

# REQUIREMENTS FOR DEVELOPMENT IN FLOOD PRONE AREAS

## Supplement S-4

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### WHO NEEDS TO SUBMIT THIS SUPPLEMENT?

You must submit this supplement if you are proposing any of the following activities within a Flood Prone Area Protection (P-FP) Subdistrict or a mapped Federal Emergency Management Agency (FEMA) flood zone within the jurisdiction of the Maine Land Use Planning Commission ("LUPC" or "Commission"):

- Normal Maintenance and Repair or Renovations costing \$1,000 or more to any type of structure
- Additions or Expansions of Existing Structures
- Relocation, Reconstruction, or Replacement of a Structure
- New, Reconstruction, or Replacement of a Foundation
- New Structure (including Accessory Structures)
- Substantial Improvement of an Existing Structure
- Placement of a Manufactured Home
- Placement of a Recreational Vehicle (RV)
- Bridge and other Water Crossings
- Filling and Grading
- Driveway, Road or Trail, including Paving
- Wharf, Pier, or Dock
- Containment Wall
- Other activities that require a permit (i.e. Nonresidential Structures, Ramps, Launches, Water-Access Ways, Relocating or Altering a Watercourse)

**IMPORTANT!!** If you have received a Letter of Map Amendment (LOMA) from FEMA certifying that the specific structure or part of your property to be developed is located outside of the flood prone area, you **DO NOT** have to complete this supplement provided you submit a copy of the LOMA with your application. For more information on obtaining a LOMA you should consult a professional land surveyor, engineer, or architect who is authorized to certify elevation information. An approved LOMA can also eliminate the need to purchase flood insurance.

### WHAT LUPC REQUIREMENTS APPLY TO DEVELOPMENT IN FLOOD PRONE AREAS?

**THE LUPC requirements for activities in flood prone areas are explained in Sections 10.23,C and 10.25,T of the Commission's Chapter 10 Land Use Districts and Standards.** *These standards require that projects that require a permit by special exception be located outside the flood prone area if at all possible and be buffered from other uses and resources in the flood prone area with which they are incompatible. Activities that require a permit by special exception include, but are not limited to: new structural development; reconstructions, relocations, or replacements of structures; new, reconstructions or replacements of permanent foundations; and substantial improvements to existing development.*

**TIP!!** Prior to completing this supplement for the first time, it is recommended that you review the **Definitions Section** on the next page. To complete this supplement, you may need to consult a professional land surveyor, engineer, or architect.

### WHERE CAN I GET HELP TO COMPLETE THIS SUPPLEMENT?

Call the LUPC office that serves your area and ask to speak to one of our regional representatives. Also, go to the LUPC website at [www.maine.gov/dacf/lupc/](http://www.maine.gov/dacf/lupc/) for guidance, or to obtain a copy of our rules and regulations, meeting agendas, and other valuable information.

### WHERE CAN I GET ADDITIONAL INFORMATION ABOUT FEMA'S NATIONAL FLOOD INSURANCE PROGRAM AND THE MAINE FLOODPLAIN MANAGEMENT PROGRAM?

To learn more about the National Flood Insurance Program go to the FEMA website at [www.fema.gov/](http://www.fema.gov/); for the Maine Floodplain Management Program (MFMP), contact MFMP at (207) 624-6230 or go to the MFMP website at [www.maine.gov/dacf/flood/flood\\_insurance.shtml](http://www.maine.gov/dacf/flood/flood_insurance.shtml).

The following terms and definitions are excerpts from the Commission's Chapter 10, *Land Use Districts and Standards*, that is referenced in this application supplement. Chapter 10 can be found in its entirety online at [www.maine.gov/dacf/lupcl](http://www.maine.gov/dacf/lupcl).

**Base Flood:** The flood having a one percent chance of being equaled or exceeded in any given year, commonly called the 100-year flood.

**Breakaway Wall:** A wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

**Floodplain or Flood Prone Area:** Any land area susceptible to being inundated by water from any source. The term flood prone area includes special flood hazard areas.

**Floodproofing:** Any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and contents.

**Floodway:** See Regulatory Floodway, below.

**Manufactured Home:** A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For purposes of regulating development in flood prone areas, the term manufactured home also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 90 consecutive days.

**Normal Maintenance and Repair:** Unless otherwise provided, work necessary to maintain an improvement, structure, or docking structure in its original or previously improved state or condition, as long as there is no expansion of a nonconforming structure and less than 50 percent of a structure is replaced. This includes general upkeep, such as painting, fixing portions of the structure that are in disrepair, or the replacement of sill logs, roofing materials, siding, or windows. In-kind and in-place replacement of decking or exterior stairs is considered to be normal maintenance and repair. Normal maintenance and repair shall not include reconstruction, or change in design, change in structure, change in use, change in location, or a change in size or capacity. Activities involving a permanent docking structure constitute normal maintenance and repair only when less than 50 percent of those portions of the permanent docking structure that are above the level of the water during normal high water are maintained or repaired.

**Regulatory Floodway:** The channel of a river or other flowing water and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. When not designated on the township's, plantation's, or town's Flood Insurance Rate Map, Flood Boundary and Floodway Map, or Flood Hazard Boundary Map, it is considered to be the channel of a river or other flowing water and the adjacent land areas to a distance of one-half the width of the floodplain, as measured from the normal high water mark to the upland limit of the floodplain.

**Renovation:** Restoring or remodeling a structure. Renovation includes interior modifications, and the installation of new windows, floors, heating systems, or other features, as long as there is no expansion of a nonconforming structure and less than 50 percent of the building's structural components are replaced. The introduction of plumbing to a structure may constitute a change in use that requires a permit.

