

# Chapter 6: Mitigation Strategy

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## 6 Chapter Overview

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### 6.1 Federal Requirements for the Mitigation Strategy

This chapter of the Plan addresses the Mitigation Strategy requirements of 44 CFR Section 201.6 (c)(3), as follows:

“201.6 (c)(3) A mitigation strategy that provides the jurisdiction’s blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools. This section shall include:

- (i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards
- (ii) A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. All plans approved by FEMA after October 1, 2008, must also address the jurisdiction’s participation in the NFIP, and continued compliance with NFIP requirements, as appropriate.
- (iii) An action plan describing how the actions identified in paragraph (c)(3)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.
- (iv) For multi-jurisdictional plans there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.”

### 6.2 Summary of Plan Updates

Table 6-1 summarizes changes made to the 2004 plan as a result of the 2011 plan update, as follows:

**Table 6-1: Strategy Changes Since the Last Plan**

<b>Summary of Plan Updates for the Mitigation Strategy</b>		
<b>Section</b>		<b>Change</b>
6.3	Goals and Objectives	Revised existing goals and objectives; development of new goals and objectives
6.4	Identification and Analysis of Mitigation Actions and Projects	Revised process & provides greater detail of how mitigation projects were identified and analyzed
6.5	Analysis and Implementation of Mitigation Projects	Defines methodology for analyzing and prioritizing mitigation actions and projects
6.6	County and Jurisdiction Mitigation Actions	Adds matrix of proposed mitigation projects; Adds matrix of existing mitigation actions that have been implemented and/or are underway

### 6.3 Goals and Objectives

The first step in developing a hazard mitigation strategy is to establish goals and objectives that aim to reduce or eliminate Fulton County's long-term vulnerability to natural hazard events. Mitigation goals are general guidelines explaining what Fulton County wants to achieve in terms of hazard and loss prevention. Objectives are specific, measurable strategies or implementation steps used to achieve the identified goals. Developing clear goals and objectives help reinforce Fulton County's overall purpose and mission for undertaking a mitigation planning process.

The Planning Team developed hazard mitigation goals and objectives based on the findings of the individual jurisdictional Risk Assessment Matrices and the Georgia Hazard Mitigation Plan. The goals and objectives set forth below provide the necessary framework to develop a mitigation strategy. Fulton County will re-evaluate its hazard mitigation goals and objectives each plan maintenance cycle to ensure they continue to represent Fulton County's hazard mitigation priorities.

At the Mitigation Advisory Committee (MAC) Meeting #2 held at the City of Alpharetta's Engineer / Public Works Office on March 15<sup>th</sup>, 2012, the MAC agreed to support the countywide goals and objectives from Fulton County's recent plan update that was adopted December 10, 2010.

The complete listing of the Countywide Goals and Objectives table is available within the Atlanta-Fulton County Hazard Mitigation Plan Update. The goals include the following:

- Goal 1: Promoting Public Health and Safety
- Goal 2: Protect Property
- Goal 3: Promote a Sustainable Economy
- Goal 4: Manage Development to Minimize Risks of Loss
- Goal 5: Natural Resources Protection
- Goal 6: Apply Engineered Structural Modifications to Reduce Impacts of Hazards

## 6.4 Identification and Analysis of Mitigation Actions and Projects

The strategic planning approach for identifying and analyzing mitigation actions and projects followed five overarching categories. These categories are:

- **Prevention:** Government administrative or regulatory actions or processes that influence the way land and buildings are developed and built. These actions also include public activities that reduce hazard losses. Examples include building and construction code revisions; zoning regulation changes; and computer hazard modeling.
- **Property Protection:** Actions that involve the modifications of existing buildings or structures to protect them from a hazard, or removal from the hazard area. Examples include roadway elevations, improving wind and impact resistance, and flood proofing.
- **Public Education and Awareness:** Action to inform and educate citizens, elected officials, and property owners about the hazards and potential ways to mitigate them. Examples include programs that target repetitive loss properties and vulnerable populations.
- **Natural Resources Protection:** Actions that, in addition to minimizing hazard losses also preserve or restore the function of natural systems. Examples include projects to create open space, green space, and stream restoration.
- **Structural Projects:** Actions that involve the construction of structures to reduce the impact of a hazard. Examples include projects that control floodwater, reconstruction of dams, and construction of regional retention areas.
- **Emergency Services:** Actions that protect people and property during and immediately after a disaster event or hazard event. Examples include enhancements that provide advanced warning and redundant communications.

