



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF MANAGEMENT AND BUDGET
STATE PLANNING COORDINATION

May 23, 2008

Mr. Tom Bartosiewicz
Meridian Architects & Engineers
26412 Broadkill Road
Milton, DE 19968

RE: PLUS 2008-04-02; Stewart's Retreat Subdivision

Dear Mr. Bartosiewicz:

Thank you for meeting with State agency planners April 30, 2008 on to discuss the proposed plans for the Stewart's Retreat Subdivision project to be located on the northern side of Josephs Road, approximately 1000 ft. from Route 20 in Sussex County. According to the information received, you are seeking site plan approval through Sussex County for 43 residential units on 72 acres.

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.

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

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 42 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 100 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.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

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.

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

The Delaware Division of Historic & Cultural Affairs is an agency of the State of Delaware that consists of archaeologists, architectural historians, curators, educational specialists, historians, historical interpreters, horticulturists, and historic preservation trade professionals, which fosters and oversees the state-federal historic preservation partnership programs in Delaware. The Division of Historic & Cultural Affairs also advises the State of Delaware legislative or government officials on historic preservation issues, participates in project planning under federal regulations, and fosters historic preservation efforts of the State's historic and cultural resources or sites through historical research, management of historic properties, interpretation, and public education.

Preserving the State of Delaware's historic heritage and highlighting its historic legacy of are the guiding principles of the Division of Historical & Cultural Affairs. Through active historic preservation efforts, which involves increasing awareness about Delaware's historic and cultural resources or sites, such as historic properties, buildings, structures, areas, and archaeological sites, the Division of Historical & Cultural Affairs is committed to enhancing Delaware's quality of life by helping people connect with those aspects of our past that have made this state what it is today. Delaware's historic and cultural resources are very valuable and important the State's heritage and historic legacy, because they provide a visual connection that reflects the State's historical heritage, legacy, customs, and traditions. However, they are also irreplaceable and increasingly endangered because of their commercial attractiveness and the effects of natural forces and human intervention.

The role of the Division of Historical & Cultural Affairs in reference to the Preliminary Land Use Service process ([Chapter 92 of Title 29](#) of the Delaware Code) is to provide information on the development's impact on Delaware's historic and cultural resources or sites, and be an advocate for their protection. In addition, the information that is provided is base on the archival resources and reference materials at the State Historic Preservation Office, which is a part of the Division of Historical & Cultural Affairs. The State Historic Preservation Office is also the central research and archive repository with information on Delaware's historic and cultural resources or sites, such as historic properties, buildings, structures objects, areas, and archaeological sites that were identified, researched, evaluated, recorded or documented.

Delaware has approximately, about 9,500 these historic and cultural resources or sites, listed in the National Register of Historic Places, which is the official list of the nation's historic and archaeological resources. The National Register of Historic Places is the Nation's official list of cultural resources worthy of preservation. Authorized under the National Historic Preservation Act of 1966, the National Register is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. Properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The National Register is administered by the National Park Service, which is part of the U.S. Department of the Interior.

In accordance with the Preliminary Land Use Service process, and based on the information from the archival resources and reference materials at the State Historic Preservation Office of Delaware, which is a part of the Division of Historical & Cultural Affairs, here are the following observations in reference to this Preliminary Land Use Service Application:

- The developer should be aware that the proposed project site is in an area where there are some historic and cultural resource sites in the vicinity, but three of them seem to be very close to the proposed site or slightly on it. The first one is a dwelling (S-4060), probably built during the mid to late 19th-century, and it is located north of Road 473 ½ mile west of intersection of Road 20 and 473. The second one is a dwelling (S-4061), probably built during the mid to late 19th-century, and it is located north of Road 473-100 yards from intersection of Road 473 and Route 20. The third one is a agriculture complex (S-4062), probably built during the late 19th-century or early 20th-century, and it is located north of Road 473-1/4 mile from intersection of Road 20 and Road 473
- According to the **Beers Atlas of 1868** (historic geographic map), this proposed site is in the geographic region of Nanticoke Hundred. The **Beers Atlas of 1868** also indicates that there were two structures of some type somewhat close to where the proposed site is located, and appears that the structures were associated with A. J. Dolby.
- As the developer is probably aware, this proposed project site in a Level 4 Investment Area, according to the Preliminary Land Use Service process in [Chapter 92 of Title 29](#) of the Delaware Code. Any type of construction or development project in a Level-4 area could affect the historic context of Delaware's rural heritage by intruding on agricultural lands and open space. It could also affect historic architectural resources that are historically associated with Delaware's agricultural areas and open space. In addition, it could also affect the prehistoric and historic archaeological sites, which have not recorded or studied yet, but could contain important information about Delaware's history and prehistory. The Division of Historical & Cultural Affairs is not in favor of any type of zoning change, construction, building project, or development in Level-4 area, because it could affect historic or cultural resource sites, such as an archaeological site or national register

listed property.

