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May 16, 2006

Ms. Constance C. Holland, AICP
Director
Delaware Office of State Planning and Coordination
540 S. DuPont Highway
Dover, DE 19901

RE: Response to PLUS Comments
Wilkinson Property (PLUS 2005-05-13)
Project No. D5050011

Dear Ms. Holland:

We are in receipt of State PLUS comments, dated June 28, 2005, for the above referenced project, located on 120.2 acres east of Route 209 and North of Route 5 in Sussex County. Our point-by-point responses follow each of the PLUS Comments:

Office of State Planning Coordination

This project represents a major land development that will result in 213 residential units in an Investment Level 4 area according to the *2004 Strategies for State Policies and Spending*. This project is also located in a Low Density area according to Sussex County's 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 530 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.

In the last year, the State has reviewed nearly 2,000 proposed units within one mile of this site, and we are aware that other approved subdivisions which pre-date the PLUS process exist in the immediate area. We are particularly concerned about the cumulative impact that this growth will have in an area where neither the State nor the County are planning to provide infrastructure and services. Because the

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

The developer understands the State's position on development in level 4 investment areas, and appreciates the State's concerns regarding preservation of natural resources and regarding infrastructure and associated service institutions. The developer intends to develop this property meeting all requirements of the current codes and regulations, and with all applicable permits and approvals. Revisions to the proposed plan have been made to address these concerns and others described herein.

State Historic Preservation Office (SHPO)

SHPO objects to this development because it is in the Level 4 area and will have an adverse and destructive effect on the historic agricultural landscape. While nothing of historical or archaeological significance is known within the site, two National Register listed properties, St. Georges Church (S-152) and Indian Mission Church (S-759), are nearby. The site is currently screened from the view of these historic properties, but development will increase traffic and noise in the area. There is low potential for historic-period archaeological sites and an area of medium potential for prehistoric-period sites, west of the electric power line easement.

The developer should add landscape screening around the wastewater treatment plant to prevent visibility from the National Register-listed properties, in case neighboring landowners harvest the intervening trees. SHPO requests an opportunity to inspect the area for archaeological sites and learn about their character prior to any construction.

The developer understands and appreciates SHPO's position and will consider the addition of vegetative screening as noted above. Final design will be in accordance with all applicable codes and regulations. The developer is willing to give SHPO the opportunity to review the site prior to construction.

To address some of these concerns, the proposed plan has been revised to help limit the visual impact to historic resources in several ways:

- **The overall unit count proposed has been reduced by nearly 12% from 213 to 188 single family homes.**
- **A Cluster Option has been selected for the project which will concentrate development into a smaller footprint on the site.**
- **An additional 8 acres of trees have been added to those being protected, for a total of more than 52 acres, or 44% of the entire parcel.**
- **A Ten (10) Foot no-clear zone has been added for lots with rear-yards adjacent to a 30-foot Landscape Buffer both internally to the project and along the exterior property boundary.**
- **Street Trees of native species is proposed for the project.**

Department of Transportation

Wilkinson Development, LLC seeks to develop 213 single-family detached houses on an approximately 120.2-acre parcel (Tax Parcel 2-34-10.00-78.00). The site is located on the east side of Cool Spring Road (Sussex Road 290) between Stockley Road (Sussex Road 280) and Delaware Route 5, and more specifically along the south bank of Chapel Branch. The land is zoned AR-1 in Sussex County and would be developed by right.

This development is proposed for an area designated as Level 4 under the *Strategies for State Policies and Spending*. The *Strategies* have deemed the type of development being proposed to

be inappropriate for this area. As part of its commitment to support the *Strategies*, DeIDOT 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. DeIDOT 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.

DeIDOT 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, DeIDOT will provide technical review and comments.

The developer understands DeIDOT's position on development in Level 4 areas. As part of revising the plan, the number of single family homes proposed for this project have been reduced from 213 to 188. In addition, no frontage for individual lots on Sussex Road 290 is proposed.

Department of Natural Resources and Environmental Control

General Comment

Following is a list of PLUS reviewed development proposals located within one mile of this project. Approval of these developments will add 1,909 homes to the Level 4 "rural" area. The cumulative impact of these seven subdivisions on habitat, water quality, air quality, traffic, etc. is greater than that of an individual development considered alone.

