



STATE OF DELAWARE  
EXECUTIVE DEPARTMENT  
OFFICE OF  
STATE PLANNING COORDINATION

May 16, 2005

Mr. Rodney Wyatt  
Gray Dawn Acres, LLC  
211 East Street  
Harrington, DE 19952

RE: PLUS review – PLUS 2005-04-01; Gray Dawn Acres

Dear Mr. Wyatt:

Thank you for meeting with State agency planners on April 27, 2005 to discuss the proposed plans for the Gray Dawn Acres project to be located at 3029 Woodyard Road.

According to the information received, you are seeking site plan approval for 147 residential lots on 147 acres located in Investment Level 4 according to the Strategies for State Policies and Spending, and outside of Kent County's growth zone. **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 located in a rural area that is outside of Kent County's growth zone and designated as Investment Level 4 according to the Strategies for State Policies and Spending. New development activities and suburban development are not supported in Investment Level 4 areas. Because the project is inconsistent with the Strategies for State Policies and Spending, the State is opposed to this proposed subdivision.

### **Street Design and Transportation**

At the meeting, it was mentioned that DelDOT had installed a ditch across the property in the 1980's and that there may be easements associated with the ditch. The developer may contact DelDOT's Real Estate Section to determine whether these easements exist.

The developer should expect to be required to improve Woodyard Road to DelDOT's local road standards from Route 13 to the east end of the site frontage and Gun & Rod Club Road from Woodyard Road to the north end of the site frontage.

- The developer will be required to evaluate the southbound left turn and northbound right turn lanes on Route 13 at the intersection of Route 13, Woodyard Road and School Lane (also Kent Road 117) and may be required to extend those lanes if it is necessary to accommodate the traffic from the subject development.
- The developer will be required to reserve land for the future improvement of the intersection of Woodyard Road with Gun & Rod Club Road.

### **Natural and Cultural Resources**

- Site plans show significant impacts to areas of farmed wetlands on site. Impacts to wetlands should be avoided. Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife.
- Lots should be removed in their entirety from both the wetland and the forest surrounding it. Vegetated buffers of no less than 100 feet should be employed from the edge of any water body, including ditches. 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.

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

**Office of State Planning Coordination – Contact: David Edgell 739-3090**

This project represents a major land development that will result in 147 residential units in an Investment Level 4 area according to the *2004 Strategies for State Policies and Spending*. This project is also located outside the growth zone according to Kent 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. 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. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

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

**State Historic Preservation Office (SHPO) – Contact: Alice Guerrant 739-5685**

This parcel has one historic farmstead within it, the J. B. Prettyman House (Beers Atlas of 1868, K-4730). It is immediately adjacent to five other historic properties. Beers Atlas also shows a school house within the parcel at the corner of Woodyard and Gun Rod Club roads. While most of the property has only a low potential for prehistoric archaeological sites, the southeastern part has a high potential. The SHPO would be happy to work with the property owners/developers in their future planning to find ways to maintain the existing property and to locate any archaeological sites and perhaps find ways to preserve them within the development's open space. If the existing property cannot be maintained, they would like the opportunity to document it prior to any construction. The SHPO also requests that the developer include appropriate landscaping to screen the view of this development from nearby historic houses.

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

Because the development is proposed for a Level 4 Area, it is inconsistent with the Strategies for State Policies and Spending. DelDOT makes note of the fact that the proposed development is also outside of the Kent County growth zone, making it inconsistent with the county comprehensive plan as well.

Because the development is inconsistent with the Strategies for State Policies and Spending, DeIDOT's road improvements in this area will be limited to safety improvements and maintenance. Any improvements needed to support this development will be the developer's responsibility. The comments that follow are technical, and are not intended to suggest that DeIDOT supports this development proposal.

