



June 5, 2009

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**RE: Response to Preliminary Land Use Services (PLUS) Meeting – Pelican Point 1-3**

Dear Connie:

We have received and reviewed your PLUS comment letter dated January 29, 2008. The overall site plan has been modified to meet your concerns, as specified below. Please find enclosed a revised site layout plan for your reference. Our responses to your comments are in [blue](#).

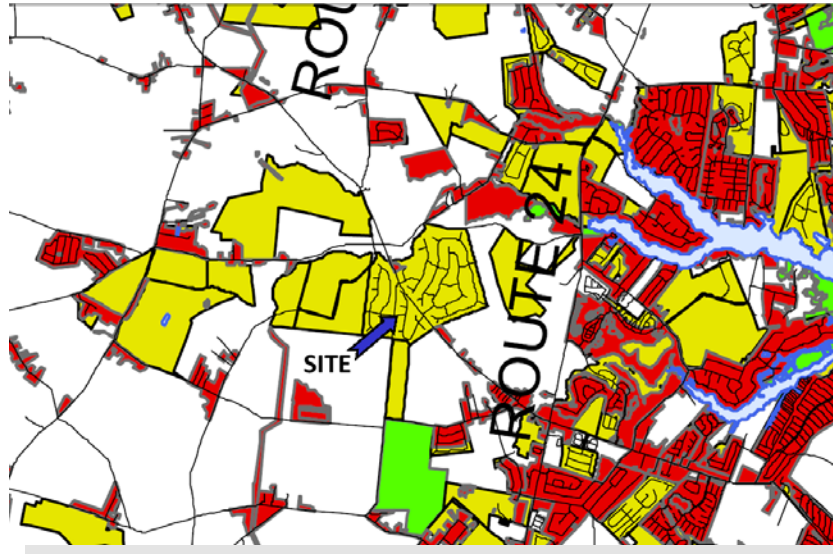
**Office of State Planning Coordination -Contact: Bryan Hall 739-3090**

This project represents a major land development that will result in 252 residential units in an Investment Level 4 area according to the *2004 Strategies for State Policies and Spending*. 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. 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 600 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.



While it is noted that Pelican Point 1-3 lies within Investment Level 4, the proposed site has a tremendous amount of growth and development in the adjacent and nearby lands. The above figure is taken from the June 2008 Sussex County Comprehensive Plan Update (Developed and Protected Lands).

- Red represents existing developed lands
- Yellow represents proposed developed lands
- Green represents protected lands

Pelican Point 1-3 is located in an area which has recently had significant DelDOT roadway improvements, both privately and publicly funded. In addition, the site has a wastewater collection and treatment system which can provide the necessary services for the proposed community. Furthermore, the site will be served by a reliable water company. It shall be noted that the State is not expected or being asked to spend funds on this project to provide infrastructure.

**Division of Historical and Cultural Affairs -Contact: Terrance Burns 739-5685**

There is a known historic or cultural resource site on this parcel/property, and it is 19<sup>th</sup>-century dwelling (S-2952), but now it is no longer there. Also according the Beers Atlas/Map of 1868, it did show and indicate that the dwellings of W.C. Burton and J.B. Stevenson was probably very close to the area to where this parcel/property is, and there is a possibility that there could potentially be or historic or cultural resources or archaeological resources associated with it.

The developer should be aware and remember is that this parcel/property is in a Level 4 area. The nature or context of Level 4 areas are often or usually environmentally sensitive areas. The State Historic Preservation Office of the Division of Historical & Cultural Affairs is not in favor of any type of zoning change, construction, building project, or development in Level-4 areas.

The developer should also be aware that this parcel/property is within the historic vicinity of Indian River Hundred. According to the historic Beers Atlas/Map of 1868, there is evidence on the atlas/map that indicates that the vicinity of Indian River Hundred does have some historical areas. It is a possibility that there could potentially be other historic or cultural resources on this parcel/property because of the historical background of the area or vicinity. These historic or cultural resources could be archaeological resources such as be a cemetery, burial ground, unmarked human remains, or the parts or pieces or something demolished, destroyed, or ruined historically.

