

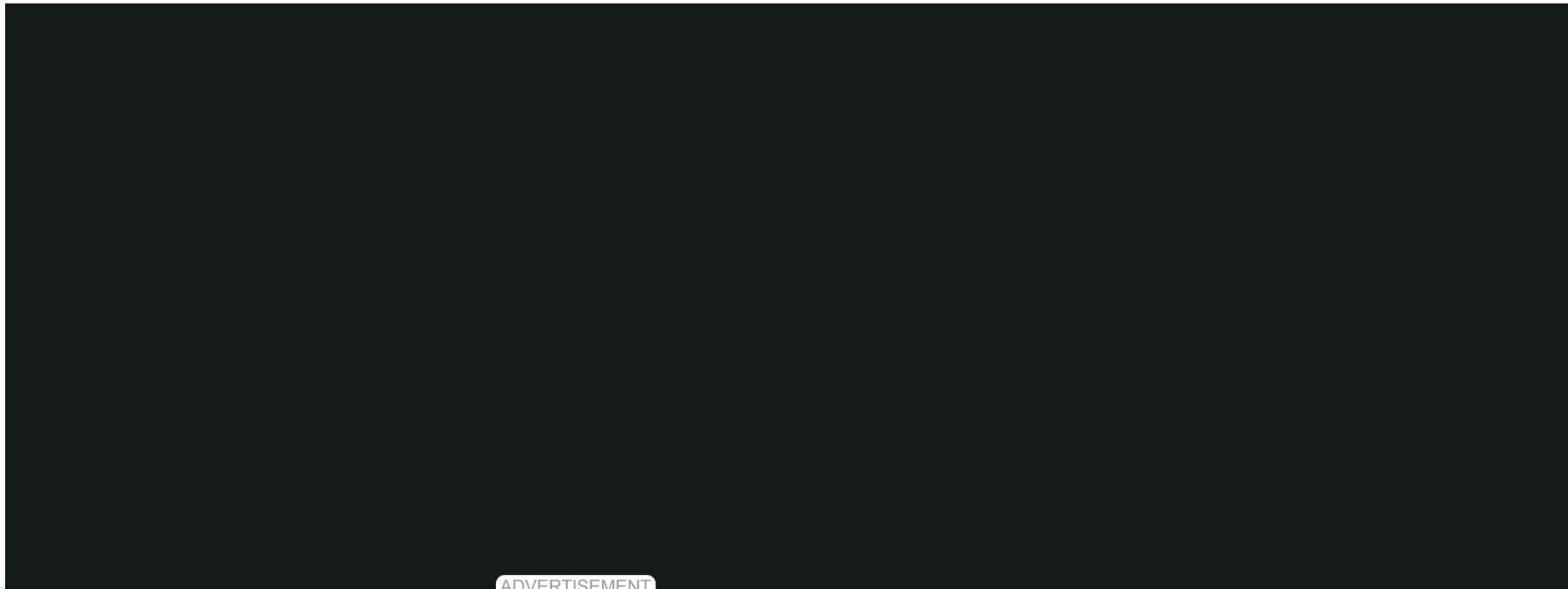
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From the archives: After deadly flash flood, concern about development's impact on Ellicott City



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Howard County Executive Allan Kittleman talks about the progress they have made on Main Street in Ellicott City. (Baltimore Sun video)

By **Luke Broadwater, Scott Dance and Pamela Wood** · [Contact Reporters](#)

The Baltimore Sun

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Ellicott City flooding used to come from below — a rising Patapsco River at the bottom of historic Main Street would swell during a hurricane or tropical storm.

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Now floods come from above.

As development has increased on the hilly terrain overlooking the 244-year-old river town, the amount of rain rushing off rooftops and parking lots has also grown — making Ellicott City's low-lying Main Street more vulnerable to intense rains that meteorologists say are hitting the region more frequently.

