



Town of Chapel Hill
Stormwater Management Program
Lower Booker Creek Subwatershed Study

Meeting Summary
Public Meeting 1, Session 2
January 7, 2016, 5:30 PM

Town of Chapel Hill and Consultant Attendees

Sue Burke, Stormwater Engineer, Town of Chapel Hill	David Kiker, WK Dickson
Christine Hill, Stormwater GIS	Kevin Nunnery, Biohabitats
Dave Milkereit, Stormwater Education	Ted Brown, Biohabitats
Tom Murray, Project Manager, WK Dickson	Inga Kennedy, PEQ
Scott Whalen, WK Dickson	Marla Hill, PEQ

1. Welcome and Purpose of Meeting

Residents of the Lower Booker Creek subwatershed were invited to attend a public meeting on January 7, 2016 at the Chapel Hill public library, to learn more about the Lower Booker Creek subwatershed study and to give input on stormwater issues and challenges they have experienced, including the significant flooding events in December 2015.

Two meetings were held on the morning and afternoon of the 7th to accommodate residents' work schedules. Each meeting began with a 15-minute open house during which attendees were invited to view maps of the Lower Booker Creek subwatershed maps to mark the location of their property, identify areas of flooding and other stormwater issues, and speak with staff and consultants about their problems and observations. This meeting is a summary of the afternoon session and 36 persons attended.

2. Overview of PowerPoint Presentation

Tom Murray kicked off the presentation portion of the meeting and spoke on the following topics:

- Setup and organization of the current public meeting being held.
- Scope of the project.
- Goals of the project.
- Progress to date with the project.

Inga Kennedy next informed the group of the different ways that the project team will be reaching out to the public for their feedback and input. She encouraged ongoing participation and the sharing

of information with interested neighbors. The following approaches are being used to collect this information:

- Online website specifically set up for this project that includes links to an online survey
- Survey (online and hard copy).
- Public meetings.
- Outreach to local groups and events.
- Stakeholder interviews.
- Email and direct mail.

Tom Murray then covered the following topics:

- Existing conditions analysis.
- Conditions assessment of collected inventory data.
- Strategies for improving water quality and reducing flooding.
- Deliverables: Capital project list, updated GIS information, public outreach feedback, and engineers report.
- Next steps moving forward.

A copy of this presentation can be found on the project website.

3. Questions/Comments by Participants

- **Question:** How far back do records go for water quantity (rainfall, flooding)?
Response: Age of rainfall gages vary; some have been in place 30 years, some were installed in the 1990s. We will take information as far back as you have it to correlate with your information on water height. The more data that goes into the model, the more accurate the predictions will be.
- **Question:** How did you identify streams with problems? How frequently do you check to see what streams need to be improved? Do you depend on homeowners to tell you? **Response:** No, we have walked every perennial stream reach within the subwatershed. If warranted, we will take a second look at problem areas based on input we receive. (Tom Murray)
- **Question:** As you study the watershed, how much attention are you going to pay to detention structures? **Response:** Retention is one important strategy. Developed watersheds can be too large for retention to address the problem, but it is a strategy that we will evaluate.
- **Question:** How much attention is paid to detention with your modeling? We have seen a lot of erosion and swift flows of water coming through the area. What could we do and how much would it cost to fix this? What part of the overall plan addresses retention and how much would homeowners need to be involved? **Response:** The EPA SWMM models will allow the user to account for detention of stormwater runoff behind undersized culverts and ponds/lakes of significant size. There are some parameters in the model that will allow for some detention of water in natural depressional areas located throughout the watershed. But the model will not be set up to account for the effects of detention at individual properties (Tom Murray)

