



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF
STATE PLANNING COORDINATION

July 20, 2005

Ms. Jessica Nichols
Meridian Architects and Engineers
26412 Broadkill Road
Milton, DE 19968

RE: PLUS 2005-06-02, Hummingbird Meadows

Dear Ms. Nichols,

Thank you for meeting with State agency planners on July 6, 2005 to discuss the proposed plans for the Hummingbird Meadows project to be located at SCR 226 and SCR231 in Sussex County. According to the information received, you are seeking to construct 205 residential units in the Level 4 area.

This proposal is located in Investment Level 4 according to the *Strategies for State Policies and Spending*, and is outside of a designated growth area in the relevant certified county and municipal comprehensive plans. **The comments in this letter are technical, and are not intended to suggest that the State supports this development proposal. This letter does not in any way suggest or imply that you may receive or may be entitled to permits or other approvals necessary to construct the development you indicate or any subdivision thereof on these lands.**

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Kent 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.

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

- This project is proposed for an Investment Level 4 area according to the 2004 *Strategies for State Policies and Spending*. This project is also located outside of a designated growth area in relevant municipal and county certified comprehensive plans. 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.

Natural and Cultural Resources

- There is concern about the cumulative negative impacts that this and other proposed development along the North Prong headwaters and associated tributaries will have on Sowbridge Branch, North Prong, Reynolds Pond, Ingram Branch, Primehook Creek and adjoining water bodies.
- This project impacts all three layers of the Livable Delaware Green Infrastructure area established under Governor Minner's Executive Order #61.
- Forested areas along the headwater tributary to Sowbridge Branch provide important protection to water quality and should be preserved.
- A large portion of the proposed construction area falls within an area of excellent ground-water recharge.
- Delaware Natural Heritage Program has records of rare plants, insects, and a fish species from the Sowbridge Branch adjacent to this parcel that could be affected by detrimental changes to water quality. Because of the presence of these species, the riparian buffer and waters of Sowbridge Branch lie within a State Natural Heritage Site.

Office of State Planning Coordination – Contact Ann Marie Townshend 739-3090

This project represents a major land development that will result in 205 residential units in an Investment Level 4 area according to the 2004 *Strategies for State Policies and Spending*. This project is also located outside of a designated growth area in relevant municipal and county certified comprehensive plans. 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 500 new residents to an area where the State has no plans to invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation. To provide some examples, the State government funds 100% of road maintenance and drainage improvements for the transportation system, 100% of school transportation and paratransit services, up to 80% of school construction costs, and about 90% of the cost of police protection in the unincorporated portion of Sussex County where this development

is proposed. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases. Because the development is inconsistent with the *Strategies for State Policies and Spending*, the State is opposed to this proposed subdivision.

State Historic Preservation Office – Contact Alice Guerrant 739-5685

SHPO opposes this development the Level 4 area. Development will have an adverse effect on the historic agricultural landscape through the destruction of a historic farmstead (S-3948) and its associated fields, and through a loss of setting and adverse noise and visual effects on the other historic properties in the area. There could be destructive adverse effects on areas of high and medium potential for prehistoric-period archaeological sites. There may be historic-period archaeological remains associated with the farmstead as well. If this development proceeds, SHPO requests the opportunity to document the historic buildings and to check for archaeological sites to learn something about their character before any construction takes place. SHPO recommends appropriate landscaping around the development to block the view from any remaining historic houses in the area.

Department of Transportation – Contact Bill Brockenbrough 760-2109

W.G. Land Ventures, LLC seeks to develop 205 single-family detached houses on an approximately 162-acre parcel (Tax Parcel 2-30-27.00-50.01). The subject land is located on the east side of Peachtree Road (Sussex Road 226 a.k.a. Holly Tree Road) and extends from Warren Farm Road (Sussex Road 227 a.k.a. Humming Bird Road) to Reynolds Pond Road (Sussex Road 231). The land is zoned AR-1 in Sussex County and it would be developed under the County's cluster development option.

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 inappropriate for this area. As part of its commitment to support the *Strategies*, DelDOT refrains from participating in the cost of any road improvements needed to support this development and is opposed to any road improvements that will substantially increase the transportation system capacity in this area. DelDOT will only support taking the steps necessary to preserve the existing transportation infrastructure and make whatever safety and drainage related improvements are deemed appropriate and necessary. The intent is to preserve the open space, agricultural lands, natural habitats and forestlands that are typically found in Level 4 areas while avoiding the creation of isolated development areas that cannot be served effectively or efficiently by public transportation, emergency responders, and other public services.