The State should strongly oppose this project and/or require significant additional studies.

- 2005-05-20 Welsh Run, 301 units
- 2005-05-13 Wilkinson Property, 213 units
- 2005-02-06 Stonewater Creek, 400 units
- 2004-07-08 Avebury, 400 units
- 2004-07-09 Weatherby, 126 units
- 2004-07-02 Nassau Gardens, 14 units
- 2004-06-12 Indigo Run, 455 units

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. In that spirit of stewardship, the Department appeals to the landowner and development team to protect sensitive resources through an appropriate site design.

The developer understands the Department's concerns, and will develop the project in accordance with all applicable codes and regulations, and with all applicable permits. The site will be designed to avoid and protect sensitive resources, minimizing any impact to said resources. To address some of these concerns, the proposed plan has been revised to help limit the impact to natural resources in several ways:

- **The overall unit count proposed has been reduced by nearly 12% from 213 to 188 single family homes.**
- **A Cluster Option has been selected for the project which will concentrate development into a smaller footprint on the site.**
- **An additional 8 acres of trees have been added to those being protected, for a total of more than 52 acres, or 44% of the entire parcel.**
- **A Ten (10) Foot no-clear zone has been added for lots with rear-yards adjacent to a 30-foot Landscape Buffer both internally to the project and along the exterior property boundary.**
- **Street Trees of native species are now proposed for the project.**

Since the PLUS review in 2005, additional development has occurred in the vicinity of the project. These projects include:

- **Spring Breeze**
- **Heron Bay**
- **Woodgate**

In addition, there presently exists several small commercial and industrial uses nearby. An aerial map of the project site and these surrounding communities is enclosed for your reference. In light of the existing and proposed development for the area, a Level 4 designation may not represent actual conditions for this site and the surrounding area.

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine wetlands on the site. These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex. The developer should note that both DNREC and the Corps of Engineers discourage allowing lot lines to contain wetlands to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances of homeowners.

The developer understands the Department's position and desire for vegetative buffers. The developer intends to design the site such that no lots will contain delineated wetlands. Further, the developer wishes to note that the design of vegetative buffers will meet or exceed current code requirements.

Wetland Permitting Information

If wetland impacts are considered, note that impacts to wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process. To find out more about permitting requirements, the applicant is encouraged to attend a Joint

Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding, (302) 739-4691, to schedule a meeting.

The developer will perform all work within the limits of the code, under all applicable laws, and with all applicable permits. A Jurisdictional Determination was prepared and submitted to the USACOE in June of 2005. It is anticipated that this project will not require a wetland permit from the Army Corps of Engineers.

ERES Waters

The site is located adjacent to receiving waters of the Inland Bays designated as having Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State. Section 11.5 of Delaware's "Surface Water Quality Standards" (as amended August 11, 1999), specifies that all designated ERES waters and receiving tributaries have a "pollution control strategy" to reduce non-point sources of nutrient runoff. Subsection 11.5(e) expressly authorizes the Department to provide standard Best Management Practices (BMPs) for controlling, reducing, or eliminating the discharge of pollutants to the greatest degree practicable or attainable.

The project will be developed within all current rules and regulations and under all applicable laws. BMP's will be utilized wherever possible. Buffering of the stream has been included in the proposed plan. The forested stream corridor on this parcel is to be protected and will remain as open space as part of this plan.

TMDLs

Adoption of Total Maximum Daily Loads (TMDLs) as a nutrient-runoff-mitigation strategy for the Inland Bays Watershed makes reduction of nitrogen and phosphorus loading mandatory. 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 authorized under federal code, states are charged with developing and implementing standards to support these desired use goals. The jurisdictional authority for these use goals falls under Section 11.5 of the Surface Water Quality Standards (as amended August 11, 1999), and will be achieved via nutrient reductions referred to as "pollution control strategies."

Nutrient reductions are assigned on the basis of water quality concerns. Regions of greatest environmental concern will require higher levels of nutrient reduction than those deemed less environmentally sensitive. In this watershed, the regions are demarcated as high and low reduction zones. The high reduction zone corresponds to the western portion and requires a reduction of nitrogen and phosphorus by 85 and 65 percent, respectively. The low reduction zone corresponds to the eastern portion and requires a reduction of nitrogen and phosphorus by 40 percent. This project is proposed within the low nutrient reduction zone.

