

ASCE Hazards Report

Address:

25 Buttonwood Ct
Fuquay Varina, North Carolina
27526

Standard:

ASCE/SEI 7-16

Risk Category: IV**Soil Class:**

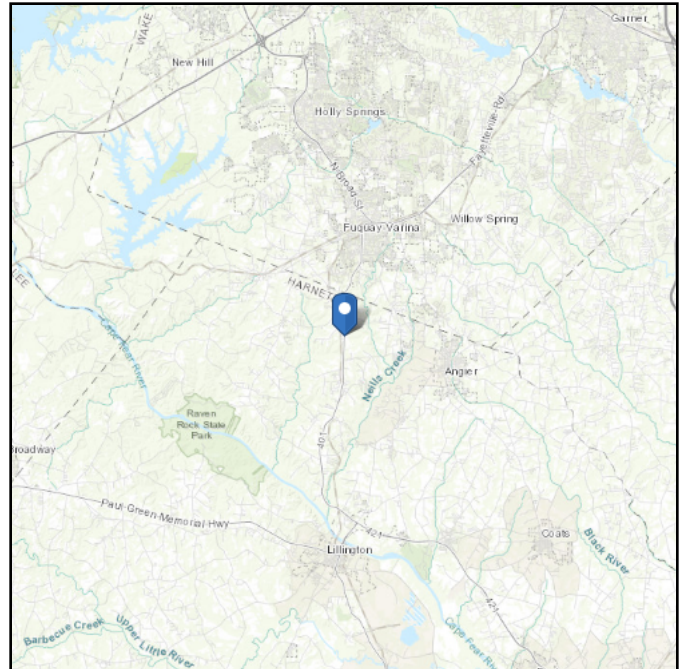
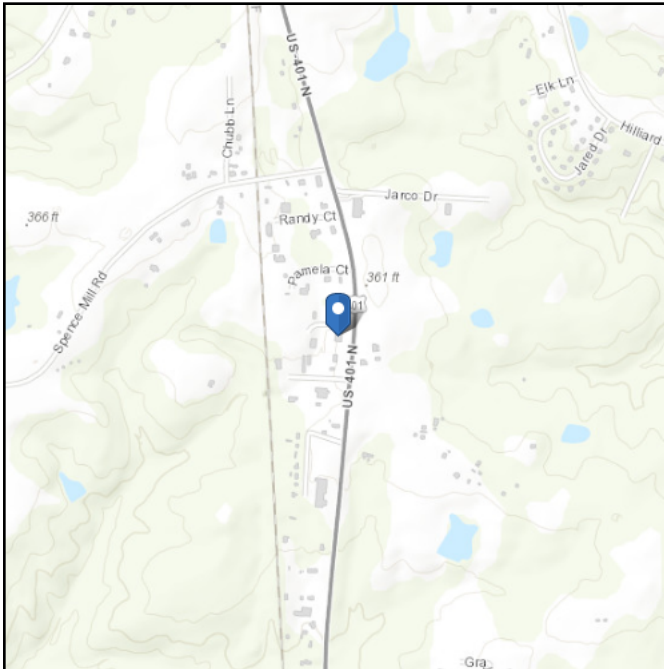
D - Default (see
Section 11.4.3)

Latitude:

35.52593

Longitude: -78.812856**Elevation:**

341.992827216736 ft (NAVD
88)



Wind

Results:

Wind Speed	130 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	97 Vmph

Data Source:

ASCE/SEI 7-16, Fig. 26.5-1D and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed:

Mon Jul 06 2026

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 1.6% probability of exceedance in 50 years (annual exceedance probability = 0.00033, MRI = 3,000 years).