DelDOT strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in approved Comprehensive Plans and DelDOT encourages the use of transfer of development rights where this growth management tool is available. If this proposal is approved, notwithstanding inconsistencies with the relevant plans and policies, DelDOT will provide technical

review and comments.

The Department of Natural Resources and Environmental Control

Contact Kevin Coyle 739-9071

Investment Level 4 Policy Statement

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

With continued development in Level 4 areas, the State will have a difficult, if not impossible, time attaining water quality (e.g., TMDLs) and air quality (e.g., non-attainment areas for ozone and fine particulates) goals. Present and future investments in green infrastructure, as defined in Governor Minner's Executive Order No. 61, will be threatened. DNREC strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in certified Comprehensive Plans. DNREC encourages the use of transfer of development rights where this growth management tool is available.

This particular development certainly compromises the integrity of the *Strategies* and the preservation goals inherent in many of DNREC's programs. Of particular concern are: the project impacts all three layers of the Green Infrastructure map (cropland, forest, and natural resources), the presence of rare species in Sowbridge Branch (a State Natural Heritage Site), the project's proximity to a State Resource Area/Natural Areas Inventory, and the project's proximity to an excellent recharge area. While mitigating measures such as conservation design, central wastewater systems instead of individual on-site septic systems, and other best management practices may help mitigate impacts from this project, not doing the project at all is the best avenue for avoiding negative impacts. As such, this project will receive no financial, technical or other support of any kind from DNREC. Any required permits or other authorizations for this project shall be considered in light of the project's conflict with the *Strategies for State Policies and Spending*.

General Comment

In addition to this project, there are five PLUS reviewed subdivisions along the North Prong headwaters and tributaries: 2005-04-02 Sandstone, 2005-01-08 Hayfield, 2005-05-14 Isaacs Glen, 2005-05-09 Captains Run, and 2004-08-15 Abbey Estates.

The approval of these developments will add an additional 2,710 homes. The presence of these residential units will bring negative cumulative impacts to Sowbridge Branch, North Prong, Reynolds Pond, Ingram Branch, Primehook Creek and adjoining water bodies.

Green Infrastructure

Portions or all of the lands associated with this proposal are within the Livable Delaware Green Infrastructure area established under Governor Minner's Executive Order #61 that represents a network of ecologically important natural resource lands of special state conservation interest. Green infrastructure is defined as Delaware's natural life support system of parks and preserves, woodlands and wildlife areas, wetlands and waterways, productive agricultural and forest land, greenways, cultural, historic and recreational sites and other natural areas all with conservation value. Preserving Delaware's Green Infrastructure network will support and enhance biodiversity and functional ecosystems, protect native plant and animal species, improve air and water quality, prevent flooding, lessen the disruption to natural landscapes, provide opportunities for profitable farming and forestry enterprises, limit invasive species, and foster ecotourism.

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

Wetlands and Water Bodies

Statewide Wetland Mapping Project (SWMP) maps indicate the presence palustrine wetlands. 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 Army Corps of Engineers discourage allowing lot lines to contain wetlands to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances that can be caused by homeowners.

PLUS materials indicate that there will not be direct impacts to these wetlands through construction activities; however, secondary impacts of construction could be detrimental to the health of these wetlands and their associated streams. If impacts are anticipated, please note that Palustrine 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.

A blue line stream runs through the southwestern portion of this parcel. Although impacts

are not anticipated, please note that streams are regulated by the Subaqueous Land Section from DNREC Division of Water Resources and the Army Corps of Engineers. Vegetated buffers comprised of native trees, shrubs or no-mow grasses, of no less than 100 feet should be employed from the edge of the stream to mitigate negative impacts caused by construction activities.

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) 739-4691 to schedule a meeting.

Total Maximum Daily Loads (TMDL's)

The Watershed Assessment Section considers development Level 4 investment areas or areas outside of designated growth zones, as scattered poorly-planned uncontrolled growth that threaten Delaware's quality of life and its environment. Of particular concern is how this uncontrolled growth is likely to increase nutrient runoff and hamper the State's ability to meet the nutrient reductions prescribed under the federally mandated Total Maximum Daily Load (TMDL) load program. Given these concerns and objections for building in Level 4 areas, the following comments are not intended to be construed as tacit approval for this project but rather demonstrate what the Section believes are minimally acceptable regulatory guidelines and/or recommendations to mitigate some of the expected environmental impacts.