These categories were developed by FEMA for managing a successful mitigation programs and were utilized for guiding jurisdictions in identifying the mitigation measures. A guidance packet was provided to Mitigation Advisory Committee members at the March 15, 2012 meeting.

## 6.5 Analysis and Implementation of Mitigation Projects

The STAPLEE process is the methodology by which the Hazard Mitigation Committee and local jurisdictions analyzed and prioritized potent mitigation projects. STAPLEE examines social, technical, administrative, political, legal, environmental, and economic considerations. Hazard Mitigation Committee members from each jurisdiction participated in the evaluation and selection of mitigation measures. Using this method, each jurisdiction assigned a priority to selected measures, estimated costs, and where possible identified potential funding sources, including potential eligibility for FEMA Hazard Mitigation Assistance Programs.

The STAPLEE method guided the evaluation of the range of measures considered by the Hazard Mitigation Planning Committee and its recommended action programs for the participating jurisdiction. The STAPLEE method addressed the following areas of concern and responded to many of the questions presented here:

### Social Considerations

- *Socially equitable.* Will the proposed measure be socially equitable to minority, disadvantaged, and special needs populations, such as the elderly and handicapped?

- *Neighborhood impact.* Will the measure disrupt established neighborhoods or improve quality of life for affected neighborhoods?
- *Community support.* Is the measure consistent with community values? Will the affected community support the measure?
- *Impact on social and cultural resources.* Does the measure adversely affect valued local resources or enhance those resources?

#### **Technical Considerations**

- *Technical feasibility.* Is the proposal technically possible? Are there technical issues that remain? Does the measure effectively solve problem or create new problems? Are there secondary impacts might be considered? Have professional experts been consulted?

#### **Administrative Considerations**

- *Staffing.* Does the jurisdiction have adequate staff resources and expertise to implement the measure? Will additional staff, training, or consultants be necessary? Can local funds support staffing demands? Will the measure overburden existing staff loads?
- *Maintenance.* Does the jurisdiction have the capabilities to maintain the proposed project once it is completed? Are staff, funds, and facilities available for long-term project maintenance?
- *Timing.* Can the measure be implemented in a timely manner? Are the timeframes for implementation reasonable?

#### **Political Considerations**

- *Political support.* Does the local governing body support the proposed measure? Does the public support the measure? Do stakeholders support the measure? What advocates might facilitate implementation of the proposal?

#### **Legal Considerations**

- *National Environmental Policy Act (NEPA).* Will the measure be consistent with Federal NEPA criteria? How will the measure affect environmental resources, such as land, water, air, wildlife, vegetation, historic properties, archaeological sites, etc.? Can potentially adverse impacts be sufficiently mitigated through reasonable methods?
- *State and local environmental regulations.* Will the measure be in compliance with State and local environmental laws, such as flood plain management regulations, water quality standards, and wetlands protection criteria?
- *Environmental conservation goals.* Will the proposal advance the overall environmental goals and objectives of the community?

#### **Economic Considerations**

- *Availability of funds.* Will the measure require Federal or other outside funding sources? Are local funds available? Can in-kind services reduce local obligations? What is the projected availability of required funds during the timeframe for implementation? Where funding is not apparently available, should the project still be considered but at a lower priority?
- *Benefits to be derived from the proposed measure.* Will the measure likely reduce dollar losses from property damages in the event of a hazard? To what degree?

- *Costs.* Are the costs reasonable in relation to the likely benefits? Do economic benefits to the community outweigh estimated project costs? What cost reduction alternatives might be available?
- *Economic feasibility.* Have the costs and benefits of the preferred measure been compared against other alternatives? What is the economic impact of the no-action alternative? Is this the most economically effective solution?
- *Impact on local economy.* Will the proposed measure improve local economic activities? What impact might the measure have on the tax base?
- *Economic development goals.* Will the proposal advance the overall economic goals and objectives of the community?

