

1. Agenda

Documents:

[NOTICE\\_AND\\_AGENDA\\_FOR\\_SEPTMBER\\_8\\_2020\\_BUILDING\\_APPEALS\\_BOARD\\_SPECIAL\\_MEETING.PDF \(PDF\).PDF](#)

2. Meeting Materials

Documents:

[FIRE\\_MARSHAL\\_INSPECTION\\_REPORT.6.24.2020.PDF](#)  
[ELEVATION\\_CERTIFICATE\\_AND\\_CODE\\_EXCERPTS.PDF](#)  
[MEETING MATERIAL 2 \(PDF\).PDF](#)  
[MEETING MATERIAL 1 \(PDF\).PDF](#)

RECEIVED FOR FILING  
September 4, 2020 3:40 P.M.  
DATE                   TIME  
TOWN CLERK'S OFFICE  
EAST HAVEN, CT  
*Stacy Gravino, CCTC*  
TOWN CLERK

**TOWN OF EAST HAVEN**  
**BUILDING APPEALS BOARD**

**NOTICE AND AGENDA FOR SPECIAL MEETING**

**TO BE HELD IN PERSON AT EAST HAVEN SENIOR/COMMUNITY CENTER**  
**AT 91 TAYLOR AVENUE AND VIA CONFERENCE CALL**  
**ON TUESDAY, SEPTEMBER 8, 2020 AT 2:00 PM**

**TO THE RESIDENTS AND TAXPAYERS OF THE TOWN OF EAST HAVEN AND OTHER INTERESTED PARTIES:** Due to Governor Ned Lamont's March 10, 2020 declaration of a public health emergency and civil preparedness emergency and his subsequently issued Executive Orders; and, due to the spread of Coronavirus Disease 2019 in the State of Connecticut including New Haven County, in-person public access to this meeting will only be permitted with strict compliance with public gathering orders and guidelines, including required social distancing and use of face coverings. A conference call dial-in is provided below for those individuals who are unable to, or do not wish to, attend in person but would like to listen and/or participate in the meeting.

**\*\*\*PLEASE NOTE:** All meeting materials related to the appeal/public hearing which have been distributed to the Board will be posted on the Town's website at <https://www.townofeasthavenct.org/> (via the Board page for the Building Appeals Board accessible through the "Boards" tab at the top of the website's homepage) and will be available for viewing twenty-four (24) hours prior, during, and after the meeting. Members of the public who wish to submit materials relevant to the appeal/public hearing are encouraged to do so no later than 10:00 AM on Tuesday, September 8, 2020 for distribution to the Board and posting on the Town's website. Said submissions should be made either in person to the Building Department or via electronic mail to [thedley@townofeasthavenct.org](mailto:thedley@townofeasthavenct.org)

Members of the public who wish to access and participate in the public hearing remotely can do so by **DIALING IN** via telephone:

Dial In Number: +1-646-558-8656

**Meeting ID: 868 6333 5372**

**Passcode: 842208**

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**NOTICE AND AGENDA**

The East Haven Building Appeals Board will hold a Special Meeting on **Tuesday, September 8, 2020 at 2:00 PM** at the East Haven Senior/Community Center at 91 Taylor Avenue, East Haven and via conference call as noted above to conduct the following:

- I. Roll Call
- II. **Public Hearing:** On Appeal of Patrick Rowland and Lisa Kwesell of Building Permit/Certificate of Occupancy issued to 188 Beach Avenue, East Haven which Appeal was received September 1, 2020.
- III. **Deliberation:** On Appeal of Patrick Rowland and Lisa Kwesell of Building Permit/Certificate of Occupancy issued to 188 Beach Avenue, East Haven which Appeal was received September 1, 2020.
- IV. Adjournment

**THE TOWN OF EAST HAVEN BUILDING APPEALS BOARD**

**A COPY OF THIS NOTICE IS ON FILE AT THE TOWN CLERK'S OFFICE.**



East Haven Fire Department  
200 Main ST

East Haven, CT 06512

No Violation Notice inspection

Wednesday June 24, 2020

Single Family  
188 BEACH AVE  
East Haven, CT 06512

An inspection on Wednesday June 24, 2020 of your facility has revealed that it has met the requirements of the 2018 Connecticut State Fire Prevention Code.  
Final inspection for certificate of occupancy

Thank you for your cooperation.

  
\_\_\_\_\_  
NIMONS, MARK Fire Marshal  
Fire Marshal

## **ELEVATION CERTIFICATE**

**Important:** Follow the instructions on pages 1–9.

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

## **SECTION B – FLOOD INSURANCE RATE MAP (FIRM) INFORMATION**

B1. NFIP Community Name & Community Number Town of East Haven			B2. County Name New Haven County			B3. State Connecticut
B4. Map/Panel Number 09009C0557	B5. Suffix J	B6. FIRM Index Date 07-08-2013	B7. FIRM Panel Effective/ Revised Date 07-08-2013	B8. Flood Zone(s) AE	B9. Base Flood Elevation(s) (Zone AO, use Base Flood Depth) 12	

B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9:

FIS Profile  FIRM  Community Determined  Other/Source:

B11. Indicate elevation datum used for BFE in Item B9:  NGVD 1929  NAVD 1988  Other/Source:

B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)?  Yes  No

Designation Date:  CBRS  OPA

# ELEVATION CERTIFICATE

OMB No. 1660-0008  
Expiration Date: November 30, 2022

IMPORTANT: In these spaces, copy the corresponding information from Section A.			FOR INSURANCE COMPANY USE
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 188 Beach Avenue			Policy Number:
City East Haven	State Connecticut	ZIP Code 06512	Company NAIC Number

## SECTION C – BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)

C1. Building elevations are based on:  Construction Drawings\*  Building Under Construction\*  Finished Construction

\*A new Elevation Certificate will be required when construction of the building is complete.

C2. Elevations – Zones A1–A30, AE, AH, A (with BFE), VE, V1–V30, V (with BFE), AR, AR/A, AR/AE, AR/A1–A30, AR/AH, AR/AO. Complete Items C2.a–h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.

Benchmark Utilized: State of CT ACORN RTN Vertical Datum: 4.86

Indicate elevation datum used for the elevations in items a) through h) below.

NGVD 1929  NAVD 1988  Other/Source:

Datum used for building elevations must be the same as that used for the BFE.

Check the measurement used.

a) Top of bottom floor (including basement, crawlspace, or enclosure floor)	7.0	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
b) Top of the next higher floor	16.2	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
c) Bottom of the lowest horizontal structural member (V Zones only)		<input type="checkbox"/> feet	<input type="checkbox"/> meters
d) Attached garage (top of slab)		<input type="checkbox"/> feet	<input type="checkbox"/> meters
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)	12.1	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
f) Lowest adjacent (finished) grade next to building (LAG)	6.9	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
g) Highest adjacent (finished) grade next to building (HAG)	7.7	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	4.7	<input checked="" type="checkbox"/> feet	<input type="checkbox"/> meters

## SECTION D – SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION

This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. *I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.*

Were latitude and longitude in Section A provided by a licensed land surveyor?  Yes  No  Check here if attachments.

Certifier's Name Anthony Hendriks	License Number 10843		 <p>Place Seal Here</p>
Title Licensed Land Surveyor			
Company Name Fedus Engineering, LLC			
Address 70 Essex Street, Unit 2C			
City Mystic	State Connecticut	ZIP Code 06355	
Signature 	Date 5/11/2020	Telephone (860) 536-7390	

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

Comments (including type of equipment and location, per C2(e), if applicable)

Electrical service outside house at elev. 12.1'

The foundation contains 7 Smart Vents Model #1540-510 rated at 200 SF each totaling 1400 SF, See Section A8c

# EL E V A T I O N C E R T I F I C A T E

OMB No. 1660-0008  
Expiration Date: November 30, 2022

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>			FOR INSURANCE COMPANY USE
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 188 Beach Avenue			Policy Number:
City East Haven	State Connecticut	ZIP Code 06512	Company NAIC Number

## SECTION E – BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)

For Zones AO and A (without BFE), complete Items E1–E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1–E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.

E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).

a) Top of bottom floor (including basement, crawlspace, or enclosure) is \_\_\_\_\_  feet  meters  above or  below the HAG.

b) Top of bottom floor (including basement, crawlspace, or enclosure) is \_\_\_\_\_  feet  meters  above or  below the LAG.

E2. For Building Diagrams 6–9 with permanent flood openings provided in Section A Items 8 and/or 9 (see pages 1–2 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is \_\_\_\_\_  feet  meters  above or  below the HAG.

E3. Attached garage (top of slab) is \_\_\_\_\_  feet  meters  above or  below the HAG.

E4. Top of platform of machinery and/or equipment servicing the building is \_\_\_\_\_  feet  meters  above or  below the HAG.

E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance?  Yes  No  Unknown. The local official must certify this information in Section G.

## SECTION F – PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION

The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. The statements in Sections A, B, and E are correct to the best of my knowledge.

Property Owner or Owner's Authorized Representative's Name

Address	City	State	ZIP Code
Signature	Date	Telephone	
Comments			

Check here if attachments.

# EL E V A L I O N C E R T I F I C A T E

OMB No. 1660-0008  
Expiration Date: November 30, 2022

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>			<b>FOR INSURANCE COMPANY USE</b>
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No. 188 Beach Avenue			Policy Number:
City East Haven	State Connecticut	ZIP Code 06512	Company NAIC Number

## SECTION G – COMMUNITY INFORMATION (OPTIONAL)

The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8–G10. In Puerto Rico only, enter meters.

G1.  The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)

G2.  A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.

G3.  The following information (Items G4–G10) is provided for community floodplain management purposes.

G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate of Compliance/Occupancy Issued
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G7. This permit has been issued for:  New Construction  Substantial Improvement

G8. Elevation of as-built lowest floor (including basement) of the building: \_\_\_\_\_  feet  meters Datum \_\_\_\_\_

G9. BFE or (in Zone AO) depth of flooding at the building site: \_\_\_\_\_  feet  meters Datum \_\_\_\_\_

G10. Community's design flood elevation: \_\_\_\_\_  feet  meters Datum \_\_\_\_\_

Local Official's Name	Title
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Community Name	Telephone
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Signature	Date
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Comments (including type of equipment and location, per C2(e), if applicable)

Check here if attachments.

or existing unfinished basements being converted to habitable space shall be 8 inches (203 mm), measured as above.

**R311.7.5.2.1 Winder treads.** Winder treads shall have a minimum tread depth of 10 inches (254 mm) measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point within the clear width of the stair. Within any flight of stairs, the largest winder tread depth at the walkline shall not exceed the smallest winder tread by more than  $\frac{3}{8}$  inch (9.5 mm). Consistently shaped winders at the walkline shall be allowed within the same flight of stairs as rectangular treads and do not have to be within  $\frac{3}{8}$  inch (9.5 mm) of the rectangular tread depth.

**R311.7.5.3 Nosings.** The radius of curvature at the nosing shall be no greater than  $\frac{9}{16}$  inch (14 mm). A nosing not less than  $\frac{3}{4}$  inch (19 mm) but not more than  $1\frac{1}{4}$  inches (32 mm) shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projection by more than  $\frac{3}{8}$  inch (9.5 mm) between two stories, including the nosing at the level of floors and landings. Beveling of nosings shall not exceed  $\frac{1}{2}$  inch (12.7 mm).

**Exception:** A nosing is not required where the tread depth is a minimum of 11 inches (279 mm).

**R311.7.5.4 Exterior wood/plastic composite stair treads.** Wood/plastic composite stair treads shall comply with the provisions of Section R507.3.

**R311.7.6 Landings for stairways.** There shall be a floor or landing at the top and bottom of each stairway. The minimum width perpendicular to the direction of travel shall be no less than the width of the flight served. Landings of shapes other than square or rectangular shall be permitted provided the depth at the walk line and the total area is not less than that of a quarter circle with a radius equal to the required landing width. Where the stairway has a straight run, the minimum depth in the direction of travel shall be not less than 36 inches (914 mm).

**Exception:** A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs.

**R311.7.7 Stairway walking surface.** The walking surface of treads and landings of stairways shall be sloped no steeper than one unit vertical in 48 inches horizontal (2-percent slope).

**R311.7.8 Handrails.** Handrails shall be provided on at least one side of each continuous run of treads or flight with four or more risers.

**R311.7.8.1 Height.** Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or finish surface of ramp slope, shall be not less than 34 inches (864 mm) and not more than 38 inches (965 mm).

#### Exceptions:

1. The use of a volute, turnout or starting easing shall be allowed over the lowest tread.
2. When handrail fittings or bendings are used to provide continuous transition between flights, transitions at winder treads, the transition from handrail to guardrail, or used at the start of a flight, the handrail height at the fittings or bendings shall be permitted to exceed the maximum height.

**R311.7.8.2 Continuity.** Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than  $1\frac{1}{2}$  inch (38 mm) between the wall and the handrails.

#### Exceptions:

1. Handrails shall be permitted to be interrupted by a newel post at the turn.
2. The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.

**R311.7.8.3 Grip-size.** All required handrails shall be of one of the following types or provide equivalent graspability.

1. Type I. Handrails with a circular cross section shall have an outside diameter of at least  $1\frac{1}{4}$  inches (32 mm) and not greater than 2 inches (51 mm). If the handrail is not circular, it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than  $6\frac{1}{4}$  inches (160 mm) with a maximum cross section of dimension of  $2\frac{1}{4}$  inches (57 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).
2. Type II. Handrails with a perimeter greater than  $6\frac{1}{4}$  inches (160 mm) shall have a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of  $\frac{3}{4}$  inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least  $\frac{5}{16}$  inch (8 mm) within  $\frac{7}{8}$  inch (22 mm) below the widest portion of the profile. This required depth shall continue for at least  $\frac{3}{8}$  inch (10 mm) to a level that is not less than  $1\frac{3}{4}$  inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be  $1\frac{1}{4}$  inches (32 mm) to a maximum of  $2\frac{3}{4}$  inches (70 mm). Edges shall have a minimum radius of 0.01 inch (0.25 mm).

**R311.7.8.4 Exterior wood/plastic composite handrails.** Wood/plastic composite handrails shall comply with the provisions of Section R507.3.

**R311.7.9 Illumination.** All stairs shall be provided with illumination in accordance with Section R303.6.

anchorage of *manufactured homes* to be located in identified floodways shall be designed and constructed in accordance with ASCE 24.

**R322.1.10 As-built elevation documentation.** A registered *design professional* shall prepare and seal documentation of the elevations specified in Section R322.2 or R322.3.

**R322.2 Flood hazard areas (including A Zones).** All areas that have been determined to be prone to flooding but not subject to high-velocity wave action shall be designated as flood hazard areas. Flood hazard areas that have been delineated as subject to wave heights between  $1\frac{1}{2}$  feet (457 mm) and 3 feet (914 mm) shall be designated as Coastal A Zones. All building and structures constructed in whole or in part in flood hazard areas shall be designed and constructed in accordance with Sections R322.2.1 through R322.2.3.

**R322.2.1 Elevation requirements.**

- Buildings and structures in flood hazard areas not designated as Coastal A Zones shall have the lowest floors elevated to or above the design flood elevation.
- Buildings and structures in flood hazard areas designated as Coastal A Zones shall have the lowest floors elevated to or above the base flood elevation plus 1 foot (305 mm), or to the design flood elevation, whichever is higher. 
- In areas of shallow flooding (AO Zones), buildings and structures shall have the lowest floor (including *basement*) elevated at least as high above the highest adjacent *grade* as the depth number specified in feet on the FIRM, or at least 2 feet (610 mm) if a depth number is not specified.
- Basement floors that are below *grade* on all sides shall be elevated to or above the design flood elevation.

**Exception:** Enclosed areas below the design flood elevation, including *basements* whose floors are not below *grade* on all sides, shall meet the requirements of Section R322.2.2.

**R322.2.2 Enclosed area below design flood elevation.** Enclosed areas, including crawl spaces, that are below the design flood elevation shall:

- Be used solely for parking of vehicles, building access or storage.
- Be provided with flood openings that meet the following criteria:
  - There shall be a minimum of two openings on different sides of each enclosed area; if a building has more than one enclosed area below the design flood elevation, each area shall have openings on exterior walls.
  - The total net area of all openings shall be at least 1 square inch (645 mm<sup>2</sup>) for each square foot (0.093 m<sup>2</sup>) of enclosed area, or

the openings shall be designed and the *construction documents* shall include a statement by a registered *design professional* that the design of the openings will provide for equalization of hydrostatic flood forces on exterior walls by allowing for the automatic entry and exit of floodwaters as specified in Section 2.6.2.2 of ASCE 24.

- The bottom of each opening shall be 1 foot (305 mm) or less above the adjacent ground level.
- Openings shall be not less than 3 inches (76 mm) in any direction in the plane of the wall.
- Any louvers, screens or other opening covers shall allow the automatic flow of floodwaters into and out of the enclosed area.
- Openings installed in doors and windows, that meet requirements 2.1 through 2.5, are acceptable; however, doors and windows without installed openings do not meet the requirements of this section.

**R322.2.3 Foundation design and construction.** Foundation walls for all buildings and structures erected in flood hazard areas shall meet the requirements of Chapter 4.

*NaFis + Young*

**Exception:** Unless designed in accordance with Section R404:

- The unsupported height of 6-inch (152 mm) plain masonry walls shall be no more than 3 feet (914 mm).
- The unsupported height of 8-inch (203 mm) plain masonry walls shall be no more than 4 feet (1219 mm).
- The unsupported height of 8-inch (203 mm) reinforced masonry walls shall be no more than 8 feet (2438 mm).

For the purpose of this exception, unsupported height is the distance from the finished *grade* of the under-floor space to the top of the wall.

**R322.3 Coastal high-hazard areas (including V Zones).** Areas that have been determined to be subject to wave heights in excess of 3 feet (914 mm) or subject to high-velocity wave action or wave-induced erosion shall be designated as coastal high-hazard areas. Buildings and structures constructed in whole or in part in coastal high-hazard areas shall be designed and constructed in accordance with Sections R322.3.1 through R322.3.6.

**R322.3.1 Location and site preparation.**

- New buildings and buildings that are determined to be substantially improved pursuant to Section R105.3.1.1, shall be located landward of the reach of mean high tide.
- For any alteration of sand dunes and mangrove stands the *building official* shall require submission

## § 29-265d

## PUBLIC SAFETY AND STATE POLICE Title 29

<sup>1</sup> C.G.S.A. § 20-299 et seq.

### Historical and Statutory Notes

#### Codification

Gen.St., Rev. to 2017 codified 2016, P.A. 16-45, § 2, as C.G.S.A. § 29-265d.

the section is "applicable to assessment years commencing on or after October 1, 2016".

#### Effective Dates

2016 Act. 2016, P.A. 16-45, § 2, eff. from passage [May 25, 2016], further provided that

## § 29-265e. Confidentiality of documentation re claims of faulty or failing concrete foundations in residential buildings

Any documentation provided to or obtained by an executive branch agency, including documentation provided or obtained prior to May 25, 2016, relating to claims of faulty or failing concrete foundations in residential buildings by the owners of such residential buildings, and documents prepared by an executive branch agency relating to such documentation, shall be maintained as confidential by such agency for not less than seven years after the date of receipt of the documentation or seven years after May 25, 2016, whichever is later. (2016, P.A. 16-45, § 4, eff. May 25, 2016.)

### Historical and Statutory Notes

#### Codification

Gen.St., Rev. to 2017 codified 2016, P.A. 16-45, § 4, as C.G.S.A. § 29-265e.



## § 29-266. Municipal board of appeals. Filing of appeals in absence of board of appeals

(a) A board of appeals shall be appointed by each municipality. Such board shall consist of five members, all of whom shall meet the qualifications set forth in the State Building Code.<sup>1</sup> A member of a board of appeals of one municipality may also be a member of the board of appeals of another municipality.

(b) When the building official rejects or refuses to approve the mode or manner of construction proposed to be followed or the materials to be used in the erection or alteration of a building or structure, or when it is claimed that the provisions of the code do not apply or that an equally good or more desirable form of construction can be employed in a specific case, or when it is claimed that the true intent and meaning of the code and regulations have been misconstrued or wrongly interpreted, or when the building official issues a written order under subsection (c) of section 29-261, the owner of such building or structure, whether already erected or to be erected, or his authorized agent may appeal in writing from the decision of the building official to the board of appeals. When a person other than such owner claims to be aggrieved by any decision of the building official, such person or his authorized agent may appeal, in writing, from the decision of the building official to the board of appeals, and before determining the merits of such appeal the board of appeals shall first determine whether such person has a right to appeal. Upon

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receipt of an appeal from an owner or his representative or approval of an appeal by a person other than the owner, the chairman of the board of appeals shall appoint a panel of not less than three members of such board to hear such appeal. Such appeal shall be heard in the municipality for which the building official serves within five days, exclusive of Saturdays, Sundays and legal holidays, after the date of receipt of such appeal. Such panel shall render a decision upon the appeal and file the same with the building official from whom such appeal has been taken not later than five days, exclusive of Saturdays, Sundays and legal holidays, following the day of the hearing thereon. A copy of such decision shall be mailed, prior to such filing, to the party taking such appeal. Any person aggrieved by the decision of a panel may appeal to the Codes and Standards Committee within fourteen days after the filing of the decision with the building official. Any determination made by the local panel shall be subject to review de novo by said committee.

(c) If, at the time that a building official makes a decision under subsection (b) of this section, there is no board of appeals for the municipality in which the building official serves, a person who claims to be aggrieved by such decision may submit an appeal, in writing, to the chief executive officer of such municipality. If, within five days, exclusive of Saturdays, Sundays and legal holidays, after the date of receipt of such appeal by such officer, the municipality fails to appoint a board of appeals from among either its own residents or residents of other municipalities, such officer shall file a notice of such failure with the building official from whom the appeal has been taken and, prior to such filing, mail a copy of the notice to the person taking the appeal. Such person may appeal the decision of the building official to the Codes and Standards Committee within fourteen days after the filing of such notice with the building official. If the municipality succeeds in appointing a board of appeals, the chief executive officer of the municipality shall immediately transmit the written appeal to such board, which shall review the appeal in accordance with the provisions of subsection (b) of this section.

(d) Any person aggrieved by any ruling of the Codes and Standards Committee may appeal to the superior court for the judicial district where such building or structure has been or is being erected.

(1949 Rev., § 4113; 1958 Rev., § 19-402; 1969, P.A. 443, § 12, eff. Oct. 1, 1970; 1971, P.A. 802, § 9; 1976, P.A. 76-436, § 391, eff. July 1, 1978; 1978, P.A. 78-280, § 1, eff. July 1, 1978; P.A. 82-432, § 14, eff. July 1, 1982; 1985, P.A. 85-321, § 2, eff. June 28, 1985; 1992, P.A. 92-164, § 2; 1993, P.A. 93-78; 2004, P.A. 04-150, § 5.)

<sup>1</sup> Regs. Conn. State Agencies, § 29-252-1d.

**Historical and Statutory Notes****Transfer of Section**

This section, formerly set out as C.G.S.A. § 19-402, was transferred to C.G.S.A. § 29-266 in Gen.St. Rev. to 1983.

"county or judicial district" to "judicial district".

**Derivation:**

1945, Supp. § 109h.

