

Chapter 7:

FLOOD HAZARD MITIGATION STRATEGY

This strategy provides a blueprint to reduce the potential flood damage losses identified in the risk assessment through a comprehensive program for flood hazard mitigation. Presented here are the long-term goals, objectives, and policies to guide the mitigation efforts of the participating cities.

Goal for Prevention

Manage the development of land and buildings to minimize risks of loss due to flood hazards.

Comprehensive Plans. Establish an active comprehensive planning program that seeks to mitigate the damaging effects of flood hazards, guide future development according to environmental and flood hazard constraints, and duly consider the vulnerability of areas exposed to flood hazards and the conservation of the natural and beneficial functions of the flood plains of Upper Shades Creek.

- Areas that adopt an active comprehensive planning program that fully integrates flood hazard mitigation into its plan policies and zoning ordinances and land development regulations should be able to keep flood damage to a minimum. Each of the cities' comprehensive plans should establish a long-range program for the protection and mitigation of properties from flood damages.
- Those jurisdictions that already have a comprehensive plan should review and amend their existing planning documents to be certain the vulnerability and environmental suitability of lands for future development are clearly addressed. The local plans should address the vulnerability of designated flood hazard areas and encourage open space planning to create amenities for recreation and conservation of fragile resources.
- The Jefferson County Commission has committed \$2 million per year for flood mitigation. The County's Department of Land Development has been charged with planning and administering the newly created program. The program will include a comprehensive plan for acquisitions, updates of Flood Insurance Rate Maps, a model "Higher Regulatory Standards Ordinance," and support for local mitigation projects. All cities should enter into an agreement with Jefferson County to participate in this long-range mitigation program.

Geographic Information Systems (GIS). Maintain a comprehensive database of flood hazard data and maps and apply GIS to planning analysis.

- Jefferson County, the Storm Water Management Authority, and the Regional Planning Commission maintain countywide GIS programs and the City of Birmingham maintains GIS for its jurisdiction. GIS technology should be shared and used as a resource for preparing and updating comprehensive plans.

- FEMA, in conjunction with the National Institute for Building Sciences, has recently developed a new GIS application for analyzing the impacts of natural hazards, including floods, on buildings and public facilities. This new application, *HAZUS-MH* (Hazards U.S. for Multi-Hazards) provides a new opportunity to assess flood hazard risks. The area GIS resource agencies should combine efforts to develop and apply this new technology to the Upper Shades Creek basin.
- GIS offers a method to record and map flood events. This provides historical records of the extents of each flooding event. Previous flood events should be mapped, according to best available records, and as new events occur, those flood areas should be immediately surveyed and documented within GIS.

Flood Hazard Studies. Continue special studies, as needed, to identify flood hazard risks and facilitate the implementation of mitigation measures.

- House Resolution 2497, introduced by U.S. Congressman Spencer Bachus (representing all participating jurisdictions), was adopted on May 9, 1996 in response to the devastating floods incurred during the previous year by Hurricane Opal. This resolution authorized the U.S. Army Corps of Engineers, Mobile District, to conduct a feasibility phase study to secure Federal funding for flood mitigation projects within the Upper Shades Creek Basin. The Corps completed its reconnaissance phase and has presented the City of Mountain Brook with a Cost Sharing Agreement (CSA) to proceed. During the preparation of this FEMA-funded plan, Mountain Brook was identified as the only jurisdiction that might benefit from the Corps funding source. The proposed CSA will require a 50% local contribution in in-kind services and cash to fund the \$1,413,500 feasibility phase study by the Corps. The highest priority recommendation of this plan is that the City of Mountain Brook execute the Corps agreement and continue the feasibility phase study to complete the studies initiated by this plan and secure the Federal funding opportunity made available through H.R. 2497.
- A number of areas are depicted on the Flood Insurance Rate Maps (FIRM) as “Approximate” zones where no detailed studies and flood elevation data exist. These maps should be upgraded to consider all development that has taken place since the maps were last updated. Further, the updated hydrology and stream hydraulics developed by this planning study should form the basis for remapping the corrected flood plain boundaries and republishing the FIRM panels for Upper Shades Creek. Jefferson County is beginning the process to update all flood maps throughout the County, including incorporated areas. Given the degree of flood hazard severity and the availability of data and updated hydrology, the Upper Shades Creek basin should be a priority for remapping.