- 1) The response to Item 36 on the PLUS form included an estimate that 25 percent of the site traffic would be trucks. At the PLUS meeting, the developer indicated that this was an error.
- 2) The response to Item 39 on the PLUS form indicated that the subject development could be connected to an existing or future development on the Mihm Farm and specified a parcel number for that farm. At the PLUS meeting, the developer explained that the Mihm Farm is located across Woodyard Road from the subject development on a parcel that appears to have a different number from the one cited.
- 3) At the meeting, it was mentioned that DeIDOT had installed a ditch across the property in the 1980's and that there may be easements associated with the ditch. The developer may contact our Real Estate Section to determine whether these easements exist. An initial contact in that regard would be the Assistant Director for Real Estate, Mr. Wayne Rizzo. He may be reached at (302) 760-2228.
- 4) The developer should expect to be required to improve Woodyard Road to DeIDOT's local road standards from Route 13 to the east end of the site frontage and Gun & Rod Club Road from Woodyard Road to the north end of the site frontage. If, as indicated in the answer to Item 37 on the PLUS form, the road has 11-foot lanes, the improvement would consist of widening the shoulders to as much as 5 feet (right-of-way permitting), paving the shoulders and overlaying the road.
- 5) The developer will be required to evaluate the southbound left turn and northbound right turn lanes on Route 13 at the intersection of Route 13, Woodyard Road and School Lane (also Kent Road 117) and may be required to extend those lanes if it is necessary to accommodate the traffic from the subject development.
- 6) There are two substandard curves in Woodyard Road within the frontage of the subject development. One is at the intersection with Gun & Rod Club Road and the other is west of that intersection. The developer will be required to reserve land for the future improvement of the intersection of Woodyard Road with Gun & Rod Club Road.

At the west curve, the existing road turns from running to the southwest to running to the northwest. The developer proposes to create a tee intersection

- there by extending the road southwest into development. While DeIDOT is agreeable to the creation of a tee intersection, their initial comment at the PLUS meeting was that it should be done by extending the other leg of the intersection and the street created there should be extended through the site to access Woodyard Road from the west. DeIDOT recognizes that this configuration conflicts with objectives of the Department of Agriculture and the Bureau of Archaeology and Historic Preservation and are willing to discuss alternatives with them and the developer as the plans for the project are developed further.
- 7) Woodyard Road and Gun & Rod Club Road are classified as local roads. Local roads in rural Delaware typically have right-of-way widths ranging from 33 to 50 feet. DeIDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 30 feet from the centerline on local roads. Therefore we will require right-of-way dedication to provide any additional width needed from this project.
  - 8) At the PLUS meeting, DeIDOT recommended that stub streets be provided to several adjoining tax parcels. They recognize that this recommendation is of concern to the Department of Agriculture, which seeks to have those parcels preserved for agricultural use and they do not wish to encourage development in this area, but to the extent that it occurs, DeIDOT wants adjacent developments to be interconnected. DeIDOT is willing to work with that Department on a parcel-specific basis.
  - 9) The developer's engineer should contact our project manager for Kent County, Mr. Brad Herb of Johnson, Mirmiran & Thompson, regarding our requirements for streets and access. Mr. Herb may be reached at (302) 266-9080.

**The Department of Natural Resources and Environmental Control – Contact:  
Kevin Coyle 739-3091**

### **Green Infrastructure**

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

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

natural landscapes, provide opportunities for profitable farming and forestry enterprises, limit invasive species, and foster ecotourism.

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

### **Soils**

According to the Sussex County soil survey, Evesboro, Sassafras, Woodstown, Fallsington and Pocomoke was mapped in the immediate vicinity of the proposed construction.

Evesboro is an excessively well-drained upland soil that has moderate limitations on account of its rapid permeability. Sassafras is a well-drained upland soil that, generally, has few limitations for development. Woodstown is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Fallsington is poorly-drained wetland associated (**hydric**) soil that has severe limitations for development. Pocomoke is a very poorly-drained wetland associated (**hydric**) soil that has highly severe limitations for development.