**Codification**

**1978 Amendment.** 1978, P.A. 78-280, § 1, provided for change of terms from "county" or

**Law Review and Journal Commentaries**

Administration of Connecticut State Fire Safety Code. 10 Conn.L.Rev. 1016 (1978).

**Library References**

Municipal Corporations  $\Leftrightarrow$  601.  
Westlaw Topic No. 268.

**Research References****Treatises and Practice Aids**

- 9 Connecticut Practice Series § 8:6, Reviewing Decisions of the Zoning Enforcement Authority.
- 9 Connecticut Practice Series § 12:6, The Building Inspector.
- 9A Connecticut Practice Series § 44:8, Building Appeals.
- 9B Connecticut Practice Series § 48:7, No Agency Jurisdiction.
- 9B Connecticut Practice Series § 48:9, Interpretation of Statutes.

**Notes of Decisions**

Codes and standards committee review	1
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Persons entitled to review, judicial review of committee ruling	5
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Neither municipal building inspector, given authority to pass only upon plans, specifications, building materials and related matters, nor board of appeal established to review decisions of building inspector had power to pass upon validity of certificate of approval of location as site for retail gasoline station issued by commissioner of motor vehicles. State ex rel. Gold v. Usher (1951) 84 A.2d 276, 138 Conn. 323. Automobiles  $\Leftrightarrow$  395; Zoning And Planning  $\Leftrightarrow$  1438

**1. Codes and standards committee review**

Failure of a municipality to appoint municipal board of appeal under this section is not ground for permitting direct appeal to the Code Standards Committee from a decision of a municipal building official. Op.Atty.Gen. No. 85-014 (Feb. 15, 1985), 1985 WL 258200.

In conducting "review de novo" of decisions of a municipal building code board of appeals, pursuant to this section, the Codes and Standards Committee is empowered to admit and consider evidence which was not considered by the municipal board. Op.Atty.Gen. No. 84-22 (Feb. 24, 1984), 1984 WL 249177.

**2. Jurisdiction**

Town zoning board of appeals lacked jurisdiction over issuance of building permits by building official; board's statutory authority was limited to zoning matters. Munroe v. Zoning Bd. of Appeals of Town of Branford (2001) 778 A.2d 1007, 63 Conn.App. 748, certification granted in part 782 A.2d 137, 258 Conn. 903, reversed 802 A.2d 55, 261 Conn. 263, on remand 818 A.2d 72, 75 Conn.App. 796. Zoning And Planning  $\Leftrightarrow$  1433

**3. Remedies available**

Where municipal building inspector denied application for building permit on sole ground that unreasonable time had elapsed since issuance of certificate of approval of location as site for retail gasoline station, and no evidence indicated any changes relating to property that affect public safety or welfare, appeal provisions of building code failed to give applicant an adequate, specific remedy, adapted to secure desired result effectively, conveniently, completely, and directly upon the very subject matter involved, and relief by mandamus was not barred. State ex rel. Gold v. Usher (1951) 84 A.2d 276, 138 Conn. 323. Mandamus  $\Leftrightarrow$  3(8)

**4. Judicial review of committee ruling—In general**

Pleading and proof of aggrievement was prerequisite to trial court's jurisdiction over subject matter of applicant's appeal from state building code standards committee's decision sustaining town building official's order rejecting applicant's application for a building permit for reerection of her sign blown down in windstorm. Beckish v. Manafort (1978) 399 A.2d 1274, 175 Conn. 415. Towns  $\Leftrightarrow$  15

**BUILDING, FIRE CODES, ETC.**  
**Ch. 541**

**§ 29-268**  
**Repealed**

Provisions of building code permitting party aggrieved by decision of municipal building inspector to make administrative appeal, has no application to decisions made upon subjects over which building inspector has no control. State ex rel. Gold v. Usher (1951) 84 A.2d 276, 138 Conn. 323. Municipal Corporations  $\Leftrightarrow$  621

**5. — Persons entitled to review, judicial review of committee ruling**

Unless applicant could establish that she was aggrieved by state building code standards committee's decision sustaining town building official's order rejecting her application for a building permit for reerection of her sign blown down in windstorm, applicant had no standing to appeal, for question of aggrievement was essentially one of standing. Beckish v. Manafort (1978) 399 A.2d 1274, 175 Conn. 415. Towns  $\Leftrightarrow$  15

In determining whether applicant established that she was aggrieved by and thus had standing to appeal from decision of state building code standards committee sustaining town building official's order rejecting her application for a building permit to reerect her sign blown down in windstorm, applicant's proving

her legal or equitable interest in land where her sign had been was essential, even though applicant contended that "subject matter" of state standards committee's decision was not ownership of that land but rather rights which she had acquired to reerect that sign on very spot where it had been located for 11 years without necessity of obtaining a building permit. Beckish v. Manafort (1978) 399 A.2d 1274, 175 Conn. 415. Towns  $\Leftrightarrow$  15

In applicant's appeal from state building code standards committee's decision sustaining town building official's order rejecting applicant's application for a building permit to reerect her sign blown down in windstorm, no error occurred in concluding that applicant failed to prove that she was aggrieved by state standards committee's decision and thus that she had no standing to appeal, in that trial court properly found that there was insufficient evidence that applicant was owner of land upon which sign was to be reerected, since record contained no evidence that applicant sustained her burden of proving either legal or equitable title to such land. Beckish v. Manafort (1978) 399 A.2d 1274, 175 Conn. 415. Towns  $\Leftrightarrow$  15

**§ 29-267. Tenement House Act provision re room size inapplicable to construction pursuant to Building Code**

Section 19a-358 shall not apply to any building or structure erected or altered pursuant to the State Building Code.<sup>1</sup>

(1958 Rev., § 19-398b; 1969, P.A. 443, § 17, eff. Oct. 1, 1970; 1971, P.A. 802, § 7.)

<sup>1</sup> Regs. Conn. State Agencies, § 29-252-1d.

**Historical and Statutory Notes**

**Transfer of Section**

This section, formerly set out as C.G.S.A. § 19-398b, was transferred to C.G.S.A. § 29-267 in Gen.St., Rev. to 1983.

**Codification**

Section heading was changed to conform to Gen.St., Rev. to 1995.

**Library References**

Municipal Corporations  $\Leftrightarrow$  601.

Westlaw Topic No. 268.

**§ 29-268. Repealed. (1988, P.A. 88-356, § 5.)**

**Historical and Statutory Notes**

The repealed section, formerly set out as C.G.S.A. § 19-398c, and transferred to C.G.S.A. § 29-268 in Gen.St., Rev. to 1983, which required two exits for each room used for sleeping

purposes in one or two story dwellings, was derived from:

1958 Rev., § 19-398c.  
1973, P.A. 73-663.

(b) A violation of subsection (a) of this section shall be an unfair or deceptive act or practice pursuant to subsection (a) of section 42-110b.

(2017, June Sp.Sess., P.A. 17-2, § 338, eff. Oct. 31, 2017.)

#### Historical and Statutory Notes

##### Codification

The 2018 Supplement to the Connecticut General Statutes codified 2017, June Sp.

Sess., P.A. 17-2, § 338, as C.G.S.A. § 29-265g.

### § 29-266. Municipal board of appeals. Filing of appeals in absence of board of appeals

#### Research References

##### Treatises and Practice Aids

9A Connecticut Practice Series § 44:8, Building Appeals.

9B Connecticut Practice Series § 48:7, No Agency Jurisdiction.

9B Connecticut Practice Series § 48:9, Interpretation of Statutes.

9 Connecticut Practice Series § 8:6, Reviewing Decisions of the Zoning Enforcement Authority.

9 Connecticut Practice Series § 12:6, The Building Inspector.

### § 29-269. Standards for construction of buildings to accommodate persons with physical disabilities

(a) The State Building Inspector and the Codes and Standards Committee shall revise the State Building Code<sup>1</sup> to be in substantial compliance with the provisions of the Americans with Disabilities Act of 1990, as amended, 42 USC 12101 and the Fair Housing Amendments Act of 1988, as amended, 42 USC 3600. The provisions of this subsection and the State Building Code as from time to time revised pursuant to this section shall control the design, construction and arrangement of all buildings and building elements, constructed under permits issued on or after October 1, 1975, and all buildings or building elements constructed or substantially renovated by the state, any municipality or any other political subdivision of the state, the architectural design of which was commenced on or after October 1, 1977, except buildings which have been approved by the Department of Housing and Urban Development as being in conformance with federal standards for housing for the elderly and physically handicapped and for which a permit was issued prior to June 9, 1976, to ensure accessibility thereto and use by the physically handicapped.

(b) Any variation of or exemption from any provision of (1) the State Building Code relating to accessibility to, and use of, buildings and structures by persons with disabilities, (2) subsection (i) of section 14-253a, (3) section 29-273, or (4) section 29-274, shall be permitted only when approved by the State Building Inspector. Any person, agent of the state, municipality or any other political subdivision of the state may apply to the State Building Inspector to vary or set aside standards incorporated in the State Building Code pursuant to the provisions of subsection (a) of this section. The State Building Inspector shall, within thirty days of receipt, review the application, and render a decision to accept or reject the application in whole or in part. The State Building Inspector may approve a variation of or exemption from any such standard or specification when the State Building Inspector determines that the standard or specification would not be feasible or would unreasonably complicate the construction, alteration or repair in question. Such determination shall be in writing, shall state the reasons therefor and if it sets aside any such standard or specification, a copy of such determination shall be published electronically by the State Building Inspector on the Internet web

August 24, 2020

East Haven Building Appeals Board  
c.o. East Haven Building Department  
250 Main Street  
East Haven, CT 06512

**REQUEST FOR APPEAL RELATING TO THE ISSUANCE OF BUILDING PERMIT**

**FOR**

**188 BEACH AVENUE**

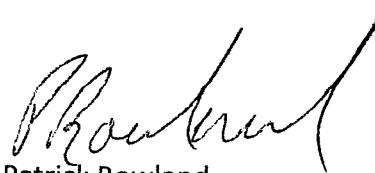
**Dear Chairman of the East Haven Building Appeals Board:**

**We hereby request that Certificate of Occupancy be rescinded for the house constructed at 188 Beach Avenue for the following reasons and request a hearing to discuss the permit and present additional evidence. Additionally, any Certificate of Occupancy must only be for summer use and limited to April 1 to September 30 each year.**

The Building Inspection Department (James Bassett) should not have signed the Certificate of Occupancy for the following reasons. Therefore, the permit should be null and void and the summer only rules of 6-27 and Appendix A should apply (especially as it relates issuance of a certificate of occupancy for summer use only). Furthermore, the house also has numerous issues that were never signed off on by an external engineer (as required under town and state regulations) or by the Town Engineer. We request that the Building Appeals Board find that the Building Official was without merit in executing the building approvals for the Certificate of Occupancy.

We look forward to the receipt of notification when this matter will be placed upon the agenda for the next available meeting timeslot for the Building Appeals Board.

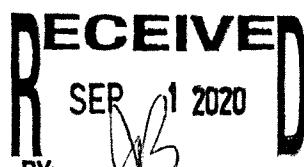
Best Regards,



Patrick Rowland



Lisa Kwesell



11:50 am

cc: Attorney Jennifer Coppola, land use attorney, Town of East Haven

1. Per the Tax Assessor Database as of October 16, 2018, the house under construction is actually LARGER than the one which it is replacing. The whole predicate of the court case and all the approvals require the new replacement home to actually be smaller – not only in width but in overall size and foot print. If the house is, indeed, larger as currently constructed, all the approvals and variances are null and void and a cease and desist should be issued immediately. The variances, the CAM approval, ZBA testimony by the lawyer, engineer, designer and the homeowner all indicated the footprint would be smaller and it appears as though they did not follow their promises and statements to the court and the Town. Because of this failure, the whole house does not conform and the Certificate of Occupancy should be invalidated.
2. The plans submitted with the building permit application do not conform to the promised “inside the footprint” as stated numerous times in the court case (NNH-CV15-6056545-S), the decision or any of the application material. The “A2” survey relied upon to issue the Certificate of Occupancy has no size calculations or references to what the current situation is. They are merely updates of old records that are not complete or accurate. There was no variance requested and none granted for rear setback to the dunes, the size coverage of the total lot and other aspects of the property which can not be verified or validated based upon the case and the records before us.

The southerly (waterside) deck exceeds the footprint by a substantial margin as there was no deck at all when the original application and court case was commenced (see Fishman v. Westport ZBA from 2015, re; conformity of previously removed nonconforming canopy). Even if the homeowner made the argument (wrongly) to include the former rear/waterside deck, the stairs and deck do not conform as they project out farther from the former footprint towards the water, dunes and other tidally related areas in violation of Coastal regulations, the application and all prior testimony in the case. The second-floor balcony is also built to exceed the former footprint in violation of the court order and existing variances. Furthermore, the northerly facing deck is also outside the original footprint, is larger than the former deck, has stairs projecting into the required set back at a much different angle and different location from the variances which exist and the former footprint as stated in the application, the correspondences with CT DEEP and the predicate of the CAM approval (on the same foot print or smaller) and therefore is also not in compliance

The court case only provided variances for the originally requested items from the minutes of the ZBA:

- a. VARIANCE: Section 44 Nonconformity, Schedule 'B' Line #9 Side yard setbacks at 5.26 ft where 20 is required on East side of house. And on west side of house side yard setbacks at 4.2 where 20 is required. Schedule 'B' Line#6 Height will be 36.8 ft as amended in the original meeting – dated June 18, 2015.
- 3. There is no variance for the following violations which would inure to the homeowner absent this request to invalidate the building permit.
  - a. The building permit is not signed by the Fire Department. This is a critical violation as the Town Ordinance (6-21) indicates the key attribute of the purpose for this regulation is to ensure proper access by fire and other emergency vehicles. An access of only twelve (12) feet is in violation of all fire protocols and Zoning Regulations, is in violation of the town plan of development, is in violation of the town disaster preparedness and is in violation of past practice and procedures which require the Fire Department concurrence prior to issuance of a building permit. Even if they did "sign off" on the permit, it fails for the previously stated reasons.
  - b. The Fire Department acquiescence is also critical for the purposes of complying with Town Zoning Regulation 25.4.4 which requires that for a home to be constructed on a narrow road, the required setback is increased by one additional foot for each foot the street is less than the required fifty (50) dimension. Because the owners of 188 Beach Avenue did not obtain a variance for this requirement, the Certificate of Occupancy isn't valid. The minutes of the approval hearing also do not even mention the requirement for the setback aspect for 25.4.4 and allowing the stairs and the larger deck to encroach into this setback area is a material violation for which there is no present variance and because the stairs and landing pad/platform are in the wrong location, the Certificate of Occupancy should not have been issued. The whole predicate of having the fire access is one reason – as is preserving parking and open space between tightly spaced houses in the coastal region.
  - c. The original permit application was also not signed or was never reviewed by the East Shore Health prior to issuance of the Certificate of Occupancy - which is required to ensure compliance with the removal of any prior septic tanks, holding cisterns or other pre-sewer facilities which have not been addressed. Zoning and Building codes and regulations require that all prior systems be remediated and updated prior to commencing construction on a new house. This includes any excavation, digging, or surface work in the area of a former septic holding tank. Failure to comply with this requirement also invalidates the Certificate of Occupancy as wrongly executed by the Building Official.

- d. The required "Frontage" on a Town road is not met – under Town Regulation 6-22. Frontage is defined as a space of twenty (20) feet on a Town Road. 188 Beach Avenue only has a twelve (12) foot right of way in order to access Beach Avenue which is also not even a Town recognized road. Failure to limit the Certificate of Occupancy to Summer only use (and not violating 6-27) is yet another reason the Certificate of Occupancy is invalid.
- e. Town Regulation 6-27 requires that no building permit (or Certificate of Occupancy) be issued for construction of a home which does not have frontage on a town road. It also prevents conversion of a summer cottage into year around use (see prior comments by the Town re; Chometa v. Deko, subsequent Notice of Violation issued to Chometa and the concomitant appeal to ZBA first heard on January 21, 2016, the several Notice of Violations issued to DiPalma, DellaValle, et al first heard at the April 21, 2016 ZBA meeting, and various refusal to issue building permit to numerous other residents of Beach Avenue over the course of the last year or three.
  - i. Allowing the conversion is a violation of the Town Regulations and was not remotely contemplated or even discussed in any form in the court case and allowing a year round home at 188 Beach Avenue is a violation of past precedent, violation of Town Regulations, and in direct conflict with the treatment for other similarly situated homes and, therefore, invalidates the Certificate of Occupancy.
- f. The Town Regulations under 25.10 and 25.10b require that no construction which includes excavation or fill within 50 feet of wetlands was violated by the building plans as submitted with the building permit. No allowance and no state approval has been obtained from DEEP and the Wetlands commission to do any work in the wetland and dune area. We have previously complained to the Building Department and to the Town Engineer and failure to address the excavation and fill has already caused flooding and water run off that will only continue to become worse. The Certificate of Occupancy should not have been issued until all the soil, drainage, and planting restoration are remediated.
  - i. The issuance of a Certificate of Occupancy indicates that any and all of these sort of soil issues are up to code and in full compliance when the house and surrounding property has not remotely addressed the topography requirements and the related runoff and hazards possible from failing to meet the various landscaping and drainage issues which are likely to arise from improper construction in the delicate coastal zone.

- ii. Additionally, the original permit application (referenced and copied, above in 2.c.i , includes the notation: "Dune – can't take sand away" which is patently violated by the plans attached to the building permit and removal of sand voids any associated permits. Sand was disturbed extensively during the construction process and all the sea grass was removed. The Certificate of Occupancy should be invalid until such time as all remediation has been completed.
- g. Town (and FEMA) Regulations require that the house be constructed to withstand wave velocity and other very specific construction practices which were not included in the building plans submitted with the permit application and for which the actual construction did not follow or implement. Therefore, the Certificate of Occupancy shouldn't be valid as it doesn't meet Zoning Regulations and the Flood Regulations which are incorporated per the court case and stated into the zoning and flood regulations.
  - i. Diane Ivkovic (in two letters to the Town Engineer) and as referenced in the DEEP coastal letter approving the CAM application strongly recommended that the construction be completed following the more rigorous V standards. Failing to follow this more stringent standard (Stipulated in Flood Regulation 9-76(1) and (2) " ...shall be constructed using methods and practices that minimize flood damage" and "...shall be constructed with materials and utility equipment resistant to flood damage") requires analysis proving there is no increase in risk of damage to surrounding property. This analysis was not done and the construction practices do not meet FEMA or even normal building code and regulations; therefore, the building permit is invalid and cannot be used to approve the Certificate of Occupancy for the home. At the very minimum, the regulations require that no harm, safe construction practices (including a "solid" foundation wall, which the building plans submitted with the permit application do not meet or include).
  - ii. The Flood Control Regulations (at 9-76(3) which are statutorily included as a part of the Zoning Regulations and are required to be followed by all building permit applications requires that all construction in the Special Flood Hazard Areas (SFHA) "...shall be anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy... and because the design plans submitted with the building permit application do not meet this very stringent standard, the Certificate of

Occupancy must be invalidated until such times as the foundation can be properly anchored.

- iii. In contrast to FEMA construction guidelines for building near the shore, the home is built on disturbed soil, not in compliance with footing standards required for building on the sand and in the coastal region, includes fill and recently dug soil in the process, the stem wall (which FEMA "highly recommends against" in an A zone and totally prohibits in a V zone, which is approximately 30 feet from the foundation) is defective in design and does not meet current FEMA standards. Therefore, the building permit is invalid and cannot be relied upon to issue a Certificate of Occupancy – which should be invalid until such time as an engineer certifies the construction propriety.
- 4. Town Regulations (Appedix A, Section 9.02) mandate that summer homes may only be occupied from April 1 to September 30 in any year and also in 9.04, any conversion needs to be noticed prior to commencing construction. Because neither of these standards were adhered or followed, the Certificate of Occupancy must not be valid and if it is, must only allow residence during the summer period so stipulated in the Regulations.
- 5. Abutting property owners Kwesell and Rowland were not noticed as required under 52.3.2 whereby the Town Zoning Regulations require notice PRIOR to removal of sand, gravel, and/or topsoil. This failure will result in drainage problems in the future, improper surface water management and is in violation of the original plans submitted and covered by the court case (whereby the designer and engineer noted no sand would be removed from the construction site). Proper remediation of the soil and drainage needs to be a requirement of any Certificate of Occupancy.
- 6. Additionally, it appears as though the flood vents are not at the required 1 foot above the adjacent ground level. Because the "A2" survey relied upon for the approvals does not have these items included in the survey, it is not possible to measure the exact height above the ground. As noted in the variance section below – any variances and abnormalities must be reported to FEMA. It is mandatory that the Town report these flaws as the issuance of a Certificate of Occupancy to a home which is not in compliance with FEMA regulations could jeopardize the discount system in place for all other homes in the town. It is also yet another reason why the Certificate of Occupancy should be void.
- 7. The stairs which are visible to the outside do not conform to required hand rail regulations under the State Code as adopted and amended (copies attached). There is

no continuous rail down the full length of the stairs. A mid rise newel post is only allowed on a landing and not mid-stream. Therefore, the stairs are not in compliance and the Fire inspection is suspect and the Certificate of Occupancy is void.

8. The construction of the cement floor of the garage was not pinned or anchored to the walls and ground – in violation of FEMA and flood regulations. It was also not lined with a vapor barrier. Such violations will likely cause damage to abutting property when it floods in violation of the stated regulations which require all construction to reduce exposure to possible damages.
9. The house was constructed of many materials which do not qualify as NFIP hazard free for use under the Base Flood Elevation (BFE). For example, the framing on top of the cement wall and the plywood sheathing covering the framing were not water resistant or water contact graded wood and are, therefore, not permissible. There are also a great many other items in the “basement” which do not qualify – from electrical outlets below the BFE to cabinets and other finish material including paper sided sheet rock – none of which are permissible. Also, required is cement poured and mixed to 5,000 psi which was not used on the project (see fema coastal construction manual – noted at page 44 on accompanying materials).

**Pertinent Regulations and Ordinances copied below:**

1.2 JURISDICTION: With the territorial limits of the Town of East Haven Connecticut, land, buildings and other structures may be used and buildings and other structures may be constructed, reconstructed, enlarged, extended, moved or structurally altered only in accordance with these Regulations. Any lot or land may be divided, sold, encumbered or conveyed only in accordance with these Regulations and shall not be so divided, sold, encumbered or conveyed in any manner as to:

- 1.2.1 Make said lot or land nonconforming or more nonconforming to the Regulations;
- 1.2.2 Make any use, building or other structure nonconforming;
- 1.2.3 Reduce any setback, yard, open space or off-street parking and loading spaces to less than is required by these Regulations; or
- 1.2.4 Make any non-conforming setback, yard, open space or of(sic) street parking or loading spaces more nonconforming.

2.1 ZONING PERMIT: A Zoning Permit is the document authorizing commencement of building construction and site development under these Regulations. No building or other structure and no off-street parking and loading areas, outside storage areas and other site improvements shall be constructed, reconstructed, enlarged, extended, moved or structurally altered until a Zoning Permit has been issued by the Zoning Administrator or his/her designated Deputy. No Zoning Permit shall be issued for any building, structure or use that requires a Special Exception or a Site Plan Approval without the prior approval of such action by the Planning and Zoning Commission.