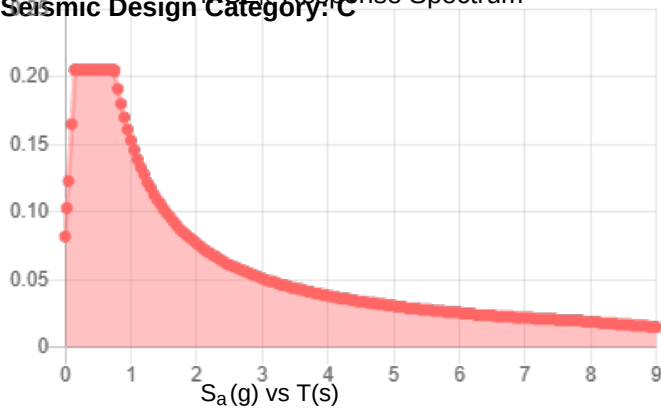
Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

Site Soil Class: D - Default (see Section 11.4.3)

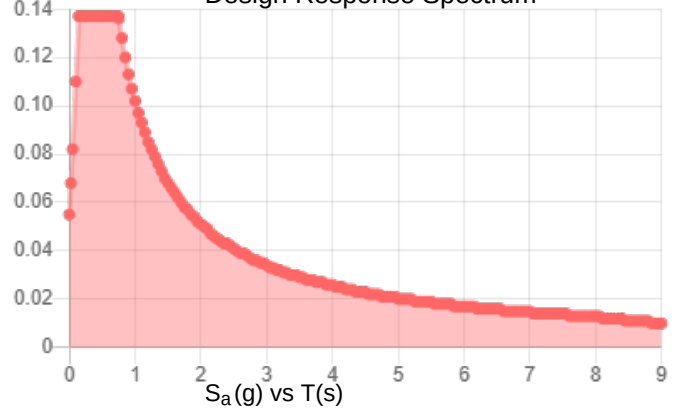
Results:

S_S :	0.128	S_{D1} :	0.102
S_1 :	0.064	T_L :	8
F_a :	1.6	PGA :	0.062
F_v :	2.4	PGA _M :	0.099
S_{MS} :	0.205	F_{PGA} :	1.6
S_{M1} :	0.153	I_e :	1.5
S_{DS} :	0.137	C_v :	0.7

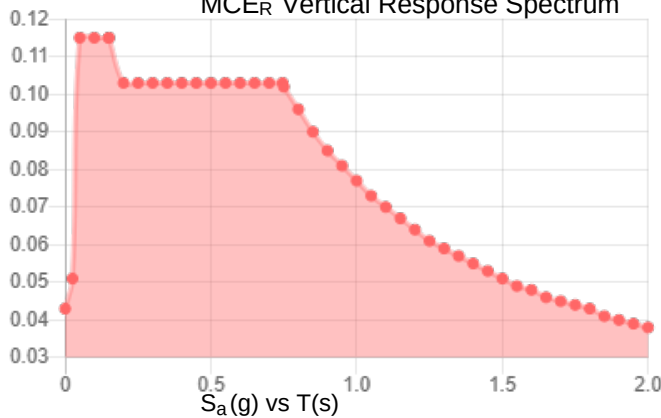
Seismic Design Category: C MCE_R Response Spectrum



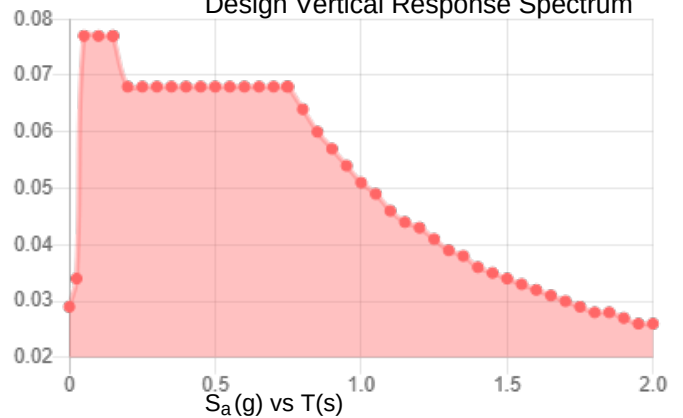
Design Response Spectrum



MCE_R Vertical Response Spectrum



Design Vertical Response Spectrum



Data Accessed: Mon Jul 06 2026

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 1.50 in.
Concurrent Temperature: 15 F
Gust Speed 30 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Mon Jul 06 2026

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Rain

Results:

15-minute Precipitation Intensity: 6.41 in./h

60-minute Precipitation Intensity: 3.38 in./h

Data Source: NOAA National Weather Service, Precipitation Frequency Data Server, Atlas 14
(<https://www.nws.noaa.gov/oh/hdsc/>)

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