In addition to STAPLEE and community capabilities, the jurisdictions examined other evaluation criteria, including consistency with the vision, goals, and objectives; weight of the benefit to cost; FEMA and State funding priorities for Hazard Mitigation Assistance grants; and the fiscal and staffing capacities of the jurisdictions for carrying out the measures.

The STAPLEE evaluation also facilitated the prioritization of measures. If a measure under consideration was found to be financially feasible and had high ratings, it was given a higher priority for implementation than measures that fell lower in the rating. Moreover, a general economic evaluation was performed as part of the STAPLEE method, as described above. Weighing potential economic benefits to reducing damages against costs made it possible to select among competing projects. Especially important to the selection process is the estimated cost and availability of funds through local sources and potential FEMA Hazard Mitigation Assistance (HMA) grant programs. Prior to implementation of projects proposed for HMA funding, a detailed benefit-cost analysis (BCA) will be required.

All of the above considerations and prioritization methods resulted in the final Mitigation Actions presented in Section 6.7 below.

## 6.6 County and Jurisdiction Mitigation Actions

The City of Alpharetta, Fulton County, and the other Fulton jurisdictions have been actively engaging and implementing hazards mitigation actions to reduce current and future risk to its residents and businesses. Table 6-2 identifies approximately 50 potential projects that the City of Alpharetta wants to further investigate for lowering the risk to people and property from natural hazards. The previous, countywide Hazard Mitigation Plan for Fulton County did not contain projects explicit to the City but rather a listing of countywide projects. The detailed listing of projects in this 2012 Plan will allow the City to track its municipal objectives within the larger collection of projects from the countywide plan during future updates.

The largest completed mitigation action for the City of Alpharetta was the Meadows Wet Detention Pond. The project was started in March of 2006 and closed out in April of 2011. The total budget for this project was \$261,640.00. The federal allotment of that was \$156,984.00, and the match amount was \$104,656. The total expenditures for this project were \$254,713.30. Of that amount, \$152,827.98 was federal expenditures, and the remaining \$101,885.32 was the matching funds from the City of Alpharetta. The match was split between \$92,176.00 in the

form of a cash match, and \$9,709.32 of in-kind matching from the personnel and fringe benefit costs for the numerous City of Alpharetta employees who implemented the project.

The pond serves as a demonstration project for the Foe Killer Creek and Big Creek Watersheds. The project is located along an ephemeral stream which receives flows from a large portion of downtown Alpharetta and Milton High School. This project will provide quality treatment for the entire drainage basin and additional detention to reduce peak flows entering Foe Killer Creek. The Meadows Wet Detention Pond will implement the regional detention component of the Big Creek Watershed Study.

The drainage area to the pond is approximately 28 acres of commercial, residential, undeveloped, and school property. The location of the project is upstream of an older neighborhood which has been subject to inadequate drainage and minor flooding over the years. It is expected that the downtown area will become even more densely developed in the future based upon the City's Downtown Master Plan which was adopted in 2003. Studies have shown that water quality in streams decreases with increasing impervious land use due to development. Installing a regional wet detention pond will improve water quality now and in the future.

This project was projected to be a Best Management Practice (BMP) Demonstration Project, but due to the downturn in the economy, a bankrupt developer at the site of the pond, and other factors beyond the City of Alpharetta's control, the pond is currently being used as temporary sediment storage. Until construction within the vicinity of the pond is complete and the retrofit is removed, it will not function as a completed detention pond.