- Since the following observations and analysis did indicate that there are some historical attributes and aspects in reference to this proposed project site, there is a possibility that there could potentially be of other historic or cultural resources or probably on this project site, which has not discovered yet. These historic or cultural resources could be potential archaeological resources such as a cemetery or burial ground, unmarked human remains, the contents of an historic building or structure of an earlier century.
- Prior to any demolition, ground-disturbing activities, or construction, the Division of Historic & Cultural Affairs strongly recommends that the developer should considers the possibility of hiring an archaeological consultant to examine the project site for any indication or evidence of a cemetery or burial ground, unmarked human remains, or the contents of a historic building, structure, or object. In addition, the Division of Historic & Cultural Affairs also recommends that developer read **Chapters 53 and 54, in Title 7, of the Delaware State Code**, which is in reference to the “Conservation of Archaeological Resources In or On State Lands”, and the **“Delaware Unmarked Human Remains Act of 1987”**.
- Finally, it also important for the developer to remember that proposed development or construction projects, whether they are big or small or whether they are located in rural areas or urban areas, have the capability to impact or affect historic and cultural resources through demolition or ground disturbance activities. The unexpected discovery of archaeological resources such as a cemetery or burial ground, unmarked human remains, the contents of an historic building or structure of an earlier century during demolition, ground-disturbing activities, or construction can result in significant delays.

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

Investment Level 4 Policy Statement

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

With continued development in Investment Level 4 areas, the State will have a difficult, if not impossible, time attaining water quality (e.g., TMDLs) and air quality (e.g., non-attainment areas for ozone and fine particulates) goals. Present and future investments in green infrastructure, as defined in Governor Minner's Executive Order No. 61, will be threatened. DNREC strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in certified Comprehensive Plans. DNREC encourages 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 potential impacts to all three layers of the Green Infrastructure map (natural resource and recreation priorities, cropland, and forest land), an increase in impervious cover, the loss/fragmentation of 13 out of 36 acres (or 36%) of forest (this number may actually increase with the revised site plan), 43 individual wells and on-site septic systems, potential impacts to wetlands, tax ditch rights-of-way issues, and the project's location in the floodplain. While mitigating measures such as conservation design, central wastewater systems instead of individual on-site septic systems, and other best management practices may help mitigate impacts from this project, not doing the project at all is the best avenue for avoiding negative impacts. As such, this project will receive no financial, technical or other support of any kind from DNREC. Any required permits or other authorizations for this project shall be considered in light of the project's conflict with our State growth strategies.

Green Infrastructure

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

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

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

Soils

According to the Sussex County soil survey update, Evesboro, Rosedale, Hambrook, Pepperbox, and Longmarsh were mapped on the subject parcel. Evesboro is an excessively well-drained upland soil that has limitations associated with rapid permeability. Rosedale and Hambrook are well-drained upland soils that, generally, have few limitations for development. Pepperbox is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Longmarsh is a very poorly-drained wetland associated (hydric) soil that has severe limitations for development.

Wetlands

Based on Statewide Wetlands Mapping Project (SWMP) mapping, palustrine headwater riparian wetlands bound the entire northern boundary and much of the eastern and western boundaries of subject parcel.

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.

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.

Based on a 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), an adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100 feet 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 all water bodies (including ditches) and wetlands.

Impervious Cover

The applicant estimates this project's post-construction surface imperviousness to reach only 3 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, 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.

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.

ERES Waters

This project is located adjacent to receiving waters of the Deep Creek watershed, and designated as having waters of 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). Moreover, provisions defined in subsection 5.6.3.5 of same section, specially authorize the Department to mandate BMPs to meet standards for controlling the addition of pollutants and reducing them to the greatest degree achievable and, where practicable, implementation of a standard requiring no discharge of pollutants.

