

CITY OF RALEIGH
STORMWATER MANAGEMENT ADVISORY COMMISSION (SMAC)

Minutes

Raleigh Municipal Building · 222 W. Hargett Street · Conference Room 305 3:00pm · Wednesday, September 7, 2016

Commission Members Present: Ken Carper, Francine Durso, Vanessa Fleischmann, Matthew Starr, Marc Horstman, Kevin Yates, David Webb, Chris Bostic, and Evan Kane

Stormwater Staff Present: Blair Hinkle, Suzette Mitchell, Scott Bryant, Veronica High, David Kiker, Carrie Mitchell, Sheila Thomas-Ambat, Wenju Zhang, Kevin Boyer, Ben Brown, and Lauren Witherspoon

Members Absent: Marion Deerhake

Guest: Everett Gutton, Ruth Ann Struble, R. Jay Jayakrishnan, and Elizabeth Bryd

Meeting called to order: 3:02 by Marc Horstman (*chair*)

Motions (Absentees and Minutes)

- Absence: Blair Hinkle suggested holding off on any excused absences until the end of the meeting. The Commission agreed.
- August Meeting Minutes: Mr. Webb made a motion to approve and Mr. Starr seconded. The motion was passed unanimously.

The following items were discussed with action taken as shown.

1. **Stormwater Staff Report**

1.1 Miscellaneous Items of Note –

- PWX/APWA National Conference (*Minneapolis*) – *attended by Blair Hinkle and Scott Bryant. Scott presented the Stormwater Integrated Prioritization Model.*
- International LID Conference (*Maine*) – *attended by Kevin Boyer. Jonathan Smith and Kevin presented on the code changes for Raleigh implementation of LID work plan.*
- APWA-NC Stormwater conference (*Charlotte*) *September 12 & 13 – Scott Bryant and Marc Horstman presenting the Integration Prioritization Model, Chris Stanley presenting on Drainage Assistance changes and James Pflaum (formerly an Inspector with Durham), currently a Stormwater Inspector, will present on Illicit Discharge Detection Elimination.*

Mr. Horstman congratulated Scott Bryant on his presentation.

2. **Capital Project Update** (*David Kiker and Sheila Thomas-Ambat,*)

Ms. Durso brought to the Commission attention, and since there's no vote and in case there should be a conflict of interest, that Simmons Branch and White Oak Lake projects are in her neighborhood. The neighbors and she have been heavily involved in the project almost 30 years, starting back in 1988 where they met with the City to make them aware of these issues. This has been ongoing and she's delighted the project is moving forward.

Project: *Simmons Branch Drainage Improvement, Phase II*

David Kiker (*Project Engineer II*) provided a presentation on Simmons Branch Drainage Improvement, Phase II. The presentation overview consists of project goals, the culvert failures,

the proposed drainage improvements, the existing and proposed culvert performances and the proposed schedules of the project.

Mr. Horstman opened the floor to any public comments.

Elizabeth Byrd (1426 Pineview Drive property owner) indicated she's glad this is being addressed at today's meeting. Her home is not delegated the color purple once completed (*map illustrates outside of the floodplain*). She will still be in the floodplain. She's been dealing with this about twenty years and has suffered the effects of the watershed. Hurricane Fran was the first time she flooded, and it's been three times since then and most recently from current rains. To her knowledge, she thought the lake was suppose too have been the first thing done. It continues to be filled with silt, and the dam acts as a spillway. There's no dam effect, the water comes in and goes out. Last month, the creek went through her downstairs, took her fencing out, went through the neighbor's crawspace and completely washed that out, and then went into the next neighbor's first floor. Those three homes always flood, and they are right at a dog-leg in the creek's bend. The dog-leg that the stream takes is right between the corner of her property and the southern property. Lately, there is an erosion problem too. She's replacing her fence for the third time because of how fast the stream is going and it falls down in the creek. White Oak Lake is filling up with sedimentation and now you see more islands and grassy areas in the lake. At the beginning of the watershed there's a cement plant, she request someone take a look at the silt measures coming from that plant and see what impacts that plant have on the stream. She pointed out in the presentation there was mention of the existing open channel on Swift Drive remaining the same (*hatch marks*). She asked will the new culvert size be larger or the same as the hatch marks.

David Kiker replied they are different shape flat low profile and a little wider than the culvert.

