

# COLONY BEACH and TENNIS RESORT

Town of Longboat Key, FL

## ENGINEERING INSPECTION REPORT

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# PURPOSE

Perform a structural engineering assessment of the buildings to determine the existing conditions and whether the buildings can be repaired in accordance with the building code, laws and ordinances.

# BUILDING CODES, LAWS AND ORDNINANCES

- Town of Longboat Key Town Code 150.22
- Florida Building Code – 2010 (FBC)
- Florida Administrative Code (FAC) – Chapter 62B-33
- Florida Department of Environmental Protection (FDEP) /
- U.S. Code of Federal Regulation (CFR)

## Town Code 150.22

*In any case where a "dangerous structure" is 50 % damaged or decayed, or deteriorated from its original value or structure, it shall be demolished and in all cases where a building cannot be repaired so that it will no longer exist in violation of the terms of this chapter it shall be demolished.*

# Florida Building Code - 2010

DANGEROUS. Any building, structure or portion thereof that meets any of the conditions described below shall be deemed *dangerous*:

1. The building or structure has collapsed, partially collapsed, moved off its foundation or lacks the support of ground necessary to support it.
2. There exists a significant risk of collapse, detachment or dislodgment of any portion, member, appurtenance or ornamentation of the building or structure under service loads.

# Florida Building Code - 2010

UNSAFE. Buildings, structures or equipment that are unsanitary, or that are deficient due to inadequate means of egress facilities, inadequate light and ventilation, or that constitute a fire hazard, or in which the structure or individual structural members meet the definition of "*Dangerous*," or that are otherwise *dangerous* to human life or the public welfare, or that involve illegal or improper occupancy or inadequate maintenance shall be deemed unsafe. A vacant structure that is not secured against entry shall be deemed unsafe.

# Florida Building Code - 2010

SUBSTANTIAL DAMAGE. Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceeding 50% of the market value of the structure before the damage occurred.

# Florida Building Code - 2010

FLOOD HAZARD AREA. The greater of the following two areas:

1. The area within a flood plain subject to a 1 % or greater chance of flooding in any year.
2. The area designated as a *flood hazard area* on a community's flood hazard map, or otherwise legally designated.

# Florida Building Code - 2010

**SUBSTANTIAL IMPROVEMENT.** Any repair, reconstruction, rehabilitation, *addition* or improvement of a building or structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the improvement or repair is started. If the structure has sustained substantial damage, any repairs are considered substantial improvement regardless of the actual repair work performed. The term does not, however, include either:

1. Any project for improvement of a building required to correct existing health, sanitary or safety code violations identified by the *building official* and that are the minimum necessary to assure safe living conditions.
2. Any *alteration* of a historic structure provided that the *alteration* will not preclude the structure's continued designation as a historic structure.

# Florida Building Code - 2010

FBC, Existing Building, Chapter 5 – Repairs

Section 506.2.4 - In flood hazard areas, buildings that have sustained *substantial damage* shall be brought into compliance with Section 1612 of the *Florida Building Code, Building*.

*Section 1612 requires design for flood load iaw ASCE 7 and ASCE 24*

# Florida Building Code - 2010

- FBC Chapter 31, Section 3109 Structures Seaward of a Coastal Construction Control Line (CCCL)
- Ensure all structures seaward of the CCCL are designed to resist the predicted forces associated with a 100-year storm event

# Florida Building Code - 2010

- Section 3109 - Structures Seaward of CCCL
- Allows repairs to structures which do not:
  - “involve or include any additions to, or repair or modification of, the existing foundation of that structure”
- Provisions apply to “substantial improvement” of existing buildings.

# Florida Building Code - 2010

- **3109.3 Elevation standards.**

All habitable structures shall be elevated at or above an elevation which places the lowest horizontal structural member above the 100-year storm elevation as determined by the Florida Department of Environmental Protection in the report titled "One-Hundred-Year Storm Elevation Requirements for Habitable Structures Located Seaward of a Coastal Construction Control Line."

