



December 13, 2006

Mr. Zachary Crouch  
Davis, Bowen & Friedel, Inc.  
23 North Walnut Street  
Milford, DE 19963

RE: PLUS review – PLUS 2006-11-14; Woods at Burton Pond

Dear Mr. Crouch:

Thank you for meeting with State agency planners on November 21, 2006 to discuss the proposed plans for the Woods at Burtons Pond project to be located on Conleys Chapel Road in Sussex County.

According to the information received, you are seeking site plan approval through Sussex County for a cluster subdivision of 167 single family residential units on 113.93 acres located in Level 4.

This proposal is located in Investment Level 4 according to the *Strategies for State Policies and Spending*, and is within the Low Density area according to the Sussex County certified comprehensive Plan. **The comments in this letter are technical, and are not intended to suggest that the State supports this development proposal. This letter does not in any way suggest or imply that you may receive or may be entitled to permits or other approvals necessary to construct the development you indicate or any subdivision thereof on these lands.**

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Sussex County is the governing authority over this land, the

developers will need to comply with any and all regulations/restrictions set forth by the County.

The following are a complete list of comments received by State agencies:

**Office of State Planning Coordination – Contact: Bryan Hall 739-3090**

This project represents a major land development that will result in 167 residential units in an Investment Level 4 area according to the *2004 Strategies for State Policies and Spending*. This project is also located within the Low Density Area according to the Sussex County certified comprehensive plan. Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4 areas. These areas are comprised of prime agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been preserved.

From a fiscal responsibility perspective, development of this site is likewise inappropriate. The cost of providing services to development in rural areas is an inefficient and wasteful use of the State's fiscal resources. The project as proposed is likely to bring more than 400 new residents to an area where the State has no plans to invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation. To provide some examples, the State government funds 100% of road maintenance and drainage improvements for the transportation system, 100% of school transportation and paratransit services, up to 80% of school construction costs, and about 90% of the cost of police protection in the unincorporated portion of Sussex County where this development is proposed. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

Because the development is inconsistent with the *Strategies for State Policies and Spending*, the State is opposed to this proposed subdivision.

**Division of Historical and Cultural Affairs – Contact: Alice Guerrant 739-5685**

The Division of Historical and Cultural Affairs (DHCA) is not in favor of this development in Level 4. It is just east of St. Georges Chapel (S-152), which is listed in the National Register of Historic Places, and will have an adverse effect on this significant property through increased traffic and noise in the area. This development will continue the loss of the historic agricultural landscape in this area, and will lead to

the loss of archaeological sites within the development. There are areas of high prehistoric potential near Chapel Branch. Beers Atlas of 1868 shows the D. Derrickson House within this parcel on the eastern edge.

Small, rural, family cemeteries often are found in relation to historic farm complexes, such as the Derrickson House, usually a good distance behind or to the side of the house. The developer should be aware of Delaware's Unmarked Human Remains Act of 1987, which governs the discovery and disposition of such remains. The unexpected discovery of unmarked human remains during construction can result in significant delays while the process is carried out, and the developer may want to hire an archaeological consultant to check for the possibility of a cemetery here if this development is approved. The DHCA would have to have a copy of any archaeological report done for this purpose. They will be happy to discuss these issues with the developer; the contact person for this program is Faye Stocum, 302-736-7400.

If this development does proceed, we request that the developer include sufficient landscaping to block any visual and noise adverse effects from St. Georges Chapel and other historic properties in the area. The DHCA would also like the opportunity to examine the area prior to any tree removal or other ground-disturbing activities, to see if there are in fact any archaeological sites on the parcel and to learn something about their location, nature, and extent

**Department of Transportation – Contact: Bill Brockenbrough 760-2109**

Spring Breeze Associates seeks to develop a 113.93-acre parcel (Tax Parcel 2-34-11.00-72.00) north of Burton Pond. More specifically, the land is on the south side of Conley's Chapel Road (Sussex Road 280B) across from Beaver Dam Acres. The development would consist of 167 single-family detached houses. The land is presently zoned AR-1 in Sussex County and would be developed under the County's cluster development option.

Because this development is proposed for a Level 4 Area, it is inconsistent with the *Strategies for State Policies and Spending*. As part of their commitment to support the *Strategies*, DelDOT refrains from participating in the cost of any road improvements needed to support this development and is opposed to any road improvements that will substantially increase the transportation system capacity in this area. DelDOT will only support taking the steps necessary to preserve the existing transportation infrastructure and make whatever safety and drainage related improvements are deemed appropriate and necessary. The intent is to preserve the open space, agricultural lands, natural habitats and forestlands that are typically found in Level 4 Areas while avoiding the creation of isolated development areas that cannot be served effectively or efficiently by public transportation, emergency responders, and other public services.

DelDOT strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in approved Comprehensive Plans. We encourage the use of transfer of development rights where this growth management tool is available.

If this development proposal is approved, notwithstanding inconsistencies with the relevant plans and policies, DelDOT will provide technical review and comments.

