

Flooding and Stormwater Management
Community Meeting of DeKalb County Residents

August 9, 2016

Briarcliff United Methodist Church

One Example Among Many Fragile Watersheds in Our Area : Echo Lake

1938: State built watershed dams in 1800 acre watershed to control flood/stormwater and erosion

Photo 1: Dams created 5 small lakes, including “Echo Lake”

Echo Lake is largest lake and situated at low point of watershed

Photo 2: Its holding capacity is critical part of watershed’s stormwater and flood control program.

1969: State safety dam program breached dams of 2 upstream lakes

Photo 3: This greatly increased sedimentation into Echo Lake from upstream lakes and development

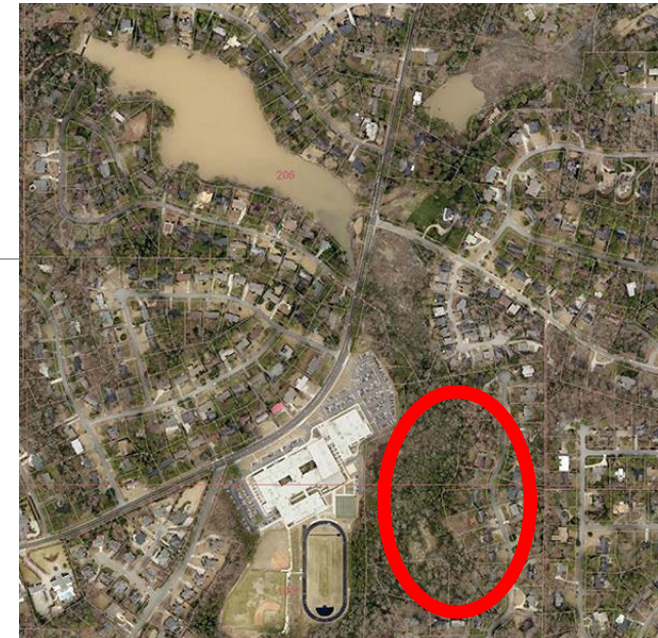
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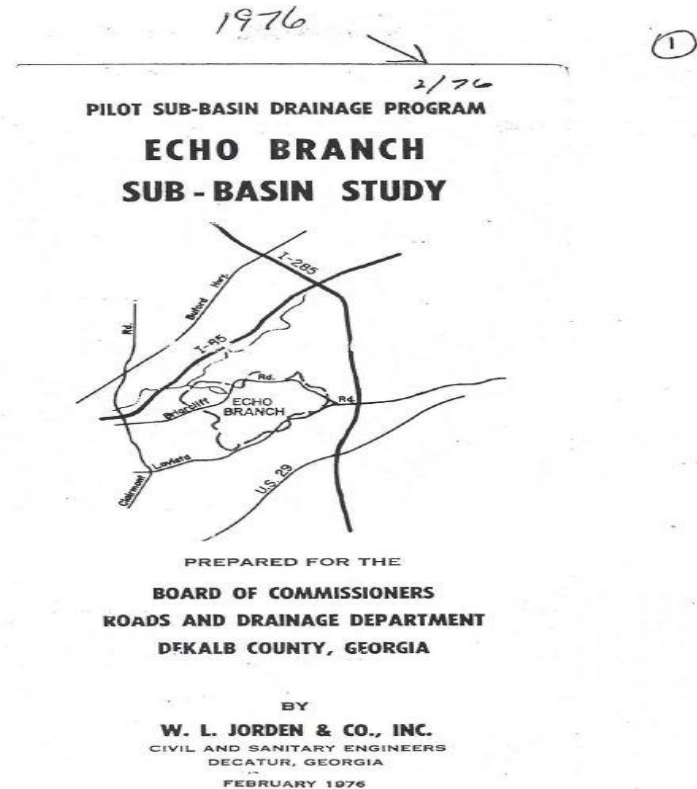
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Sedimentation is a Long-standing, Persistent Problem



1976 Report on Echo Lake Sub-basin stressed sedimentation and stormwater hazards to Echo Lake

For decades, Echo Lake HOA has regularly dredged lake at huge cost its member (> \$250,000) to maintain this critical stormwater control measure for entire watershed.