Although TMDLs for the Broadkill watershed are not scheduled for completion until 2006, it is still possible that they may be legally applicable to this project. Given the project's scale along with the relative absence of proposed on-the-ground environmental safeguards (BMPs) severely reduces the possibility of meeting any future TMDL requirements.

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.

Because of this project's immediate proximity to a headwater tributary to Sowbridge Branch, surface and groundwater quality are likely to be negatively affected - making it more unlikely that future required TMDL reductions can be made. In recognition of this concern, the Watershed Assessment Section strongly recommends efforts to preserve as much of the existing natural forested buffer adjacent to this tributary as humanly possible. Efforts to maximize or expand (beyond the recommended 100-foot minimum) the existing natural buffer width (where applicable) with native herbaceous and/or woody vegetation, are also strongly recommended.

Impervious Cover

The applicant should reduce imperviousness to the greatest degree practicable. Use of pervious paving materials in lieu of asphalt or concrete and planting trees, are examples of practical ways the applicant could help reduce surface imperviousness on this parcel. Research has consistently shown that once a watershed exceeds a threshold of 10 percent imperviousness, water and habitat quality irreversibly decline.

Water Supply

The project information sheets state that individual on-site wells will be used to provide water for the proposed project. DNREC records indicate that the project is not located in an area where public water service is available. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation. All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising. Should you have any questions concerning these comments, please contact Rick Rios at 302-739-9944.

Water Resource Protection Areas

The DNREC Water Supply Section has determined that a large portion of the proposed construction area falls within an area of excellent ground-water recharge (see attached map). According to the State law that created the Source Water Protection Program, county and municipal governments with more than 2,000 residents will be required to enact ordinances to protect Water Resource Protection Areas. Municipalities with fewer than 2,000 residents are encouraged to enact such ordinances. The following language has been excerpted from the Source Water Protection Guidance Manual for Local Governments, Supplement 1 - Ground-Water Recharge Design Methodology. While the local ordinances may not yet be in place, the developer may find the language useful in modifying the site plan to protect water resources.

Water Resource Protection Areas (WRPAs) are defined as (1) surface water areas such as floodplains, limestone aquifers, and reservoir watersheds, (2) wellhead areas, or (3) excellent recharge areas. The purpose of an impervious cover threshold is to minimize loss of recharge and protect the quality and quantity of ground and surface water supplies in WRPAs.

New development in WRPA's may exceed the 20 % impervious cover threshold, but be no more than 50 % impervious, provided the applicant submits an environmental assessment report recommending a climatic water budget and facilities to augment recharge. The environmental assessment must document that post-development recharge will be no less than predevelopment recharge when computed on an annual basis. Commonly, the applicant offsets the loss of recharge due to impervious cover by constructing recharge basins that convey relatively pure rooftop runoff for infiltration to ground water. The DNREC Water Supply Section has reviewed the above referenced PLUS project and determined that approximately half of the proposed area does fall within an area of excellent ground-water recharge. The northeast part of the proposed construction area is not in an excellent ground-water recharge area.

For more information, refer to:

Source Water Protection Guidance Manual for the Local Governments of Delaware at <http://www.wr.udel.edu/swaphome/phase2/SWPguidancemanual.html>

and

Ground-Water Recharge Design Methodology at

http://www.wr.udel.edu/swaphome/phase2/Publications/swapp_manual_final/swapp_guidance_manual_supp_1_2005_05_02.pdf

Sediment and Erosion Control/Stormwater Management

1. 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 Sussex Conservation District. Contact Jessica Watson, Program Manager, at (302) 856-7219 for details regarding submittal requirements and fees.
2. It is strongly recommended that you 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.
3. 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.
4. 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.
5. 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.

6. 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.

7. 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.

8. 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.

9. All ponds are required to be constructed per pond code 378.

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

11. A Certified Construction Reviewer (CCR) is required for this project.

12. 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.

13. 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.

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

15. Please demonstrate that you have an adequate outfall for this project.

16. The District does not recommend clearing trees for the construction of the stormwater basin. Please relocate.

Drainage

The Drainage Section requests all existing ditches on the property be checked for function and cleaned if needed prior to the construction of homes. Wetland permits may be required before cleaning ditches. The Drainage Section requests that all precautions be taken to ensure the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of on site storm water.

