



Constance C. Holland, AICP
Director, Office of State Planning Coordination
State of Delaware
122 William Penn Street, Suite 302
Haslet Building, Third Floor
Dover, DE 19901

13 November 2006
Via: Email
& U.S. Mail

RE: PLUS review – PLUS 2005-07-13; Cool Spring Meadows

Dear Ms. Holland,

In regard to the above referenced project and pursuant to your comment letter dated 18 August 05, please find the following point by point response in blue for your review.

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.

❖ Comments acknowledged.

Natural and Cultural Resources

- This project impacts all three layers of the Livable Delaware Green Infrastructure area established under Governor Minner's Executive Order #61.
- As proposed, this project would remove and fragment forest that is part of a large contiguous forest tract and may reduce the habitat value of the entire forest stretch.

- ❖ **Over 2/3 of the proposed development occurs in the non- wooded areas. The remaining 1/3 is positioned in the southern most section of forested area (north of Stockley Road) where the designer will attempt to limit street and infrastructure grading so as to disturb as few trees as possible. The continuity of the remaining forested area should not be compromised.**

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

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

This project represents a major land development that will result in 233 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 580 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.

❖ **Comments acknowledged.**

Division of Historic and Cultural Affairs (DHCA)– Contact: Alice Guerrant 739-5685

The DHCA does not approve of this development because it is in State Investment Level 4 and will result in a loss of the historic agricultural and silvicultural landscape in this area and probably in the loss of archaeological sites, as well as producing adverse noise and visual effects on nearby late-19th-century and early-20th-century farmsteads and houses.

There is nothing known within the parcel. There are two properties within sight of the open part of this parcel (S-2916 and S-2918). Beers Atlas of 1868 shows the C.S. Layton House and the S.P. Martin House (probably a tenant house) within the parcel possibly. The USGS maps from 1917 and 1918 for this area show no houses remaining in the parcel. There may be archaeological resources relating to these two houses. There are also areas of high and medium potential for prehistoric-period archaeological sites.

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If this project proceeds, DHCA would appreciate the opportunity of checking the area to see if in fact any sites exist and to learn something about their location and character prior to any ground-disturbing activity.

❖ **Comments acknowledged.**

Department of Transportation – Contact: Bill Brockenbrough 760-2109

Ocean Atlantic Associates, seeks to develop 233 single-family detached houses on an approximately 215.23-acre assemblage of parcels (Tax Parcels 2-34-5.00-30.00 and 2-34-5.00-33.00). The land is located on both sides of Stockley Road (Sussex Road 280), with frontage on Cool Spring Road (Sussex Road 290) and Forest Road (Sussex Road 292) north of Stockley Road. The land is zoned AR-1 and would be developed under the County's cluster development option. A traffic impact study is in progress

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

DelDOT strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in approved Comprehensive Plans. We encourage the use of transfer of development rights where this growth management tool is available.

If this development proposal is approved, notwithstanding inconsistencies with the relevant plans and policies, DelDOT will provide technical review and comments.

❖ **Comments acknowledged.**

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

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

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Strategies this project is inappropriate in this location. In Investment Level 4 areas, the State's investments and policies, from DNREC's perspective, should retain the rural landscape and preserve open spaces and farmlands. Open space investments should emphasize the protection of critical natural habitat and wildlife to support a diversity of species, and the protection of present and future water supplies. Open space investments should also provide for recreational activities, while helping to define growth areas. Additional state investments in water and wastewater systems should be limited to existing or imminent public health, safety or environmental risks only, with little provision for additional capacity to accommodate further development. With continued development in Investment Level 4 areas, the State will have a difficult, if not impossible, time attaining water quality (e.g., TMDLs) and air quality (e.g., nonattainment 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. We encourage the use of transfer of development rights where this growth management tool is available.

This particular development certainly compromises the integrity of the State Strategies and the preservation goals inherent in many of DNREC's programs. Of particular concern are: the project impacts all three layers of the Green Infrastructure map (cropland, forest, and natural resources), and loss/fragmentation of 45 out of 141 acres of forest. While mitigating measures such as conservation design, central wastewater systems instead of individual on-site septic systems, and other best management practices may help mitigate impacts from this project, not doing the project at all is the best avenue for avoiding negative impacts. As such, this project will receive no financial, technical or other support of any kind from DNREC. Any required permits or other authorizations for this project shall be considered in light of the project's conflict with our State growth strategies.

- ❖ **Comments acknowledged. The designer/developer has attempted to utilize the BMP's as outlined by DNREC – clusters of smaller lots, central wastewater, large wetland buffers and green technology BMP's for stormwater management.**

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

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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.

❖ **Comments acknowledged.**

Soils

According to the soil survey update, over half of the soils on subject parcel are wetland associated (hydric) Hurlock or Mullica soils. These soils have severe limitations for development.

