

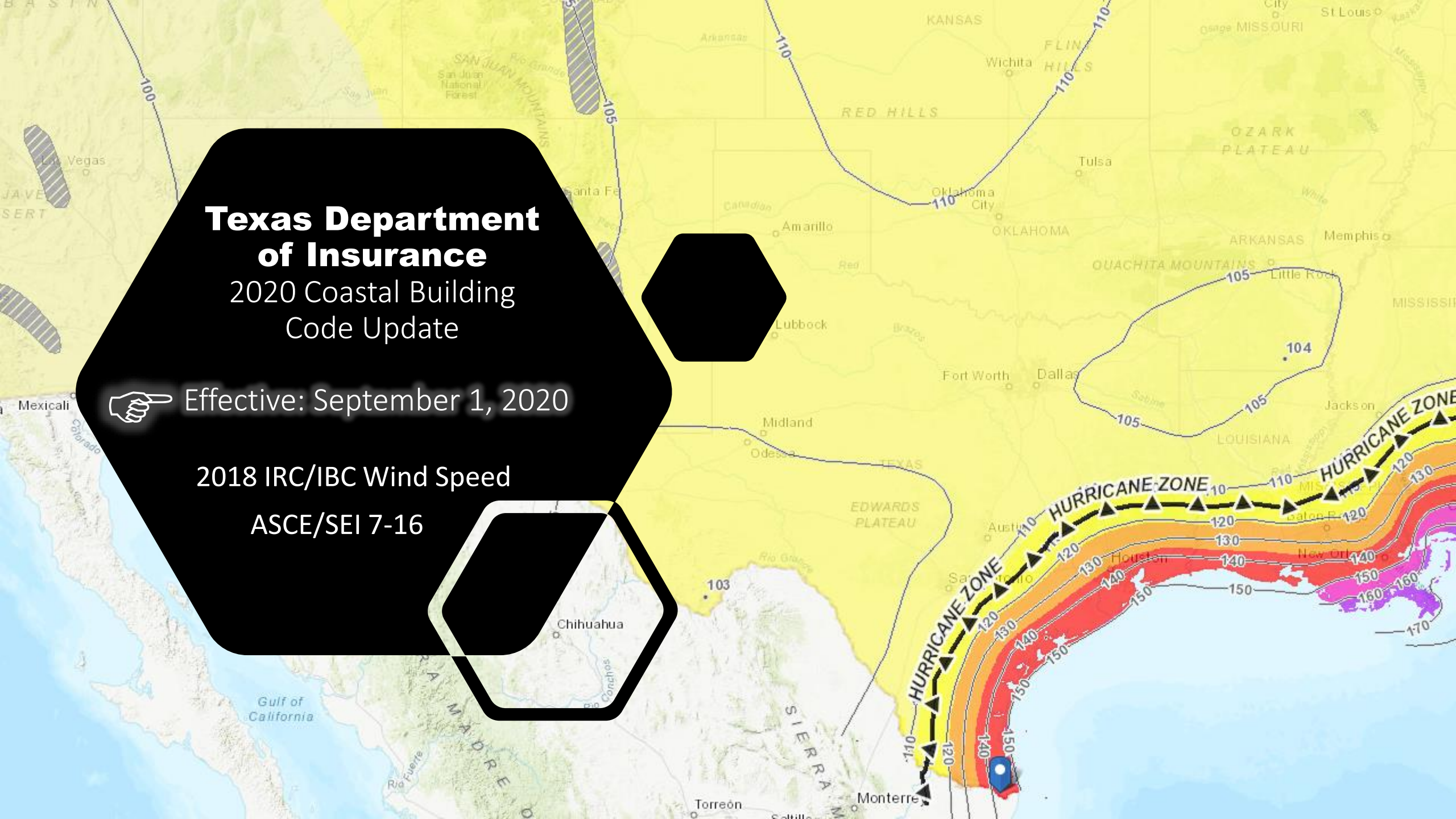
Texas Department of Insurance

2020 Coastal Building
Code Update



Effective: September 1, 2020

2018 IRC/IBC Wind Speed
ASCE/SEI 7-16



Overview

- Adoption of the new code and what this means.
- TDI Product Evaluation changes
- Risk & Exposure Categories

The design pressure information included is designed to assist in general discussions regarding structural loads for various locations, and is not a substitute for the rigorous engineering analysis needed on a project-by-project basis. This information may not be submitted to, or used by, any permitting agency or officer to satisfy applicable building codes. Ply Gem does not warrant this information for any purpose, express or implied, including implied warranties of merchantability or fitness for a particular purpose.