The Drainage Section strongly recommends any drainage conveyance between two parcels within a subdivision be dedicated as a drainage easement and such easement be designated as passive open space, not owned by individual landowners. The easement should be of sufficient width to allow for future drainage maintenance as described below.

- Along an open ditch or swale, the Drainage Section recommends 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. These zones should be maintained as buffers to aid in the reduction of 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.
- Along a stormwater pipe the Drainage Section recommends a maintenance equipment zone of 15 feet on each side of the pipe as measured from the pipe centerline. This zone should be maintained as buffers to aid in the reduction of 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 spaced to allow for drainage maintenance at maturity.

The Drainage Section recommends any drainage/utility easement owned by an individual landowner should not have structures, decks, buildings, sheds, kennels, fences or trees within the drainage easement to allow for future drainage maintenance.

Forests

According to 2002 aerial photos there is a forested area in parcel. PLUS materials indicate that 5 acres will be removed for development. The forest provides important riparian habitat, wildlife connectors, and air quality and water quality benefits. This forest tract is extremely beneficial to the region. Fragmentation of this forest can have irreversible effects to the regional ecosystem. To maximize the existing buffering capacity and wildlife habitat on site, it is recommended that lot lines and other infrastructure (such as stormwater management ponds) be pulled out of the forest and areas of community open space be designated along the riparian areas.

DNREC recommends maintaining the existing forested buffer along the tributary to Sowbridge Branch that is located on the eastern boundary of the project parcel. Forested areas on-site set aside for conservation purposes should be placed into a permanent conservation easement or other binding protection. These areas should be clearly marked

and delineated so that residents understand their importance and so that homeowner activities do not infringe upon these areas.

Open Space

Site plans show an area of community open space within the middle of this development. In many cases, large open space areas abutting back yards are not well used by the community and are expensive to maintain. It is recommended that open space be relocated to areas adjacent to the riparian corridor of Sowbridge Branch and that plans include forest and meadow restoration in these areas. Enlarging and enhancing community open space near Sowbridge Branch will increase its value for birds and wildlife and create recreational opportunities for residents by allowing all residents access to and views of the forest and stream. It may also help reduce the long term cost of open space maintenance for the community.

In areas set aside for passive open space, the developer is encouraged to consider establishment of additional forested areas or meadow-type 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. 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.

Rare Species

Delaware Natural Heritage Program has not surveyed this parcel; therefore, a review of their database indicates that there are currently no records of state-rare or federally listed plants, animals or natural communities at this project site. However, they have records of rare plants, insects, and a fish species from the Sowbridge Branch adjacent to this parcel that could be affected by detrimental changes to water quality. An adequate riparian buffer is especially important.

Because of the presence of the species mentioned above, the riparian buffer and waters of Sowbridge Branch lie within a State Natural Heritage Site. However this project does not lie within a Delaware National Estuarine Research Reserve. This is one of the criteria used to determine the presence of Critical Resource Waters. The final decision regarding Critical Resource Waters – if this is an issue – will be made by the U.S. Army Corps of Engineers (ACOE). The information above will aid the ACOE in their determination.

Nuisance Waterfowl

Stormwater management ponds that remain in the site plan may attract waterfowl like resident Canada geese and mute swans. 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. DNREC recommends native plantings of tall grasses,

wildflowers, shrubs, and trees at the edge and within a buffer area (50 feet) around the perimeter. Waterfowl do not feel safe when they can not see the surrounding area for possible predators. 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.

State Resource Areas/Natural Areas Inventory

Portions of the parcel around Sowbridge Branch are mapped as critical natural areas and State Resource Areas. These areas include lands held in conservation by various groups as well as lands targeted for conservation and preservation efforts. These areas are thought to have particular conservation value. The wetlands and woodlands along this tract provide valuable wildlife corridors connecting to vast areas of conservation land. In light of this designation, the developer is strongly encouraged to provide 100-foot buffers from the stream edge. This buffer should encompass the existing forest and should not include lot lines or stormwater management ponds.

