



**CITY OF DURHAM | DURHAM COUNTY  
NORTH CAROLINA**

**City-County Planning Department**



**July 31, 2009**

Kay Pearlstein, AICP  
Senior Planner  
Planning Department  
Town of Chapel Hill  
405 Martin Luther King Jr. Blvd.  
Chapel Hill NC 27514-5705

**RE:** Paul J. Rizzo Conference Center Phase II  
File No. 9798-02-86-3677

Dear Ms. Pearlstein:

Pursuant to your June 3, 2009 request (see attached) and the Inter-local Agreement between the City and County of Durham and the Town of Chapel Hill requiring courtesy notification and review of pending development proposals in our joint-review area, please find the following comments:

1. Regional recreational trail, greenway and transit facilities are identified in the following Plans adopted (or recommended for adoption) by Durham City and/or County at the subject site:
  - a. Durham Trails and Greenways Master Plan – trail
  - b. Long Range Bicycle Plan, Map 4.6 – proposed Greenway
  - c. Revised Draft Recommended CSP Network, September 1, 2006 – proposed transit alignment

Please consider this letter our request that these facilities are accommodated (i.e.: required as part of this development proposal or allowed to be developed at a later date at this location) by the proposed site plan to the maximum extent practicable.

2. This site is partially within the *New Hope Creek Corridor Little Creek Bottomlands Natural Inventory* (see attached map). The *Durham County Inventories of Important Natural Areas, Plants, and Wildlife* identifies the Little Creek Bottomlands as a high priority for conservation and preservation of upland buffers along the edges of the bottomlands (See attached excerpt).

We recommend that these areas be preserved to the greatest extent possible.

3. This site contains extensive steep slopes and is proximate to a tributary of Jordan Lake.

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Please consider this letter our request that, to the maximum extent practicable, sedimentation and erosion control, stormwater management and site design be required to reduce any negative water quality impacts on Jordan Lake and its tributaries resulting from site development at this location.

Thank you for your consideration. Should you have any questions, please feel free to contact me at 560-4137 extension 28273.





Sincerely,

A handwritten signature in blue ink, appearing to read "Pat Young", with the words "For Pat Young" written in a smaller, less legible script to the right of the signature.

Patrick O. Young, AICP  
Assistant Planning Director

cc: JB Culpepper, Chapel Hill Planning Director  
Mike Ruffin, Durham County Manager  
Thomas Bonfield, City Manager, City of Durham  
Steven L. Medlin, AICP, Director, Durham City-County Planning



<b>DURHAM COUNTY MERGED INVENTORY</b>	
<b>Little Creek Bottomlands</b>	
	<b>SITE BOUNDARY</b>
	<b>ADJACENT TO OTHER SITE(S)</b>
	Approximate site location
USGS QUAD: SOUTHWEST DURHAM, CHAPEL HILL, GREEN LEVEL, FARRINGTON	
SCALE: 1" = 2800feet - 1:33,600	
	

**A. New Hope Creek Corridor****7. LITTLE CREEK BOTTOMLANDS****SITE DESCRIPTION**

**County:** Durham  
**Quad:** Southwest Durham, Chapel Hill  
**Significance:** Zoological: County (DURH 1); Botanical: 1 - County  
**Landscape Function:** Zoological: Medium (DURH 1)  
**Boundary Integrity:** Medium  
**Level of Threat:** Zoological: Low; Botanical: 3 - Medium  
**Protection Status:** High  
**Community Viability:** Zoological: Low (DURH 1); Botanical: 2 - Medium

**SUMMARY OF SIGNIFICANT FEATURES:**

1. Presence of regionally-rare species: marsh rabbit (*Sylvilagus palustris*), bowfin (*Amia calva*) and (historically) flier sunfish (*Centrarchus macropterus*).
2. Large tract of bottomland hardwood forest that provides habitat for many species of forest-interior and other disturbance-sensitive animals.

**LANDSCAPE FEATURES:**

Little Creek is one of the larger tributaries of New Hope Creek, with branches extending west and north through Chapel Hill and Carrboro as far as Calvander Crossroads. Although portions of the headwaters were identified as significant natural areas in the Orange County Inventory (see Bolin Creek and Battle Park; Sather and Hall, 1988), these sites are separated from the bottomlands in Durham County by a wide area of dense development in the vicinity of University Mall. Portions of the stream have been channelized along this reach, further reducing any function this stream valley has as a corridor for wildlife movements between Orange and Durham Counties.

Just east of the county line, however, Little Creek enters the 100 year floodplain of Jordan Lake, where its wildlife habitats receive some degree of protection as part of the New Hope Gamelands. The broad floodplain that occupies virtually the entire Durham section of this watershed is typical of Triassic Basin streams, and together with the confluent bottomlands along New Hope Creek creates an unbroken tract of forest nearly 1.5 miles wide.

Like neighboring sections of New Hope Creek, subimpoundments have been constructed above the two roads that cross Little Creek in Durham County (NC 54 and Farrington Road) in order to create winter foraging habitat for wood ducks. The lower reach, extending perhaps half a mile upstream from the confluence with New Hope Creek, is also flooded at least occasionally

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from water backing up from Jordan Lake. Other areas have been flooded by beavers. One large pond with a completely cleared canopy exists within a backwater of the subimpounded area just north of NC 54; the dam on the southern border of this pond is formed by the subimpoundment levee, the remainder by beaver construction.

