



September 25, 2009

Mayor George C. Nebel  
Borough of Mantoloking  
P.O. Box 487  
202 Downer Avenue  
Mantoloking, NJ 08872

**RE: Borough of Mantoloking  
Floodplain Management Plan  
2008 Annual Progress Report  
Community Rating System – Activity 510**

Prepared and Reviewed By:

NFIP Flood Hazard Mitigation Planning Committee;

Dear Mr. Mayor:

As you are aware, the Borough of Mantoloking has developed, adopted and is implementing its Flood Mitigation Plan (the Plan) to serve as a guidance document to mitigate flood damage to properties and the environment within the Borough. The Plan not only establishes the goals and guidelines for future flood protection throughout the community, but provides a summary of past efforts made by the Borough throughout the years to control flood damage. This Plan defines the Borough's continued commitment towards the protection, health, safety and welfare of its residents and their property, as well as the Borough's commitment towards the improvement of their environment. The Plan has been reviewed by the Federal Emergency Management Agency (FEMA) and the New Jersey Office of Emergency Management (State OEM) to ensure that the plan is in accordance with the State's mitigation program. Additionally, the Plan has been reviewed by multiple Municipal, State and County Government agents and offices, along with neighboring Towns and utility companies, to not only obtain additional suggestions to further better the Borough's plan, but to educate and inform the surrounding areas of the Borough's intentions towards mitigation issues.

The Plan is a document that continuously implements measures to aid in mitigating flood issues and has been prepared based on an approved schedule to enact these activities. As such a review of these activities is conducted every year to ensure that the goals and objectives of the Plan are achieved. Accordingly, the NFIP Flood Hazard Mitigation Planning Committee conducted its annual meeting and prepared a report, contained herewith, of the activities for 2008.



**2008 Annual Report for the Flood Mitigation Plan**

Representatives of the Committee met on September 12, 2008 to discuss the Flood Mitigation Plan and the progress of the goals and objectives represented. Provided below is a summary of the meeting and a brief explanation of the activities conducted during 2008:

1. Modify human susceptibility to flood damage and disruption by avoiding hazardous, uneconomic, or unwise use of floodplains.

1a. Upgrade all new and redeveloping construction in conformance with adopted CRS repetitive loss reduction program.

This program would enforce pile installations and floor flood resistance elevations to mitigate future flood damage, inclusive of rebuilding, elevating, or even demolition and property purchases, if feasible.

UPDATE: This program has still yet to be fully developed and adopted by the Borough. Although the Community continues implement and enforce CRS related activities, a plan directed specific to repetitive loss locations has not been developed, however the Borough has been addressing improvements of its own properties, such as the elevation of the Emergency Generation for Public Works two (2) feet above the floodplain and significant discussion on the Planning Board level regarding adoption of code to increase floor heights and pile foundation requirements.

1b. Continue with all commitments adopted under the National Flood Insurance program inclusive of all implemented building code regulations for development or redevelopment.

As the years progress, the Borough continuously strives to be in full conformance with the NFIP. The Borough also allocates funds to achieve these tasks.

UPDATE: All NFIP commitments are continuing to be performed.

2. Modify the impact of flooding by assisting individuals and communities to prepare for, respond to, and recover from floods.

2a. Conform to and implement CRS program mitigation measures in planned systematic approach.

Implement CRS program in accordance with yearly identifiable tasks which will allow NFIP premium reductions in the most cost effective manner. Under this program a Repetitive Loss Reduction Plan will be prepared, along with improving the addressable siren system, public address system and emergency broadcast system, acquisition of aquatic or



flood response vehicle, increase identification of emergency evacuation route and flood preparedness plan.

UPDATE: The Borough has acquired a flood response vehicle. The public address system has been improved to announce specific instructions regarding the specific emergency and is tested on an annual basis. The remaining issues will be addressed as funds become available and are cost effective.

- 2b. Encourage public awareness and education by various means of communication with its residents and property owners.

Mantoloking realizes the first step in reducing property losses is to inform every property owner of the flood hazard area that they lie in. All Mantoloking residents have been informed by a flyer mailed to them to make them aware that the property they own is in a special flood hazard area and that, historically, the Borough floods during storms. The public display in Borough Hall has a collection of information for property owners which cover flood preparedness, protecting a building from flooding, flood prevention, flood plain management, retrofitting and natural and beneficial functions of flood plains.

UPDATE: Property owners receive flyers twice annually while various brochures are made available at public events and informative literature is updated regularly; posted and made available at the Borough Hall.

- 3a. Develop rainwater conveyance facilities to meet 25 year storm event loading in non-critical areas in accordance with floodplain management regulations.

Work under this task will be implemented in conjunction with the Borough's roadway reconstruction program that will consider raising the elevation of roads to resist flooding. Presently, the Borough has an identified phased roadway program. The first phase of the present program is on file with the Borough Engineer. In addition, as each phase of the program is developed, any specific non-critical rainwater conveyance problems that can be remedied in conjunction with this program, as brought to light by public or private complaint, are included.

UPDATE: During 2008, Barnegat Lane and Runyon Lane were improved and the associated storm systems were improved as well.