**Structure:** "[A]nything constructed or erected with a fixed location on or in the ground, or attached to something having a fixed location on or in the ground, including, but not limited to, buildings, mobile homes, retaining walls, billboards, signs, piers and floats." 12 M.R.S.A. §682. For purposes of regulating development in flood prone areas, a walled and roofed building. A gas or liquid storage tank that is principally above ground is also a structure.

**Substantial Damage:** For purposes of regulating development in areas of special flood hazard, damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damage condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

**Substantial Improvement:** For purposes of regulating development in areas of special flood hazard, any reconstruction, rehabilitation, renovation, expansion, normal maintenance and repair or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the start of construction of the improvement.

# Supplement S-4

Requirements for development in flood prone areas

For office use:

Tracking No.

Permit No.

Applicant Name(s):

Project Location (Township):

Project Location (County):

## SECTION A: GENERAL INFORMATION

*All applicants must complete Sections A and B.*

- What type of flood prone area is your property located in? (Refer to maps and check all that apply)
  - P-FP Flood Prone Area Protection Subdistrict
  - FEMA Zone VE (Coastal Floodplains) *(also complete Section E)*
  - FEMA Zone A, A1-30 or AE
  - Unmapped Flood Prone Area
- Will you be making a Substantial Improvement to an existing structure? .....  Yes  No

If you are proposing maintenance and repair or renovations to an existing structure costing \$1,000 or more; or if you plan to expand or rebuild a portion of an existing structure, within the next 2-3 years, it is possible that your project could be considered a substantial improvement. This worksheet will assist you in determining which structures would be substantially improved.

### SUBSTANTIAL IMPROVEMENT WORKSHEET *(check your tax evaluation or recent appraisal)*

Structures to be altered (dwelling, garage, etc.)*	A. Current Market Value (\$) of <u>ONLY</u> the structure being altered (Do not include land)	B. Estimated Improvement Costs (\$) of the proposed improvements (Include labor costs)	C. Market Value Increase (%) (Estimated Improvement Costs (B) ÷ Current Market Value (A) x 100)
	\$	\$	%
	\$	\$	%
	\$	\$	%

**\***The value of a new or improved deck that is attached to any structure must be included in your calculations for that structure. If the Market Value Increase is 50% or greater, your improvement to that structure will be considered a substantial improvement. Please check the appropriate box(es) in Question 3 below and complete the required sections. If the Market Value Increase is less than 50%, your improvement to that structure will NOT be considered a substantial improvement.

- What type of development are you proposing within the Flood Prone Area? (Check ALL that apply)
  - Normal Maintenance and Repair or Renovations costing \$1,000 or more to any type of existing structure that do not constitute a Substantial Improvement
  - An Addition or Expansion that does not constitute a Substantial Improvement to any type of existing structure
  - Relocation, Reconstruction, or Replacement of an existing structure that does not constitute a Substantial Improvement *(also complete Section C)*
  - New Permanent Foundation; Reconstruction or Replacement of an Existing Permanent Foundation *(also complete Section C)*
  - Driveway, Land Management Road, Road Project, or Trail
  - Docking Structure, Noncommercial, in VE Zone *(also complete Section E)*
  - Shoreland Alteration (Riprap, etc.)
  - Other Development or Activity (Describe): \_\_\_\_\_

**New Construction or Placement or Substantial Improvement of the following:**

  - Residential Structure, including Accessory Structures in P-FP, A1-A30, AE or A Zones *(also complete Sections C and D)*
  - Residential Structure, including Accessory Structures in VE Zone *(also complete Sections C and E)*
  - Manufactured Home *(also complete Sections C and F)*
  - Recreational Vehicle *(also complete Sections C and F)*
  - Nonresidential Structure, including Accessory Structures *(also complete Sections C and G)*, or Fish and Lobster Sheds in VE Zone *(also complete Section E)*
  - Bridge *(also complete Section H)*
  - Docking Structure, Commercial *(also complete Sections C and I)*, in VE Zone *(also complete Section E)*
  - Containment Wall *(also complete Section J)*
- Will any of the proposed development, structure(s) or any fill (including for a driveway) be located within the floodway of a river, stream or other flowing water? .....  Yes  No

**\*** If YES, you must attach Exhibit S4-A: Floodway Development Certification. See Instructions.

*All applicants must complete Section B (continue to next page...)*

**SECTION B: CONSTRUCTION SPECIFICATIONS**

*All applicants must complete Sections A and B.*

*N/A means not applicable.*

5. Will your development be designed or modified and adequately anchored to prevent flotation, collapse or lateral movement resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy? .....  Yes  No  
.....  N/A

Explain \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Will your construction materials be resistant to flood damage? .....  Yes  No  
.....  N/A

Explain \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

7. Will your construction methods and practices minimize flood damage? .....  Yes  No

Explain \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

8. Will the proposed electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities be designed and/or located to prevent water from entering or accumulating within the components during flooding conditions? ..  Yes  No  
.....  N/A

Explain \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Will any new or replacement water supply system be designed to minimize or eliminate infiltration of flood waters into the system? .....  Yes  No  
.....  N/A

Explain \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

10. Will any new or replacement sanitary sewage system be designed to minimize or eliminate infiltration of flood waters into the system and discharges from the system into flood waters? .....  Yes  No  
.....  N/A

Explain \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

11. Will any on-site waste disposal system be located and constructed to avoid impairment to it or contamination from it during floods? .....  Yes  No  
.....  N/A

