

## Plan Review Checklist

### FLOOD HAZARD AREA APPLICATION REVIEW – A ZONES

Terms: FHA = Flood Hazard Area; DFE = Design Flood Elevation

Reviewer's Initials and Date of Review	Review Steps
	<p>Is proposed development consistent with zoning?</p> <p><input type="checkbox"/> NO, Applicant to request a zoning amendment.</p> <p><input type="checkbox"/> YES, proceed with review.</p>
<p>FIRM Panel # and date _____</p> <p>FLOODWAY Panel # and date _____</p> <p>DFE _____</p>	<p>Check FIRM, floodplain/floodway boundaries, base flood elevations, <u>and</u> map revisions and LOMRs issued by FEMA. Is proposal in the floodplain and/or floodway?</p> <p><input type="checkbox"/> NO, sign and date this form and put in file.</p> <p><input type="checkbox"/> YES, must meet the flood resistant provisions of the code.</p> <p><input type="checkbox"/> YES, FLOODWAY. All residential structures (including Manufactured Housing units) in floodways to comply with IBC.</p> <p><input type="checkbox"/> YES, FLOODWAY. Require engineer's "no rise" analysis and supporting hydraulic data in file before continuing review.</p> <p><input type="checkbox"/> YES, in FHA without DFEs. Check other sources, use estimating methods, or require applicant to determine.</p> <p><input type="checkbox"/> YES, in FHA, but applicant has elevation data that shows natural site elevation above DFE. Advise applicant to obtain LOMA and submit copy for the file.</p> <p><input type="checkbox"/> YES, in Coastal A Zone; refer to V Zone Checklist if V Zone requirements are applied.</p> <p><input type="checkbox"/> YES, in 500-year floodplain. Floodplain review not required; flood-resistance encouraged.</p>
	<p>Site plan shows nature of development proposal, location, dimensions, wetlands, floodplain/floodway boundaries, and ground elevations.</p> <p><input type="checkbox"/> YES, continue review.</p> <p><input type="checkbox"/> NO, return to applicant to revise application and site plan.</p>
	<p>Can the proposed development be modified to avoid floodplain?</p> <p><input type="checkbox"/> YES, explain flood hazards to applicant and make recommendations to modify proposal to minimize flood hazards and damage potential.</p> <p><input type="checkbox"/> NO, but can impacts be further minimized? Reduce fill? Site on higher ground?</p>
	<p>Has the applicant provided copies of all necessary State and federal permits, e.g., wetlands?</p> <p><input type="checkbox"/> NO, advise applicant which agencies to contact.</p> <p><input type="checkbox"/> YES, require copies for the file.</p>
	<p>Will a watercourse be altered?</p> <p><input type="checkbox"/> NO, continue review.</p> <p><input type="checkbox"/> YES, Applicant to provide copies of notices to adjacent communities, federal agencies, and the NFIP State Coordinator.</p> <p><input type="checkbox"/> YES, engineer's analysis required to show same flood carrying capacity; method of maintenance specified.</p>
	<p>Is fill proposed? Compacted? Side-slopes are no steeper than 2H:1V? Protected from erosion?</p> <p><input type="checkbox"/> NO fill, continue review.</p> <p><input type="checkbox"/> YES, fill used to elevate building will be compacted, sloped, and stabilized.</p> <p><input type="checkbox"/> YES, but not for building elevation. Purpose for fill: _____</p>