**The Department of Natural Resources and Environmental Control – Contact: Kevin Coyle 739-9071**

#### **Investment Level 4 Policy Statement**

This project is proposed for an Investment Level 4 area as defined by the *Strategies for State Policies and Spending* and is also located outside of a designated growth area in the relevant municipal and county certified comprehensive plans. According to the *Strategies* this project is inappropriate in this location. In Investment Level 4 areas, the State's investments and policies, from DNREC's perspective, should retain the rural landscape and preserve open spaces and farmlands. Open space investments should emphasize the protection of critical natural habitat and wildlife to support a diversity of species, and the protection of present and future water supplies. Open space investments should also provide for recreational activities, while helping to define growth areas. Additional state investments in water and wastewater systems should be limited to existing or imminent public health, safety or environmental risks only, with little provision for additional capacity to accommodate further development.

With continued development in Investment Level 4 areas, the State will have a difficult, if not impossible, time attaining water quality (e.g., TMDLs) and air quality (e.g., non-attainment areas for ozone and fine particulates) goals. Present and future investments in green infrastructure, as defined in Governor Minner's Executive Order No. 61, will be threatened. DNREC strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in certified Comprehensive Plans. They encourage the use of transfer of development rights where this growth management tool is available.

This particular development certainly compromises the integrity of the State Strategies and the preservation goals inherent in many of DNREC's programs. Of particular concern are the potential impacts to two out of three layers of the Green Infrastructure map (natural resource and recreation priorities and forest Land), the increase in impervious cover, the loss/fragmentation of forest (68 out of 114 acres or 60%), potential

impacts to wetlands, and potential impacts to State Resource Areas/Natural Areas. While mitigating measures such as conservation design, central wastewater systems instead of individual on-site septic systems, and other best management practices may help mitigate impacts from this project, not doing the project at all is the best avenue for avoiding negative impacts. As such, this project will receive no financial, technical or other support of any kind from DNREC. Any required permits or other authorizations for this project shall be considered in light of the project's conflict with our State growth strategies.

### **Green Infrastructure**

Portions or all of the lands associated with this proposal are within the Livable Delaware Green Infrastructure area established under Governor Minner's Executive Order #61 that represents a network of ecologically important natural resource lands of special state conservation interest.

Green infrastructure is defined as Delaware's natural life support system of parks and preserves, woodlands and wildlife areas, wetlands and waterways, productive agricultural and forest land, greenways, cultural, historic and recreational sites and other natural areas all with conservation value. Preserving Delaware's Green Infrastructure network will support and enhance biodiversity and functional ecosystems, protect native plant and animal species, improve air and water quality, prevent flooding, lessen the disruption to natural landscapes, provide opportunities for profitable farming and forestry enterprises, limit invasive species, and foster ecotourism.

Voluntary stewardship by private landowners is essential to green infrastructure conservation in Delaware, since approximately 80 percent of the State's land base is in private hands. It is in that spirit of stewardship that the Department appeals to the landowner and development team to protect sensitive resources through an appropriate site design.

### **Soils**

Based on the Sussex County soil survey update, Fort Mott, Ingleside, Runclint, Pepperbox, Hurlock, and Longmarsh-Indiantown complex were mapped on the subject parcel. Fort Mott and Ingleside are somewhat well-drained upland soils that, generally, have few limitations for development. Runclint is a somewhat excessively well-drained soil that may have limitations associated with rapid permeability. Pepperbox is a moderately well-drained soil that has moderate limitations for development. Hurlock is a poorly-drained wetland associated (hydric) soil that severe limitations for development.

Longmarsh-Indiantown complex is a very poorly-drained wetland associated (hydric) floodplain soil that has the highest severity level for development.

### **Wetlands and Water Bodies**

Based on Statewide Wetland Mapping Project (SWMP) mapping, palustrine forested scrub-shrub and palustrine forested riparian wetlands associated with the headwater reaches of a headwater tributary (Chapel Branch) were mapped along the southwestern boundary of the parcel. Palustrine wetlands were also mapped in the north central and the southeastern boundary of the parcel. While PLUS materials indicate that there will not be direct impacts to these wetlands, it is important to note that these wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife.

Vegetated buffers comprised of native plants, of no less than 100 feet, should be employed from the edge of the wetland complex and stream (Chapel Branch). The developer should note that both DNREC and Army Corps of Engineers discourage allowing lot lines to contain wetlands to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances that can be caused by homeowners.

Impacts to Palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process.

To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-9943 to schedule a meeting.

As noted previously, this parcel contains SWMP-mapped headwater riparian wetlands. Headwater riparian wetlands are important for the protection of water quality and the maintenance/integrity of the ecological functions throughout the length of a stream, including the floodplain system and/or water bodies further downstream. Since streams are a major avenue for nutrient-laden stormwater and sediment runoff their protection deserves the highest priority.

## **Impervious Cover**

Based on a review of the PLUS application, post-development surface imperviousness was estimated via calculation to be about 22 percent. However, given the scope and density of this project, this estimate is likely an **underestimate**. The applicant's apparent use of natural areas (forests, wetlands or buffers) or functional amenity areas (stormwater management or wastewater disposal) for meeting the County's open space requirements artificially lowers the amount of this project's post-development projection of surface imperviousness, ultimately underestimating its environmental impacts. Furthermore, the applicant should also realize that all forms of constructed surface imperviousness (i.e., rooftops, sidewalks, and roads) and their extent should be accounted for when calculating surface imperviousness. It was not clear from the information submitted whether all of these factors were comprehensively considered in the applicant's calculation. It is strongly recommended that the finalized impervious surface calculation reflect all of the above-mentioned concerns.

