



STATE OF DELAWARE  
EXECUTIVE DEPARTMENT  
OFFICE OF MANAGEMENT AND BUDGET  
Budget Development, Planning and Administration  
State Planning Coordination

March 13, 2009

Mr. Marco Boyce  
Morris & Ritchie Associates  
18 Boulden Circle  
New Castle, DE 19720

RE: PLUS review – 2009-02-02; Phillips Hill Farm

Dear Mr. Boyce:

Thank you for meeting with State agency planners on February 25, 2009 to discuss the proposed plans for the Phillips Hill Farms project to be located at the intersection of Scott Land Road and Phillip's Hill Road in Sussex County.

According to the information received, you are seeking site plan approval through Sussex County for 390 age-restricted residential units.

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 State has seen plans for a subdivision on this property on two separate occasions before this PLUS submittal. While the number of lots has not changed in the different submittals, the layout changes have been significant enough to warrant additional PLUS reviews. With that said, the proposed project is within the 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.**

This office has received the following comments from State agencies:

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

This project represents a major land development that will result in 390 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 900 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.

**State Historic Preservation Office (SHPO) – Contact: Terrence Burns 739-5685**

No comments received regarding this project. Comments from the other two PLUS reviews are considered still relevant.

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

Ross Point Associates, LLC, proposes to develop 390 age-restricted single-family detached houses on a 260-acre assemblage of parcels (Tax Parcels 2-32-20.00-32.00 and

33.00). The land is located on both sides of Phillips Hill Road (Sussex Road 472) and the east sides of Scott Land Road (Sussex Road 432) and Womach Road (Sussex Road 438).

Because this land is located in a Level 4 Area, development of it as proposed 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 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**

Plans for this parcel have been submitted several times through PLUS, and DNREC is unaware of any responses from the developer to State comments. The responses are required, and they would help DNREC and other agencies know explicitly if their suggestions are being incorporated into successive versions of this project. Because reviewing projects requires a great deal of staff time from many different programs, DNREC requests a response to our comments and specific questions, as required by Delaware Code Title 29, Chapter 92:

Following the pre-application review process 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.

## **Fish and Wildlife**

**Rare Species.** DNREC field scientists have not surveyed this project area; therefore, they are unable to provide information pertaining to the existence of State-rare or

federally listed plants, animals or natural communities at this project site. In the absence of site specific information, they offer the following:

There is a fairly extensive Atlantic White Cedar wetland community just downstream that could be impacted by runoff from this development. Atlantic white cedar communities typically grow under unique conditions and provide a refuge for rare species. This wetland type is sensitive to sedimentation and changes in water quality, especially pH. The hydrological regime is a major determinant of the resulting biota in this system and adequate upland buffers are essential to the persistence of this State-rare community.

*Recommendation:* Upland buffers between Raccoon Branch (and associated wetlands) and lots/infrastructure should be at least 100 feet in width (preferably 300 feet in width for this sensitive wetland community). The buffer is needed to protect water quality which is important for the continued persistence of the State-rare community described above. In addition, forested areas along water courses are utilized by wildlife for resting, foraging and breeding and as a travel corridor.

**Forest Preservation.** The site plan appears to have a larger footprint than the last PLUS application (2008-09-14) yet, forest loss is estimated to be less (56.93 acres instead of 120.1 acres). For both PLUS projects, the project area is the same (260 acres) and the amount of units are the same (390), yet the amount of forest that exists on-site is estimated to be 111.41 instead of the previous figure of 138.5. Forest loss estimates used for the current site plan appear to be incorrect and clarification of how the figures were obtained would be useful. Also, it is indicated that a wastewater treatment facility will be used; however, the location of this facility is not depicted on the site plan. Will this facility result in additional forest loss not included in the overall estimate? Are there other amenities or site features that are not depicted on the site plan that will result in additional forest loss?

Although there has been some level of harvest in the past, this forest does provide habitat for wildlife and if left intact will mature. 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 landowners/developers and/or the entity that approves projects (i.e. counties and municipalities) to consider implementing recommendations that will aide in reducing forest loss.