A Zoning Permit shall automatically be rendered null and void if there are any substantial changes or alterations to the plot plan, building plan and/or other supporting application documents or in the event of any erroneous or false information uncovered on the Zoning Procedural Application after said Zoning Permit has been issued.

3.7 FLOOD PLAIN DEVELOPMENT: In any area of special flood hazard within the Town of East Haven, no land, building or other structure shall hereafter be constructed, located, extended, converted or altered without full compliance with all the provisions of the "Flood Plain

Management Ordinance" of the Town of East Haven and all requirements and provisions of these regulations.

3.7.1 Minimum Floor Elevation: No building shall be erected herein after unless the minimum elevation of the lowest floor, including basement, shall be at or above 12.0 feet based on mean sea level. The land area adjacent to, and within 10 feet of any building, together with the streets and driveways giving access to the building shall be graded to an elevation of 11.0 feet based on a mean sea level. The provisions of this paragraph shall not apply to detached garages, boat houses and other accessory buildings or portions thereof not used for human occupancy or to buildings for which a legal variance, permitting a lower elevation has been approved under the provisions of the "Flood Plain Management Ordinance".

4.47 WETLAND: The term "wetland" shall have the same meaning as defined in the General Statutes of the State of Connecticut or any amendment thereto.

21.2 SHORELINE DEVELOPMENT AREA: The Shoreline Development Area is a class of district in addition to, and overlapping one or more of the other districts.

21.5 FLOOD PLAIN DISTRICT: is a class of district that is, in addition to, and overlapping one or more of the other districts and includes all areas of special flood hazard, as delineated on the Flood Insurance Rate Map [FIRM] and flood boundary and floodway map for the Town of East Haven. In any Flood Plain District, no land shall be filled or excavated and no building or structure shall be constructed, reconstructed, altered, enlarged or extended or moved until a site plan has been approved by the Commission, in accordance with Section 31 [site plans]; or for those Special Exception uses designated in Schedule "A" until a special exception therefore has been approved by the Commission in accordance with Section 32 [special exception] of these Regulations.

23.23 FLOOD PLAIN DISTRICT: These districts are designed to delineate flood prone areas of special flood hazard where special precautions should be exercised and conservation functions and protection measures should be considered. Applicable standards on the construction and use of land, building and other structures and the filling or excavation of land are established to protect life and property, avoid health problems and avoid an increase in flood danger. These districts recognize that some flood prone areas serve a valuable conservation function which should not be disrupted until after a determination that such areas can be used for human occupancy without danger to the public health, safety and property values. Plan review for all development in these districts will be essential with regard to safe access in emergencies, flood potentials, protective works and potential increases in flood danger to other property.

25.4 SETBACKS: No building or other structure shall extend within less than the minimum distances of any street line, rear property line or other property line[s], or residence district Town of East Haven Zoning Regulations - Effective January 10, 2001 unless otherwise noted. Boundary line as specified in Schedule B, subject to the following exceptions and additional limitations:

25.4.4 Narrow Streets: The required setback from a street line of a street having a width of less than 50 feet shall be increased by one half of the difference between 50 feet and the actual width of the public or private right-of-way of the street.

25.8.3 Shoreline Development Districts: Except in connection with a dwelling for a one [1] family residence, there shall be no off-street parking or loading spaces or driveways in connection herewith, shall extend within less than 25 feet of any Residence District boundary line, and no off-street parking or loading spaces shall extend into the area required for setback from a street line...

25.10 SETBACKS FROM WATER BODIES, WATER COURSES and WETLANDS: If any building, structure, driveway, outside storage area, patio or terrace is to be located and/or land is to be filled, developed or otherwise put to any use, other than its natural state, within 50 feet of any stream, water course, water body or wetland area, a specific permit, authorizing such activity or encroachment may be required from the Town's Inland Wetland and/or Flood and Erosion and/or such other State and Local agencies as may be applicable, prior to the approval by the Zoning Official.

25.10b MINIMUM SETBACKS from TIDAL WETLANDS: In any zone, including and PDD or PEFD the minimum setback from any Tidal Wetlands shall be 25 feet. This minimum Town of East Haven Zoning Regulations - Effective January 10, 2001 unless otherwise noted. Setback may be increased to 50 feet upon the discretion of the Commission and/or its staff and there shall be no construction and/or development, and/or land disturbance such as grading, filling, cutting or the removal of native vegetation within this setback area

General Town-wide Municipal Ordinances:

Sec. 1-11. - General penalty; continuing violations.

Wherever in this Code of Ordinances, or in any ordinance, rule or regulation promulgated by an officer or agency of the town under authority vested in him or it by law or ordinance, any act is prohibited or is declared to be unlawful, or the doing of any act is required, or the failure to do any act is declared to be unlawful, and no specific penalty is provided therefor, the violation of any such provision of this Code or any such ordinance, rule or regulation shall be punished by a fine of not more than one hundred dollars (\$100.00). Except as otherwise provided, each day any violation of this Code, or any such ordinance, rule or regulation continues shall constitute a separate offense.

In addition to the fine or penalty hereinabove provided, any condition caused or permitted to exist in violation of any of the provisions of this Code or any such ordinance or resolution shall be deemed a public nuisance and may be, by the town, abated as provided by law, and each day that such condition continues shall be regarded as a new and separate offense.

**State Law reference— Violation of ordinances, G. S., § 7-148; violation of lawful regulations and orders, G.S., § 7-194(57).**

**Sec. 6-21. - Intent.**

This chapter is enacted under the provisions of section 8-27 of the General Statutes of the State of Connecticut, as amended, and is intended to promote the development of a street and highway system in the town that is safe and convenient and to assure that all buildings and structures will have ingress and egress satisfactory for fire trucks, ambulances, police cars and other emergency vehicles.

**Sec. 6-22. - Definition.**

For the purpose of this article, the term "frontage" is defined as a line which is both the boundary of a lot and the right-of-way, easement or taking line of a street or highway, other than a limited access state highway, when such "frontage" has a length of twenty (20) feet or more and is practicable for use for vehicular access as determined by the building inspector of the town.

**Sec. 6-23. - Building permits—Required.**

No person subject to the provisions of the state building code, electrical code or plumbing code shall commence the excavation for a building, structure or wall; the construction, alteration, extension, repair, removal, demolition or moving of any building, structure, foundation, sign, marquee, billboard, wall or part of same; the installation, alteration or repair of any electrical, plumbing, heating, refrigeration, ventilating, or other mechanical equipment without first having filed in writing an application for and obtained a permit for such excavation, construction, alteration, extension, removal, demolition, moving or installation from the department of building inspection.

**Sec. 6-27. - Issuance of building permits restricted as to location, etc; exceptions.**

(a) No building permit shall be issued for the erection of a building or structure unless such building or structure is located on a lot having frontage on (1) a state highway, other than a limited access state highway, or (2) an accepted town highway or street, or (3) a highway or street shown on a map, approved by the town planning and zoning commission and filed in the office of the town clerk,

Sec. 9-51. - Areas to which this article applies.

This article shall apply to all Special flood hazard areas (SFHA) within the Town of East Haven, Connecticut.

Sec. 9-53. - Structures already in compliance.

A structure or development already in compliance with this article shall not be made noncompliant by any alteration, modification, repair, reconstruction or improvement and must also comply with other applicable local, state, and federal regulations. No structure or land shall hereafter be located, extended, converted, modified or structurally altered without full compliance with the terms of this article and other applicable regulations.

Sec. 9-67. - Certification.

Where required under this article, a registered professional engineer or architect shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of this article. Such certification must be provided to the East Haven Town Engineer.

Sec. 9-76. - General standards.

In all Special flood hazard areas (SFHAs) the following provisions are required:

- (1) New construction, substantial improvements, and repair to structures that have sustained substantial damage shall be constructed using methods and practices that minimize flood damage.
- (2) New construction, substantial improvements, and repair to structures that have sustained substantial damage shall be constructed with materials and utility equipment resistant to flood damage.
- (3) New construction, substantial improvements, and repair to structures that have sustained substantial damage shall be anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
- (6) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of floodwaters into the system.
- (7) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of floodwaters into the system and discharges from the system into floodwaters.

From Sec. 9-41. - [Definitions.]

Unless specifically defined below, words and phrases used in this article shall have the same meaning as they have in common usage and to give this article its most reasonable application.

**Basement** means any area of the building having its floor subgrade (below ground level) on all sides.

**Highest adjacent grade (HAG)** (for community with AO/AH zones) means the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

**Lowest floor** means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area is not considered a building's lowest floor, provided that such an area meets the design requirements specified in subsection 9-78(a)(3) of this article.

**Sand dunes** means naturally occurring accumulations of sand in ridges or mounds landward of the beach. (CTDEP OLISP alternate definition: Accumulation of sand in mounds or ridges located landward of the beach face, usually arranged parallel to the shoreline, created by constructive waves, wind, and/or manmade restoration that tend to grow landward and/or seaward in response to windblown sand accumulation trapped by vegetation.)

**Special flood hazard area (SFHA)** means the land in the floodplain within a community subject to a one-percent or greater chance of flooding in any given year. SFHAs are determined utilizing the base flood elevations (BFE) provided on the flood profiles in the flood insurance study (FIS) for a community. BFEs provided on flood insurance rate map (FIRM) are only approximate (rounded up or down) and should be verified with the BFEs published in the FIS for a specific location. SFHAs include, but are not necessarily limited to, the land shown as zones A, AE, and the coastal high hazard areas shown as zones V and VE on a FIRM. The SFHA is also called the area of special flood hazard.

**Variance** means a grant of relief by a community from the terms of the floodplain management article that allows construction in a manner otherwise prohibited and where specific enforcement would result in unnecessary hardship.

**Sec. 9-78. - Specific standards.**

**(a) Construction standards in special flood hazard areas (SFHA), zones A and AE.**

**(1) Residential construction.** All new construction, substantial improvements, and repair to structures that have sustained substantial damage which are residential structures shall have the bottom of the lowest floor, including basement, elevated to or above the base flood elevation (BFE). Electrical, plumbing, machinery or other utility equipment that service the structure must be elevated to or above the BFE.

e. All interior walls, floor, and ceiling materials located below the BFE shall be unfinished and resistant to flood damage.

Sec. 9-101. - Establishment of variance process.

- (a) The East Haven Zoning Board of Appeals, as established by the Town of East Haven shall hear and decide appeals and requests for variances from the requirements of this article.
- (b) The East Haven Zoning Board of Appeals shall hear and decide appeals when it is alleged there is an error in any requirement, decision or determination made by the East Haven Town Engineer in the enforcement or administration of this article.
- (c) Any person aggrieved by the decision of the East Haven Zoning Board of Appeals or any person owning land which abuts or is within a radius of one hundred (100) feet of the land in question may appeal within fifteen (15) days after such decision to the State Superior Court of New Haven, as provided in G.S. § 8-8.
- (d) The East Haven Town Engineer shall maintain the records of all appeal actions and report any variances to the Federal Emergency Management Agency (FEMA).

Sec. 9-103. - Considerations for granting of variances.

In reviewing such applications for variances, the East Haven Zoning Board of Appeals shall consider all technical evaluations, all relevant factors, all standards specified in other sections of this article and the items listed below as [subsections] (1)—(11). Upon consideration of these factors and the purposes of this article, the East Haven Zoning Board of Appeals may attach such conditions to the granting of variances as it deems necessary to further the purposes of this article.

- (1) The danger that materials may be swept onto lands causing injury to others; (2) The danger to life and property due to flooding or erosion damage; (3) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner; (4) The importance of the services provided by the proposed facility to the community; (5) The necessity of the facility to waterfront location, in the case of a functionally dependent facility; (6) The availability of alternative locations not subject to flooding or erosion damage for the proposed use; (7) The compatibility of the proposed use with existing and anticipated development; (8) The relationship of the proposed use to the comprehensive plan and floodplain management program for that area; (9) The safe access to the property in times of flood for ordinary and emergency vehicles; (10) the heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site; and (11) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical and water systems, and streets and bridges.

## APPENDIX A - HOUSING ORDINANCE

1.05 Application of zoning regulations. Nothing in this code shall permit the establishment or conversion of a multi-family dwelling in any zone except where permitted by the zoning regulations of the Town of East Haven; nor shall this code permit continuation of such non-conforming use in any zone except as provided in said zoning regulations.

### Section IX: - Summer dwellings

9.02 Occupancy of a summer dwelling shall be permitted only between April 1 and September 30 of any given year.

9.04 Any person planning to convert and/or alter in any manner a structure, previously designated by the Enforcement Officer as a Summer Dwelling, for the purpose of occupying said structure year-round shall notify the Housing Code Enforcement Officer of his/her intention to do so prior to commencing such conversion and/or alteration.

not less than 50 feet in any Light Industrial #3 (LI-3); and not less than 30 feet in any Light Industrial #2 (LI-2) shall be left in its natural state, if already wooded, or shall be landscaped with lawns, trees and/or shrubs.

**25.9 COURTS and WINDOWS:** In addition to the setback requirements specified in Section 25.4, the windows of rooms used for human occupancy in a dwelling containing two (2) or more dwelling units shall open onto yards, setback areas, courts or other open spaces. The least horizontal dimension of any court between opposing walls shall be not less than twice the average height of such opposing walls. In the case of a court formed by walls on three sides and open on the forth side, this distance between the open and the opposite wall shall not exceed the distance between the other two walls, unless such latter distance is greater than 50 feet. On any lot, no window in one dwelling unit shall face a window of another dwelling unit at a distance of less than 25 feet. On any lot, no dwelling shall be nearer to another dwelling than the average height of such dwelling.

**25.10 SETBACKS FROM WATER BODIES, WATER COURSES and WETLANDS:** If any building, structure, driveway, outside storage area, patio or terrace is to be located and/or land is to be filled, developed or otherwise put to any use, other than its natural state, within 50 feet of any stream, water course, water body or wetland area, a specific permit, authorizing such activity or encroachment may be required from the Town's Inland Wetland and/or Flood and Erosion and/or such other State and Local agencies as may be applicable, prior to the approval by the Zoning Official. Approved docks, landings and/or boat houses are exempt from this setback requirement, but are subject to formal approvals by any/all of the aforementioned agencies.

**25.10a OTHER BUILDINGS and STRUCTURES:** Buildings and other structures not addressed earlier in this section, including tool sheds, greenhouses, pool houses, wood sheds and similar structures, for the use of the occupants of the lot are permitted, provided that:

**25.10b MINIMUM SETBACKS from TIDAL WETLANDS:** In any zone, including and PDD or PFD the minimum setback from any Tidal Wetlands shall be 25 feet. This minimum

*— Ignored — See letter  
from STATE —*

*Town of East Haven Zoning Regulations - Effective January 16, 2012 unless otherwise noted*

25.11

setback may be increased to 50 feet upon the discretion of the Commission and/or its staff and there shall be no construction and/or development, and/or land disturbance such as grading, filling, cutting or the removal of native vegetation within this setback area.

**25.10c OTHER BUILDINGS and STRUCTURES:** Buildings and other structures not addressed earlier in this section, including tool sheds, greenhouses, pool houses, wood sheds and

8/23/2020

The Tax Star Mail - extensive violations of environmental law - risk to dune and plover habitat

**To:** Zawoy, Kevin <Kevin.Zawoy@ct.gov>

**Cc:** Balint, Marcy <Marcy.Balint@ct.gov>; Blatt, David <David.Blatt@ct.gov>

**Subject:** Re: 188 beach #10

Thank you - Kevin. I do appreciate your effort and concern.

Marcy - please let me know when you are free to discuss. Hope to catch up soon.

I now realize we can't come in from the marsh side to remain inside the C JL - even if ground is at 4' above mean high... but as you noted their activity violates the cam approval and other aspects of their original town approvals (which are being contested in court).

Are you able to generate a letter that the activity is troubling given the location of the dune activity?

Thanks again

Patrick

Sent from my iPhone - apologies for brevity and auto correct errors.

On Sep 26, 2016, at 12:41 PM, Zawoy, Kevin <Kevin.Zawoy@ct.gov> wrote:

Hi Patrick, thank you for meeting me in the field last week. As I discussed with you in the field, the activity you reported to me did not appear to be within an area waterward of the C JL or within tidal wetlands. What I observed appeared to be some activity which has removed dune grass from the immediate rear and side of the property. I would classify this area as "Beaches and Dune" which are pursuant to the Coastal Management Act specifically section 22a-92(b)(2)(C) protected. I suggest you speak with Marcy Balint directly of this Office on this issue as she is the best contact person for your concerns. Kevin

**From:** Patrick Rowland [mailto:[patrick@thetaxstar.com](mailto:patrick@thetaxstar.com)]

**Sent:** Thursday, September 22, 2016 11:26 AM

**To:** Zawoy, Kevin <Kevin.Zawoy@ct.gov>

**Subject:** Re: 188 beach #10

Great.

Thanks. I appreciate your help. Yet another half a day and no reply from the town. I have no clue why they are reluctant to be logical on this property.

22 Long Island Sound  
East Haven CT 06512

United States

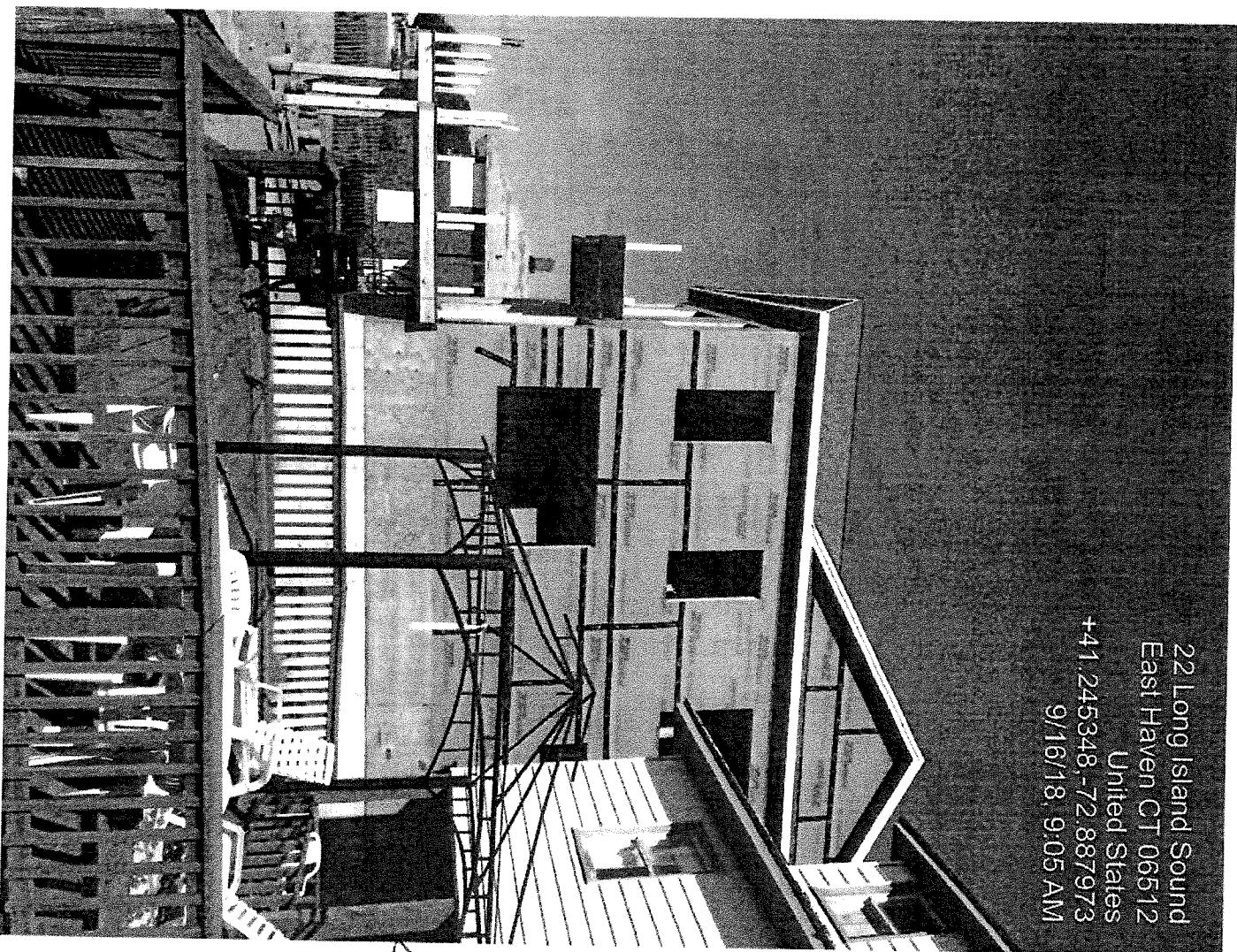
+41.245348,-72.887973  
9/16/18, 9:05 AM

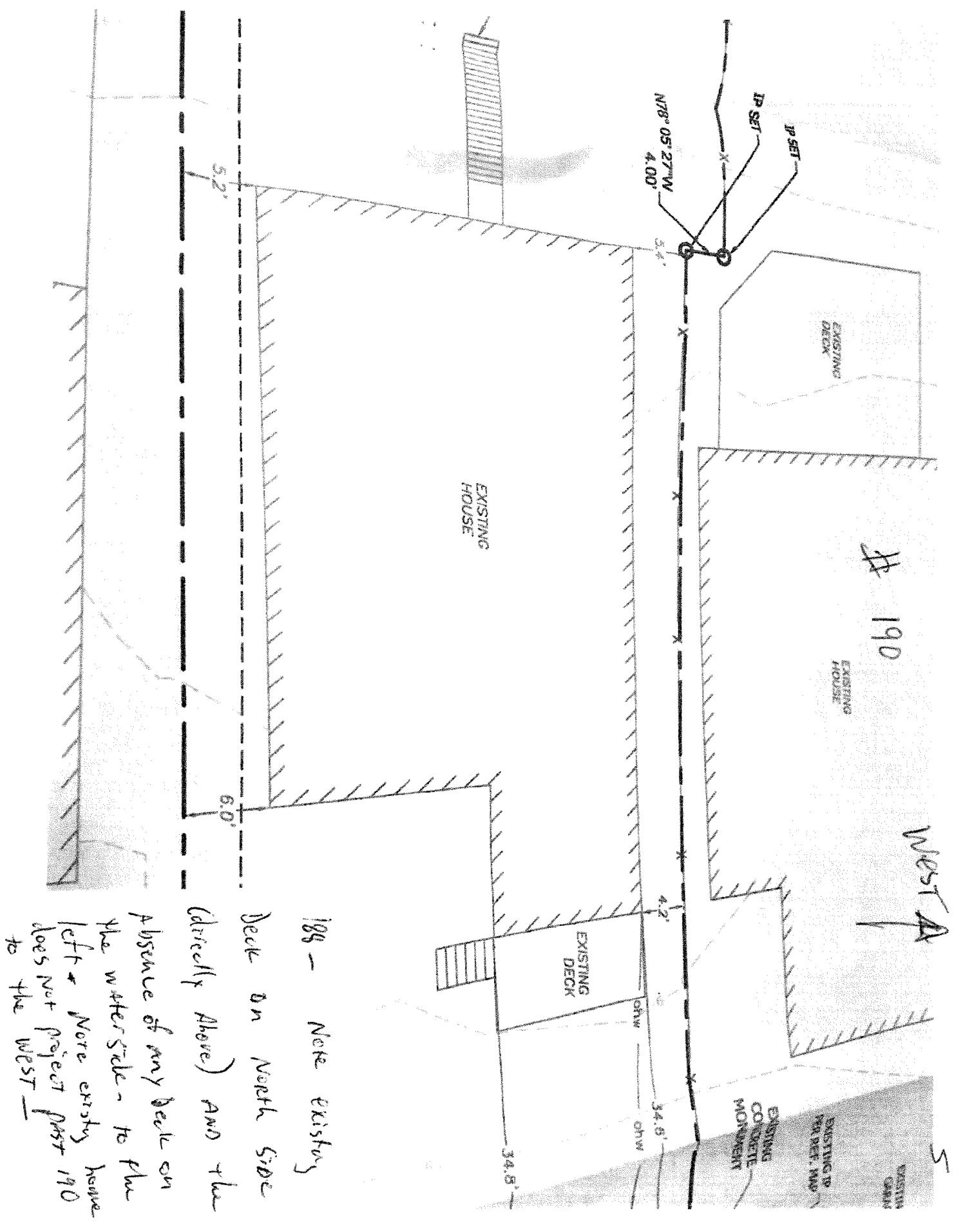
✓ Unsuppored Siberian pine 2 x 4' plus  
the wood construction on top is  
not an approved technique and  
is not signed off in the  
plans by an engineer. Not  
Approved by the town engineer  
and built outside current code  
regulations.