Explain \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. Will your development alter or relocate any portion of a watercourse? .....  Yes  No  
If YES, describe the nature and extent of the watercourse alteration or relocation and show it on the site plan for your application:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

***If YES, you must attach Exhibit S4-B: Notification of Watercourse Alteration or Relocation, and if you are in the floodway of the river or stream, you must attach Exhibit S4-A: Floodway Development Certification. See Instructions.***

**If your answers to Section A do not require that you complete additional Sections C—J of this supplement, you may STOP HERE and attach this supplement and any required exhibits (see Instructions, p. vi) to your application.**

**SECTION C: DEVELOPMENT ALLOWED BY SPECIAL EXCEPTION** *(Complete this section if applicable)*

13. Is any portion of your lot(s) located outside the flood prone area? .....  Yes  No  
 If YES, explain why it is not feasible to locate your proposed structure(s) outside the flood prone area:  
 \_\_\_\_\_  
 \_\_\_\_\_

14. Will your project be buffered from those other uses and resources with which it is incompatible? .....  Yes  No  
 Explain \_\_\_\_\_  
 \_\_\_\_\_


**SECTION D: RESIDENTIAL DEVELOPMENT INCLUDING ACCESSORY STRUCTURES IN A P-FP OR FEMA A1-30, AE, OR A ZONE** *(Complete this section if applicable)*

15. Does your proposed structure qualify as an exempt accessory structure in a P-FP or FEMA A1-30, AE or A zone by meeting ALL of the following requirements a-f? .....  Yes  No


- a. The structure will be 500 square feet or less in size and have a value less than \$3,000.
- b. The structure will have unfinished interiors and not be used for human habitation.
- c. The structure will have hydraulic openings in at least two different walls in accordance with Section 10.25,T,2,I,(2) of the *Land Use Districts and Standards*.
- d. The structure will be located outside the floodway.
- e. When possible, the structure will be constructed and placed on the site so as to offer the minimum resistance to the flow of floodwaters AND be placed further from the source of flooding than the primary structure.
- f. The structure will have only ground fault interrupt electrical outlets and have the electric service disconnect located above the base flood elevation AND when possible outside the flood prone area.

If YES, your accessory structure in a P-FP or FEMA A1-30, AE or A zone is considered exempt and an Elevation Certificate or Certified Plan is not required for this structure.

If NO, you must demonstrate that the lowest floor (including basement) of all new and substantially improved structures will be elevated to at least one foot above the base flood elevation and answer Question 16 below.

 *You must attach Exhibit S4-C: Elevation Certificate or Certified Plan. See Instructions.*

16. Will your development involve enclosing any area below the lowest floor of an existing or proposed structure? .....  Yes  No  
 If YES, will the enclosed area be used for anything other than for building access, parking of vehicles, or storage? .....  Yes  No

 *If YES, you must attach Exhibit S4-D: Design Plan for Openings or Hydraulic Opening Certificate. See Instructions.*

**SECTION E: DEVELOPMENT IN COASTAL FLOODPLAINS (ZONE VE)** *(Complete this section if located in VE Zone)*

17. Will all development, except any wharves, piers, and docks, or exempt lobster or fishing sheds (see question 21 below), be located landward of the reach of mean high tide? .....  Yes  No

18. Will fill be used for structural support? .....  Yes  No

19. Will you be altering any sand dunes within the VE Zone? .....  Yes  No  
 If YES, explain how this alteration will not increase potential flood damage *(attach additional sheet if needed)*:  
 \_\_\_\_\_  
 \_\_\_\_\_

20. Are you proposing a new structure or a substantial improvement to an existing structure or placement of an RV on site for more than 90 days in a VE zone? .....  Yes  No  
 If YES, continue to Question 21. If NO, you may STOP HERE in this Section.


*Section E continues onto the next page...*

**SECTION E: DEVELOPMENT IN COASTAL FLOODPLAINS (ZONE VE)** (continued from previous page)

21. Will your development qualify as an exempt lobster or fishing shed by meeting ALL of the following requirements a-f? .....  Yes  No
- a. Be a low value metal or wood shed 200 square feet or less in size and not exceed one story.
  - b. Be securely anchored to the wharf or pier to resist flotation, collapse, and lateral movement due to wind and water loads acting simultaneously on all building components.
  - c. Not adversely increase wave or debris impact forces affecting nearby buildings.
  - d. Have unfinished interiors and not be used for human habitation.
  - e. Anchor and either elevate or floodproof to one foot above the base flood elevation any mechanical or utility equipment and fuel storage tanks.
  - f. Have only ground fault interrupt electrical outlets and have the electric service disconnect located above the base flood elevation AND when possible outside the flood prone area.

If NO, continue to Question 22. If YES, you may STOP HERE in this Section.

22. Will the structure be elevated on posts or columns such that the bottom of the lowest horizontal structural member of the lowest floor will be elevated to one foot above the base flood elevation? .....  Yes  No
23. Will the pile or column foundation and the elevated portion of the structure be anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads and will the space below the floor either be free of obstructions or designed to collapse without causing damage to the elevated portion of the building or supporting piles or column? .....  Yes  No

 You must attach Exhibit S4-E: V-Zone Certification. See Instructions.

**SECTION F: MANUFACTURED HOMES AND RECREATIONAL VEHICLES (RV)** (Complete this section if applicable)

24. Will any recreational vehicles be on the lot for less than 90 consecutive days, be fully licensed and ready for highway use, be attached to the site only by quick disconnect type utilities, and have no permanently attached additions? .....  Yes  No  
.....  N/A

If NO, continue to Question 25. If YES or NA, you may STOP HERE in this Section unless you are also proposing a manufactured home.