The TMDL for the Inland Bays mandates reducing nutrient loading to waters of the Inland Bays, and significant nitrogen and phosphorus loading must be realized from all sources, including on-site community wastewater systems. The Department has developed performance standards for on-site community wastewater treatment and disposal systems. The proposed effluent standards would require that effluent concentration levels could not exceed average annual nitrogen and phosphorus concentration levels of 5 and 2 mg/l respectively. Phosphorus standards would apply only under certain circumstances. The Department has also proposed guidelines for these systems. For more information, contact Lyle Jones at (302) 739-4590.

The inclusion of stormwater management and/or wastewater treatment areas in open space calculations may underestimate nutrient loading rates. In order to verify compliance, a full nutrient accounting process known as nutrient budget should be prepared by the applicant. Lyle Jones,

Watershed Assessment Section can be contacted at (302) 739-4590 for further information regarding acceptable protocol for calculating a nutrient budget.

The developer reiterates that the project will be developed within all current rules and regulations and under all applicable laws.

Water Supply

Well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. A water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation. Dewatering well permit applications typically take approximately four weeks to process. Questions concerning these comments can be directed to Rick Rios, (302)739-3665.

The developer thanks the Department for this information. All necessary permits will be attained and this project will comply with all applicable laws, codes, and regulations.

Sediment and Erosion Control/Stormwater Management

- 1) Due to the proximity to sensitive areas, the Sussex Conservation District will require reinforced and super silt fence to adequately protect wetland areas during the construction of the site.

Reinforced and Super Silt fence will be utilized, as recommended. Design will be coordinated with the Sussex Conservation District through the normal pre-application and Sediment and Stormwater Management Plan (SSMP) submittal process.

- 2) A Certified Construction Reviewer (CCR) is required for this development. The District's CCR Policy is available at www.SussexConservation.org.

The developer will hire a CCR for the site in accordance with the District's policy.

- 3) 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 one time. Please address.

The site design, including phasing and sequence of construction, will be coordinated with the Sussex Conservation District through the normal pre-application and SSMP submittal process.

- 4) 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.

Wet ponds will be designed to meet this requirement.

Watershed Assessment Section can be contacted at (302) 739-4590 for further information regarding acceptable protocol for calculating a nutrient budget.

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Wet ponds will be designed to meet this requirement.

- 5) Consideration should be made for any adjacent properties during the design of this project, including drainage and erosion/sediment control.

Adjacent properties will be considered in developing this site.

- 6) 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 and construction inspection will be coordinated through Sussex Conservation District. Contact Jessica Watson, Program Manager, (302) 856-7219, for details regarding submittal requirements and fees.

A SSMP will be submitted, as required.

- 7) It is strongly recommended that the applicant contact 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 pre-application meeting will be held with the District, as suggested. The project engineers will contact the District to schedule the meeting.

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

An NOI form with fee will be submitted, as required.

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

The developer will attempt to use green technology in an effort to reduce the reliance on structural practices.

- 10) 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.

Site drainage and stormwater discharge will be designed in accordance with all applicable regulations.

- 11) 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.

This information and any formal waiver requests will be submitted through the SSMP process.

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

The SSMP will include and/or address this information.

Drainage

All ditches on the property should be checked for function and cleaned if needed prior to the construction of homes. Wetland permits may be required in advance of ditch cleaning. Precautions should be taken to ensure that construction does not hinder any off-site drainage upstream or create off-site drainage problems downstream by the release of on-site storm water. Any drainage/utility easement owned by an individual landowner should not have structures, decks, buildings, sheds, kennels, fences or trees within it to allow for future maintenance.