*Recommendations:*

Preservation of the forest is an option. There are incentive-based programs for wildlife management available to private landowners through our agency. Please contact Shelley Tovell at (302) 735-3605 if the landowner(s) is interested in more information. Also, our botanist, Bill McAvoy (302-653-2880) can assist the applicant in developing a plant list for wildlife habitat restoration efforts on this site if desired.

If preservation of existing forest resources is not going to be considered, then DNREC offers the following recommendations:

1. Consideration should be made for downsizing this development or revising the site plan to reduce the footprint of the project that occurs within the forest. Concentrating most, if not all, of the lots in the non-forested area would be preferred.
2. Stormwater management options that do not involve tree clearing should be explored and implemented if deemed feasible by the district engineer or entity that approves the stormwater and erosion plan.
3. Trees should not be cleared from April 1st to July 31st to minimize impacts to birds and other wildlife that utilize forests for breeding. This recommendation would only protect those species for one breeding season, because once trees are cleared, the result is an overall loss of habitat.

**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.

Fountains are proposed in two of the stormwater ponds. Fountains, although aesthetically pleasing, are not considered effective at deterring geese. 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 proper landscaping, monitoring, and other techniques, geese problems can be minimized.

*Recommendation:* DNEC recommends plantings of native species of tall grasses, wildflowers, shrubs, and trees at the edge and within an adequate buffer (15-30 feet in width) around the ponds. When the view of the surrounding area from the pond is blocked, geese can't scan for predators and are less likely to congregate and nest in the area of the pond.

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 or land manager.

**Potential Hunting Issue.** Because the project parcel is part of a larger forest block and adjacent to forested parcels, legal hunting activities may take place on adjacent properties. Hunting within 100 yards of a dwelling is prohibited and the applicant should

contact adjacent landowners to determine if this is going to be an issue. In effect, the adjacent landowner will be losing 100 yards of their property for hunting if there is not a buffer between lot lines and the adjacent property line. There is also noise associated with hunting, such as the discharge of firearms or dogs barking when pursuing game.

*Comments for the Division of Fish and Wildlife are provided by Edna Stetzar - (302) 653-2880, [Edna.Stetzar@state.de.us](mailto:Edna.Stetzar@state.de.us)*

## **Soil and Water**

### **Sediment and Stormwater Program.**

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) 856-2105 for details regarding submittal requirements and fees.

Because of the parcel's location in an impaired watershed and the amount of impervious surface, green-technology BMPs and low impact development practices should be considered a priority 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 removal of trees for the sole purpose of placement of a stormwater management facility/practice.

### **Drainage Program**

- The Drainage Program recommends the creation of a maintenance plan for the waterways within this subdivision. The Drainage Program recommends that a maintenance area of dedicated open space be set aside for mechanized maintenance, and possible spoil placement, if the waterway requires periodic maintenance or future re-construction. Identify maintenance access points and spoil disposal areas on the sediment and stormwater plans.
- 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 onsite 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.

- 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.
- Preserve existing riparian buffers on this site to aid in the reduction of nutrients, sediment, and other pollutants entering Pepper Branch. This site will drain into Records Pond, which has existing water quality problems. Please explore methods to filter excess nutrients in stormwater runoff from this site before releasing stormwater into the Records Pond watershed.

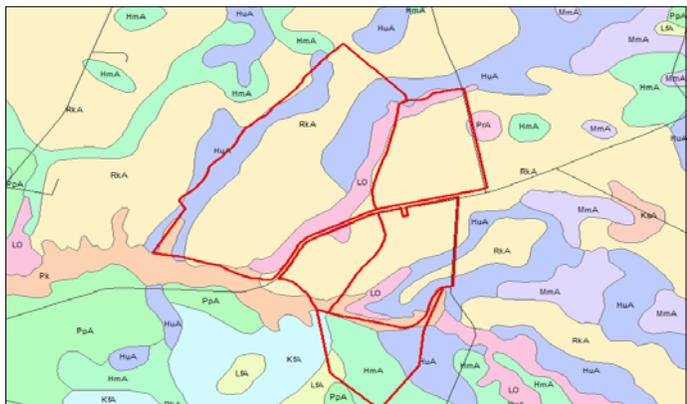
*James Sullivan - (302) 739-9921, [James.Sullivan@state.de.us](mailto:James.Sullivan@state.de.us)*