Studies have shown a strong relationship between increases in impervious cover to decreases in a watershed's overall water quality. It is strongly recommended that the applicant implement best management practices (BMPs) that reduce or mitigate some of its most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials ("pervious pavers") in lieu of asphalt or concrete in conjunction with an increase in forest cover preservation or additional tree plantings are some examples of practical BMPs that could easily be implemented to help reduce surface imperviousness.

## **ERES Waters**

This project is located adjacent to receiving waters of the Inland Bays designated as waters having Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State, and shall be protected and/ or restored, to the maximum extent practicable, to their natural condition. Provisions in Section 5.6 of Delaware's "Surface Water Quality Standards" (as amended July 11, 2004), specify that all designated ERES waters and receiving tributaries develop a "pollution control strategy" to reduce non-point sources of pollutants through implementation of Best Management Practices (BMPs). Best Management Practices as defined in subsection 5.6.3.5 of this section, expressly authorizes the Department to provide standards for controlling the addition of pollutants and reducing them to the greatest degree achievable and, where practicable, implementation of a standard requiring no discharge of pollutants.

## **TMDLs**

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Inland Bays Watershed. A TMDL is the maximum level of pollution allowed for a given pollutant below which a “water quality limited water body” can assimilate and still meet water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Although TMDLs are required by federal law, states are charged with developing and implementing standards to support these desired use goals. This project is located in the **low** nutrient reduction area requiring a 40 percent reduction in nitrogen and phosphorus, respectively. A Total Maximum Daily Load (TMDL) is the maximum level of pollution for which a water quality limited water body can assimilate without compromising use and recreational goals such as swimming, fishing, drinking water, and shell fish harvesting.

## **Compliance with TMDLs through the PCS**

As stated above Total Maximum Daily loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Inland Bays Watershed. The TMDL calls for a 40% reduction in nitrogen and phosphorus from baseline conditions. A Pollution Control Strategy (PCS) will provide the regulatory framework for achieving them. The Department developed an assessment tool to evaluate how your proposed development may reduce nutrients to meet the TMDL requirements. Additional reductions may be possible through the implementation of Best Management Practices such as wider vegetated buffers along watercourses, forest cover removal reduction, utilization of public sewer system rather than a community wastewater system, and use of innovative stormwater management treatment trains. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool.

## **Water Supply**

The project information sheets state that Artesian Water Company will be used to provide water for the proposed project. Our records indicate that the project is located within the public water service area granted to Tidewater Utilities under Certificate of Public Convenience and Necessity (CPCN) number 83-W-15. It is recommended that the developer contact Tidewater Utilities to determine the availability of public water. Any questions concerning CPCNs should be directed to the Public Service Commission at 302-739-4247. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any well(s).

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Potential Contamination Sources exist in the area, and any well permit applications will undergo a detailed review that may increase turnaround time and may require site specific conditions/recommendations. In this case there is a Groundwater Management Zone associated with the Angola Landfill within 1000 feet of the proposed project.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-9944.

### **Sediment and Erosion Control/Stormwater Management**

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. The plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact the Sussex Conservation District at (302) 856-7219 for details regarding submittal requirements and fees.

A Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity must be submitted to the Division of Soil and Water Conservation along with the \$195 NOI fee prior to plan approval.

Applying practices to mimic the pre-development hydrology on the site, promote recharge, maximize the use of existing natural features on the site, and limit the reliance on structural stormwater components, such as maintaining open spaces and forested areas, should be considered in the overall design of the project as a stormwater management technique. Green Technology BMPs must be given first consideration for stormwater quality management.

Each stormwater management facility should have an adequate outlet for release of stormwater. The onsite drainage features should be evaluated for capacity and cleared of

obstructions prior to discharging additional runoff volume to them. To the north of this proposed project, in Beaver Dam Acres, numerous drainage complaints have been reported. These drainage complaints may be due to blockages in the stream system downstream on this site.

Due to significant drainage concerns downstream of this project, a downstream analysis will be required. The consultant should contact DNREC and Sussex Conservation District for details regarding the requirements for the downstream analysis. It is strongly recommended that you contact the reviewing agency to schedule a preliminary meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion.

### **Drainage**

There are known drainage issues with the Chapel Branch/Burton Pond watershed. Contact Brooks Cahall of the DNREC Drainage Program at (302) 855-1930. The Drainage Program requests that the engineer take precautions to ensure that the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of on site storm water. The Drainage Program requests that the engineer check existing downstream ditches and pipes for function and blockages prior to the construction. The engineer is encouraged to meet with downstream landowners to obtain their concerns of current drainage as well as the additional drainage impact this project will have on the area. Please notify downstream landowners if there will be a change in the volume of water released on them.

The Drainage Program does not support the removal of trees for the creation of stormwater management areas. However, the Drainage Program recognizes that tree removal is unavoidable in some cases. Where practical, plant native trees and shrubs to compensate for the loss of nutrient uptake and stormwater absorption the removed trees provided.