### **Wetlands**

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of an extensive area of farmed palustrine wetlands in the western portion of the property. Because there is strong evidence that federally regulated wetlands exist on site, a wetland delineation, in accordance with the methodology established by the Corps of Engineers Wetlands Delineation Manual, (Technical Report Y-87-1) should be conducted. Once complete, this delineation should be verified by the Corps of Engineers through the Jurisdictional Determination process.

Impacts to 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.

Any work in streams, including the two stream crossings, may require State of Delaware Subaqueous Lands Permits in addition to federal wetlands permits. 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.

Site plans show significant impacts to areas of farmed wetlands on site. Impacts to wetlands should be avoided. Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife.

Lots should be removed in their entirety from both the wetland and the forest surrounding it. Vegetated buffers of no less than 100 feet should be employed from the edge of any water body, including ditches. 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.

It is further recommended that the Farm Services Agency of the USDA be contacted to assess whether the farmed wetlands on subject parcel meet the recognized criteria for classification as “prior converted wetlands.” Prior converted wetlands are farmed wetlands that have drained or altered before December 23, 1985, and no longer meet the wetland criteria established under the 404 program. Such wetlands are considered exempt from regulatory protection provided that there is no proof of a continuous “fallow period” of five years or greater in that parcel’s cropping history. Parcels converted after said date regardless of cropping history are considered jurisdictional by the Army Corps of Engineers (ACOE). The contact person for assessing a parcel’s cropping history is Sally Griffin at the USDA – she can be reached at 678-4182.

**The applicant is strongly encouraged to maintain a 100-foot minimum buffer width from the landward edge of all delineated wetlands and/or watercourses (including ditches).** In cases where natural buffer vegetation has been removed or reduced by past development or farming activities, the developer is encouraged to restore/establish to said buffer width or greater with native herbaceous and/or woody vegetation.

**All ponds (including stormwater) should maintain a 100-foot minimum isolation distance from wetlands and water bodies.**

### **ERES Waters**

This project is located adjacent to environmentally sensitive receiving waters (Broad Creek & Nanticoke River) of the Chesapeake Bay Watershed; designated as waters having Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State, and shall be protected and/ or restored, to the maximum extent practicable, to their natural condition. Provisions in Section 11.5 of Delaware’s “Surface Water Quality Standards” (as amended August 11, 1999), specify that all designated ERES waters and receiving tributaries develop a “pollution control strategy” to reduce non-point sources of nutrient runoff through implementation of Best Management Practices (BMPs). Best Management Practices as defined in

subsection 11.5(e) of this section, expressly authorizes the Department to provide standards for controlling the addition of pollutants and reducing them to the greatest degree practicable, or where attainable, a standard requiring no discharge of pollutants.

### **TMDLs**

With the adoption of Total Maximum Daily Loads (TMDLs) as a “nutrient-runoff-mitigation strategy” for reducing nutrients in the Broad Creek and Nanticoke River drainages of the Chesapeake Bay Watershed, reduction of nitrogen and phosphorus loading will be obligatory. 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. In the Nanticoke subwatershed, “target-rate-reductions” of 30 and 50 percent will be required for nitrogen and phosphorus, respectively.

Although TMDLs are authorized under federal code, states are charged with developing and implementing standards to support those desired use goals. The Jurisdictional authority for attaining these use goals fall under the auspices of Section 11.5 of the State of Delaware’s Surface Water Quality Standards (as amended August 11, 1999), and will be achieved via nutrient reductions referred to as “pollution control strategies.”

In order for the applicant to verify compliance with the TMDL mandate, a full nutrient accounting process known as nutrient budget should be prepared. The developer/consultant should contact Lyle Jones (739-4590) in the Department’s Watershed Assessment Section for further information regarding the acceptable protocol for performing this calculation.