**Flood Management.** This proposed subdivision currently is not located within a Special Flood Hazard Area. However, Pepper Branch has never had a detailed flood study done to establish Base Flood Elevations. This project is proposing to remove 56 acres of forest, which could have some impact on the floodplain for Pepper Branch as this proposed subdivision is located at the very top of the watershed. DNREC would suggest measures be taken to mitigate any negative impact to downstream properties. *Gregory Williams - (302) 739-9921, [Gregory.Williams@state.de.us](mailto:Gregory.Williams@state.de.us)*

## Water Resources

**Soils Assessment.** According to the NRCS soil survey update, Hambrook (HmA), Rockawalkin (RkA), Hurlock (HuA), Longmarsh (LO), and Puckum (Pk) were mapped in the immediate vicinity of the proposed construction (See figure 1). Hambrook and Rockawalkin are moderately well drained upland soils that have moderate limitations for development. Hurlock is a poorly drained wetland associated (hydric) soil that has severe limitations for development. Longmarsh and Puckum are very poorly drained wetland associated (hydric) floodplain soils that have severe limitations for development and should be avoided. Approximately 20% of the mapped soils are Longmarsh, Puckum, and Hurlock.

A significant portion of this parcel contains poorly drained wetland associated (hydric) soils which have a seasonal high water table occurring at or near the soil surface (within one foot of soil surface or less). Building in such soils is likely to leave prospective residents of this and adjoining properties susceptible to future flooding problems from



**Figure 1: NRCS soil survey update mapping in the immediate vicinity of Phillins Hill Farm**

groundwater-driven surface water ponding, especially during extended periods of high-intensity rainfall events such as tropical storms/hurricanes or “nor’easters.” This is in addition to increased flooding probabilities from surface water runoff emanating from future created or constructed forms of structural imperviousness (e.g., rooftops, roads, sidewalks, and stormwater management structures).

Based on the Chapter 99, Section 16A of the Sussex County Code (paraphrased), lands compromised by improper drainage or flooding potential pose significant threats to the safety and general welfare of future residents and, therefore, shall not be developed. Soils mapped as Hurlock, Puckum, and Longmarsh fit the criterion for improper drainage or high flooding potential, and should be avoided. The Watershed Assessment Section believes permitting development on such soils would be inconsistent with above-mentioned regulatory guidelines in the Sussex County Code.

**Wetlands.** Based on Statewide Wetlands Mapping Project (SWMP) mapping, palustrine forested scrub-shrub riparian wetlands (PFO1/SS3C7) and palustrine forested wetlands (PFO1E7) bisect or bound the central and southern portions of the proposed project area (See figure 2). Outside of the two road crossings of Pepper Branch, it looks like the project is not in subaqueous lands. There is a small blue line tributary shown on the 7.5 Minute USGS Quadrangle map on the south part of the project (north of a larger tributary) that may be impacted by the development. The concept plan does not show the tributary and because it is a jurisdictional stream under State regulations, it should be checked.

Additionally, the developer should anticipate applying for a subaqueous lands permit from the Wetlands and Subaqueous Lands office and having to mitigate for the stream crossings, unless they do clear span crossings. Examples of mitigation include obtaining conservation easements for the wetlands and stream corridors on the property and/or doing some kind of stream/wetland restoration approvable by this office. There are also non-tidal wetlands on the property that need to be checked by the Army Corps of Engineers.

The applicant is responsible for determining whether any State-regulated wetlands (regulated pursuant to 7 Del.C. Chapter 66 and the Wetlands Regulations) are present on the property. This determination can only be made by contacting the Division of Water Resources’ Wetlands and Subaqueous Lands Section at 302/739-9943 and consulting the State’s official wetland regulatory maps, which depict the extent of State jurisdiction. The area regulated by State law may be very different from the area under federal authority. No activity may take place in State-regulated wetlands without a permit from DNREC’s Wetlands Section.