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 15.7 tons (31,465.4 pounds) per year of VOC (volatile organic compounds), 13.0 tons (26,051.2 pounds) per year of NOx (nitrogen oxides), 9.6 tons (19,221.0 pounds) per year of SO2 (sulfur dioxide), 0.9 ton (1,711.0 pounds) per year of fine particulates and 1,316.0 tons (2,632,037.3 pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 6.3 tons (12,691.4 pounds) per year of VOC (volatile organic compounds), 0.7 ton (1,396.4 pounds) per year of NOx (nitrogen oxides), 0.6 ton (1,158.8 pounds) per year of SO2 (sulfur dioxide), 0.7 ton (1,495.4 pounds) per year of fine particulates and 25.7 tons (51,448.1 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 2.5 tons (5,030.0 pounds) per year of NOx (nitrogen oxides), 8.7 tons (17,495.5 pounds) per year of SO2 (sulfur dioxide) and 1,290.3 tons (2,580,589.2 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO ₂	PM _{2.5}	CO ₂
Mobile	15.7	13.0	9.6	0.9	1316.0
Residential	6.3	0.7	0.6	0.7	25.7
Electrical Power		2.5	8.7		1290.3
TOTAL	22.0	16.2	18.9	1.6	2632.0

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 2.5 tons of nitrogen oxides per year and 8.7 tons of sulfur dioxide per year. A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, <http://www.energystar.gov/>:

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

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

The 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. We highly recommend this project development and other residential proposals increase the energy efficiency of their homes.

State Fire Marshal’s Office – Contact Duane Fox 856-5298

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal’s Office. At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation (DSFPR):

a. **Fire Protection Water Requirements:**

- Since the dwellings of the subdivision are proposed to be served by individual on-site wells (No Central Water System), set back and separation requirements will apply.

b. **Accessibility:**

- All premises which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Warren Farm Road and Reynolds Pond 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.

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

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

d. **Required Notes:**

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Provide Road Names, even for County Roads

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from www.delawarestatefiremarshal.com.

Department of Agriculture - Contact Milton Melendez 698-4500

The Delaware Department of Agriculture opposes the Hummingbird Meadows application due to the project's proximity to properties that have high agricultural value. The Department of Agriculture encourages the use of this property to be consistent with that of the surrounding agricultural parcels. The project is also located in a designated Level 4 area, on which the State of Delaware promotes agricultural and natural resource preservation.

The Delaware Forest Service in cooperation with the Office of State Planning recognizes that this proposed development falls within a Level 4 area. As defined, a Level 4 area is one least likely to receive any state monies to support the need infrastructure to sustain this proposed community. The Delaware Forest Service reserves the right to comment on this development at this time for the following reasons: the proposed subdivision falls within high value agricultural and forestry lands that are targeted by the state for future preservation activities. In addition, it falls within existing preserved lands under management by the Delaware Forest Service. This proposed development may hinder future management activities.

The Delaware Forest Service encourages the developer to seek other use for this site that is supportive of the agriculture resources found in and around this site. The Delaware Forest Service offers its assistance to develop these new uses, to learn more please call (302) 349-5754.

Public Service Commission - Contact Andrea Maucher 739-4247

For both water and wastewater, the project is not within a certificated area. Should the developer seek water service from a public utility, the utility will need to apply to the Commission for a Certificate of Public Convenience and Necessity (CPCN). Should the developer seek wastewater services from a non-governmental entity, and there would be 50 or more customers served, the provider will need to apply to the Commission for a Certificate of Public Convenience and Necessity (CPCN). Additional requirements may apply if the provider has not previously been awarded a CPCN by the Commission. Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines.

Delaware State Housing Authority – Contact Jimmy Adkins 739-4263

This proposal is to develop 205 units on 162 acres located in the southeast corner of the intersection of Peachtree Road and Warren Farm Road, east of Ellendale. According to the *Strategies for State Policies and Spending*, the proposal is located in a Level 4 area and in an environmentally sensitive area. As a general planning practice, DSHA encourages residential development in areas where residents will have proximity to services, markets, and employment opportunities such as Level 1 and 2 areas outlined in the *Strategies*. The proposal is located in an area targeted for agricultural and natural resource protection, and therefore inconsistent with where the State would like to see new residential development.

Sussex County - Contact Richard Kautz

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. Also, the developer must 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 in the application an explanation of how the developer plans to mitigate the issues raised by the State agencies.

The project is within the North Coastal Planning Area but is not in an area where Sussex County expects to provide sewer service in the foreseeable future. Sussex County has no objection to the project being served by individual on-site systems.

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

2005-06-02 Hummingbird Meadows

July 20, 2005

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

Sincerely,

A handwritten signature in cursive script that reads "Constance C. Holland".

Constance C. Holland, AICP
Director

CC: Sussex County