



DC GROUP

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State of Delaware
Executive Department
Office of Management and Budget

September 20, 2006

Mr. Mark Davidson
Design Consultants Group
18072 Davidson Drive
Milton, DE 19968

RE: PLUS review -- PLUS 2006-08-15; Tull Farm

Response to comments in (Red): **DC Group – June 30, 2008**

Dear Mr. Davidson:

Thank you for meeting with State agency planners on August 30, 2006 to discuss the proposed plans for Tull Farm project to be located on the east side of Mile Stretch Road, approximately .5 miles north of Cocked Hat Road.

According to the information received, you are seeking site plan approval for 222 single family lots on 139 acres located in Level 4. **As presented, we are seeking preliminary subdivision approval for 222 single family lots on 139.98± acres located primarily in a General Residential (GR) Zoning District as delineated on Sussex County Zoning Map.**

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 Sussex County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.

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

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

This project represents a major land development that will result in 222 residential units in an Investment Level 4 area according to the *2004 Strategies for State Policies and Spending*. This project is also located in the Rural area according to the Sussex County Comprehensive plan. Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4 areas. These areas are comprised of prime agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been preserved.

From a fiscal responsibility perspective, development of this site is likewise inappropriate. The cost of providing services to development in rural areas is an inefficient and wasteful use of the State's fiscal resources. The project as proposed is likely to bring more than 500 new residents to an area where the State has no plans to invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation. To provide some examples, the State government funds 100% of road maintenance and drainage improvements for the transportation system, 100% of school transportation and paratransit services, up to 80% of school construction costs, and about 90% of the cost of police protection in the unincorporated portion of Sussex County where this development is proposed. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

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

The Town of Greenwood was present at the PLUS meeting and gave comments at that time. They also followed up in writing regarding their concerns for this project. While the State has asked that the Town of Greenwood comment directly to the County, we have also included a copy with this letter. We ask that the County consider these comments as you review this project for approval.

This property falls within two categories of the Strategies for State Policies and Spending; Level 3 – 9.84± acres of the property is located on lands designated as Agricultural Residential (AR-1) with an allowable density of 2.178 lots per acre (21 Lots), Level 4 – 130.14± acres is located on lands

designated a General Residential (GR) with an allowable density of 4.356 lots per acre (566 Lots). This property, under its current zoning designation is suitable for a density of 587 single family lots. The proposed application is for 222 single family lots that are situated within the GR district of the property and yields a net density of 1.71 lots per acre (Gross Density = 1.59 lots per acre).

In response to the Town of Greenwood's letter; In September 2006 DC Group along with the Client met with the Town of Greenwood to discuss their concerns with the project as the Town Manager outlined in their comments to PLUS. All concerns were satisfactorily addressed with the Town and at the time, there was a discussion with the Town about a sharing of the onsite wastewater facility that this project was proposing. Future annexation into the Town was discussed once the property became contiguous to the Town. Since that time, the Tull's have been in discussions with the Town of Greenwood on joining into the Town's wastewater facility to help offset cost's the Town would incur during their future upgrade of their facility.

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

The Division of Historical and Cultural Affairs is opposed to this development in Level 4. It will lead to the further destruction of the historic agricultural landscape in this area and of any historic-period or prehistoric-period archaeological sites which are likely in this parcel. Beers Atlas of 1868 shows the W. O. Redden House within this parcel.

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

If this development does proceed, The DHCA would like the opportunity to examine the area for any archaeological sites, to learn something about their location, nature, and extent prior to any ground-disturbing activities.

The Tull Family is aware that if during construction if any unmarked human remains are discovered then all onstruction in the vicinity will cease and the Division of Historical and Cultural Affairs will be contacted. It should be noted that the majority of the subdivision will be within the cleared areas of the property.

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*. As part of their 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. They 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.

A Traffic Impact Study (TIS) was completed and submitted to Del DOT. A final TIS letter dated February 16, 2006 from Del DOT's consultants, McCormick Taylor was received and they commented as follows:

“There are no intersections included within the study which exhibit level of service deficiencies”

“The developer should improve Mile Stretch Road from the northern property line to Adams Road to meet DelDOT local road standards as nearly as possible. these standards include two eleven-foot travel lanes and two five-foot shoulders. The developer should provide a bituminous concrete overlay to the existing travel lanes, at DelDOT's discretion.