In addition, most perennial streams and ditches and many intermittent streams and ditches are regulated pursuant to the Subaqueous Lands Act (7 Del.C. Chapter 72) and the Regulations Governing the Use of Subaqueous Lands. Ponds which are connected to other waters are also regulated, while isolated ponds are not. Any work in regulated streams, ditches or ponds requires a permit from the Wetlands and Subaqueous Lands

Section. An on-site jurisdictional determination is recommended in order to determine whether any regulated watercourses exist on the property. Please contact the Wetlands and Subaqueous Lands Section at 302/739-9943 to schedule an on-site visit. Such appointments can usually be scheduled within 2 to 3 weeks.

For waterfront communities, applicants should depict any proposed plans to provide water access for residents of the community. Centralized community structures such as small residential marinas, boat ramps or community fishing piers are preferred over individual docks and piers at individual waterfront lots. Should individual docks be preferred, application must be made by each waterfront property owner after the sale of the lot, and permit decisions will be made by the Department on a case by case basis. However, in making representations to prospective buyers, please be advised that the Department is required to consider cumulative impacts and avoidance measures when reviewing applications, so there is no guarantee that all, or even any, of the waterfront property owners will be granted such permits. Permits for speculative construction will not be issued to developers to construct individual waterfront docks and piers prior to the sale of the lot(s) in question. Permits may be granted to developers who propose centralized community structures prior to the sale of any lots.

The applicant should also be reminded that they must avoid construction/filling activities in those areas containing wetlands or wetland associated hydric soils as they are subject to regulatory jurisdiction under Federal 404 provisions of the Clean Water Act. A site-specific field wetlands delineation using the methodology described in the 1987 United States Army Corps of Engineers (USACE, or “the Corps”) manual is the only acceptable basis for making a jurisdictional wetland determination for nontidal wetlands in Delaware.

The applicant is forewarned that the Corps views the use of the National Wetlands Inventory (NWI) mapping or the Statewide Wetlands Mapping Project (SWMP) mapping as an unacceptable substitute for making such delineations. To ensure compliance with said Corps regulatory requirements, it is strongly recommended that a field wetlands delineation using the above-referenced methodology be performed on this parcel before commencing any construction activities. It is further recommended that the Corps be given the opportunity to officially approve the completed delineation. In circumstances where the applicant or applicant’s consultant delineates what they believe are nonjurisdictional isolated (SWANCC) wetlands, the Corps must be contacted to evaluate and assess the jurisdictional validity of such a delineation. The final jurisdictional authority for making isolated wetlands determinations rests with the Corps; they can be reached by phone at 736-9763.

As noted previously, the palustrine headwater riparian wetlands bisect the central and southern portions of subject parcel. Headwater riparian wetlands serve to protect water quality which helps maintain the ecological integrity and functions throughout the length of the stream, including the floodplain system and/or water bodies further downstream. Since headwater riparian wetlands serve as natural buffers that protect the water and habitat quality of streams from sediment and nutrient-laden runoff,



**Figure 2: SWMP mapping in the immediate vicinity of Philips Hill Farm.**

their protection deserves the highest priority. Therefore, the Watershed Assessment Section strongly recommends that a 100-foot upland buffer be maintained or established from the stream and headwater riparian wetlands associated with the Raccoon Branch tax ditch. A literature review of existing buffer research by Castelle et al. (Castelle, A. J., A. W. Johnson and C. Conolly. 1994. *Wetland and Stream Buffer Requirements – A Review*. J. Environ. Qual. 23: 878-882) has documented consensus among researchers that a 100-foot upland buffer is the minimum buffer width necessary, under most circumstances, to protect water quality.