Table 6-2: City of Alpharetta's Proposed Mitigation Actions

Project Number*	Mitigation Action and Description	Jurisdiction	Hazards Addressed	Objective Supported	FEMA Category	Estimated Project Cost	Possible Funding Source(s)	Timeframe for Completion	STAPLEE Score**
xx.0001	Complete dam breach analysis on Lake Windward.	Alpharetta	Flooding	2.1	Property Protection	Cost Estimate unknown	HMA, Local	1-2 years from funds availability	
xx.0002	Acquire approximately 15 homes in the Mayfield Circle / Maple Lane area near Foe Killer Creek	Alpharetta	Flooding; Severe Weather; Tropical Storms	2.7	Property Protection	\$3,000,000	HMA, FMA, Local	2-3 years from funds availability	
xx.0003	Update City GIS system with more accurate parcel data	Alpharetta	All Hazards	4.14	Prevention	Cost Estimate unknown	HMA, Local	2-3 years from funds availability	
Comments: Current data does not line up with aerial imagery, lidar topography, or mapped flood risk modeling									
xx.0004	Complete HAZUS – MH study of natural hazard impact on the city	Alpharetta	All Hazards	4.14	Prevention	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
xx.0005	Outreach education to all parcels impacted by new RiskMAPs (letters, information packets)	Alpharetta	Flooding	4.14	Prevention	\$20,000	HMA, Local	1 year from funds availability	
Comments: Can only be completed after the parcel maps are updated									
xx.0006	Evaluate benefit of joining CRS with impact of new FEMA maps	Alpharetta	Flooding	4.6 7.1 7.3	Prevention	Cost Estimate unknown	HMA, Local	1 year from funds availability	

Project Number*	Mitigation Action and Description	Jurisdiction	Hazards Addressed	Objective Supported	FEMA Category	Estimated Project Cost	Possible Funding Source(s)	Timeframe for Completion	STAPLEE Score**
Comments: Can only be completed after the parcel maps are updated									
xx.0007	Design and install master detention facility for water quality and flood control at Wills Park	Alpharetta	Flooding	5.2 5.4 6.1	Natural Resource Protection	\$500,000	HMA, Local	3-5 years from funds availability	
xx.0008	Foe Killer Creek – Design and implementation of projects to reduce elevated levels of bacteria	Alpharetta	Flooding	5.4 6.2	Natural Resource Protection	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
xx.0009	Webb Bridge Park – erosion control and stream bank restoration	Alpharetta	Flooding	5.4 6.2	Natural Resource Protection	\$400,000	HMA, Local	3-5 years from funds availability	
xx.0010	Perform stream stabilization and repair erosion along stream corridors	Alpharetta	Flooding; Severe Weather; Tropical Storms	5.4 6.2 6.3	Natural Resource Protection	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
xx.0011	Stream bank restoration Big Creek at Webb Bridge	Alpharetta	Flooding	5.4 6.2	Natural Resource Protection	\$250,000	HMA, Local	3-5 years from funds availability	
xx.0012	Stream bank restoration Big Creek at Haynes Bridge Road	Alpharetta	Flooding	5.4 6.2	Natural Resource Protection	\$225,000	HMA, Local	3-5 years from funds availability	



Project Number*	Mitigation Action and Description	Jurisdiction	Hazards Addressed	Objective Supported	FEMA Category	Estimated Project Cost	Possible Funding Source(s)	Timeframe for Completion	STAPLEE Score**
xx.0013	Stream bank restoration Foe Killer Creek – Squirrel Run to Rucker Road	Alpharetta	Flooding	5.4 6.2	Natural Resource Protection	\$150,000	HMA, Local	3-5 years from funds availability	
xx.0014	Reinforce old culverts with slip line	Alpharetta	Flooding; Severe Weather; Tropical Storms	6.1	Structural Project	Cost Estimate unknown	HMA, Local	1-2 years from funds availability	
xx.0015	Improve stormwater drainage at Church Street	Alpharetta	Flooding	6.1 6.8	Structural Project	\$200,000	HMA, Local	1-2 years from funds availability	
xx.0016	Improve stormwater drainage at Hwy 9 at Canton Street	Alpharetta	Flooding	6.1 6.8	Structural Project	\$200,000	HMA, Local	2-3 years from funds availability	
xx.0017	Improve stormwater drainage at Southlake Drive culvert	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	\$600,000	HMA, Local	3-5 years from funds availability	
Comments: Replace triple 4' CMP culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0018	Improve stormwater drainage at Cape York Trace at Big Creek Trib	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: Replace single 4' CMP culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0019	Improve stormwater drainage at Glenn Knoll Court at Long	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	