DelDOT should analyze the existing travel lanes' pavement section and recommend an overlay thickness to the developer's engineer if necessary".

"The following bicycle and pedestrian improvements should be included:

- a. **A minimum of a five-foot bicycle lane (in addition to any required turn lanes or bypass lanes) should be striped along the Mile Stretch Road site frontage in order to facilitate safe and unimpeded bicycle travel.**
- b. **Regulatory/warning signage should be added to any forthcoming plans to this project in order to alert motorists to the presence of bicycle traffic.**
- c. **Any utility covers should be moved outside of the designated bicycle lane or be flush with the pavement.**
- d. **A minimum of a five-foot sidewalk (including crosswalks and curb ramps across site entrances) with a minimum of a three-foot buffer from the roadway should be installed along the site frontage. Sidewalk should meet current ASSHTO and ADA standards and should be included along the site frontage of the proposed development along Mile Stretch Road.**
- e. **Internal sidewalks should be installed within the development.**

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

Investment Level 4 Policy Statement

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 *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. **This property falls within two categories of the Strategies for State Policies and Spending; Level 3 – 9.84± acres of the property is located on lands designated as Agricultural Residential (AR-1) with an allowable density of**

2.178 lots per acre (21 Lots), Level 4 – 130.14± acres is located on lands designated a General Residential (GR) with an allowable density of 4.356 lots per acre (566 Lots). This property, under its current zoning designation is suitable for a density of 587 single family lots. The proposed application is for 222 single family lots that are situated within the GR district of the property and yields a net density of 1.71 lots per acre (Gross Density = 1.59 lots per acre). This project is consistent with the County's Current Zoning Regulations. It should also be noted that this project has 69.61± acres (50%) open space and with the inclusion of the wastewater facility this site yields 79.63± acres of open pervious cover. This along with the open areas on individual lots will help mitigate water quality concerns as well as recharge of surface water into the the ground.

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., non-attainment areas for ozone and fine particulates) goals. Present and future investments in green infrastructure, as defined in Governor Minner's Executive Order No. 61, will be threatened. DNREC strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in certified Comprehensive Plans. We encourage the use of transfer of development rights where this growth management tool is available. **Although not mandated, a Nutrient Budget was performed for this project, and if required, would meet the goals of the Pollution Control Strategy.**

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 increase in impervious cover and potential conflicts with tax ditch rights-of-way. 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. **This project is preserving approximately 99% of the existing woods on site. No disturbance to the existing Tax Ditches in and around the project will occur. All stormwater discharges will meet or exceed the States water quality standards and will discharge into existing drainage features located on site prior to entering any Tax Ditch. Best Management Practices will be incorporated during the design of the project.**

As for Mr. Coyle's comment; "this project will receive no financial, technical or other support of any kind from DNREC." I was not aware that the DNREC provided funding for projects in Levels 1, 2 and 3 areas. Also, I would like to have clarification on the "no technical or other support of any kind from DNREC" comment that has been stated in this document.

Soils

According to the Sussex County soil survey, Sassafras, Woodstown, Fallsington, and Pocomoke were mapped on subject parcel. 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 a poorly-drained wetland associated (hydric) soil that has severe limitations for development. Pocomoke is a very poorly-drained wetland associated (hydric) soil that has the highest severity level for development.

It should also be noted that the soils mapped (Fallsington) on subject parcel(s) are likely to have a seasonal high water table within one-foot of the soil surface. Building in such soils is likely to leave prospective residents of this and adjoining properties susceptible to future flooding problems from groundwater-driven surface water ponding, especially during extended periods of high-intensity rainfall events such as tropical storms/hurricanes or "nor'easters." This is in addition to increased flooding from surface water runoff emanating from future created forms of structural imperviousness (roof tops, roads, and sidewalks). The extensive ditching network throughout this parcel is further evidence of a high water table and the parcel's increased susceptibility to future flooding events. **A Soils reconnaissance has been performed for this project and will be incorporated into the hearing booklets as well as within the stormwater management report.**

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine forested wetlands on this parcel. Although impacts to wetlands are not anticipated, please note that palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In situations where the applicant believes that the delineated wetlands on their parcel are nonjurisdictional isolated wetlands, the Corps must be contacted to make the final jurisdictional assessment. They can be reached by phone at 736-9763.