TMDLs

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Deep 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 greater Nanticoke 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.

TMDL Compliance through the PCS

As indicated above, TMDLs for nitrogen and phosphorus have been proposed for the Deep 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, siting a performance-based wastewater (or, better yet, connection to a central sewer), and deployment of green-technology stormwater management treatment technologies. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool.

Water Supply

The project information sheets state that individual on-site well(s) will be used to provide water for the proposed project. Our records indicate that the project is not located in an area where public water service is available. 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 current Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing each and every well(s).

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

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

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

Drainage

- This project is located within the Tyndall Branch Tax Ditch and has established tax ditch rights-of-way. The Drainage Program conducted a review of the Tax Ditch rights-of-way for this project and the results were submitted to Bruce Bagley. A copy of the review findings is included at the end of these comments. The submitted preliminary record plan indicates the planting of a 30-foot forested buffer along the property line within the current tax ditch right-of-way. The forested buffer should be placed outside of the tax ditch rights-of-way. The placement of permanent obstructions within tax ditch rights-of-way is prohibited. Any change to the location of the tax ditch, or the existing tax ditch rights-of-way, will require a change to the Tyndall Branch Tax Ditch court order. Please contact Brooks Cahall of the Drainage Program to resolve the issues with the tax ditch. It is suggested to include Brooks Cahall in the pre-application meeting with the Sussex Conservation District to discuss drainage, stormwater management, tax ditch maintenance, and the release of stormwater into the tax ditch.
- The Drainage Program requests 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 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 and swales are accessible for maintenance. However, the Drainage Program recognizes the need for catch basins in yards in certain cases. Therefore, catch basins and swales 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, catch basin, or swale. Deed restrictions, along with drainage easements recorded on deeds, should ensure adequate future maintenance access.

- 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.

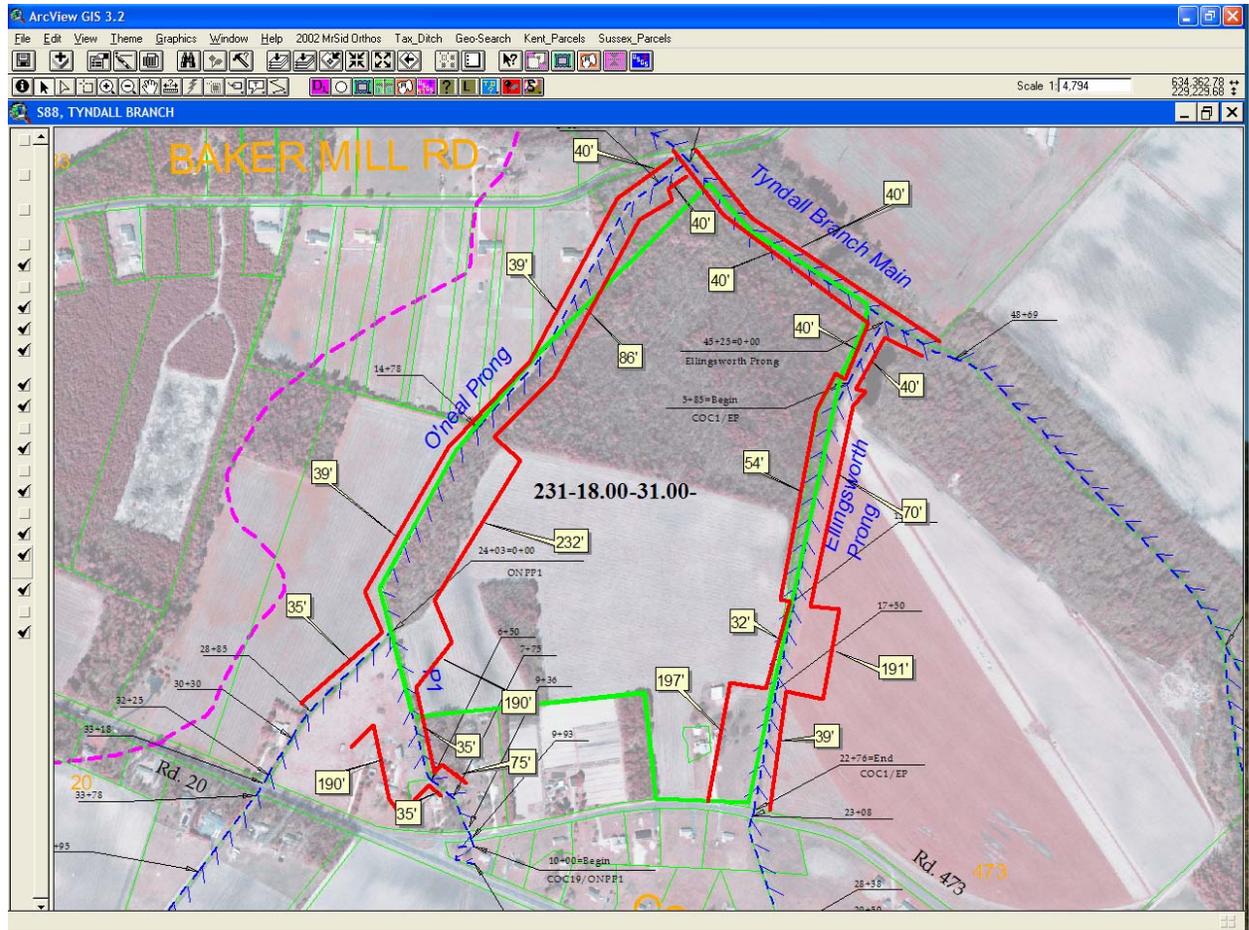
Results of Tax Ditch Right-of-Way Review

