

11-6-06
Submitted for record.

REVIEW OF ENVIRONMENTAL DOCUMENTS SUBMITTED TO CHATHAM COUNTY FOR THE SHIVELY TRACT, BANNER TRACT, and THE BLUFFS
Submitted to the Chatham County Planning Board
6 November 2006
Allison E. Weakley, Biologist

I have reviewed the environmental documents written by S&EC and submitted to Chatham County in support of the request for preliminary approval for The Bluffs and sketch approval for the Shively and Banner tracts. The reports for all three developments contain flawed methodology, inconsistencies, and inaccuracies that would not withstand competent peer review, or review by State agencies.

Below I've outlined the major issues as they relate to each individual document by subdivision:

THE BLUFFS

Environmental Status Report for The Bluffs by S&EC, April 6, 2006:

1. Claims a "field survey of plant community types and the potential for protected and listed terrestrial plant and animal species will be conducted within the next two months." Where is the documentation that a field survey has been completed?

[Threatened and Endangered Species Survey report, dated June 14, 2006, was just posted on the County website for review on Friday, 3 November 2006.]

2. Claims that the US Army Corps of Engineers and Division of Water Quality visited portions of the site to confirm stream determinations and wetland boundaries, and were scheduled to return to the site to complete their reviews. Where is the outcome of these visits reported?

3. Claims that a record search was completed in March and April 2006, and that no federally or state listed species were found within the project boundaries. However, no survey for listed species was actually completed.

4. States that an "Identified Priority Area (IPA)" is documented +/- 500 feet downstream of the site, but fails to name the IPA or discuss its importance. In fact, both the County-significant Rock Rest Mafic Islands and Shores Significant Natural Heritage Area (SNHA) and Nationally-significant Haw River Aquatic Habitat are located adjacent to and downstream of the site (see Figure 1, next page). All the streams on the site drain to the Haw River Aquatic Habitat.

5. Claims that the Federally-listed Cape Fear shiner is known to occur downstream in the Haw River in Bynum, but fails to mention the population known to occur just downstream of the development, last observed in 2000 (NH NHP 2006).

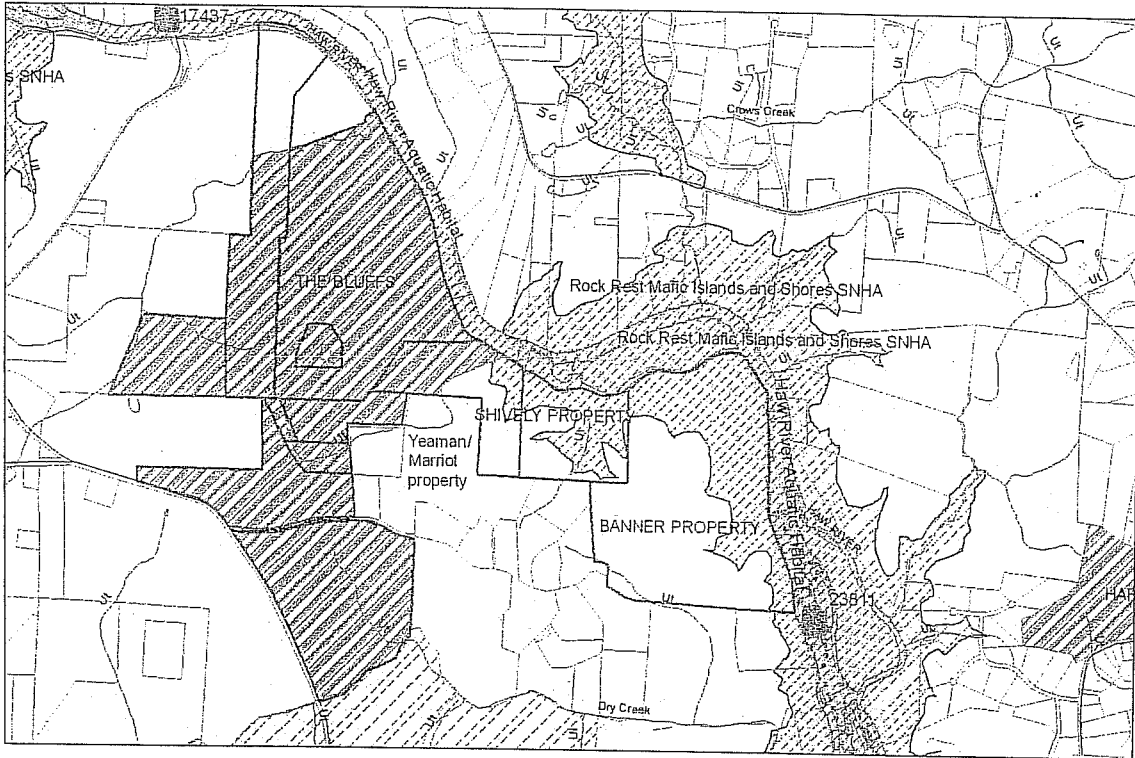
Natural Heritage Program File Search report for The Bluffs by S&EC, April 6, 2006:

1. First paragraph claims that a record search of files at the NC Natural Heritage Program office was only conducted for Federally-listed species.

2. See comments #4 and #5 above under ***Environmental Status Report*** for The Bluffs by S&EC, April 6, 2006.

3. Omits the Rock Rest Mafic Islands and Slopes SNHA an IPA in the Bynum USGS quadrangle.

Figure 1. Map showing The Bluffs and Shively and Banner tracts relative to the Rock Rest Mafic Islands and Shores and Haw River Aquatic Habitat Significant Natural Heritage Areas (SNHAs), and in proximity to a known population of the Cape Fear shiner (EO 23811, brown square) and Buttercup phacelia (EO 17437, red square).



Archaeological report:

1. States no soil survey for Chatham completed since 1933, though the Chatham Soil Survey was published this year (2006) - see http://soils.usda.gov/survey/online_surveys/north_carolina/#chatham2006.
2. *Quercus laurifolia* not likely to occur along the Haw River (Alan S. Weakley 2006, pers. comm.).

Threatened and Endangered Species Report for The Bluffs by S&EC, Revised June 14, 2006:

[This document was not posted on the County website for review until Friday, November 3, 2006.]

1. Updated records check completed March 2006, not June 2006.
2. Claims Haw River Aquatic Habitat occurs +/- 500 feet downstream, but the Aquatic Habitat includes the entire stretch of the Haw River adjacent to this site, not just downstream. The Aquatic Habitat stretches from just upstream of Chicken Bridge to just downstream of the confluence of Roberson Creek and the Haw River south of Pittsboro.
3. Rock Rest Mafic Islands and Shores SNHA is not acknowledged at all in this report, though this SNHA is just south of the Bluffs site and is in much closer proximity to the other two SNHAs acknowledged in the report.

4. Claims that the closest occurrence of the federally-listed Cape Fear shiner is 3 miles downstream. This is incorrect. The closest occurrence is just downstream of this tract (see Figure 1 above).
5. Omits the Rock Rest Mafic Islands and Shores SNHA from the list of Identified Priority Areas (IPAs).
6. Claims that *Quercus imbricaria* and *Leucothoe recurva* both occur along the Haw River in the Piedmont Alluvial Forest. This is highly unlikely, given that both of these species are restricted to the mountains (A. S. Weakley 2006, pers. comm.).
7. Claims that *Parthenocissus virginiana* also occurs in the Piedmont Alluvial Forest; this is not a named species. The correct name is *P. quinquefolius* (A.S. Weakley 2006).
8. Omits the presence of basophilic (mafic) plant communities, for which this area along the Haw is known (Hall and Boyer 1992). The mafic soils support plant communities unusual and unique in the piedmont of North Carolina. Rare species such as Piedmont horsebalm (*Collinsonia tuberosa*) occurs in these plant communities, and there is a known occurrence of this species within a 5-mile radius of this site, also along the Haw River (NC NHP 2006)
9. Claims the property boundaries were surveyed for suitable habitat for species known to occur within a 10-mile radius, which would include Piedmont horsebalm (see #8 above) and other species not even mentioned in this report.
10. Claims that the project does not propose impacts to the Cape Fear shiner, yet any land-disturbing activities within this portion of the Haw River watershed can have negative impacts on the Cape Fear shiner (NatureServe 2006; A. E. Weakley 2006).
11. Claims Septima's clubtail was documented from a site 1000 southwest and upstream of The Bluffs; southwest and upstream are opposite directions.
12. Acknowledges that suitable habitat for Harperella (*Ptilimnium nudosum*), a federally-listed plant species, occurs on site. Also acknowledges that alterations in water regime, shoreline development, siltation and pollution threaten this species, but claims no impact will occur. How can this claim be substantiated?
13. Acknowledges that the state-listed Buttercup phacelia (*Phacelia covillei*) was found in multiple locations on site.
14. Claims the Carolina ladle crayfish is documented from only 1 animal captured in Roberson Creek. This is not true. There is a documented occurrence of this species in a tributary just east of Big Woods Road in eastern Chatham.