The State Historic Preservation Office of the Division of Historic & Cultural Affairs recommends the prior to or before any demolition, ground-disturbing activities or construction on this parcel/property that the developer show review Chapters 53 and 54, in Title 7, of the Delaware State Code. Chapter 53 pertains to the discovery and disposition of "Conservation of Archaeological Resources In or On State Lands". Chapter 54 pertains to the "Delaware Unmarked Human Remains Act of 1987", such as the discovery and disposition of Unmarked Human Burials or Skeletal Remains". The unexpected discovery of unmarked human remains during construction can result in significant delays while the process is carried out.

The State Historic Preservation Office of the Division of Historic & Cultural Affairs also recommends that prior to or before any demolition, ground-disturbing activities, or construction that the developer should consider hiring an archaeological consultant to check or examine parcel/property thoroughly, and see if there is any evidence or indication of potential historic or cultural resources, or archaeological resources on it, such as a cemetery, burial ground, unmarked human remains, or the parts or pieces or something demolished, destroyed, or ruined historically.

If the developer would like to discuss this information or recommendation in further detail, contact Mr. Terence Burns at State Historic Preservation Office of Division of Historic & Cultural Affairs at (302) 736-7400 ext.25.

[The comments from the Historical and Cultural Affairs Department are noted. Before construction commences, the developer will consider hiring an archaeological consultant.](#)

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

Cannon Road Investments, LLC seeks to develop 252 single-family detached houses on a 134.565-acre assemblage of parcels (Tax Parcel 2-34-16.00-multiple parcels) located on the south side of Delaware Route 5 and both sides of Cannon Road (Sussex Road 307). The land is zoned AR-1 and has already been subdivided but the developers now seek an RPC overlay zoning to permit a resubdivision with a different configuration and mix of unit types.

Because this development is proposed for a Level 4 Area it is inconsistent with the *Strategies for State Policies and Spending*. As part of our 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 further technical review and comments.

The developer will continue to work with DelDOT as required as it relates to this project. As this project was previously part of the Stonewater Creek Development, the developer has already made entrance and roadway improvements in the area. In addition, the project Pelican Point 4-7 requires additional DelDOT improvements of which will be completed per the requirements.

**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., nonattainment 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. We 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 loss/fragmentation of forest (7 out of 12 acres or 58.3%) and the project's location in an excellent recharge area. 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.

It is noted that the site lies within Investment Level 4.

### **Soils**

Based on the Sussex County soil survey update, Fort Mott Henlopen complex, Downer, Rumford, Rosedale, and Longmarsh were mapped in the immediate vicinity of the proposed construction. Fort-Mott Henlopen complex, Downer, Rumford, and Rosedale are well-drained upland soils that generally, have few limitations for development. Longmarsh is a very poorly-drained wetland associated (hydric) soil that has severe limitations for development.

The soils contained on site are noted.

### **Wetlands**

Based on the Statewide Wetland Mapping Project (SWMP) maps, palustrine forested riparian wetlands were mapped on subject parcel. Impacts to Palustrine wetlands are regulated by the U.S. Army Corps of Engineers (USACE, or "the Corps") through Section 404 of the Clean Water Act. In addition, individual 404 permits and certain Nationwide Permits from the Corps 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 Management Program (DCMP) Section. Each of these certifications represents a separate permitting process. Please be advised that nationwide permits have been suspended in Delaware and are pending further coordination with the Corps. Therefore, contrary to past practices, Coastal Zone Management approval can no longer be assumed. Individual certifications must be granted from the DCMP office for each project intending to utilize a Nationwide Permit. For more information on the Federal Consistency process, please contact the DCMP office at 302.739.9283. 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.

Based on a review of existing buffer research by Castelle et al. (1994), an adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100-foot in width. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish a minimum 100-foot upland buffer (planted in native vegetation) from the landward edge of all wetlands and water bodies (including all ditches).

It is noted that the onsite wetlands are a vital environmentally sensitive area. The developer intends to provide future protection of these areas by limiting site work to a minimum of 50' from the wetlands line.

### **Impervious Cover**

Based on information provided by the applicant in the PLUS application form, this project's post-development surface imperviousness is estimated to reach 7 percent. However, given the scope and density of this project (i.e., as viewed from the conceptual project layout) this estimate appears to be a significant underestimate. When calculating surface imperviousness, it is important to include all forms of constructed surface imperviousness (i.e., rooftops, sidewalks, stormwater management structures, and roads) in the calculation for surface imperviousness; this will ensure a realistic assessment of this project's likely post-construction environmental impacts. Since it is apparent that the applicant's estimate for surface imperviousness is a significant underestimate of their project's actual post-construction impacts, it should be recalculated with or include, all forms of constructed surface imperviousness. Failures to do so will significantly understate this project's true environmental impacts.