Currently Inland II Zone does not require impact protection.

As of September 1st

The majority of the Inland II Zone will now require protection from windborne debris on glazed openings depending on its location in the region.

(Impact Protection)



Seaward, Inland I and Inland II Designators for Windborne Debris Region will no longer be used.

Link to emergency rule extending new coastal code date:

<https://www.tdi.texas.gov/news/2020/tdi04032020.html>

Old - TDI Product Evaluation Impact Resistance section

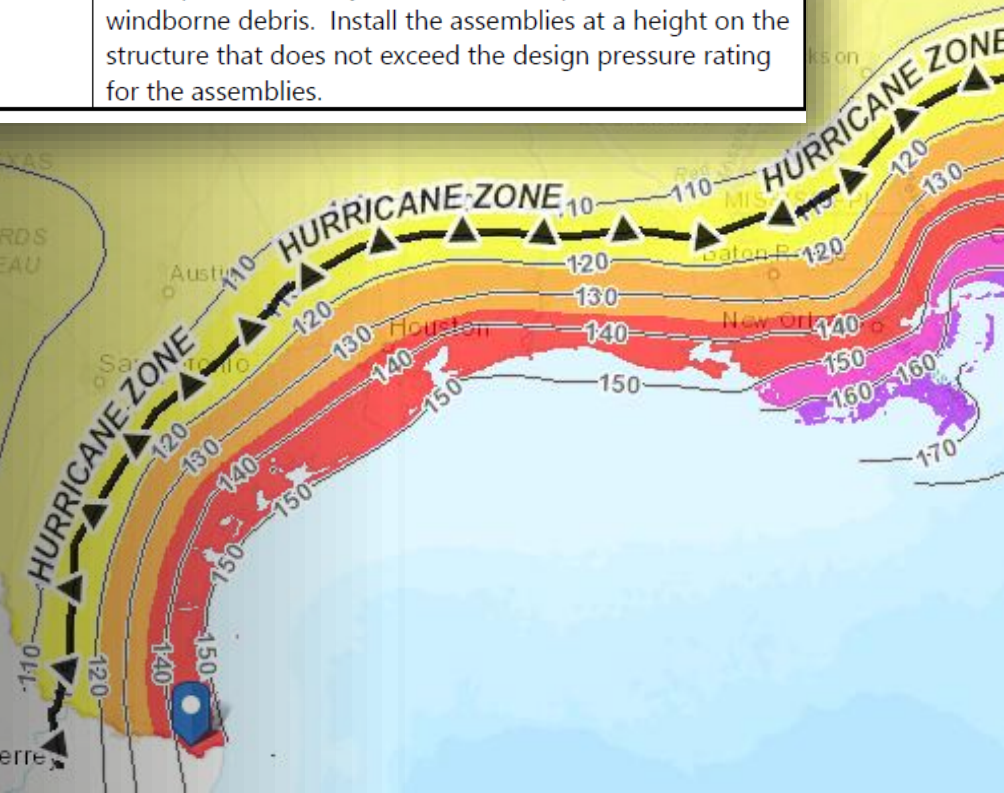
Impact Resistance:

System	Impact Resistant	Requirement
1, 2	Inland I Zone- Yes	These products satisfy TDI's criteria for protection from windborne debris in the Inland I and Seaward zone. Install the assemblies at a height on the building that does not exceed the design pressure rating for the assemblies.
	Seaward Zone -No	Provide an impact protective system when installing the product in areas that require windborne debris protection for glazed openings.

New - TDI Product Evaluation Impact Resistance section

Impact Resistance:

System	Impact Resistant	Requirement
1-6	Yes	These products satisfy TDI's criteria for protection from windborne debris. Install the assemblies at a height on the structure that does not exceed the design pressure rating for the assemblies.