SHIVELY TRACT

Environmental Status Report for the Shively tract by S&EC, October 13, 2006:

1. Claims that a Threatened and Endangered Species Field Survey was conducted in May 2006, but fails to identify what was surveyed, and the species which were the subject of the survey. Were surveys for species actually conducted, or was the survey focused only on suitable habitat?

2. Claims that a record check conducted in June 2006 revealed no known federally- or state-listed species occurrences within the project boundary; yet a field survey was conducted in May 2006?
3. Acknowledges suitable habitat exists on site for various state-listed species, but does not describe where suitable habitat exists.
4. Acknowledges presence of Identified Priority Area (IPA) +/- 1000 feet downstream of the site, but fails to identify the name of the IPA. NC Natural Heritage Program records show that the Shively tract encompasses a portion of the Rock Rest Mafic Islands and Shores SNHA, and is adjacent to the Haw River Aquatic Habitat (see Figure 1 above).
5. Claims that a detailed wetland delineation was conducted in September 2006, but this document was not part of the information available on the County website for review. What were the results?

Natural Heritage Program File Search report for the Shively tract by S&EC, October 13, 2006:

1. First paragraph claims that a record search of files at the NC Natural Heritage Program office was only conducted for Federally-listed species.
2. Claims the closest documented occurrence of Buttercup phacelia (*Phacelia covillei*) is approximately 1.0 miles northwest; the *Environmental Status Report* for the Shively tract written on the same day (October 13, 2006) by S&EC this population is say 0.3 miles northwest of the site.
3. Omits the Rock Rest Mafic Islands and Slopes SNHA an IPA in the Bynum USGS quadrangle.

Threatened and Endangered Species Report for the Shively tract by S&EC, October 13, 2006:

1. Claims that no Federally-listed species "were observed onsite during the field survey." Was a survey for these species conducted?
2. Claims that "of the 33 state-listed species in Chatham County, only *Phacelia covillei* or Buttercup phacelia was observed on the property." Was the site surveyed for all 33 state-listed species?
3. States that the "Rock Rest Mafic Islands and Shores is a Natural Heritage Program (NHP) Identified Priority Area (IPA)," but fails to mention that a portion of this IPA is included within the boundary of the Shively tract (see Figures 1 and 2 above). The significance of these sites is not addressed.
4. Claims that the "closest protected elemental occurrence of a federally listed and/or endangered species is the Cape Fear shiner, and that this occurrence was documented approximately 4 miles southeast of the site. The report fails to mention the Cape Fear shiner population 0.7 miles from the tract that was last observed in 2000 (NC NHP 2006).
5. Omits the Rock Rest Mafic Islands and Slopes SNHA an IPA in the Bynum USGS quadrangle.
6. Claims that a records review was conducted of rare species occurrences on both the Bynum and Silk Hope USGS quadrangles, but only reports the results of the records search for the Bynum quad. An occurrence of Piedmont horsebalm (*Collinsonia*