Since the TMDL for the Nanticoke and Broad Creek subwatersheds will require the reduction of nutrient loading to the greater Chesapeake Bay watershed, significant nitrogen and phosphorus loading must also be realized from onsite/community wastewater systems as well. The Department has developed performance standards based on research by Departmental staff and Dr. Mike Hoover (North Carolina State University) for on-site wastewater treatment and disposal systems. Due to the size of a development’s system, the performance standard dictates that the effluent concentration levels can not exceed average annual nitrogen and phosphorus concentration levels of 5 and 2 mg/l, respectively. The phosphorus standard only applies when applicable.

The developer is encouraged to employ BMPs (or other pollution control strategies) such as appropriate stormwater management practices and riparian buffers that mitigate nutrient runoff into adjoining streams or watercourses.

## **Water Supply**

The information provided indicates that Delmarva Utilities will provide water to the proposed projects through a central public water system. Our files reflect that Delmarva Utilities does not currently hold a certificate of public convenience and necessity (CPCN) to provide public water in these areas. They will need to file an application for a CPCN with the Public Service Commission, if they have not done so already. Information on CPCN requirements and applications can be obtained by contacting the Public Service Commission at 302-739-4247.

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 302-739-3665.

## **Water Resource Protection Areas**

A portion of the site falls within an excellent recharge area (see map). According to the State law that created the Source Water Protection Program, county and municipal governments will be required to enact ordinances to protect Water Resource Protection Areas. 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 are not yet in place, the developer may find the language useful in modifying the site plan to protect the wellhead protection area.

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 WRPAs 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 Department recommends the following (ranked in order of preference):

- 1) Preserve WRPA's as open space and parks by acquisition or conservation easement.
- 2) Limit impervious cover of new development to 20 % by right within WRPA's.
- 3) Allow impervious cover of new development to exceed 20% within WRPA's (but no more than 50% impervious) provided the applicant develops recharge facilities that directly infiltrate rooftop runoff.
- 4) Allow impervious cover of new development to exceed 20% within WRPA's (but no more than 50% impervious) provided the applicant develops recharge facilities that infiltrate stormwater runoff from forested and/or grassed surfaces with pretreatment.

For more information, refer to:

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

and

Ground-Water Recharge Design Methodology at [http://www.wr.udel.edu/swaphome/phase2/Manual/SwappManual\\_supplement\\_1.pdf](http://www.wr.udel.edu/swaphome/phase2/Manual/SwappManual_supplement_1.pdf).

### **Sediment and Erosion Control/Stormwater Management**

Requirements:

1. Land disturbing activities in excess of 5,000 square feet are regulated under the Delaware Sediment and Stormwater Regulations. A detailed sediment and stormwater management plan must be reviewed and approved by the Kent Conservation District prior to any land disturbing activity (i.e. clearing, grubbing, filling, grading, etc.) taking place. The review fee and a completed Application for a Detailed Plan are due at the time of plan submittal to the Kent Conservation District. Construction inspection fees based on developed area and stormwater facility maintenance inspection fees based on the number of stormwater facilities are due prior to the start of construction. Please refer to the fee schedule for those amounts.
2. The following notes must appear on the record plan:

- The Kent Conservation District reserves the right to enter private property for purposes of periodic site inspection.
  - The Kent Conservation District reserves the right to add, modify, or delete any erosion or sediment control measure, as it deems necessary.
  - A clear statement of defined maintenance responsibility for stormwater management facilities must be provided on the Record Plan.
3. Ease of maintenance must be considered as a site design component. Access to the proposed stormwater facilities must be provided for periodic maintenance. This access should be at least 12 feet wide to leading to the facility and around the facility's perimeter. Maintenance set aside areas for disposal of sediments removed from the basins during the course of regular maintenance must be shown on the Record Plan for the subdivision.
  4. All drainage ways and storm drains should be contained within drainage easements and clearly shown on the plan to be recorded by Kent County.
  5. A soils investigation supporting the stormwater management facility design is required to determine impacts of the seasonal high groundwater level and soils for any basin design.