25. Will the lowest floor (including basement) of your manufactured home or RV be elevated to at least one foot above the base flood elevation? .....  Yes  No

 You must attach Exhibit S4-C: Elevation Certificate or Certified Plan. See Instructions.

26. Will the manufactured home or recreational vehicle be on a permanent foundation with adequate support so that none of its weight is supported by its wheels and axles? .....  Yes  No
27. Will the manufactured home or recreational vehicle be securely anchored to an adequately anchored foundation system to resist flotation, collapse, or lateral movement? .....  Yes  No

**SECTION G: NONRESIDENTIAL DEVELOPMENT** (Complete this section if applicable)

28. Does your proposed nonresidential structure qualify as an exempt accessory structure in a P-FP or FEMA A1-30, AE or A zone by meeting ALL of the following requirements a-f? .....  Yes  No
- a. The structure will be 500 square feet or less in size and have a value less than \$3,000.
  - b. The structure will have unfinished interiors and not be used for human habitation.
  - c. The structure will have hydraulic openings in at least two different walls in accordance with Section 10.25,T,2,I,(2) of the *Land Use Districts and Standards*.
  - d. The structure will be located outside the floodway.
  - e. When possible, the structure will be constructed and placed on the site so as to offer the minimum resistance to the flow of floodwaters AND be placed further from the source of flooding than the primary structure.
  - f. The structure will have only ground fault interrupt electrical outlets and have the electric service disconnect located above the base flood elevation AND when possible outside the flood prone area.


If YES, your accessory structure in a P-FP or FEMA A1-30, AE or A zone is considered exempt and an Elevation Certificate or Certified Plan is not required for this structure.

*Section G continues onto the next page...*

**SECTION G: NONRESIDENTIAL DEVELOPMENT** (continued from previous page)

If your answer to Question 28 is NO, indicate with an X or √ which of the following two standards you propose to meet:

- The lowest floor (including basement) of the nonresidential structure will be elevated to at least one foot above the base flood elevation, OR

 You must attach **Exhibit S4-C: Elevation Certificate or Certified Plan** if you checked this option. See Instructions.

- The nonresidential structure will be floodproofed to at least one foot above the base flood elevation so that below that elevation the structure is watertight with walls substantially impermeable to the passage of water; and the structural components of the structure will be capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.

 You must attach **Exhibit S4-F: Floodproofing Certificate** if you checked this option. See Instructions.

29. Will your development involve enclosing any area below the lowest floor of an existing or proposed structure? .....  Yes  No  
If YES, will the enclosed area be used for anything other than for building access, parking of vehicles, or storage? .....  Yes  No

 If YES, you must attach **Exhibit S4-D: Design Plan for Openings or Hydraulic Opening Certificate**. See Instructions.


**SECTION H: BRIDGES** (Complete this section if applicable)

30. Will the lowest horizontal member on the bridge (excluding pilings or columns) be elevated to at least one foot above the base flood elevation? .....  Yes  No

If NO, explain why it is not possible: \_\_\_\_\_

 You must attach **Exhibit S4-G: Bridge Certification**. See Instructions.

**SECTION I: COMMERCIAL WHARVES, PIERS AND DOCKS** (Complete this section if applicable)

 You must Complete Section C above and attach **Exhibit S4-H: Commercial Wharf, Pier, or Dock Certification**. See Instructions.

**SECTION J: CONTAINMENT WALLS** (Complete this section if applicable)

31. Will the containment wall be elevated to at least one foot above the base flood elevation? .....  Yes  No

32. Will the structural components be capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy? .....  Yes  No

 You must attach **Exhibit S4-I: Containment Wall Certification**. See Instructions.

## CHECKLIST OF EXHIBITS FOR SUPPLEMENT S-4

Please complete the following checklist for the exhibits. To determine which exhibits are required for your application, use the highlighted notes (📌) contained in certain questions in this supplement and the instructions for Required Exhibits on page vi. Please check if the exhibit is required and if it has been provided. Contact LUPC staff if you have any questions.

Required*		Provided		Exhibit	* Required
YES	NO	YES	NO		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S4-A – Floodway Development Certification.....	Required if you are proposing any development or placement of fill material (including for a driveway) within the floodway.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S4-B – Notification of Watercourse Alteration or Relocation .....	Required if you are proposing the alteration or relocation of a watercourse.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S4-C – Elevation Certificate or Certified Plan .....	Required if you are proposing a new structure or substantial improvement of an existing structure unless your development or structure qualifies for an exemption.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S4-D – Hydraulic Opening Certificate or Design Plan .....	Required if you are proposing to enclose the space below the lowest floor of your structure.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S4-E – V-Zone Certification .....	Required if you are proposing a structure in a VE Zone unless it meets the criteria for an exempt accessory structure or lobster or fishing shed.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S4-F – Floodproofing Certificate .....	Required if you are proposing a nonresidential structure that will NOT be elevated to one foot above the base flood elevation (BFE).
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S4-G – Bridge Certification .....	Required if you are proposing a new bridge or substantial improvement of an existing bridge.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S4-H – Commercial Wharf, Pier or Dock Certification .....	Required if you are proposing a new commercial wharf, pier, or dock or substantial improvement of an existing commercial wharf, pier, or dock.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	S4-I – Containment Wall Certification .....	Required if you are proposing a new containment wall or substantial improvement of an existing containment wall.