# Florida Administrative Code (FAC)

- Department of Environmental Protection (FDEP)
- Chapter 62B-33 BUREAU OF BEACHES AND COASTAL SYSTEMS - RULES AND PROCEDURES FOR COASTAL CONSTRUCTION AND EXCAVATION (PERMITS FOR CONSTRUCTION SEAWARD OF THE COASTAL CONSTRUCTION CONTROL LINE AND FIFTY-FOOT SETBACK)
- Defines FOUNDATION

# FAC / FDEP

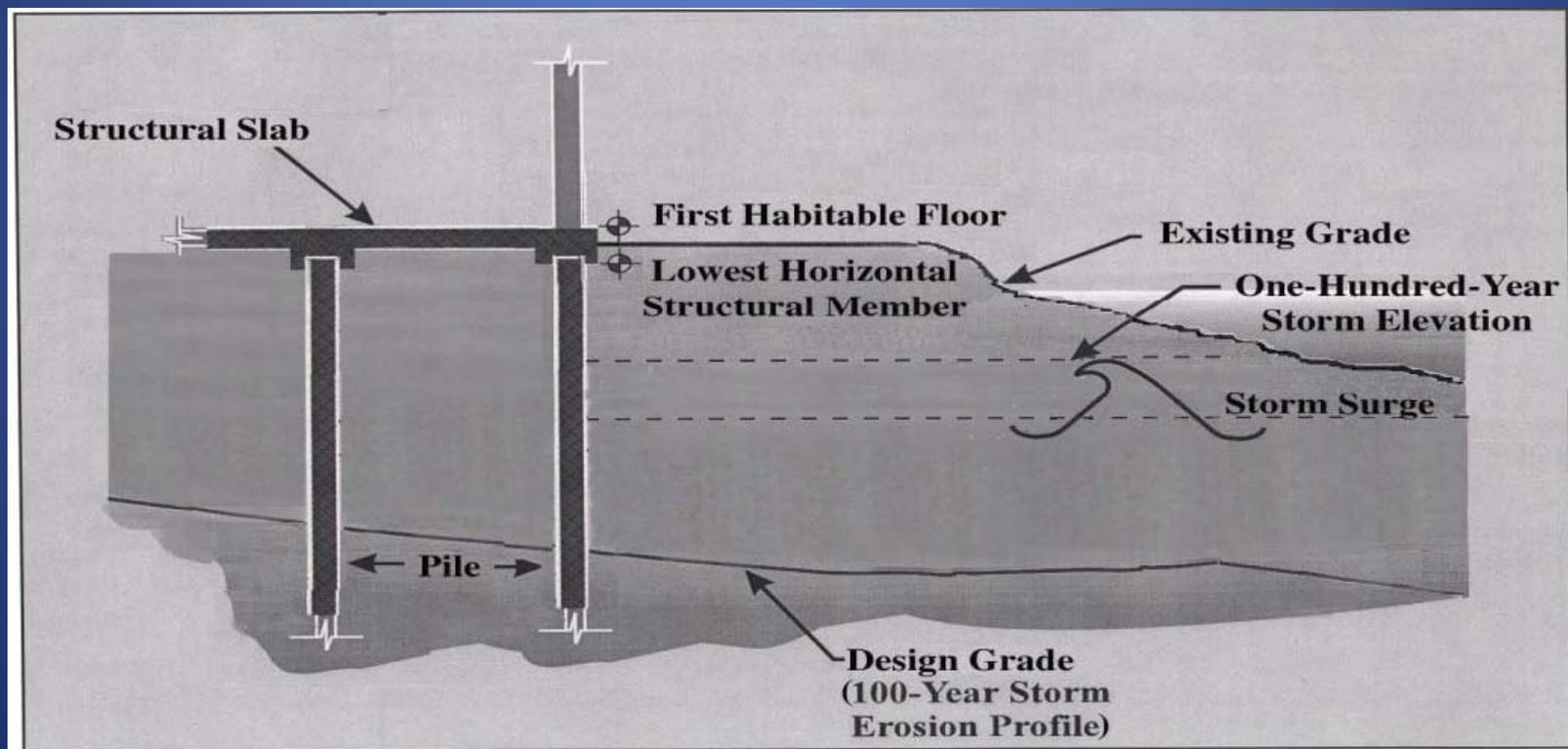
- “Foundation” is the portion of a structure which transmits the associated dead and live loads of the structure to the ground and includes, but is not limited to, spread footings, foundation walls, posts, piers, piles, beams, girders, structural slabs, cross bracing, and all related connectors. For habitable major structures, the foundation includes all load bearing components below the first habitable floor. For pavements, the foundation includes the subbase and base course layers supporting the pavement layer.