- **Question:** How important is individual participation? In our community, for example, we have cut garbage output by half with recycling. What is the impact of individual household contributions? **Response:** Household participation is very important and has a significant impact, especially on a neighborhood basis.
- **Question:** It is known that it is better to infiltrate stormwater runoff in the upper limits of a watershed. There are properties with 15” deep puddles in their front yard. The Town has provided assistance with installing rain barrels in the past. Will this practice be encouraged as part of the Masterplan? **Response:** Yes, it is better for flooding and water quality to infiltrate at the source (Tom Murray) However, it is difficult for the Town to assist with residential projects like rain barrels (Sue Burke). The project team would like to know who is interested in participating in a program like installing rain barrels through a subdivision (Scott Whalen).
- **Question:** Does the Town offer any benefits for individual homeowner contribution? For example, if I spend a few hundred dollars on rain barrels or small scale retention on my property, can the Town offer tax incentives? **Response:** Individual efforts to increase stormwater infiltration definitely help, but single-family homes probably can’t do enough to warrant the expense of establishing and managing a tax incentive program. It is something we are evaluating. (Sue Burke) We are looking at neighborhood screening tools and opportunities to go into older neighborhoods and retrofit. If you have any interest in participating, please do let us know. (Scott Whalen)
- **Comment:** With the clay soils found in the watershed of Lower Booker Creek, runoff rates are high. I don’t know if adding topsoil helps in areas with clay, but I have seen increased absorption since adding soil on my property, and it absorbs quite a bit of water. It seems a much better solution than rocks. **Response:** Amending soil can definitely have benefits. (Tom Murray)
- **Question:** With respect to stormwater credits, I have installed a cistern and six rain barrels. The cistern seems to be very effective. Can you and are you ranking streambeds? For example, Bolin Creek. Can you prioritize drainage basins overall? Look at solutions other than culverts? **Response:** Yes, part of the stream assessment includes looking at multiple solutions.
- **Question:** Did WK Dickson account for vegetative cover in ranking conditions of the stream stability and overall condition? **Response:** Yes. The vegetative cover in the riparian corridor is one of the factors included in assessing stream stability. (Tom Murray)
- **Question:** Who is responsible for maintaining ditches? Silt builds up and clogs them, causing flooding. **Response:** The Town is responsible for publically owned ditches located in the Town’s right-of-way. The private property owner is responsible for those ditches located on private property (Tom Murray)
- **Question:** When did the team walk the streams? **Response:** October, November and December (Tom Murray)
- **Question:** After this last storm, we lost multiple trees and more stream banks eroded. The creeks need to be walked on a regular basis for condition assessment to be valid. **Response:** 15-501 is a pinch point with regards to upstream flooding. This opening at this crossing is vulnerable to debris blockage. This channel needs to be cleaned out. Please let us know of any

areas where conditions have changed significantly. They may need to be reassessed, and the prioritization could be affected. (Tom Murray)

- **Question:** How can homeowners get information on problem areas to you? **Response:** Please visit the project website to send us any information you want us to have.
- **Comment:** Resident was concerned that downstream areas below Booker Creek and Bolin Creek are in Durham County and any improvements made in Chapel Hill will adversely impact those neighbors downstream.
- **Comment:** Resident was concerned that redevelopment of areas vulnerable to flooding will only make flooding worse. Also concerned that sediment loads in the stream are high and future development will only make this worse as well. **Response:** We will be looking at future land use conditions as part of the evaluation. The project team will look at the Town's ordinances and if warranted make recommendations to these ordinances as a flood mitigation strategy with regards to future development. (Tom Murray)
- **Comment:** If we live adjacent to the LBC subwatershed and have problems, will you look at it? **Response:** We want to know about these problems for future watershed studies, but we are not tasked to work outside of the LBC subwatershed. (Tom Murray)

4. Feedback at Maps with Consultants

- Donna Rubinoff asked if we would be educating the public with how to detain water at the local level prior to entering the stormwater collection system. It was suggested that this could be part of the Masterplan recommendations. She recommended to reach out to Tom Whisnant who is the HOA property manager in the Kirkwood Subdivision. They have had some successes with constructing small LID type stormwater measures in this subdivision. Tom was at the meeting and was asked to provide photos of the measures that he has had the most success with. Tom said he would gladly provide this.
- Daniel Dean - Although out of the watershed and study area, a highwater mark came in from the December 29, 2015 flood event for the apartments at 205 S Estes Drive. Water was within 6" of the apartments along Bolin Creek.