## SECTION A: GENERAL INFORMATION *(All applicants must complete this section)*

1. You may obtain a copy of the FEMA Flood Insurance Rate Map (FIRM) free of charge for the township, town or plantation in which your property is located by contacting the LUPC office that serves your area. Locate your property on the map and identify which zone(s) covers your lot. Also, refer to the LUPC Land Use Guidance Map for your township, plantation or town to determine whether your property is located within a P-FP Flood Prone Area Protection Subdistrict.
2. In order to determine if you will be making a substantial improvement to an existing structure, you must first estimate the current market value (in U.S. dollars) of your structure, including any affixed appliances (by plumbing or wiring, such as a dishwasher or furnace), but do not include the value of the land or other structures on the lot. A recent appraisal or tax assessment may be useful to determine the current market value of your structure. Next, estimate the costs of your proposed improvements, including labor costs. Estimates from a contractor will generally give you this information. In the Question 2 worksheet, the improvement costs divided by the current market value multiplied by 100 equals the percent increase in the market value that your improvement will make to the structure. Complete the table for each structure you propose to improve. If the market value Increase is 50% or greater, your improvements will be considered a substantial improvement. If the market value Increase is less than 50%, your improvements will NOT be considered a substantial improvement. You will be asked in Question 3 to check the type of structure you are improving and whether it is a substantial improvement.
3. Indicate what type of development or structure you are proposing. Check ALL that apply and complete the required sections as specified.

**Normal Maintenance and Repair or Renovations** costing 1,000 or more and **Additions or Expansions** to any type of structure (except containment walls) that do not constitute a substantial improvement require a permit and must meet the general construction standards for development in a flood prone area.

**Relocation, Reconstruction, and Replacement** of any type of structure and **New or Reconstructed or Replaced Permanent Foundations** that do not constitute a substantial improvement require a permit by special exception and must meet the general construction standards for development in a flood prone area and the criteria for a permit by special exception.

**Driveways, Land Management Roads, Road Projects, or Trails** include, but are not limited to, residential and commercial driveways; land management roads for agricultural or forest management activities; public or private roads; and trails for recreational use.

**Shoreland Alterations** include any land use activity, which alters the shoreland area, either at, adjacent to or below the normal high water mark, of any surface water body, including but not limited to:

- a. dredging or removing materials from below the normal high water;
- b. constructing or repairing any permanent structure below the normal high water mark.  
For purposes of this subsection, permanent structure shall mean any structure, including but not limited to, causeways, wharfs, piers, docks, concrete or similar slabs, bridges, hand-carry launches, trailered ramps, water-access ways, piles, marinas, retaining walls, riprap, buried or submarine utility cables and lines, permanent docking structures, mooring structures, and water lines. A structure which is not fixed in or over the water or below the normal high water mark for more than 7 months in a calendar year shall not be a permanent structure;
- c. depositing any dredged spoil or fill below the high water mark; and
- d. depositing dredged spoil or fill, or bulldozing, scraping or grading, on land adjacent to a water body in such a manner that the material or soil may fall or be washed into the water body, except that filling and grading or water crossings which do not require a permit as specified in Section 10.27, or other provisions of these rules shall not constitute shoreland alteration.

Activities which cause additional intrusion of an existing structure into or over the water body, are also considered shoreland alterations.

**Residential Structure** includes, but is not limited to, a seasonal camp, permanent home, and accessory structures associated with a camp or home, such as a garage or shed or structures used for a home occupation.

**Manufactured Home** includes those structures, transportable in one or more sections, which are built on a permanent chassis and are designed for use with or without a permanent foundation when connected to the required utilities. Manufactured homes also include park trailers, travel trailers, and other similar vehicles placed on a site for greater than 90 consecutive days.


**Recreational Vehicle** is a vehicle built on a single chassis; 400 square feet or less when measured at the largest horizontal projection, not including slideouts; designed to be self-propelled or permanently towable by a motor vehicle; and designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

**Nonresidential Structure** typically includes any structure not associated with a dwelling unit, such as a commercial or industrial structure, and accessory structures. Chapter 10 *Land Use Districts and Standards*, Section 10.23,C,3 lists various nonresidential uses that require permits in P-FP and FEMA zones.

**Bridges** are generally used to cross flowing bodies of water and could involve fill in the Floodway. There are elevation requirements for bridges in flood prone areas.


**Docking Structure** includes, but is not limited to, docks, wharfs, piers, and associated anchoring devices for the purpose of securing and /or loading or unloading boats and float planes.

4. The Floodway is “the channel of a river or other flowing water and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot. When not designated, it is considered to be the channel of a river or other flowing water and the adjacent land areas to a distance of one-half the width of the floodplain, as measured from the normal high water mark to the upland limit of the floodplain.” Note: If your property is located on a standing body of water, such as a lake or pond, or on the ocean, you are not within a floodway and should answer “NO”.

 If you answer **YES** to Question 4, you must attach **EXHIBIT S4-A: Floodway Development Certification**. See Instructions, p.vi.