2018 International Building Code (IBC)

1604.5 Risk category.

Each building and structure shall be assigned a risk category in accordance with Table 1604.5. Where a referenced standard specifies an occupancy category, the risk category shall not be taken as lower than the occupancy category specified therein. Where a referenced standard specifies that the assignment of a risk category be in accordance with ASCE 7, Table 1.5-1, Table 1604.5 shall be used in lieu of ASCE 7, Table 1.5-1.

Exception: The assignment of buildings and structures to Tsunami Risk Categories III and IV is permitted to be in accordance with Section 6.4 of ASCE 7.

TABLE 1604.5
RISK CATEGORY OF BUILDINGS AND OTHER STRUCTURES

RISK CATEGORY	NATURE OF OCCUPANCY
I	Buildings and other structures that represent a low hazard to human life in the event of failure, including but not limited to: <ul style="list-style-type: none">•Agricultural facilities.•Certain temporary facilities.•Minor storage facilities.
II	Buildings and other structures except those listed in Risk Categories I, III and IV.
III	Buildings and other structures that represent a substantial hazard to human life in the event of failure, including but not limited to: <ul style="list-style-type: none">•Buildings and other structures whose primary occupancy is public assembly with an occupant load greater than 300.•Buildings and other structures containing Group E occupancies with an occupant load greater than 250.•Buildings and other structures containing educational occupancies for students above the 12th grade with an occupant load greater than 500.•Group I-2, Condition 1 occupancies with 50 or more care recipients.•Group I-2, Condition 2 occupancies not having emergency surgery or emergency treatment facilities.•Group I-3 occupancies.•Any other occupancy with an occupant load greater than 5,000.^a•Power-generating stations, water treatment facilities for potable water, wastewater treatment facilities and other public utility facilities not included in Risk Category IV.•Buildings and other structures not included in Risk Category IV containing quantities of toxic or explosive materials that:<ul style="list-style-type: none">Exceed maximum allowable quantities per control area as given in Table 307.1(1) or 307.1(2) or per outdoor control area in accordance with the <i>International Fire Code</i>; andAre sufficient to pose a threat to the public if released.^b
IV	Buildings and other structures designated as essential facilities, including but not limited to: <ul style="list-style-type: none">•Group I-2, Condition 2 occupancies having emergency surgery or emergency treatment facilities.•Ambulatory care facilities having emergency surgery or emergency treatment facilities.•Fire, rescue, ambulance and police stations and emergency vehicle garages.•Designated earthquake, hurricane or other emergency shelters.•Designated emergency preparedness, communications and operations centers and other facilities required for emergency response.•Power-generating stations and other public utility facilities required as emergency backup facilities for Risk Category IV structures.•Buildings and other structures containing quantities of highly toxic materials that:<ul style="list-style-type: none">Exceed maximum allowable quantities per control area as given in Table 307.1(2) or per outdoor control area in accordance with the <i>International Fire Code</i>; andAre sufficient to pose a threat to the public if released.^b•Aviation control towers, air traffic control centers and emergency aircraft hangars.•Buildings and other structures having critical national defense functions.•Water storage facilities and pump structures required to maintain water pressure for fire suppression.

a. For purposes of occupant load calculation, occupancies required by Table 1004.5 to use gross floor area calculations shall be permitted to use net floor areas to determine the total occupant load.

b. Where approved by the building official, the classification of buildings and other structures as Risk Category III or IV based on their quantities of toxic, highly toxic or explosive materials is permitted to be reduced to Risk Category II, provided that it can be demonstrated by a hazard assessment in accordance with Section 1.5.3 of ASCE 7 that a release of the toxic, highly toxic or explosive materials is not sufficient to pose a threat to the public.

1609.4 Exposure category.

For each wind direction considered, an exposure category that adequately reflects the characteristics of ground surface irregularities shall be determined for the site at which the building or structure is to be constructed. Account shall be taken of variations in ground surface roughness that arise from natural topography and vegetation as well as from constructed features.

