

2 April 15

Mr. Marty Roupe
Development Review Administrator
Town of Carrboro Zoning Division
301 West Main St.
Carrboro, NC 27510

Subject: South Green – Truth in Drainage Statement
BA Project #114023.00



Ballentine
Associates, P.A.

221 Providence Road
Eastowne Office Park
Chapel Hill, NC 27514

919/929-0481 Chapel Hill
919/489-4789 Durham
919/489-2803 Fax

TRUTH IN DRAINAGE STATEMENT:

The proposed redevelopment project, South Green, as proposed will meet and exceed all of the Town of Carrboro's stormwater requirements, including peak flow reduction, water quality requirements, and the Jordan Lake requirements through the use of several onsite stormwater BMPs.

The stormwater BMPs proposed consist of permeable pavement systems in each of the three main parking lots and the use of an underground sand filter. Each required peak flow storm event, the 1, 2, 5, 10, 25 and the 100 yr (not required) will be reduced from the pre-developed state to the post-developed state as a result of our proposed project. Each permeable pavement parking lot contains a detention basin in the void space of the stone layer beneath the permeable surface. The permeable pavement allows the water quality volume (1st inch of rainfall) to infiltrate into the existing soil beneath, which imitates what would happen if the site was undeveloped and helps recharge the groundwater tables. In addition, the permeable pavement system stores all of the larger storms (up to the 100 yr peak flow storm event) and slowly releases the runoff over a period of several days. The proposed sand filter provides some internal detention but its primary purpose is to treat and filter the remaining portions of the proposed site development that is not treated by the onsite permeable pavement systems.

In addition to meeting each of the Town of Carrboro's stormwater requirements, the addition of the proposed project will improve upon an existing flooding problem that occurs with any significant rain event. A large portion of downtown Carrboro and highly developed areas north of the proposed redevelopment project help make up the 125 acre drainage basin that contributes to the flooding of the site because of a grossly undersized existing 24" storm drain system that runs through the site. Several large storm events in the past have flooded the site and spilled out into Greensboro Street and aided in the flooding of the adjoining downstream properties. The majority of this drainage area was constructed prior to the implementation of today's stormwater standards, which contributes to the excessive amount of stormwater runoff and flooding of the downhill properties. As part of the proposed project, we plan on safely conveying up to the 100-yr storm event through our site with an 8'w x 5'h box culvert. We are currently working with the NCDOT hydraulics unit on the upsizing of the NCDOT pipe network (also undersized) to the outfall under NC 54 to come up with the best possible solution for the area.

The following statement addresses the flooding concerns at the existing box culvert underneath NC 54 and the adjacent trailer park as a result of our project. The box culvert not only carries all the stormwater runoff that is generated from our site and the 125 acres north of our site, but also

the stormwater runoff that is generated from our site and the 125 acres north of our site, but also carries another large drainage area on the west side of Greensboro Street (this area is not part of our study because it will remain unchanged as a result of our project). All peak flow stormwater runoff events, including the 100 yr storm event (not required), generated from our site will be reduced as a result of the stormwater BMPs proposed as part of our redevelopment project. Therefore, the existing flooding problems at the box culvert under NC 54 will be slightly reduced as the result of our project being developed (our project is a very small portion of the overall drainage area to the box culvert under NC 54).

Please don't hesitate to call me should you have any additional questions, concerns, or if you require additional information.

Yours very truly,
BALLENTINE ASSOCIATES, PA

Ashton R. Smith, PE
Civil Engineer II

