



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

October 18, 2006

Zac Crouch
Davis, Bowen & Friedel
23 North Walnut Street
Milford, DE 19963

RE: PLUS review – PLUS 2006-09-04; Windhurst Manor

Dear Mr. Crouch:

Thank you for meeting with State agency planners on September 27, 2006 to discuss the proposed plans for the Windhurst Manor project to be located on the westerly side of Windmill road near the intersection with Route 26.

According to the information received, you are seeking annexation into the Town of Millville and rezoning from AG to RPC for 114 residential units on 24.51 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 until annexed 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. If annexed into the Town of Millville, they will become the governing authority over this property.

Executive Summary

The following section includes some site specific highlights from the agency comments found in this letter. This summary is provided for your convenience and reference. The

full text of this letter represents the official state response to this project. ***Our office notes that the applicants are responsible for reading and responding to this letter and all comments contained within it in their entirety.***

State Strategies/Project Location

- A portion of this property is currently in Millville and the town intends to annex the balance of the parcel. In addition, this parcel is located within a level 2 area according to the Strategies for State Policies and Spending document. Level 2 areas are where the State encourages development that is consistent with the character of the area. Our office has no objections to the proposed development of this project in accordance with the relevant Town codes and ordinances.

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Street Design and Transportation

- Windmill Road is classified as a major collector road. DeIDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 40 feet from the centerline on collector roads. Therefore we will require right-of-way dedication along the frontage to provide any additional width needed from this project.
- The plan should provide a right-of-way for a bicycle, pedestrian and emergency vehicular connection to the adjoining Doves Landing development.

Natural and Cultural Resources

- It should also be noted that a significant portion of subject parcel (approximately 50%) is likely to have a seasonal high water table within one foot of the soil surface. Building in such soils is likely to leave prospective residents of this and adjoining properties susceptible to future flooding problems from groundwater-driven surface water ponding, especially during extended periods of high-intensity rainfall events such as tropical storms/hurricanes or "nor'easters."
- According to the Statewide Wetland Mapping Project (SWMP) mapping, palustrine forested wetlands were mapped over much of the western portion of subject parcel. The developer should maintain a 100-foot vegetated buffer from the wetlands. There should not be any buildings or associated infrastructure within the buffer.

Site Visit Request

- **DNREC has never surveyed this site; therefore, it is unknown if there are state-rare or federally listed plants, animals or natural communities at or adjacent to this project site. In order to provide more informed comments and to make recommendations, the program botanist and zoologist request the opportunity to survey the forested and wetland resources which could potentially be impacted by the project.**
- The applicant indicated that 12 out of 24 acres of forest would be removed by this project, however, the entire site is forested and there is little open space in the plan that does not have a lot or other amenity. The applicant is encouraged to re-calculate estimated forest loss.
- There are several stormwater management ponds in the site plan and because they will require clearing, DNREC recommends an alternate method of stormwater be utilized. It does not make sense to remove trees to create a pond considering the function of trees in flood abatement and erosion control, especially for a project that will result in over 40% impervious surface. If omitting the ponds is not an option, then the feasibility of reducing the size should be considered.
- The site plan should be reconfigured to reduce the number of units and associated infrastructure to allow for a larger, connected area of forested open space.

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

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

A portion of this property is currently in Millville and the town intends to annex the balance of the parcel. In addition, this parcel is located within a level 2 area according to the Strategies for State Policies and Spending document. Level 2 areas are where the State encourages development that is consistent with the character of the area. Our office has no objections to the proposed development of this project in accordance with the relevant Town codes and ordinances.

The Office of State Planning and Coordination has no additional comments for this project; however, this office does share and support the many comments provided by the state agencies concerning the environmental impacts to this site and to the surrounding watershed. This Office encourages the developer to work with the Town and the various

state agencies to implement minimal construction impact standards to conserve these natural resources found within the site.

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

Nothing is known within this parcel. The soils here are too wet generally for prehistoric-period archaeological sites, though there is a small area with medium potential. Beers Atlas of 1868 shows the J. Furman House within or very close to the south parcel line. The USGS 15' Rehoboth topographic map of 1918 shows a house in the approximate location of the house now cut out of the parcel in the northeast corner. There are some nearby historic properties along Atlantic Ave.