The Drainage Program does not have a clear understanding how stormwater will convey to the stormwater management areas. The Drainage Program requests the routing of major stormwater pipes through yards be prohibited.

The Drainage Program encourages the elevation of rear yards to direct water towards the streets where storm drains are accessible for maintenance. However, the Drainage Program recognizes the need for catch basins in rear yards in certain cases. Therefore, catch basins placed in rear yards will need to be clear of obstructions and be accessible

for maintenance. Decks, sheds, fences, kennels, and other structures placed along the storm drains, or within 10 feet of the catch basins, can hinder drainage patterns as well as future maintenance to the storm drains or catch basins. Deed restrictions, along with drainage easements recorded on deeds, should ensure adequate future maintenance access.

The Drainage Program requests a 15-foot side yard setback on all lots with a drainage easement on the side unless otherwise specified. A 15-foot side yard setback will allow room for equipment to utilize the entire drainage easement and maneuver free of obstructions if the drainage conveyance requires periodic maintenance or future re-construction.

The Drainage Program requests a 10-foot drainage easement around all catch basins located on private property to ensure adequate room for maintenance. The Drainage Program recommends restrictions on fences, sheds, and other structures within the easement to prevent obstructions from being placed within 10 feet of the catch basin.

Record all drainage easements on deeds and place restrictions on obstructions within the easements to ensure access for periodic maintenance or future re-construction.

### **Open Space**

In areas set aside for passive open space, the developer is encouraged to consider establishment of additional forested areas or meadow-type grasses. Doing so will provide wildlife habitat and it will create recreational opportunities for residents. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces.

Natural habitat implementation efforts should be targeted to open space areas adjacent to forests and wetlands. Natural habitat could consist of reforesting portions of open space or establishing meadow grasses. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces. The developer is encouraged to review "Community Spaces, Natural Places: A guide to restoration, management, and maintenance of community open space". This document provides a reference of practical and successful open space management techniques that emphasize natural landscape

alternatives other than turf grass management. The guidebook is available online at: <http://www.dnrec.state.de.us/dnrec2000/Divisions/Soil/dcmp/>.

In addition, a detailed open space management plan should be recorded on the record plan. This plan should outline how to manage each open space area, as well as invasive species. Open space containing forest and/or wetlands should be placed into a permanent conservation easement or other permanent protection mechanism. Conservation areas should also be demarked to avoid infringement by homeowners.

### **Rare Species**

DNREC has never surveyed this site; however, there are records of *Melanerpes erythrocephalus* (Red-headed Woodpecker), a State-rare bird, in a woodlot just to the south of the project site. Efforts to maintain habitat for this species should be made and would include leaving mature and dead stranding trees and avoiding fragmentation of the forest. According to "Birds of Delaware" this species could be extirpated from Delaware if open mature forests aren't preserved.

There are also records of *Pseudotriton montanus* (mud salamander), which is a secretive amphibian that inhabits muddy wetland areas adjacent to small streams and wooded swamps. Surveys should be conducted to determine if this species is present and a plan drafted to avoid impacts.

In addition, there are numerous records of rare species both upstream and downstream associated with Chapel Branch. Many of these species are especially sensitive to changes in water quality and adequate wetland buffers are extremely important. This buffer needs to be at least 100 feet (preferably 300 feet) and not contain lot lines or infrastructure. One of the species that could be affected by run-off from this development is Swamp pink (*Helonias bullata*). This is a federally listed plant that typically occurs in Atlantic white cedar and maple/gum swamps in the Coastal Plain. In addition to upland forested buffers, appropriate erosion and sediment control measures must be taken during and after construction activities.

### **Ancient Sand Ridge Forest**

According to the GIS database, this site potentially contains an ancient sand ridge forest. This forest type develops on well-drained sandy substrates of ancient, prehistoric sand ridges or dunes. These ridges are unique geologic features on the landscape that were created by wind-blown sediments about 13,000 to 30,000 years ago when the climate was much cooler and drier. The forests are typically composed of several species of oak, as well as species of hickory and pine. Many of these ridges have been identified as occurring along the east side of the Nanticoke River, south of Seaford. However, their

distribution in Delaware is not entirely clear and they may be more widespread in Sussex Co., as well as in Kent Co., but more study is needed. The ancient sand ridge forest type is often home to several state rare plant species and one species in particular: wild lupine (*Lupinus perennis*) is the host plant for a state and globally rare butterfly, the frosted elfin (*Callophrys irus*). More surveys are needed, but there is potential for other rare and uncommon insects and animals to be found within this forest type. Protection of these ancient sand ridges and associated forests are critical to the long term conservation of the states natural heritage.

### **Site Visit Request**

In order to provide more informed comments and to make recommendations, the program botanist and zoologist request the opportunity to survey the forest and wetland areas that could potentially be impacted by the project. This would also allow the applicant the opportunity to reduce potential impacts to rare species and unique habitats and to ensure that the project is environmentally sensitive. In addition, a survey of the project site will give staff an opportunity to document the biodiversity of the property before project activities begin. Please contact Bill McAvoy or Kitt Heckscher at (302) 653-2880 to set up a site visit.

