovoltaic Panel Systems - The dead load of rooftop-mounted photovoltaic panel systems, including rack support systems, shall be indicated on the construction documents.

Building and Structure Anchorage

FBC-B 1604.8 Anchorage - Buildings and other structures, and portions thereof, shall be provided with anchorage in accordance with Sections 1604.8.1 through 1604.8.3, as applicable.

Mechanical Equipment, Appliances and Supports

FBC-Mechanical 301.15 Wind Resistance - Mechanical equipment, appliances and supports that are exposed to wind shall be designed and installed to resist the wind pressures determined in accordance with the Florida Building Code, Building.