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

The DHCA requests that the developer maintain the trees along the northern boundary of the parcel to prevent any adverse visual or noise effects upon historic properties along Atlantic Ave. nearby.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

- 1) DelDOT required a traffic impact study (TIS) in 2002 for the 106-unit Windmill Property townhouse development, located on the opposite side of Windmill Road about 400 feet south of the subject property. A copy of our May 16, 2003, letter commenting on that study and recommending the requirement of certain off-site improvements is enclosed. Since then, a TIS was completed in 2005 and reviewed in 2006 for two developments in Millville that are much larger, Millville by the Sea (3,000 dwellings and some commercial uses) and Barrington Park (547 dwellings). While that study covered more intersections and addressed a future condition well beyond the expected buildout of the Windmill Property or the subject development, for the intersections addressed in the Windmill Property TIS our review made substantially the same recommendations. Therefore we see no need to require a TIS for this project but we will recommend that the Town

- require the developer of Windhurst Manor to share part of the costs of the same off-site improvements as the developer of the Windmill Property.
- 2) Windmill Road is classified as a major collector road. DeIDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 40 feet from the centerline on collector roads. Therefore we will require right-of-way dedication along the frontage to provide any additional width needed from this project.
 - 3) The plan should provide a right-of-way for a bicycle, pedestrian and emergency vehicular connection to the adjoining Doves Landing development. Because that connection will necessarily involve a stream (ditch) crossing, the right-of-way should be wide enough to permit the construction and maintenance of that crossing. The location of the right-of-way should be coordinated with the plan for Doves Landing and should be acceptable to the Town. Unless the Town finds otherwise, the construction of the connection should be the responsibility of the Doves Landing developer.
 - 4) The developer's site engineer should contact the Subdivision Manager for Sussex County, Mr. John Fiori, regarding specific requirements for road improvements and access. Mr. Fiori may be reached at (302) 760-2157.

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

Soils

Based on the Sussex County soil survey update, Rosedale, Klej, and Mullica-Berryland were mapped in the immediate vicinity of the proposed construction. Rosedale is a well-drained upland soil that, generally, has few limitations for development. Klej is a somewhat poorly-drained transitional soil that is likely to have both wetland and upland soil components. Mullica-Berryland is a very poorly-drained wetland associated (hydric) soil that has the highest severity level for development.

It should also be noted that a significant portion of subject parcel (approximately 50%) is likely to have a seasonal high water table within one foot of the soil surface. Building in such soils is likely to leave prospective residents of this and adjoining properties susceptible to future flooding problems from 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 likely from

surface water runoff emanating from future created forms of structural imperviousness (roof tops, roads, and sidewalks).

Wetlands

According to the Statewide Wetland Mapping Project (SWMP) mapping, palustrine forested wetlands were mapped over much of the western portion of subject parcel. Some unmapped headwater riparian wetlands associated with the headwater stream tributary (White's Creek and/or Derrickson Tax Ditch) bounding the northwest boundary of subject parcel, are also likely. Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. The developer should maintain a 100-foot vegetated buffer from the wetlands. There should not be any buildings or associated infrastructure within the buffer.

PLUS application materials indicate that wetlands have been delineated (presumably a field delineation). This delineation should be verified by the Army Corps of Engineers through the Jurisdictional Determination process. Please note that impacts to palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In situations where the applicant believes that the delineated wetlands on their parcel are nonjurisdictional isolated wetlands, the Corps must be contacted to make the final jurisdictional assessment. They can be reached by phone at 736-9763.

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

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

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

quality is through establishment and/or retention of an adequately-sized upland buffer. Based on research work by Castelle et al. (1994), an adequately-sized buffer to protect wetlands and streams, in most circumstances, is about 100 feet in width. In light of this research and the need to protect water and habitat quality, the Watershed Assessment Section recommends that the applicant maintain/establish a 100-foot upland buffer (planted in native vegetation) from all wetlands and/or water bodies.

Impervious Cover

Based on a review of the PLUS application, post-development surface imperviousness is estimated to be about 41 percent. It is not clear from the information submitted in the PLUS application whether this estimate is reasonable or not. The applicant should recognize that all forms of constructed surface imperviousness (i.e., rooftops, sidewalks and roads) should be accounted for when calculating surface imperviousness. Impervious surface should be recalculated if any of said forms of constructed surface imperviousness were omitted in the original calculation.

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

ERES Waters

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

TMDLs

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

Compliance with TMDLs through the PCS

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

Water Supply

The project information sheets state water will be provided to the project by Tidewater Utilities via a public water system. Records indicate that the project is located within the public water service area granted to Public Water Supply (a.k.a. Tidewater Utilities) under Certificate of Public Convenience and Necessity 83-W-6.