### **Forest Preservation**

This site is entirely forested and will essentially be converted into a 'residential woods'. In terms of habitat value for wildlife, this project will severely fragment the forest. Forest fragmentation separates wildlife populations, increases road mortality, and increases "edge effects" that leave many forest dwelling species, particularly songbirds, vulnerable to predation. When forested areas are converted into a 'residential woods', wildlife must either co-exist with new residents or disperse into surrounding areas. Either scenario can result in an increase in human/animal conflicts, including interactions on the roadways. It also puts greater pressure on nearby Wildlife Areas, Nature Preserves, and other protected lands.

Cumulative impacts are a real concern as there are several recent developments in the area that have resulted or will result in forest loss (Spring Breeze, PLUS 2005-05-13 Wilkinson Property, Oakwood Village, River Oaks 2). For the reasons stated above, we strongly encourage the landowner to consider preservation rather than development and many new incentive-based programs are available to private landowners through our agency. Please contact the Division of Fish and Wildlife at (302) 653-2880 if the landowner(s) is interested in more information.

If preservation is not going to be considered, then a greater effort to preserve forest should be made and this could be accomplished by:

1. Downsizing the current site plan to allow for a larger, connected area of forested open space. This would entail removing lots and infrastructure.
2. If feasible, using an alternative method of stormwater management that does not require tree clearing. It seems counterproductive to clear trees which function in flood abatement to create a pond with the same purpose. The space saved by not clearing for ponds should be left as open space, not additional lots.
3. If tree removal occurs despite our strong objections, it should be minimized and not occur April 1st to August 31st to reduce impacts to rare species, birds and other wildlife that utilize trees for breeding. This recommendation would only protect those species during one breeding season, as once trees are cleared the result is an overall loss of habitat.
4. Forested areas on-site set aside for conservation purposes should be placed into a permanent conservation easement or other binding protection. These areas should be clearly marked and delineated so that residents understand their importance and so that homeowner activities do not infringe upon these areas.

### **Plant Rescue**

Since an entire forest block is going to be altered, we recommend that the developer/landowner contact the Delaware Native Plant Society to initiate a plant rescue. Selected plants from the site of disturbance will be collected by Society members and transplanted to the Society's nursery. Plants will then be used in restoration projects and/or sold at the Society's annual native plant sale. This can be done at no expense or liability to the developer/landowner". Please contact Lynn Redding at (302) 736-7726, (lynn\_redding@ml.com) or William A. McAvoy at (302) 653-2880, (william.mcavoy@state.de.us).

### **Nuisance Geese**

The applicant indicated that nuisance geese would be considered in the planning of this project but methods of control were not indicated. Wet ponds planned for the subdivision may attract waterfowl like resident Canada geese and mute swans. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Short manicured lawns

around ponds provide an attractive habitat for these species. DNREC recommends native plantings of tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area (50 feet) around the perimeter. Waterfowl do not feel safe when they can not see the surrounding area for possible predators. These plantings should be completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with a reduction in the number and/or size of the ponds, proper landscaping, monitoring, and other techniques, geese problems can be minimized.

### **State Resource Areas/Natural Areas**

The wetland and associated upland forest fringe is adjacent to Chapel Branch and is a part of the Rehoboth Bay Natural Area and Inland Bays State Resource Area.

Natural Areas involve areas of land or water, or of both land and water, whether in public or private ownership, which either retains or has reestablished its natural character (although it need not be undisturbed), or has unusual flora or fauna, or has biotic, geological, scenic or archaeological features of scientific or educational value.

State Resource Area lands include any open lands characterized by great natural scenic beauty, or whose existing openness, natural condition or present state of use, if retained, would maintain important recreational areas and wildlife habitat, and enhance the present or potential value of abutting or surrounding urban development, or would maintain or enhance the conservation of natural or scenic resources, including environmentally sensitive areas.

The Office of Nature Preserves appreciates the applicant's efforts to remain out of the Natural Area/SRA. However, lots 48 and 49 are on the edge of the Natural Area/SRA. To provide an adequate buffer to this ecologically sensitive area, the Office of Nature

Preserves respectfully requests the applicant remove lots 48 and 49 or, at the very least, reduce the lot sizes to provide a greater buffer to the NA/SRA.

### **Solid Waste**

Each Delaware household generates approximately 3,600 pounds of solid waste per year. On average, each new house constructed generates an additional 10,000 pounds of construction waste. Due to Delaware's present rate of growth and the impact that growth

will have on the state's existing landfill capacity, the applicant is requested to be aware of the impact this project will have on the State's limited landfill resources and, to the extent possible, take steps to minimize the amount of construction waste associated with this development.

**Air Quality**

Once complete, vehicle emissions associated with this project are estimated to be 12.8 tons (25,632.8 pounds) per year of VOC (volatile organic compounds), 10.6 tons (21,222.2 pounds) per year of NOx (nitrogen oxides), 7.8 tons (15,658.1 pounds) per year of SO2 (sulfur dioxide), 0.7 ton (1,393.8 pounds) per year of fine particulates and 1,072.1 tons (2,144,147.5 pounds) per year of CO2 (carbon dioxide).