Project Number*	Mitigation Action and Description	Jurisdiction	Hazards Addressed	Objective Supported	FEMA Category	Estimated Project Cost	Possible Funding Source(s)	Timeframe for Completion	STAPLEE Score**
	Indian Creek Trib								
Comments: Replace single 2' CMP culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0020	Improve stormwater drainage at Mid Broadwell at Foe Killer Creek Trib	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	\$250,000	HMA, Local	3-5 years from funds availability	
Comments: Replace single 4.5' CMP culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0021	Improve stormwater drainage at Newport Bay Passage at Caney Creek Trib	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: Replace single 3.5' CMP culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0022	Improve stormwater drainage at Webb Bridge Court at Big Creek Trib	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: Replace double 8'x6' and single 4.35'x6.5' box culverts to handle capacity, this area currently does not handle the 2-year flow									
xx.0023	Improve stormwater drainage at McGinnis Ferry Road at Big creek Trib	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: Replace single 6' RCP culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0024	Improve stormwater drainage at Pine Grove Drive at Big Creek Trib	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: Replace single 4' CMP culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0025	Improve stormwater drainage at	Alpharetta	Flooding	6.1 6.2	Structural Project	\$325,000	HMA, Local	3-5 years from funds	

Project Number*	Mitigation Action and Description	Jurisdiction	Hazards Addressed	Objective Supported	FEMA Category	Estimated Project Cost	Possible Funding Source(s)	Timeframe for Completion	STAPLEE Score**
	Arrowood Lane at Foe Killer Creek Trib			6.8				availability	
Comments: Replace single 6' RCP culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0026	Improve stormwater drainage at Wills Road at Foe Killer Creek Trib	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	\$350,000	HMA, Local	3-5 years from funds availability	
Comments: Replace single 6' RCP culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0027	Improve stormwater drainage at Northwinds Parkway at Big Creek Trib	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: Replace double 5' RCP culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0028	Improve stormwater drainage at Academy Street at Big Creek Trib	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: Replace single 9'x6' box culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0029	Improve stormwater drainage at Rock Mill Road at Big Creek Trib	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: Replace double 5'x5' box culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0030	Improve stormwater drainage at North Park Road at Cooper Sandy Creek	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: Replace single 4' RCP box culvert to handle capacity, this area currently does not handle the 2-year flow									
xx.0031	Improve stormwater drainage at culverts without capacity to	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	

Project Number*	Mitigation Action and Description	Jurisdiction	Hazards Addressed	Objective Supported	FEMA Category	Estimated Project Cost	Possible Funding Source(s)	Timeframe for Completion	STAPLEE Score**
	handle the 5-year storm								
Comments: The city has identified 7 locations.									
xx.0032	Improve stormwater drainage at culverts without capacity to handle the 10-year storm	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: The city has identified 9 locations.									
xx.0033	Improve stormwater drainage at culverts without capacity to handle the 25-year storm	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: The city has identified 10 locations.									
xx.0034	Improve stormwater drainage at culverts without capacity to handle the 50-year storm	Alpharetta	Flooding	6.1 6.2 6.8	Structural Project	Cost Estimate unknown	HMA, Local	3-5 years from funds availability	
Comments: The city has identified 4 locations.									
xx.0035	Detour roadway map for flood evacuation plans	Alpharetta	Flooding	1.2	Emergency Services	Cost Estimate unknown	Local	1-2 years from funds availability	
xx.0036	Install traffic warning signs on all road crossings that are submerged during a 25-year flood or greater.	Alpharetta	Flooding	7.9	Emergency services; Property Protection	Cost Estimate unknown	Local	1-2 years from funds availability	