Ms. Byrd said when the water comes out of the lake at a rapid speed, and it takes the dog-leg and goes underneath the culvert at Pineview, the concern is it will back-up more and just continue to have the same problems.

David Kiker responded the channel on her end will remain the same and not be touched. There isn't a constriction of that channel it can pass the flows at this culverts easily. The model we put together has them working together and all those flood reduction benefits was shown with them in one model working together.

Blair Hinkle suggested that both staff and Ms. Byrd arrange a meeting to discuss the technical details for design of the project.

Ms. Byrd asked if there's an update on White Oak Lake.

David Kiker replied they received the "*do not disturb line*" from Department of Transportation (DOT) and is looking to engage a consultant in a contract to do the final design.

Ms. Byrd said in closing that she appreciated what Stormwater staff and the Commission is doing. She indicated that flooding is one of the worse things you can experience in a home, and she appreciates anything Stormwater can do to alleviate the stream bank stabilization and the erosion problem on their end because they all are losing their property into the creek.

Mr. Kane asked about the origins of the problem and how did these homes end up in the 10 year flood elevation.

Ms. Durso responded that it's the continue urbanization of the watershed. At the upper reaches there's been a lot development and it makes its way through the watershed. The subdivisions were built in the late fifties and the development was nothing like it is now. These flows were not anticipated.

Mr. Kane wanted to know how prepared is the City in preventing these peak flows with our new development rules.

Blair Hinkle answered that our current development standards require developers detain for the 2 to 10 year storm. The idea of a 10 year storm event (*i.e. road flooding*) should be mitigated by those requirements. We are looking at doing additional things such as volume control, LID, etc. Our detention requirement should prevent things like this happening in the future.

Kevin Yates asked if there are any constraints upstream or downstream of the project area.

Veronica High replied the stream goes underneath Avent Ferry Road which is DOT right-of-way. Those existing culverts are partially filled with sediment and the State was made aware and it constricts us from the type of improvement we can ultimately make.

Ken Carper asked what defines the upstream limit of the project and is it defined because it's a DOT jurisdiction.

Veronica High was unsure if it was just one thing, but even that section takes up a substantial amount of the CIP budget for the year.

Blair Hinkle added that this project cost is about \$6.5 million and was originally \$3 million. The rock that we are planning to hit adds another \$2 million.

Marc Horstman said since we are in the process of designing White Oak Lake, will it be possible to get more continuation within White Oak Lake than the 10% reduction we have and is just with the 10 year.

David Kiker responded it is with the 10 year. If you achieve more than that you have to raise the dam. If you raise the dam above the elevation of I-440 you start turning it from a low hazard dam to a high hazard dam. You will get more attenuation as you raise the dam and you will start to get a lot of issues.

Marc Horstman asked if we add more storage in the dam, will it shrink the \$6.5 million construction budget with the amount removal we are expecting.

Blair Hinkle said not appreciably.

David Kiker added that it takes you from the 10 year storm to approaching the 25 year storm. We want to move the project forward and it could have been done, but it would delay the project a year and they would have to redo the design.

Mr. Kane asked what the primary driver of this was and the value of the property it's impacting.

Blair Hinkle replied flood reduction and staff will provide the property value to him.

Kevin Yates asked was there any consideration in purchasing some of the properties.

Blair Hinkle said given the size of the watershed and in order to alleviate the majority of flooding this main outfall is required. We would have to purchase a large amount of properties given this is a lot of blank area to have a floodplain in what is a developed area of town.

Ms. Durso extended appreciation to staff that worked on this for a long time.

Project: Brockton Lake and Dam, Phase I

Sheila Thomas-Ambat (*Project Engineer II*) provided a presentation on Brockton Lake and Dam Phase I. She mentioned the project was initially a single project but was split into two phases due to funding issues. The presentation overview consists of general project location, watershed statistics, project goals (*phase I/II*), focused project location, existing conditions (*phase I*), proposed improvements and schedule (*phase I*) and a brief summary of phase II.

Ms. Durso wanted to know the longevity of the project and the cost for Phase 1.

Sheila Thomas-Ambat replied 2006 or earlier and the cost is \$1 million, and Phase II is \$3 million for construction.

Mr. Horstman reiterated that Phase I is converting the lake into a stream restoration and Phase II is doing the outlet structure of the lake.

Sheila Thomas-Ambat said that was correct.

Mr. Starr asked other than the timeline, was any consideration given to preserve the pool.