← Exposed wood without thick  
or house wrap - over framing and  
foundation above Siberian pine -

Not Approved construction process  
not on engineer drawings.  
Not signed off on -

Not sent copy front!





## 9.5 Appurtenances

The NFIP regulations define "appurtenant structure" as "a structure which is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure" (44 CFR § 59.1). In this Manual, "appurtenant structure" means any other building or constructed element on the same property as the primary building, such as decks, covered porches, access to elevated buildings, pools, and hot tubs.



### CROSS REFERENCE

For additional information about the types of building elements that are allowed below the BFE and for respective site development issues, see FEMA NFIP Technical Bulletin 5.

### 9.5.1 Decks and Covered Porches Attached to Buildings

Many decks and other exterior attached structures have failed during hurricanes. For decks and other structures without roofs, the primary cause of failure has been inadequate support: the pilings have either not been embedded deep enough to prevent failure or have been too small to carry the large forces from natural hazards.

The following are recommendations for designing decks and other exterior attached structures:

If a deck is structurally attached to a structure, the bottom of the lowest horizontal supporting member of the deck must be at or above the BFE. Deck supports that extend below the BFE (e.g., pilings, bracing) must comply with Zone V design and construction requirements. The structure must be designed to accommodate any increased loads resulting from the attached deck.

Some attached decks are located above the BFE but rely on support elements that extend below the BFE. These supports must comply with Zone V design and construction requirements.

If a deck or patio (not counting its supports) lies in whole or in part below the BFE, it must be structurally independent from the structure and its foundation system.

If the deck surface is constructed at floor level, the deck surface/floor level joint provides a point of entry for wind-driven rain. This problem can be eliminated by lowering the deck surface below the floor level.

If deck dimensions can be accommodated with cantilevering from the building, this eliminates the need for piles altogether and should be considered when the deck dimensions can be accommodated with this structural technique. Caution must be exercised with this method to keep water out of the house framing. Chapter 11 discusses construction techniques for flashing cantilever decks that minimize water penetration into the house.

Exposure to the coastal environment is severe for decks and other exterior appurtenant structures. Wood must be preservative-treated or naturally decay resistant, and fasteners must be corrosion resistant.



### WARNING

Decks should not cantilever over bulkheads or retaining walls where waves can run up the vertical wall and under the deck.

[Camera Roll](#)East Haven  
October 27, 2018 2:11 PM

Edit



Just a little water problem  
IN the AREA.

6



### 9.1.6 Wall to Floor Framing (Link #6)

Link #6 is the connection of the wall framing to the floor framing (see Figures 9-6 and 9-15) for resistance to wind uplift. This connection often includes use of metal connectors between the wall studs and the band joist or wood structural panel sheathing. In addition to uplift, connections between wall and floor framing can be used to maintain the load path for out-of-plane wall forces from positive and negative wind pressures and forces in the plane of the wall from shear. One method of sizing the wind uplift and lateral connections between the wall framing and the floor framing is provided in Example 9.4.

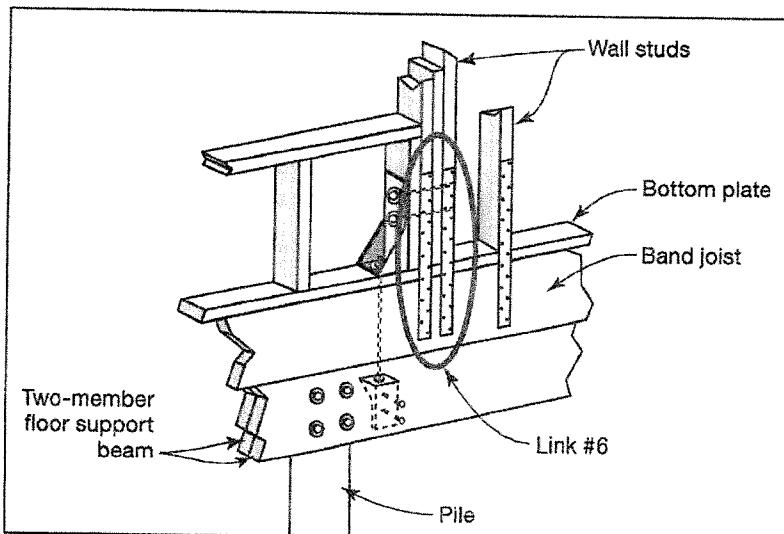


Figure 9-15.  
Connection of wall to  
floor framing (Link #6)

NOT  
PRESENT



#### EXAMPLE 9.4. UPLIFT AND LATERAL LOAD PATH AT WALL-TO-FLOOR FRAMING

Given:

- Refer to Figure 9-15
- Unit uplift load at top of wall 565.2 plf (from Example 9.2)
- Unit lateral load = 241.9 plf (from Example 9.2)
- Wall dead load = 10 psf
- Wall height = 10 ft
- Wood specific gravity,  $G = 0.42$
- Three 16d common stud-to-plate nails per stud to provide resistance to lateral loads
- Two 16d common plate-to-band joist nails per ft to provide resistance to lateral loads

4:58 PM Wed Aug 26

79%

Camera Roll

East Haven  
September 12, 2018 2:57 PM



Edit



Exten five WATER Run off Never

Reviewed by Engineer

8



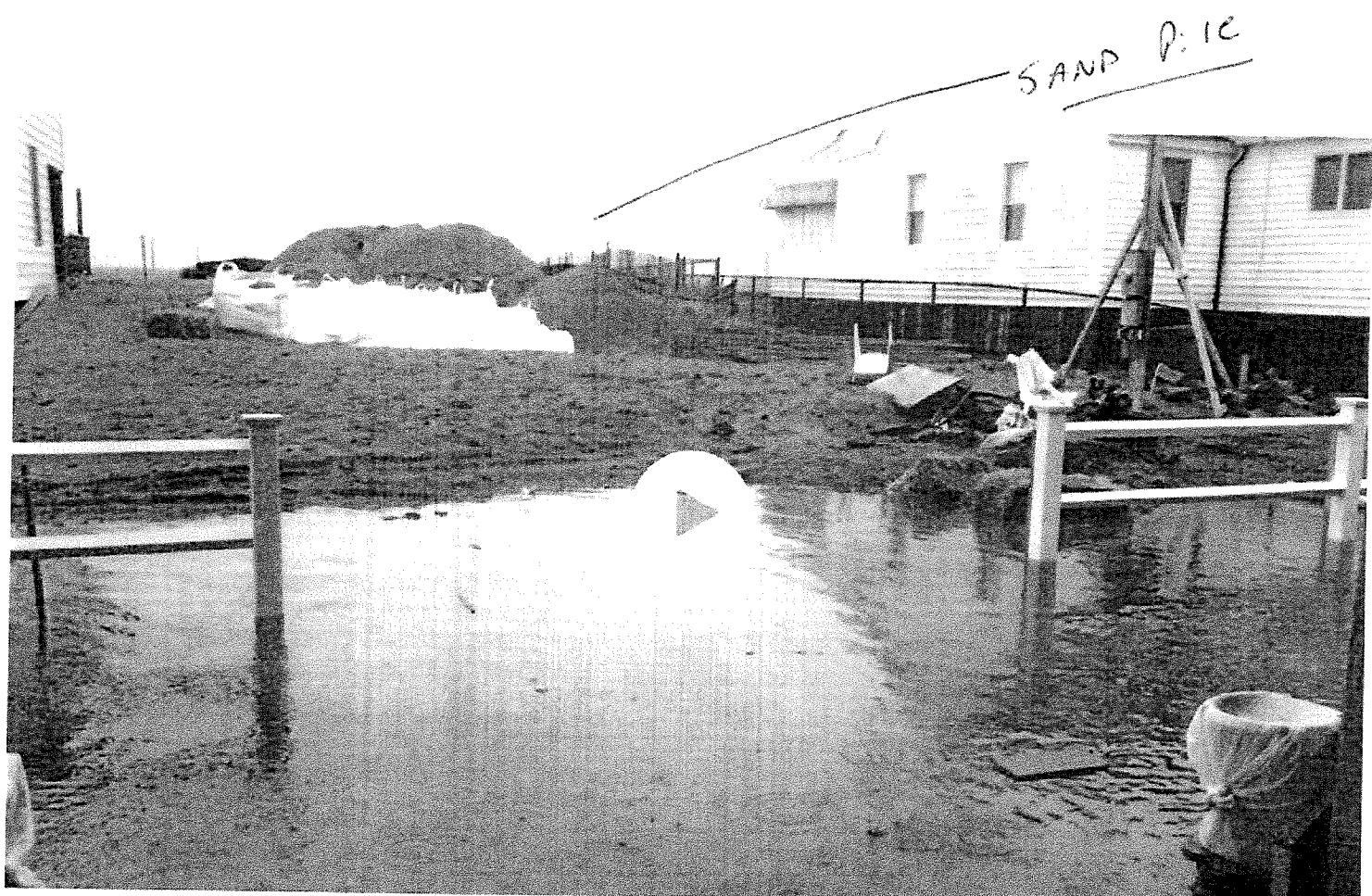
-



&lt; Camera Roll

East Haven  
March 2, 2018 12:04 PMHeart  

EXCAVATION & Removal of SAND is  
PROHIBITED !!!



NOTE Large hole in ground  
AND WATER/Flooding

9



**46.2.6** Interior modifications to buildings or structures.

**46.2.7** Minor changes are the use of a building, structure or property, except those changes occurring on property adjacent to, or abutting coastal waters.

**46.3**

**NON-CONFORMING ACTIVITIES:** Notwithstanding the above, no exemptions shall be allowed for any non - conforming activity located within 50 feet of mean high water, or of the following coastal resources (as defined by Section 22a-93(7) of the General Statutes): wetlands, beaches, dunes, coastal bluffs and escarpments, estuarine embayments, or rocky shore fronts.

**46.4**

**APPLICATION REQUIREMENTS:** A Coastal Site Plan shall be submitted to the Engineering Department for any activity or project (to be) located fully or partially within the coastal area to aid in determining the conformity of the proposal to the Coastal management act included in the above, on site plans required to demonstrate compliance with specific provisions of the Zoning Regulations as well as subdivision or re-subdivision proposals, special exceptions, variances and Section 8-24 referrals for proposed Municipal projects.

Notwithstanding the above listed exemptions, an application for approval of a Coastal Site Plan shall be submitted to the Commission on a form prescribed by the Commission. Those applications that pertain to variances shall be submitted to the Zoning Board of Appeals. Pursuant to Sections 22a-105 and 22-106 of the Connecticut General Statutes, a Coastal Site Plan shall include the following information:

**46.4.1** A plan showing the location and spatial relationship of coastal resources on, and contiguous to the site.

**46.4.2** A description of the entire project, with appropriate plans indicating the project location, design, timing and the methods of construction.

§4.2:

*Approved*

§4.3

**STRUCTURES that require a VARIANCE:** Any person or corporation, whether as owner, lessee, tenant, architect, contractor, or builder and/or any agent or employee of any of them who shall erect, construct, alter, enlarge, convert or move any building or structure or any part thereof, or who changes, alters, increases or moves any use that is non-conforming and/or prohibited in the zoning district without benefit of a variance from the Zoning Board of Appeals to legally do so shall be liable for a penalty of not more than \$ 250.00 per day, per violation. The exact amount of penalty for each violation, each day and recovery associated costs, shall be set by the East Haven Zoning Board of Appeals, payable to the Town of East Haven, and no zoning permit shall be issued until such time as all imposed penalties and associated costs are paid in full.

§4.4

**UNAUTHORIZED CHANGES to APPROVED PLANS:** Any person or corporation, whether as an owner, lessee, tenant, architect, contractor, or builder, or the agent or employee of any of them who modifies any approved site plan and/or approved use; or who shall erect, construct, alter, enlarge, convert or move any building or structure, or any part thereof, or who eliminates or adds outside parking or storage space without the approval of the Planning and Zoning Commission and/or its staff prior to making said changes, shall be liable for a penalty of not more than \$250.00 per day, payable to the Town of East Haven. Said penalties and associated costs shall be recovered in full.

The exact amount of penalties for each violation shall be determined by the Planning and



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Board of Appeals of Milford, 180 Conn. App. 1 (2015) involved the appeal of an unrepresented plaintiff who had successively appealed a zoning enforcement officer's issuance of a certificate of zoning compliance to his neighbor who wished to build a structure on adjacent property. Plaintiff then sought reimbursement for his incurred for that appeal plus interest. On motion, that complaint was struck. Plaintiff filed another suit, alleging the zoning enforcement officer was personally liable to plaintiff for failing to enforce the zoning ordinance, that the Board of Zoning Appeals was liable for failing to disqualify itself from the underlying case over a conflict of interest, and the defendant city was liable to plaintiff for reimbursement of his costs. That complaint was also struck and plaintiff appealed the grant of both motions to strike.

The court said it would treat the facts alleged in the complaint as true and would construe the pleading in the manner most favorable to sustain its legal sufficiency. The court then quoted from *Edgerton v. Clinton*, 88 A.3d 437 (2014) setting out the reasons as to why courts do not generally find liability when public agencies act in the use of discretion:

Discretionary act immunity reflects a value judgment that — despite injury to a member of the public — the broader interest in having government officers and employees free to exercise judgment and discretion in their official functions, unhampered by fear of second guessing and retaliatory lawsuits outweighs the benefits to be had from imposing liability for that injury. \*\*\* In contrast, municipal officers are not immune from liability for negligence arising out of their ministerial acts, defined as acts to be performed in a prescribed manner without the exercise of judgment or discretion. \*\*\* This is because society has no analogous interest in permitting municipal officers to exercise judgment in the performance of ministerial acts. (Internal quotation marks omitted.)

The court advised that, where it is apparent on the face of the complaint that the act was discretionary in nature, it need not be pled as a defense, but may be raised by a motion to strike. The question at issue was whether the certificate were lawfully issued. Even though there is a general legal injunction to enforce the law, the manner of that enforcement is not "rigidly prescribed manner" that would support a determination that a ministerial act occurred. The appellate court agreed with the trial court that the issuance of the certificate of zoning compliance was a discretionary act and there was no liability for the same if that act were unlawfully undertaken.

Similarly, the alleged failure of the Board of Zoning Appeals to identify a conflict of interest was also a discretionary act, for which it is given immuni-

ty. Building Inspector  
not Discretionary  
must follow the  
STATE Regulations

C

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offer you this forum to read  
about news, legal issues and  
other topics pertaining to land  
use, condemnation and real  
estate issues in the North-  
west.

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John C. H. Smith

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#### TOPICS

Select Category

#### ARCHIVES

**25.4.2 Projections:** Pilasters, belt courses, sills, cornices, marquees, canopies, eaves and similar architectural features and fire escapes may project into the area required for setback from a property or street line.

**25.4.3 Additional Setbacks:** In residence and shoreline development districts, any portion of a building or other structure exceeding 30 feet in height shall be set back from any property or street line by two (2) additional feet for each foot, or fraction thereof, by which such portion exceeds 30 feet in height, except that no additional setback from a street line is required in a Residence, RA-2 District.

**25.4.4 Narrow Streets:** The required setback from a street line of a street having a width of less than 50 feet shall be increased by one half of the difference between 50 feet and the actual width of the public or private right-of-way of the street.

**25.4.5 Railroads, Bulkheads and Pier heads:** In commercial and light industrial Districts, no set back is required from a railroad right-of-way, or an established waterfront bulkhead or pier head line.

**25.4.6 Guard Houses:** In Light Industrial Districts, a building, not exceeding 150 square feet, and used solely as a guard house, may however, be exempted by the Local Authority.

#### 25.4.7 Commercial, C-1 District: On cul-de-sac or the City Street

is required from a property line, provided that access to a public street by means of an alley or other right-of-way, not less than ten (10) feet in width is provided to any portion of the lot where buildings and other structures are set back from a property line. Any building or other structure that is set back from a property line, other than a street line, shall not extend within less than ten (10) feet of such property line, except that the owners of adjoining lots may, by mutual agreement, and recorded in the land records of the Town of East Haven, agree to reduce such setback from a common property line so as to provide a total distance of not less than ten (10) feet between buildings or other structures on such adjoining lots.

**25.4.8 Commercial, CA-2, CH-1 and CB-2 Districts:** The owners of adjoining lots in any Commercial CA-2, CH-1 or CB-2 district, may, by mutual agreement, and recorded in the land records of the Town of East Haven, agree to eliminate the required setback

Print of East Haven zoning Regulations - 1990, last Section, in 2011 update where indicated

→ lights overhang into  
required Set B & C

- No variance present

~No variance present

188 - prior to  
Demolition → Google  
Earth photo - illegal  
AND Non-conforming  
deck removed before  
Court case - No variance  
granted for deck, back  
overhangs and square, etc



AS 1M C 270 - 07 Specification for Mortar for Unit Masonry.....AE602

NFPA 501 - 10 Standard on Manufactured Housing.....AE201

**(Amd) APPENDIX F – PASSIVE RADON GAS CONTROLS**

**(Amd) AF101.1 General.** This appendix contains radon-resistant construction techniques for new construction.

**(Add) AF101.2 Radon Mitigation Preparation Construction Technique.** All newly constructed detached one- and two-family dwellings and townhouses shall be provided with radon mitigation preparation construction in accordance with Section AF104 of this code.

**Exceptions:**

1. Radon-resistant construction technique complying with Section AF103 of this code.
2. Such systems shall not be required in existing buildings undergoing repair, addition or alteration. In the case of an addition to an existing building, this exception also applies to the new construction.

**(Add) AF102.2 Definitions.** Add or amend the following definitions.

**(Add) SOIL-GAS-RETARDER.** A continuous membrane of 6-mil (0.15 mm) polyethylene or other approved equivalent material used to retard the flow of soil gases into a dwelling.

**SECTION AF103 PASSIVE RADON-RESISTANT SYSTEM REQUIREMENTS**

**(Amd) AF103.2 Entry routes.** Potential radon entry routes shall be closed in accordance with Sections AF103.2.1 to AF103.2.7, inclusive, of this code.

**(Amd) AF103.3.2 "T" fitting and vent pipe.** A 3- or 4-inch "T" fitting shall be inserted beneath the soil-gas-retarder and be connected to a vent pipe. The vent pipe shall extend through the conditioned space of the dwelling and terminate not less than 12 inches (305 mm) above the roof in a location not less than 10 feet (3048 mm) away from any window or other opening into the conditioned spaces of the building that is less than 2 feet (610 mm) below the exhaust point.

2

188 Beach Ave  
East Haven CT 06512  
United States  
+41.245147,-72.883146  
1/5/19, 11:17 AM

188 Beach (from #2  
Minor Rd) Flooding  
And Run-off from  
illegal fill AND  
failure to follow  
protocols - AND NO  
foundation insulation  
OR WATER-proofing



Avoiding assemblies that form "buckets" and retain water adjacent to wood.

Avoiding designs that result in ledges below a vertical or sloped surface. Ledges collect water quite readily, and the resulting ponding from rain or condensation alternating with solar radiation causes shrink-swell cycling, resulting in checks that allow increased water penetration.

To the extent possible, minimizing the number of vertical holes in exposed horizontal surfaces from nails, lags, and bolts.

When possible, avoiding the use of stair stringers that are notched for each stair. Notching exposes the end grain, which is then covered by the stair. As a result, the stair tends to retain moisture at the notch where the bending stress is greatest at the minimum depth section. Figure 13-12 illustrates stair stringer exposure, and Figure 13-13 shows the type of deterioration that can result.

Figure 13-12.  
Exposure of end grain in  
stair stringer cuts

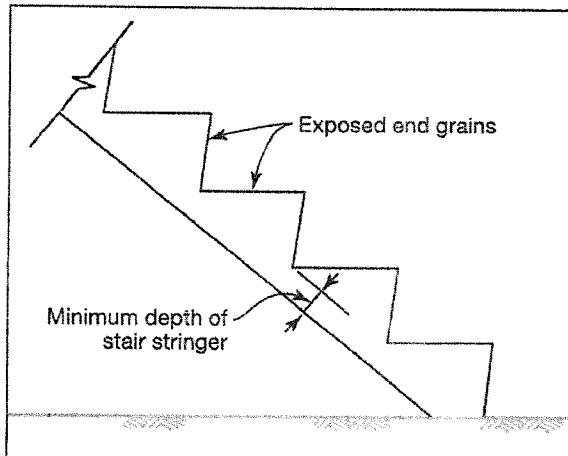
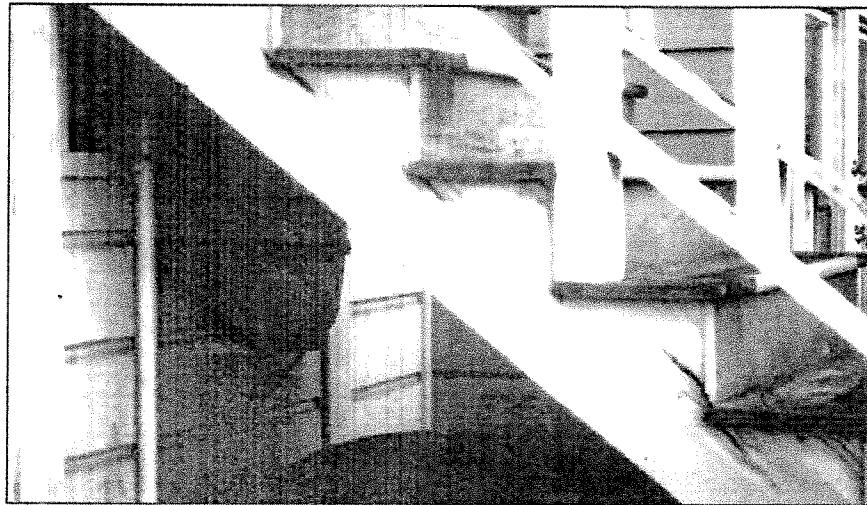


Figure 13-13.  
Deterioration in a notched  
stair stringer



### 9.5.1.1 Handrails

To minimize the effects of wind pressure, flood forces, and wave impacts, deck handrails should be open and have slender vertical or horizontal members spaced in accordance with the locally adopted building code. Many deck designs include solid panels (some made of impact-resistant glazing) between the top of the deck handrail and the deck. These solid panels must be able to resist the design wind and flood loads (below the DFE) or they will become debris.