Comments:

1. This site is impacted by 3 separate tax ditch systems: the Bright-Haines Tax Ditch on the north side, the Beaver Dam Tax Ditch on the east side, and the White Marsh Tax Ditch on the South side. Each tax ditch has legal rights of way associated with them and varies for each one. The Tax Ditches must be labeled on the plan and their associated rights of way shown. Tax ditch rights of way will be provided under separate cover.
2. Proper drainage of all developed lots and active open space must be considered in the development of the grading plan for this subdivision due to the presence of poorly drained soils on the site. Portions of this site contains Woodstown (Ws, Wo), and Fallsington (Fs, Fa) soils based on the Soil Survey for Kent County prepared by the USDA Natural Resource Conservation Service. The Fallsington soil series consists of poorly of very poorly drained, slowly permeable silty soil and have severe limitations for most community development and recreational uses such as: basements, roads, lawns, and site septic tank disposal fields. Fallsington Loam is naturally poorly drained and has limitations to community development which may be overcome with careful planning and design if properly drained.
3. The plan shows the a street on top of a existing ditch (not one of the tax ditches), leading from the 90 degree bent of Woodyard Road south to the White Marsh Tax

- Ditch. This ditch was constructed by DeIDOT in the 1980's. Prior to relocating or piping the ditch DeIDOT should be contacted to verify if there is an existing easement for this ditch. Regardless of the existence of an easement, if this ditch is to be modified, the Kent Conservation District will ask that drainage of Woodyard Road be taken into account.
4. The preferred methods of stormwater management are those practices that maximize the use of the natural features of a site, promote recharge and minimize the reliance on structural components.
  5. Access to the proposed stormwater facility must be provided for periodic maintenance. This access should be at least 12 feet wide to leading to the facility and around the facility's perimeter.
  6. It is recommended that the stormwater management areas be incorporated into the overall landscape plan to enhance water quality and to make the stormwater facility an attractive community amenity.
  7. A letter of no objection to recordation will be provided once the detailed Sediment and Stormwater Management plan has been approved.
  8. Based on the site characteristics, a pre-application meeting is required to discuss stormwater management and drainage for this site.

## **Drainage**

This project is located within the Beaverdam Tax Ditch, Whitemarsh Tax Ditch, Bright-Haines Tax Ditch, Nanticoke River Tax Ditch, and the Marshyhope Tax Ditch. The Drainage Section strongly recommends the applicant contact the Tax Ditch organizations and the Kent Conservation District regarding the established tax ditch right-of-ways on the project.

This project is within the Nanticoke River Watershed, a impaired watershed with a promulgated Total Maximum Daily Load (TMDL).

A portion of WPS5 of the Beaverdam Tax Ditch is depicted as a blue line stream on the latest United States Geological Survey Topographic Quadrangle Map. According to the Kent County Subdivision and Land Development Ordinance, a 100-foot riparian buffer is to be reestablished along the Tax Ditch. The Drainage Section requests the Tax Ditch right-of-way be grass and the remainder of the 100-foot buffer be planted with native trees and shrubs.

A portion of East PR of the Whitemarsh Tax Ditch is depicted as a blue line stream on the latest United States Geological Survey Topographic Quadrangle Map. According to the Kent County Subdivision and Land Development Ordinance, a 100-foot riparian

buffer is to be reestablished along the Tax Ditch. The Drainage Section requests the Tax Ditch right-of-way be grass and the remainder of the 100-foot buffer be planted with native trees and shrubs.

The Drainage Section requests buffers along a tax ditch as well as the tax ditch right-of-way be part of the development open space and not owned by individual landowners.

The Drainage Section notes existing field ditches appear to be filled and lots created over them. If these lots are allowed to be filled and sold, a statement should be placed on the deed that the property has a filled ditch/swale and future drainage problems are very likely.