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.

The proposed impervious area calculations have been revised to reflect a proposed impervious cover of 19.9% of the total site. It is the developer's intention to implement BMP's during the stormwater management design.

### **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.

It is the developer's intention to implement BMP's during the stormwater management design. The BMP's will aid in controlling the addition of pollutants to the environment.

## **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. Additionally, 40 percent reduction in bacteria will also be required.

A TMDL worksheet has been completed for the proposed project. The worksheet indicates that development will meet the required TMDL reduction for both Total Nitrogen and Phosphorous.

## **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 percent reduction in nitrogen and phosphorus from baseline conditions. Additionally, a 40 percent reduction in bacteria will also be required from baseline conditions. A Pollution Control Strategy (PCS) will provide the regulatory framework for achieving them. Additional nutrient reductions may be possible through the implementation of Best Management Practices such as wider vegetated buffers along watercourses (and wetlands), increasing passive, wooded open space which helps reduce surface imperviousness (i.e., pervious pavers), and the use of green-technology stormwater management technologies.

The Department has developed an assessment tool to evaluate how your proposed development may reduce nutrients to meet the TMDL requirements. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool.

(See previous response).

## **Water Supply**

The project information sheets state that public water will be provided to the project by a Private Company. DNEC records indicate that the project is located within the public water service area granted to Artesian Water Company under Certificate of Public Convenience and Necessity (CPCN) 04-CPCN-05. It is recommended that the developer contact Artesian Water Company to

determine the availability of public water. Any public water utility providing water to the site must obtain a CPCN from the Public Service Commission. Information on CPCNs and the application process can be obtained by contacting the Public Service Commission at 302-739-4247. Should an on-site Public/Miscellaneous Public well be needed, a minimum isolation distance of 150 feet is required between the well and any potential source of contamination, such as a septic tank and sewage disposal area, and it must also be located at least 150 feet from the outermost boundaries of the project. 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 wells.

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.

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

[The comments for Water Supply are noted. The developer has contacted Artesian Water Company to request Ability to Serve Letter. Artesian Water Company has a conditional use to supply water to this site and a CPCN.](#)

### **Water Resource Protection Areas**

The Water Supply Section, Ground Water Protection Branch (GWPB), has determined that portions in the northern and southern edges falls within excellent ground-water recharge areas for Sussex County (see following map and attached map).

Excellent Ground-Water Recharge Areas are those areas mapped by the Delaware Geological Survey where the first 20 feet of subsurface soils and geologic materials are exceptionally sandy. These soils are able to transmit water very quickly from the land surface to the water table. This map category (excellent) is an indicator of how fast contaminants will move and how much water may become contaminated (Andres, 2004). Land use activities or impervious cover on areas of excellent ground-water recharge potential may adversely affect ground water in these areas.

The Water Supply Section recommends that the portion of the new development within the excellent ground-water recharge area not exceed 20% impervious cover (DNREC, 2005).

Augmenting ground-water recharge should be considered if impervious cover exceeds 20% but is less than 50%. The development should not exceed 50%. A water balance calculation (environmental assessment) will be necessary to determine the quantity of clean water to be recharged via a recharge basin (Thorntwaite, 1957). The purpose of an impervious cover threshold is to minimize loss of recharge (and associated increases in storm water) and protect the quality and quantity of ground water and surface water supplies.

The proposed development would change the impervious over from 0.74 % to approximately 7.33 %. The Developer provided these numbers on the PLUS application form. This figure appears to be an underestimation of impervious cover found in the excellent ground-water recharge area in the northern portion of the site.