### 9.5.1.2 Stairways

Many coastal homes have stairways leading to ground level. During flooding, flood forces often move the stairs and frequently separate them from the point of attachment. When this occurs, the stairs become debris and can cause damage to nearby houses and other buildings. Recommendations for stairs that descend below the BFE include the following:

To the extent permitted by code, use open-riser stairs to let floodwater through the stair stringers and anchor the stringers to a permanent foundation by using, for example, piles driven to a depth sufficient to prevent failure from scour.

*NOT followed*

Extend the bottom of the stair carriages several feet below grade to account for possible scour. Stairs constructed in this fashion are more likely to remain in place during a coastal hazard event and therefore more likely to be usable for access after the event. In addition, by decreasing the likelihood of damage, this approach reduces the likelihood of the stairs becoming debris.

*NOT followed*

### 9.5.2 Access to Elevated Buildings

The first floor of buildings in the SFHA is elevated from a few feet to many feet above the exterior grade in order to protect the building and its contents from flood damage. Buildings in Zone A may be only a few feet above grade; buildings in Zone V may be 8 feet to more than 12 feet above grade. Access to these elevated buildings must be provided by one or more of the following:

Stairs

Ramps

Elevator

Stairs must be constructed in accordance with the local building code so that the run and rise of the stairs conform to the requirements. The 2012 IBC and 2012 IRC require a minimum run of 11 inches per stair tread and a maximum rise of 7 inches per tread. An 8-foot elevation difference requires 11 treads or almost 12 feet of horizontal space for the stairs. Local codes also have requirements concerning other stair characteristics, such as stair width and handrail height.

Ramps that comply with regulations for access by persons with disabilities must have a maximum slope of 1:12 with a maximum rise of 30 inches and a maximum run of 30 feet without a level landing. The landing length must be a minimum of 60 inches. As a result, access ramps are generally not practical for buildings elevated more than a few feet above grade and then only when adequate space is available.

*(8)*

**IMPORTANT:** Read instructions on back of last page (Certification Page) before completing this form. Failure to comply with instructions may cause disapproval of proposed Regulations

State of Connecticut  
**REGULATION**  
of

NAME OF AGENCY

DEPARTMENT OF ADMINISTRATIVE SERVICES

Concerning

SUBJECT MATTER OF REGULATION

STATE BUILDING CODE

X

2013 AMENDMENT TO THE  
STATE BUILDING CODE

Section 1. Section 29-252-1d of the Regulations of Connecticut State Agencies is amended to read as follows:

**Sec. 29-252-1d. State Building Code – [2009 Amendment to the] 2013 Amendment to the 2005 Connecticut Supplement.**

The 2003 International Building Code, 2003 International Existing Building Code, 2003 International Plumbing Code, 2003 International Mechanical Code, 2009 International Energy Conservation Code and [2003] 2009 International Residential Code of the International Code Council, Inc. and the [2005] 2011 NFPA 70 National Electrical Code of the National Fire Protection Association Inc., except as amended, altered or deleted by this Connecticut Supplement, are hereby adopted by reference as the 2005 State Building Code.

The requirements of the 2009 Amendment to the 2005 State Building Code shall apply to all work for which a permit application was made on or after [the date of adoption] August 1, 2009, and before October 6, 2011.

The requirements of the 2011 Amendment to the 2005 State Building Code shall apply to all work for which a permit application was made on or after October 6, 2011, and before the date of adoption.

The requirements of the 2013 Amendment to the 2005 State Building Code shall apply to all work for which a permit application was made on or after the date of adoption.

Copies of the International Codes may be obtained from the International Code Council, Inc., 4051 W. Flossmoor Rd., Country Club Hills, IL 60478 (website: [www.iccsafe.org](http://www.iccsafe.org)). Copies of the [2005] NFPA 70 National Electrical Code may be obtained from the National Fire Protection Association Inc., 1 Batterymarch Park, [P.O. Box 9101,] Quincy, MA [02269-9101] 02169-7471 (website: [www.nfpa.org](http://www.nfpa.org)). Copies of the 2005 Connecticut Supplement [and the 2009 Amendment] with the 2009, 2011 and 2013 Amendments may be downloaded from [[www.ct.gov/dps](http://www.ct.gov/dps)] [www.ct.gov/dcs](http://www.ct.gov/dcs).

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1. Where the nosing of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of  $4\frac{1}{4}$  inches (121 mm).
2. The minimum headroom in all parts of existing or replacement stairways serving existing unfinished attics or existing unfinished basements being converted to habitable space shall be 6 feet 6 inches (1982 mm), measured as above.

(Del) **R311.7.3 Walkline.** Delete without substitution.

(Amd) **R311.7.4.1 Riser height.** The maximum riser height shall be  $8\frac{1}{4}$  inches (209 mm). The minimum riser height shall be 4 inches (102 mm). Riser height shall be measured vertically between leading edges of adjacent treads.

**Exception:** The maximum riser height of existing or replacement stairs serving existing unfinished attics or existing unfinished basements being converted to habitable space shall be 9 inches (229 mm), measured as above.

The greatest riser height within any flight of stairs shall not exceed the smallest by more than  $\frac{3}{8}$  inch (9.5 mm).

(Amd) **R311.7.4.2 Tread depth.** The minimum tread depth shall be 9 inches (229 mm). The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge.

**Exception:** The minimum tread depth of existing or replacement stairs serving existing unfinished attics or existing unfinished basements being converted to habitable space shall be 8 inches (203 mm), measured as above.

The greatest tread depth within any flight of stairs shall not exceed the smallest by more than  $\frac{3}{8}$  inch (9.5 mm). Winder and circular stairway treads shall have a minimum tread depth of 9 inches (229 mm) measured as above at a point 12 inches (305 mm) from the sides where the treads are narrower. Winder treads shall have a minimum tread depth of 6 inches (152 mm) at any point. The greatest winder tread depth at the 12 inch (305 mm) walk line within any flight of stairs shall not exceed the smallest by more than  $\frac{3}{8}$  inch (9.5 mm). The greatest circular tread depth at any walking line within any circular flight of stairs, measured at a consistent distance from a side of the stairway, shall not exceed the smallest by more than  $\frac{3}{8}$  inch (9.5 mm).

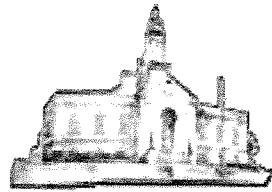
(Amd) **R311.7.7.2 Continuity.** Handrails for stairways shall be continuous for the full length of each flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned to a wall or terminate in newel posts or safety terminations. Handrails adjacent to a wall shall have a space of not less than  $1\frac{1}{2}$  inch (38 mm) between the wall and handrails.

**Exceptions:**

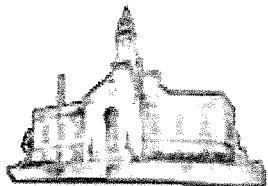
1. Handrails shall be permitted to be interrupted by a newel post at a level landing.
2. The use of a volute, turnout, starting easing or starting newel shall be permitted over the lowest tread.

12/31/05 to 9/30/16	<b><u>2005 State Building Code</u></b>  with <b><u>2009 Amendments</u></b> <b><u>2011 Amendments</u></b> <b><u>2013 Amendments</u></b>	2003 International Building Code  2003 International Residential Code  2003 International Existing Building Code  2003 International Mechanical Code  2003 International Plumbing Code  2005 National Electrical Code NFPA 70-2005  *2006 International Energy Conservation Code  **2009 International Energy Conservation Code  ***2009 International Residential Code  ***2011 National Electrical Code  ICC/ANSI A117.1-2003  December 31, 2005 Connecticut Supplement  August 1, 2009 - 2009 Amendment  October 7, 2011 - 2011 Amendment  February 28, 2014 - 2013 Amendment  *The 2009 Amendments to the 2005 State Building Code adopted the 2006 International Energy Conservation Code.  **The 2011 Amendment to the 2005 State Building Code adopted the 2009 International Energy Conservation Code.  ***The 2013 Amendment to the 2005 State Building Code adopted the 2009 International Residential Code and the 2011 National Electrical Code.
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The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2016.



## TOWN of EAST HAVEN ASSESSOR



Information on the Property Records for the Municipality of East Haven was last updated on 8/27/2020.

### Property Summary Information

Parcel Data And Values      Building      Sales      Permits

### Building Permits

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
68715	Residential New	01/26/2018		Closed	NEW 3-STORY SINGLE-FAM RESIDENCE
68699	Demolish	01/17/2018		Closed	DEMO SINGLE FAM DWELLING
64894	Demolish	09/12/2014		Needs Visit	GUT EXSISTING

[Back To Search \(JavaScript:window.history.back\(1\);\)](#)

[Print View \(PrintPage.aspx?towncode=044&uniqueid=R0247500\)](#)

## Section R401 General

### R401.1 Application

The provisions of this chapter shall control the design and construction of the foundation and foundation spaces for buildings. In addition to the provisions of this chapter, the design and construction of foundations in flood hazard areas as established by Table R301.2(1) shall meet the provisions of Section R322. Wood foundations shall be designed and installed in accordance with AWC PWF.

**Exception:** The provisions of this chapter shall be permitted to be used for wood foundations only in the following situations:

1. In buildings that have no more than two floors and a roof.
2. Where interior *basement* and foundation walls are constructed at intervals not exceeding 50 feet (15 240 mm).

Wood foundations in Seismic Design Category D<sub>0</sub>, D<sub>1</sub> or D<sub>2</sub> shall be designed in accordance with accepted engineering practice.

### R401.2 Requirements

Foundation construction shall be capable of accommodating all loads in accordance with Section R301 and of transmitting the resulting loads to the supporting soil. Fill soils that support footings and foundations shall be designed, installed and tested in accordance with accepted engineering practice. Gravel fill used as footings for wood and precast concrete foundations shall comply with Section R403.

### R401.3 Drainage

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## R401.1 Application

The provisions of this chapter shall control the design and construction of the foundation and foundation spaces for buildings. In addition to the provisions of this chapter, the design and construction of foundations in flood hazard areas as established by Table R301.2(1) shall meet the provisions of Section R32. Wood foundations shall be designed and installed in accordance with AWC-PWF.

**Exception:** The provisions of this chapter shall be permitted to be used for wood foundations only in the following situations:

1. In buildings that have no more than two floors and a roof.
2. Where interior *basement* and foundation walls are constructed at intervals not exceeding 50 feet (15 240 mm).

Wood foundations in Seismic Design Category D<sub>0</sub>, D<sub>1</sub> or D<sub>2</sub> shall be designed in accordance with accepted engineering practice.

### R401.3.1 Drainage Nuisances

Any surface or roof drainage which creates a structural or *health hazard*, or any other nuisance to the owners or occupants of adjacent premises, or to the public by reason of discharge into, onto or across any adjacent *building*, premises or public thoroughfare, *shall* be a violation. The *building official shall* require the drainage to be disposed of in an *approved* manner.

#### R403.1.3.1 Concrete Stem Walls With Concrete Footings

In Seismic Design Categories D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub> where a construction joint is created between a concrete footing and a concrete stem wall, a minimum of one No. 4 vertical bar shall be installed at not more than 4 feet (1219 mm) on center. The vertical bar shall have a standard hook and extend to the bottom of the footing and shall have support and cover as specified in Section R403.1.3.5.3 and extend a minimum of 14 inches (357 mm) into the stem wall. Standard hooks shall comply with Section R608.5.4.5. A minimum of one No. 4 horizontal bar shall be installed within 12 inches (305 mm) of the top of the stem wall and one No. 4 horizontal bar shall be located 3 to 4 inches (76 mm to 102 mm) from the bottom of the footing.

*None*  *1 Bar*  
*only*  *No Nc*

#### R404.4.1 Guards

Retaining walls with a difference in finished grade from the top of the wall to the bottom of the wall that is greater than 4 feet (1219 mm) *shall* be provided with *guards* complying with Sections R312.1.2 and R312.1.3 when there is a walking surface, parking lot or driveway on the high side located closer than 2 feet (610 mm) to the retaining wall. For the purpose of this section, grass, planting beds or landscaped areas *shall* not be a walking surface.

#### R404.6 Deep Foundations

*Deep foundations* *shall* comply with the requirements set forth in Section 1810 of the 2015 International Building Code portion of the 2018 Connecticut State Building Code.

#### R405.3 Above-Grade Drainage

Above-grade drainage systems, including but not limited to, gutters and downspouts, roof drains, and yard drains, *shall* not be connected to the foundation drainage system.

#### R320.6.1 Parking Within or Beneath a Building

Where parking is provided within or beneath a *building*, accessible parking spaces *shall* also be provided within or beneath the *building*.

**Exception:** Private parking garages within or beneath the *building* that contain no more than two parking spaces, that are reserved for the exclusive use of a specific *dwelling unit* and are directly accessed from that *dwelling unit* are not required to be accessible.

#### R320.6.2 Automobile Accessible Parking Spaces

Pursuant to subsection (h) of section 14-253a of the Connecticut General Statutes, parking spaces for passenger motor vehicles designated for persons who are blind and persons with disabilities *shall* be as near as possible to a *building* entrance or walkway and *shall* be 15 feet (4572 mm) wide, including 5 feet (1524 mm) of cross hatch.

#### R320.6.3 Van Accessible Parking Spaces

Pursuant to subsection (h) of section 14-253a of the Connecticut General Statutes, parking spaces for passenger vans designated for persons who are blind and persons with disabilities *shall* be as near as possible to a *building* entrance or walkway and *shall* be 16 feet (4877 mm) wide including 8 feet (2438 mm) of cross hatch.

#### R320.6.3.1 Van Access Clearance

Pursuant to subsection (i) of section 14-253a of the Connecticut General Statutes, each public parking garage or terminal *shall* have 8 feet 2 inches (2489 mm) vertical clearance at a primary entrance and along the route to at least two parking spaces for passenger vans that conform to Section R320.6.3 and that have 8 feet 2 inches (2489 mm) of vertical clearance.

#### R322.2.2.1 Installation of Openings

The walls of enclosed areas shall have openings installed such that:

1. There shall be not less than two openings on different sides of each enclosed area; if a building has more than one enclosed area below the design flood elevation, each area *shall* have openings.
2. The bottom of each opening shall be not more than 1 foot (305 mm) above the higher of the final interior grade or floor and the finished exterior grade immediately under each opening.
3. Openings *shall* be permitted to be installed in doors and windows; doors and windows without installed openings do not meet the requirements of this section.

#### R324.7 Access and Pathways

Roof access, pathways and spacing requirements *shall* be provided in accordance with Sections R324.7.1 through R324.7.2.4.

**Exception:** Detached garages and *accessory structures* to one and two-family dwellings and townhouses, such as parking shade structures, carports, solar trellises and similar structures.

#### R324.7.1 Roof Access Points

Roof access points *shall* be located in areas that do not require the placement of ground ladders over openings such as windows or doors, and located at strong points of *building* construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires or signs.

#### R324.7.2 Solar Photovoltaic Systems

Solar photovoltaic systems *shall* comply with Sections R324.7.2.1 through R324.7.2.4.

#### R324.7.2.1 Size of Solar Photovoltaic Array

Each photovoltaic array *shall* be limited to 150 feet by 150 feet (45 720 by 45 720 mm). Multiple arrays *shall* be separated by a clear access pathway not less than 3 feet (914 mm) in width.

#### R324.7.2.2 Hip Roof Layouts

Panels and modules installed on *dwellings* with hip roof layouts *shall* be located in a manner that provides a clear access pathway not less than 3 feet (914 mm) in width from the eave to the ridge on each roof slope where panels and modules are located. The access pathway *shall* be located at a structurally strong location on the *building* capable of supporting the *live load* of fire fighters accessing the roof.

#### Exceptions:

1. This requirement *shall not* apply to roofs with slopes of two units vertical in 12 units horizontal (16.6 percent) and less.
2. Where panels are installed on only one roof slope and there is clear access on the opposing slope.

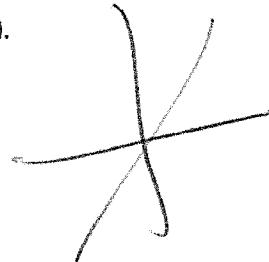
#### R324.7.2.3 Single Ridge Roofs

Panels and modules installed on *dwellings* with a single ridge *shall* be located in a manner that provides two, 3-foot-wide (914 mm) access pathways from the

#### R403.1.4.1 Frost Protection

Except where otherwise protected from frost, foundation walls, piers and other permanent supports of *buildings* and structures *shall* be protected from frost by one or more of the following methods:

1. Extended below the frost line specified in Table R301.2.(1).
2. Constructed in accordance with Section R403.3.
3. Constructed in accordance with ASCE 32.
4. Erected on solid rock.



#### Exceptions:

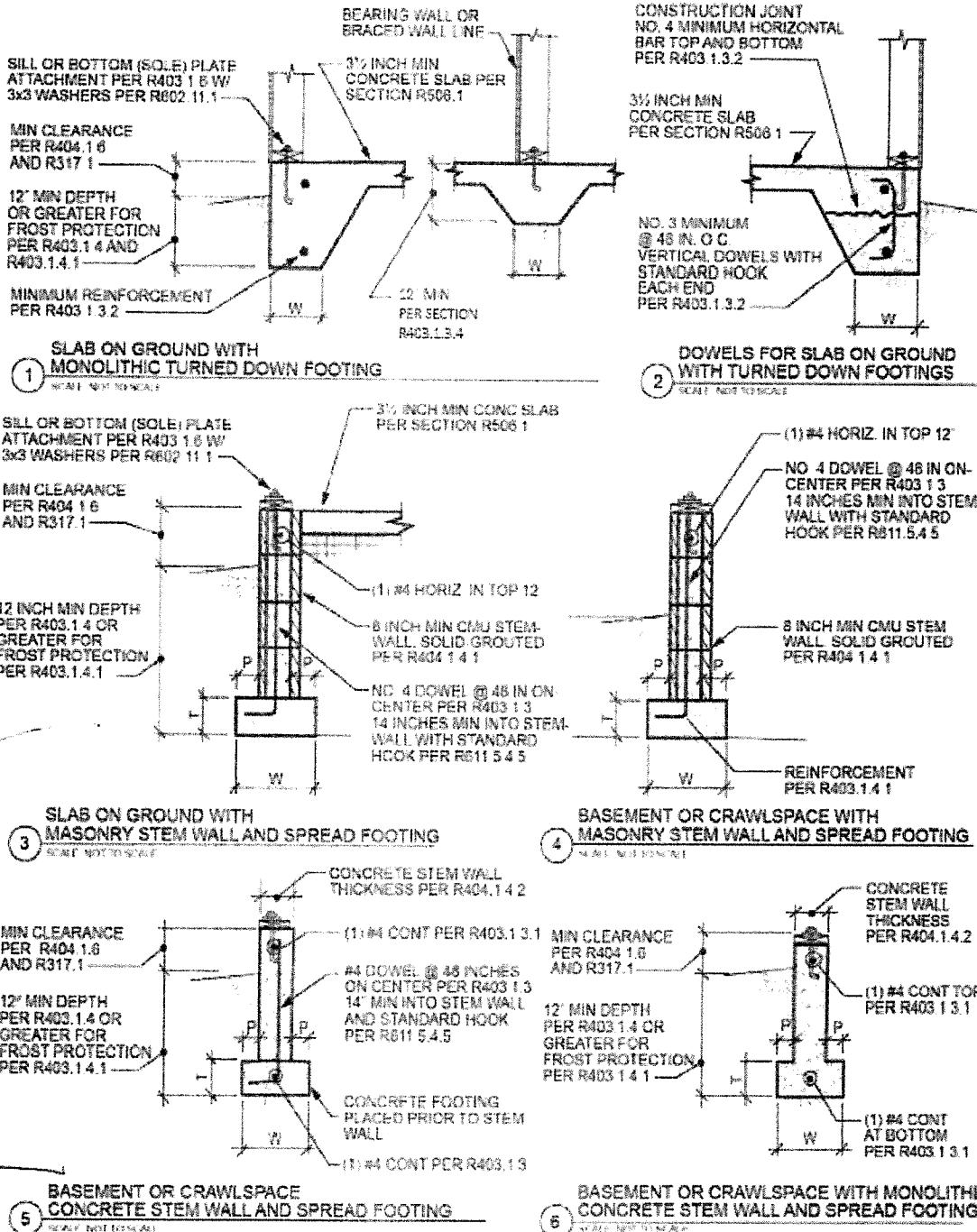
1. Protection of freestanding *accessory structures* with an area of 600 square feet ( $56 \text{ m}^2$ ) or less, of light-frame construction, with an eave height of 10 feet (3048 mm) or less *shall* not be required.
2. Protection of freestanding *accessory structures* with an area of 400 square feet ( $37 \text{ m}^2$ ) or less, of other than light-frame construction, with an eave height of 10 feet (3048 mm) or less *shall* not be required.
3. Decks not supported by a *dwelling* need not be provided with footings that extend below the frost line.
4. The footing for the grade level termination of *stairs* or *ramps* attached to decks or landings, whether the deck or landing is supported by a *dwelling* or not, *shall* only be required to be placed at least 12 inches (305 mm) below the undisturbed ground surface in accordance with R403.1.4.

Footings *shall* not bear on frozen soil unless the frozen condition is permanent.

#### R403.1.5 Slope

The top surface of footings shall be level. The bottom surface of footings shall not have a slope exceeding one unit vertical in 10 units horizontal (10-percent slope). Footings shall be stepped where it is necessary to change the elevation of the top surface of the footings or where the slope of the bottom surface of the footings will exceed one unit vertical in 10

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W = Width of footing, T = Thickness of footing and P = Projection per Section R403.1.1

**NOTES:**

- See Section R404.3 for sill requirements.
- See Section R403.1.6 for sill attachment.
- See Section R506.2.3 for vapor barrier requirements.
- See Section R403.1 for base.
- See Section R408 for under-floor ventilation and access requirements.

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### R401.3.1 Drainage Nuisances

Any surface or roof drainage which creates a structural or *health hazard*, or any other nuisance to the *owners* or *occupants* of adjacent premises, or to the public by reason of discharge into, onto or across any adjacent *building* premises or public thoroughfare, *shall* be a violation. The *building official* shall require the drainage to be disposed of in an *approved* manner.

#### R403.1 General

All *exterior walls* *shall* be supported on continuous solid or fully grouted *masonry* or *concrete* footings, crushed stone footings, wood foundations or other *approved* structural systems which *shall* be of sufficient design to accommodate all *loads* according to Section R301 and to transmit the resulting *loads* to the soil within the limitations as determined from the character of the soil. Footings *shall* be supported on undisturbed natural soils or engineered fill. *Concrete* footings *shall* be designed and constructed in accordance with the provisions of Section R403 or in accordance with ACI 332.

**Exception:** Freestanding *accessory structures* with an area of 600 square feet ( $56\text{ m}^2$ ) or less and an eave height of 10 feet (3048 mm) or less.

Footings and freestanding *accessory structures* as exempted above *shall* be supported on undisturbed natural soils or engineered fill and *shall* be anchored to resist wind-induced uplift and overturning.