This procedure will continue each year as a roadway is improved. Which roadway to be improved is determined by the amount of funds available to the Municipality and the associated cost benefit.

- 3b. Develop Atlantic Ocean flood protection features to meet a 100 year coastal storm flood resistance level.



100 year coastal flood resistance is anticipated to be completed with the conclusion of the anticipated NJDEP/USACE/Mantoloking project, which will enhance the Atlantic oceanfront beach and dune system. Enhancement work, until this project is completed, has been conducted as standard operating procedure under the Borough's beach and dune maintenance program.

UPDATE: The Borough, in conjunction with the County of Ocean and neighboring communities continue to implement a regional fill as the results of the Borough's beach renourishment feasibility study indicates that financially a regional project makes the most sense to the Borough. In this regard, the Borough, through efforts of the Mayor and as endorsed by the Beach Protection Committee have spearheaded communication with the County and neighboring committees to explore the potential of a regional program in conjunction with aid from the County and the NJDEP. The initial effort by the Mayor and Committee will be culminated in a meeting with the County and our neighboring beachfront communities scheduled for January of 2009. The Borough's efforts will continue throughout the year with a possible meeting of the Borough and County officials with the NJDEP and regional political state representatives in the summer or fall of 2009 to discuss easement conditions and alternate approaches to the needed beach fill activities and program.

3c. Develop back bay bulkhead system to meet a 25 year coastal storm flood level

Back bay bulkheads must be elevated to the 25-year storm level to prevent flooding of the Borough from the back bay area (protection of this magnitude already exists on the ocean and inlet frontages).

Elevation of back bay bulkheads cannot be completed immediately, as 95% of these are privately owned and would be a very costly undertaking. Accordingly, the Borough will adopt an Ordinance which requires bulkheads to be raised as they come up for replacement. Since the average life of a bulkhead is 30 years, and through the use of vinyl sheeting, and the fact that some are new, the project may take over 30 years.

UPDATE: The development of a backbay bulkhead ordinance was been authorized by the Council. Through review of the stillwater elevations for the municipality, it was determined that the 25-year stillwater backbay flood level will be approximately Elevation 5.0 NGVD.

3d. Review application of modular pump station systems to relieve flooding in Mantoloking Bayside areas

25-year storm conveyance systems in critical areas (sanitary sewer pump station, NJ American Water Well and Pump Station Site, Borough Hall, etc.) would require the implementation of storm water pumping systems to overcome the disabling of gravity systems due to storm elevated water

levels in backbay areas. The implementation of this project is slated to be evaluated as part of the NJDOT Route 35 upgrades.

UPDATE: Although no progress has been made on the installation of pumping systems, the Borough still intends to investigate this option.

3e. Implementation of back bay backflow check valve program.

This project requires the continued analysis and evaluation of Borough and State outfall systems, formulation of appropriate replacement locations and installation of check valves as required.

UPDATE: The Borough has installed two (2) check valves in separate locations within the town at the street ends of Downer and Arnold Street. These check valves are currently being monitored and depending on their success, other check valves are to be implemented.

4a. Adopt and support NJDEP Coastal protection Plan and appropriate moneys as necessary to implement same.

In order to assure adoption and the availability of matching funds to put the NJDEP/Mantoloking Coastal Protection Plan and project in place in accordance with Item #3 above, the Borough is presently working on reliable funding sources to support this program and which will allow the Borough to adopt and execute the required agreements to implement the plan.

UPDATE: This action is directly related to part 3B above. Actions were taken this year by a possible project between the local municipalities, however issues relating to easements have slowed the progression. The Borough currently has a system for saving funds for this activity and is exploring various other approaches to obtain the remaining funds needed should this project come to fruition.

4b. Evaluate all dune systems and augment improvements to same.

This project goal requires implementation over a longer term period, in conjunction with additional engineering and computer analysis followed by physical augmentation of the dune system in conjunction with the Richard Stockton College Coastal Resource Center. Phase 1 of the project entails the dune computer analysis; Phase 2, dune augmentation in critical areas; Phase 3, mass dune system augmentation where necessary accompanied by planting and fence work. Project development to be implemented as follows:

Phase 1 - Computer Analysis

UPDATE: An analysis of the dune system was completed utilizing a Geographical Information System based knowledge-driven modeling

technology that identifies weaknesses in the dune system and highlights areas that may be vulnerable to storms. Simulations were then run from 2-year through 100-year storms using parameters developed by FEMA producing a dune susceptibility map of the Borough.

The Borough has the intention to complete Phases 2 and Phase 3 as the funds are appropriated.

- 4c. Continuation of monitoring and study by Stockton College, Coastal Research Center, on beach and dune erosion and beach and dune performance

With the ever changing shoreline, due to ocean currents and seasonal storms, the dunes are monitored to ensure the needed protection is present.

UPDATE: Stockton State College continues to monitor and survey the movement of sand on the dune and beach. They produce a quarterly report throughout the year every year while producing a yearly summary during the fourth quarter. After severe storm events, an additional evaluation is conducted to determine the damage sustained.