Twice in five years, Ellicott City has flooded when two small streams that eventually feed into the Patapsco overflowed. Water rushing down Main Street crushed stone walls and destroyed roads, cars, homes and businesses. In the latest calamity two weeks ago, two people died.

Developers have submitted more than 100 proposals to build homes, shopping centers and other buildings in less than 3 square miles around Ellicott City since 2001, and most applications have been approved. Dozens of those developments are near the Tiber and Hudson streams that overflowed.

Howard County officials insist that development by itself cannot be blamed for a dramatic act of nature, but they and residents believe the devastating floods in July and another in 2011 send a clear message: Heavy rains will come again, and something must change.

"We know these freak storms are on our calendar in the future," said Tom Coale, an Ellicott City attorney who has advocated for improved stormwater management in the area for years. "We should be planning and building in response to that reality. There really isn't an adequate excuse for not doing it."

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Ellicott City development

For decades, Ellicott City residents have raised concerns about more stormwater runoff from development.

In the late 1980s, former Judge James B. Dudley told The Baltimore Sun that runoff from developments on once-wooded hillsides around Ellicott City was causing shallow streams to rage during storms.

"All of a sudden, we have this great amount of development, and there are tremendous areas that are impervious to water — streets, roofs and sidewalks — instead of woods and fields," Dudley

proposals since 2001 said. "It has resulted in a tremendous cumulative effect of casting all the water into a little tributary."

During last month's flash flood, the Tiber and Hudson tributaries — one of which flows under Main Street before converging with the other — overflowed, rushing onto the road and putting the downtown shopping, dining and residential district in the path of a raging river.

Runoff swelled over stream banks as far as a mile away and came rushing toward the Patapsco.

In a survey of the Hudson branch, the U.S. Geological Survey found evidence that it rose as much as 8 feet in a concrete bed at Rogers Avenue and Frederick Road, where the stream is normally a trickle.

Jon Dillow, a hydrologist for the agency, said that the Tiber branch overflowed its natural channel, with water spilling over by a few feet on either side in the woods just up the hill from Main Street.

The two streams converge just south of Main Street, behind the Sweet Cascades chocolate shop.

"You had two big flows coming into one channel," Dillow said.

Development has added a significant amount of "impervious surfaces" that cause water to flow downstream instead of being absorbed into soil.

Ten years ago, the Chesapeake Bay Trust determined that about 28 percent of the Tiber-Hudson "sub-watershed," about 3 square miles, was covered by these hard surfaces — and predicted that proportion would reach nearly 32 percent as builders continued construction in the area.

And build they have.

Among developments in the watershed are the Woods of Tiber Branch, 70 homes on quarter-acre lots built from 2005 to 2011; Veterans Elementary School, which opened in 2007 with 188,000 square feet of impervious surface; and a redevelopment of the county's Roger Carter Community Center in 2013 with a 46,000-square-foot recreation center.

During the flash flood, a water retention pond near the Hudson tributary at Burgess Mill Station — 198 new apartments — burst under intense pressure.

The developers of Woods of Tiber Branch and Burgess Mill Station couldn't be reached to comment.

Even properties up to three miles from the heart of Main Street feed into smaller tributaries that make their way to the historic district.

"When you think you're going higher and higher up the hill and insisting on being allowed to develop on steep slopes, to squeeze in just a couple more units, you really have to question the wisdom of what we're doing," said Susan Garber, a Savage resident who writes about county issues in a blog called "How Come?"

"You just have to scratch your head and say, 'What are they thinking?'" she said.

County officials say older developments built decades ago have more significant problems with runoff. In fact, some newer redevelopments improve antiquated stormwater management systems because any project built after 1985 is subject to runoff restrictions.

"The difficulty this community has is it's at the bottom of a funnel," said Jim Caldwell, who is in charge of community sustainability in Howard County. "The watershed is very steep. It's all heading down to the Patapsco River."

Caldwell said he doesn't believe much could have been done to prevent the fatal flash flood that recently devastated Ellicott City. Six and a half inches of rain dumped on the area in about two hours.