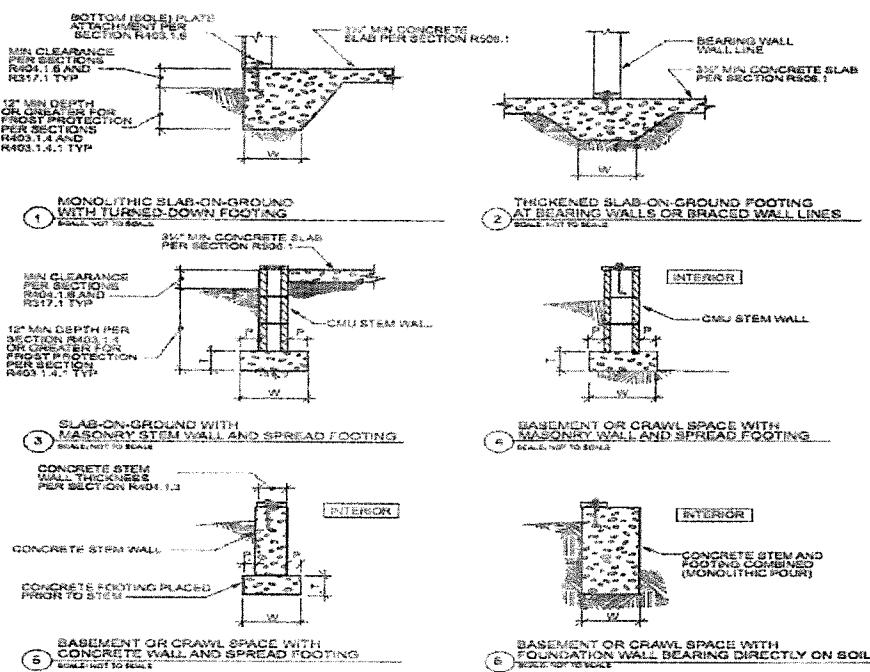
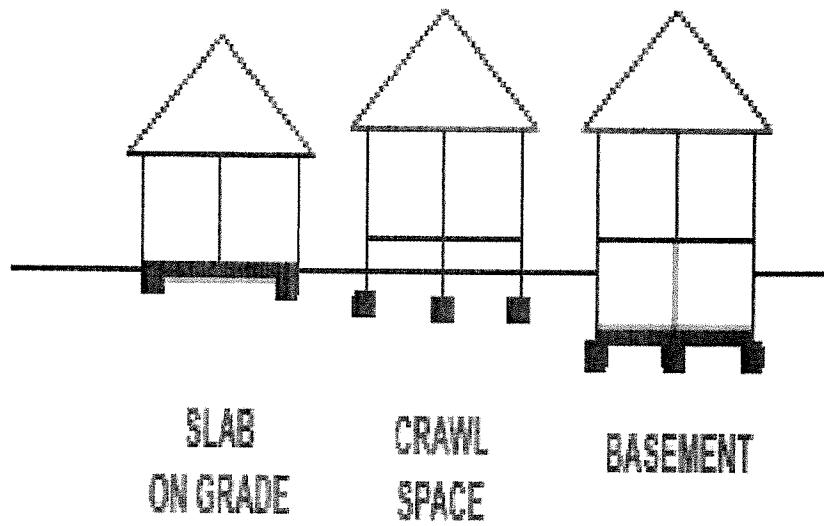
TABLE R403.1(1) MINIMUM WIDTH AND THICKNESS FOR CONCRETE FOOTINGS FOR LIGHT-FRAME CONSTRUCTION (inches)<sup>a, b</sup>

 MATCHES toward Flood

 Regulations - completely

 Ignored

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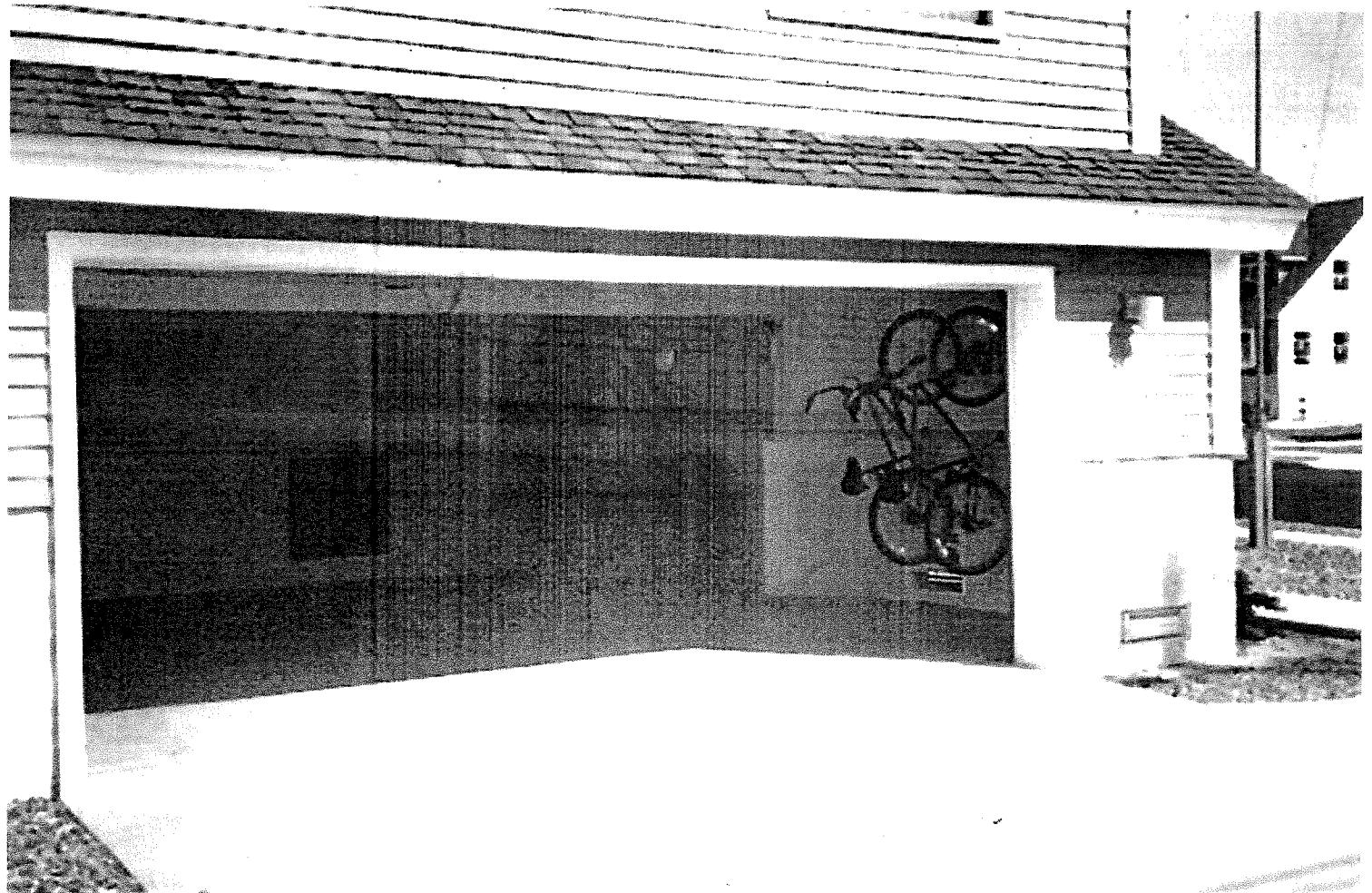


For SI: 1 inch = 25.4 mm.

W = Width of footing, T = Thickness of footing and P = Projection per Section R403.1.1

**NOTES:**

- See Section R404.3 for sill requirements.
- See Section R403.1.6 for sill attachment.
- See Section R506.2.3 for vapor barrier requirements.
- See Section R403.1 for base.
- See Figure R403.1.3 for additional footing requirements for structures in SDC D<sub>0</sub>, D<sub>1</sub> and D<sub>2</sub> and townhouses in SDC C.



# Flood Damage-Resistant Materials Requirements

for Buildings Located in Special Flood Hazard Areas in accordance with the National Flood Insurance Program

Technical Bulletin 2 / August 2008



**FEMA**

## Introduction

Protecting buildings that are constructed in special flood hazard areas (SFHAs) from damage caused by flood forces is an important objective of the National Flood Insurance Program (NFIP). In support of this objective, the NFIP regulations include minimum building design criteria that apply to new construction, repair of substantially damaged buildings, and substantial improvement of existing buildings in SFHAs. The base flood is used to delineate SFHAs on Flood Insurance Rate Maps (FIRMs) prepared by the NFIP. The base flood is the flood that has a 1-percent chance of being equaled or exceeded in any given year (commonly called the "100-year" flood). Certain terms used in this Technical Bulletin are defined in the Glossary.

The NFIP regulations require the use of construction materials that are resistant to flood damage. The lowest floor of a residential building must be elevated to or above the base flood elevation (BFE), while the lowest floor of a non-residential building must be elevated to or above the BFE or dry floodproofed to the BFE.

All construction below the BFE is susceptible to flooding and must consist of flood damage-resistant building materials. The purpose of this Technical Bulletin is to provide current guidance on what constitute "materials resistant to flood damage" and how and when these materials must be used to improve a building's ability to withstand flooding.

Table 1 describes five classes of materials ranging from those that are highly resistant to floodwater damage, to those that have no resistance to flooding. Materials are broadly described as structural materials and finish materials based on how they are used in normal construction practices. Table 2 lists materials by generic names, and notes whether the materials are acceptable or unacceptable for use below the BFE. All building materials are in some way fastened or connected to the structure. Fasteners and connectors, as described in this Technical Bulletin, also must be resistant to flood damage.

A brief description of the process used to identify or determine whether the materials listed are flood damage-resistant is provided, followed by some simplified examples with diagrams to illustrate the use of these materials below the BFE. Three additional circumstances where flood damage-resistant materials are used or recommended are described: accessory structures, limited use of wet floodproofing, and buildings outside of SFHAs.

Questions about use of flood damage-resistant materials should be directed to the appropriate local official, NFIP State Coordinating Office, or one of the Federal Emergency Management Agency's (FEMA's) Regional Offices.

Under the NFIP, the "lowest floor" is the floor of the lowest enclosed area of a building. An unfinished or flood-resistant enclosure that is used solely for parking of vehicles, building access, or storage is not the lowest floor, provided the enclosure is built in compliance with applicable requirements.

As used by the NFIP, an "enclosure" is an area that is enclosed on all sides by walls.

The NFIP defines a "basement" as any area that is below-grade on all sides. The regulations do not allow basements to extend below the BFE.

## NFIP Regulations

The NFIP regulations for flood damage-resistant materials are codified in Title 44 of the Code of Federal Regulations, in Section 60.3(a)(3), which states that a community shall:

*"Review all permit applications to determine whether proposed building sites will be reasonably safe from flooding. If a proposed building site is in a floodprone area, all new construction and substantial improvements shall... (ii) be constructed with materials resistant to flood damage..."*

Proposals for substantial improvement of existing buildings in SFHAs, and proposals to repair those that have sustained substantial damage, must comply with the requirements for new construction. As part of issuing permits, community officials must review such proposals to determine whether they comply with the requirements, including the use of flood damage-resistant materials. Refer to the "Classification of Flood Damage-Resistant Materials" section of this Technical Bulletin for additional details. Further information on substantial improvement and substantial damage is found in *Answers to Questions About Substantially Damaged Buildings* (FEMA 213).

The NFIP Technical Bulletins provide guidance on the minimum requirements of the NFIP regulations. Community or State requirements that exceed those of the NFIP take precedence. Design professionals should contact the community to determine whether more restrictive provisions apply to the building or site in question. All other applicable requirements of the State or local building codes must also be met for buildings in all flood hazard areas.

## Required Use of Flood Damage-Resistant Materials

### Flood Damage-Resistant Material

"Flood [damage]-resistant material" is defined by the NFIP as "any building product [material, component or system] capable of withstanding direct and prolonged contact with floodwaters without sustaining significant damage." The term "prolonged contact" means at least 72 hours, and the term "significant damage" means any damage requiring more than cosmetic repair. "Cosmetic repair" includes cleaning, sanitizing, and resurfacing (e.g., sanding, repair of joints, repainting) of the material. The cost of cosmetic repair should also be less than the cost of replacement of affected materials and systems. In addition to these requirements, individual materials that are considered flood damage-resistant must not cause degradation of adjacent materials or the systems of which the material is a part.

The *International Building Code*® (IBC®), by reference to ASCE 24 *Flood Resistant Design and Construction*, and the *International Residential Code*® (IRC®), require the use of flood damage-resistant materials.

**All building materials below the BFE must be flood damage-resistant**, regardless of the expected or historic flood duration. For example, buildings in coastal areas that experience relatively short-duration flooding (generally, flooding with a duration of less than 24 hours) must be constructed with flood damage-resistant materials below the BFE. As noted in Table 2, **only Class 4 and Class 5 materials are acceptable for areas below the BFE in buildings in SFHAs**.

In some instances, materials that are not flood damage-resistant materials, such as wiring for fire alarms and emergency lighting, are allowed below the BFE if specifically required to address life safety and electric code requirements for building access and storage areas.

### How Flood Damage-Resistant Materials Affect Flood Insurance Rates

Careful attention to compliance with the NFIP regulations for flood damage-resistant materials is important during design, plan review, construction, and inspection. Compliance influences both the building's vulnerability to flood damage and the cost of NFIP flood insurance. Flood insurance will not pay a claim for finish materials located in basements or in enclosed areas below the lowest floor of elevated buildings, even if such materials are considered to be flood damage-resistant. NFIP claims for damage below the BFE are limited to utilities and equipment, such as furnaces and water heaters.

### Classification of Flood Damage-Resistant Materials

The information in this Technical Bulletin was initially developed based on information in the U.S. Army Corps of Engineers' *Flood Proofing Regulations* (1995), and has been updated based on additional information from FEMA-funded studies and reports, technical experts, and industry and trade groups. Table 1 classifies building materials according to their ability to resist flood damage.

- **Finish materials** include all coverings, finishes, and elements that do not provide structural support or rigidity to a building or building component. Finish materials include floor coverings, wall and ceiling surface treatments, insulation, cabinets, doors, partitions, and windows.

## Notes Regarding Classification of Materials

The classifications in Table 2 are based on the best information available at the time of publication. However, flood damage-resistance is determined by factors that may be a function of the specific application and by the characteristics of the floodwaters. Each situation requires sound judgment and knowledge of probable contaminants in local floodwaters to select materials that are required to resist flood damage. For materials and products that are listed in Table 2, manufacturers' use and installation instructions must be followed to ensure maximum performance. Masonry and wood products used below the BFE must comply with the applicable standards published by the American Society for Testing and Materials (ASTM), the American Concrete Institute (ACI), the Truss Plate Institute (TPI), the American Forest & Paper Association (AF&PA), and other appropriate organizations.

1. **Materials Not Listed:** Table 2 does not list all available structural materials and finish materials. For materials and products not listed, manufacturers' literature (i.e., specifications, materials safety data sheets, test reports) should be evaluated to determine if the product meets flood damage-resistance requirements. Materials and products that are not listed in Table 2 may be used if accepted by the local official. Acceptance should be based on sufficient evidence, provided by the applicant, that the materials proposed to be used below the BFE will resist flood damage without requiring more than cosmetic repair and cleaning.
2. **Unacceptable Materials:** Class 1, 2, and 3 materials are unacceptable for below-BFE applications for one or more of the following reasons:
  - Normal adhesives specified for above-grade use are water soluble or are not resistant to alkali or acid in water, including groundwater seepage and vapor.
  - The materials contain wood or paper products, or other materials that dissolve or deteriorate, lose structural integrity, or are adversely affected by water.
  - Sheet-type floor coverings (linoleum, rubber tile) or wall coverings (wallpaper) restrict drying of the materials they cover.
  - Materials are dimensionally unstable.
  - Materials absorb or retain excessive water after submergence.
3. **Impact of Material Combinations:** In some cases, the combination of acceptable structural and finish materials can negatively impact the classification of individual materials. This is illustrated by the following examples:

Table 2. Types, Uses, and Classifications of Materials

Types of Building Materials	Uses of Building Materials		Classes of Building Materials				
			Acceptable		Unacceptable		
	Floors	Walls/ Ceilings	5	4	3	2	1
<b>Structural Materials (floor slabs, beams, subfloors, framing, and interior/exterior sheathing)</b>							
Asbestos-cement board		■	■				
Brick							
Face or glazed		■	■				
Common (clay)		■		■			
Cast stone (in waterproof mortar)		■	■				
Cement board/fiber-cement board		■	■				
Cement/latex, formed-in-place	■			■			
Clay tile, structural glazed		■	■				
Concrete, precast or cast-in-place	■	■	■				
Concrete block <sup>1</sup>		■	■				
Gypsum products							
<i>George</i>							
Paper-faced gypsum board		■		■			
Non-paper-faced gypsum board		■		■			
Greenboard		■				■	
Keene's cement or plaster		■			■		
Plaster, otherwise, including acoustical		■			■		
Sheathing panels, exterior grade		■			■		
Water-resistant, fiber-reinforced gypsum exterior sheathing		■		■			
Hardboard (high-density fiberboard)							
Tempered, enamel or plastic coated		■				■	
All other types		■					■
Mineral fiberboard		■					■
Oriented-strand board (OSB)							
Exterior grade	■	■				■	
Edge swell-resistant OSB	■	■				■	
All other types	■	■					■
Particle board	■						■
Plywood							
Marine grade	■	■	■				
Preservative-treated, alkaline copper quaternary (ACQ) or copper azole (C-A)	■	■		■			

Table 2. Types, Uses, and Classifications of Materials (continued)

Types of Building Materials	Uses of Building Materials		Classes of Building Materials				
	Floors	Walls/ Ceilings	Acceptable		Unacceptable		
			5	4	3	2	1
<b>Structural Materials (floor slabs, beams, subfloors, framing, and interior/exterior sheathing)</b>							
Preservative-treated, Borate <sup>2</sup>	■	■	■				
Exterior grade/Exposure 1 (WBP – weather and boil proof)	■	■		■			
All other types	■	■					■
Recycled plastic lumber (RPL)							
Commingled, with 80-90% polyethylene (PE)	■		■				
Fiber-reinforced, with glass fiber strands	■		■				
High-density polyethylene (HDPE), up to 95%	■		■				
Wood-filled, with 50% sawdust or wood fiber	■				■		
Stone							
Natural or artificial non-absorbent solid or veneer, waterproof grout	■	■	■				
All other applications		■				■	
Structural Building Components							
Floor trusses, wood, solid (2x4s), decay-resistant or preservative-treated	■	■		■			
Floor trusses, steel <sup>3</sup>	■		■				
Headers and beams, solid (2x4s) or plywood, exterior grade or preservative-treated		■		■			
Headers and beams, OSB, exterior grade or edge-swell resistant		■				■	
Headers and beams, steel <sup>3</sup>		■	■				
I-joists	■					■	
Wall panels, plywood, exterior grade or preservative-treated		■		■			
Wall panels, OSB, exterior grade or edge-swell resistant		■				■	
Wall panels, steel <sup>3</sup>		■		■			

Table 2. Types, Uses, and Classifications of Materials (continued)



Types of Building Materials	Uses of Building Materials		Classes of Building Materials				
			Acceptable		Unacceptable		
	Floors	Walls/ Ceilings	5	4	3	2	1
<b>Structural Materials (floor slabs, beams, subfloors, framing, and interior/exterior sheathing)</b>							
Wood							
Solid, standard, structural (2x4s)		■		■			
Solid, standard, finish/trim		■			■		
Solid, decay-resistant <sup>4</sup>	■	■	■				
Solid, preservative-treated, ACQ or C-A		■		■			
Solid, preservative-treated, Borate <sup>2</sup>		■		■			
<b>Finish Materials (floor coverings, wall and ceiling finishes, insulation, cabinets, doors, partitions, and windows)</b>							
Asphalt tile <sup>5</sup>							
With asphaltic adhesives	■				■		
All other types	■						■
Cabinets, built-in							
Wood		■			■		
Particle board		■					■
Metal <sup>3</sup>		■		■			
Carpeting	■						■
Ceramic and porcelain tile							
With mortar set	■	■		■			
With organic adhesives	■	■				■	
Concrete tile, with mortar set	■		■				
Corkboard		■				■	
Doors							
Wood, hollow		■				■	
Wood, lightweight panel construction		■				■	
Wood, solid		■				■	
Metal, hollow <sup>3</sup>		■		■			
Metal, wood core <sup>3</sup>		■		■			
Metal, foam-filled core <sup>3</sup>		■		■			
Fiberglass, wood core		■		■			
Epoxy, formed-in-place	■		■				

additional guidance, see Technical Bulletin 8, *Corrosion Protection for Metal Connectors in Coastal Areas*. Also see TPI/WTCA *Guidelines for Use of Alternative Preservative Treatments with Metal Connector Plates* for further guidance on metal plate connected wood trusses manufactured with preservative treated lumber (<http://www.sbcindustry.com/images/PTWGuidelines.pdf>).

## Construction Examples

### Buildings in Zones A, AE, A1-A30, AR, AO, and AH

Figure 1 illustrates a solid foundation wall (crawlspace) elevated to meet the minimum requirement that the lowest floor be at the BFE. Figure 2 illustrates framed walls that may be used for enclosures below the BFE that are used for parking of vehicles, building access, and storage.

To maximize allowable use of enclosures below the BFE, it is a common practice to extend the foundation a full story, even though that puts the lowest floor well above the BFE. In such cases, while the NFIP requirement is that flood damage-resistant materials be used only below the BFE, it is strongly recommended that such materials be used for all construction below the lowest floor. This will reduce flood damage to the enclosed area in the event flooding exceeds the BFE. For additional guidance on enclosures in A zones, see Technical Bulletin 1, *Openings in Foundation Walls and Walls of Enclosures Below Elevated Buildings in Special Flood Hazard Areas*.

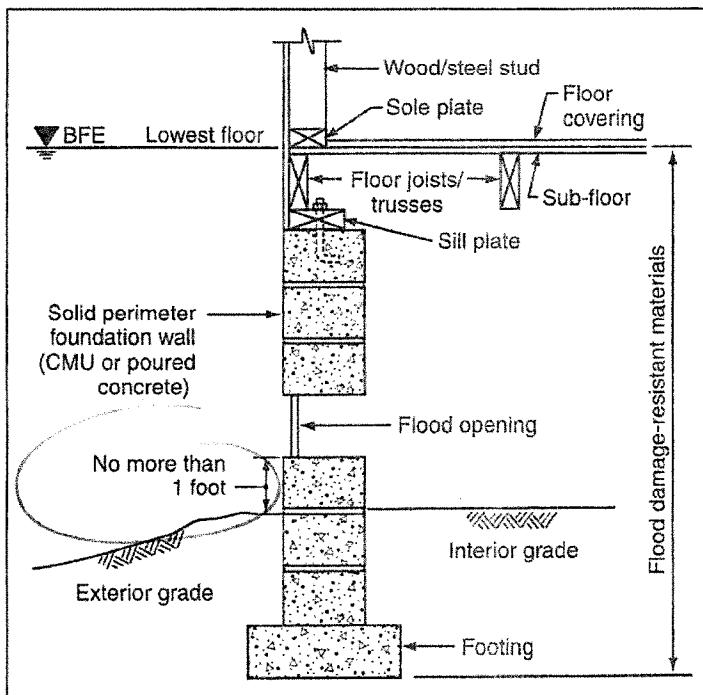


Figure 1. Building elevated on solid foundation walls meeting the minimum NFIP requirements for Zones A, AE, A1-A30, AR, AO, and AH

Foundation materials must be damage-resistant to flooding (pressure-treated wood, masonry, or concrete).