The Drainage Section does not have a clear understanding where the stormwater management areas will be located on this project. The Drainage Section requests the location of the stormwater management areas and their outlet locations be clearly marked on preliminary site plans. The Drainage Section further 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 recommends that 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 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 planted as vegetated buffers and be of sufficient width to allow for future drainage maintenance or the reconstruction of drainage conveyances as described below.

- Along an open ditch or swale the Drainage Section recommends a maintenance equipment easement of 25' measured from the top of bank on the maintenance side, and a 10' setback easement measured from top of bank on the non-maintenance side. These easements should be planted and maintained as vegetated buffers to aid in the reduction of sediment and nutrients entering into the drainage conveyance. Grasses, forbs and sedges planted within these buffers should be native species, selected for their height, ease of maintenance, erosion control, and nutrient uptake capabilities. Trees and shrubs planted within the maintenance easement should be native species, spaced to allow for mechanized 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 easement of 15' each side of the pipe as measured from the pipe centerline. These easements should be planted and maintained as vegetated buffers to aid in the reduction of sediment and nutrients entering into the drainage conveyance. Grasses, forbs and sedges planted within these easements should be native species, selected for their height, ease of maintenance, erosion control, and

nutrient uptake capabilities. Trees and shrubs planted within the maintenance easement should be spaced to allow for mechanized drainage maintenance at maturity.

The above-mentioned easement widths are necessary for the maintenance and/or reconstruction of drainage conveyances. For the further enhancement of water quality of the Nanticoke River watershed the Drainage Section encourages additional widths of vegetated buffers on this project. This project is adjacent to an area designated as Green Infrastructure as decreed by Governor Minner's Executive Order 61.

### **Open Space**

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

### **Nuisance Waterfowl**

If stormwater management ponds are added to the site plan, they may attract waterfowl like resident Canada geese. 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 grass around ponds provide an attractive habitat for these species. It is recommended that native plantings of tall grasses, wildflowers, shrubs, and trees are placed at the edge and within a buffer area 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 a reduction in the number and/or size of the ponds, proper landscaping, monitoring, and other techniques, geese problems can be minimized.

## **Recreation**

It is recommended that sidewalks be built fronting every residence 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, convenient off-road access to neighboring communities, parks, public mass transit stops, schools, stores, work, etc.

The Division of Parks and Recreation conducted a telephone survey of Delaware residents to gather information on outdoor recreation patterns and preferences as well as other information on their landscape perception. These findings are the foundation of the 2003-2008 Statewide Comprehensive Outdoor Recreation Plan (SCORP) providing guidance for investments in needed outdoor recreation facilities. The high and moderate facility needs in Kent County are listed below. 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 739-5285.

High priorities are Walking or Jogging Paths, Bike Paths, Swimming Pools, Picnic Areas, Playgrounds and Fishing Areas. Moderate priorities are Skate Facilities, Hiking Trails, Baseball/Softball Fields, Campgrounds, Soccer Fields, Volleyball Courts, Basketball Courts and Canoe/Kayak Access.

## **Underground Storage Tanks**

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

## **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.

## **Air Quality**

Air pollution threatens the health of human beings and other living things on our planet. While often invisible, pollutants in the air create smog and acid rain, cause cancer or other serious health effects, diminish the protective ozone layer in the upper atmosphere,

and contribute to the potential for world climate change. Breathing polluted air can have numerous effects on human health, including respiratory problems, hospitalization for heart or lung disease, and even premature death. Some can also have effects on aquatic life, vegetation, and animals.

The Department of Natural Resources and Environmental Control is asking that local jurisdictions consider mitigation to help resolve this issue. Mitigation might involve limiting large new developments to growth zones, focusing development to urban areas capable of providing mass transit services, requiring more energy efficient homes which would lessen air quality impacts, and promoting walkability and bikability within and between developments and town centers.