GWPB recommends:

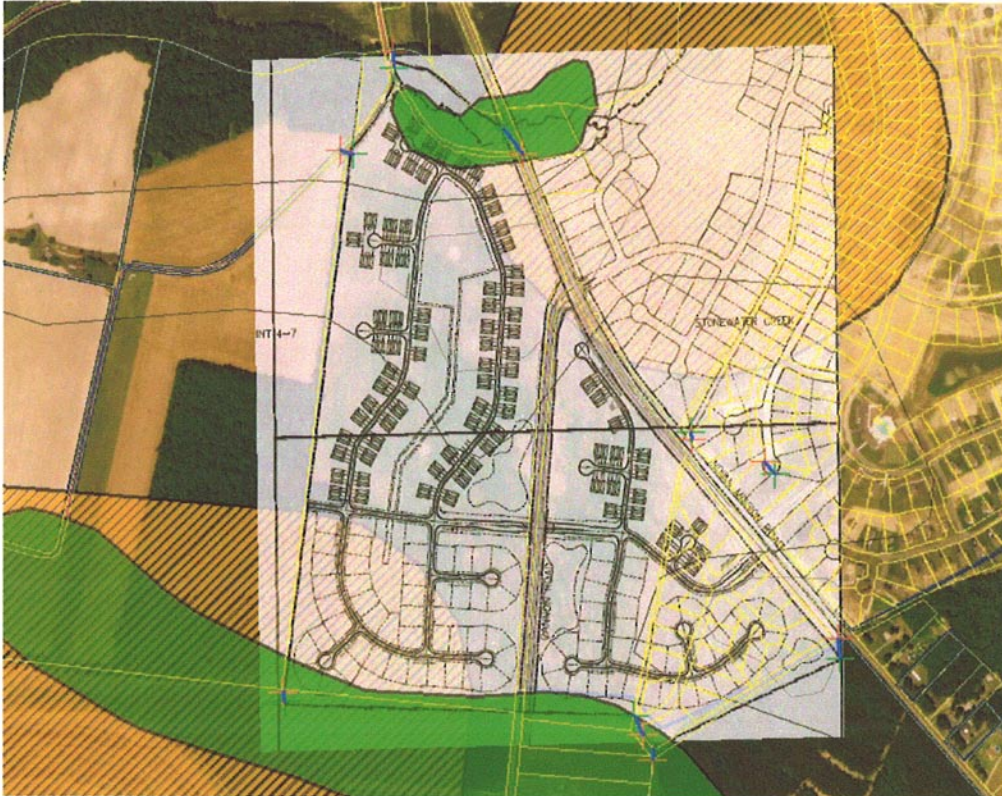
- Limit the impervious cover to less than 20%.

In addition, because the excellent ground water recharge area can so quickly affect the underlying aquifer if contaminants are spilled or discharged across the area, the storage of hazardous substances or wastes should not be allowed within the area unless specific approval is obtained from the relevant state, federal, or local program.

## References

- Andres, A. Scott, 2004, Ground-Water Recharge Potential Mapping in Kent and Sussex Counties, Delaware: Delaware Geological Survey Report of Investigations No. 66, p. 14. <http://www.udel.edu/dgsIPublications/pubform.html#investigations>
- Delaware Department of Natural Resources and Environmental Control (2005): *Source Water Protection Guidance Manual for the Local Governments of Delaware*: Dover, DE. 144 p. [http://www.wr.udel.edu/swaphome/Publications/swapp\\_manual\\_final/swapp\\_guidance\\_manual\\_final\\_2005\\_05\\_02.pdf](http://www.wr.udel.edu/swaphome/Publications/swapp_manual_final/swapp_guidance_manual_final_2005_05_02.pdf)
- Kauffman, G.J., Wozniak, S.L., and Vonck, K.J., 2005, *Delaware Ground-Water Recharge Design Manual*: Newark, DE, Water Resources Agency, University of Delaware, p. 31. <http://www.wr.udel.edu/swaphomeI/Publications/SWPguidancemanual.html>
- Thorntwaite, C. W., and Mather, J. R., 1957, Instructions and Tables for Computing Potential Evapotranspiration and the Water Balance, Volume x, Drexel Institute of Technology, Laboratory of Climatology.

**Pelican Point (PLUS 2007-12-05)** Excellent ground-water recharge potential area is highlighted in green. The site plan overlies the parcels under review.



The green highlighted areas total approximately 9.1± acres. The impervious area in these areas contains approximately 8.1% of impervious cover.

### **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. Contact the reviewing agency to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan as soon as practicable. 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. The plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact Jessica Watson at the Sussex Conservation District at (302) 856-7219 for details regarding submittal requirements and fees.

Because of the parcel's location in an impaired watershed and the amount of impervious surface, consider incorporating more green technology BMPs and low impact development practices to reduce stormwater flow and to meet water quality goals.