The support at the top of the foundation element must be adequate to properly attach the floor framing system. Notching of a wood foundation element should not exceed the specifications in the construction documents.

Breakaway walls should not be overnailed to the foundation. They are intended to fail. Utilities and other obstructions should not be installed behind these walls, and the interior faces should not be finished.

For masonry or concrete foundation elements (except slabs-on-grade), the proper size of reinforcing, proper number of steel bars, and proper concrete cover over the steel should be used.

Concrete must have the proper mix to meet the specialized demands of the coastal environment.

Exposed steel in the foundation corrodes; corrosion should be planned for by installing hot-dipped galvanized or stainless steel.

Areas of pressure-treated wood that have been cut or drilled retain water and decay; these cut areas should be treated in the field.

## 13.2 Structural Frame

Structural framing includes framing the floors, walls, and roof and installing critical connections between each element.



### WARNING

The connections described in this Manual are designed to hold the building together in a design event. Builders should never underestimate the importance of installing connectors according to manufacturers' recommendations. Installing connectors properly is extremely important.

#### 13.2.1 Structural Connections

One of the most critical aspects of building in a coastal area is the method that is used to connect the structural members. A substantial difference usually exists between connections acceptable in inland construction and those required to withstand the natural hazard forces and environmental conditions in coastal areas. Construction in noncoastal, nonseismic areas must normally support only vertical dead and live loads and modest wind loads. In most coastal areas, large forces are applied by wind, velocity flooding, wave impact, and floating debris. The calculated forces along the complete load path usually require that the builder provide considerable lateral and uplift capacity in and between the roof, walls, floors, girders, and piles. Consequently, builders should be sure to use the specified connectors or approved substitutes. Connectors that look alike may not have the same capacity, and a connector designed for gravity loads may have little uplift resistance. Fact Sheet 4.1, *Load Path*, in FEMA P-499 describes load paths and highlights important connections in a typical wind load path.

The nails required for the connection hardware may not be regularly found on the job site. For example, full-diameter 8d to 20d short nails are commonly specified for specific hurricane/seismic connection hardware.



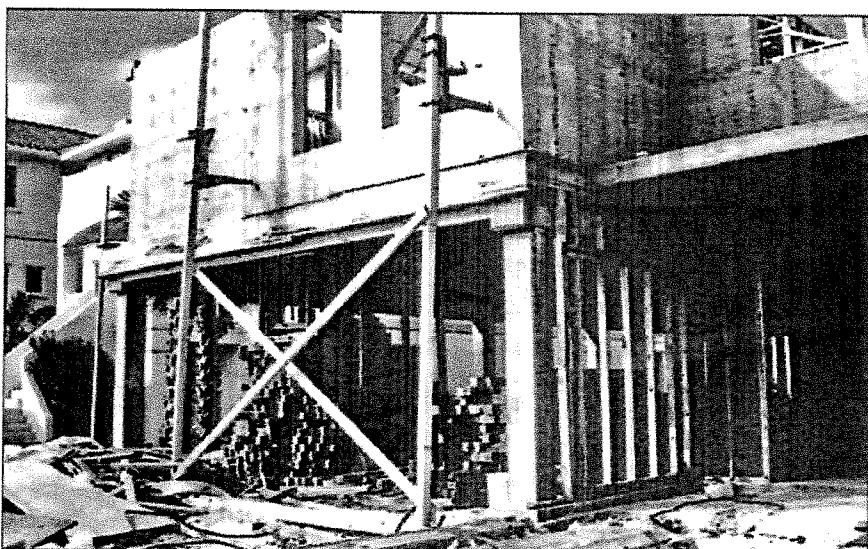


Figure 13-7.  
Concrete foundation

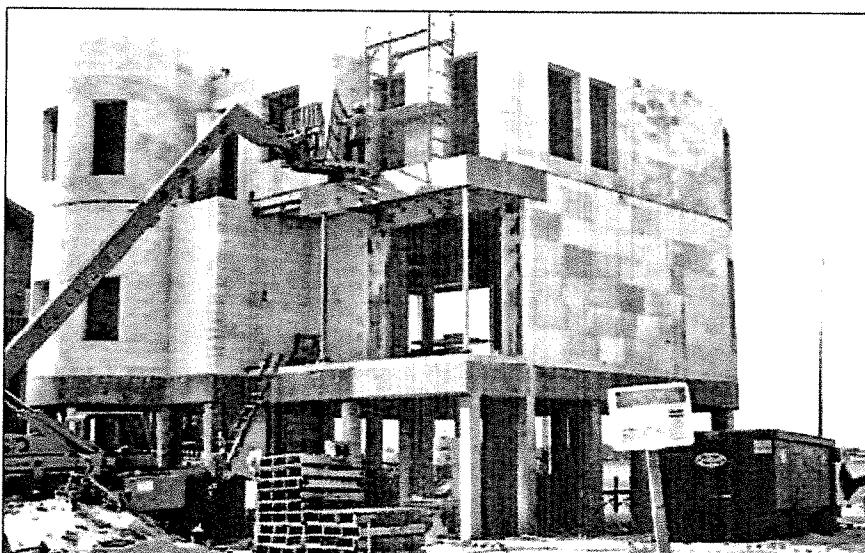


Figure 13-8.  
Concrete house

To ensure durability and long life in coastal, saltwater-affected locations, it is especially important to carefully carry out concrete construction in a fashion that promotes durability. "Material Durability in Coastal Environments," available on the Residential Coastal Construction Web site (<http://www.fema.gov/rebuild/mat/fema55.html>) describes the 2012 IBC requirements for more durable concrete mixes with lower water-cement ratios and higher compressive strengths (5,000 pounds/square inch) to be used in a saltwater environment. The 2012 IBC also requires that additional cover thickness be provided. Proper placement, consolidation, and curing are also essential for durable concrete. The concrete mix water-cement ratio required by 2012 IBC or by the design should not be exceeded by the addition of water at the site.

It is likely that concrete will have to be pumped at many sites because of access limitations or elevation differences between the top of the forms and the concrete mix truck chute. Pumping concrete requires some

Foundation  
concrete  
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untreated interior core of treated wood elements remains above the fiber saturation point—about 30 percent. The moisture content of seasoned, surface-dry 2x lumber (S-DRY) is less than or equal to 19 percent content when it arrives at the job site, but the moisture content is quickly reduced as the wood dries in the finished building. The moisture content of the large members (i.e., greater than 3 times) is much higher than 19 percent when they arrive at the job site, and the moisture content takes months to drop below 19 percent.

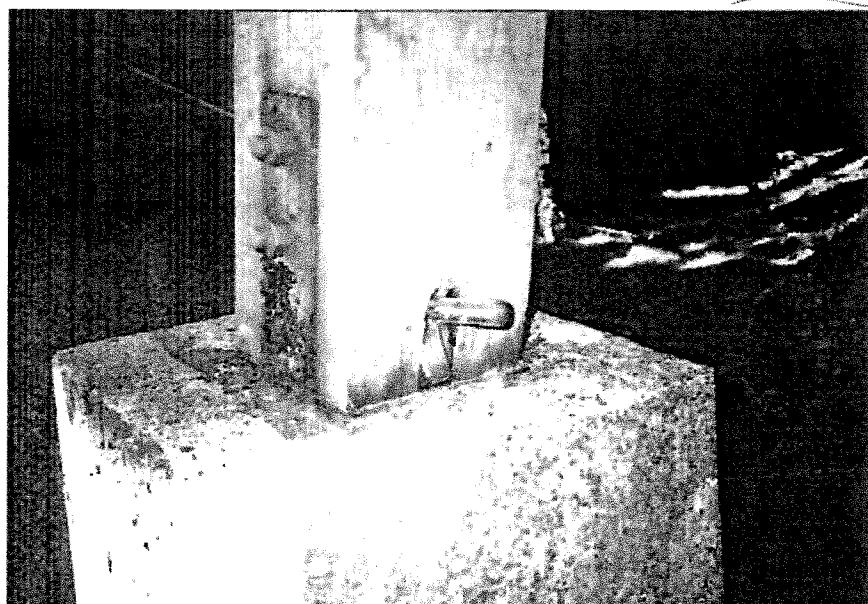
The potential for deterioration is greatest at end grain surfaces. Water is most easily absorbed along the grain, allowing it to penetrate deep into the member where it does not readily dry. Figure 13-9 illustrates deterioration in the end of a post installed on a concrete base. This is a typical place for wood deterioration to occur. Even when the end grain is more exposed to drying, the absorptive nature of the end grain creates an exaggerated shrink/swell cycling, resulting in checks and splits, which in turn allow increased water penetration.

Exposed pile tops present the vulnerable horizontal end grain cut to the weather. Cutting the exposed top of a pile at a slant does not prevent decay and may even channel water into checks. Water enters checks and splits in the top and side surfaces of beams and girders. It can then penetrate into the untreated core and cause decay. These checks and splits occur naturally in large sawn timbers as the wood dries and shrinks over time. They are less common in glue-laminated timbers and built-up sections. It is generally, but not universally, agreed that caulking the checks and splits is unwise because caulking is likely to promote water retention more than keep water out. The best deterrent is to try to keep the water from reaching the checks and splits.

Framing construction that readily collects and retains moisture, such as pile tops, pile-beam connections, and horizontal girder and beam top surfaces, can be covered with flashing or plywood. However, there should always be an air gap between the protected wood and the flashing so that water vapor passing out of the wood is not condensed at the wood surface. For example, a close-fitting cap of sheet metal on a pile top can cause water vapor coming out of the pile top to condense and cause decay. The cap can also funnel water into the end grain penetrations of the vertical fasteners.

Figure 13-9.  
Wood decay at the base  
of a post supported by  
concrete

Typical of  
the center  
of wood  
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cover for



minor changes in the mix so that the concrete flows smoothly through the pump and hoses. Plasticizers should be used to make the mix pumpable; water should not be used to improve the flow of the mix. Concrete suitable for pumping must generally have a slump of at least 2 inches and a maximum aggregate size of 33 to 40 percent of the pump pipeline diameter. Pumping also increases the temperature of the concrete, thus changing the curing time and characteristics of the concrete depending on the outdoor temperature.

Freeze protection may be needed, particularly for columns and slabs, if pouring is done in cold temperatures. Concrete placed in cold weather takes longer to cure, and the uncured concrete may freeze, which adversely affects its final strength. Methods of preventing concrete from freezing during curing include:

- Heating adjacent soil before pouring on-grade concrete
- Warming the mix ingredients before batching
- Warming the concrete with heaters after pouring (avoid overheating)
- Placing insulating blankets over and around the forms after pouring
- Selecting a cement mix that will shorten curing time

Like masonry, concrete is used for piers, columns, and walls; the recommendation in Section 13.1.3 regarding open foundations in Coastal A Zones also applies to concrete foundations. In addition, because the environmental impact of salt-laden air and moisture make the damage potential significant for concrete, this Manual recommends that all concrete construction in and near coastal flood hazard areas (both Zone V and Zone A) be constructed with the more durable 5,000-pounds/square inch minimum compressive strength concrete regardless of the purpose of the construction and the design loads.

### 13.1.5 Wood Foundation Construction

 All of the wood used in the foundation piles, girders, beams, and braces must be preservative-treated wood or, when allowed, naturally decay-resistant wood. Section 9.4 discusses materials selection for these wood elements. Piles must be treated with waterborne arsenicals, creosote, or both. Girders and braces may be treated with waterborne arsenicals, pentachlorophenol, or creosote. Certain precautions apply to working with any of these treated wood products, and additional precautions apply for pentachlorophenol- and creosote-treated wood (see Section 13.1.5.1). Additional information is available in Consumer Information Sheets where the products are sold.

 Wood foundations are being constructed in some parts of the country as part of a basement or crawlspace. These foundation elements have walls constructed with pressure-preservative-treated plywood and footings constructed with wide pressure- preservative-treated wood boards such as 2x10s or 2x12s. Because the NFIP regulations allow continuous foundation walls (with the required openings) in Coastal A Zones, continuous



#### NOTE

ACI 318-08 specifies minimum amounts of concrete cover for various construction applications. Per the Exception to 1904.3 in the 2012 IBC, concrete mixtures for any R occupancies need only comply with the freeze/thaw requirements (as traditionally tabulated in the 2012 IBC and 2012 IRC), not the permeability and corrosion requirements of ACI 318-08.

### 10.2.1 Open Foundations

An open foundation allows water to pass through the foundation of an elevated building, reducing the lateral flood loads the foundation must resist. Examples of open foundations are pile, pier, and column foundations. An open foundation is designed and constructed to minimize the amount of vertical surface area that is exposed to damaging flood forces. Open foundations have the added benefit of being less susceptible than closed foundations to damage from flood-borne debris because debris is less likely to be trapped.

Open foundations are required in Zone V and recommended in Coastal A Zone. Table 10-1 shows the recommended practices in Coastal A Zone and Zone V.

Table 10-1. Foundation Styles in Coastal Areas

Foundation Style	Zone V	Coastal A Zone (LiMWA)	Zone A
Open/deep	Acceptable	Acceptable	Acceptable
Open/shallow	Not permitted	Acceptable <sup>(a)</sup>	Acceptable
Closed/shallow	Not permitted	Not recommended	X
Closed/deep	Not permitted	Not recommended	Acceptable

LiMWA = Limit of Moderate Wave Action

(a) Shallow foundations in Coastal A Zone are acceptable only if the maximum predicted depth of scour and erosion can be accurately predicted and foundations can be constructed to extend below that depth.

### 10.2.2 Closed Foundations

A closed foundation is typically constructed using continuous perimeter foundation walls. Examples of closed foundations are crawlspace foundations and stem wall foundations,<sup>1</sup> which are usually filled with compacted soil. Slab-on-grade foundations are also considered closed.

A closed foundation does not allow water to pass easily through the foundation elements below an elevated building. Thus, these types of foundations obstruct floodwater flows and present a large surface area upon which waves and flood forces act. Closed foundations are prohibited in Zone V and are not recommended in Coastal A Zones. If perimeter walls enclose space below the DFE, they must be equipped with openings that allow floodwaters to flow in and out of the area enclosed by the walls (see Figure 2-19). The entry and exit of floodwater equalizes the water pressure on both sides of the wall and reduces the likelihood that the wall will fail. See Fact Sheet No. 3.5, *Foundation Walls*, in FEMA P-499, *Home Builder's Guide to Coastal Construction Technical Fact Sheet Series* (FEMA 2010).

Closed foundations also create much larger obstructions to moving floodwaters than open foundations, which significantly increases localized scour. Scour, with and without generalized erosion, can remove soils that support a building and can undermine the foundation and its footings. Once undermined, shallow footings readily fail (see Figure 10-1).

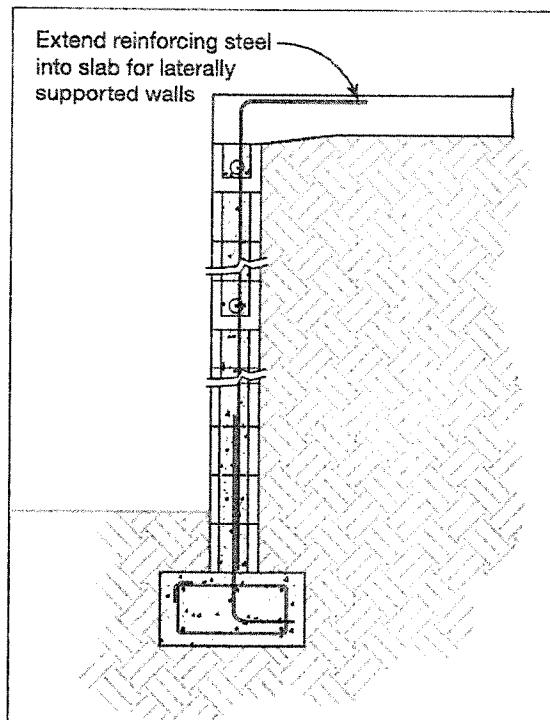
<sup>1</sup> Stem wall foundations (in some areas, referred to as chain wall foundations) are similar to crawlspace foundations where the area enclosed by the perimeter walls are filled with compacted soil. Most stem wall foundations use a concrete slab-on-grade for the first floor. The NFIP requires flood vents in crawlspace foundations but not in stem wall foundations (see Section 6.1.1 and Section 7.6.1.5).

to equalize hydrostatic pressures on either side of the wall. See FEMA Technical Bulletin 1, *Openings in Foundation Walls and Walls of Enclosures* (FEMA 2008c). However, the flood vents do not significantly reduce hydrodynamic loads or breaking wave loads, and even with flood vents, flood forces in Coastal A Zones can damage or destroy these foundation styles.

Both closed/shallow foundations contained in FEMA P-550 are similar to foundations found in prescriptive codes but contain the additional reinforcement requirement to resist moving floodwaters and short (approximately 1.5-foot) breaking waves. Figure 10-16 shows the stem wall foundation design in FEMA P-550.

**Figure 10-16.**  
**Stem wall foundation**  
**design**

SOURCE: ADAPTED FROM  
FEMA P-550, CASE F



No reinforcement  
on slabs  
NOT connected  
to foundation

## 10.9 Pier Foundations

Properly designed pier foundations offer the following benefits: (1) their open nature reduces the loads they must resist from moving floodwaters, (2) taller piers can often be constructed to provide additional protection without requiring a lot more reinforcement, and (3) the piers can be constructed with reinforced concrete and masonry materials commonly used in residential construction.

Pier foundations, however, can have drawbacks. If not properly designed and constructed, pier foundations lack the required strength and stability to resist loads from flood, wind or seismic events. Many pier foundation failures occurred when Hurricane Katrina struck the Gulf Coast in 2005.

The type of footing used in pier foundations greatly affects the foundation's performance (see Figure 10-17). When exposed to lateral loads, discrete footings can rotate so piers placed on discrete footings are suitable

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SLOPE FINAL GRADE PER SECTION R403.3.2

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Timber pile With concrete column and grade beam	✓	✓	✓	✓	✓	✓
Concrete column and grade beam	✓	✓	✓	✓	✓	✓
Concrete column and grade beam With slab	✓	✓	✓	✓	✓	✓
Reinforced masonry - crawl space						
Reinforced masonry - stem wall						

Acceptable  
not recommended  
not permitted

This document is available for download at [www.fema.gov/plan/build/AssessingBuildings.htm](http://www.fema.gov/plan/build/AssessingBuildings.htm)  
or by calling the FEMA Publication Unit at 1-800-462-7278.



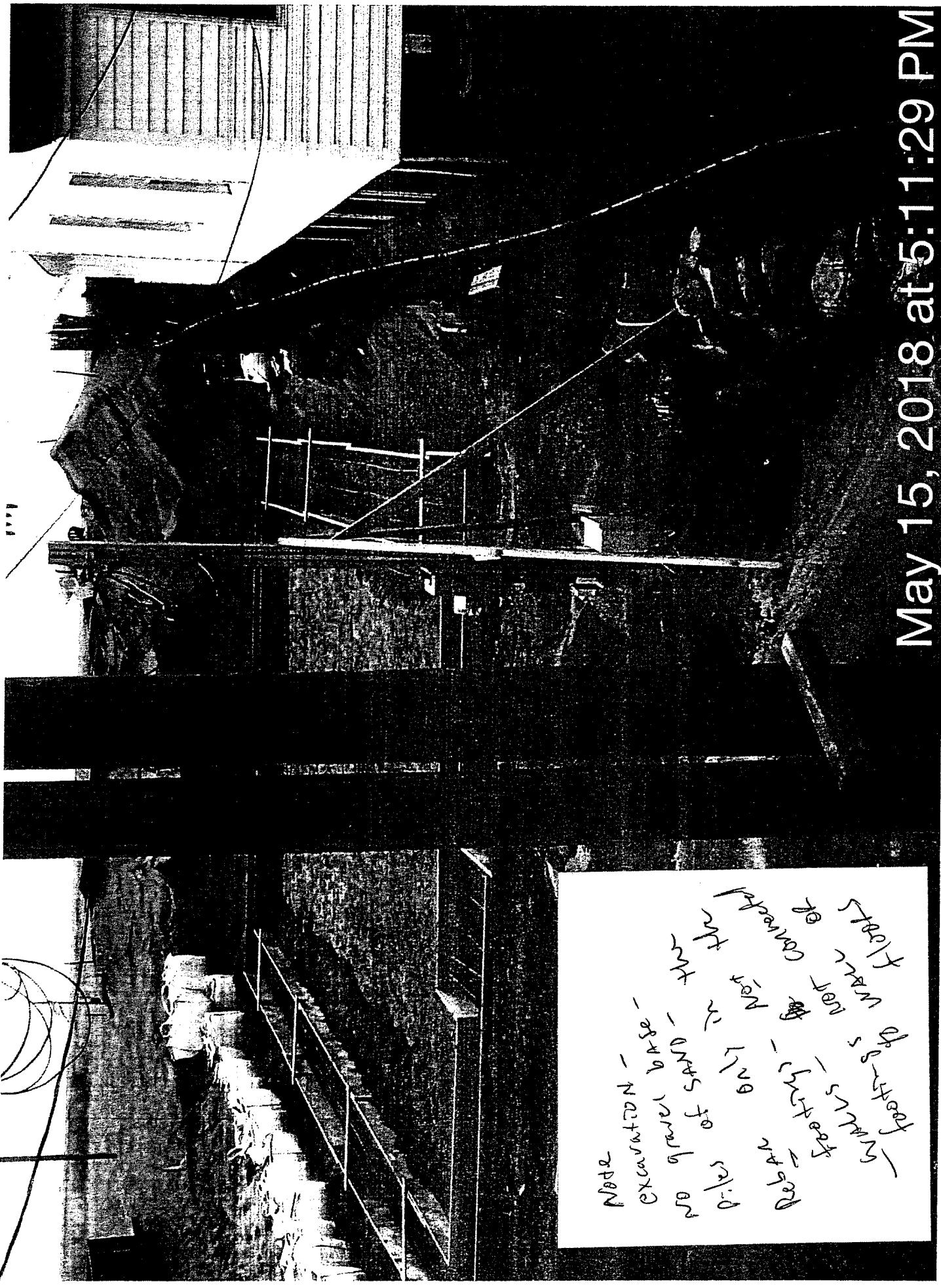
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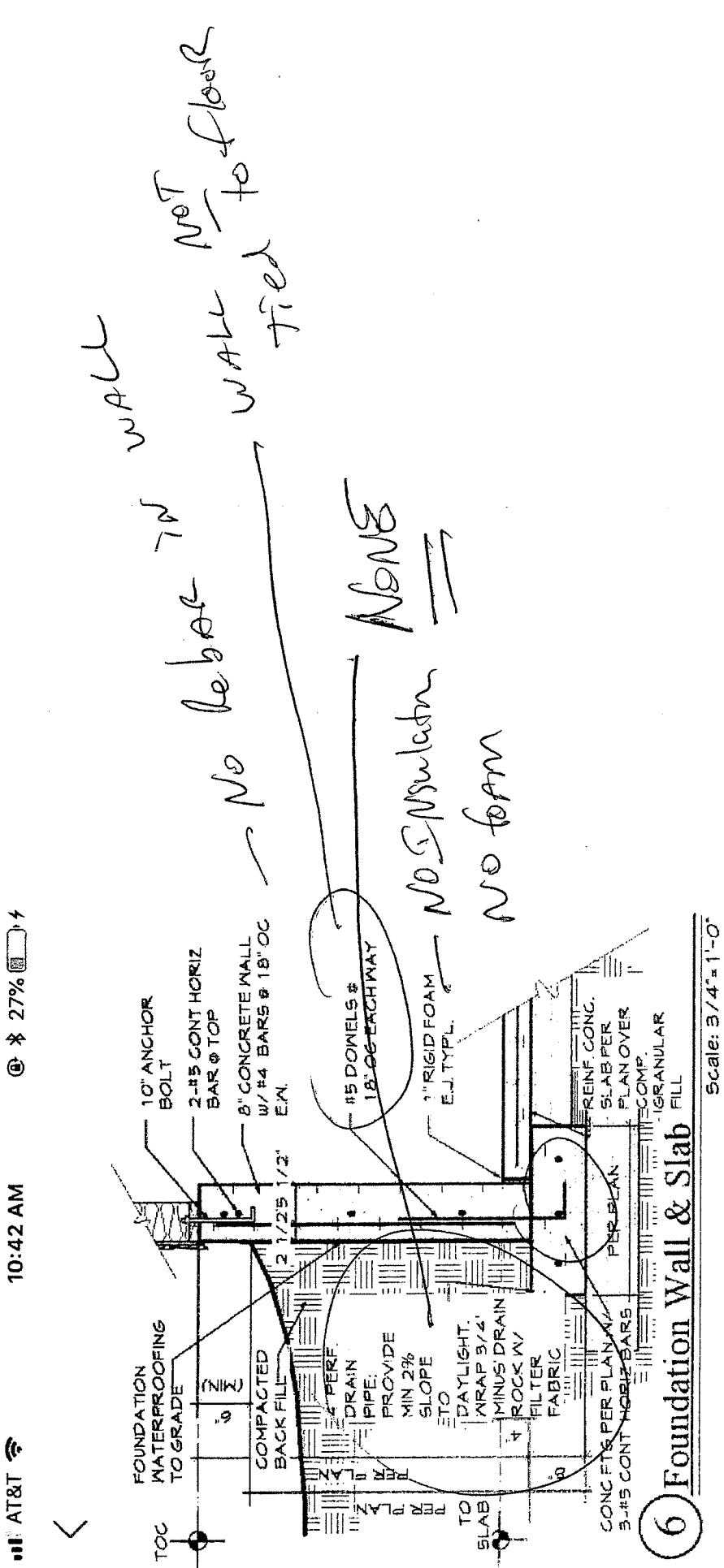


