

Rahway River Watershed Flood Risk Management Needs Statement

Rahway River Watershed- *A Regional Resource Challenges Public Safety*



Residents, businesses and property owners located along the Rahway River have suffered extensive financial loss and personal hardship due to frequent and severe flooding in the watershed. The financial losses exceeding \$75 million due to Hurricane Irene.

The Rahway River Watershed encompasses 41 square miles of urban and suburban area in 24 municipalities in Essex, Union and Middlesex counties in central New Jersey. Property owners and municipalities have limited

capability to provide any significant flood risk reduction. The mayors in the Rahway River Watershed joined to regionally focus on solutions. The Mayors Council Rahway River Watershed Flood Control are working with the U.S. Army Corps of Engineers and New Jersey Department of Environmental Protection and Essex and Union Counties, to evaluate flood mitigation measures. The Mayors have developed a Needs Statement to present to state policymakers.

The Rahway River Watershed

The headwaters of the East and West Branches of the Rahway River are located in Essex County, in the vicinity of I-280. Seven miles downstream, the two major branches join at Millburn-Springfield-Union borders. The main stem of the Rahway River conveys storm water runoff from an area of 25 square miles as it crosses Route 22 in Springfield and has a total drainage area of 41 square miles before it discharges to the Arthur Kill at Carteret. Increased storm water runoff due to construction of impervious areas has strained the limited capacity of stream channels and man-made restrictions, including bridges, resulting in floodwaters leaving the channels of the river and its branches and inundating significant developed areas in Millburn, Union, Springfield, Kenilworth, Cranford and Rahway and to a lesser degree in other municipalities.

HURRICANE IRENE DAMAGES



The Rahway River Watershed communities have suffered significant repetitive losses in recent decades. Hurricane Irene, August 27-28, 2011, resulted in more extensive losses and a great number of properties affected than in most severe prior storms.

Examples of Hurricane Irene flooding impacts include:

Union—\$15 million in residential (392 homes) and businesses (30) losses; \$560,000 spent in emergency response actions during storm, followed by an additional \$775,000 in continuing restoration work.

Cranford—Over \$4 million damage to Brookside Avenue School and Cranford High School; 1st floor of Cranford Municipal Building damaged and unusable; 1600 homes impacted, with 300 first floors damaged and an estimated \$16.5 million homeowner losses (FEMA data); over 70,000 tons of damaged household debris carted away; Cranford Canoe Club severely damaged; significant public safety and public works expenses to manage storm and aftermath.

Rahway—Almost \$700,000 of municipal public safety and public works expense to respond to storm; \$4,149,570 FEMA claims (76 of the 262 claims not yet processed); 10 homes with severe damage including 5 with serious foundation problems; 12

commercial properties damaged heavily; and the church on West Grande damaged.

Private Insurance Losses—According to the insurance industry, there was an estimated \$31.8 million of private insurance claims by homeowners in Union County due to Hurricane Irene.

FEMA data—In addition to private insurance losses, FEMA expects to provide soon data on the significant homeowner damage from Irene.

Power Outage—The PSE&G substation on South Avenue was flooded which resulted in over 6,000 PSEG customers losing electricity for up to 5 days. Not only did the outage impact residents in the flood damaged areas, but residents in Garwood and Westfield, served by the high voltage line lost from that substation, were without electricity.

Springfield—Over 80 homes had severe flooding with damage estimated at \$8 million; 70 homes and 40 businesses had basement flooding with damages estimated at \$2.3 million; and township spent \$403,000 in public safety and public works costs.

Millburn—Township had significant damages and costs born by the local government and residents.



CITIZEN COST

The personal hardship from severe flooding is difficult to fully calculate but is significant. From residents in Cranford that have yet to move back into their homes to residents in Millburn in South Mountain area who had sewer backups ruining belongings and impacting homes, progress on solutions need to be made.

REGIONAL COOPERATION-MAYORS COUNCIL RAHWAY RIVER WATERSHED FLOOD CONTROL

Formed October 27, 2011 at Union County College after a conference on regional flood control, the Mayors Council is an effort to improve communication and seek coordinated regional solutions to the common problem of flood risk. The mayors recognize that the watershed has other environmental issues, in addition to flooding, but are focusing on the flooding aspect as it is the most critical need affecting the health, safety and welfare of the public.

Current members include the mayors of Millburn, West Orange, Union, Springfield, Kenilworth, Garwood, Westfield, Cranford, Winfield Park and Rahway. Representatives of the Counties of Union and Essex participate. The State of New Jersey Department of Environmental Protection (NJDEP) and the U.S. Army Corps of Engineers, New York District (USACE) have offered their planning assistance.

