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ATTACHMENT 4

**SHOOK CONSTRUCTION, INC.
ENGINEERING AND CONSTRUCTION**

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**Louis L. Shook, Jr. P.E.
President**

RECEIVED
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December 11, 2003

Mayor of Chapel Hill
Town Council Members of Chapel Hill
Mr. Cal Horton, Chapel Hill Town Manager
306 North Columbia Street
Chapel Hill, North Carolina 27516

Enclosures: (1) One copy of, "Raleigh wants retention ponds to please the eye",
from the News & Observer dated November 16, 2003

- References: (a) Town of Chapel Hill, Stormwater Impact Statement and Stormwater
Management Plan Guidelines (Revised March 24, 2003).
(b) N.C. Department of Environment and Natural Resources,
STORMWATER BEST MANAGEMENT PRACTICES.
(c) Town of Chapel Hill Inspection Department, Inspections Required.

Subject: Stormwater Management

Dear Friends:

This letter is written to offer several suggestions/recommendations concerning the
control of Stormwater relative to development in Chapel Hill. In no way is this a
question of the need for such control – Stormwater control is critical.

The problem of Stormwater control is further complicated by the need for mosquito
control. This is addressed below.

NEW SUBDIVISIONS & DEVELOPMENTS:

Reference (a) requires removal of 85% average annual total suspended solids (TSS)
from post development stormwater runoff. Reference (a) lists six methods to achieve
this 85% removal as follows: Wet Detention Ponds, Extended Detention Wetlands,
Sand Filters, Bioretention Areas, Infiltration Devices, and Level Spreaders &
Buffers. The methods are described in detail in Reference (b).

The approach being taken by Chapel Hill for new Subdivisions is to allow the Developer either to provide a Stormwater Management design for the total Subdivision, or to require that the individual Lot Owners provide Stormwater Control for their individual Lots.

This approach should be changed to require that the Developer be limited to provide a Stormwater Management design for the total Subdivision, that provisions by individual Lot Owners to provide Stormwater Control for their individual Lots not be an alternate.

The reasons for this change are as follows:

1. A central Stormwater Management design for a subdivision allows the Town to provide periodic inspection to insure that the system is functioning satisfactorily. Furthermore, it permits a central location to insure that mosquito control is properly administered (see Enclosure (1)).
2. Were the Stormwater Management design done per Lot, it becomes near impossible to insure that the systems are functioning properly, or to insure mosquito control. In addition as stated in Reference (a), "the Town assumes no responsibility for necessary inspection, operation and/or maintenance duties" – which encourages the home owner to ignore and quite possibly destroy the Stormwater Protection.
3. A central Stormwater Management design can be made to enhance the Subdivision and add to the beauty of Chapel Hill (see Enclosure (1)) – whereas the Stormwater Management designs for individual lots tend to be Sand Filters with open ditches which are certainly unattractive and subject to mosquito breeding.
4. In line with the above, the Town should require that central Stormwater Management designs for new subdivisions "please the eye" as described in Enclosure (1).
5. The cost for a central Stormwater Management design including enhancement should be no more than the total cost of Stormwater Control for individual Lots – thus the resulting cost to a homeowner would be about the same, plus the advantage of greatly enhanced beauty of the subdivision.

INDIVIDUAL LOTS IN EXISTING "BUILT UP" SUBDIVISIONS:

The Town now requires the same Stormwater Management requirements Reference (a) for individual lots in existing "built up" subdivisions. This generally results in the use of Sand Filters with open ditches subject to mosquito breeding.

(23)

The result is an eyesore for the home owner, and (as stated above) an installation which is (a) not subject to inspection for Stormwater Management or for mosquito control; and (b) subject to being eliminated by the home owner.

The stormwater impact resulting from building a house in an existing "built up" subdivision is due primarily to the runoff from the impervious areas of roof and paved driveway/parking. The remaining area of the building lot which would be shrubbed and seeded would have similar stormwater runoff as that before construction of the house. Thus the real concern is to manage the runoff from the impervious areas of roof and paved driveway/parking.

A reasonable approach to solve this problem might include the following:

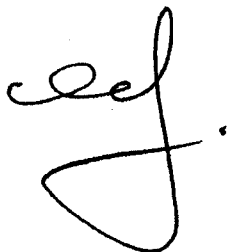
1. Require that driveway/parking areas be paved with a pervious material (such as that used for the large parking area added adjacent to the Friday Center), or be paved with gravel or equal.
2. Require that drain lines for gutter down spouts be run a specified distance from the house and end in a shrubbed area designed to disperse the flow.

These proposals would result in a minor increase (relatively speaking) of stormwater flow in an existing "built up" subdivision – the reason being since none of the existing built on lots have stormwater control, the total resulting flow is increased very little percentagewise. In addition, these would avoid the problems described above of unsightliness and lack of control.

ADDITIONAL COMMENTS:

Reference (c) should be amended to require an inspection for Stormwater installation. This would include inspection of all underground drain lines for stormwater control and any other stormwater control features which are buried.