*However, because this project is in a level 4 area, mobile emission calculations should be increased by 118 pounds for VOC emissions for each mile outside the designated growth areas per household unit; by 154 pounds for NOx; and by 2 pounds for particulate emissions. A typical development of 100 units that is planned 10 miles outside the growth areas will have additional 59 tons per year of VOC emissions, 77 tons per year of NOx emissions and 1 ton per year of particulate emissions versus the same development built in a growth area (level 1,2 or 3).*

Emissions from area sources associated with this project are estimated to be 5.2 tons (10,338.9 pounds) per year of VOC (volatile organic compounds), 0.6 ton (1,137.6 pounds) per year of NOx (nitrogen oxides), 0.5 ton (944.0 pounds) per year of SO2 (sulfur dioxide), 0.6 ton (1,218.2 pounds) per year of fine particulates and 21.0 tons (41,911.4 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 2.0 tons (4,097.6 pounds) per year of NOx (nitrogen oxides), 7.1 tons (14,252.4 pounds) per year of SO2 (sulfur dioxide) and 1,051.1 tons (2,102,236.1 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO <sub>2</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
Mobile	12.8	10.6	7.8	0.7	1072.1
Residential	5.2	0.6	0.5	0.6	21.0
Electrical Power		2.0	7.1		1051.1
TOTAL	18.0	13.2	15.4	1.3	2144.2

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 2.0 tons of nitrogen oxides per year and 7.1 tons of sulfur dioxide per year.

A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, <http://www.energystar.gov/>:

“ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of:

building envelope upgrades,  
high performance windows,  
controlled air infiltration,  
upgraded heating and air conditioning systems,  
tight duct systems and  
upgraded water-heating equipment.”

The Energy office in DNREC is in the process of training builders in making their structures more energy efficient. The Energy Star Program is excellent way to save on energy costs and reduce air pollution. They highly recommend this project development and other residential proposals increase the energy efficiency of their homes.

DNREC also recommends that the home builders offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for their new occupants.

**Department of Agriculture - Contact: Scott Blaier 698-4500**

The proposed development is in an area designated as Investment Level 4 under the *Strategies for State Policies and Spending*. The *Strategies* do not support this type of isolated residential development in this area. The intent of this plan is to preserve the agricultural lands, forestlands, recreational uses, and open spaces that are preferred uses in Level 4 areas. The Department of Agriculture opposes development which conflicts with the preferred land uses, making it more difficult for agriculture and forestry to succeed, and increases the cost to the public for services and facilities.

More importantly, the Department of Agriculture opposes this project because it negatively impacts those land uses that are the backbone of Delaware's resource industries - agriculture, forestry, horticulture - and the related industries they support. Often new residents of developments like this one, with little understanding or appreciation for modern agriculture and forestry, find their own lifestyles in direct conflict with the demands of these industries. Often these conflicts result in compromised health and safety; one example being decreased highway safety with farm equipment and cars competing on rural roads. The crucial economic, environmental and open space benefits of agriculture and forestry are compromised by such development. We oppose the creation of isolated development areas that are inefficient in terms of the full range of public facilities and services funded with public dollars. Public investments in areas such as this are best directed to agricultural and forestry preservation.

Section 1. Chapter 99, Code of Sussex Section 99-6 may also apply to this subdivision. The applicant should verify the applicability of this provision with Sussex County. This Section states:

G. Agricultural Use Protections.

- (1) Normal agricultural uses and activities conducted in a lawful manner are preferred. In order to establish and maintain a preference and priority for such normal agricultural uses and activities and avert and negate complaints arising from normal noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations, land uses adjacent to land used primarily for agricultural purposes shall be subject to the following restrictions:
  - (a) For any new subdivision development located in whole or in part within three hundred (300) feet of the boundary of land used primarily for agricultural purposes, the owner of the development shall provide in the deed restrictions and any leases or agreements of sale for any residential lot or dwelling unit the following notice:

“This property is located in the vicinity of land used primarily for agricultural purposes on which normal agricultural uses and activities have been afforded the highest priority use status. It can be anticipated that such agricultural uses and activities may now or in the future involve noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations. The use and enjoyment of this property is expressly conditioned on acceptance

of any annoyance or inconvenience which may result from such normal agricultural uses and activities.”

(b) For any new subdivision development located in whole or in part within fifty (50) feet of the boundary of land used primarily for agricultural purposes no improvement requiring and occupancy approval for a residential type use shall be constructed within fifty (50) feet of the boundary of land used primarily for agricultural purposes.

This site also overlaps with the State’s Green Infrastructure Investment Strategy Plan. The Forest Areas layer is present on the site. This designation indicates the land has valuable environmental characteristics and functions which are discussed in Governor Minner’s Executive Order Number 61. They should be preserved as such, and not developed for residential use.

The Delaware Department of Agriculture supports growth which expands and builds on existing urban areas and growth zones in approved State, county and local plans. Where additional land preservation can occur through the use of transfer of development rights, and other land use measures, we will support these efforts and work with developers to implement these measures. If this project is approved we will work with the developers to minimize impacts to the agricultural and forestry industries.

#### *Right Tree for the Right Place*

The Delaware Department of Agriculture Forest Service encourages the developer to use the “Right Tree for the Right Place” for any design considerations. This concept allows for the proper placement of trees to increase property values in upwards of 25% of appraised value and will reduce heating and cooling costs on average by 20 to 35 dollars per month. In addition, a landscape design that encompasses this approach will avoid future maintenance cost to the property owner and ensure a lasting forest resource.