❖ **Comments acknowledged. The designer is working with an environmental and geotechnical consultant to evaluate the soils for use in wastewater treatment, stormwater management and structural support.**

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine wetlands on this parcel. Development activities should be avoided in the northeastern portion of the property as it holds majority of the wetlands on site.

These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex. The developer should note that both DNREC and 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.

❖ **An environmental wetlands assessment has been performed. This site is being designed with a minimum 25' buffer zones from all potential jurisdictional wetlands. It is our intent to maximize the buffer zones where feasible.**

Wetland Permitting Information

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

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Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process.

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 Corps of Engineers through the Jurisdictional Determination process.

To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-4691 to schedule a meeting.

❖ **See comment above.**

Impervious Cover

Since residential development significantly increases the amount of impervious cover - leading to large volumes of contaminant-laden runoff which ultimately drain into streams or waterways - the applicant is strongly urged to pursue both natural and constructed Best Management Practices (BMPs) to reduce such impacts. Reducing the amount of impervious surfaces by planting more trees and/or the use of pervious paving surfaces (“pavers”) in lieu of asphalt or concrete, are examples of ways to reduce such impacts. Research has consistently shown that once a watershed exceeds a threshold of 10 percent imperviousness, water and habitat quality irreversibly decline.

❖ **Comment acknowledged. Supplemental planting and use of pavers for cul-de-sac’s and driveways are emphasized in the design process.**

ERES Waters

This project is located adjacent to receiving waters of Inland Bays designated as waters having Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State, and shall be protected and/ or restored, to the maximum extent practicable, to their natural condition. Provisions in Section 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.

❖ **Comments acknowledged.**

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TMDLs

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Inland Bays Watershed. A TMDL is the maximum level of pollution allowed for a given pollutant below which a “water quality limited water body” can assimilate and still meet water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Although TMDLs are required by federal law, states develop and implement standards to support these desired use goals. This project is located in the low reduction area requiring a 40 percent reduction in both nitrogen and phosphorus.

- ❖ **Mr. Lyle Jones will be contacted during the final design phase for information pertaining to the TMDLs.**

Wastewater, Open Space and Compliance with TMDLs through the PCS

Significant nitrogen and phosphorus loading reductions must be realized from all sources, including community onsite wastewater systems. The Department has developed performance standards for on-site wastewater treatment and disposal systems that have been presented as a part of the proposed Pollution Control Strategy (PCS). Upon promulgation of the proposed PCS regulation, new and existing wastewater disposal systems will be required to significantly reduce nitrogen and phosphorus loading in the Inland Bays watershed and meet “performance standards.” The standards would require (where applicable) nitrogen and phosphorus loading not exceed average annual discharge concentration levels of 5 and 2 mg/l for nitrogen and phosphorus, respectively.

The proposed Pollution Control Strategy would also require the completion of a nutrient budget for the proposed project in order to estimate how nutrient loads will change with the development of the parcel. The applicant should be made aware that the inclusion of stormwater management, wastewater treatment, buffers and wetlands as metrics for open space calculations, may understate the actual nutrient runoff as calculated from the nutrient budget.

Currently, we request that in order to verify your project’s compliance with specified TMDL loading rates, a full nutrient budget be calculated. Please contact Lyle Jones of Watershed Section at 739-4590 for the acceptable protocol.

- ❖ **Mr. Lyle Jones will be contacted during the final design phase for information pertaining to the TMDLs.**

Water Supply

Should an on-site public well be needed, it must be located at least 150 feet from the outermost boundaries of the project. 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

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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.

❖ **Comments acknowledged.**

Sediment and Erosion Control/Stormwater Management

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 at (302) 856-7219 for details regarding submittal requirements and fees.

As of April 11, 2005, stormwater best management practices must also consider water quality as well as quantity in impaired water bodies.

❖ **All stormwater management practices will meet the requirements of the Sussex Conservation District (SCD) and DNREC. A detailed report with narrative will accompany the Stormwater Management and Erosion & Sediment Control Plans submitted to SCD. A meeting will be set up with SCD to discuss outfalls and predevelopment drainage areas.**

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

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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 nonmaintenance 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 a individual landowner should not have structures, decks, buildings, sheds, kennels, fences or trees within the drainage easement to allow for future drainage maintenance.

❖ **Comments acknowledged. The designer will contact Brooks Cahall from the Drainage Division to verify if tax ditches exist on the site. If they do exist the appropriate measures will be taken at the direction of the Division.**

Forests

According to 2002 aerial photos there is a large forested area within this parcel that is a component of a contiguous stretch of forest. Large contiguous stretches of forest like this not only provide important water and air quality benefits, but provide important habitat for many wildlife species that depend on interior forest. Clearing portions of the forest within the parcel may reduce the habitat value of the entire forest stretch. Invasive species such as Multiflora rose, Japanese honeysuckle or autumn olive can quickly inhabit edges and displace native species. Once established, invasive species are hard to eradicate. Furthermore, the Department discourages the removal of trees for stormwater and/or wastewater facilities.