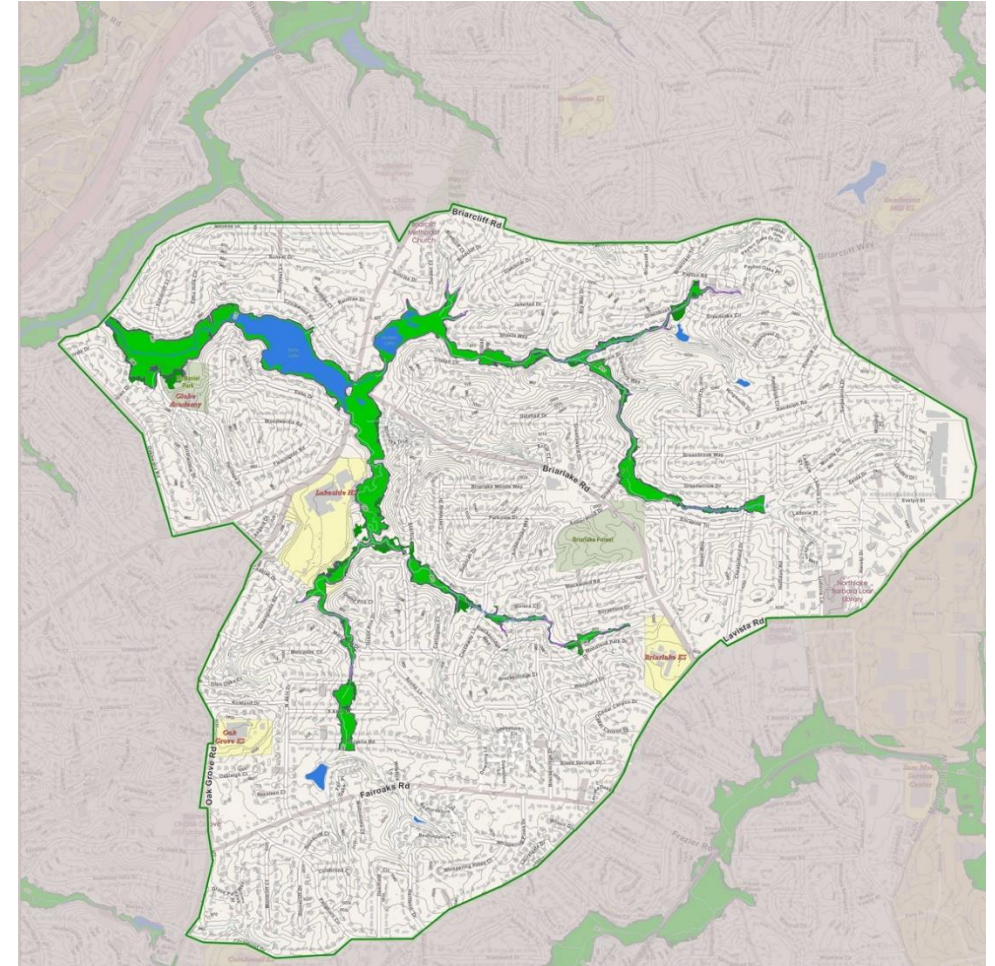
Degradation of Echo Lake over last 50 years

1990: State and County replaced Echo Lake earthen dam to reduce flooding of lakeside and downstream homes; cost \$500,000 of taxpayer dollars; county now owns dam



ECHO LAKE remains in high risk flood area

It is watershed's "last-resort" retention basin



Current Status of Echo Lake Watershed

Echo Lake remains lowest point of 1800 acre watershed

Population and number of homes of watershed has roughly doubled since 1960s

- Dramatic increase in demand on stormwater infrastructure but few upgrades
- Dramatic increase in impervious surfaces (roofs, driveways, street)
- Thousands of trees and vegetation that absorb stormwater have been removed

Stormwater infrastructure is outdated and eroding. Drains on Briarcliff have collapsed or clogged

