

September 8, 2011



Northumberland County Board of Supervisors  
P.O. Box 129  
Heathsville, VA 22473

RE: Application for Planned Unit Development and Special Exemption Permit by Bluff Point Holdings LLC

Dear Members of the Board:

Wetlands Watch requests that the following comments be made part of the record of decision in the above noted proposed actions sought by Bluff Point Holdings LLC. Wetlands Watch is an incorporated nonprofit organization, based in Norfolk, working statewide in Virginia to protect and conserve the state's wetlands. We have, since 2001 been engaged in efforts to protect and conserve wetlands and, since 2007, have been engaged in efforts to assist local governments in tidewater Virginia with adapting to sea level rise and resulting higher storm surge inundations.

We have a direct interest in the above noted proposed action on behalf of our members in Northumberland and Lancaster Counties as well as a general interest in the continued health and productivity of the wetlands of Virginia.

The proposed subdivision/planned unit development (PUD) offers many very positive and innovative development proposals that are environmentally sensitive. If every shoreline development in Virginia were constructed in this manner over the last thirty years, we would not be facing the severe challenges we face today to protect Virginia's wetlands and clean up the Chesapeake Bay.

That said, an excellent development proposal in the wrong place will still produce adverse effects, and that is the flaw in this proposal: the development is in the wrong place.

The location of the highest density of development in the proposed "Bay and Harbor Area" (so-named by the applicant) endangers both the area's natural resources and the people and property

proposed to be located there. This land is currently zoned C-1 because that is the best use of this land. This area is fragile, vulnerable, and increasingly dangerous to live upon.

**Flooding of Bluff Point Will Increase in Severity and Frequency**

Nearly all of this proposed development and all of the Bay and Harbor Area is located in a category 1 storm surge zone (inundated by 4-6 feet of storm surge) as delineated by the Virginia Department of Emergency Management. The Bay and Harbor Area is within the 100-year floodplain and is in an AE flood insurance zone, requiring mandatory participation in the National Flood Insurance Program. This clearly indicates the low elevation of this property and the flooding threat posed.

The Northern Neck, particularly Northumberland and Lancaster Counties, like most of tidal Virginia, faces clear and present threats from sea level rise and storm surges riding atop these higher water levels. The National Oceanographic and Oceanic Administration (NOAA) tide gauge at Lewisetta indicates a 1.6 foot/century rate of sea level rise, one of the highest rates on the Atlantic Coast of the United States. This rate will increase in the coming century, from 2.3 to 5.2 feet/100 years, with best current estimates of around 3 feet per century, based upon data developed subsequently from Artic sea ice research. I served on the Virginia Climate Change Commission and we agreed – by consensus – that those were the ranges of sea level rise we faced in tidal Virginia.

Table 1 below illustrates the threats posed by the rates of sea level rise we are experiencing and will experience in coming decades. This table was produced by Northrop Grumman Corporation in 2009 as they tried to evaluate the impacts of sea level rise on frequency and severity of flooding.

Average Number of Years (yrs) Between Inundation Events					
Event Severity		Sea Level Rise Change (ft)			
Flood Stage	Gauge Level (ft)	Historical	Present	+2'	+3'
Flood	+5.00	1.71 yrs	0.33 Yrs	0.10 yrs	0.08 yrs
Moderate	+6.00	7.32 yrs	1.71 yrs	0.33 yrs	0.10 yrs
Major	+7.00	26.83 yrs	7.32 yrs	1.71 yrs	0.33 yrs
Record	+8.00	80.50 yrs	26.83 yrs	7.32 yrs	1.71 yrs

**Table 1.** Notional Frequency of Storm Surges with Sea Level Rise (Chart developed by and based upon unpublished 2009 data developed by Northrop Grumman Corporation and presented to the Hampton Roads Planning District staff. “Gauge Level” is height of storm surge flood waters measured from Mean Low Water. “Historical” occurrence is average frequency of events from 1927 – 2009.)

This information indicates that a 6 foot storm surge, sufficient to inundate nearly all of Bluff Point, has occurred on average every 7.32 years. With current sea levels, this flood stage will, on average, occur about every 1.71 years. By the end of this century, with around 2 feet of additional sea level rise, this flooding will happen three times a year, on average.

More important is the increasing frequency of higher storm surges with higher sea level. For example, Northrop Grumman's scenario indicates that a Major Storm Surge Event (+7 feet, category 2 flood zone inundation) will happen with increasing frequency as time goes on, threatening not only Bluff Point, but all the connecting roads and the other properties in this proposed development.

Recognizing that the useful life of a residential property is on average 100 years with minimal maintenance, these data indicate that within the useful life of this proposed development there will be increased maintenance costs, increased threats to public health and safety, increased threats and disruption to essential infrastructure (water, power, sewer, etc.) and an increased tax burden on the Northumberland taxpayers should these costs exceed the fiscal resources of a homeowner's association to keep pace.

This reality has caused Virginia's tidewater localities from the Northern Neck to the North Carolina line to re-evaluate land use plans east of the "Suffolk Scarp," the 10- 15 foot ridge that runs west of today's western Bay shoreline. (Research indicates that the Suffolk Scarp was the shoreline during the last major interglacial [warm] period.) Virginia's tidal localities are seeing repetitive flood loss patterns in those areas causing them to rethink past development decisions. Some localities face increasing public taxpayer investment to retain the higher land use values of those lands, investments that are starting to exceed the property tax revenues produced by those properties.