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.

Sediment and Erosion Control/Stormwater Management

Standard Comments:

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

It is strongly recommended that you contact the Sussex Conservation District to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion.

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

Applying practices to mimic the pre-development hydrology on the site, promote recharge, maximize the use of existing natural features on the site, and limit the reliance on structural stormwater components, such as maintaining open spaces, should be considered in the overall design of the project as a stormwater management technique.

Each stormwater management facility should have an adequate outlet for release of stormwater. Any drainage conveyed onto this site from neighboring properties must be adequately conveyed through the site to the discharge point without interruption.

Clearly address how Stormwater Quality and Quantity Treatment will be provided. If this project is eligible for a Quantity Waiver, please make the request in the stormwater narrative citing the specific regulation.

Please indicate on the sediment and stormwater management plan who shall be responsible for maintenance of the stormwater management facilities both during construction and after. During the design of the sediment control and stormwater management plan, considerations should be made for maintenance (i.e. access, easements, etc.) of any structures or facilities.

If a stormwater management pond is going to be utilized as a sediment trap/basin during construction it must be designed to accommodate 3600 cubic feet of storage per acre of contributing drainage area until project stabilization is complete.

All ponds are required to be constructed per Pond Code 378.

Please note that if the stormwater facilities will impact wetlands, a permit must be provided to the District prior to receiving approval. Please address.

Site-Specific Comments:

- A Certified Construction Reviewer (CCR) is required for this project.
- The District will require a phased plan and sequence of construction for this project. DNREC regulations require no more than 20 acres to be disturbed at more time. Please address.
- Please contact Brooks Cahall, DNREC Drainage Section, for approval to discharge to a tax ditch watershed. If permission is granted to fill/relocate the tax ditches, please clearly specify in the sequence of construction when and how that work will be done so as not to impact properties already in the watershed.
- Please demonstrate to the District that this project has an adequate outfall. You will be required to analyze the outfall ditch as ½ full for the quality and 2-year storm and full for the 10 and 100 year storm events or provide a down stream analysis.
- Under the DNREC Health and Safety Memo of 2000, all wet ponds are required to have an open space depth of 3 feet or more that comprises 50-75 percent of the area of the pond.
- Consideration should be made for any adjacent properties during the design of this project, including drainage and erosion/sediment control.

- Please provide a soil survey report for each SWM basin.
- Please incorporate “Green Technology BMPs” in the stormwater management design as stated in the section 10.3.5.1 of the regulations. The District recommends green technology practices such as bioswales between the rear lots to provide drainage and water quality.
- Please provide SCD with a copy of the AutoCAD drawings and HydroCAD files to expedite the review process.

Drainage

The project is within the Derrickson Canal Tax Ditch. All associated rights-of-way are denoted on the proposed plan. The engineer should contact Brooks Cahall, Division of Soil & Water Conservation, Drainage Program, brooks.cahall@state.de.us, for approval of specific designs on stormwater connectivity.

Open Space

In areas set aside for passive open space, the developer is encouraged to consider establishment of additional forested areas or meadow-type grasses. Doing so will provide wildlife habitat and it will create recreational opportunities for residents. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces. Natural habitat implementation efforts should be targeted to open space areas adjacent to the forest, wetlands, along drainage ditches, and the northwest corner of the subdivision. Natural habitat could consist of reforesting portions of open space or establishing meadow grasses. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces. The developer is encouraged to review "Community Spaces, Natural Places: A guide to restoration, management, and maintenance of community open space". This document provides a reference of practical and successful open space management techniques that emphasize natural landscape alternatives other than turf grass management. The guidebook is available online at: <http://www.dnrec.state.de.us/dnrec2000/Divisions/Soil/dcmp/>.

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

Site Visit Request

DNREC has never surveyed this site; therefore, it is unknown if there are state-rare or federally listed plants, animals or natural communities at or adjacent to this project site. In order to provide more informed comments and to make recommendations, the program botanist and zoologist request the opportunity to survey the forested and wetland resources which could potentially be impacted by the project. This would also allow the applicant the opportunity to reduce potential impacts to rare species and unique habitats and to ensure that the project is environmentally sensitive. In addition, a survey of the project site will give staff an opportunity to document the biodiversity of the property before construction activities begin. Please contact Bill McAvoy or Kitt Heckscher at (302) 653-2880 to set up a site visit.