It is strongly recommended that any conveyance between two parcels within the subdivision be dedicated as a drainage easement and designated as passive open space, rather than individually-owned. The easement should be of sufficient width to allow for future drainage maintenance. Along an open ditch or swale, a maintenance equipment zone of 25 feet measured from the top of bank on the maintenance side, and a 10-foot setback zone measured from top of bank on the non-maintenance side is recommended. Along a stormwater pipe, a maintenance equipment zone of 15 feet on each side of the pipe as measured from the pipe centerline is recommended. These zones should be maintained as buffers to reduce sediment and nutrients entering into the drainage conveyance. Grasses, forbs and sedges planted within these zones should be native species, selected for their height, ease of maintenance, erosion control, and nutrient uptake capabilities. Trees and shrubs planted within the maintenance zone should be native species spaced to allow for drainage maintenance at maturity. Trees should not be planted within 5 feet of the top of ditch to avoid future blockages from roots.

The developer understands the Department's concerns. The developer will complete the site drainage design in accordance with current codes and regulations, and in coordination with the Sussex Conservation District.

Floodplains

Portions of the site are within a floodplain that has not been studied in detail (Zone A). Development proposed in this zone requires a detailed flood study to determine base flood elevations. The study must be accepted by FEMA in order to revise the floodplain map.

The developer understands the requirements regarding the existing floodplain, and will comply with all applicable regulations. A Letter of Map Revision (LOMR) has been filed with FEMA. We are in the process of responding to comments from FEMA.

Forests

There are forested areas on the site and the plans indicate that lot lines will contain portions of the forest. Images from 1937 show that the entire parcel was forest at that time. It is therefore an extremely beneficial old-growth forest which provides important habitat for wildlife. Old-growth forests support a variety of species and the plants, wildlife, and insects found here are dependent upon current ecological conditions. These conditions do not occur in younger, less mature forests. Species examples are birds such as raptors, owls and songbirds, and critical nutrient recyclers such as lichens and fungi. Fallen trees in a mature forest provide shelter for insects and small mammals. The forest tract provides air and water quality benefits to the region and Chapel Branch in particular. Fragmentation of this forest can have irreversible effects to the regional ecosystem.

The developer is strongly encouraged to preserve and enhance the forested resources on the site by minimizing clearing activities and removing lots and associated infrastructure, such as storm water management ponds, from forested areas. These areas should be viewed as community assets and managed appropriately. Forested areas set aside for conservation purposes should be placed into a permanent conservation easement or other binding protection. These areas should be clearly marked so that residents understand their importance and homeowner activities do not infringe upon them. Reforestation of the open space is strongly recommended to increase the buffer zone and decrease homeowners' long-term maintenance costs.

The developer will attempt to minimize the clearing of forested areas, and will consider dedication of forested areas into permanent conservation easements, as suggested. To address some of these concerns, the proposed plan has been revised to help limit the impact to natural resources in several ways:

- **The overall unit count proposed has been reduced by nearly 12% from 213 to 188 single family homes.**
- **A Cluster Option has been selected for the project which will concentrate development into a smaller footprint on the site.**
- **An additional 8 acres of trees have been added to those being protected, for a total of more than 52 acres, or 44% of the entire parcel.**
- **A Ten (10) Foot no-clear zone has been added for lots with rear-yards adjacent to a 30-foot Landscape Buffer both internally to the project and along the exterior property boundary.**
- **Street Trees of native species are now proposed for the project.**

Open Space

Lot lines and other infrastructure (such as storm water management ponds) should not be placed in the forest and areas of community open space should be designated along forested/riparian areas. This will expand the existing buffers, enhance value for birds and wildlife, and create recreational opportunities for residents.

In areas set aside for passive open space, the developer should establish additional forested areas or meadow-type grasses. These ecosystems increase infiltration into groundwater, decrease run-off into surface water, and improve air quality. They also require much less maintenance than traditional turf grass, an important consideration of homeowner associations.

Open space containing forest or wetlands should be placed into a permanent conservation easement or other permanent protection mechanism. Conservation areas should also be clearly marked to avoid infringement by homeowners.

The developer has considered these comments in the planning of open space for the site.

Rare Species

A site visit was conducted on April 18, 2005. The floodplain forest is 'high quality' and several rare species are known to inhabit the area. Red Shouldered Hawk (*Buteo lineatus*) was found during the survey. This species depends on the floodplain and surrounding forested uplands. Barred Owl (*Strix varia*), observed during a roadside survey in 1993, is also a species dependent on the floodplain and surrounding forested uplands. In 1993, Eastern mud salamander was located in Chapel Branch downstream and is likely to be found in the project site as well. This represents the only known Inland Bays population. There are records of Golden-Winged Warbler (*Vermivora chrysoptera*) and it should be noted generally that the site is important for migratory birds.