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Initials and Date	Review Steps
	Is the application for improvement or addition to an existing building? <ul style="list-style-type: none"> <li><input type="checkbox"/> NO, a new structure is proposed, continue review.</li> <li><input type="checkbox"/> YES, but building is documented in file as a "historic structure" and proposed work will not change historic designation; encourage flood resistance.</li> <li><input type="checkbox"/> YES, costs of work are documented and compared to market value.                             <ul style="list-style-type: none"> <li><input type="checkbox"/> If costs equal or exceed 50% of market value of structure, provide finding to Board of Appeals for determination of Substantial Improvement.</li> <li><input type="checkbox"/> Proposed work is not a Substantial Improvement. Flood hazard review not required.</li> </ul> </li> </ul>
	Are new structures proposed to be elevated (new residential or non-residential buildings, storage tanks, manufactured homes)? Give applicant a blank Elevation Certificate. <ul style="list-style-type: none"> <li><input type="checkbox"/> NO – STOP! A permit cannot be issued for non-elevated residential buildings.</li> <li><input type="checkbox"/> NO, non-residential may be floodproofed (see design documentation requirements)</li> <li><input type="checkbox"/> YES, on fill. Basements into fill are <u>not</u> allowed.</li> <li><input type="checkbox"/> YES, on piers, pilings, or columns.</li> <li><input type="checkbox"/> YES, on solid foundation walls (see Enclosed areas below DFE).</li> </ul>
	Check the following for Manufactured Housing units: <ul style="list-style-type: none"> <li><input type="checkbox"/> Are flood hazards avoided as much as possible?</li> <li><input type="checkbox"/> In Floodway, refer to IBC® for foundation design.</li> <li><input type="checkbox"/> Foundation is reinforced (dry-stack block NOT allowed).</li> <li><input type="checkbox"/> Ground anchors and tie-downs shown on plans?</li> <li><input type="checkbox"/> Elevated above the DFE?</li> </ul>
	Check the following for utility support systems: <ul style="list-style-type: none"> <li><input type="checkbox"/> Electrical, mechanical, plumbing, heating/air conditioning components elevated?</li> <li><input type="checkbox"/> Septic designed to minimize inflow/discharge under flood conditions?</li> <li><input type="checkbox"/> On-site water supply designed to minimize inflow under flood conditions?</li> <li><input type="checkbox"/> Above-ground tanks are anchored/elevated?</li> <li><input type="checkbox"/> Below-ground tanks are designed to resist flotation?</li> </ul>
	If new, non-residential structure is not elevated, will it be floodproofed? <ul style="list-style-type: none"> <li><input type="checkbox"/> YES, non-residential building will be floodproofed to not less than 1' above DFE, and signed and sealed design documentation is in file.</li> <li><input type="checkbox"/> YES, agricultural building to be wet floodproofed.</li> <li><input type="checkbox"/> NO, permit shall not be approved.</li> </ul>
	Enclosed areas below DFE (stairwells, sheds, garages, storage areas, crawl spaces)? <ul style="list-style-type: none"> <li><input type="checkbox"/> NO, continue review.</li> <li><input type="checkbox"/> YES, number, total net open area, and location of flood openings shown on plan.</li> <li><input type="checkbox"/> YES, plan shows acceptable use (parking, limited storage, and access).</li> <li><input type="checkbox"/> YES, flood resistant materials specified.</li> <li><input type="checkbox"/> YES, utilities, if any, are all elevated above DFE.</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Record permit in log of floodplain permits.</li> <li><input type="checkbox"/> Make sure that all necessary documents are in the file.</li> <li><input type="checkbox"/> Issue Permit and transfer file to Inspections.</li> </ul>

PERMIT APPLICATION REVIEW COMPLETED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