# FDEP

- One-Hundred-Year Storm Elevation Requirements for Habitable Structures Located Seaward of a Coastal Construction Control Line
- Requires the lowest horizontal structural member of a building seaward of the CCCL be located above the local one-hundred-year storm elevation

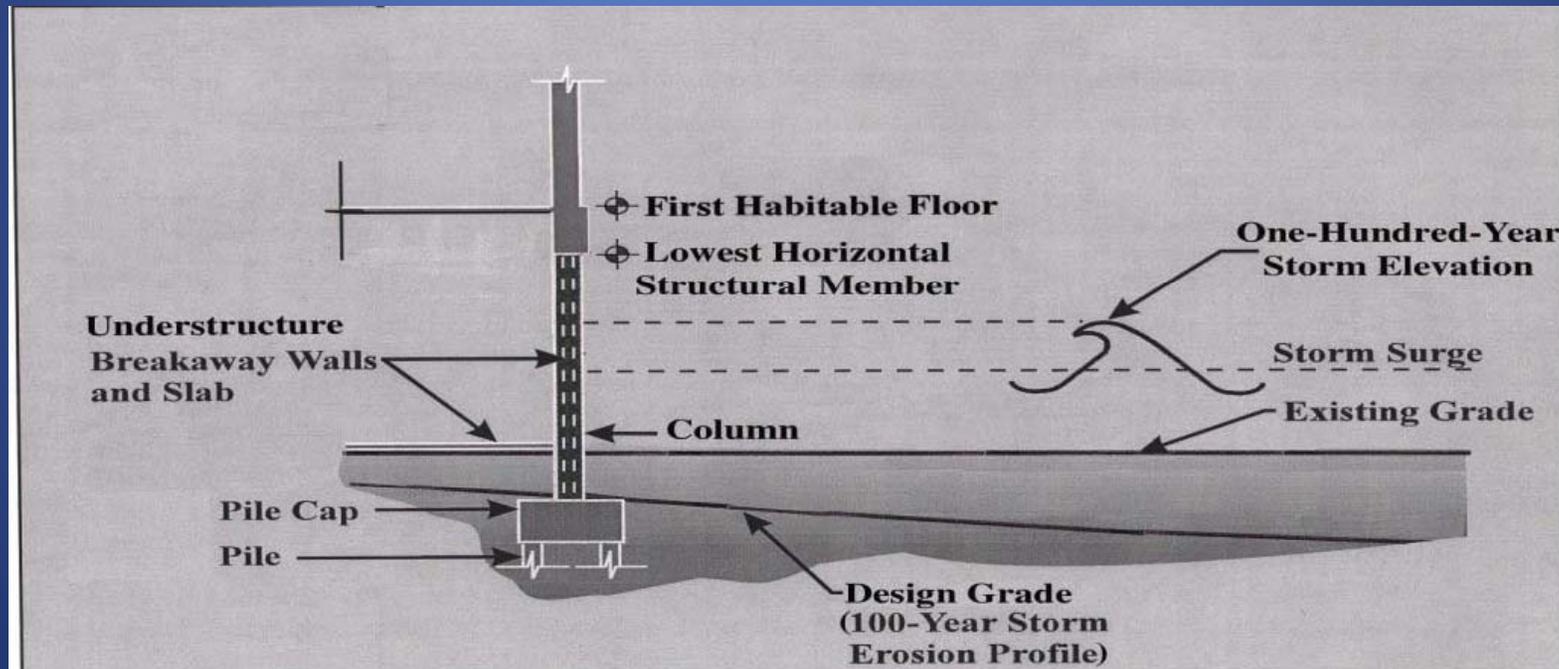
# FDEP

## Diagram 1



# FDEP

## Diagram 2



# U.S. Code of Federal Regulations (CFR)

- 44 CFR Parts 59 and 60 regulate construction in flood plains
- SUBSTANTIAL DAMAGE. Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 % of the market value of the structure before the damage occurred.
- SUBSTANTIAL IMPROVEMENT. Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 % of the market value of the structure before the “start of construction” of the improvement. This term includes structures which have incurred “substantial damage”, regardless of the actual repair work performed.

# U.S. Code of Federal Regulations (CFR)

- Section 60 of 44 CFR requires that all new construction and substantial improvements of structures within certain flood zones have the lowest floor elevated to or above the base flood level. *Base flood* means the flood having a one percent chance of being equaled or exceeded in any given year, which is commonly referred to as a 100-year flood.
- Essentially, this means that if a structure has its lowest elevation below the 100-year flood plane and the costs to repair damage or make improvements exceeds 50% of the market value of the structure then the structure has to be elevated above the 100-year flood plane.