Flood Hazard Prevention Regulations. Effectively administer and enforce local flood hazard prevention regulations.

- Effective land use controls in vulnerable flood plain areas discourage environmentally incompatible land use and development. Consideration of large lot size restrictions on flood-prone areas designated on Flood Insurance Rate Maps should be made. Developers should avoid flood plains or meet specific flood protection standards that minimize risk of property damages.

- Additional land use restrictions within designated flood zones, such as prohibition of storage of buoyant materials, storage of hazardous materials, restrictive development of flood ways, among others should be evaluated.
- Each of the cities should consider adoption of “Higher Regulatory Standards” within their flood hazard prevention ordinances. Higher standards can be enacted to increase the required flood protection elevation of new and substantially improved buildings, discourage fill or displacement of flood storage, among other restrictions on flood plain development. The Jefferson County Commission’s model ordinance should be adopted by each of the cities.
- Effective administration and enforcement of local floodplain management regulations is critical to mitigation. Training is available to local flood plain managers through programs offered through the State Flood Plain Manager and FEMA’s training center in Emmitsburg, Maryland. Each city should maintain a library of technical assistance and guidance materials to support the local flood plain manager. Additional support is available through membership by the local flood plain managers in the Association of State Flood Plain Managers.

Open Space and Landscape Regulations. Establish minimum zoning standards for open space for parks, conservation areas, and planting areas for trees and vegetation to maintain critical natural features for reduced storm water runoff and improved urban aesthetics.

- Zoning regulations for open space preservation can minimize disturbances of natural land features and help reduce storm water runoff. Such regulations can require maintenance of critical natural features, such as, open space for parks, conservation areas, landscaping, and drainage. Each city should consider zoning requirements for mandatory open space within planned residential developments and maximum impervious surface standards for non-residential developments.
- Each city should consider parking lot landscaping standards be added to their zoning ordinances to encourage infiltration of rainwater where there are large expanses of impervious surfaces.

Storm Water Detention Regulations. Manage the impacts of land development on storm water runoff rates and to natural drainage systems.

- The cities should support the adoption of a uniform storm water management ordinance that maintains pre-development runoff rates on large developments for all storms up to and including the 100-year event.

Community Rating System Program (CRS). Increase participation of all cities in the CRS Program of the National Flood Insurance Program.

- The cities of Irondale and Mountain Brook should apply for and maintain membership in the CRS Program. This program recognizes outstanding flood hazard mitigation efforts of

participating communities and rewards flood insurance policy holders with reduced premiums.

- The cities of Birmingham and Homewood should continually strive to improve its CRS rating. The City of Birmingham is currently a class 7 community, and Homewood is a class 9 CRS community.
- CRS communities should work cooperatively in all aspects of their programs, especially joining together to conduct public outreach programs.

Goal for Property Protection

Protect structures and their occupants and contents from the damaging effects of flood hazards.

Acquisitions. Acquire flood prone buildings and properties and establish permanent open space, where feasible.

- A large number of buildings (residential and non-residential) throughout the flood plains were constructed in flood prone areas before the publication of Flood Insurance Rate Maps (pre-FIRM buildings) and are not protected from flooding. Property acquisition has been the preferred method of permanent protection, although select cases of structural and other non-structural methods have been found to be more appropriate. Although this study has not identified a feasible acquisition project, some properties within the Mountandale neighborhood of the City of Birmingham may be beneficial to acquire. The City of Birmingham should evaluate all residential properties within this neighborhood where the finished floor of homes lies at or below the ten-year flood elevation or where repetitive flood insurance claims have been paid.

Elevation, Retrofitting, Relocation, and Flood Proofing. Protect buildings in hazardous flood areas to safeguard against damages.

- Other means of property protection include elevation, retrofitting, relocation and flood proofing. Depending on the type of structure, raising the building so that it is no longer threatened by floodwaters may be feasible. Buildings, which cannot be elevated or retrofitted, may be able to be relocated out of the floodplain. Flood proofing is another possibility. The City of Mountain Brook should evaluate assistance with retrofitting at-risk commercial properties within Mountain Brook Village and residential properties subject to flooding along Furnace Branch. This type of effort can be addressed by the Corps of Engineers in its feasibility study and might be eligible for Federal funding assistance. The City of Homewood should evaluate retrofits to homes subject to Griffin Creek flooding and offer technical assistance to homeowners. The City of Irondale should evaluate possible retrofits of mobile homes within the Irondale Trailer Park or advise on an improved site layout for the park to avoid damages to units along the creek banks.