Project Number*	Mitigation Action and Description	Jurisdiction	Hazards Addressed	Objective Supported	FEMA Category	Estimated Project Cost	Possible Funding Source(s)	Timeframe for Completion	STAPLEE Score**
xx.0037	911 – phone call warning alert system	Alpharetta	Flooding	1.1	Emergency Services	Cost Estimate unknown	Local	1-2 years from funds availability	
xx.0038	Variable message signage – for use during emergency situations that can be updated from the command center	Alpharetta	All Hazards	7.9 7.3	Emergency Services, Property Protection	Cost Estimate unknown	Local	1-2 years from funds availability	
xx.0039	Satellite storage facilities for sand, salt	Alpharetta	Winter Storm	2.2	Emergency Services, Property Protection	Cost Estimate unknown	Local	1-2 years from funds availability	
xx.0040	Replace early warning software system	Alpharetta	Severe Weather; Winter Storm; Tropical System; Tornadoes	1.1	Emergency Services; Prevention	Cost Estimate unknown		6 Months from funds availability	
xx.0041	Replace early outdoor warning systems	Alpharetta	Severe Weather; Winter Storm; Tropical System; Tornadoes	1.1	Emergency Services; Prevention	Cost Estimate unknown		1-2 years from funds availability	

Project Number*	Mitigation Action and Description	Jurisdiction	Hazards Addressed	Objective Supported	FEMA Category	Estimated Project Cost	Possible Funding Source(s)	Timeframe for Completion	STAPLEE Score**
xx.0042	All Fire Station with impact resistant glass and wind resistant garage doors	Alpharetta	Tornadoes; Severe Weather	2.10 4.13 6.4	Property Protection	Cost Estimate unknown		1-2 years from funds availability	
xx.0043	Install built-in surge protections at the Public Safety Services building	Alpharetta	All Hazards	2.11	Property Protection	Cost Estimate unknown		1-2 years from funds availability	
xx.0044	Improve wind resistance of all roofs to the all Public Safety buildings Operations.	Alpharetta	Tornadoes; Severe Weather	2.10 4.13 6.4	Property Protection	Cost Estimate unknown		1-2 years from funds availability	
xx.0045	Purchase a web based severe weather monitoring service	Alpharetta	Severe Weather; Winter Storm; Tropical System; Tornadoes	1.1	Emergency Services	\$20,000		6 months from funds availability	
xx.0046	Purchase a city wide notification system for severe weather	Alpharetta	Severe Weather; Winter Storm; Tropical System; Tornadoes	1.1	Emergency Services	\$15,000		1 year from funds availability	

Project Number*	Mitigation Action and Description	Jurisdiction	Hazards Addressed	Objective Supported	FEMA Category	Estimated Project Cost	Possible Funding Source(s)	Timeframe for Completion	STAPLEE Score**
xx.0047	Purchase cones and brigades for pedestrian traffic on Green Ways	Alpharetta	Flooding	7.9	Emergency services; Property Protection	\$5,000		6 months from funds availability	
xx.0048	Purchase additional Citizen Emergency Response Team equipment	Alpharetta	Severe Weather; Winter Storm; Tropical System; Tornadoes	7.5	Emergency services	Cost Estimate unknown		1-2 years from funds availability	
xx.0049	Replace the Fire Dept. Boat for rescue and evacuation on Lake Windward	Alpharetta	Flooding	7.5	Emergency services	\$35,000			
xx.0050	Replace chain saws and blades for removal of trees during an emergency	Alpharetta	Severe Weather; Winter Storm; Tropical System; Tornadoes	6.2	Emergency services	\$6,800		1-2 years from funds availability	
xx.0051	Replace rope and technical rescue equipment	Alpharetta	Severe Weather; Winter Storm; Tropical System; Tornadoes	7.5	Emergency services	\$10,000		1-2 years from funds availability	

Project Number*	Mitigation Action and Description	Jurisdiction	Hazards Addressed	Objective Supported	FEMA Category	Estimated Project Cost	Possible Funding Source(s)	Timeframe for Completion	STAPLEE Score**
xx.0052	Purchase lightning detection equipment for parks and outdoor recreation facilities	Alpharetta	Severe Weather; Tropical System; Tornadoes	2.11 6.7	Property Protection	Cost Estimate unknown		1-2 years from funds availability	
xx.0053	Implement dam inspection on Lake Windward	Alpharetta	Flooding; Dam Failure	4.10	Property Protection	Cost Estimate unknown		1-2 years from funds availability	

\*The project number is intentionally left in the format to allow for incorporation into the Countywide Plan while also uniquely identifying projects for the City

\*\* The STAPLEE will be applied if/when project funding becomes available. The City is generally prioritizing actions for flood and/or essential facilities as highest need projects for the purposes of this plan.