The Sediment and Stormwater Management Program ensures sediment and erosion control plans and stormwater plans comply with local land use ordinances and policies including the siting of stormwater management facilities. However, we do not support placement in resource protection areas or the removal of trees for the sole purpose of placement of a stormwater management facility/practice.

The current design requirements of the Sussex Conservation District will be used in preparation of storm water management and sediment & erosion control plans.

## **Drainage**

- The Drainage Program requests that the engineer take precautions to ensure 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. Notify downstream landowners of the change in volume of water released on them.
- The Drainage Program encourages the elevation of rear yards to direct water towards the streets and alleyways where storm drains are accessible for maintenance. However, the Drainage Program recognizes the need for catch basins in yards in certain cases. Therefore, catch basins placed in rear and side yards will need to be clear of obstructions and be accessible for maintenance. Decks, sheds, fences, pools, and kennels can hinder drainage patterns as well as future maintenance to the storm drain or catch basin. Deed restrictions, along with drainage easements recorded on deeds, should ensure adequate future maintenance access.
- An increase of the side yard setback to 15 feet may be needed on all properties with a drainage easement on the side. The increase will allow room for equipment to utilize the entire easement and maneuver free of obstructions if the drainage conveyance requires periodic maintenance or future re-construction. The side yard setback would only increase on the side with the drainage easement.
- All catch basins in rear or side yards should have a 10-foot drainage easement around them on all sides. Place restrictions on fences, sheds, and other structures within the easement to prevent obstructions from being placed next to the catch basin. Record the easement on the deed.
- Have all drainage easements recorded on deeds and place restrictions on obstructions within the easements to ensure access for periodic maintenance or future re-construction. Future property owners may not be aware of a drainage easement on their property if the easement is only on the record plan. However, by recording the drainage easement on the deed, the second owner, and any subsequent owner of the property, will be fully aware of the drainage easement on their property.

The drainage comments have been noted. The stormwater management design will be in accordance with the latest regulations set forth by the Sussex Conservation District. All easements shall be provided and recorded per the Sussex County Zoning Regulations.

### **Rare Species**

DNREC has never surveyed this property; therefore, it is unknown if there are State-rare or federally listed plants, animals or natural communities at this project site. Several rare species occur downstream within Phillips Branch. Because these plants are sensitive to water quality changes, they could be impacted if adequate wetland buffers are not left intact. The application states that on-site wetlands will be used as the stormwater outlet.

#### **Recommendation:**

1. To protect rare species downstream, we highly recommend that stormwater not be permitted to run into Phillips Branch unless it is highly filtered of nutrients, chemicals and sediments. A 100-foot upland buffer that does not include lot lines or infrastructure should be left intact along Phillips Branch.

The developer recognizes the importance to protect rare species that may be located in the area. The developer intends to provide a minimum 50' wide buffer from the wetlands which are upland of Phillips Branch.

### **Forest Preservation**

The small woodlot that occurs on this property is actually part of a larger forest block that provides wildlife habitat and a travel corridor. The current development as well as Pelican Point 4-7 will result in clearing and fragmentation of this entire forest block. Cumulative forest loss throughout the State is of utmost concern to the Division of Fish and Wildlife which is responsible for conserving and managing the State's wildlife (see [www.fw.delaware.gov](http://www.fw.delaware.gov) and the Delaware Code, Title 7). Because of an overall lack of forest protection, we have to rely on applicants and/or the entity that approves the project (i.e. counties and municipalities) to consider implementing measures that will aide in forest loss reduction.

#### **Recommendations:**

- 1) DNREC recommends that efforts to minimize tree removal be made and that the applicant consider omitting lot #s 1-10 and minimize forest loss on other lots with existing trees. If possible, working with the adjacent developer (likely same) to reduce clearing for lots associated with Pelican Point 4-7, could result in protection of this forest block
- 2) Trees should not be cleared from April 1st to July 31 st to reduce impacts to nesting birds and other wildlife species that utilize forests for breeding. This clearing recommendation would only protect those species during one breeding season; once trees are cleared the result is an overall loss of habitat.

The developer recognizes the environmental and aesthetical benefits of preserving on-site trees. Therefore, the trees will only be cleared in areas necessary to facilitate roadway, utility, Stormwater Management, and residential lot construction.