1609.4.2 Surface roughness categories.

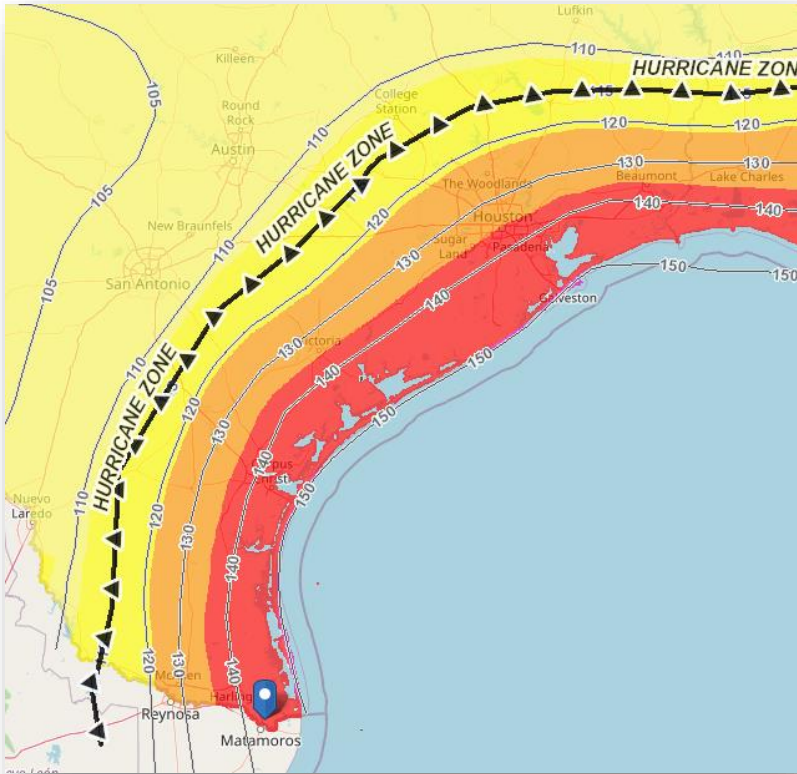
A ground surface roughness within each 45-degree (0.79 rad) sector shall be determined for a distance upwind of the site as defined in Section 1609.4.3 from the following categories, for the purpose of assigning an exposure category as defined in Section 1609.4.3.

Surface Roughness B. Urban and suburban areas, wooded areas or other terrain with numerous closely spaced obstructions having the size of single-family dwellings or larger.

Surface Roughness C. Open terrain with scattered obstructions having heights generally less than 30 feet (9144 mm). This category includes flat open country, and grasslands.

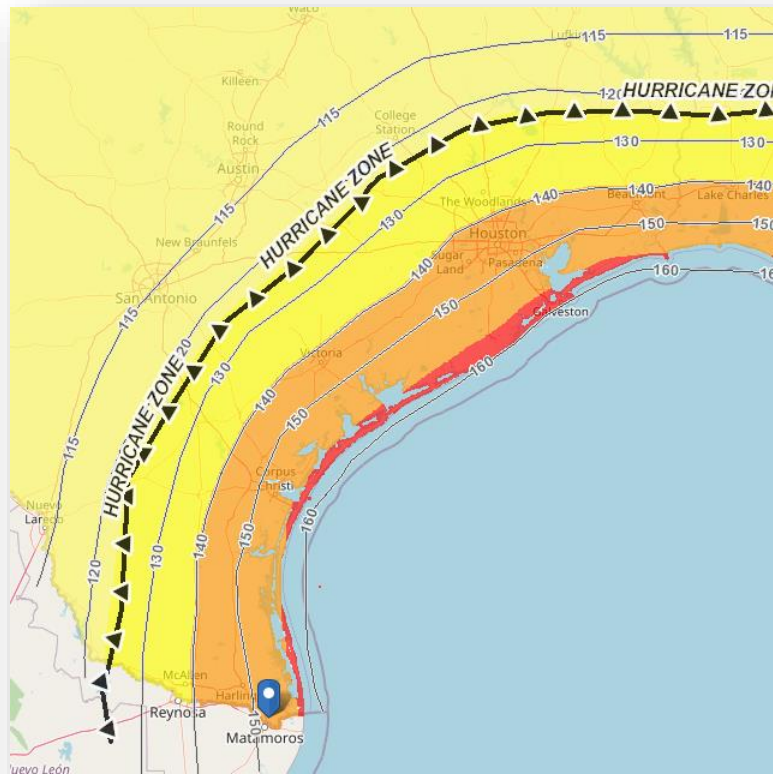
Surface Roughness D. Flat, unobstructed areas and water surfaces. This category includes smooth mud flats, salt flats and unbroken ice.