Forest Preservation

The applicant indicated that 12 out of 24 acres of forest would be removed by this project, however, the entire site is forested and there is little open space in the plan that does not have a lot or other amenity. The applicant is encouraged to re-calculate estimated forest loss. In addition, once this site is built out and there will likely be a higher level of forest removal. The applicant indicates 'woodland preservation' (question #31), however, it is unclear where this preservation occurs. A 2-acre area of open space in the middle of the development is not of high wildlife value and can hardly be described as 'woodland preservation'. Forest loss is of major concern, considering that over 20,000 acres of forest have been lost to development since 2003 and this part of the state is experiencing cumulative forest loss impacts. Forest fragmentation separates wildlife populations, increases road mortality, and increases "edge effects" that leave many forest dwelling species, particularly songbirds, vulnerable to predation. Forest clearing causes wildlife to disperse into surrounding areas, often resulting in human/animal conflicts. It also puts greater pressure on nearby Wildlife Areas, Nature Preserves, and other protected lands. A greater effort to preserve forest should be made and this could be accomplished by:

There are several stormwater management ponds in the site plan and because they will require clearing, we recommend an alternate method of stormwater be utilized. It does

not make sense to remove trees to create a pond considering the function of trees in flood abatement and erosion control, especially for a project that will result in over 40% impervious surface. If omitting the ponds is not an option, then the feasibility of reducing the size should be considered.

Reducing the number of units and associated infrastructure to allow for a larger, connected area of forested open space. Or at the very least, reconfiguring the site plan so that a larger, connected area of forested open space remains.

DNREC strongly recommends that trees not be cleared from April 1st to July 31st to reduce impacts to nesting birds and other wildlife that utilize trees for breeding. This clearing recommendation would only protect those species during the breeding season; once trees are cleared the result is an overall loss of habitat.

Plant Rescue

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

Nuisance Geese

Stormwater management ponds may attract waterfowl like 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. However, native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area (at least 50 feet) around ponds, are not as attractive to geese because they do not feel safe from predators and other disturbance when their view of the area is blocked. These plantings should be completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife

professionals). Solutions can be costly and labor intensive; however, with proper landscaping, monitoring, and other techniques, geese problems can be minimized.

Solid Waste

Each Delaware household generates approximately 3,600 pounds of solid waste per year. On average, each new house constructed generates an additional 10,000 pounds of construction waste. Due to Delaware's present rate of growth and the impact that growth will have on the state's existing landfill capacity, the applicant is requested to be aware of the impact this project will have on the State's limited landfill resources and, to the extent possible, take steps to minimize the amount of construction waste associated with this development.

Underground Storage Tanks

There are no LUST site(s) located near the proposed project. However, should any underground storage tank or petroleum contaminated soil be discovered during construction, the Tank Management Branch must be notified as soon as possible. It is not anticipated that any construction specifications would need to be changed due to petroleum contamination. However, should any unanticipated contamination be encountered and PVC pipe is being utilized, it will need to be changed to ductile steel with nitrile rubber gaskets in the contaminated areas.

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 8.7 tons (17,497.8 pounds) per year of VOC (volatile organic compounds), 7.2 tons (14,487.0 pounds) per year of NOx (nitrogen oxides), 5.3 tons (10,688.8 pounds) per year of SO₂ (sulfur dioxide), 0.5 ton (951.5 pounds) per year of fine particulates and 731.8 tons (1,463,669.5 pounds) per year of CO₂ (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 3.5 tons (7,057.7 pounds) per year of VOC (volatile organic compounds), 0.4 ton (776.6 pounds) per year of NOx (nitrogen oxides), 0.3 ton (644.4 pounds) per year of SO₂ (sulfur dioxide), 0.4 ton (831.6 pounds) per year of fine particulates and 14.3 tons (28,610.2 pounds) per year of CO₂ (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 1.4 tons (2,797.1 pounds) per year of NOx (nitrogen oxides), 4.9 tons (9,729.2 pounds) per year of SO₂ (sulfur dioxide) and 717.5 tons (1,435,059.4 pounds) per year of CO₂ (carbon dioxide).

	VOC	NO _x	SO ₂	PM _{2.5}	CO ₂
Mobile	8.7	7.2	5.3	0.5	731.8
Residential	3.5	0.4	0.3	0.4	14.3
Electrical Power		1.4	4.9		717.5
TOTAL	12.2	9.0	10.5	0.9	1463.6

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 1.4 tons of nitrogen oxides per year and 4.9 tons of sulfur dioxide per year.