## **Nuisance Geese**

Wet ponds created for stormwater management purposes may attract resident Canada geese and mute swans that will create a nuisance for community residents. 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.

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 of ponds, proper landscaping, monitoring, and other techniques, geese problems can be minimized.

Recommendation:

- 1) DNREC recommends native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within an adequate buffer (15-30 feet in width) around the ponds. This type of habitat is not as attractive to geese because their view of the surrounding area is blocked and they can't scan for predators.

At this time, DNREC does not recommend using monofilament grids due to the potential for birds and other wildlife to become entangled if the grids are not properly installed and maintained. In addition, the on-going maintenance (removing entangled trash, etc.) may become a burden to the homeowners association.

The developer notes the comments about Nuisance Geese.

## **Air Quality**

Once complete, vehicle emissions associated with this project are estimated to be 19.2 tons (38,372.4 pounds) per year of VOC (volatile organic compounds), 15.9 tons (31,769.7 pounds) per year of NO<sub>x</sub> (nitrogen oxides), 11.7 tons (23,440.3 pounds) per year of SO<sub>2</sub> (sulfur dioxide), 1.0 ton (2,086.6 pounds) per year of fine particulates and 1,604.9 tons (3,209,801.6 pounds) per year of CO<sub>2</sub> (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 NO<sub>x</sub>; 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 NO<sub>x</sub> 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 7.7 tons (15,477.3 pounds) per year of VOC (volatile organic compounds), 0.9 ton (1,703.0 pounds) per year of NO<sub>x</sub> (nitrogen oxides), 0.7 ton (1,413.2 pounds) per year of SO<sub>2</sub> (sulfur dioxide), 0.9 ton (1,823.7 pounds) per year of fine particulates and 31.4 tons (62,741.6 pounds) per year of CO<sub>2</sub> (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 3.1 tons (6,134.1 pounds) per year of NO<sub>x</sub> (nitrogen oxides), 10.7 tons (21,336.0 pounds) per year of SO<sub>2</sub> (sulfur dioxide) and 1,573.5 tons (3,147,060.0 pounds) per year of CO<sub>2</sub> (carbon dioxide).

	VOC	NO <sub>x</sub>	SO <sub>2</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
Mobile	19.2	15.9	11.7	1.0	1604.9
Residential	7.7	0.9	0.7	0.9	31.4
Electrical Power		3.1	10.7		1573.5
TOTAL	26.9	19.9	23.1	1.9	3209.8

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 3.1 tons of nitrogen oxides per year and 10.7 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 DNREC Energy Office 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.

They also recommend 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.

The Air Quality comments have been noted. The recommendations will be reviewed in the future with the homebuilder.

**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.

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal's Office. When the project involves a change in Occupancy and/or Use, the applicant shall provide completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation:

**a. Fire Protection Water Requirements:**

- Where a water distribution system is proposed for single-family dwellings and duplexes it shall be capable of delivering at least 500 gpm for I-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required.
- The infrastructure for fire protection water shall be provided, including the size of water mains.

**b. 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 Indian Mission Rd. must be constructed so fire department apparatus may negotiate it. If a "center island" is placed at an entrance into the subdivision, it shall be arranged in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into the subdivision.
- 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.

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

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

**d. 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"
- Name of Water Supplier
- Proposed Use
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- 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.statefiremarshal.delaware.gov](http://www.statefiremarshal.delaware.gov), technical services link, plan review, applications or brochures.

Comments from the Fire Marshal have been noted. The plan will be per the latest State fire code requirements.

**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 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 the proposed 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 of the Code 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.

The developer should also coordinate with Sussex County to ensure their project is in compliance with the County's forested buffer requirements.

A portion of this site has been designated as having "excellent" ground-water recharge potential. DNREC has mapped all ground-water recharge-potential recharge areas for the state, and an "excellent" rating designates an area as having important groundwater recharge qualities.

Senate Bill 119, enacted by the 141<sup>st</sup> General Assembly in June of 2001, requires the counties and municipalities with over 2,000 people to adopt as part of the update and implementation of their 2007 comprehensive land use plans, areas delineating excellent ground-water recharge potential areas. Furthermore, the counties and municipalities are required to adopt regulations by

December 31, 2007 governing land uses within those areas to preserve ground-water quality and quantity.