The developer will work with the Department to provide protection for rare species in accordance with current codes and regulations.

Potential Hunting Issue

Because portions of the site are part of a larger forest block, legal hunting activities may take place on adjacent properties. Hunting within 100 yards of a dwelling is prohibited. The applicant should contact adjacent landowners who may lose 100 yards of property for hunting if a buffer is not provided between lot lines and adjacent property lines.

The developer will consider buffers in areas adjacent to hunting grounds, and will provide public notification pertaining to the development as required by code.

Recreation

It is recommended that sidewalks be built fronting at least one side of residential streets and stub streets. A complete system of sidewalks will 1) fulfill the recreation need for walking and biking facilities, 2) provide opportunities for neighbors to interact in the community, and 3) facilitate safe and convenient off-road access to neighboring communities, parks, public mass transit stops, schools, stores, work, etc.

DNREC recommends that the developer dedicate a portion of the site for a community park. The Division of Parks and Recreation conducted a telephone survey of Delaware residents to gather information on outdoor recreation preferences and landscape perception. The findings are the foundation of the 2003-2008 Statewide Comprehensive Outdoor Recreation Plan (SCORP) which provides guidance for investments in outdoor recreation facilities. The high facility needs in Eastern Sussex County are Walking and Jogging, Bike Paths and Fishing Areas. The moderate facility needs are Picnic Areas, Skate Facilities, Canoe/Kayak Access, Hiking Trails, Swimming Pools, Playgrounds, Soccer Fields, Tennis Courts, Power Boat Access and Baseball/Softball Fields. Consideration should be given to incorporate some of these recreation opportunities into the project. For additional information about the outdoor recreation priorities, contact Bob Ehemann at 739-9235.

If a trail system is planned, a series of stacking trail loops with access points in each subdivision "pod" and connections to adjacent communities is recommended. Long, continuous, perimeter-only trail systems with few access points often go unused and neglected. Pervious, low-maintenance surface such as crushed stone is recommended. For trail design/construction specifications, contact Susan Moerschel, (302) 739-9235.

The developer intends to provide open spaces to meet the recreational needs of the community. The revised plan incorporates amenities such as walking paths, tot-lot, athletic fields, and community clubhouse.

Air Quality

Annual vehicle emissions associated with this project at completion are estimated to be 16.3 tons (32,693.3 pounds) of VOC (volatile organic compounds), 13.5 tons (27,067.8 pounds) of NO_x (nitrogen oxides), 10.0 tons (19,971.1 pounds) of SO₂ (sulfur dioxide), 0.9 ton (1,777.8 pounds) of fine particulates and 1,367.4 tons (2,734,751.0 pounds) of CO₂ (carbon dioxide).

Annual emissions from area sources associated with this project at completion are estimated to be 6.6 tons (13,186.7 pounds) of VOC (volatile organic compounds), 0.7 ton (1,450.9 pounds) of NO_x (nitrogen oxides), 0.6 ton (1,204.1 pounds) of SO₂ (sulfur dioxide), 0.8 ton (1,553.8 pounds) of fine particulates and 26.7 tons (53,455.9 pounds) of CO₂ (carbon dioxide).

Annual emissions from electrical power generation associated with this project at completion are estimated to be 2.6 tons (5,226.3 pounds) of NOx (nitrogen oxides), 9.1 tons (18,178.3 pounds) of SO2 (sulfur dioxide) and 1,340.6 tons (2,681,295.1 pounds) of CO2 (carbon dioxide).

	VOC	NOx	SO2	PM2.5	CO2
Mobile	16.3	13.5	10.0	0.9	1367.4
Residential	6.6	0.7	0.6	0.8	26.7
Electrical Power		2.6	9.1		1340.6
TOTAL	22.9	16.8	19.7	1.7	1734.7

For this project the electrical usage via electric power plant generation will produce an additional 2.6 tons of nitrogen oxides per year and 9.1 tons of sulfur dioxide per year. A significant mitigation of this impact can be achieved through construction of Energy Star qualified homes. Every percentage of increased energy efficiency achieves a percent reduction in pollution. Quoting from their webpage <http://www.energystar.gov/>:

"ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems and upgraded water-heating equipment."

