Dealing With Unnumbered A Zones in Maine Floodplain Management

The following is a list of acceptable methods that the State Floodplain Management Coordinator and the Federal Emergency Management Agency (FEMA) recommend as best for determining the regulation of development in A Zones that have no published base flood elevations (BFE). The telephone numbers for the agencies referred to below are listed at the end of this document.

- If the stream forms a boundary between two communities, the community on the other side of the stream may have a detailed study. The base flood data for the stream is valid for both sides of the stream or pond.

- Check with the U.S. Army Corps of Engineers, U.S. Department of Agriculture/Soil Conservation Service, or U.S. Geological Survey (USGS) and ask if they have knowledge of any base flood elevation reports, other unpublished reports or any data that may be of assistance for the stream in question.

- If the property is along a stream that is near a state highway structure such as a bridge or culvert, the Maine Department of Transportation (MDOT) may have done a study to properly size the structure. This is more likely in the event of a new or recently replaced structure.

- If there is a dam on the stream, there is a good possibility that the dam owner has had to do a study to get relicensed through the Federal Energy Regulation Commission (FERC) process.

- Maine law requires developers of new subdivisions to provide base flood data if the subdivision is in a floodplain. Check with the town to see if there have been any new subdivisions near the site in question. For more information on subdividing in the floodplain the Maine Floodplain Management Program has a paper on "What If I Subdivide In A Floodplain?"

- The state recommended model ordinance provides the following procedure for making determinations in A Zones. This provision is found at Article III, § H.1.b:

> H. The elevation in relation to the National Geodetic Vertical Datum (NGVD), North American Vertical Datum (NAVD), or to a locally established datum in Zone A only, of the:
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> 1. base flood at the proposed site of all new or substantially improved structures, which is determined:
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> b. in Zone A:
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> (1) from any base flood elevation data from federal, state, or other technical sources (such as FEMA's Quick-2 model, FEMA 265/July 1995), including information obtained pursuant to Article VI.K. and IX.D.;

(2) from the contour elevation extrapolated from a best fit analysis of the floodplain boundary when overlaid onto a USGS Quadrangle Map or other topographic map prepared by a Professional Land Surveyor or registered professional engineer, if the floodplain boundary has a significant correlation to the elevation contour line(s); or, in the absence of all other data,

(3) to be the elevation of the ground at the intersection of the floodplain boundary and a line perpendicular to the shoreline which passes along the ground through the site of the proposed building.

(4) in coastal zones use the *Updating Tidal Profiles for the New England Coastline, December 3, 2008* which is the updated version of the *U.S. Army Corps of Engineers' Tidal Flood Profiles New England Coastline, September 1988* to select the 100-year Frequency Tidal Flood appropriate for the development site's location on the profile.

- Compare the shaded area of the Flood Insurance Rate Map (FIRM) with the contours on a USGS Quad map or any other topography map that more accurately represents the existing land form of the area. Determine which contour best approximates the boundary of the shaded area and use that contour and the elevation as the regulatory flood elevation.

- Use historical records or the flood of record. This approach may also be helpful in trying to determine which contour on the USGS map best fits the shaded area on the FIRM map. This information may be found in old town reports, newspapers, or in some cases from USGS gaging station data that may be obtained from the Augusta office of the U. S. Geological Survey.

- If no flood elevation data is available, then require that the building be elevated or floodproofed to a reasonable level based upon any recent or past flood experiences in the area. It is recommended that the lowest floor or floodproofing levels be set one foot above the experienced flood events. If there is no experienced flood information available, then it is recommended that the lowest floor be elevated at least two to three feet above ground level. Basements or cellars which would be below ground level and therefore below flood level should not be allowed in the A Zone.

- FEMA has developed a software program that enables a community to determine a base flood elevation using a simplified shortcut to the backwater program. This program, Quick II, is available through the Maine Floodplain Management Program. This program does involve a minimum of computer skills and some basic cross section information.