**Impervious Surfaces and Best Management Practices.** The applicant estimates this project's post-construction surface imperviousness to reach only 19 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. According to the TR-55 methodology for determining impervious cover, given the average lot size of 7,669 square feet (.17 acres), impervious cover is more likely to be between 38 and 65 percent. When calculating surface imperviousness, it is important to include all forms of constructed surface imperviousness, such as all paved surfaces including rooftops, sidewalks, driveways, and roads; open-water stormwater management structures and/or ponds; and community wastewater systems. This will ensure a realistic assessment of this project's likely post-construction environmental impacts. Surface imperviousness should be recalculated to include all of the above-mentioned forms of surface imperviousness in the finalized calculation for surface imperviousness. Failure to do so will significantly understate this project's true environmental impacts. Therefore, the calculation for surface imperviousness should be corrected and/or recalculated to reflect all 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 this project's 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.

**TMDLs.** Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Broad Creek 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. In the Broad Creek watershed, "target-rate-nutrient reductions" of 30 and 50 percent will be required for nitrogen and phosphorus, respectively. Additionally, "target-rate-reductions" of 2 percent will be required for bacteria.

As indicated above, TMDLs for nitrogen and phosphorus have been proposed for the Broad Creek watershed. The TMDL calls for a 30 and 50 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 2 percent reduction in bacteria. A Pollution Control Strategy (PCS) will be used as a regulatory framework to ensure that these nutrient reduction targets are attained. The Department has developed an assessment tool to evaluate how your proposed development may reduce nutrients to meet the TMDL requirements. Additional nutrient reductions may be possible through the implementation of BMPs such as wider vegetated buffers along watercourses/wetlands, increasing the amount of passive, wooded open space, use of pervious paving materials to reduce surface imperviousness, and deployment of green-technology stormwater management treatment technologies. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool.

*Soils, wetlands, impervious cover and TMDL comments provided by John Martin, Watershed Assessment Section, (302) 739-9939, [John.Martin@state.de.us](mailto:John.Martin@state.de.us)*

**Water Allocation.** The project information sheets state that public water will be provided to the project by a new on-site well. Our records indicate that the project site is not located in an area where public water service is available. Any public water utility providing water to the site must obtain a Certificate of Public Convenience and Necessity (CPCN) from the Public Service Commission. Information on CPCNs and the application process can be obtained by contacting the Public Service Commission at 302-736-7547. Information regarding the project site does not include a location of the proposed new well, therefore, 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, furthermore, the well must be located at least 150 feet from the outermost boundaries of the project(s). The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be located and constructed 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. *Ricardo Rios - (302) 739-9944, Ricardo.Rios@state.de.us*

**Water Supply.** The DNREC Ground Water Protection Branch (GPB) has determined that the project falls partially within an excellent ground-water recharge potential area for Sussex County (see map). No wellhead protection areas were found. This project was previously reviewed as Ross Point Farm PLUS 2006-08-10, Phillips Farm PLUS 2007-06-04, and Phillips Farm 2008-09-14. The developer has not responded to any of these previous comments.

1. PLUS 2007-06-04 showed a “Waste Disposal Area” in the excellent ground-water potential area. PLUS 2008-09-14 indicated that an onsite wastewater treatment system would be on site.

The Ground Water Protection Branch asks:

- Where is the Waste Disposal Area located?
  - Is there a system design?
  - Has a Letter of Intent been sent to DNREC?
2. Excellent ground-water recharge potential 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 is an “indicator of how fast contaminants will move and how much water may become contaminated” (Andres, 2004, pg 1). Land use activities or impervious cover on areas of excellent groundwater recharge potential may adversely affect the quality and quantity of ground water in these areas.

**Sussex County Ordinance No. 1979 §89-7.** A. (1) does not impose additional limitation upon land development, provided the impervious cover within the excellent recharge area is 35% or less.

**Sussex County Ordinance No. 1979 §89-7.** A. (2) allows impervious cover greater than 35% but no more than 60% of the within the portion of the tax parcel provided the applicant provides an environmental assessment report to insure that post-development recharge quantity meet or exceed the pre-development recharge quality.

