U.S. Department of Homeland Security
FEMA Region [numeral]
[Address]
[City, ST Zip]

FEMA

[Date]

[Mr./Ms. Addressee Full Name
Title, Community
Street Address
City, State Zip]

RE: 30-Day Comment Period on Engineering Models

Dear [Mr./Ms. Addressee Last Name]:

In this letter, I am notifying you of the engineering data models being used in the Federal Emergency Management Agency's (FEMA) ongoing flood risk project in [Community Name, State]. As discussed during the community engagement meetings held to determine where flood risks may have changed in your community, FEMA's goal is to offer useful, credible data and a fair process to help you make informed decisions about continuing to build a safer and stronger community.

These engineering data models will form the basis for the proposed Special Flood Hazard Areas (SFHAs) that will be presented on an updated Flood Insurance Rate Map (FIRM) for your community. SFHAs are the areas subject to inundation by the 1-percent-annual-chance flood (also called the base flood). Over time, water flow and drainage patterns in your area can change dramatically due to natural or manmade actions such as surface erosion or new development. The engineering models will show whether the likelihood of flooding in certain areas has increased or decreased over time, so that the existing SFHA designations can be adjusted as appropriate.

After receiving this notification, your community will have 30 days to consult with the FEMA Region for your State on the appropriateness of the models selected for the project. Your community will have additional opportunities to comment on and provide feedback about the models and other draft flood hazard information, throughout the project. Before the flood hazard information becomes effective, a formal appeal process will give you the opportunity to submit technical or scientific data to support any objections to the proposed flood hazard information.

The draft flood hazard information for [Community Name] will be developed by FEMA's mapping partner, [PTS or CTP Name]. [PTS or CTP Name] will use the models shown on the enclosed Proposed Engineering Models Summary Table, which lists the flooding sources to be studied, along with details on the selected models and the rationale for their use. These engineering models were selected based on a variety of factors, including the type of study being performed (base or enhanced, shallow flooding, coastal, alluvial fan, etc.), the size of the drainage area affecting the flooding source, and the type of terrain present (flat, hilly, mountainous, etc.).

FEMA wants to ensure that the most up-to-date and accurate technical data are used to develop your flood mapping products. FEMA relies on your feedback, partnership, and knowledge during this important project to determine the extent of flood risk in your community. We also want to support your efforts to reduce those risks. We look forward to working with local officials and other stakeholders in [Community Name] to increase flood hazard awareness and to reduce the flood risk to life and property. Your initial feedback will not affect your community's ability to provide feedback later, or to formally appeal the flood hazard information during a future period.

Please provide your comments related to the types of models selected for this project by [Month XX, YYYY]. Send your comments or any questions about this project to the FEMA Project Officer, FEMA Region [Roman numeral], [FEMA Contact Name] at [email] or [(XXX) XXX-XXXX].

Sincerely,

[Digital Signature]

[FEMA Contact Name], Chief
Risk Analysis Branch

Enclosure: Proposed Engineering Models Summary Table

cc: [FPA Name], Floodplain Administrator
[FEMA Contact Name], Project Officer, FEMA Region [Roman Numeral]
[Name of State] NFIP Coordinator
[PTS or CTP Contractor]

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Enclosures

Proposed Engineering Model Summary Table

Flooding Source	Reach	Hydrologic Model Proposed	Hydraulic Model Proposed	Rationale for Models Selected
		Gaging station data		The study reach includes or is close to a gaging station, and at least 20 years of data are available at the station.
		HEC-HMS		Flood hydrographs are needed as input to an unsteady hydraulic model.
		Regression equations		The regression equations are applicable to the streams being studied, and the peak discharges are sufficient for the hydraulic analysis.
		SWMM or XP-SWMM		The drainage network includes an extensive network of storm sewers and closed conduits.
			1D steady	Flow is steady in time, one-dimensional, and generally gradually varied in space, and the channel slope is generally less than 10 percent.
			1D unsteady	1D unsteady flow is appropriate (e.g., floodplains with substantial overbank storage areas; streams where a reversal of flow may occur; complex pipes, channels, ponds, and reservoir systems).
			2D	Used to simulate surface-water flow in two directions in a horizontal plane, such as in shallow flooding areas, split-flow situations, and at complex bridge site.

Proposed Engineering Model Summary Table

Flooding Source	Study Limits From	Study Limits To	Hazard Evaluated	Model or Method Proposed	Rationale for Models Selected
Atlantic Ocean	Entire Coastline of Nassau County	Entire Coastline of Nassau County	Storm Climatology Statistical Analysis	JPM-OS	Appropriate for use in areas primarily affected by tropical storms. JPM-OS is an optimized method to address the computational demands of high-resolution models like ADCIRC.
Atlantic Ocean	Entire Coastline of Nassau County	Entire Coastline of Nassau County	Storm Surge including Regional Wave Setup	SWAN+ADCIRC (fully coupled model)	Unstructured mesh allows for computational efficiency with a detailed representation of complex coastal features such as such as shoreline, dunes, inlets, etc. Use of a coupled model allows efficient real-time feedback between the models and more physically realistic simulations. The selection of the ADCIRC model maintains consistency with recent and ongoing FEMA coastal surge studies in northwest Florida, Louisiana, Mississippi, North Carolina, South Carolina, and Texas, studies further north along the Atlantic coast.
Atlantic Ocean	Entire Coastline of Nassau County	Entire Coastline of Nassau County	Overland Wave Propagation	WHAFIS 4.0	The only accepted model for overland wave propagation analysis.
Atlantic Ocean	Entire Coastline of Nassau County	Entire Coastline of Nassau County	Wave Runup	Runup 2.0	Used on sandy beach and dune shorelines on coasts of the Atlantic Ocean and Gulf of Mexico
Atlantic Ocean	Entire Coastline of Nassau County	Entire Coastline of Nassau County	Erosion	FEMA 540 SF Rule	Required by FEMA regulations and guidelines for use on coasts of the Atlantic Ocean and Gulf of Mexico