#### *Native Landscapes*

The Delaware Department of Agriculture and the Delaware Forest Service encourages the developer to use native trees and shrubs to buffer the property from the adjacent land-use activities near this site. A properly designed forested buffer can create wildlife habitat corridors and improve air quality to the area by removing six to eight tons of carbon dioxide annually and will clean our rivers and creeks of storm-water run-off pollutants. To learn more about acceptable native trees and how to avoid plants considered invasive

to our local landscapes, please contact the Delaware Department of Agriculture Plant Industry Section at (302) 698-4500.

### *Tree Mitigation*

The Delaware Forest Service encourages the developer to implement a tree mitigation program to replace trees at a 1:1 ratio within the site and throughout the community. This will help to meet the community's forestry goals and objectives and reduce the environmental impacts to the surrounding natural resources. To learn more, please contact our offices at (302) 349-5754.

### **Delaware State Fire Marshal's Office – Contact Duane Fox 856-5298**

❖ ***This Agency has no objection to the re-zoning request. The information provided below shall be considered when plans are being designed.***

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

a. **Fire Protection Water Requirements:**

- Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Apartments and Townhouses)
- Where a water distribution system is proposed for single-family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required. (One & Two- Family Dwelling)
- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

b. **Fire Protection Features:**

- All structures over 10,000 sq.ft. aggregate will require automatic sprinkler protection installed.
- Buildings greater than 10,000 sq.ft., 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements
- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
- Show Fire Lanes and Sign Detail as shown in DSFPR

- For townhouse buildings, provide a section / detail and the UL design number of the 2-hour fire rated separation wall on the Site plan.

c. **Accessibility**

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Atlantic Avenue must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

d. **Gas Piping and System Information:**

- Provide type of fuel proposed, and show locations of bulk containers on plan.

e. **Required Notes:**

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Townhouse 2-hr separation wall details shall be shown on site plans
- Note indicating if building is to be sprinklered

- Name of Water Provider
- Letter from Water Provider approving the system layout
- Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
- Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: [www.delawarestatefiremarshal.com](http://www.delawarestatefiremarshal.com), technical services link, plan review, applications or brochures.

**Delaware State Housing Authority – Contact Vicki Walsh 739-4263**

The proposal is for a site plan review for 167 residential units on 114 acres located on Conley Chapel Road between Beaver Dam Road and Dorman Road near Indian River Hundred. According to the *State Strategies Map*, the proposal is located in an Investment Level 4 area. As a general planning practice, DSHA encourages residential development only in areas where residents will have proximity to services, markets, and employment opportunities, such as Investment Level 1 and 2 areas outlined in the State Strategies Map. Since the proposal is located in an area targeted for agricultural and natural resource protection, and therefore inconsistent with where the State would like to see new residential development, DSHA does not support this proposal.

**Department of Education – Contact: John Marinucci 739-4658**

DOE recognizes that this development project is in level 4 of the State Strategies for Policies and Spending and as such, DOE does not support the approval of this project.

This proposed development is in the Cape Henlopen School District. DOE offers the following comments on behalf of the Cape Henlopen School District.

1. Using the DOE standard formula, this development will generate an estimated 84 students.
2. DOE records indicate that the Cape Henlopen School Districts' *elementary schools are not at or beyond 100% of current capacity* based on September 30, 2005 elementary enrollment.
3. DOE records indicate that the Cape Henlopen School Districts' *secondary schools are not at or beyond 100% of current capacity* based on September 30, 2005 secondary enrollment.
4. While the Cape Henlopen School District secondary and elementary schools are not currently beyond capacity, *the district does NOT* have adequate student

- capacity to accommodate the additional students likely to be generated from this development given the number of planned and recorded residential sub divisions within district boundaries.
5. Continued development will cause significant burden to the Cape Henlopen School District without the provision for additional educational infrastructure.
  6. The developer is strongly encouraged to contact the Cape Henlopen School District Administration to address the issue of school over-crowding that this development will exacerbate.
  7. DOE requests the developer work with the Cape Henlopen School District transportation department to establish developer supplied bus stop shelter ROW and shelter structures, interspersed throughout the development as determined and recommended by the school district.

**Sussex County – Contact: Richard Kautz 855-7878**

Because this project is an AR-1 Cluster subdivision, the developer must include in the application a plan for the management of all open space. Also, the developer must document for the Planning and Zoning Commission how the proposed development: provides for a total environment and design which are superior to that which would be allowed under the standard lot option; preserves the natural environment and historic or archeological resources; and, will not have an adverse effect on any of the items included under Ordinance Number 1152 (County Code 99-9C). For example, the reduction of 167 lots from 20,000 sq. ft. to an average of 9,964 sq. ft. allows for more than 38 acres of open space yet only 33 acres of "useable" open space is provided. As a result, a number of the lots do not have direct access to open space. The remaining open space is that which would otherwise be required with or without the clustering (i.e. stormwater management, buffers, and utilities). These issues can be addressed by including in the application an explanation of how the developer plans to mitigate them and the issues raised by the State agencies.

The State Wetlands map indicates the possibility of wetlands impacting the location of proposed subdivision lots and roads. Therefore a jurisdictional determination letter should be provided to support the proposed design for that area and that the lot layout does not contain any wetlands. This letter should be obtained prior to the request for approval of any final plan.