Insurance. Encourage homeowners and renters to maintain insurance riders for flood damages.

- Not all property owners and tenants realize that insurance policies do not ordinarily cover flood damages. Moreover, building owners and tenants might not know the property location within the flood plain. Consequently, each city should keep its citizens informed of flood zone boundaries and promote the purchase of insurance coverage by property owners and renters for flood damages in these high-risk areas.

Public Education and Outreach

Educate and inform the public about the risks of hazards and the techniques available to reduce threats to life and property.

Real Estate Disclosure. Encourage real estate agents to disclose flood plain location for property listings.

- Real estate agents are the first line of defense against property damage from flooding when a family sets out to purchase a home. They should disclose floodplain location of a property before it is listed. Agents should be familiar with risks associated with flood hazards and the mitigation measures available for property protection. The cities should encourage disclosure among local agents.

Library. Use local library resources to educate the public on hazard risks and mitigation alternatives.

- Local libraries are available to serve as repositories for information on hazards and methods of protection. Technical assistance materials available through FEMA should be made available to assist property owners on alternative property protection measures.

Environmental Education. Use school resources for public education on flood hazards and mitigation measures.

- School environmental education programs provide excellent opportunities for public education on flood hazard mitigation alternatives. Each city should encourage its local school system to integrate this hazard information into its environmental education programs.

Emergency Services

Improve the efficiency, timing, and effectiveness of response and recovery efforts for natural hazard disasters.

- Monitoring flood hazard events as they happen or, in some cases, forecasting events in advance can aid in reducing the overall costs involved in a flood event. Jefferson County EMA maintains an ALERT gage network to cover high-risk flood areas – the Automated Hazard Mitigation Information System (AHMIS). The system shares direct access to gage readings with the (National Weather Service) NWS and United States Geologic Service (USGS). This comprehensive disaster warning system ties a variety of gages into a single automated network to monitor weather conditions, precipitation, stream stage, and water quality. Installing flood sirens is another means of warning potential flood victims of the possibility of flooding, particularly in mobile home parks. The City of Irondale should consider a siren system within the Irondale Trailer Park. Two gages have been installed along the main channel of Shades Creek. Additional gage sites are necessary, especially to

monitor and alert the Mountain Brook Village area of flood events. The City of Mountain Brook should pursue a gage for this location.

Weather Radios. Improve public access to weather alerts.

- Along with the monitoring devices the government uses, citizens can use weather radios in homes and businesses to provide an inexpensive means for advance warning of a flooding event. The Project Impact program of the Jefferson County EMA has an annual distribution at its severe weather day event. The newly established Alabama Skywarn Foundation offers another program for low-cost acquisition and distribution of weather radios. Each of the cities should establish a program to either freely distribute radios or encourage their use among flood plain occupants and property owners.

Natural Resources Protection

Preserve and restore the natural and beneficial functions of the flood plains to promote sustainable community development that balances the constraints of nature with the social and economic demands of the community.

River/Stream Corridor Restoration and Protection. Restore and protect river and stream corridors.

- The “Guidelines for the Protection and Enhancement of Natural Resources” presented in chapter 5 of this plan should be adopted and implemented by each of the cities.
- Dumping of debris and trash presents an ugly and unhealthy stream environment. Strict enforcement of dumping regulations and volunteer clean up campaigns are the most effective measures to deal with this issue. Signs should be posted to remind individuals of criminal consequences of littering and dumping, and “Adopt a Stream” programs should be encouraged.
- The Cahaba River Society and the Friends of Shades Creek are non-profit groups that promote the natural resource benefits of Shades Creek. Cities should support the environmental enhancement efforts of these groups.
- Erosion and sedimentation due to construction site runoff degrades the quality of stream waters and results in deposit build ups that can restrict the discharge of floodwaters. Effective administration and enforcement of erosion and sedimentation control regulations are necessary for each of the cities.
- The cities of Mountain Brook and Homewood have established public greenways along Shades Creek. Homewood has plans to extend its linear park system. These efforts are outstanding measures for natural resources protection and should be linked to similar systems extending through the Shades Creek flood plains within the cities of Birmingham and Irondale.

Open Space Easements and Acquisitions. Preserve significant natural resources and highly vulnerable flood hazard areas in permanent open space.