Parcel # 231-18.00-31.00, Inquiry #1923

- This parcel is located in the **Tyndall Branch** Tax Ditch watershed and is affected by the following rights-of-way:

Tyndall Branch Tax Ditch	Left	Right
Tyndall Branch Main Station 34+12 to 48+69	40'	40'
Ellingsworth Prong Station 0+00 to 5+85	40'	40'
Station 5+85 to 13+57	70'	54'
Station 13+57 to 17+50	191'	54'
Station 17+50 to 22+76	39'	197'
O'Neal Prong Station 0+00 to 1+60	40'	40'
Station 1+60 to 14+78	86'	38'
Station 14+78 to 28+85	232'	39'
Prong 1 Station 0+00 to 6+50	35'	190'
Station 6+50 to 7+75	75'	35'
Station 7+75 to 9+36	190'	35'

- Please note that the above rights-of-way are measured from the centerline of the ditch. The designation of Left and Right side are based upon looking upstream.



Floodplains

The PLUS application indicates, correctly, that the subject parcel is in a SFHA on FEMA's FIRM panel. However, the Site plan indicates "The site is located in Zone X area determined to be within the 500 year flood zone per FIRM panel 10005C0495J revised January 06, 2005." This is incorrect. The parcel is located on FIRM panels 10005C 0300J and 0450J. A portion of the property is located in a Zone A floodplain. There is no 500 year flood zone on this parcel. Sussex County requires that any development greater than 5 acres or 50 lots have a Base Flood Elevation (BFE) determined in Zone A areas. This BFE should be submitted to FEMA so that the FIRM maps can be changed. Having the maps changed would greatly benefit the homeowners of this development, should it get approved. The new site plan indicates a 100-year line. A Flood Study needs to be done in this Zone A area before one can accurately project the floodplain on the site plan.

Site Visit Request

We have 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. Our program staff respectfully requests the opportunity to survey the project site to provide the applicant with necessary information regarding habitat and rare species. A survey of the project site will also give staff an opportunity to map the vegetative communities which is part of a State-wide effort. Surveys are conducted at no cost or liability to the landowner/developer. Please note that our program staff are the most qualified to utilize rare species survey methods and have decades of experience. Please contact Edna Stetzar, Environmental Review Coordinator, at (302) 653-2883, if the landowner/developer is interested in making sure the project minimizes impacts to wildlife habitat and rare species.

Wildlife Habitat

There are 25 lots that will result in clearing and fragmentation. After build-out, homeowners will likely want amenities such as dog kennels, play areas, swimming pools, sheds, etc. that will result in further clearing. From a wildlife perspective, wooded lots are 'lots' not forested habitat and species sensitive to disturbance will be displaced by this project. In addition, forest fragmentation separates wildlife populations, increases road mortality, and increases "edge effects" that leave many forest dwelling species vulnerable to predation and allows the infiltration of invasive species.

Cumulative forest and wildlife habitat 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 and the Delaware Code, Title 7). Because of an overall lack of habitat 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 habitat loss reduction.