CURRENT PLANNING OBJECTIVES AND NEEDS STATEMENT

1-EVALUATE FLOOD STORAGE ALTERNATIVES

The Mayors Council requested assistance from the NJDEP and USACE in a meeting on December 22, 2011 for an evaluation of the significant flood storage areas in the watershed, including existing lakes and

potential storage areas in the **South Mountain Reservation** on the West Branch of the Rahway River in Essex County and **Echo Lake Park** in Union County. The USACE is also evaluating potential modifications to the **Lenape Park Detention Basin** in Kenilworth and **Nomahegan Park** in Cranford. If a modification of existing facilities or a new facility is found to be beneficial, funding will be required to undertake design and implementation. The US Army Corps is at work and making progress on evaluation of the alternatives.

Union and Millburn would benefit significantly from flood storage facilities placed in South Mountain Reservation since they are immediately downstream from the reservation. Preliminary estimates indicate Cranford would also significantly benefit. However, Union and Springfield Township as well as other downstream municipalities would also benefit from new storage facilities placed in the East Branch of the Rahway River as well. We are asking therefore the USACE to expand its investigation to include placing storage facilities at the following locations in Essex County: Cameron Field, Meadowlands, and the Maplewood Golf Course.

2-EVALUATION OF BRIDGES

The USACE was asked to develop a scope of work for review with the NJDEP regarding evaluation of bridges that significantly affect flooding along the Rahway River. The bridges in Union Township, for example,

affect flood levels including at Route 22 east and West Bridges, Millburn Road, Morris Avenue (State Route 82), I-78, I-124, and Vauxhall Road. It is estimated that the Morris Avenue Bridge alone increases flood levels immediately upstream by 1-1/2 feet during the 100-year storm event. The Hazel Avenue Bridge in Rahway is a priority bridge to be reviewed. Once the scope is developed, funding will be required for planning, design and project implementation.

3. STORM WATER MANAGEMENT

Current storm water management ordinances and practices place requirements on new development in an effort to minimize adverse impacts due to new impervious areas. In the highly developed Rahway River Watershed there is a need for a coordinated aggressive effort to retrofit existing land use to reduce negative impacts caused by prior development. The Mayors Council is reviewing all existing ordinances and guidelines and is seeking improved approaches. A resolution by the Mayors Council is being put forward for each community to pledge a 10% reduction by 2015 at all municipal and school facilities to set the example. Funding is needed to conduct appropriate research and develop an improved Rahway River Watershed model ordinance.

4.ACQUISITION OF REPETITIVE LOSS PROPERTIES

Acquisition of repetitive loss properties is dependent upon the willingness of the seller to accept a reasonable purchase offer.

Additional funding is needed for acquisition for non-eligible properties. For example, in Union Township, the purchase of private property in the Franklin Street area would require not only willingness of the seller but would require an infusion of federal or state funding in excess of \$8.75 million to pay for the 35 homes. In Cranford, township officials are on record of purchasing the 16 acre Birchwood property now slated for 360 housing units located in a flood area. Rahway had numerous severe repetitive loss homes which are potential sites for open space.

In 2012, the Governor signed legislation to permit counties to use open space funds for purchase of flood prone properties. Union County has been requested to consider developing a program working with state Blue Acres, particularly acquisition of flood prone properties near parks.

5. IMPROVED RIVER DEBRIS CLEANUP

Union County Engineer held a meeting of all county engineers to develop a plan to improve the general maintenance of the river. Union County has applied for an annual general maintenance permit from the state DEP for the entire river in the county. The state's responsiveness on improving the approach to river maintenance is a key request. Towns should have the ability to get flexible permits online to quickly able local engineers to better maintain the Rahway River. A state appropriation to fund desnag, similar that given the

Passaic River Coalition would help.

6. LOCAL MITIGATION PROJECTS-

Some of the municipalities with the more severe flood losses have taken steps to provide for reduction of flood risk within the limits of their abilities. Projects are in various stages of planning and design and funding is required. Projects currently under consideration include:

Union-

\$775,000-repair to the Franklin Street Flood Control Facilities , and debris and sediment removal from the Vauxhall Branch of the Rahway River. It is critical that the flood control facilities are restored to pre-Hurricane Irene condition. The hurricane caused a serious erosion along the river side of the low floodwall and earthen berm. Both the pump discharge and gravity discharge from the pump station are being rebuilt to create positive drainage on the land side of the flood protection project. In addition, the detention basin on the land side must be restored. In addition, Vauxhall Branch is a major tributary of the river and is now blocked by debris, fallen trees, and sediment left behind after the floodwaters receded following Irene. These materials need to be removed to provide positive drainage between Liberty Avenue and the river during high frequency, low magnitude storm events which causes ponding and mosquito development affecting the Larchmont section of Union Township.