Risk Category II



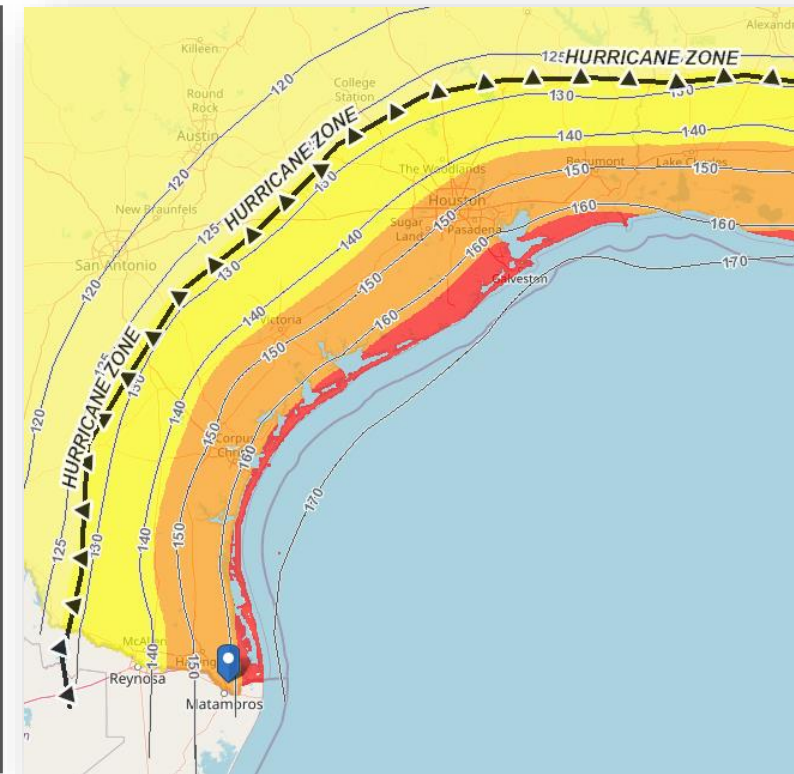
Houses, most Apartment buildings / Condo's