An evaluation of the Borough's dune system is conducted every year to determine the overall status. Each resident is notified of specific recommendations to aid in the development of their dune. A report is generated detailing the overall condition of the dune system.

## TIMETABLE FOR OBJECTIVES

| Activity  | Responsible Parties                             | Year           |                |                |                |                |                |                |
|---|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
|   |   | 2008           | 2009           | 2010           | 2011           | 2012           | 2013           | 2014           |
| <b>1) Modify human susceptibility to flood damage and disruption by avoiding hazardous, uneconomic, or unwise use of floodplains</b>  |   |                |                |                |                |                |                |                |
| a) Upgrade all new and redeveloping construction in conformance with adopted CRS repetitive loss reduction program  | Borough Code Official, E.M.O., Borough Engineer |                | X <sup>1</sup> |                | X <sup>1</sup> |                | X <sup>1</sup> |                |
| b) Continue with all commitments adopted under the National Flood Insurance program inclusive of all implemented building code regulations for development or redevelopment | Borough Code Official, E.M.O., Borough Engineer |                | X              |                | X              |                | X              |                |
| <b>2) Modify the impact of flooding by assisting individuals and communities to prepare for, respond to, and recover from floods</b>  |   |                |                |                |                |                |                |                |
| a) Conform to, and implement CRS program mitigation measures in planned systematic approach   | Borough Engineer, Borough Planner               | X              |                | X              |                | X              |                | X              |
| b) Encourage public awareness and education by various means of communication with its residents and property owners  | Flood Mitigation Committee                      | X              | X              | X              | X              | X              | X              | X              |
| <b>3) Modify flooding through projects that control flood waters</b>  |   |                |                |                |                |                |                |                |
| a) Develop rainwater conveyance facilities to meet 25 year storm event loading in non-critical areas  | Borough Engineer, Borough Code Official         | X <sup>2</sup> | X <sup>2</sup> | X <sup>2</sup> | X <sup>2</sup> | X <sup>2</sup> | X <sup>2</sup> | X <sup>2</sup> |
| b) Develop Atlantic Ocean flood protection features to meet a 100-year coastal storm flood resistance level.  | Borough Engineer, Borough Dune Inspector        |                |                |                |                |                | X              |                |
| c) Develop back bay bulkhead system to meet a 25 year coastal storm flood level   | Borough Engineer                                | X <sup>3</sup> | X <sup>3</sup> | X <sup>3</sup> | X <sup>3</sup> | X <sup>3</sup> | X <sup>3</sup> | X <sup>3</sup> |
| d) Review application of modular pump station systems to relieve flooding in Mantoloking Bayside areas  | Borough Engineer                                |                | X              |                |                |                |                |                |
| e) Implementation of back bay backflow check valve program  | Borough Engineer                                |                |                | X              |                |                |                |                |
| f) Upgrade Arnold Avenue Bayside Revetment to resist erosion  | Borough Engineer                                |                | X              | X              |                |                |                |                |
| <b>4) Preserve and restore the natural resources and functions of floodplains by maintaining and reestablishing floodplain environments in their natural state</b>          |   |                |                |                |                |                |                |                |
| a) Adopt and support USACE/NJDEP Coastal Protection Plan and appropriate moneys as necessary to implement same  | Mayor, Borough Council                          |                |                |                | X              |                |                |                |
| b) Evaluate all dune systems and augment improvement to same  | Borough Dune Inspector                          | X <sup>4</sup> |                | X <sup>4</sup> | X <sup>4</sup> |                |                |                |
| c) Continuation of monitoring and study by Stockton College, Coastal Research Center, on beach and dune erosion and beach and dune performance                              | Borough Dune Inspector                          | X              | X              | X              | X              | X              | X              | X              |

Notes: 1 - This task will be dependent on updates that are enforced under the CRS program; 2 - Phased program, to be conducted annually as roadways are improved; 3 - Improvement to be conducted by homeowner as bulkhead is replaced; 4 - Multiple phased project.



Our next meeting regarding the activities conducted during 2009 will be scheduled for the month of October. At this meeting the Committee will discuss the success of various projects and actions that are necessary to aid other objectives and goals. As this date is finalized, advanced notification will be provided.

To ensure that Council is aware of the progress of the Flood Mitigation Committee, please arrange for distribution of this report to Council. In addition, for compliance with Community Rating System Activity Section 500, please arrange for the report to be viewed on the Borough's website and provide notification in the local newspaper that this report has been prepared and is available at the Borough Hall. We are providing the following language for use to notifying the public of the availability of this document:

“The NFIP Flood Hazard Mitigation Planning Committee of Mantoloking Borough has completed their annual report of the objectives and goals for 2008 of the Borough's Flood Mitigation Plan. Members of the public are welcome to view the report as it is available on the Borough's website ([www.mantoloking.org](http://www.mantoloking.org)) as well as available for viewing at the Borough Hall.”

Should you require any additional information, please do not hesitate to contact this office.

Very truly yours,

Hatch Mott MacDonald

A handwritten signature in blue ink that reads "Robert Mainberger".

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File Mantoloking M700906-III-3 (2008 Flood Mitigation Plan – Annual Report) new