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## Concrete Retaining Wall Design Charts • Wall Design

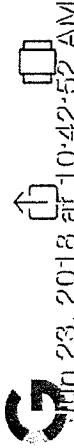
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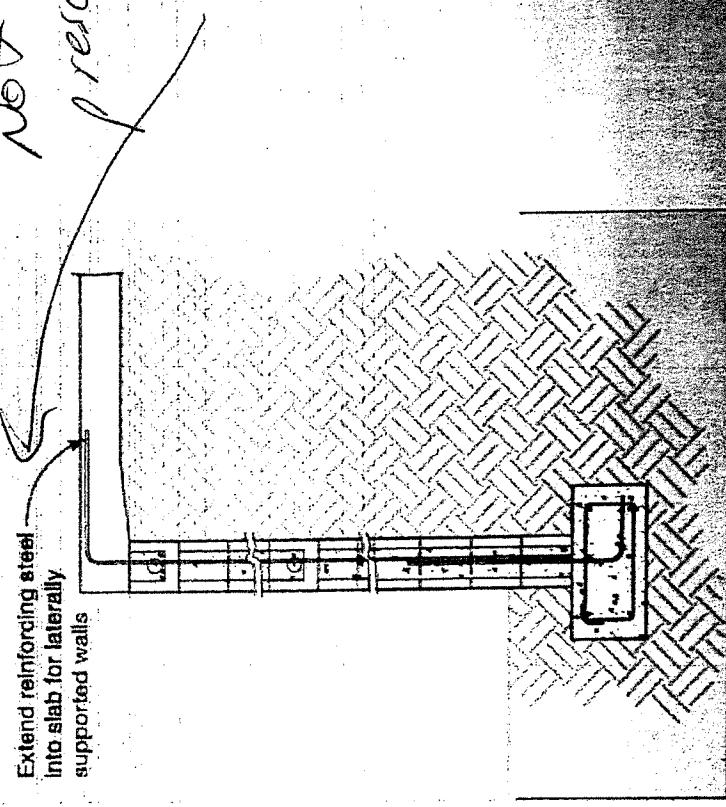
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to equalize hydrostatic pressures on either side of the wall. See FEMA Technical Bulletin 1, *Openings in Foundation Walls and Walls of Enclosures* (FEMA 2008c). However, the vent do not significantly reduce hydrodynamic loads or breaking wave loads, and even with flood vents, flood forces in Coastal A Zones can damage or destroy these foundation types.

Both closed/shallow foundations contained in FEMA P-550 are similar to foundations found in prescriptive codes but contain the additional requirement to resist moving floodwaters and short (approximately 1.5-foot) breaking waves. Figure 10-16 shows the stem wall foundation design in FEMA P-550.

Figure 10-16.  
 Stem wall foundation  
 design  
 SOURCE: ADAPTED FROM  
 FEMA P-550, CASE F



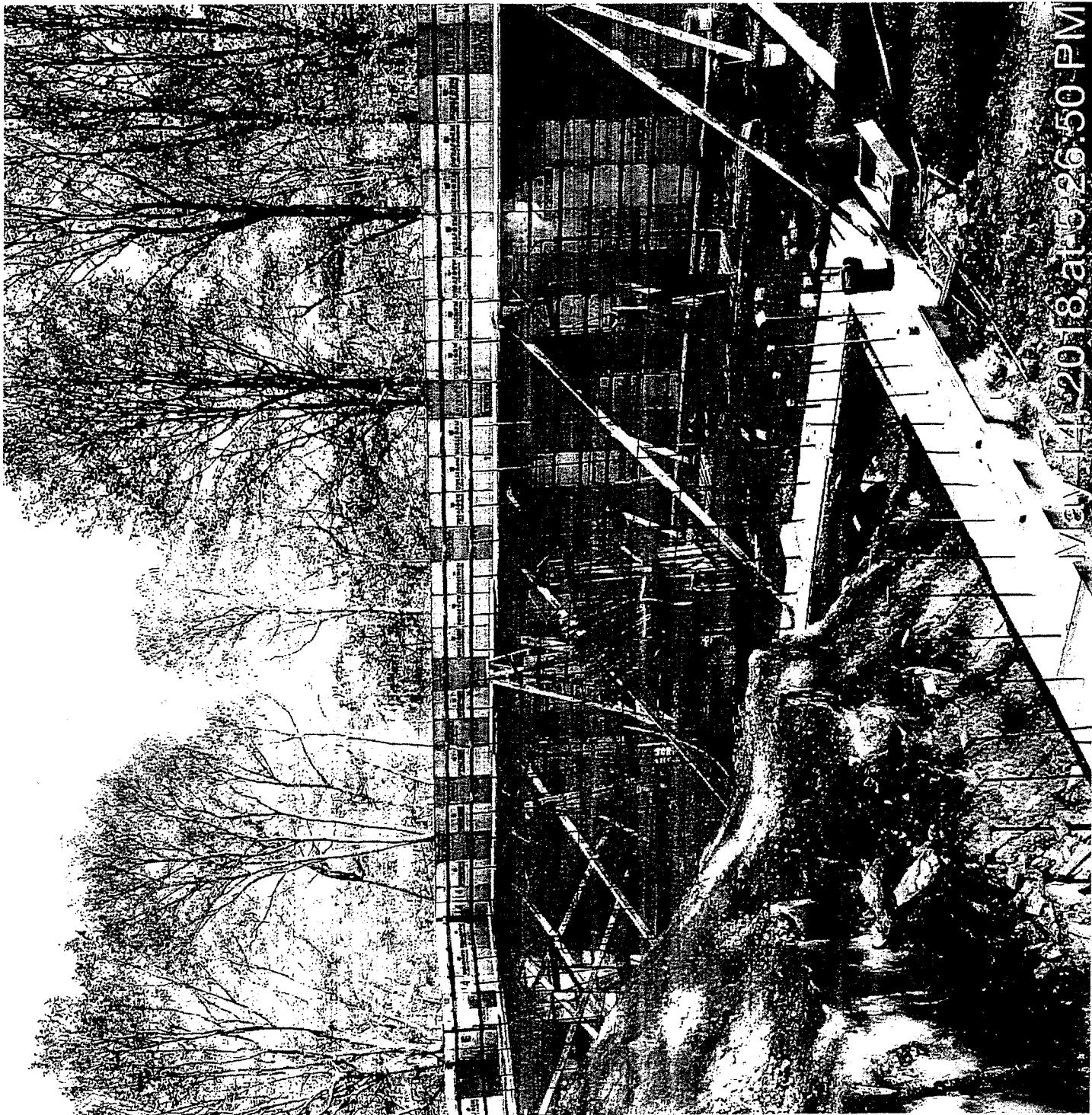
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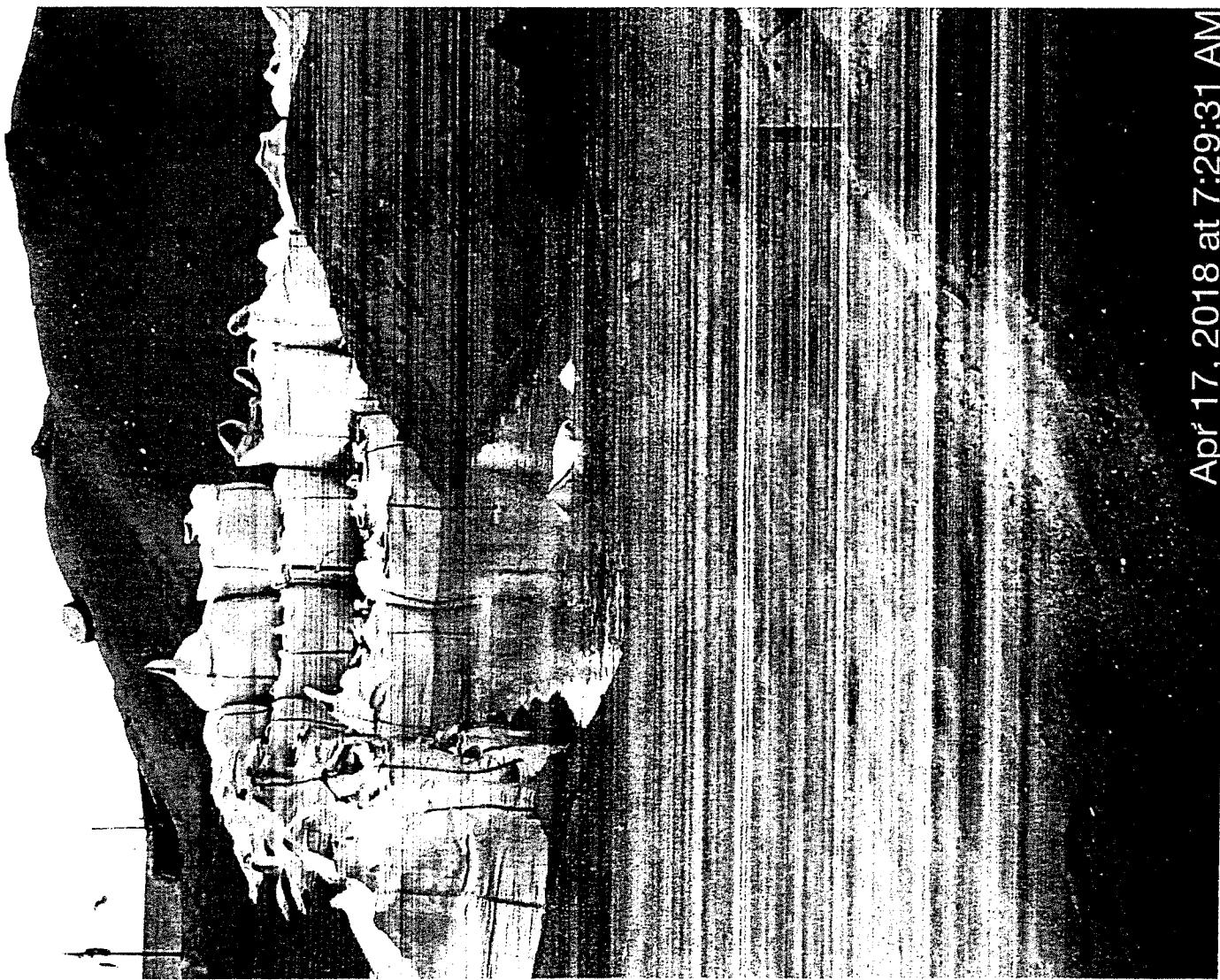


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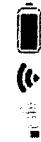
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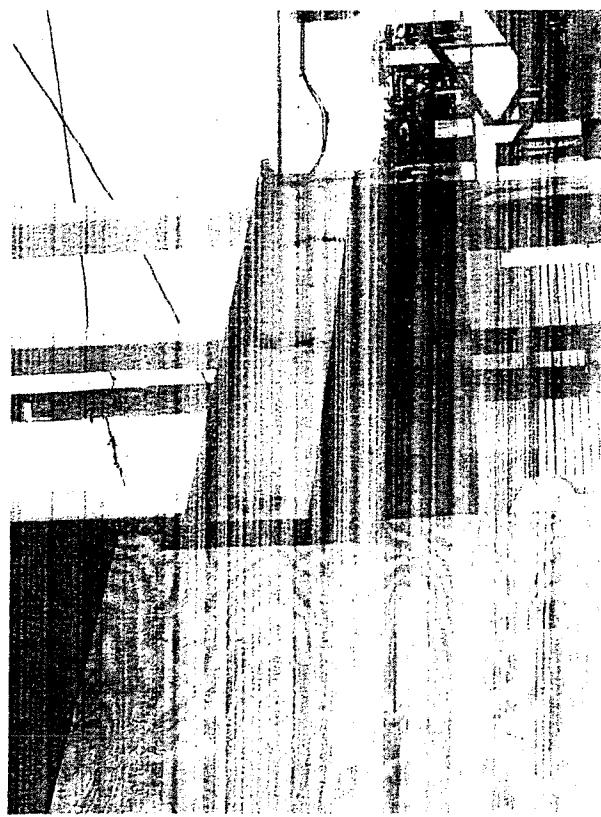
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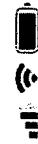
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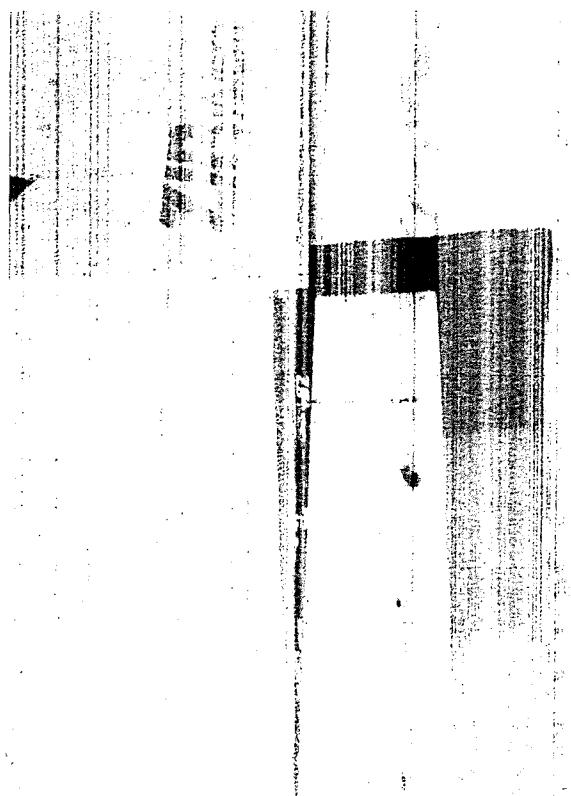
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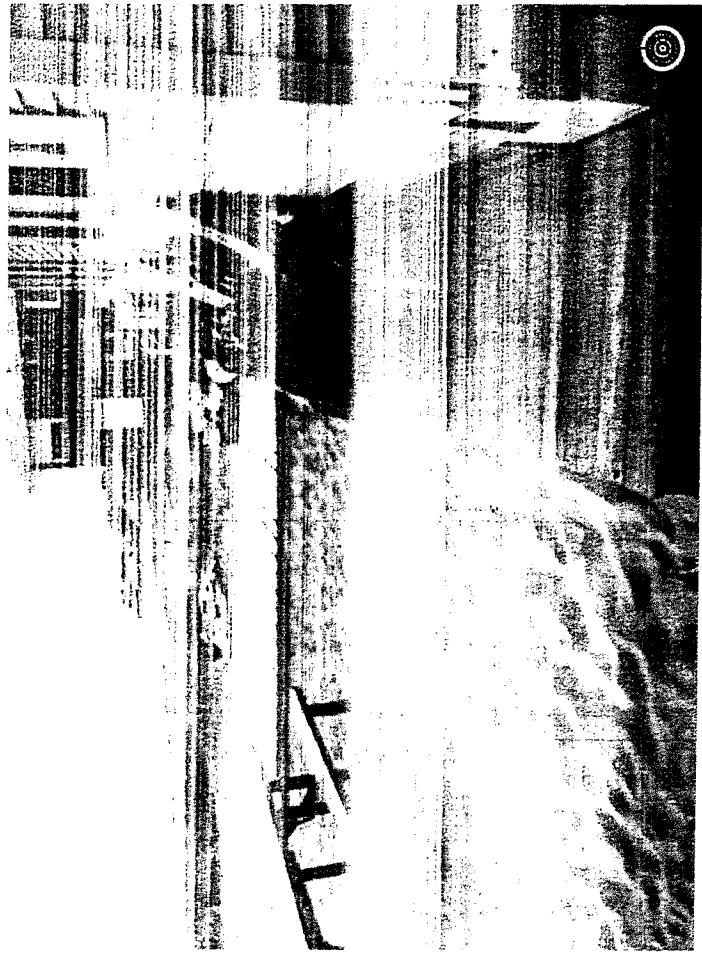
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## *Floodplain Management and Wetland Protection*

**(24 CFR 55, Executive Order 11988, Executive Order 11990)**

### **Background**

HUD regulation 24 CFR Part 55 implements Executive Order 11988, "Floodplain Management." The purpose of EO 11988 is "to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modifications of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative." Project sites located within a special flood hazard area (SFHA) are subject to EO 11988 and any actions outside the SFHA that directly or indirectly impact the floodplain are subject to EO 11988. The relevant data source for the SFHA is the latest issued FEMA data or guidance, which may include advisory data (such as Advisory Base Flood Elevations) or preliminary and final Flood Insurance Rate Maps (FIRMs).

The purpose of Executive Order 11990, "Protection of Wetlands" is to avoid to the extent possible the long and short term adverse impacts associated with wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Under the executive order, HUD must avoid financial support for covered activities, unless it can demonstrate that there are no practicable alternatives outside the wetlands. Where wetland-free sites are available within the community or housing market area, these are considered practicable. While National Wetlands Inventory (NWI) maps are the primary screening tool, any indication or evidence of a wetland's presence should be investigated and a determination should be made according to the wetlands definition of Classification of Wetlands and Deepwater Habitats of the United States, U.S. Fish and Wildlife Service.

### **24 CFR Part 55.1 (c)**

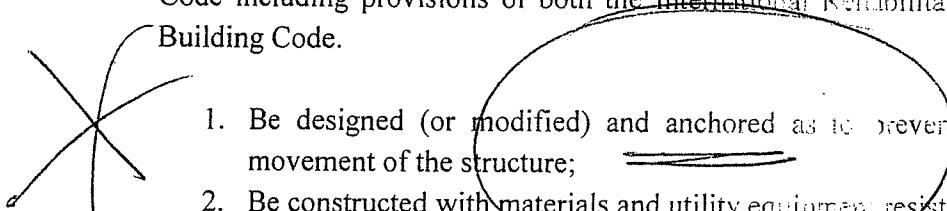
No HUD financial assistance may be approved for the following:

- Any action, other than a functionally dependent use, located in a floodway;
- Any critical action (refers to hospitals, nursing homes, Emergency Operation Centers, power-generating facilities, etc.) located in a coastal high hazard area (V-zone); or
- Any non-critical action located in a coastal high hazard area, unless the action is designed for location in a coastal high hazard area (V-zone compliant) or is a functionally dependent use.

Any proposed actions within the V zone must comply with the construction standards outlined in HUD Regulations 24 CFR Part 55.1 (c) (3).

**Step FIVE: Identify methods to minimize the potential adverse impacts within the floodplain or wetland and to restore and preserve its natural and beneficial values.**

Under Connecticut General Statutes (C.G.S.) Sections 25-68b through 25-68h, the Connecticut Flood Management Program requires certification or an exemption for all state actions within or affecting floodplains or natural or man-made storm drainage facilities. A floodplain is an area that has frequent or periodic flooding issues. For regulatory purposes, all areas within the limits of the 100-year floodplain as designated on the Flood Insurance Rate Map (FIRM) published by the Federal Emergency Management Agency's (FEMA) National Flood Insurance Program (NFIP) are considered as floodplains. For critical activities such as hospitals, housing/residences and schools the regulations are more stringent and include areas within the 500-year floodplain. To be eligible for OORR, SSRR or EXP funding, all new construction and substantial rehabilitation (including the placement of prefabricated buildings and manufactured homes) in Flood Hazard Areas shall meet Flood Resistant Construction requirements of the State Building Code including provisions of both the International Rehabilitation Code and the International Building Code.



1. Be designed (or modified) and anchored as to prevent flotation, collapse, or lateral movement of the structure;
2. Be constructed with materials and utility equipment resistant to flood damage;
3. Be constructed by methods and practices that minimize flood damage; and
4. Be constructed with electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed or located, or both designed and located so as to prevent water from entering or accumulating within the components during floods.

No funding will be provided to any person who previously received federal flood disaster assistance conditioned on obtaining and maintaining flood insurance, but failed to obtain and maintain the insurance [24 C.F.R. 58.6 (b)].

In summary, homeowners participating in these programs would be required to adhere to the following conditions to minimize the threat to property, minimize losses from flooding and high wind events, and benefit floodplain values:

1. All proposed rehabilitation, reconstruction and mitigation of substantially damaged structures in the 100-year floodplain must adhere to the latest revised elevation requirements in accordance with the State of Connecticut's Flood Management Program [Sections 25-68 of the Connecticut General Statute];
2. For all structures funded by the OORR and SSRR programs, if located partially in, the 100-year floodplain shown on the latest FEMA flood maps, the assisted property owner(s) are required to maintain flood insurance for not less than five years from the date of the