Maintaining pervious cover in excellent and good recharge areas is crucial for the overall environmental health of our state and extremely important to efforts which ensure a safe drinking water supply for future generations. Retention of pervious cover to ensure an adequate future water supply is also important for the future viability of agriculture in the First State. The loss of every acre of land designated as "excellent" and "good" recharge areas adversely impacts the future prospects for agriculture in Delaware. The developer should make every effort to protect and maintain valuable ground-water recharge potential areas.

This site overlaps with the State's Green Infrastructure Investment Strategy Plan. The cropland layer is present on the entire site. This designation identifies areas of the state that contain inherently valuable resources, as discussed in Governor Minner's Executive Order Number 61. Areas such as these 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.

[Comments are noted.](#)

#### *Do Not Plant List*

Due to the high risk of mortality from insects and disease, the Delaware Forest Service does not recommend planting any of the following species:

Callery Pear  
Leyland Cypress  
Red Oak (except for Willow Oak)  
Ash Trees

Please contact the Delaware Forest Service for more information at (302) 698-4500.

Comments are noted.

### *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.

Comments are noted.

### **Public Service Commission -Contact: Andrea Maucher 739-4247**

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

Comments are noted.

### **Delaware State Housing Authority -Contact Vicki Powers 739-4263**

This proposal is for a site plan review of 252 residential units on 134 acres located at the intersection of Indian Mission Road and Cannon Road, near Millsboro. 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.

Comments are noted.

### **Department of Education -Contact: John Marinucci 735-4055**

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 crosses school district boundaries. The development is within both the Cape Henlopen School District boundaries to the North and the Indian River School District boundaries to the South.

1. Using the DOE standard formula, this development will generate an estimated 126 students it is not clear however how many students the development will generate for each district.

2. DOE offers the following comments on behalf of the Cape Henlopen School District.
3. DOE records indicate that the Cape Henlopen School Districts' *elementary schools are very close to 100% of current capacity* based on September 30, 2007 elementary enrollment.
4. DOE records indicate that the Cape Henlopen School Districts' *secondary schools are not at or beyond 100% of current capacity* based on September 30, 2007 secondary enrollment.
5. 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.
6. Continued development will cause significant burden to the Cape Henlopen School District without the provision for additional educational infrastructure.
7. The developer is strongly encouraged to the Cape Henlopen School District Administration to address the issue of school over-crowding that this development will exacerbate.
8. DOE offers the following comments on behalf of the Indian River School District.
9. DOE records indicate that the Indian River School Districts' *elementary schools are at or beyond 100% of current capacity* based on September 30, 2007 elementary enrollment.
10. DOE records indicate that the Indian River School Districts' *secondary schools are not at or beyond 100% of current capacity* based on September 30, 2007 secondary enrollment.
11. In multiple correspondences from the Indian River School District administration, the district asserts that while the Indian River High Schools have capacity, the Indian River Middle Schools' student population exceeds student capacity.
12. This development will create additional elementary school and middle school student population growth which will further compound the existing shortage of space. The developer is strongly encouraged to contact the Indian River School District Administration to address the issue of elementary and middle school over-crowding that this development will exacerbate.
13. DOE requests the developer work with the Cape Henlopen and Indian River School Districts' transportation departments to establish developer supplied bus stop shelter ROW and shelter structures, interspersed throughout the development as determined and recommended by the school district.

Comments are noted.

### **Sussex County -Contact Richard Kautz 855-7878**

There are no other RPC's anywhere near this location outside of the ESDA.

According to the current Sussex County Comprehensive Plan, there are at least two RPC developments, outside of the ESDA, proposed within 1-1.5 miles of our project (Baywood Phase 11, and Indigo Run).

The Sussex County Engineer Comments:

The project proposes to develop using a private central community wastewater system. We recommend 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 and the project has a CPCN, it is recommended that the treatment system be abandoned and a direct connection made to the County system at the developer's and/or owners expense. If Sussex County ever provides sewer service and the project does not have a CPCN, it is required that the treatment system be abandoned and a direct connection made to the County system at the developers and/or owners 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

The comments are noted.

The developer appreciates the comments from the above agencies. The developer has found many of the comments useful and will use this information in future design decisions to be made for the project. Should you have any further questions or comments, please feel free to contact Jason Palkewicz, P.E. or myself.

Sincerely,

McCrone, Inc.

Hollis Hearne, E.I.T.