One additional unique feature at Bluff Point is the presence of a very high seasonal water table (6 – 24 inches below the surface under most of the proposed Bluff Point PUD). This water table will rise with sea level increases, flooding the landscape from beneath, leaving permanent structures as elevated islands connected by elevated roadways. This permanent flooding impact (as opposed to storm surge flooding) will occur over the useful life of this subdivision and certainly affect its safety and viability.

### **Flooding Threats Change the Economic Viability of this Proposed Development**

Shoreline development has been the "cash cow" for localities for many years, producing higher property taxes as higher beneficial uses are approved. With sea level rise and predicted higher storm surges, these properties are increasingly becoming "money pits" because of the increased public investment needed to maintain the higher beneficial uses. Roads, sewage lines, storm water features, fire, police, EMT facilities – all need to be replaced more frequently or designed to higher (and more expensive) standards. That is the situation that will be facing Northumberland County over the useful life of this proposed development.

We are observing in Virginia's older shoreline communities that the infrastructure investments needed to retain the higher beneficial use value of residential property are exceeding the expected property tax revenues from those properties. In the short run, these costs are spread across the locality's tax base, but in the longer run, these taxpayer costs along the shoreline will begin to erode the fiscal conditions of these localities.

In response to the new reality, localities need to take a "life cycle cost" analysis of proposed developments in tidally-influenced flood plains/category 1 storm surge zones. The military has started this process in Virginia, looking at "total ownership cost" of decisions to locate facilities along the tidal shoreline, factoring future maintenance costs into decisions to build and locate new structures. The US Army Corps of Engineers has issued an engineering guidance on its civil works construction along the shoreline that takes sea level rise into account. Localities need to follow suit and ask: "What is the net economic gain of this development decision over the useful life of the proposed development? What will our children and grandchildren have to pay in taxes to maintain this development and will maintenance costs exceed the property tax revenues?"

Another emerging economic reality is the change in insurance coverage along the tidal coastline in Virginia. Private insurers (those companies offering general liability, wind damage, and other homeowner's insurance) are withdrawing or severely modifying coverage along Virginia's tidal shoreline. We have documented the withdrawal of new policy offerings by Allstate, State Farm, Nationwide, Farmers, and USAA in Virginia's tidal localities. Given that a bank loan requires homeowner's insurance, this situation is changing the economics of shoreline development.

In addition, the Federal Flood Insurance Program (provides taxpayer-subsidized flood insurance) is nearly bankrupt and will be enacting major reforms in rates and coverage to compensate for increasingly larger claims. In addition, the Federal Emergency Management Agency (FEMA) which administers the Federal Flood Insurance Program is running new models of storm surge inundation along the mid-Atlantic coast which will be the basis for new flood insurance rate maps (FIRMS) and modified rate and coverage requirements for coastal/tidal regions of Virginia.

Over the useful life of this proposed development, these insurance changes will continue and will increasingly affect the ability of home buyers to secure financing on shoreline property. Already along Virginia's oceanfront, we are seeing property owner's left with no choice for private insurance other than Lloyd's of London, the insurer of last resort, which is charging high rates and mandating large deductibles.

### **Environmental Impacts at Bluff Point are Significant**

While the developer's plans envision an environmentally-sensitive community at Bluff Point, current conservation land use designation of this land is the best choice. This ecosystem, like all the tidal ecosystems, is changing in response to sea level rise and other factors. It will "migrate" with these forces, inland and upland, unless structures are in the way. With hardened structures

(roads, houses, marinas, etc.) blocking the natural migration in coming decades, the ecosystem will drown and disappear.

The estuarine ecosystem at Bluff Point is unique and one that is increasingly threatened along the Chesapeake Bay shoreline. Keeping existing beach and tidal wetlands ecosystems intact becomes critical in coming years as more of these ecosystems fall prey to development and sea level rise.

Necessary land clearing, possible filling of land, changes in hydrology (each structure and hardened surface in this development will shed 23 gallons of rain per square foot on average per year), and many other temporary and permanent impacts to this parcel will have significant impacts over time.

### **Conclusion**

Our conclusion is the same as that provided by Drs. Watts and Byrd of the William and Mary Center for Conservation Biology, in a communication to Chairman Jett on August 11, 2011:

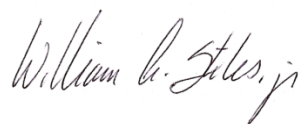
“This property protects low-lying hydric soils that are at an increasing risk of tidal flooding. Although there may be heroic engineering solutions designed to protect such a development they come at high cost in terms of long term maintenance and the extent to which they alter the character of the landscape. If we want to maintain the natural systems that form the basis of the Bay's appeal, we need to move away from siting this type of high impact development within sensitive habitats.”

The highest use of this land, for the citizens of Northumberland and the commonwealth of Virginia is to keep the Bluff Point parcel in conservation. Nothing can be done about the prior land use decisions on the rest of this proposed development, but following a bad decision with a worse one makes little sense.

While the developer is justified in making claims that his development plans are environmentally sensitive, this proposed development is an example of doing something well that shouldn't be done at all.

We respectfully ask the Board of Supervisors to deny the requests of Bluff Point Holdings LLC.

Sincerely,



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