Greeley Lake (a swamp filled with upstream sediment) overflows onto Briarcliff during heavy rains

Revised flood maps now classify areas as High Risk Flood Area

More residents are now in high risk flood areas → more required costly flood insurance



Results of Upstream Sedimentation and Weak Stormwater Infrastructure

DEMISE OF LAKES

Greely Lake and Doreen Lake have filled in with sediment and are now swamps that

- are plagued by mosquitos
- may harm resale potential and property values



REPEATED FLOODING
on Briarcliff Road (~1 block east
of Lakeside High School and
near 2 entrances to I-85)

Placeholder slide of Lakeside student with serious injury due to winter flooding on Briarcliff as he tried to pass intersection to get to school. His leg was lacerated by a heavy metal cover that was pushed out of a main pipe by hydrostatic pressure to water surface.

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Echo Lake Watershed is Classified as High Risk Flood Area

- Net increase in flood hazard areas and floodways of >4 square miles in unincorporated DeKalb County (that includes our watersheds) according to recent state government report includes 13 high hazard dams that have potential to cause loss of life

ADD RECENT FLOOD MAP HERE



What are Potential Threats in High Risk Flood Areas?

- Injuries to humans and animals from fast flowing debris
- Exposure to biohazards and chemical pollutants in flood waters
- Dam breach or damage
- Emergency routes and culverts overtopping (e.g., Briarcliff Rd)
- Emergency vehicles, school buses, and other vehicles stranded
- Electrical damage and malfunction
- Property loss (homes, businesses, vehicles)
- Increased requirements for flood insurance
- Increased claims on flood insurance
- Loss of property for desirable development



What Can You Do to Reduce Flood-related Risks?

PREVENTION

- Learn about flood risks near your neighborhood, schools, local businesses, and travel routes
- Pay attention to flash flood warnings on radio, TV and text messages and avoid flood-prone areas
- If home or business in flood-prone area, plan escape route to higher ground
- Obtain flood insurance (special supplement to usual homeowner's insurance)
- Advocate sound land use planning (floodplain regulations, open space preservation, zoning regulations)



ACTION

- Call public safety officials if roads or emergency evacuation routes are impassable
- Keep children away from flood waters, ditches, culverts and storm drains
- Evacuate threatened area and building if advised by police or fire department
- Don't attempt to cross flood stream on foot or by car
- If car stalls in high water, abandon immediately and seek higher ground
- Retrofit home to protect home or business from damage (e.g., barriers, elevation, drainage)

County Actions since March 2016 to Mitigate Stormwater Problems.

- In 3/16, Commissioner Rader met with concerned citizens and county and school officials and recommended that Depts of Planning and Roads and Drainage and Lakeside HS engineers
 - assess risks of hazardous flooding and sedimentation in Echo Lake watershed
 - propose and implement mitigation measures
- DeKalb County School System found that most stormwater drainage system at Lakeside High School was functioning per plan except for eroding waterflow output site that needed repair.
- DeKalb Roads and Drainage Department discovered collapsed corrugated storm drain pipe under bridge at Briarcliff/Briarlake intersection and is planning to complete repair.
- DeKalb engineer drafted scope for Echo Lake Basin Study. Commissioner Rader is reviewing two engineering firm bids. If funded, this project could provide more substantial, lasting stormwater infrastructure improvements in watershed.

What Can You Do to Improve Stormwater Management?

- Clear debris that blocks storm drains near your home
- Alert DeKalb Roads & Drainage Department of drain & culvert problems on public roads and property
- Seek support from DeKalb's Citizen Drainage Program
 - Helps owners manage drainage problems on private property, ditches, and creeks where County has no responsibility for stormwater management
 - Owner may request drain pipes and/or rubble rock up to \$2,500 value (~50 tons)
 - Upon approval by County inspectors, County provides materials
 - Owner is responsible for installation and follow-up maintenance

BEFORE



AFTER



Flood and Stormwater Resources: Useful Fact Sheets and Advice

- DeKalb County
- Georgia Environmental Protection Division
- Georgia Soil and Water Commission
- Chattahoochee RiverKeeper www.chattahoochee.org