- The cities should continue to support the acquisition of open space, the purchase of easements, and acceptance of donated lands within significant stream protection corridors of Upper Shades Creek through the Cahaba-Warrior Land Trust.

Structural Projects

Apply engineered structural modifications to natural systems and public infrastructure to reduce the potentially damaging impacts of hazards, where feasible, cost effective, and environmentally suitable.

Stream Channel Maintenance. Improve maintenance programs for streams and drainage ways.

- The “Guidelines for Stream Channel Maintenance” presented in chapter 5 of this plan should be adopted and implemented by each of the cities. Each city should formally prepare and enact “Standard Operating Procedures for Stream Channel and Drainage System Maintenance.”
- Immediate measures for maintenance should be undertaken by all cities to improve flood water discharge:
 - Remove all sediment buildup and debris, particularly at culvert and bridge locations.
 - Remove fallen trees and limbs from the channel.
 - Remove all Privet, Mimosa, Kudzu, etc., and all intrusive brush below the banks.
 - Limb up trees to prevent hanging branches in the channel during flood stage.
 - Remove all trees from the channel and near the bottom of the banks.

Reservoirs, Channel, and Drainage Modifications. Control flooding through structural measures, where feasible.

- This plan has identified “Scott’s Branch Plan (Plan 2)” as a feasible and relatively low cost structural project to reduce flood damages within the Scotts Branch flood plain. The project, at an estimated cost of approximately \$200,000 would yield a B/C ratio of over 60:1; over \$60 in average annual flood damages could be reduced for each average annual dollar spent for the project. The City of Homewood should pursue this project with local funds.
- “Watkins Brook Plan (Plan 24)” is a potentially feasible project that requires further investigation. The evaluation presented in this plan indicates a positive B/C ratio, however, additional details are required. First, this plan did not take into account the potential damage reduction to the Mountain Brook Mall area; a minor tributary that causes that damage was not included in this study. Additionally, this study indicates some inducement of damage downstream on Shades Creek. The project would, therefore, need to be modified to reduce flows by increasing upstream storage. This will be necessary to obtain the “no impact” requirement for the project. The proposed feasibility phase study by the Corps of Engineers would need to evaluate this project more carefully to close the gaps and complete the solution to the flooding problems within Mountain Brook Village.

Chapter 8: ACTION PROGRAM

This chapter presents the priority actions to be implemented by the participating cities over the next five years (2003-2008).

Highest Priority Mitigation Actions

1. Execute the Corps of Engineers cost sharing agreement and continue the feasibility phase to complete the studies initiated by this plan and secure this rare Federal funding opportunity made available through H.R. 2497. This authority is about to expire, and no other opportunity for Federal funding of this potential magnitude will likely become available again. The Watkins Brook Plan (Plan 24) is a potentially feasible structural project that requires further investigation. The evaluation presented in this plan indicates a positive B/C ratio, however, additional details are required. First, this plan did not take into account the potential damage reduction to the Mountain Brook Mall area; a minor tributary that causes that damage was not included in this study. Additionally, this study indicates some inducement of damage downstream on Shades Creek. The Watkins Brook Plan would, therefore, need to be modified to reduce flows by increasing upstream storage. This modification will be necessary to obtain the “no impact” requirement for the project. The proposed feasibility phase study by the Corps of Engineers can complete the Watkins Brook Plan solution to flooding within Mountain Brook Village. Moreover, the Corps can identify possible solutions to Furnace Branch flooding problems which have not been identified by this study.

Jurisdiction(s): Mountain Brook
Responsibility: Mayor and City Council, Corps of Engineers
Timeline: 2003-2007
Funding: \$1,413,500 over three fiscal years (\$706,750 Federal, \$116,700 local cash and \$590,000 local in-kind services)

2. Pursue the “Scott’s Branch Plan (Plan 2)” structural project to reduce flooding on Scott’s Branch.

Jurisdiction(s): Homewood
Responsibility: Mayor and City Council, Engineering Department
Timeline: 2004
Funding: \$200,0000 local funds

3. Execute an agreement to participate in the Jefferson County flood mitigation program and adopt its “Higher Regulatory Standards” model ordinance.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Jefferson County Department of Land Development, Mayor and City Council, local flood plain manager
Timeline: 2003-2004
Funding: Existing budget

4. Carry out regular stream channel maintenance, to include the following measures to improve the discharge of flood waters:

- Remove all sediment buildup and debris, particularly at culvert and bridge locations.
- Remove fallen trees and limbs from the channel.
- Remove all Privet, Mimosa, Kudzu, etc., and all intrusive brush below the banks.
- Limb up trees to prevent hanging branches in the channel during flood stage.
- Remove all trees from the channel and near the bottom of the banks.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Mayor and City Council, local public works department
Timeline: 2004
Funding: Local funds to be determined

5. Install a new stream gage site on Watkins Brook to monitor and alert the Mountain Brook Village area of flood events.

Jurisdiction(s): Mountain Brook
Responsibility: Jefferson County EMA
Timeline: 2004
Funding: \$12,000

High Priority Mitigation Actions

1. Update Flood Insurance Rate Maps based on hydrology and stream hydraulics developed by this planning study and best available topographic data.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Jefferson County Department of Land Development
Timeline: 2004-2008
Funding: County funds appropriated

2. Support the adoption of a uniform storm water management ordinance that maintains pre-development runoff rates on large developments for all storms up to and including the 100-year event.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Jefferson County Department of Land Development, Mayors and Councils, City Engineers
Timeline: 2004
Funding: Existing budgets

3. Formally prepare and enact “Standard Operating Procedures for Stream Channel and Drainage System Maintenance,” in accordance with the “Guidelines for Stream Channel Maintenance” presented by this plan

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Mayors and Councils, City Engineers, Public Works Departments
Timeline: 2004
Funding: Existing budgets

4. Retrofit at-risk commercial properties within Mountain Brook Village and residential properties subject to flooding along Furnace Branch. This type of effort can be addressed by the Corps of Engineers in its feasibility study and might be eligible for Federal funding assistance.

Jurisdiction(s): Mountain Brook
Responsibility: Mayor and Council, Corps of Engineers
Timeline: 2008
Funding: To be determined – Federal funds with local match

5. Evaluate each residential property within the Mountaindale neighborhood where the finished floor of homes lies at or below the ten-year flood elevation or where repetitive flood insurance claims have been paid. Pursue acquisitions where the benefit-cost ratio is positive.

Jurisdiction(s): Birmingham
Responsibility: Mayor and Council, Corps of Engineers
Timeline: 2004-2008
Funding: To be determined - Federal funds with local match through FEMA grant programs (HMGP, PDM, and/or FMA)

6. Evaluate possible retrofits of mobile homes within the Irondale Trailer Park and advise on an improved site layout for the park to avoid damages to units along the creek banks.

Jurisdiction(s): Irondale
Responsibility: Building Official, City Engineer
Timeline: 2004
Funding: Existing budget

7. Install a siren system within the Irondale Trailer Park.

Jurisdiction(s): Irondale
Responsibility: Park owner
Timeline: 2004
Funding: City and owner funds, amount to be determined

8. Map previous flood events according to best available records, and, as new events occur, survey and document flood limits within GIS.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Jefferson County EMA and Department of Land Development, City Engineers, Flood Plain Managers
Timeline: 2004 and ongoing
Funding: County funds appropriated

9. Apply for and maintain membership in the CRS (Community Rating System) Program of the NFIP.

Jurisdiction(s): Mountain Brook and Irondale
Responsibility: Flood Plain Managers
Timeline: 2004-2005
Funding: Existing budgets

10. Extend the Homewood/Mountain Brook public greenway along Shades Creek through the cities of Birmingham and Irondale.

Jurisdiction(s): Birmingham and Irondale
Responsibility: Flood Plain Managers
Timeline: 2005-2008
Funding: ADECA Outdoor Recreation Grant, ALDOT Transportation Enhancement Funds, Local Funds

Ongoing Mitigation Actions

1. Adopt and promote the “Guidelines for the Protection and Enhancement of Natural Resources” presented in this plan.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Mayors and Councils
Timeline: Ongoing
Funding: Existing budgets

2. Establish a long-range program for the protection and mitigation of properties from flood damages. Amend local comprehensive plans to address the vulnerability of designated flood hazard areas and encourage open space planning to create amenities for recreation and conservation of fragile resources. Local plans should include an assessment of the vulnerability and environmental suitability of lands for future development.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Mayors and Councils, Planning Commissions, local planning departments, Regional Planning Commission
Timeline: Ongoing
Funding: Existing budgets