Recommendations:

1. The revised site plan will result in more clearing than initially indicated on the PLUS application form. The figures should be changed to reflect this change.
2. The answer to question 25 (What environmental impacts will this project have?) should be changed. Clearing and fragmenting 36 acres of forested wildlife habitat and having inadequate wetland buffers is not a 'minimal' environmental impact.
3. DNREC highly recommends that consideration be made for downsizing or omitting lots to leave a larger area of forested open space. They encourage the landowner/applicant to consider preservation of this area and there are incentive-based programs for wildlife

4. management available to private landowners through our agency. Please contact Shelly Tovell at (302) 735-3600 for additional information.
5. Wetland distances are not obvious on the site plan, but it appears as if numerous lots are within 100 feet of wetlands (answer to question ‘disturbance within 100 feet of wetlands?’ may need to be changed from ‘no’ to ‘yes’ with the revised plan). We highly recommend that these lots be omitted or pulled back in order to protect water quality and ensure adequate habitat that is critical for wetland dependent species. Buffers along water courses are also important for providing a conduit for wildlife travel across the landscape. Habitat connectivity is especially important in a developed landscape so that wildlife can travel from area to area when dispersing or foraging for resources. (note: current buffer requirements do not appear to recognize scientific research with supports the need for buffers to be at least 100 feet in width).
6. If trees are still going to be cleared despite our objections, we recommend clearing not occur April 1st to July 31st to reduce impacts to migratory birds and other wildlife species that utilize forests for nesting. This clearing recommendation would only protect those species during one breeding season; because once trees are cleared the result is an overall loss of habitat.

Nuisance Waterfowl

Wet ponds created for stormwater management purposes may attract resident Canada geese and mute swans that will create a nuisance. 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, the property owner/land manager 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:

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, to be planted in accordance with the Sediment and Stormwater Plan approval agency requirements. When the view of the surrounding area from the pond is blocked, geese can't scan for predators and are less likely to reside and nest in the area of the pond. The vegetation also blocks the ability to easily move between land and water.

At this time, we do 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.

Air Quality

The Air Quality Management Section appreciates the opportunity to comment on the Stewarts Retreat subdivision. 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 Stewarts Retreat development may have.

Emissions Attributable to Stewarts Retreat Subdivision (Tons per Year)

	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NO _x)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Direct Residential	1.3	0.1	0.1	0.2	5.4
Electrical Power Generation	0.0	0.5	1.8	0.0	270.6
Mobile	3.3	2.7	2.0	0.2	276.0
Total	4.6	3.3	3.9	0.4	552

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:

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

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.

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 Stewarts Retreat development. Air Quality Management Section points of contact are Phil Wheeler and Deanna Morozowich, and they may be reached at (302) 739-9402.

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:**
 - Since the dwellings of the subdivision are proposed to be served by individual on-site wells (No Central or Public Water System within 1000' of property), set back and separation requirements will apply.
- 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 Joseph 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”
- 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, technical services link, plan review, applications or brochures.

Department of Agriculture - Contact: Scott Blaier 739-4811

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

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

The proposed development is adjacent to a property currently enrolled in the State's Agricultural Lands Preservation Program (Sycamore School Expansion #1 of the Old Morgan School District, (Parcel # 2-31-18.00-33.00). Therefore, the activities conducted on this preserved property are protected by the agricultural use protections outlined in Title 3, Del. C., Chapter 9. These protections effect adjoining developing properties. The 300 foot notification requirement affects **all new deeds** in a subdivision located in whole or part within 300 feet of an Agricultural District. Please take note of these restrictions as follows:

§ 910. Agricultural use protections.

(a) Normal agricultural uses and activities conducted in a lawful manner are preferred and priority uses and activities in Agricultural Preservation Districts. 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 use adjacent to Agricultural Preservation Districts shall be subject to the following restrictions:

(1) For any new subdivision development located in whole or in part within 300 feet of the boundary of an Agricultural Preservation District, 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 an established Agricultural Preservation District in 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."

(2) For any new subdivision development located in whole or in part within 50 feet of the boundary of an Agricultural Preservation District, no improvement requiring an occupancy approval shall be constructed within 50 feet of the boundary of the Agricultural Preservation District.