Sheila Thomas-Ambat said the citizen's response was they are anxious to get it done. They didn't want the project postpone because of a non-functioning pool.

3. **SMAC 2016 Annual Report and 2017 Work Plan**

Blair Hinkle presented the 2016 Annual Report and 2017 Work Plan to the Commission. The 2016 Annual Report focused on the areas of the CIP Program, Stormwater Drainage Cost Share Petitions, Stormwater Quality Cost Share Petitions, FEMA Hazard Mitigation Program Acquisition, Review of Stormwater Programs and Policies, Green Infrastructure (GI)/Low Impact Development (LID), Development of the Stormwater Integrated Project Prioritization Model and the Participation in the What Works Cities Initiative.

The 2016/2017 Work Plan focuses on Sustainable Development and Water Quality, Drainage Assistance Policies, Regulatory Programs – UDO related, Stormwater Utility Education Program, and the Work Requiring Review for Recommendation to Council. He added there were several comments that he thought would fit under existing topics, however, two comments were proposed new topics:

- Sustainable Development - *LID Performance* "Develop means to predict and then track performance of LID controls and other stormwater BMPs installed. Make performance an integral part of decision making. The performance numbers could be used for multiple purposes, including future nutrient credit and trading within the watershed." submitted by Marion Deerhake

Blair Hinkle commented from a scientific perspective it would be great. The concerns are relying on the State BMP manual and establish mechanisms for BMP and nutrient removal. The City can do more scientific research or monitoring work to try and establish nutrient reduction

mechanisms. However, at this point in terms of staff capacity we rely on State and other resources that have the time to do that type of work.

Mr. Starr noted the challenges the UNRBA has had through that very process.

Mr. Horstman indicated the State is rewriting the BMP manual and coming out with new means and metrics of evaluating LID devices. He's in agreement with Blair and once the State updates the manual we need to know how we incorporate that in what we do.

Ms. Durso commented that LID/GI is broad in the work plan. We could list her item there and it will allow us to work on it. We can add some words to *Item B* without getting into real specifics.

Mr. Bostic added that he agrees, and doesn't feel it necessary to change the words because it's covered. We could do something she mentioned underneath *Item B*.

- Drainage System Polices – Unified policy for projects: *“Another new item for consideration might be to develop a clear and more transparent policy regarding water quality cost share, standard petition, and conventional CIP projects. How do we categorize, establish funding sources, and prioritization. Relationship(s) among each other, etc. I know some of this is in process, but seems some more work here might help moving forward.”* submitted by Ken Carper

Blair Hinkle remarked there is a fine line on what we consider a Drainage Assistance project versus a larger CIP project. The Stormwater Quality Cost Share is fairly discreet in that there's an actual cost share associated with that.

Mr. Carper mentioned that he's noticed the change in which we operate based on the size of the project and whether it's a property owner or watershed study. There's a lists of projects (*water quality, drainage petition, CIP and the prioritization model*) you generate but is there a clear way to define how projects gets on which list and what's the process of that to be made public.

Blair Hinkle indicated the drainage cost share program prior to July 1st was about serving discreet private properties. One of the benefits from changing from the drainage cost share program to the full drainage assistance is the program transitioning to a small CIP. There will be less of a distinction between drainage assistance and CIP projects, and we see that as a good thing. The Drainage assistance program will still be about serving private properties but doing it in a smaller scale than what a big CIP coming out of the watershed master plan would look like.

Mr. Carper said he is ok with passing on this and the models have helped out a lot.

Kevin Yates asked if there are any incentives to go above and beyond on new development new construction for BMP's.

Blair Hinkle replied yes, and it's covered under the Stormwater Fee Adjustment Credit Manual. If you over-design your BMP and provide detention up to the 25 year level you will get a credit off your Stormwater bill.

Motion:

Mr. Horstman made a motion to recommend the 2016 Annual Report and 2017 Work Plan to City Council for approval pending the edits that was agreed upon today, and Mr. Yates seconded. The motion was approved unanimously.

4. **Stormwater Utility Fee Credit Program** *(item table until October Meeting)*

5. **Other Business**

- Absence: Mr. Horstman made a motion to excuse Ms. Deerhake from today's meeting and Mr. Webb seconded. The motion was approved unanimously.

Adjournment:

Mr. Horstman made a motion to adjourn and Mr. Starr and Mr. Kane seconded. The meeting adjourned at 4:57p.m.

Suzette Mitchell