3. Establish a mutual sharing agreement for GIS resources among Jefferson County, the City of Birmingham, the Storm Water Management Authority, and the Regional Planning Commission. Develop GIS as a shared resource for ongoing mitigation planning, including the application of FEMA’s new HAZUS-MH application for assessing flood hazard risks within GIS.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Mayors and Councils, Planning Commissions, local planning departments, Regional Planning Commission, SWMA, Jefferson County Information Technology, City of Birmingham GIS Division, Jefferson County EMA
Timeline: Ongoing
Funding: Existing budgets

4. Provide training to local flood plain managers through programs offered through the State Flood Plain Manager and FEMA’s training center in Emmitsburg, Maryland. Additional support is available through membership by the local flood plain managers in the Association of State Flood Plain Managers. Maintain a library of technical assistance and guidance materials to support the local flood plain manager.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Flood Plain Managers, State Flood Plain Manager, FEMA
Timeline: Ongoing
Funding: Existing budgets

5. Strictly enforce dumping regulations and support volunteer clean up campaigns.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Mayors and Councils, Public Works Department
Timeline: Ongoing
Funding: Existing budgets

6. Effectively administer and enforce erosion and sedimentation control regulations.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: SWMA, City Engineers, Building Officials
Timeline: Ongoing
Funding: Existing budgets

7. Continue to improve CRS ratings.

Jurisdiction(s): Birmingham, Homewood
Responsibility: Flood Plain Managers/ CRS Coordinators
Timeline: Ongoing
Funding: Existing budgets

8. CRS communities should work cooperatively in all aspects of their programs, especially joining together to conduct public outreach programs.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: Flood Plain Managers/ CRS Coordinators
Timeline: Ongoing
Funding: Existing budgets

9. Establish a program to either freely distribute weather radios or encourage their use among flood plain occupants and property owners.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, and Irondale
Responsibility: Jefferson County EMA, Mayors and Councils, Flood Plain Managers
Timeline: Ongoing
Funding: Existing budgets

10. Keep the public informed of flood zone boundaries and promote the purchase of insurance coverage by property owners and renters for flood damages in these high-risk areas.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: Flood Plain Managers
Timeline: Ongoing
Funding: Existing budgets

11. Local libraries should serve as repositories for information on flood hazards and technical assistance materials available through FEMA to assist property owners on alternative property protection measures.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: Flood Plain Managers
Timeline: Ongoing

Funding: Existing budgets

12. Distribute FEMA handouts at local building inspection offices.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: Building Officials, Flood Plain Managers
Timeline: Ongoing
Funding: Existing budgets

13. Encourage local school systems to integrate flood hazard information into its environmental education programs.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: School Boards, Flood Plain Managers
Timeline: Ongoing
Funding: Existing budgets

14. Encourage real estate agents to disclose floodplain location of a property before it is listed.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: Mayors and Councils, Flood Plain Managers
Timeline: Ongoing
Funding: Existing budgets

15. Continue to support the environmental enhancement efforts of the Cahaba River Society and the Friends of Shades Creek.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: Mayors and Councils
Timeline: Ongoing
Funding: Existing budgets

16. Continue to support the open space conservation efforts of the Cahaba-Warrior Land Trust.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: Mayors and Councils
Timeline: Ongoing
Funding: Existing budgets

Additional Mitigation Actions

1. Evaluate possible retrofits to homes subject to Griffin Creek flooding and offer technical assistance to homeowners.

Jurisdiction(s): Homewood
Responsibility: Mayors and Councils, Building Official, City Engineer
Timeline: Ongoing
Funding: Existing budget

2. Support “Adopt a Stream” programs.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: Mayors and Councils

Timeline: Ongoing
Funding: Existing budgets

3. Post signs to remind individuals of criminal consequences of littering and dumping.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: Public Works Departments
Timeline: Ongoing
Funding: Existing budgets

4. Adopt zoning requirements for mandatory open space within planned residential developments and maximum impervious surface standards for non-residential developments.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: Mayors and Councils, Planning Commissions
Timeline: Ongoing
Funding: Existing budgets

5. Adopt zoning standards for parking lot landscaping to encourage infiltration of rainwater where there are large expanses of impervious surfaces.

Jurisdiction(s): Birmingham, Homewood, Mountain Brook, Irondale
Responsibility: Mayors and Councils, Planning Commissions
Timeline: Ongoing
Funding: Existing budgets