The developer on the PLUS application states that the proposed development would change the impervious over from 0% to approximately 19.08%. This percentage quantifies the impervious cover of the entire parcel and not the percentage within the excellent ground-water recharge potential area. Based on an



**The excellent ground-water recharge potential area is shown in green.**

ArcMap application calculation, the percentage of impervious cover within the excellent ground-water recharge potential area dedicated to roadways is approximately 19%.

An ArcMap application calculation determined that the area of the development within the excellent ground-water recharge potential area is approximately 23 acres. There is approximately 4 acres dedicated to streets. Based on this calculation, the percentage of impervious cover dedicated to streets is 19% within the excellent recharge area. If the streets alone were 19%, it would appear that the impervious cover within the recharge area exceeds the amount reported on the application.

This amount of impervious cover (between 38% and 65%) requires an Environmental Assessment including a climate budget to document post-development recharge is greater than or equal to pre-development (Sussex County Ordinance No. 1979, § 89-7 (2))

*GPB recommends:*

- Environmental Assessment including a climate budget to document that post-development recharge is greater than or equal to pre-development (Sussex County Ordinance No. 1979, § 89-7 (2))
- Move open space into this area to reduce the amount of impervious cover to below 35%.

3. The PLUS application indicates that a new well will be drilled on site but the location is not shown on the site plan.

GPB states the well must comply with the Delaware *Regulations Governing the Construction and Use of Wells* to include, but not limited to:

#### SECTION 4 - WELL CONSTRUCTION STANDARDS

4.01 Siting Criteria, J. All public water wells within a housing development, subdivision, or strip development recorded on or after the implementation date of these Regulations shall be located at least one hundred fifty (150) feet within the subdivision or development's outermost property lines.

In addition, because the excellent ground-water recharge potential areas 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. *Anne Mundel* - (302) 739-9945, [Anne.Mundel@state.de.us](mailto:Anne.Mundel@state.de.us)

## Air and Waste

**Air Quality.** Housing developments may unnecessarily emit, or cause to be emitted, significant amounts of air contaminants into Delaware's air, which will negatively impact public health, safety and welfare. These negative impacts are attributable to:

- Emissions that form ozone and fine particulate matter; two pollutants relative to which Delaware currently violates federal health-based air quality standards,
- The emission of greenhouse gases which are associated with climate change, and
- The emission of air toxics.

Air emissions generated from housing developments include emissions from:

- Area sources like painting, lawn and garden equipment and the use of consumer products like roof coatings and roof primers.
- The generation of electricity needed to support the homes in your development, and
- Car and truck activity associated with the homes in your new development.

These three air emissions components (i.e., area, electric power generation, and mobile sources) are quantified below, based on a per household/residential unit emission factor that was developed using 2002 Delaware data. These emissions in the table represent the actual impact the Philips Hill Farm development may have.

Emissions Attributable to Philips Hill Farm Subdivision (Tons per Year)

	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NO <sub>x</sub> )	Sulfur Dioxide (SO <sub>2</sub> )	Fine Particulate Matter (PM <sub>2.5</sub> )	Carbon Dioxide (CO <sub>2</sub> )
Direct Residential	12.1	1.3	1.1	1.4	48.9
Electrical Power Generation	ND*	4.8	16.6	ND*	2,454.7
Mobile	17.9	18.7	0.5	0.2	11,526.5
<b>Total</b>	30.0	24.8	18.2	1.6	14,030.1

(\*) Indicates data is not available.

Note that emissions associated with the actual construction of the subdivision, including automobile and truck traffic from working in, or delivering products to the site, as well as site preparation, earth moving activities, road paving and other miscellaneous air emissions, are not reflected in the table above.