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.

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- ❖ **Over 2/3 of the proposed development occurs in the non- wooded areas. The remaining 1/3 is positioned in the southern most section of forested area (north of Stockley Road) where the designer will attempt to limit street and infrastructure grading so as to disturb as few trees as possible. The continuity of the remaining forested area should not be compromised.**

Open Space

PLUS materials indicate that 88.15 acres are proposed for 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.

- ❖ **Comments acknowledged.**

Rare Species

Delaware Natural Heritage Program staff have not surveyed this parcel, so it is unknown if there are any state-rare or federally listed plants, animals or natural communities at or adjacent to this project site. Their program botanist and zoologist requests the opportunity to survey the forested and wetland resources which could potentially be impacted by the project. Their observations would allow the program to make more informed comments on this project and would allow the applicant the opportunity to reduce potential impacts to rare species. Please contact Bill McAvoy or Kitt Heckscher at (302) 653-2880 to set up a site visit.

- ❖ **The designer/developer will initiate the appropriate visits with Department personnel during the final design phase of the project.**

Potential Hunting Issue

Because the project parcel is part of a larger forest block, legal hunting activities may take place on adjacent properties. Hunting within 100 yards of a dwelling is prohibited and the applicant may want to contact adjacent landowners to determine if this is going to be an issue. In effect, the adjacent landowner will be losing 100 yards of their property for hunting if there is not a buffer between lot lines and the adjacent property line.

- ❖ **Comments acknowledged.**

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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. We recommend 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.

❖ **Comments acknowledged.**

Solid Waste

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

❖ **Comments acknowledged.**

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 17.9 tons (35,763.1 pounds) per year of VOC (volatile organic compounds), 14.8 tons (29,609.4 pounds) per year of NO_x (nitrogen oxides), 10.9 tons (21,846.4 pounds) per year of SO₂ (sulfur dioxide), 1.0 ton (1,944.7 pounds) per year of fine particulates and 1,495.8 tons (2,991,535.1 pounds) per year of CO₂ (carbon dioxide).

However if this project is in a level 4 area, mobile emission calculations should be increased by 118 pounds for VOC emissions for each mile outside the designated growth areas per household unit; by 154 pounds for NO_x; and by 2 pounds for particulate emissions. A typical development of 100 units that is planned 10 miles outside the growth areas will have additional 59 tons per year of VOC emissions, 77 tons per year of NO_x emissions and 1 ton per year of particulate emissions versus the

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same development built in a growth area (level 1,2 or 3).

Emissions from area sources associated with this project are estimated to be 7.2 tons (14,424.9 pounds) per year of VOC (volatile organic compounds), 0.8 ton (1,587.2 pounds) per year of NOx (nitrogen oxides), 0.7 ton (1,317.1 pounds) per year of SO2 (sulfur dioxide), 0.8 ton (1,699.7 pounds) per year of fine particulates and 29.2 tons (58,475.2 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 2.9 tons (5,717.0 pounds) per year of NOx (nitrogen oxides), 9.9 tons (19,885.2 pounds) per year of SO2 (sulfur dioxide) and 1,466.5 tons (2,933,059.9 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO2	PM2.5	CO2
Mobile	17.9	14.8	10.9	1.0	1495.8
Residential	7.2	0.8	0.7	0.8	29.2
Electrical Power		2.9	9.9		1466.5
TOTAL	25.1	18.5	21.5	1.8	2991.5

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 2.9 tons of nitrogen oxides per year and 9.9 tons of sulfur dioxide per year.

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

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

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

The DNREC energy office 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.

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

❖ **Comments acknowledged.**

State Fire Marshal's Office – Contact: Duane Fox 302-856-5298

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

a. Fire Protection Water Requirements:

- Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Assembly)
- Where a water distribution system is proposed for single family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required. (One & Two- Family Dwelling)
- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

b. Fire Protection Features:

- All structures over 10,000 Sq. Ft. aggregate will require automatic sprinkler protection installed.
- Buildings greater than 10,000 sq.ft., 3-stories or more or over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements.
- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
- Show Fire Lanes and Sign Detail as shown in DSFPR

c. Accessibility

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

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- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
 - The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
 - The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.
- d. Gas Piping and System Information:**
- Provide type of fuel proposed, and show locations of bulk containers on plan.
- e. Required Notes:**
- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
 - Proposed Use
 - Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
 - Square footage of each structure (Total of all Floors)
 - National Fire Protection Association (NFPA) Construction Type
 - Maximum Height of Buildings (including number of stories)
 - Note indicating if building is to be sprinklered
 - Name of Water Provider
 - Letter from Water Provider approving the system layout
 - Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
 - Provide Road Names, even for County Roads

