Federal Emergency Management Agency

Region [Roman Numeral
Street Address
City, State Zip]

[DATE] 30 Day Engineering Models Notification

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

Dear [Mr./Ms. Addressee Name]:

This letter is to notify you of the engineering data models being used in the Federal Emergency Management Agency's (FEMA) ongoing flood risk project in [Community, State]. As discussed during prior community engagement meetings determining where risks may have changed, FEMA's goal is to offer useful, credible data, and a fair process to help you make informed decisions to continue building 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 the Flood Insurance Rate Map (FIRM) for your community. An SFHA is an area that is 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 may have changed dramatically due to surface erosion, land use, and natural forces. Given these factors, the likelihood of flooding in certain areas may have increased or decreased over time, changing the SFHA designations.

Upon receipt of this notification, your community will have 30 days to consult with FEMA Regional Office staff (identified in the last paragraph of this letter) regarding 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. If there are uncertainties about the mapping data that have been collected and analyzed, a formal appeals process and period will be available to help resolve any remaining questions before the flood hazard information becomes effective.

Draft flood hazard information for [Community, State,], developed by FEMA's mapping partner, [PTS or CTP Name]. [PTS or CTP Name], will use the engineering models shown on the attached Engineering Models Summary Table, which lists the flooding sources to be studied, along with details regarding the selected models and the rationale for their use. The engineering models were selected based on a variety of factors including, but not limited to, the type of study performed (e.g., 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 (e.g., flat, hilly, mountainous, etc.).

The Federal Emergency Management Agency (FEMA) wants to ensure that the most up-to-date and accurate technical data are used to develop the flood risk products. FEMA relies on your feedback, partnership and knowledge during this important project to determine the extent of flood risk in your community, and in support of your efforts to reduce those risks. We look forward to working with community officials and other stakeholders in [Community, State,] to increase flood risk awareness and reduce the risk to life and property from flooding. 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 appeal period.

Please provide your comments related to the types of models selected for this project by MONTH XX, YYYY. To provide your comments or get answers to any other questions about this project, please contact the FEMA Project Officer, [FEMA Contact Name] at [email] or [(XXX) XXX-XXXX].

Sincerely,

[Digital Signature]

[FEMA Contact Name], Chief
Risk Analysis Branch

Enclosures: 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

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 there are at least 20 years of data 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 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.
			ID steady	Used where flow is steady in time, one-dimensional, generally gradually varied in space, and channel slope is generally less than 10%.
			ID unsteady	Used when 1D unsteady flow is appropriate (e.g., floodplains where 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		Hazard Evaluated	Model or Method Proposed	Rationale for Models Selected
	From	To			
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 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 Texas, Louisiana, Mississippi, northwest Florida, South Carolina, North Carolina, and 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