5. Feedback from Comment Forms

- Guidelines for long term inspection/maintenance of stormwater retention ponds. Legal responsibilities.
- Please contact Mary Ellen and Kim Brechele on Kensington Drive. If they are not able to attend today's session, can you arrange a phone conference or meeting. These folks live on Booker Creek Trails and house is on edge of RCDNR Eastwood Lake. This area is adjacent to Eastwood Lake impoundment. The neighborhood association believes the bridge does not have enough clearance for floodwaters and will in time, cause more flooding before waters reach impoundment.
- Complaints about Ephesus Fordham Reinvestment area are misrepresenting an existing asphalted commercial area (Ram's Plaza, Eastgate and University Place) which will be improved with new

construction adding stormwater retention features and the stormwater Town bond which will be implemented.

LOWER BOOKER CREEK STUDY AND THE HIGHLY IMPERVIOUS EPHEBUS-FORDHAM FLOODPLAIN

Stakeholder feedback to consultant W. K Dickson

January 7, 2016

At the first stakeholder presentation of the Lower Booker Creek Study, I raised the issue that the existing 63% impervious surfaces within the 200 Ac rezoning of the Ephesus-Fordham district to a significantly higher density is a visceral problem within this well-known Lower Booker Creek floodplain. It seems to me that to increase density to attract new investment in re-development of this flood-prone area without first addressing undeniably important questions and forming solutions as to the considerable runoff already generated here is suspect, with significant possibility for great failure. Is it not reasonable to expect re-developers of this existing commercial district to bear responsibility to reduce their significant impact before approving these high density re-developments?

Chapel Hill's Comprehensive 2020 Plan set goals for sustainability, connectivity, energy-efficiency and environmental considerations among others. I'm certain it was hoped that new buildings in Ephesus-Fordham would introduce ideas like vegetated roofs to provide a positive reduction in that area's substantial impervious surface. Yet none of the 2020 goals have been addressed in E-F approvals to date, and the high percentage of existing impervious surface is an apparently acceptable condition.

I further speculated that the manager's authorization of your study was done for political, non-scientific reasons like re-directing focus away from E-F impervious surfaces toward individual homeowners in the lower Booker Creek watershed. We already know that pollutants run off impervious surfaces into stream beds, and that Booker Creek flows at a relative standstill absent precipitation, but at swift, erosive flows after periods of rainfall. No doubt your study will indicate that a significant amount of runoff originates from single family homes which are then routed into our street gutters (because builders and owners wish to avoid foundation damage) as in fact has been the mantra of town Stormwater Engineer Sue Burke, P.E. While it may be an issue, these homeowners are simply trying to protect their Chapel Hill investment thanks to extensive, highly expansive Triassic clays and high ground moisture. But what about these erosive, polluted flows from existing E-F? They are my dominant concern when it comes to the approved re-development of the Ephesus-Fordham District, and as this happens to be by far the greatest contributor to impervious runoff in the South Booker Creek Watershed.

I also recall from the first stakeholder meeting that your firm will conduct an inventory of perhaps 1,500 Booker Creek drainage structures and features, and being puzzled by this, inasmuch as the Town of Chapel Hill has for some considerable time required as-built records for new construction, and have likewise employed surveyors to assess these “inventory” items. It seems the idea of this inventory is somewhat redundant, unless it is to determine the degradation of the inventory (which would likely be attributable to the high amount of impervious surface located in a floodplain).

A few weeks after that first stakeholder presentation, I bumped into Mayor Hemminger and two council members who had just left a citizen’s group discussion at the town library. I mentioned the inventory, and that if doing an inventory as part of your study is appropriate, then why isn’t an inventory of impervious surfaces also a reasonable component to this inventory?

I was dismayed when the mayor told me that existing impervious surfaces in E-f is not a part of your study. Was she mis-informed, or has this significant issue indeed been shelved?

Whether or not the Town Manager made the E-F impervious problem a part of this study, you as professionally licensed engineers bear a responsibility to the public welfare to honestly assess existing problematic conditions of the Lower Booker Creek Watershed and make appropriate recommendations.

Dale Coker

A handwritten signature in black ink, appearing to read "Dale Coker", with a long horizontal flourish extending to the right.

Chapel Hill