(Kim Hairston, Amy Davis)

He said even if that amount of rain had fallen in the mostly wooded Ellicott City of the 1880s, Main Street still would have flooded.

But he does think the July flood will force the county to confront the challenge of mitigating future rain storms.

"What we're seeing is more shock storms, and it's not the norm for this area. Normally, we see one inch in 24 hours," Caldwell said. "Now we're seeing three inches in a normal rain storm. When you get these bursts like what happened here, it's a new phenomenon. We're dealing with weather change."

"Knowing all this, how do you take an old community like this and protect it?" he asked. "That's the big challenge."

Some of Ellicott City's most destructive floods — the Great Flood of 1868 that killed 43 people and Tropical Storm Agnes in 1972 — caused extensive damage after the Patapsco swelled from heavy rains.

Before 2011, it had been nearly 60 years since runoff from the Tiber stream produced a flash flood. But in the past five years, destructive flash floods have hit twice: Tropical Storm Lee in 2011 and last month's sudden thunderstorm.

Fred Tutman, the Patuxent Riverkeeper, said it's "myopic" to believe development hasn't played a role in flooding.

"What they suggest is this is an act of God or a fluke and therefore nobody can be blamed. ... The stormwater problems in Ellicott City are the result of storms, that's true, but the problem is there is no recovery area to absorb intensive flows," Tutman said. "That's something the county really needs to step up for and plan for."

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County Executive Allan Kittleman said his administration is taking that issue seriously. When Kittleman took office following the 2014 election, he identified flooding in historic Main Street as a "major problem."

"There's nothing we can do to stop six inches of rain," Kittleman said. "But we can have an impact on other storms."

His first budget — for the 2016 fiscal year — included \$2.5 million to start knocking off \$18 million worth of flood control projects in the Main Street area. He followed up with \$2.8 million for fiscal 2017, the current budget year that began July 1.

Kittleman also created the Historic Ellicott City Flood Workgroup to recommend next steps for flood prevention and mitigation.

The executive order creating the group noted that the floods are the result of "tropical systems, nor'easters, and flash flooding from sudden, short-lived rainstorms."

Debbie Slack Katz, chairwoman of the work group, said people are more aware than ever of the flood risks, which she hopes will help spur the group's efforts.

"I think the county has looked at it piecemeal before," Slack Katz said. "We never really dealt with some of the infrastructure problems and never looked at it in a holistic approach."

Former County Executive Ken Ulman said he's not sure any amount of spending could have prevented last month's flood.

He said his administration took pains to ensure that development wouldn't adversely affect the historic town. The redevelopment of Burgess Mill, for instance, introduced stormwater remediation where little had been done, Ulman said. And he said the county offered to buy several properties that officials believed were in the path of potential flash floods.

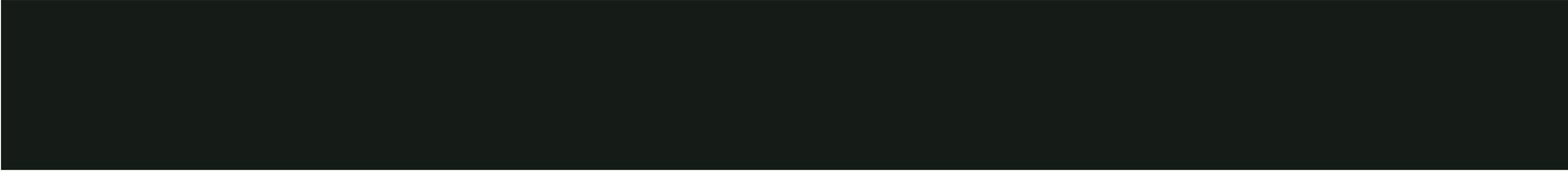
"This is a significant watershed," Ulman said. "In the Tiber-Hudson area, water is coming from everywhere."

Ulman said county officials considered expensive remedies, such as multimillion-dollar stormwater storage drains at the top of the watershed, but determined that the cost wasn't worth the benefit.