## SECTION B: CONSTRUCTION SPECIFICATIONS *(All applicants must complete this section)*

5. In general, the standard practice of bolting the sill to the foundation is adequate unless the structure is in a high flow area. Additional anchoring measures, such as reinforcing crawlspace walls, using deeper footings, using extra bolts to connect the sill to the foundation, or installing rods to connect the cap to the sill, may be needed in situations where flood flows are faster than five feet per second or in coastal areas subject to waves and high winds, or for manufactured or mobile homes.
6. All structural and non-structural building material at or below the base flood elevation (BFE) must be flood resistant, including foundation elements such as floor beams and joists and any enclosures below the BFE. “Flood-resistant material” is defined as any building material 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 low-cost cosmetic repair (such as painting). Finishings such as carpeting, paneling, cellulose and fiberglass insulation, and gypsum wallboard (also known as drywall and sheet rock) are not flood resistant. For a list of acceptable materials, see FEMA’s Technical Bulletin 3-93, *Non-Residential Floodproofing Requirements and Certification for Buildings Located in Special Flood Hazard Areas* (FIA-TB-3. 1993).
7. Construction methods and practices that minimize flood damage include various techniques, such as anchoring, elevation above the BFE, floodproofing, use of flood resistant materials, construction that provides less resistance to floodwaters such as pile or pier foundations or hydraulic openings below the BFE, and others. Such measures depend in part upon the type of proposed development.
8. To the extent feasible, locate proposed service facilities outside of the flood prone area or elevate proposed electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities above the BFE. Otherwise, such facilities need to be designed so that water is prevented from entering or accumulating within the components during flooding. The publication *Engineering Principles and Practices for Flood Damage-Resistant Building Support Utility Systems*, FEMA 348, November 1999, explains alternatives in more detail.
9. To the extent feasible, place your well outside the flood prone area, and more particularly, outside the floodway. Verification by a design professional that the system design took into account the flooding risk may be required.
10. To the extent feasible, place new and replacement sanitary sewage systems outside the floodway. System design, such as raising manholes above the BFE or equipping them with seals to prevent leakage and elevating pumping station electrical panels above the BFE, can meet this requirement within flood prone areas.
11. To the extent feasible, place on-site waste disposal systems outside the flood prone area. At a minimum within flood prone areas, install an automatic backflow valve to prevent sewage from backing up into the building during flooding.
12. If proposed development activities will affect a watercourse, describe the extent to which the river or stream will be altered or relocated as a result of such activities. Any such alteration or relocation should not increase the immediate community’s flood risks or those of any adjacent community, which can happen if the watercourse’s capacity to carry flood flow is modified or reduced. Watercourse proposals may involve completion of a FEMA Letter of Map Revision (LOMR). Such projects can also require review by the U.S Army Corps of Engineers and may require a Corps permit.


 You must attach **Exhibit S4-B, Notification of Watercourse Alteration or Relocations** to notify adjacent communities prior to altering or relocating any river or stream and provide evidence of such notification. See Instructions, p. vi. If the alteration or relocation of a river or stream affects the floodway, you must attach **Exhibit S4-A: Floodway Development Certification**. See Instructions, p. vi.

## SECTION C: DEVELOPMENT PERMITTED BY SPECIAL EXCEPTION *(Complete this section if applicable)*

13. If any portion of your property is located in Zone C or X on the FIRM map or outside a P-FP Flood Prone Area Protection Subdistrict on the Land Use Guidance Map, then you must explain why you cannot place your proposed structure(s) outside the Flood Prone Area (i.e., it cannot physically fit and still meet dimensional requirements, that portion of the lot is already in use, etc.). Please be very specific.
14. If you are proposing an activity that must be permitted by special exception, then you must explain how your project will be buffered from those other uses and resources within the subdistrict with which it is incompatible (i.e., you are located in a residential area, you will meet the elevation requirements, etc.)

**SECTION D: RESIDENTIAL DEVELOPMENT INCLUDING ACCESSORY STRUCTURES IN A P-FP OR FEMA A1-30, AE, OR A ZONE** *(Complete this section if applicable)*

15. If proposed development involves construction of a new residential structure or the substantial improvement of an existing residential structure in a mapped flood prone area P-FP, or FEMA A1-30, AE or A zone, the construction must meet the elevation requirements of the National Flood Insurance Program. This means the lowest floor (including basement) of all structures must be elevated to at least one foot above the base flood elevation (BFE) unless the structure qualifies as an exempt accessory structure. To be exempt, the accessory structure must be 500 square feet or less in size and have a value of less than \$3,000; have unfinished interiors and not be used for human habitation; have hydraulic openings per the requirements of Exhibit S4-D in at least two different walls; be located outside the floodway; when possible be constructed and placed on the building site so as to offer the minimum resistance to the flow of floodwaters and be placed further from the source of flooding than the primary structure; and have only ground fault interrupt electrical outlets with the electric service disconnect located above the BFE and when possible outside the flood prone area.

 *Unless all of your proposed structures qualify as exempt accessory structures as described above, you must attach EXHIBIT S4-C, a completed Elevation Certificate (see Instructions, p. vi) for each of the non-exempt structures.*


16. If you plan to have an enclosed area below the lowest floor, it must be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood water; be used solely for building access, parking of vehicles, or storage; and not be used for human habitation. If you plan to have a basement, then the basement floor is the lowest floor.