 ISSUE PERMIT approved by: \_\_\_\_\_

 DENY PERMIT approved by: \_\_\_\_\_

# SAMPLE

Permit #: \_\_\_\_\_

Date: \_\_\_\_\_

Applicant: \_\_\_\_\_

## Inspection Checklist FLOOD HAZARD AREA INSPECTIONS – A ZONES

Inspector's Initials and Date of Inspection	Inspection Steps
	Before site inspection: <input type="checkbox"/> REVIEW permit file before going in the field. <input type="checkbox"/> ASK permit reviewer questions to understand requirements. <input type="checkbox"/> Are other State and federal permits in the file?
	Measure stake out distances from waterway or landmark. Is development in the right place? Is fill correct distance from waterway or landmark? <input type="checkbox"/> YES, check fill compaction and side slopes. Basements into fill not allowed. <input type="checkbox"/> NO, take enforcement action to correct problems.
	Elevation of lowest floor checked during framing or foundation inspection after lowest floor is in place. Elevations checked and acceptable? <input type="checkbox"/> YES, maintain copy of documentation of final elevations in permanent records. <input type="checkbox"/> NO, take enforcement action to correct problems.
	Electrical, mechanical, plumbing, heating/air conditioning components elevated? <input type="checkbox"/> YES. <input type="checkbox"/> NO, take enforcement action to correct problems.
	For enclosures below DFE (including crawl spaces): Are flood damage resistant materials used? Does use of enclosure appear to be limited to crawl space, parking, building access, or limited storage? Are flood openings no more than 12" above grade? Are there enough flood openings (based on net open area provided by the flood openings or certification of engineered openings), are they on at least two sides, and do they allow automatic entry/exit of floodwater (disable air vents in open position)? <input type="checkbox"/> YES. <input type="checkbox"/> Building does not have enclosures below DFE. <input type="checkbox"/> NO, take enforcement action to correct problems.
	Other Notes Based on Inspection:
	Issue Occupancy Certificate only if final inspection shows compliance with floodplain requirements.

FINAL INSPECTION COMPLETED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

**Plan Review Checklist**

**FLOOD HAZARD AREA APPLICATION REVIEW – V ZONES**

Terms: FHA = Flood Hazard Area; DFE = Design Flood Elevation

<b>Reviewer's Initials and Date of Review</b>	<b>Review Steps</b> <i>NOTE: For variance requests, use this form to document efforts to achieve the greatest degree of compliance.</i>
	Is proposed development consistent with zoning? <input type="checkbox"/> NO, Applicant to request a zoning amendment. <input type="checkbox"/> YES, proceed with review.
	Is proposal in Coastal Barrier Resources Area (CoBRA) or Otherwise Protected Area? <input type="checkbox"/> NO, continue review. <input type="checkbox"/> YES, advise applicant that Federal flood insurance is not available, document to file, continue review (must comply with flood provisions).
FIRM Panel # and date _____  DFE _____	Check FIRM, floodplain and zone boundaries, base flood elevations, <u>and</u> map revisions or LOMRs issued by FEMA. Is proposal in the Coastal Flood Hazard Area subject to high velocity wave action (V Zone)? <input type="checkbox"/> NO, not in Flood Hazard Area; sign and date this form and put in file. <input type="checkbox"/> NO, in "Coastal A Zone" (apply V Zone requirements). <input type="checkbox"/> NO, in riverine A Zone. Use A Zone checklist. <input type="checkbox"/> YES, in V Zone, must meet flood resistant provisions of the code.
	Site plan shows development proposal, location, dimensions, wetlands, FHA/V Zone boundaries, DFE, and ground elevations (NGVD or other datum on FIRM). <input type="checkbox"/> YES, continue review. <input type="checkbox"/> NO, return to applicant to revise application and site plan.
	Can the proposed development be modified to avoid FHA/V Zone? <input type="checkbox"/> YES, explain flood hazards to applicant and make recommendations to modify proposal to minimize flood hazards and damage potential. <input type="checkbox"/> NO, can floodplain impacts be further minimized? Maximize setback from the water? Buildings moved to higher elevation?
	Has the applicant provided copies of all necessary State and federal permits, e.g., wetlands, coastal zone consistency? <input type="checkbox"/> NO, advise applicant which agencies to contact. <input type="checkbox"/> YES, require copies in the file.
	Will a dune be altered? <input type="checkbox"/> NO, continue review. <input type="checkbox"/> YES, if applicable, require State coastal zone approval before continuing.
	Is a pool proposed? <input type="checkbox"/> NO, continue review. <input type="checkbox"/> YES, not attached to the building; continue review. <input type="checkbox"/> YES, attached to the building. Continue review only if included in foundation design.