WORD OF CAUTION! The Maine Model Ordinance that has been adopted by the majority of Maine municipalities requires that half of the unnumbered A Zone shall be considered to be in the floodway. Article VI of the Model Ordinance provides at § K.3:

"In Zones A1-30, AE, and A riverine areas for which no regulatory floodway is designated, the regulatory floodway is determined to be the channel of the river or other water course 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."

DOCUMENTATION: Whatever method you choose to use in the determination of a flood elevation for an unnumbered A Zone, always document on the permit application, elevation certificate, or any other document that is being used what elevation is being used to represent the 100 year flood level and where that determination came from. It is also critical that the source of the elevation be written on the Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map (FHBM) that you use in the administration of the ordinance. Consistency is extremely important when working with unnumbered A Zones.

FEMA has provided additional information on determining base flood elevations. That information is attached.

If you have any questions regarding the above, please contact the Maine Floodplain Management Program at (207) 287-2801 or at the Department of Agriculture, Conservation & Forestry, 93 State House Station, 17 Elkins Lane, Augusta, Maine 04333.

TELEPHONE NUMBERS:

US Army Corps of Engineers, Waltham, MA	(978) 318-8270
USDA, Natural Resource Conservation Service	(207) 990-9100
US Geological Survey	(207) 622-8201
Maine Dept. of Transportation	
Contact: Michael Wight, Bridge Program	(207) 287-2998
Maine Dept. of Enrivonmental Protection/FERC Information	
Contact: Kathy Howatt, Hydropower Coordinator	(207) 446-2642

Federal Emergency Management Agency Region I
99 High Street, Boston MA

Determination of Base Flood Elevations and Floodway Data For Use in Administering the Minimum Floodplain Management Requirements of the National Flood Insurance Program (NFIP)

May 1, 1990

A Zones have been delineated on most community Flood Hazard Boundary Maps (FHBM) and Flood Insurance Rate Maps (FIRM) published by the Federal Emergency Management Agency. Such flood zones were determined by approximate hydrologic methods and do not include any base flood elevation (BFE) or floodway data. This paper is developed to explain how to meet the minimum NFIP requirements relating to the development and use of bfe and floodway data.

General Floodplain Development

NFIP requirements - Section 60.3 (b) (4) of the NFIP regulations states that the community shall "obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state or other source, including data developed pursuant to the NFIP subdivision requirements, as criteria for requiring that new construction, substantial improvements or other development in Zone A on the community's FHBM or FIRM meet the [elevation and floodproofing standards of NFIP] sections 60.3 (c) (2), (c) (3), (c) (6) and the [floodway standards] of sections (d) (2) and (d) (3)."

Communities are required to determine if any base flood elevation or floodway data is available from any federal, state or other source. Your community floodplain enforcement official or the developer should use preliminary results from a flood insurance study if such a study is currently being conducted of the community. If a flood insurance study is not being conducted the community should contact the Corps of Engineers, the U.S. Geological Survey, the Soil Conservation Service of your state flood insurance coordinator to determine if a source of BFE or floodway data exists for the flood hazard Zone A in question. If no flood elevation data is available then the floodplain enforcement official should require that the building be elevated or floodproofed to a reasonable level based on any recent or past flood experiences in the area. We suggest that the lowest floor or floodproofing levels be set one food above the experienced flood events. If there is no experienced flood information available then we suggest that the lowest floor be elevated at least two to three feet above ground level. Basements or cellars which would be below ground level and therefore below flood level should not be allowed in the Zone A.

If any floodway data is available it should be used to prohibit development within that calculated floodway that would result in any increase in flood levels during the occurrence of the base flood discharge. If no floodway data is available then we would encourage the community to keep the development a reasonable distance away from the stream channel and away from any high velocity flow areas.

Determination of BFEs for Subdivisions

NFIP Section 60.3 (b) (3) requires that "all new subdivision proposals and other proposed developments (including proposals for manufactured home parks and subdivisions) greater than 50 lots or 5 acres, whichever is the lesser, include within such proposals base flood elevation data."

In order to meet this requirement the subdivision developer must obtain a BFE which reflects the actual field conditions or must obtain the services of a hydrologist or professional engineer to compute the BFE . The project must be designed to the BFE in accordance with the NFIP criteria.