*Recommendations:*

The applicant shall comply with all applicable Delaware air quality regulations. These regulations include:

<b>Regulation 6 -</b> Particulate Emissions from Construction and Materials Handling	<ul style="list-style-type: none"> <li>• <b>Using dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads.</b></li> <li>• <b>Using covers on trucks that transport material to and from site to prevent visible emissions.</b></li> </ul>
<b>Regulation 1113 –</b> Open Burning	<ul style="list-style-type: none"> <li>• <b>Prohibiting open burns statewide during the Ozone Season from May 1-Sept. 30 each year.</b></li> <li>• <b>Prohibiting the burning of land clearing debris.</b></li> <li>• <b>Prohibiting the burning of trash or building materials/debris.</b></li> </ul>
<b>Regulation 1145 –</b> Excessive Idling of Heavy Duty Vehicles	<ul style="list-style-type: none"> <li>• <b>Restricting idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.</b></li> </ul>

Additional measures may be taken to substantially reduce the air emissions identified above. These measures include:

- **Constructing only energy efficient homes.** Energy Star qualified homes are up to 30% more energy efficient than typical homes. These savings come from building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems and upgraded water-heating equipment. Every percentage of increased energy efficiency translates into a percent reduction in pollution. The Energy Star Program is excellent way to save on energy costs and reduce air pollution.

- **Offering geothermal and/or photo voltaic energy options.** These systems can significantly reduce emissions from electrical generation, and from the use of oil or gas heating equipment.
- **Providing tie-ins to the nearest bike paths and links to any nearby mass transport system.** These measures can significantly reduce mobile source emissions.
- **Funding a lawnmower exchange program.** New lawn and garden equipment emits significantly less than equipment as little as 7 years old, and may significantly reduce emissions from this new development. The builder could fund such a program for the new occupants.

Additionally, the following measures will reduce emissions associated with the actual construction phase of the development:

- **Using retrofitted diesel engines during construction.** This includes equipment that are on-site as well as equipment used to transport materials to and from site.
- **Using pre-painted/pre-coated flooring, cabinets, fencing, etc.** These measures can significantly reduce the emission of VOCs from typical architectural coating operations.
- **Planting trees at residential units and in vegetative buffer areas.** Trees reduce emissions by trapping dust particles and by replenishing oxygen. Trees also reduce energy emissions by cooling during the summer and by providing wind breaks in the winter, whereby reducing air conditioning needs by up to 30 percent and saving 20 to 50 percent on fuel costs.

This is a partial list, and there are additional things that can be done to reduce the impact of the development on air quality. The applicant should submit a plan to the DNREC Air Quality Management Section which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Philips Hill Farm development. Air Quality Management Section points of contact are Phil Wheeler and Deanna Morozowich, and they may be reached at (302) 739-9402. *Deanna Morozowich - (302) 739-9402, [Deanna.Morozowich@state.de.us](mailto:Deanna.Morozowich@state.de.us)*

**Hazardous Waste Sites.** No Site Investigation and Restoration Branch (SIRB) sites or salvage yards were found within a ½-mile radius of the proposed development. However, based on the previous agricultural use of the proposed project site, which may have involved the use of pesticides and herbicides, SIRB recommends that a Phase I Environmental Site Assessment be performed prior to development. In addition, should a release or imminent threat of a release of hazardous substances be discovered during the course of development (e.g., contaminated water or soil), construction activities should be discontinued immediately and DNREC should be notified at the 24-hour emergency

number (800-662-8802). SIRB should also be contacted as soon as possible at 302-395-2600 for further instructions.

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

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal's Office. 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:**

- 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.
- Where a water distribution system is proposed for townhouse type dwellings it shall be capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 800 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 the main thoroughfares 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
- Townhouse 2-hr separation wall details shall be shown on site plans
- 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.

**Department of Agriculture - Contact: Scott Blaier 739-4811**

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 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. The Delaware Department of Agriculture opposes 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 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.

This site overlaps with the State’s Green Infrastructure Investment Strategy Plan. Both the Forest and Natural Areas layers are present on the site. This designation indicates the land has valuable agricultural and environmental characteristics which are discussed in Governor Minner’s Executive Order Number 61. They should be preserved as such, and not developed for residential or other incompatible uses.

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.

*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.

*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.