Cranford-

Cranford has completed 2 of the 5 phases of its Northwest Quadrant Flood Control plan. The next phases will require significant funding from state and federal sources to construct a higher dike and a pump station. More immediately, the USACE discovered during its alternative evaluation that the dikes along Riverside Drive do not meet USACE standards and after an evaluation opined they could be at risk of failure during certain conditions. A \$3 million rehabilitation project is being engineered and is expected to be ready for construction in 2012. Union County and Cranford are co-owners of the the dikes. Cranford has the engineering ready to proceed on Phase 2B which ties the storm drains into the Riverside Drive pump station.

Upon completion of the USACE alternatives evaluation, next steps on phases 3,4 and 5 will be taken.

Millburn-

The Township of Millburn has several key projects to further mitigate flooding and sewage backups. Engineering planning is underway for storm drainage improvements, a new pumping station and additional flood walls.

Springfield and Rahway-

Engineering work on several capital requirements to further mitigate local flooding is taking place.

7-NJDOT STREAM MAINTENANCE PROJECTS

In a recent meeting in Springfield on November 18, 2011, NJDOT agreed to investigate the debris in the river discovered by Union Township during a reconnaissance project. Several locations along the river in close proximity to the I-24 and I-78 Bridge. The debris elimination would benefit areas immediately upstream in both Union and Millburn.

8-EXPANDED FLOOD MITIGATION PLANNING BY THE USACE

Currently the USACE is undertaking a feasibility study for flood mitigation along the Rahway River in Cranford and along the Robinson's Branch. As a result of the damages sustained during Hurricane Irene, the Mayors Council is seeking NJDEP and USACE support to further investigate the high damaged areas in the watershed including the Franklin Street area in Union Township, South Mountain area neighborhood in Millburn, the heavily impacted areas in Springfield among other areas.

Federal funding in the amount of \$2 million is required by the USACE to complete their current Rahway River Watershed Basin feasibility study for the Cranford areas and Robinson's Branch. There is recognition that the current regional focus will provide solutions that will benefit all communities in the watershed.

The state share of the cost is already allocated to match the needed federal funds. Recently

Senator Lautenberg, Senator Menendez and Congressman Lance announced the addition of \$225,000 to continue the current study.

Additional authorization and federal and state share funding is required to investigate the aforementioned flood mitigation alternatives as well as alternatives such as the East Branch storage. The total estimated flooding mitigation planning is preliminarily estimated at \$6 million federal and \$4 million state. Additional funding would be required for design and construction of authorized projects.

The Rahway River watershed communities have been working cooperatively and with the valued assistance of the NJ DEP and USACE have identified and are quantifying the benefits of the numerous alternatives to bring improved protection to our residents and property owners.



**REQUESTED SUPPORT BY
THE MAYORS COUNCIL
ON RAHWAY RIVER
WATERSHED FLOOD
CONTROL**

On behalf of our residents and homeowners, we seek bi-partisan support of federal and state legislators representing our communities to support the effort for regional planning and cooperation and to authorize the needed investigations and funding for improvements as the effort continues to find flood mitigation solutions.

**LEGISLATIVE
DISTRICTS:**

US SENATE:

Senator Frank R. Lautenberg
Senator Robert Menendez

**HOUSE OF
REPRESENTATIVES**

7th District-Congressman Leonard
Lance

10th District-TBD

STATE OF NEW JERSEY

Senator Raymond Lesniak
Assemblyman Joseph Cryan
Assemblywoman Annette
Quijano
Senator Thomas Kean
Assemblyman Jon Bramnick
Assemblywoman Nancy F.
Munoz
Senator Richard J. Codey
Assemblywoman Mila Jasey
Assemblyman John McKeon
Senator Nicholas Scutari
Assemblyman Jerry Green
Assemblywoman Linda
Stender



MAYOR'S COUNCIL RAHWAY RIVER WATER SHED FLOOD CONTROL NEEDS STATEMENT

Mayors Council Rahway River Watershed Flood Control

Mayor David Robinson (Cranford); Mayor James Florio (Union); Mayor Sandra Haimoff (Millburn); Mayor Rick Proctor (Rahway); Mayor Andrew Shehady Ziad (Springfield) Mayor Kathie Fiamingo (Kenilworth); Mayor Skibitsky (Westfield); Mayor David Wright (Winfield); Mayor Quattrocchi (Garwood)