#### DESCRIPTION OF THE FAUNA:

The terrestrial and riparian fauna inhabiting this tract is essentially the same as that of the adjoining habitats along New Hope Creek (see Stagecoach Road Bottomland Forest). Characteristic bottomland species observed during the two early spring visits to this site include red-shouldered hawk (*Buteo lineatus*), wood duck (*Aix sponsa*), otter (*Lutra canadensis*), mink (*Mustela vison*), muskrat (*Ondatra zibethica*) and beaver (*Castor canadensis*). The presence of pileated woodpeckers (*Dryocopus pileatus*), along with the red-shouldered hawks, is indicative of the extensive nature and relative maturity of the hardwood forest. Several large flocks of evening grosbeaks (*Coccothraustes vespertinus*) were observed feeding on the abundant spring crop of maple and elm seeds, reflecting the importance to migratory, as well as resident animals of the large number of soft mast trees that are found in these bottomlands.

The most notable animal observed on this tract, the marsh rabbit (*Sylvilagus palustris*), is also undoubtedly shared with adjoining tracts along the New Hope, although it was not recorded there during this inventory; historical records exist from Sandy Creek on the Duke University Campus (Duke Vertebrate Collection), and it also occurs in similar swampy habitats along Morgan Creek (see Morgan Creek Bottomland Forest). This species is one of a suite of essentially Coastal Plain species that occur above the Fall Line only within the extensive floodplains along Triassic Basin streams.

As with other members of this group, its future survival in this region appears to be precarious due to severe fragmentation of its habitat by the construction of Jordan Lake and other impoundments. While the tracks or scat of the related eastern cottontail (*Sylvilagus floridanus*) were found in nearly all the areas surveyed in this inventory, the distinctive tracks of the marsh rabbit, with their smaller size, narrower footprints, sharper claws and curious walking gait, were observed only at the extreme lower end of the Little Creek floodplain, in a mucky area where the winter floodwaters from Jordan Lake had only recently withdrawn.

The survival of another member of the Coastal Plain group, the bowfin (*Amia calva*), seems more assured; this hardy predator, locally called a "grinnel," is frequently hooked by fishermen in the vicinity of the subimpoundment on Farrington Road. Based on water quality considerations, other aquatic species belonging to the Coastal Plain/Triassic Basin guild may also have some chance of surviving in this creek. Despite flowing through urban areas in Orange County, the water quality of Little Creek as it crosses the county line has been rated as Good in terms of its chemical parameters and Fair in terms of its biological rating (DEM, 1985). Unlike

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New Hope, Third Fork, Morgan and Northeast Creeks no large wastewater plants empty into Little Creek (it does, however, receive stormwater runoff from large tracts of impervious surfaces in Chapel Hill).

The winter flooding of the wood duck subimpoundments, along with backup of water from Jordan Lake, may mitigate any benefits due to water quality. Although the voracious "grinnel" may prosper in these flooded areas, smaller species such as the mudminnow (*Umbra pygmaea*), blue-spotted sunfish (*Enneacanthus gloriosus*) and swamp darter (*Etheostoma fusiforme*)—all recorded from the lower New Hope watershed—may be at increased risk due to predation as their shallow water or isolated pool habitat becomes more deeply inundated, and thus more accessible to bass, crappie, channel catfish, as well as the "grinnel" itself. On the other hand, at least some refuges can still be found in the non-impounded areas, as indicated by the presence of larval marbled salamanders (*Ambystoma opacum*) in at least a few pools: small larvae of this species cannot survive in the presence of fish even as seemingly insignificant as the mosquitofish.

#### DESCRIPTION OF THE FLORA:

Little Creek has no extensive botanical survey. Short excursions into the floodplain have not produced many special plants. The higher areas and floodplain edges have yielded the usual spring ephemerals, although not in great numbers. One unusual occurrence is the presence of swamp white oak (*Quercus bicolor*) downstream from the crossing at CR 1108. The site is potentially as good as Stagecoach Bottomlands, but heavy use of surrounding lands for tobacco cultivation in the past 100 years may have been detrimental to the vegetation. Above NC 54, the floodplain is adjacent to several areas of Iredell loam—the area should be checked for basophilic plants.

#### PROTECTION STATUS AND THREATS:

The Little Creek Bottomlands are part of the Corps lands extending north of Jordan Lake and are leased to the NC Wildlife Resources Commission as gamelands. Although protected from development, they are still subject to timbering and other management activities directed towards just a few species of game animals, primarily wood duck and white-tailed deer.

Privately owned lands adjoin the bottomland along both slopes, parts of which are becoming developed right down to the boundary of the Corps lands, particularly along Farrington Road. The large Meadowmont mixed-use development in eastern Chapel Hill will contain some 50 acres of Town parkland in the Durham County portion of the Little Creek floodplain, much of which is wetlands. In the Durham portion of this park, the only use permitted by the Town will be nature trails, short boardwalks, and a wildlife observation platform, with no wetland fill allowed.

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**CONSERVATION RECOMMENDATIONS:**

Conservation recommendations for this tract are the same as for other tracts of the New Hope Gamelands. Management of the subimpounded areas should give more weight to the needs of non-game species and perhaps less to that of the wood duck, which is thriving throughout the region. Some regulation of rabbit hunting or fur-bearer trapping should also be considered if the population of marsh rabbits is to survive within this area.

As is true for the other sites in the New Hope Creek Basin, preservation of upland buffers along the edges of the bottomlands should be given a high priority. These slopes provide denning areas for terrestrial species, as well as refuges during periods of high water. Conservation easements, Natural Heritage Program Registry and Forest Management Plans would all be appropriate means to conserve these strips of uplands.