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

❖ **Comments acknowledged.**

Department of Agriculture - Contact: Milton Melendez 698-4500

The proposed development is in an area designated as Level 4 under the *Strategies for State Policies and Spending*. The *Strategies* and the Sussex County Comprehensive Plan do not support this type of isolated development in this area. The intent of these plans is to preserve the agricultural lands, forestlands, recreational uses, and open spaces that are

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preferred uses in Level 4 areas. The Department of Agriculture opposes the proposed development which conflicts with the preferred land uses, making it more difficult for agriculture and forestry to succeed, and increases the cost to the public for services and facilities. The Department of Agriculture opposes this project because it negatively impacts those land uses that are the backbone of Delaware's resource industries - agriculture, forestry, horticulture - and the related industries they support.

The Department of Agriculture and the Department of Natural Resource and Environmental Control, along with other partners developed the State's "Green Infrastructure" Investment Strategy. This strategy identifies high-value cropland, forestland and natural resource lands for preservation and conservation. This proposed development site is designated as high value cropland, forestland and natural resource lands on the Green Infrastructure Investment Strategy. In other words, in addition to their location in a rural area, due to their soil quality and other significant factors, these lands have been further designated by the State for conservation and preservation.

Furthermore, often new residents of developments like this one, with little understanding or appreciation for modern agriculture and forestry, find their own lifestyles in direct conflict with the demands of these industries. Often these conflicts result in compromised health and safety; one example being decreased highway safety with farm equipment and cars competing on rural roads. The crucial economic, environmental and open space benefits of agriculture and forestry are compromised by such development. We oppose the creation of isolated development areas that are inefficient in terms of the full range of public facilities and services funded with public dollars. Public investments in areas such as this are best directed to agricultural and forestry preservation.

The Delaware Department of Agriculture supports growth which expands and builds on existing urban areas and growth zones in approved State, county and local plans. Where additional land preservation can occur through the use of transfer of development rights, and other land use measures, we will support these efforts and work with developers to implement these measures. If this project is approved we will work with the developers to minimize impacts to the agricultural and forestry industries.

❖ **Comments acknowledged.**

Public Service Commission - Contact: Andrea Maucher 739-4247

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

Application notes "Tidewater – CPCN request is in process." No Application for the subject parcels has been filed by Tidewater; however, Artesian has a CPCN Application pending before the Commission that includes parcel no, 234-5.00-30.00.

❖ **The developer is coordinating with the two utilities listed above to determine the best source for wastewater treatment and water supply.**

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Delaware State Housing Authority – Contact Karen Horton 739-4263

This proposal is to develop 233 units on 215 acres located on both sides of Stockley Road, between Forrest Road and Cool Spring Road, east of Andersons Corner.

According to the *State Strategies Map*, the proposal is located in an Investment Level 4.

As a general planning 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 and natural resource protection, and therefore inconsistent with where the State would like to see new residential development.

❖ **Comments acknowledged.**

Sussex County – Contact: Richard Kautz 855-7878

The application should note that within the site there is a 400 foot deep zone of General Residential fronting along Forest Road (Road 292). Concerning the site design, this is one of the first projects to locate all lots with direct access to open space.

This fiscal year Sussex County will be considering implementation of a Source Water Protection Program required by the State. Depending on the requirements adopted by the County Council this project might be affected. Any well location should insure that the wellhead protection area is entirely on site.

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 Sussex County Engineer Comments:

The project proposes to develop using a private central community wastewater system. We recommend that the wastewater system be operated under a long-term contract with a capable wastewater utility that meets TMDL limits for Delaware's Inland Bays. In addition, we recommend they have a wastewater utility provider prior to approving the project. The proposed project is located outside of the Inland Bays Planning area where Sussex County expects to provide sewer service. Sussex County requires design and construction of the collection and transmission system to meet Sussex County sewer standards and specifications. A review and approval of the treatment and disposal system by the Sussex County Engineering Department is also required and plan review fees may apply. Disposal fields should not be counted as open space. Wastewater disposal fields should be clearly identified on recorded plots and separated from lot area.

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If Sussex County ever provides sewer service, it is required that the treatment system be abandoned and a direct connection made to the County system at the developers and/or homeowners association expense.

Submission and approval of a sewer Concept Plan is not required.

For question regarding these comments, contact Rob Davis, Sussex County Engineering Department at (302) 855-7820.

❖ **Comments acknowledged.**

Upon your review of the above, should you have any questions or require additional information, please do not hesitate to contact this office at 302.645.0777. Thank you.

Sincerely,
Element Design Group

Douglas M. Warner, PE

Cc: Sussex County Council
Mark Chura, OAA (w/enc.), File

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