Once complete, vehicle emissions associated with this project are estimated be 11.3 tons (22,563.0 pounds) per year of VOC (volatile organic compounds), 9.3 tons (18,680.6 pounds) per year of NOx (nitrogen oxides), 6.9 tons (13,782.9 pounds) per year of SO2 (sulfur dioxide), 0.6 ton (1,226.9 pounds) per year of fine particulates and 943.7 tons (1,887,363.4 pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated be 4.6 tons (9,100.7 pounds) per year of VOC (volatile organic compounds), 0.5 ton (1,001.3 pounds) per year of NOx (nitrogen oxides), 0.4 ton (831.0 pounds) per year of SO2 (sulfur dioxide), 0.5 ton (1,072.3 pounds) per year of fine particulates and 18.4 tons (36,892.1 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 1.8 tons (3,606.9 pounds) per year of NOx (nitrogen oxides), 6.3 tons (12,545.6 pounds) per year of SO2 (sulfur dioxide) and 925.2 tons (1,850,471.3 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO <sub>2</sub>	PM <sub>2.5</sub>	CO <sub>2</sub>
Mobile	11.3	9.3	6.9	0.6	943.7
Residential	4.6	0.5	0.4	0.5	18.4
Electrical Power		1.8	6.3		925.2
TOTAL	15.9	11.6	13.6	1.1	1887.3

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 1.8 tons of nitrogen oxides per year and 6.3 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.”

Our 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: John Rossiter 739-4394**

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):

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:

a. **Fire Protection Water Requirements:**

- Where a water distribution system is proposed for single family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required.
- The infrastructure for fire protection water shall be provided, including the size of water mains.

b. **Accessibility:**

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

access road to the subdivision from Woodyard 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”
- Name of Water Supplier
- Proposed Use
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Provide Road Names, even for County Roads

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

**Department of Agriculture - Contact: Mark Davis 739-4811**

The Delaware Department of Agriculture and the Delaware Forest Service do not support the development of this parcel within Investment Level 4. This site is adjacent to the permanently preserved 167-acre Willaview Farm agricultural preservation district. The 50-foot setback and 300-foot notification zone requirements apply.\*\* (See Below) This development as proposed will lessen the value of the environmental resources found within and adjacent to this site. This land and the surrounding acreage has tremendous agricultural value as well as aesthetic value. The parcels are noted on the State's Green Infrastructure Preservation Strategy Map. The Delaware Department of Agriculture offers

its services to the developer in the re-design of this project. To learn more please contact our office at (302) 698-4500.

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

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

### **\*\*§ 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.)

**Public Service Commission - Contact: Andrea Maucher 739-4247**

This project is not within a certificated area, although the application notes "Delmarva Utilities." The water service provider will need to apply to the Commission for a CPCN to serve the community. Additional requirements apply if the water service provider is a new water utility.

If wastewater services are requested 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.

Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

**Delaware State Housing Authority – Contact Karen Horton 739-4263**

According to the *State Strategies Map*, the proposal is located in an Investment Level 4 area and outside the growth zone. As a general practice, DSHA encourages residential development in areas where residents will have proximity to services, markets, and employment opportunities such as Investment Level 1 and 2 areas outlined in the State Strategies Map. The proposal is located in an area targeted for agricultural activities and natural resource protection, and therefore inconsistent with where the State would like to see new residential development.

**Delaware Emergency Management Agency – Contact: Don Knox 659-3362**

Due to the number of residential units being proposed and its location in an Investment Level 4 Area, an 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 Kent County, to keep them apprised of all development activities.

**Department of Education – Contact: Nick Vacirca 739-4658**

147 dwelling units could generate an estimated 74 additional students for the Lake Forest School District. Kent County does not have school concurrence legislation at this time. We recommend that the developer submit a package to the school district for informational purposes.

If the development is approved and built, please 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 while picking up and dropping off students. Should there not be any sites more than 1/2 mile from the nearest public road, provisions for appropriate pick-up and drop-off at the development entrance should be included. The developer should work closely with the school district transportation supervisor.