(b) Normal agricultural uses and activities conducted in accordance with good husbandry and best management practices in Agricultural Preservation Districts shall be deemed protected actions and not subject to any claim or complaint of nuisance, including any such claims under any existing or future county or municipal code or ordinance. In the event a formal complaint alleging nuisance related to normal agricultural uses and activities is filed against an owner of lands located in an Agricultural Preservation District, such owner, upon prevailing in any such action, shall be entitled to recover reasonably incurred costs and expenses related to the defense of any such action, including reasonable attorney's fees (68 Del. Laws, c. 118, § 2.).

In addition, if any wells are to be installed, Section 4.01(A)(2) of the Delaware Regulations Governing the Construction and Use of Wells will apply. This regulation states:

(2) For any parcel, lot, or subdivision created or recorded within fifty (50) feet of, or within the boundaries of, an Agricultural Lands Preservation District (as defined in Title 3, Del. C., Chapter 9); all wells constructed on such parcels shall be located a minimum of fifty (50) feet from any boundary of the Agricultural Lands Preservation District. This requirement does not apply to parcels recorded prior to the implementation date of these Regulations. However, it is recommended that all wells be placed the maximum distance possible from lands which are or have been used for the production of crops which have been subjected to the application of land applied federally regulated chemicals.

The Department also reminds the developer to comply with the County's forested buffer requirement. This buffer is essential for separating inherently disparate land uses (agriculture and residential) and mitigating the conflict that often arises as a result.

This site overlaps the State's Green Infrastructure Investment Strategy Plan. The Forest and Natural Area layers are present on the site. This designation identifies areas of the state that have viable and valuable forest land, 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. To further support this concept the Delaware Forest Service does not recommend the planting of the following species due to the high risk of mortality from insects and disease:

Callery Pear

Ash Trees

Leyland Cypress

Red Oak (except for Willow Oak)

If you would like to learn more about the potential problems or impacts associated with these 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 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.¹ 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.² This is particularly important considering about 65% of adult Delawareans are either overweight or obese.³ This current obesity crisis is also affecting children. Approximately 37% of Delaware's children are overweight or obese⁴, 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.¹

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.

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

²Active Living by Design. *Transportation Fact Sheet*. Retrieved May 17, 2007, from http://www.activelivingbydesign.org/fileadmin/template/documents/factsheets/Transportation_Factsheet.pdf.

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

⁴Nemours 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 43 residential units on 72 acres, located on the northern side of Josephs Road, approximately 1,000 feet from SR 20 near Blades.

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

This proposed development is primarily in the Seaford School District, however the northeastern corner of this property is in the Indian River School District. DOE recognizes that this development is partially in level 4 of the State Strategies for Policies and Spending. DOE does not support the approval of the development of level 4 of the State Strategies for Policies and Spending. DOE offers the following comments on behalf of the Seaford School District.

1. Using the DOE standard formula, this development will generate an estimated 22 students.
2. DOE records indicate that the Seaford School Districts' *elementary schools are not at or beyond 100% of current capacity* based on September 30, 2007 elementary enrollment.
3. DOE records indicate that the Seaford School Districts' *secondary schools are not at or beyond 100% of current capacity* based on September 30, 2007 secondary enrollment.
4. DOE requests the developer to work with the Seaford and Indian River School District administrations to address the district boundary for the northeastern corner of this development that appears to be in the Indian River School District. It is to the advantage of all parties involved for one district to serve the entire development.
5. DOE requests the developer work with the Seaford 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

The State Wetlands map indicates the possibility of wetlands impacting the location of proposed subdivision lots and roads. Therefore a jurisdictional determination letter should be provided to support the proposed design for that area and that the lot layout does not contain any wetlands, especially at Lots 35, 41, 42, 43, 21 and 22. This letter should be obtained prior to the request for approval of any final plan.

The flood plain should be shown on the plat.

The preliminary subdivision plat should provide details of how/when the required forested buffer will be planted.

The Sussex County Engineer Comments:

The project proposes to develop using individual onsite septic systems.

The proposed project is in the Western Sussex Planning Area #3, 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, homeowners are required to connect to the system at their expense. Sussex County has no objection to the project being served by individual on-site systems.

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

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

Sincerely,

A handwritten signature in cursive script that reads "Constance C. Holland". The signature is written in dark ink and is positioned above the printed name and title.

Constance C. Holland, AICP
Director

CC: Sussex County