**Plan Review Checklist**

**FLOOD HAZARD AREA APPLICATION REVIEW – V ZONES**

Initials and Date	Review Steps
	<p>Is the application for improvement or addition to an existing building?</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> NO, a new structure is proposed, continue review.</li> <li><input type="checkbox"/> YES, but building is documented in file as a “historic structure” and proposed work will not change historic designation; encourage flood resistance.</li> <li><input type="checkbox"/> YES, costs of improvements are documented and compared to market value.                             <ul style="list-style-type: none"> <li><input type="checkbox"/> If costs of proposed addition equal or exceed 50% of market value of structure, provide finding to Board of Appeals for determination of Substantial Improvement.</li> </ul> </li> <li><input type="checkbox"/> Proposed work is not a Substantial Improvement. Flood hazard review not required.</li> </ul>
	<p>Are new buildings proposed to be elevated? Give applicant a blank Elevation Certificate.</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> NO – STOP! A permit cannot be issued for non-elevated buildings.</li> <li><input type="checkbox"/> YES, on fill. STOP! Structural fill not allowed in V Zones, require redesign.</li> <li><input type="checkbox"/> YES, on piers, pilings, or columns; signed and sealed design certification submitted?</li> <li><input type="checkbox"/> YES, on parallel shear walls (parallel to expected direction of flow?); signed and sealed design certification submitted?</li> </ul>
	<p>Check the following for utility support systems:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Electrical, mechanical, plumbing, heating/air conditioning components elevated?</li> <li><input type="checkbox"/> Septic designed to minimize inflow/discharge under flood conditions?</li> <li><input type="checkbox"/> On-site water supply designed to minimize inflow under flood conditions?</li> <li><input type="checkbox"/> Above-ground storage tanks are anchored/elevated?</li> <li><input type="checkbox"/> Below-ground storage tanks are designed to resist flotation/erosion?</li> </ul>
	<p>Enclosed area below DFE proposed (stairwells, sheds, garages, storage areas)?</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> NO, continue review.</li> <li><input type="checkbox"/> YES, enclosed by insect screening or lattice. Continue review.</li> <li><input type="checkbox"/> YES, applicant has provided signed and sealed documentation of breakaway wall design.</li> <li><input type="checkbox"/> YES, design not documented. Advise applicant to obtain signed and sealed documentation of breakaway wall design from registered design professional.</li> <li><input type="checkbox"/> YES, flood resistant materials will be used.</li> <li><input type="checkbox"/> YES, utilities <u>not</u> penetrating or attached to breakaway walls.</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Record permit in log of floodplain permits.</li> <li><input type="checkbox"/> Make sure that all necessary documents are in the file.</li> <li><input type="checkbox"/> Issue Permit and transfer file to Inspections.</li> </ul>

PERMIT APPLICATION REVIEW COMPLETED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

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Inspector's Initials and Date of Inspection	Inspection Steps
	Before site inspection: <ul style="list-style-type: none"> <li><input type="checkbox"/> REVIEW permit file before going in the field.</li> <li><input type="checkbox"/> ASK permit reviewer questions to understand requirements.</li> <li><input type="checkbox"/> Are other State and federal permits in the file?</li> </ul>
	Measure distances from landmark. Is development in the right place? <ul style="list-style-type: none"> <li><input type="checkbox"/> NO, take enforcement action to correct problems.</li> <li><input type="checkbox"/> YES, continue inspection.</li> </ul>
	Elevation of lowest floor checked during framing or foundation inspection after lowest floor is in place. Elevations checked and acceptable? <ul style="list-style-type: none"> <li><input type="checkbox"/> YES.</li> <li><input type="checkbox"/> NO, take enforcement action to correct problems.</li> </ul>
	For enclosures below DFE: Are walls insect screening or lattice? Are walls breakaway, and no utilities attached to or penetrate breakaway walls? Are flood damage resistant materials used? Does use of enclosure appear to be limited to parking, building access, or limited storage? <ul style="list-style-type: none"> <li><input type="checkbox"/> YES.</li> <li><input type="checkbox"/> Building does not have enclosures.</li> <li><input type="checkbox"/> NO, take enforcement action to correct problems.</li> </ul>
	Other Notes Based on Inspection:          
	Issue Occupancy Certificate only if final inspection shows compliance with floodplain requirements.

FINAL INSPECTION COMPLETED BY: \_\_\_\_\_ DATE: \_\_\_\_\_