The Sussex County Engineer Comments:

FROM: Michael A. Izzo, P.E., Sussex County Engineer

SUBJECT: WOODS AT BURTON POND

PLUS PROJECT 2006 -11 -14

SUSSEX COUNTY TAX MAP 2-34-11-PARCEL 72

SUSSEX COUNTY LANDFILL # 3 - ANGOLA

DE HAZARDOUS SUBSTANCE CLEANUP ACT (HSCA) SITE # DE-0130

LANDFILL FILE: LF 1.03.10

DATE: November 20, 2006

The following comments are the result of the Sussex County Engineering Department's review of the above referenced project:

1. This property adjoins the Sussex County Landfill # 3 - Angola, locally referred to as the Angola Landfill. Please label the properties owned by Sussex County Council. They are identified as Sussex County Tax Map 2-34-11-Parcels 68, 69.03, 69.04 & 69.05. The record plat shall also identify these parcels as "Sussex County Landfill # 3 - Angola", and "Delaware State DNREC HSCA Site # DE - 0130." The Angola Landfill property was added to the State of Delaware Site Investigation and Restoration Branch (formerly the Delaware State Superfund Branch) site listing in 1986 and is currently undergoing review.
2. In 1987, Sussex County Council passed Resolution # R02687, affirming that all proposed land use changes in near proximity of any of Sussex County's former landfill sites would include an evaluation of all possible impacts from the existence of the landfill to the land use change being proposed. Please provide an environmental impact statement from a Registered Environmental Professional prior to preliminary approval. Sufficient information has not been included in the application to provide a proper technical opinion.
3. In accordance with Resolution # R02687, a conveyance of a portion of the property that abuts Sussex County Council landfill property is proposed to provide buffer from the landfill. The actual acreage will be determined by survey, but it can be anticipated that a maximum 300 feet wide extension along the County property line will be required. Additionally, the developer shall establish a fenced buffer along their property line to completely prohibit access to the landfill property.
4. Provide a preliminary Stormwater Management Plan layout to this office. Please be advised that excavations, including residential basement construction, within the proposed project area will not be allowed without additional studies being performed to determine if it will be environmentally compatible with the landfill property. Include a note on the Record Plat that states: "any activity that alters the

current groundwater flow direction or lowers the water table on the adjoining Sussex County properties shall be prohibited.

5. Sussex County Angola Landfill Monitor Wells # AS-01 & AS-02 are located on Sussex County property, as shown on the attachment. A permanent access easement of fifteen (15) feet will be required along this property line, to allow Sussex County Council vehicular access, in perpetuity, for the purposes of groundwater sampling and maintenance of these wells. Please designate the location of these two (2) Monitor Wells on the Record Plat, and make notation about the access easement on all proposed parcels that will be affected.
6. The County has entered into two Memorandum of Understandings (MOU) with the State Department of Natural Resources and Environmental Control that established Groundwater Management Zones (GMZ) around the landfill site and surrounding properties. The GMZ consists of three concentric zones where wells are restricted and/or limited (see Angola GMZ attachment). This majority of this proposed development site lies within the Angola Landfill GMZ. A significant portion resides in the "No Well Zone" portion of the GMZ. The location of the GMZ shall be delineated on the Record Plat.
7. A central water system will be required to provide any type of potable water service for this project. The location of the central well, outside of the GMZ, must be approved by Sussex County Engineering Department. Please revise the record plat to indicate that a central water service will be provided. There is currently, a central water system and, owned and operated by Tidewater Utilities, Inc. existing on County Road 288-A- Dorman Road .
8. The Record Plat, Restrictive Covenants, and the Deeds for all proposed lots shall have the following notation placed within them:

"The property identified herein is located within the Sussex County Landfill # 3 - Angola Groundwater Management Zone (GMZ), and has certain regulations placed upon it concerning any proposed land and/or groundwater use. Contact the Sussex County Engineering Department for additional information."

Please contact me or Patricia L. Deptula at (302) 855-7718, if you have any questions concerning these comments. Thank you.

The project proposes to develop using a private central community wastewater system. Sussex County recommends that the wastewater system be operated under a long-term contract with a capable wastewater utility that meets TMDL limits for Delaware's Inland Bays. In addition, we recommend they have a wastewater utility provider prior to approving the project. The proposed project is located outside of the Inland Bays Planning area where Sussex County expects to provide sewer service. Sussex County requires design and construction of the collection and transmission system to meet Sussex County sewer standards and specifications. A review and approval of the treatment and disposal system by the Sussex County Engineering Department is also required and plan review fees may apply. Disposal fields should not be counted as open space. Wastewater disposal fields should be clearly identified on recorded plots and separated from lot area.

If Sussex County ever provides sewer service, it is required that the treatment system be abandoned and a direct connection made to the County system at the developers and/or homeowners association expense.

Submission and approval of a sewer concept plan is not required.

For questions regarding these comments, contact Rob Davis, Sussex County Engineering Department at (302) 855-7820.

Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

Sincerely,

A handwritten signature in cursive script that reads "Constance C. Holland".

Constance C. Holland, AICP  
Director

CC: Sussex County