The DNREC Energy Office trains builders to make their structures more energy efficient. The Energy Star Program is an excellent way to save on energy costs and reduce air pollution. The project development team is strongly encouraged to increase the energy efficiency of its homes.

The developer will consider the Department's comments in evaluating and making decisions regarding the energy efficiency of the project.

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 estimate the amount of solid waste that will be generated as a result of construction and occupancy.

Using the Department's estimates, a subdivision of 188 households would generate approximately $188 \times 3,600 \approx 676,800$ pounds of solid waste per year, with 1.88 million pounds of construction waste.

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):

- 1) 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)
 - Where a water distribution system is proposed for single family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure.

Fire hydrants with 1000 feet spacing on centers are required. (One & Two- Family Dwelling)

- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains of fire hydrants and sprinkler systems.

2) 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 or 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

3) 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 Old Mill 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.

4) Gas Piping and System Information

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

5) 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 www.delawarestatefiremarshal.com, technical services link, plan review, applications or brochures.

The project will be designed in accordance with all applicable codes and regulations, and coordination with the State Fire Marshal's office in Sussex County.

Department of Agriculture

The Delaware Department of Agriculture strongly opposes the development of this site in the Level 4 area. The development as proposed will lessen the value of environmental resources found within and adjacent to the site.

This site is adjacent to established agricultural preservation districts and should remain in forestland or agricultural use. The area is an active and viable agricultural community. The needs of suburban residents often conflict with the needs and desires of traditional rural residents.

The Department supports state spending strategies for better investment and agrees that development of this site will create an unnecessary financial burden to the residents of the State of Delaware. The Department offers its services to the developer to identify alternative uses for the site.

If developed, the 50-foot setback and 300-foot notification zone requirements apply. The developer will be required to place the following deed notice in every new recorded deed located within the development:

§ 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.)

Though the developer understands the Department's concerns, it is noted that this property is developable by-right. The developer assures the Department that the site will be developed in accordance with current codes and regulations, including required buffers.

Right Tree for the Right Place

The Department encourages the developer to use the "Right Tree for the Right Place" concept in any design considerations. This concept outlines the proper placement of trees to increase property value and reduce heating and cooling costs by an average of 20 to 35 dollars per month. A landscape design that uses this approach reduces maintenance costs to property owners and ensures a lasting forest resource.

Native Landscapes

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

Tree Preservation

The Department encourages the developer to implement tree preservation activities to ensure the health and vigor of the resource. Trees are affected by compaction of soils during the construction process; guidelines established by the International Society of Arboriculture (ISA) serve to lessen this impact and provide increase value to the site.

Tree Mitigation

It is acknowledged that tree removal will be necessary. The Forest Service encourages the developer to implement tree mitigation at a 1:1 ratio within the site to replace trees lost in construction.

The developer will consider these comments in developing the project's landscaping in accordance with current code. During a recent revision to the plan, the developer has added approximately 200 street trees. The developer has also implemented a 10 foot no clear zone in the rear of every lot to preserve forest.

Delaware State Housing Authority

The proposal is to develop 213 lots on 120 acres located on the east side of Cool Spring Road, north of the intersection with Route 5, adjacent to Chapel Branch and north of Hollyville. According to the *Strategies for State Policies and Spending*, the site is located in the Level 4 area and outside the growth zone. DSHA encourages residential development in areas where residents will have proximity to services, markets, and employment opportunities such as found in Level 1 and 2 areas. The site is located in an area targeted for agricultural and natural resource protection, and therefore inconsistent with where the State has planned for new residential development.

The developer understands the Authority's position, and thanks it for these comments.

Department of Education

According to legislation passed in 2004, future public school sites must be located in designated growth areas and approved by the State Budget Director, the State Planning Director, and the State Secretary of Education. It is estimated that 213 dwelling units will generate 107 additional students for the Cape Henlopen School District. Sussex County does not have school

concurrence legislation at this time. The developer should submit a package to the school district for informational purposes.