Very truly yours,

A handwritten signature in cursive script, appearing to be the initials 'JF' or similar, written in black ink.

Raleigh wants retention ponds to please the eye

WANT TO GO?

WHAT: Public hearing on a proposal to require screening around the area's stormwater ponds or to turn them into amenities by integrating them into their environment.

WHERE: The hearing, which also includes rezonings and other proposals, starts at 6:30 p.m. Tuesday.

WHERE: City Hall, 222 W. Hargett St. at the intersection with Dawson Street, in downtown Raleigh.

By Sarah Lindenfeld Hall
STAFF WRITER

RALEIGH — The gurgling fountain, cascading waterfall and flowering grasses hide the real reason for the pools near the entrances to WakeMed's North campus: They clean the stormwater that rolls off the roof and parking lot before it reaches nearby creeks.

City rules required the construction of the pond to protect

water quality. But the designers went far beyond the city's requirements; they also wanted to create a place for patients to relax and linger. The job was more costly than a traditional stormwater pond, but it won the hospital a city award this year.

Raleigh Appearance Commission members think all stormwater ponds should look so good, and they have a carrot-and-stick proposal to encourage

developers to follow WakeMed's example.

The proposed ordinance, scheduled for a public hearing Tuesday, would give developers incentives to turn the ponds into amenities. Developers who chose not to would be required to completely shield the ponds from view with thick evergreens.

The purpose of the ponds is to

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PONDS

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capture stormwater and to allow dirt, oil and other contaminants to settle before the water moves downstream. Some ponds, however, are eyesores.

"A lot of times they are put in places where it's essentially like having your outhouse by your front door. They are very public," said Charlie Madison, Appearance Commission chairman. "A lot of them are nothing more than metholes with chain-link fences around them that do nothing more than collect (grocery) carts."

The ponds have proliferated across the country over the past 15 years to meet more stringent federal guidelines for protecting rivers and creeks.

The first ponds were usually asphalted, often they were big muddy, mosquito-infested pits dug into the lowest point on the site.

Impetus for review

One pond in particular — at the 8-year-old Capital Crossing shopping center off Capital Boulevard — prompted the commission's review.

Last week, cardboard, plastic bags and other trash littered the edges of the muddy, weedy stormwater pond near the Sam's Club and next to Calvary Drive. A grocery cart lay half-submerged, and a child's bike sat on rocks near the spot where the chain-link fence that rings the pond was broken.

Over time, pond designs have evolved and improved. Some ponds include elaborate landscaped features with fountains, flowering grasses and aquatic plants.

Barbara Doll, water quality specialist for N.C. Sea Grant, a federal and state-funded program at N.C. State University, said designers are designing ponds with shallow edges and with terracing above the water to improve appearance and safety.

The Raleigh proposal would treat stormwater like Dumpsters and heating and air-conditioning units, requiring them to be kept out of sight. Fast-growing evergreens would be the screening method of choice. Fences could be installed, but they'd have to be black, forest green or dark brown and hidden by trees or shrubs.

If developers chose to integrate the ponds into the development instead of screening them, the proposal would give them a break on other landscaping requirements, but they'd have to meet certain guidelines.

The ponds would have to share common building materials with the development. The proposal encourages sidewalks or trails for walkers. And it requires developers to work to reduce mosquitoes, including nesting boxes for mosquito-eating birds or bats or stocking the pond with mosquito-eating fish such as the tiny *Gambusia affinis*, also known as mosquitofish.

Developers would choose from

a menu of options depending on whether they were building retention ponds, which hold water all the time, or detention basins, which typically fill up only after a heavy rain.

Upkeep required

Under the proposal, features such as landscaping and fountains must be properly maintained. A broken fountain or uprooted shrubbery would have to be fixed or replaced within 30 days, or the screening requirements would kick in.

If approved, the new rules would go further than what's required elsewhere in the Triangle. Durham and Chapel Hill have no requirements for landscaping of stormwater ponds.

In Cary, developers have had to screen stormwater ponds since 1999, typically with evergreens. Now, according to Ricky Barker, Cary's associate planning direc-

tor, town officials are looking at ways to make the ponds something to show off.

Grady Matthews, vice president of retail development for Crosland, which is developing Poyner Place near Triangle Town Center and another project near Cameron Village, said his firm already looks for ways to transform the ponds into amenities. Poyner Place, for example, will have a 2-acre pool with landscaping and a filtration system to keep the water looking good. Shops and restaurants will sit near the pond.

"We want to provide a quality shopping center," he said. "I don't know if I want it to be mandated by someone else."

Madison, of the city's appearance commission, said officials know that developers can't make every pond serene and attractive. And the new guidelines would not apply to ponds developed before any new rules are passed.

"You can't always put lipstick on a pig and have it succeed," Madison said. "It's not like you're going to turn a site that really has problems with its topography and make this wonderful little pool or fountain. And neither does everybody have money to do that. But we want to encourage it."

Staff writer Sarah Lindenfeld Hall can be reached at 429-8983 or slinden@newsobserver.com.