 *If you answer YES to question 16, you must attach EXHIBIT S4-D, a completed Hydraulic Opening Certificate or a non-engineered design plan meeting the Commission's requirements. See Instructions, p. vi.*

**SECTION E: DEVELOPMENT IN COASTAL FLOODPLAINS (ZONE VE)** *(Complete this section if applicable)*

17. All development in Zone VE must be located landward of the reach of mean high tide except wharfs, piers, and docks, and lobster and fishing sheds which qualify for an exemption. To qualify as an exempt lobster or fishing shed you must be able to answer YES to Question 21.
18. The use of fill for structural support in Zone VE is prohibited.
19. Human alteration of sand dunes within Zone VE is prohibited unless it can be demonstrated that such alterations will not increase potential flood damage. If you answer YES, please provide an explanation.
20. If your RV will be on site for more than 90 days in a VE zone, it must meet the requirements in Questions 22 and 23.
21. To qualify as an exempt lobster or fishing shed, the structure must: be limited to low value structures such as metal or wood sheds 200 square feet or less and shall not exceed more than one story; be securely anchored to the wharf or pier to resist flotation, collapse, and lateral movement due to the effect of wind and water loads; not adversely increase wave or debris impact forces on nearby buildings; have unfinished interiors and not be used for human habitation; have any mechanical, utility equipment and fuel storage tanks anchored and either elevated or floodproofed to one foot above the base flood elevation; have all ground fault interrupt type electrical outlets and have the electrical service disconnect be located on the shore above the base flood elevation and when possible outside the flood prone area.
22. In Zone VE, all structures (except for RVs on site less than 90 days and exempt accessory structures and lobster or fishing sheds) must be elevated on posts or columns such that the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to one foot above the base flood elevation.
23. The pile or column foundation and elevated portion of the structure must be anchored to resist floatation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Water loading values used shall be those associated with the base flood. Wind loading values used shall be those contained in the *Coastal Construction Manual* (FEMA-P55; dated August 2011). The space below the lowest floor must be free of obstructions OR designed to collapse without causing damage to the elevated portion of the building or supporting piles or columns. The design can be accomplished in one or two ways: either (1) with open wood lattice-work, or insect screening intended to collapse under wind and water without causing structural damage to the elevated portion of the building or supporting piles or columns; or (2) with non-supporting breakaway walls which have a design safe loading resistance of not less than 10 or more than 20 pounds per square inch.

**NOTE:** Enclosed areas below the lowest floor are NOT PERMITTED in the VE Zone.

 *You must attach EXHIBIT S4-E, a V-Zone Certification. See Instructions, p. vi.*

**SECTION F: MANUFACTURED HOMES OR RECREATIONAL VEHICLES (RV)** *(Complete this section if applicable)*

24. A recreational vehicle must either be elevated and anchored as described in Questions 16 and 17 above, or be on the site for fewer than 90 consecutive days and be fully licensed and ready for highway use. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.
25. All manufactured homes, or any recreational vehicles on the site for more than 90 consecutive days, must be elevated such that the lowest floor (including basement) is at least one foot above the base flood elevation and they must be installed on a permanent foundation.

 You must attach **EXHIBIT S4-C**, a completed Elevation Certificate. See Instructions, p. vi.

26. The permanent foundation for your manufactured home or RV may be a poured masonry slab or foundation walls, with hydraulic openings, or may be reinforced piers or block supports, any of which support the manufactured home so that no weight is supported by its wheels and axles.
27. All manufactured homes, or any recreational vehicles on the site for more than 90 consecutive days, must be securely anchored to an adequately anchored foundation system to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to: Over-the-top ties anchored to the ground at the four corners of the home or RV, plus two additional ties per side at intermediate points (only one tie per side for homes or RVs less than 50 feet long); or by frame ties at each corner of the home, plus five additional ties along each side at intermediate points (four additional ties per side for homes or RVs less than 50 feet long). All components of the anchoring system must be capable of carrying a force of 4,800 pounds.

**SECTION G: NONRESIDENTIAL DEVELOPMENT** *(Complete this section if applicable)*

28. To qualify as an exempt lobster or fishing shed, the structure must: be limited to low value structures such as metal or wood sheds 200 square feet or less and shall not exceed more than one story; be securely anchored to the wharf or pier to resist flotation, collapse, and lateral movement due to the effect of wind and water loads; not adversely increase wave or debris impact forces on nearby buildings; have unfinished interiors and not be used for human habitation; have any mechanical, utility equipment and fuel storage tanks anchored and either elevated or floodproofed to one foot above the base flood elevation; have all ground fault interrupt type electrical outlets and have the electrical service disconnect be located on the shore above the base flood elevation and when possible outside the flood prone area.

Unless it qualifies as an exempt accessory structure or an exempt lobster or fishing shed, any nonresidential structure together with attendant utility and sanitary facilities must either:

- a. Have the lowest floor (including basement) elevated to one foot above the base flood elevation (BFE) OR
- b. Be floodproofed to at least one foot above the BFE so that below that elevation the structure is watertight with walls substantially impermeable to the passage of water and have structural components capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. Solid walls can collapse from hydrostatic pressure if floodwaters get too deep. To prevent this, openings in enclosures below the BFE allow floodwaters to enter and leave, thus automatically equalizing hydrostatic flood forces on both sides of the walls. "Floodproofing" of new construction is defined as measures incorporated in the design of the building so that below the BFE walls are watertight, structural components can resist hydrostatic and hydrodynamic loads and effects of buoyancy, and utilities are protected from flood damage. Most floodproofing is appropriate only where floodwaters are less than three feet deep, since walls and floors may collapse under higher water levels. More information on floodproofing can be found in FEMA's Technical Bulletin 3-93, *Non-Residential Floodproofing Requirements and Certification for Buildings Located in Special Flood Hazard Areas* (FIA-TB-3. 1993).

**NOTE:** Enclosed areas below the lowest floor are **NOT PERMITTED** in the VE Zone.

 You must attach either **EXHIBIT S4-C**, a completed Elevation Certificate (see Instructions, p. vi) OR **EXHIBIT S4-E**, a Floodproofing Certificate (See Instructions, p. vi).

29. If you plan to have an enclosed area below the lowest floor, it must be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood water; be used solely for building access, parking of vehicles, or storage; and not be used for human habitation. If you plan to have a basement, then the basement floor is the lowest floor.