If the development is approved and built, use the following information for school transportation planning. If there are homes more than 1/2 mile from the nearest public road (outside the development), developers should plan wide enough streets so that large school buses can access and turn around without backing from the furthest areas within the development. Should there not be any homes more than 1/2 mile from the nearest public road, provisions for appropriate pick-up and drop-off at the development entrance should be made. The developer should work closely with the school district transportation supervisor.

The developer appreciates the Department's comments, and will coordinate with the Cape Henlopen School District throughout the project's design.

Public Service Commission

For both water and wastewater, the application notes "Artesian Water;" however the project is not within one of its certificated service areas. Artesian will need to apply to the Commission for a Certificate of Public Convenience and Necessity (CPCN). Any expansion of natural gas or installation of a closed propane system must comply with Federal Pipeline Safety guidelines.

The developer understands and will be responsible to coordinate the provision of all utility connections.

Delaware Emergency Management Agency

Due to the large number of residential units being proposed and its location in the Level 4 area, a significant impact to public safety is foreseen by implementation of this project. The developer should notify the police, fire service, and emergency medical response organization serving this portion of Sussex County to keep them apprised of all development activities. The northern portion of site, along Chapel Branch, is located in the Special Flood Hazard Area inundated by the 100-year flood, (FIRM Map 340). Routes 5 and 9 are coastal storm evacuation routes and this project will be affected by traffic volume on these routes during a coastal storm event.

The developer will coordinate with the appropriate emergency services throughout the design process. No lots are anticipated to be placed within the revised 100-year floodplain boundary, in accordance with a LOMR request filed with FEMA and currently under review.

Sussex County

Because this project is an AR-1 Cluster subdivision, the developer must include in the application a plan for the management of all open space. The developer must also document for the Planning and Zoning Commission how the proposed development: provides for a total environment and design which are superior to that which would be allowed under the standard lot option; preserves the natural environment and historic or archeological resources; and will not have an adverse effect on any of the items included under Ordinance Number 1152 (County Code 99-9C). These issues can be addressed by including an explanation of how the developer plans to mitigate the issues raised by State agencies during the PLUS review.

A project narrative will be drafted to address these questions, and will be forwarded to Sussex County Engineering for their use.

The proposal is to develop using a private central community wastewater system. It is recommended that the wastewater system be operated under a long-term contract with a capable wastewater utility that meets TMDL limits for Delaware's Inland Bays. In addition, a wastewater utility provider should be in place prior to project approval. The site is located outside of the Inland Bays Planning area where Sussex County expects to provide sewer service. Sussex County

Ms. Constance C. Holland, AICP
May 16, 2006
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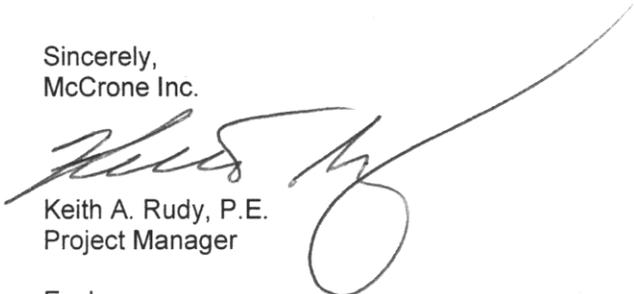
requires design and construction of the collection and transmission system to meet Sussex County sewer standards and specifications. A review and approval of the treatment and disposal system by the Sussex County Engineering Department is also required and plan review fees may apply. Disposal fields should not be counted as open space and wastewater disposal fields should be clearly identified on recorded plots and separated from lot area.

If Sussex County provides sewer service to the area in the future, it will be required that the treatment system be abandoned and a direct connection made to the County system at developer and/or homeowner association expense. For question regarding these comments, contact Rob Davis, Sussex County Engineering Department, (302) 855-7820.

The developer assures the county that a utility provider, regulated by the Utility Commission, will be secured prior to approval. The developer further assures the County that all necessary approvals will be obtained prior to construction.

We believe we have successfully addressed the PLUS comments for this project, and are excited to move forward with this project. If you have any questions, please do not hesitate to contact me or Brian Pinkerton P.E., at 302-730-4600.

Sincerely,
McCrone Inc.



Keith A. Rudy, P.E.
Project Manager

Enclosures

cc: Steve Wilkinson

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