- tuberosa*) is known from the Silk Hope quad, and - given the abundance of rich floodplain forest and lower slopes on site, suitable habitat for this species exists on site.
7. Claims that transects were walked in search of suitable habitat for rare species, then later in the same paragraph states that an "intense survey" was conducted. No mention is made of when the survey was conducted.
 8. Claims that *Quercus imbricaria* and *Leucothoe recurva* occur in the Piedmont alluvial forest on site. The occurrence of these two species is unlikely, as they are montane species that occur in the the mountains of North Carolina and not the Piedmont (A.S. Weakley 2006, pers. comm.).
 9. Claims that *Parthenocissus virginiana* was also found in the Piedmont alluvial forest on site; this species does not exist. The proper name is *P. quinquefolia* (A.S. Weakley 2006)
 10. No mention is made of the Basic Oak Hickory forest known to occur on site within the Rock Rest Mafic Islands and Shores SNHA (see Hall and Boyer 1992 for description of site, including lists of species observed).
 11. No mention is made of the occurrence of Umbrella magnolia (*Magnolia tripetala*), which is rare in Chatham County, and which forms large stands in the levee forests along the Haw River (and in several northfacing ravines with rich soils elsewhere in Chatham County) (Hall and Boyer 1992).
 12. Claims that property boundaries were surveyed for suitable habitat of NHP documented species occurring within a 10-mile radius. Only the boundaries were surveyed? See also #1 and #2 above.
 13. Omits the Cape Fear shiner population 0.7 miles southeast of this tract (see #4 above).
 14. Claims that Septima's clubtail is known to occur appoximately 1000 feet southwest of the property, upstream within the Haw River. Upstream is not southwest, it is northwest.
 15. Claims that suitable habitat for the Yellow lampmussel was found along the border of the property with the Haw River, but "because no impacts are proposed for this area the Haw River was not surveyed." What is the definition of impacts? This species is known to be negatively impacted by eutrophication and siltation (NatureServe 2006).
 16. Claims that suitable habitat for Harperella exists on property along the margins of the Haw River, but that "no impacts are proposed in this area." What is the definition of impacts? This species is known to be negatively impacted by development, dam building, logging, drainage, filling, water diversion, sedimentation, declining water quality, and appearance of alien (non-native) competitors (NatureServe 2006). Because this species is dependent on narrow hydrologic conditions and is vulnerable to upstream development, suitable habitat most certainly could be impacted by the development proposed (NatureServe 2006).
 17. The existence of Buttercup phacelia (*Phacelia covillei*) onsite was acknowledged, but potential impacts to this population were not addressed.
 18. The Conclusion/Recommendations section of the report states that "of the species surveyed for, only Buttercup phacelia was found on the property." It also states that "no other state or federally listed species were found on property." Both statements imply that species surveys were conducted (see also #1, #2, and #13 above).

Based on this report, it is not at all clear what was surveyed, how it was surveyed, or the methodology used to conduct the survey.

Archaeological report:

1. States no soil survey for Chatham completed since 1933, though the Chatham Soil Survey was published this year (2006) - see http://soils.usda.gov/survey/online_surveys/north_carolina/#chatham2006.

According to the Chatham County Soils Survey, the following soil map units occur on site:

ChA
PsB
RvA
StB
WeB
WeD

BANNER TRACT

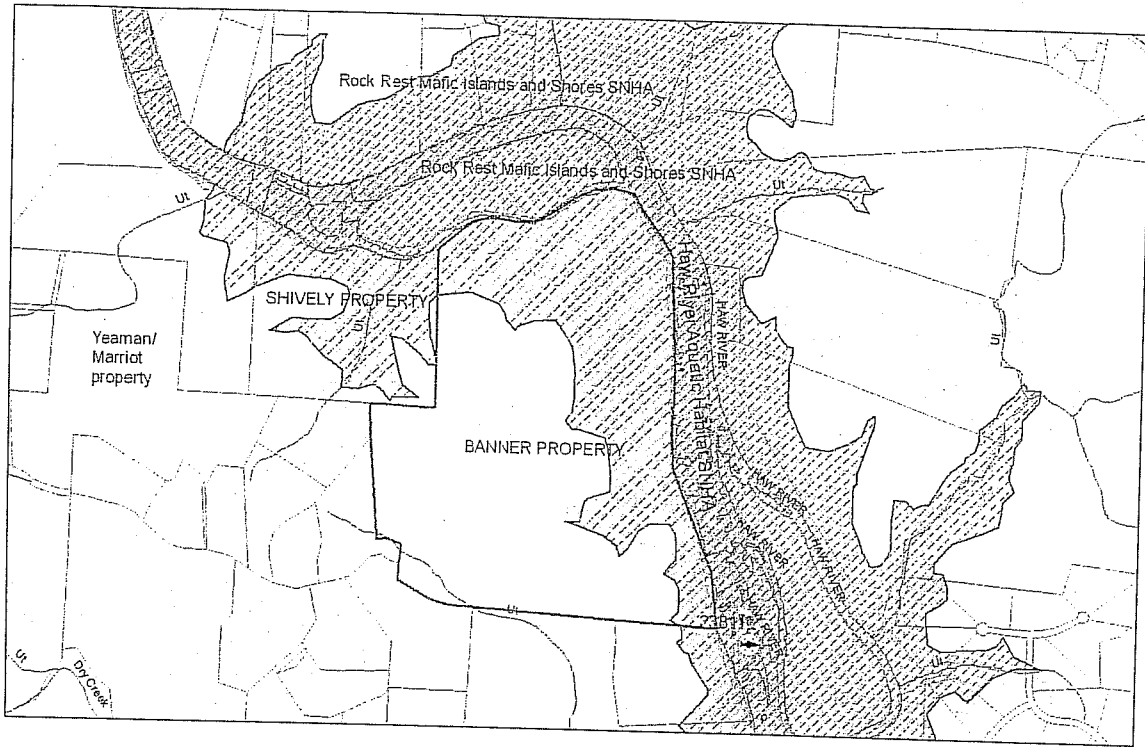
Subdivision Application

1. Claims that "environmental reports provided indicate that no federally endangered species were found on the property." According to the reports submitted by S&EC as part of the subdivision application, no actual survey for federally endangered species was conducted. Furthermore, S&EC failed to acknowledge the presence of a population of the Cape Fear shiner last observed in the Haw River immediately downstream of the Banner tract (see #1 and #2 under *Natural Community Analysis* below).

Environmental Status Report for the Banner Tract by S&EC, October 16, 2006:

1. Claims NC NHP occurrence records were checked in November 2004 and again in March 2006; however, S&EC letter entitled *Natural Heritage Program File Search* dated October 11, 2006, claims record check was as recent as October 2006. Despite any of these record checks, the Cape Fear shiner population last observed in 2000, which occurs just downstream from the Banner tract, was not acknowledged (see Figure 2, next page).
2. Claims that both the Bynum and Silk Hope quadrangles were checked for nearby occurrences. If Silk Hope quadrangle was included in analysis, another state-listed species, *Collinsonia tuberosa* (Piedmont horsebalm) should have been added to list of possible rare species to occur at the site. This species occurs within rich hardwood forests, of which there is certainly suitable habitat within the project boundary.
3. Acknowledges an "Identified Priority Area (IPA)" adjacent to the site, but fails to name it. There is actually one Significant Natural Heritage Areas (SNHAs) present within the Banner site boundary, and another adjacent to the site; they are the Rock Rest Mafic Islands and Shores SNHA, and the Haw River Aquatic Habitats SNHA (see Figure 2, next page), respectively. S&EC fails to acknowledge the presence of the Rock Rest Mafic Islands and Shores SNHA within the Banner property boundary.

Figure 2. Map showing Banner tract relative to portions of the Rock Rest Mafic Islands and Shores and Haw River Aquatic Habitat Significant Natural Heritage Areas (SNHAs), and in proximity to a known population of the Cape Fear shiner (EO 23811, fish symbol).



4. Claims an occurrence of *Phacelia covillei* (Buttercup phacelia) is known to occur "approximately 1 mile northwest" of the Banner site. In two other documents S&EC wrote regarding this tract, the distance to this population of Buttercup phacelia is "1.5 miles northwest of the site" (see *Natural Community Analysis* dated October 16, 2006) and "1.8 miles northwest of the site" (see *Natural Heritage Program File Search report* dated October 11, 2006). Though these reports were written within a week of one another, the distance to the Buttercup phacelia ranges from 1 mile to up to 1.8 miles away from the site.

5. Claims a "field survey" was conducted in September 2006 of the existing habitat and potential for rare species. What are the results of that survey? [Is this a reference to the *Natural Community Analysis* conducted on October 16, 2006?]

Natural Heritage Program File Search report for the Banner tract by S&EC dated October 11, 2006:

1. Claims Natural Heritage record check conducted in October 2006; *Environmental Status Report* dated October 16, 2006, claims records were checked in November 2004 and again in March 2006 (see #1 above).
2. Acknowledges both the Rock Rest Mafic Islands and Shores and Haw River Aquatic Habitat SNHAs in the text, though Rock Rest SNHA is not shown in the list of IPAs found on the Bynum quad on page 2.