Risk Category III



Hospitals, Schools, Buildings > 5000 Occupancy

Risk Category IV

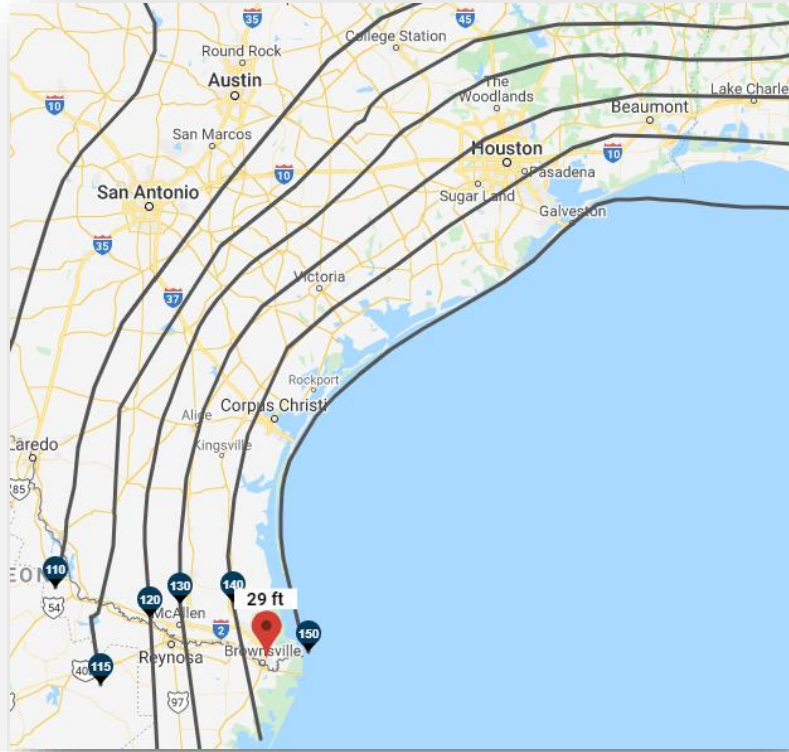


Structures designated as essential facilities

Wind Speed Map for Texas Coast
ASCE/SEI 7-16

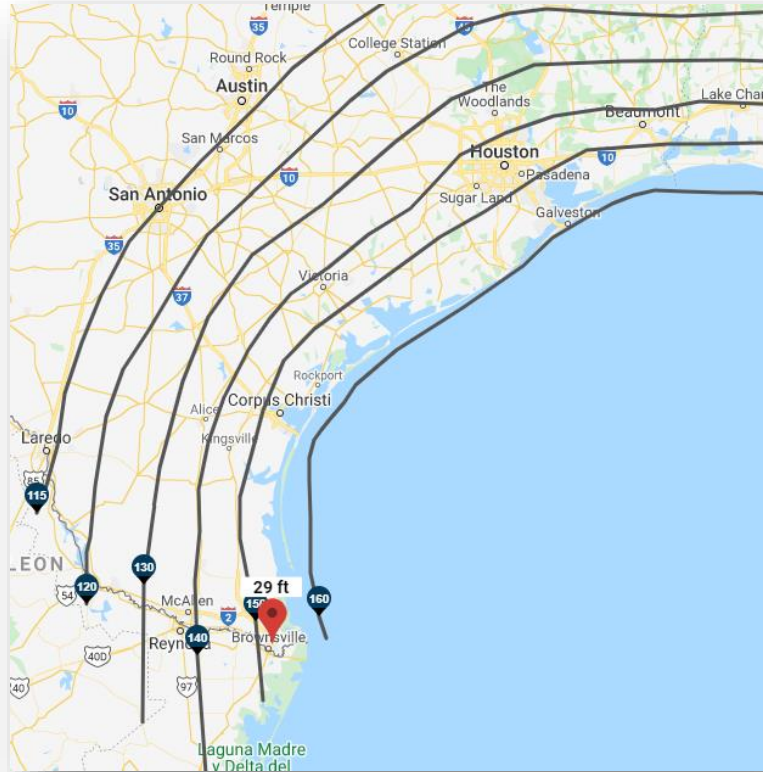
Risk Category II – III - IV

Risk Category II



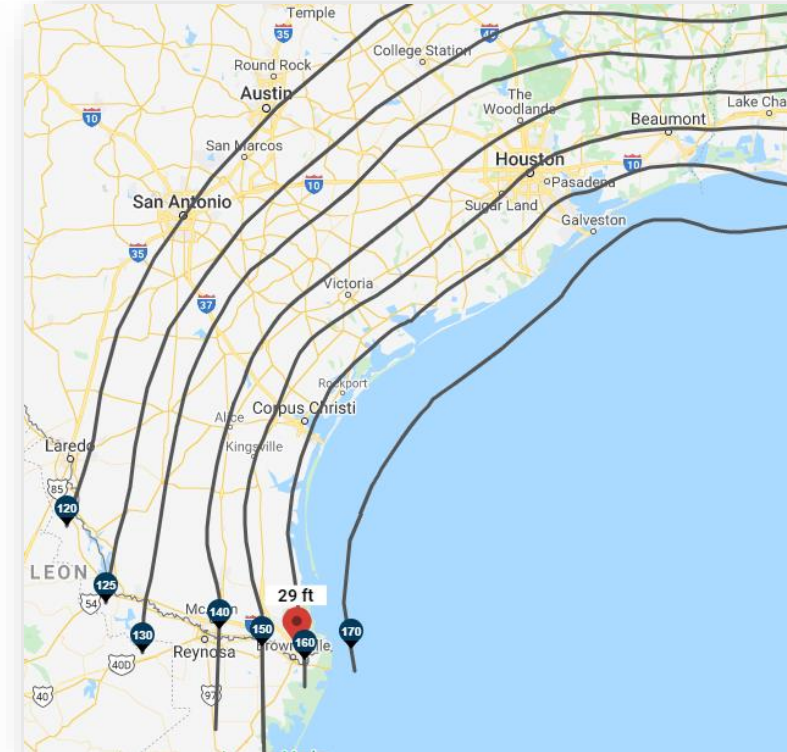
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Risk Category III



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Risk Category IV



Structures designated as essential facilities

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Risk Category II – III - IV