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

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

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

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

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

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:**

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

b. **Fire Protection Features:**

- All structures over 10,000 sq.ft. aggregate will require automatic sprinkler protection installed.
- Buildings greater than 10,000 sq.ft., 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements
- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
- Show Fire Lanes and Sign Detail as shown in DSFPR
- For townhouse buildings, provide a section / detail and the UL design number of the 2-hour fire rated separation wall on the Site plan.

c. **Accessibility**

- All premises, which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Windmill Road must be constructed so fire department apparatus may negotiate it.
- Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions

of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.

- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
- The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

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

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

e. **Required Notes:**

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

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

Department of Agriculture - Contact: Scott Blaier 698-4500

The Delaware Department of Agriculture has no objections to the proposed application. The *Strategies for State Policies and Spending* encourages environmentally responsible development in areas within Investment Level 2.

This site overlaps with the State's Green Infrastructure Investment Strategy Plan. The Forest Layer is present over much of the site. This designation identifies areas of the state that have 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.

Right Tree for the Right Place

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

Native Landscapes

The Delaware Department of Agriculture and the Delaware Forest Service encourages the developer to use native trees and shrubs to buffer the property from the adjacent land-use activities near this site. A properly designed forested buffer can create wildlife habitat corridors and improve air quality to the area by removing six to eight tons of carbon dioxide annually and will clean our rivers and creeks of storm-water run-off pollutants. To learn more about acceptable native trees and how to avoid plants considered invasive to our local landscapes, please contact the Delaware Department of Agriculture Plant Industry Section at (302) 698-4500.

Tree Mitigation

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

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 State Housing Authority – Contact Karen Horton 739-4263

The proposal is a site plan review for 114 units on 24 acres located on Windmill Road between Burbage Road and Vines Creek Road near Millville. According to the *State Strategies Map*, the proposal is located in an Investment Level 2 area. As a general planning practice, DSHA encourages residential development inside growth zones, such as this, where residents will have proximity to services, markets, and employment opportunities. However, the proposal does not include units for first time homebuyers. The 2003 Statewide Housing Needs Assessment identified significant housing needs for this area. Of the 10,527 occupied housing units in the Selbyville/Frankford County Census Division (CCD), 726 are substandard and 3,261 are occupied by low-income persons. In addition, much of the housing in this CCD is outside of the affordability level of low- and moderate-income households. For example, real estate data collected by DSHA indicates that in the first quarter of 2006, the median housing price for this area was \$314,500, which is outside the affordability level of families earning 100% median income who qualify for mortgages of \$171,216. The provision of moderately priced units for first time homebuyers would help support the housing needs of low- and moderate-income families employed by the local tourism economy.

Department of Education – Contact: John Marinucci 739-4658

1. DOE offers the following comments on behalf of the Indian River School District.
2. Using the DOE standard formula, this development will generate an estimated 57 students.
3. DOE records indicate that the Indian River School Districts' *elementary schools are at or beyond 100% of current capacity* based on September 30, 2005 elementary enrollment.
4. DOE records indicate that the Indian River School Districts' *secondary schools are not at or beyond 100% of current capacity* based on September 30, 2005 secondary enrollment. In multiple correspondences from the Indian River School District administration, the district asserts that while the Indian River High School has capacity, the Indian River Middle Schools' student population exceeds student capacity.
5. This development will create additional elementary school and middle school student population growth which will further compound the existing shortage of space. The developer is strongly encouraged to contact the Indian River School District Administration to address the issue of elementary school over-crowding that this development will exacerbate.
6. DOE requests developer work with the Indian River 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 – Richard Kautz 855-7878

The Sussex County Engineer Comments:

The proposed project is within the North Millville Expansion of the Bethany Beach Sanitary Sewer District. Service is currently scheduled to be provided by November 2008. The project request is for 114 units on 24.51 acres resulting in a gross density of 4.65 EDUs/acre. Sussex County requires design and construction of the collection and transmission system to meet Sussex County sewer standards and specifications, as well as the South Coastal Area Planning Study (Update 2004). A sewer concept plan must be approved prior to the submission or review of any construction plans. System Connection Charges will be due prior to connection to the sanitary sewer.

For questions regarding these comments, contact Chris Calio, Sussex County Engineering Department at (302) 855-7839.

The site is to be entirely within the town limits and does not directly impact other County services or properties outside the town limits. The town is encouraged to avoid the creation of new enclaves and to eliminate existing enclaves during its negotiation of the annexation agreement.

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

CC: Sussex County
Town of Millville