**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.**

We would like to note again that 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.

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

Sincerely,



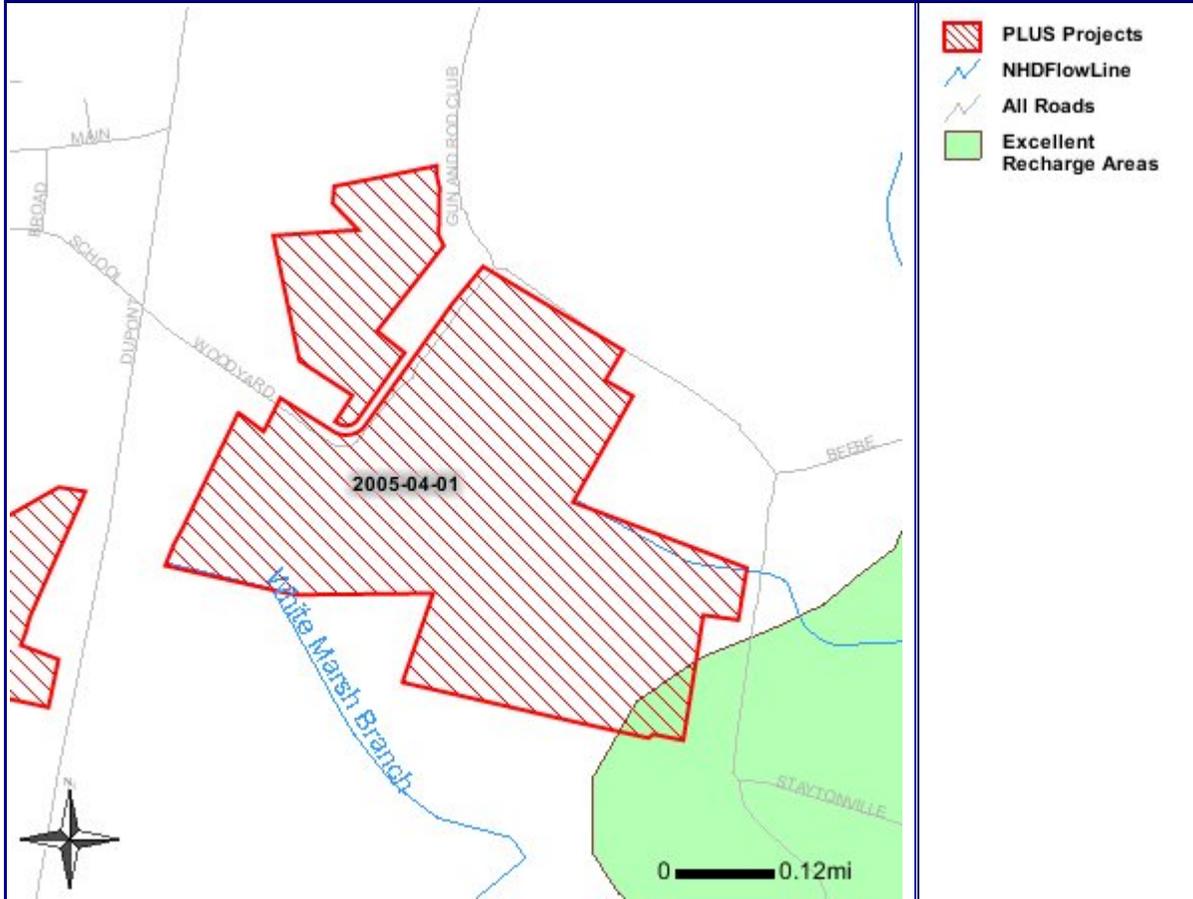
Constance C. Holland, AICP  
Director

CC: Kent County



# Gray Dawn Acres

2005-04-01



This map was produced by the Delaware Department of Natural Resources and Environmental Control.