Natural Community Analysis for the Banner Tract by S&EC, October 16, 2006:

1. Claims that no federally-listed species were observed on-site during the field survey (see Executive Summary), but yet states later in document that no survey for the Cape Fear shiner, a federally-listed species, was conducted.
2. Claims the closest element occurrence is of the federally-listed Cape Fear shiner; that the population is "2 miles southeast of the site." The report fails to acknowledge the presence of an even closer population of the Cape Fear shiner (EO ID 23811) which was last observed on May 31, 2000, immediately downstream of and approximately 120 meters from the southeastern corner of the Banner site (see Figure 2 above; also see #1 above under *Environmental Status Report* for the Banner Tract, written by S&EC, October 16, 2006).
3. Claims an occurrence of *Phacelia covillei* (Buttercup phacelia) is known to occur "approximately 1.5 miles northwest" of the Banner site. In two other documents S&EC wrote regarding this tract, the distance to this population of Buttercup phacelia is "1 mile northwest of the site" (see *Environmental Status Report* dated October 16, 2006) and "1.8 miles northwest of the site" (see *Natural Heritage Program File Search report* dated October 11, 2006). Though these reports were written within a week of one another, the distance to the Buttercup phacelia ranges from 1 mile to up to 1.8 miles away from the site. [See #4 above under *Environmental Status Report* for the Banner Tract, written by S&EC, October 16, 2006.]
4. Omits Rock Rest Mafic Islands and Shores SNHA from list of IPAs known to occur within the Bynum quadrangle.
5. Claims a field survey was conducted, but does not state what was surveyed (natural communities?) or when the survey took place.
6. Claims that *Quercus imbricaria* and *Leucothoe recurva* occur within the Piedmont Alluvial Forest on site. However, both species occur primarily in the upper Piedmont and Mountains, not the central Piedmont, and it's highly unlikely they occur along the Haw River (A. S. Weakley 2006, pers. comm.).
7. Claims that the "property boundaries were surveyed for suitable habitat of the following NHP documented species occurring within a 10-mile radius of the property," but does not state when the survey took place. Also, this method of surveying does not match other declarations of surveys made by S&EC in other documents regarding the Banner tract.
8. Claims the closest documented occurrence of the Cape Fear shiner is "approximately 4 miles southeast of the site" (see Cape Fear shiner section under Protected Species), yet earlier in the same document the authors claim the closest population is 2 miles southeast (see #2 above). In fact, the closest documented population of the Cape Fear shiner is downstream of and about 120 meters from the southeastern corner of the Banner tract (see Figure 2 above).
9. Claims that no individuals of Septima's clubtail or Bald Eagle were observed, but the authors fail to indicate whether or not surveys were conducted for these species.
10. Claims that no populations of Harperella (*Ptilimnium nudosum*) were found on the property, but states that suitable habitat exists, and that this species is very susceptible to impacts by changes in hydrology or from siltation and pollution. No impacts on suitable habitat for this species are considered.

11. Claims that Buttercup phacelia (*Phacelia covillei*) is best identified in April and May, yet states that a survey for this species was conducted in September.

Phacelia covillei (Buttercup phacelia) was found during a survey by S&EC of the Shively tract, adjacent to the Banner tract. It's not clear if when the population was discovered.

CONCLUSION

The environmental reports written by S&EC and submitted to the County are inadequate to determine the nature and magnitude of potential environmental impacts from these developments. The reports are inconsistent, and the methodology used to determine the likelihood of the presence of rare species or suitable habitat is flawed. These reports are indefensible, and would not stand up to review by peer review or review by State agencies.

The significance of the SNHA and Aquatic Habitat which are directly impacted by the proposed developments is not acknowledged, and the potential impacts to these State-designated sites are not discussed.

No impacts to potential habitat for rare species or rare species populations are identified.

Potential impacts to the federally-listed Cape Fear shiner, known to occur just downstream of the proposed developments, is not addressed

No mitigation of potential environmental impacts is discussed.

Given the significance of the natural areas and aquatic habitat within and adjacent to these sites, and the suitable habitat present for a number of Federally- and State-listed plant and animal species, an Environmental Assessment is certainly warranted and highly recommended.

Very sincerely,

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