 If you answer YES to question 30, you must attach **EXHIBIT S4-D**, a completed Hydraulic Opening Certificate or a non-engineered design plan meeting the Commission's requirements. See Instructions, p. vi.

**SECTION H: BRIDGES** *(Complete this section if applicable)*

30. If the proposed bridge development involves new construction or substantial improvement, a registered professional engineer must certify:
- 1) that the structural design and methods of construction meet the elevation requirements for bridges and the floodway standards of the Commission's Chapter 10 *Land Use Districts and Standards* at 10.25,T,2,k and m; AND 2) that the foundation and attached superstructures are designed to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all structural components.

 You must attach **EXHIBIT S4-G**, a Bridge Certification. See Instructions, p. vi.

**SECTION I: COMMERCIAL WHARFS, PIERS AND DOCKS** *(Complete this section if applicable)*

A registered professional engineer must develop or review the structural design, specifications, and plans for the construction of a new, or the substantial improvement of an existing commercial wharf, pier or dock, AND the applicant must attach a statement to that effect signed by the engineer.

 You must attach **EXHIBIT S4-H**, a Commercial Wharf, Pier, or Dock Certification. See Instructions, p. vi.

**SECTION J: CONTAINMENT WALLS** *(Complete this section if applicable)*

31. Chapter 10 *Land Use Districts and Standards* contain provisions that require the containment wall be elevated to at least one foot above the base flood elevation.
32. Chapter 10 *Land Use Districts and Standards* contain provisions that require that the structural components of the containment wall be capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. A registered professional engineer must certify that the structural design and methods of construction are in accordance with the Commission's standards.

 You must attach **EXHIBIT S4-I**, a Containment Wall Certification. See Instructions, p. vi.

## S4-A. FLOODWAY DEVELOPMENT CERTIFICATION

If you are planning to build or place any fill material (including for a driveway) within the floodway, you must submit a Floodway Development Certification. This Certification is a technical evaluation certified by a registered professional engineer demonstrating that the cumulative effect of the proposed development, when combined with all other existing development and anticipated development, will not result in any increase in the water surface elevation of the base flood in FEMA Zones A, A1-30, AE or VE, or will not increase the water surface elevation of the base flood by more than one foot in P-FP or unmapped flood prone areas, at any point within the township, plantation or town; and that it is consistent with the technical criteria contained in Chapter 5 of the publication, *Guidelines and Specifications for Study Contractors*, FEMA 37, January 1995.

## S4-B. NOTIFICATION OF WATERCOURSE ALTERATION OR RELOCATION

If you are proposing the alteration or relocation of a watercourse, you must submit a copy of the completed notification that you sent to each adjacent community (town or plantation, or county in the case of a township). Also, if the proposal requires a permit from the U.S. Army Corps of Engineers, you must attach a copy of the approved permit to this supplement or, if it has not yet been approved, you must submit a copy of the Corps permit approval PRIOR to the start of work.

## S4-C. ELEVATION CERTIFICATE OR CERTIFIED PLAN

Unless your development or structure qualifies as exempt, you must submit an Elevation Certificate or certified plan completed by a licensed land surveyor, engineer or architect who is authorized to certify elevation information. The certificate or plan must confirm that the elevation of the lowest floor (including basement) of any non-exempt structures on your property will be at least one foot above the base flood elevation for your area.

## S4-D. HYDRAULIC OPENING CERTIFICATE OR DESIGN PLAN

If you are planning to enclose the space below the lowest floor of your structure, you must submit a Hydraulic Opening Certificate or Design Plan. The enclosed area must have a minimum of two openings having a total net area of not less than one square inch for every square foot of the enclosed area: the bottom of all openings shall be below the base flood elevation and no higher than one foot above the lowest grade; and openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the entry and exit of flood waters automatically without any external influence or control such as human intervention, including the use of electrical and other non-automatic mechanical means.

## S4-E. V-ZONE CERTIFICATION

If you are proposing a structure in a VE Zone, a registered professional engineer or architect must develop or review the structural design, specifications, and plans for the construction, unless it meets the criteria for an exempt lobster or fishing shed, as listed in Question 21. The design plans and specifications must meet or exceed the technical criteria contained in the Coastal Construction Manual, (FEMA-55; dated August 2011) and certify that the design and methods of construction to be used are in accordance with the Commission's standards.

## S4-F. FLOODPROOFING CERTIFICATE

If you are proposing a nonresidential structure that is not elevated to one foot above the BFE, a registered professional engineer or architect must certify that the floodproofing design and methods of construction are in accordance with the Commission's standards. This certification must include a record of the elevation above mean sea level to which the structure is floodproofed.

## S4-G. BRIDGE CERTIFICATION

A registered professional engineer must certify: 1) that the structural design and methods of construction meet the elevation requirements for bridges and the floodway standards of the Commission's Chapter 10 *Land Use Districts and Standards* at 10.25,T,2,k and m; AND 2) that the foundation and attached superstructures are designed to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all structural components.

## S4-H. COMMERCIAL WHARF, PIER OR DOCK CERTIFICATION

A registered professional engineer must develop or review the structural design, specifications, and plans for the construction of a new, or the substantial improvement of an existing commercial wharf, pier or dock, AND the applicant must attach a statement to that effect signed by the engineer.

## S4-I. CONTAINMENT WALL CERTIFICATION

A registered professional engineer must certify that the structural design and methods of construction are in accordance with the Commission's standards. These standards include requirements that the containment wall be elevated to at least one foot above the base flood elevation AND that the structural components be capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.