**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.

**Delaware Economic Development Office – Contact: Jeff Stone 672-6849**

No comments received regarding this project

**Delaware Division of Public Health- Health Promotion Bureau- Contact: Michelle Eichinger (302) 744-1011**

Ensuring that new residential and commercial development incorporates pedestrian- and bicycle-friendly features allows people to travel by foot or by bicycle and promotes physical activity as part of daily routines. Regular physical activity offers a number of health benefits, including maintenance of weight and prevention of heart disease, type 2 diabetes and other chronic diseases.<sup>1</sup> Research shows that incorporating physical activity into daily routines has the potential to be a more effective and sustainable public health strategy than structured exercise programs.<sup>2</sup> This is particularly important considering about 65% of adult Delawareans are either overweight or obese.<sup>3</sup> This current obesity crisis is also affecting children. Approximately 37% of Delaware's children are overweight or obese<sup>4</sup>, which places them at risk for a range of health consequences that include abnormal cholesterol, high blood pressure, type 2 diabetes, asthma, depression and anxiety.<sup>1</sup>

In Delaware, as in other states across the nation, certain patterns of land use can act as a barrier to physical activity and healthy eating for children and adults alike. Examples of such barriers include neighborhoods constructed without sidewalks or parks and shopping centers with full-service grocery stores situated too far from residential areas to allow for walking or biking between them.

This proposed development is in a Level 4 area. Developing in such an area is inconsistent with the *Strategies for State Policies and Spending*. DPH is committed to the *Strategies* and therefore, does not support development in the proposed area.

DPH supports new development in and around existing towns and municipalities where compact and mixed land use patterns facilitate physical activity.

<sup>1</sup> Nemours Health and Prevention Services (2005). *Delaware Children's Health Chartbook*, Newark, DE.

<sup>2</sup> Active Living by Design. *Transportation Fact Sheet*. Retrieved May 17, 2007, from [http://www.activelivingbydesign.org/fileadmin/template/documents/factsheets/Transportation\\_Factsheet.pdf](http://www.activelivingbydesign.org/fileadmin/template/documents/factsheets/Transportation_Factsheet.pdf).

<sup>3</sup> Delaware Health and Social Services (2008), *Division of Public Health, Behavioral Risk Factor Surveillance System (BRFSS), 1990-2007*.

<sup>4</sup> Nemours Health and Prevention Services (2007). *2006 Delaware Survey of Children's Health Descriptive Statistics Summary, Volume 1*.

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

This proposal is for a site plan review of 390 residential units on 260 acres, located at the intersection of Scott Land Road and Phillip's Hill Road in Sussex County. 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 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 is within the Laurel School District. DOE offers the following comments on behalf of the Laurel School District.

1. Using the DOE standard formula, this development will generate an estimated 195 students, when this project was reviewed in June of 2007, the estimated student generation was 190.
2. DOE records indicate that the Laurel School Districts' *elementary schools are at or beyond 100% of current capacity* based on September 30, 2008 elementary enrollment.
3. DOE records indicate that the Laurel School Districts' *secondary schools are at or beyond 100% of current capacity* based on September 30, 2008 secondary enrollment.
4. As noted in 2007, the Laurel School 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. This development is identified as an active adult age 55+ community. Unless the development is age restricted by deed covenant, this development, in conjunction with other planned developments will cause significant burden to the Laurel School District.
5. As noted in 2007, failing a 55+ age restriction deed covenant, the DOE requests that the developer contact the Laurel School District Administration to address the issue of school over-crowding that this development has the potential to cause.
6. As noted in 2007, failing a 55+ age restriction deed covenant, the DOE requests developer work with the Laurel 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 local school district.

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

Please refer to earlier PLUS comments for 2006-08-10, 2007-06-04 and 2008-09-14.

Depending on when the current application was submitted, new ordinances pertaining to forested buffer may apply.

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. In addition, we recommend they have a wastewater utility provider prior to approving the project. 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.

The proposed project is within the boundaries of the Western Sussex Planning Area Number 5, but is not in an area where Sussex County expects to provide sewer service in the foreseeable future. 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 developers 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.

**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,



Constance C. Holland, AICP  
Director, Office of State Planning

CC: Sussex County