"It was a lot of money, and it was only going to improve things by something like 5 percent," Ulman recalled. "They weren't going to fix the problem, and they cost as much as a new school."

Ulman said with more intense weather becoming more common, county officials have to be thoughtful about how to rebuild. Officials should involve residents in the planning and figure out what level of development, risks and costs the community wants.





"We ought to rebuild historic Ellicott City," he said. "The question is: How do we rebuild in a smarter and more effective way?"

Katie Maloney, chief lobbyist for the Fulton-based Maryland Building Industry Association, said limiting development in Ellicott City isn't necessary. She argues that redeveloping older properties is one of the solutions to the runoff problem.

"Much of the problem we have is because of all the properties built before the stormwater regulations," she said. "All that water just runs off. There are no storm drains, no ponds; there is nothing to stop that water from flowing into the street. In Ellicott City, it's a very old area."

Even new regulations wouldn't stop a big, sudden storm, she said.

"The hope in this is redevelopment," she said. "We have to do redevelopment and put stormwater controls in. People hate change, but this is really important work."

The work group's recommendations for next steps include improving existing stormwater controls, such as increasing the size of underground pipes and stormwater holding ponds; clearing debris that builds up in the Tiber and Hudson tributaries, and adding alarms that would sound when flows increase in those streams.

The group also called for reducing the amount of impervious surfaces, by turning developed places into natural areas, and for stronger efforts to ensure that new developments don't harm the environment.

Kittleman said Friday that the county will hire a project manager and consultant to lead an intensive rebuilding process, including community meetings, to determine how to remake the town. Many stormwater improvements may now be expedited, Kittleman said.

"Let's not limit ourselves. Let's think big," Kittleman said. "Let's think about what kind of community we want Ellicott City to become."

Caldwell said some county officials are considering radical steps, including requiring developments to build for extreme flooding and restricting cars from Main Street.

"If you look at the damage that was done, a lot of the damage was done by cars," Caldwell said. "You've got a 3,000-pound wrecking ball moving down the street."

Michael Scott, a geography professor at Salisbury University who coauthored a 2010 county report on flood risks, said property owners and county officials should know severe flooding is bound to happen again.

"Don't think of this as a 1 in 1,000 year thing. It is a dangerous way to think. It's a rare event, but it's not like it's not going to happen again," he said.

Howard County, as well as the other nine largest Maryland jurisdictions, must reduce impervious surfaces by 20 percent as part of a federal mandate and Chesapeake Bay cleanup efforts.

Countywide, that amounts to 2,044 acres. Through the end of 2015, the county had restored 157 acres, leaving 1,887 acres to complete by the end of 2019 when the county's federal stormwater permit expires.

Alan Schneider, a Clarksville resident who unsuccessfully ran for Howard County Council in 2014, said he doesn't think county officials have backed up their promises to address flooding risks.

In the days after the July flood, Schneider wrote a letter on behalf of a Howard County chapter of the Sierra Club to Maryland Environment Secretary Ben Grumbles, urging him to require the county to set more money aside for projects that reduce stormwater runoff.

"Unfortunately, recommended stormwater protections have been delayed, postponed, or offset by fiscal, political or other promotions," he wrote.

As Kittleman's flooding work group considers how to move forward, there has been disagreement about whether limiting development should be part of the solution.

"It is a touchy subject," said Lori Lilly, a watershed management and planning consultant who serves on the work group. "Nobody wants to hear that we don't want any new development in the watershed."

Instead of restricting development, Lilly and others support incentives to encourage landowners to preserve forested hillsides. "You can't replace woods with a stormwater management practice and it be the same thing," she said.

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The panel's report in December reflected the group's debate over causes and solutions. In it, members state that "climate change could make future flooding more frequent and larger in scope."

But the report also concludes: "Development in the watershed has contributed to the flooding danger, and this needs to be considered if proposals for new development occur."

Baltimore Sun reporter Yvonne Wenger contributed to this article.

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