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

Because there is strong evidence that federally regulated wetlands exist on site, a wetland field 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. **A wetlands delineation has been performed by Environmental Resources Inc. and submitted to the US Army Corp of Engineers. See updated plans for delineation.**

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

As noted previously, this parcel contains SWMP mapped headwater riparian wetlands. Headwater riparian wetlands are important for the protection of water quality and the maintenance/integrity of the ecological functions throughout the length of the stream, including the floodplain system and/or water bodies further downstream. Since such streams are a major avenue for nutrient-laden stormwater and sediment runoff their protection deserves the highest priority. In recognition of this concern, the Watershed Assessment Section strongly recommends the applicant consider preserving the existing riparian buffer in its entirety. Otherwise, a 100-foot minimum upland buffer (planted in native vegetation) from all water bodies (including all ditches) and wetlands is strongly recommended. Studies have shown that an upland buffer width of at least 100 feet is the minimum buffer width necessary to mitigate impacts to water quality from development. **Since the existing woods are to remain and the wetlands are located within the wooded areas, a natural buffer will be intact that will preserve such wetlands. With the change in land use from farming, nitrogen loading will significantly be reduced.**

Impervious Cover

Based on a review of the PLUS application, post-development surface imperviousness is estimated to be about 19 percent. It is not clear from the information submitted whether this is a reasonable estimate or not. The applicant should recognize that all forms of

constructed surface imperviousness (i.e., rooftops, sidewalks and roads) should be accounted for when calculating surface imperviousness, and make certain that they are included in the finalized calculation.

Studies link increases in impervious cover to decreases in water and habitat quality. Studies have also firmly established that irreversible declines in water and habitat quality begin once aggregate watershed surface imperviousness exceeds 10 percent. Since the amount of imperviousness generated by this project is likely to be much higher than the desirable watershed threshold of 10 percent (reported as 35%), it underscores the importance of a proactive strategy that helps reduce or mitigate some of its most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials (“pervious pavers”) in lieu of asphalt or concrete in conjunction with an increase in forest cover preservation or additional tree plantings are examples of practical BMPs that could easily be implemented to reduce surface imperviousness. **It should be noted that this project has 69.61± acres (50%) open space and with the inclusion of the wastewater facility this site yields 79.63± acres of open pervious cover. This along with the open areas on individual lots will help mitigate water quality concerns as well as recharge of surface water into the the ground. The stormwater practices for this project will mitigate the remaining impervious areas without a decrease in the environmental habitat.**

ERES Waters

This project is located adjacent to receiving waters of Marshyhope Creek, designated as waters having Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State, and shall be protected and/ or restored, to the maximum extent practicable, to their natural condition. Provisions in Section 5.6 of Delaware’s “Surface Water Quality Standards” (as amended July 11, 2004), specify that all designated ERES waters and receiving tributaries develop a “pollution control strategy” to reduce non-point sources of pollutants through implementation of Best Management Practices (BMPs). Best Management Practices as defined in subsection 5.6.3.5 of this section, expressly authorizes the Department to provide standards for controlling the addition of pollutants and reducing them to the greatest degree achievable and, where practicable, implementation of a standard requiring no discharge of pollutants. **Although not mandated, a Nutrient Budget was performed for this project, and if required, would meet the goals of the Pollution Control Strategy. Context-sensitive design standards, additional planting of street trees, and low impact development BMP’s along all roadways, provision of 50% of open space, and reduction of site’s imperviousness, conservatively, all these measures will reduce the impact**

this development will have on the environment and sensitive resource areas on and off-site.

TMDLs

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Nanticoke watershed. A TMDL is the maximum level of pollution allowed for a given pollutant below which a “water quality limited water body” can assimilate and still meet water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Although TMDLs are required by federal law, states are charged with developing and implementing standards to support these desired use goals. In the greater Nanticoke watershed, “target-rate-nutrient reductions” of 30 and 50 percent will be required for nitrogen and phosphorus, respectively. **A Nutrient Budget was performed for this project, and if required, would meet the target-rate nutrient reductions for the Nanticoke Watershed.**

TMDL Compliance through the Pollution Control Strategy (PCS)

As indicated above, Total Maximum Daily loads (TMDLs) for nitrogen and phosphorus have been proposed for both the Nanticoke watershed. The TMDL calls for a 30 and 50% reduction in nitrogen and phosphorus from baseline conditions. A pollution control strategy will be used as a regulatory framework to ensure that these nutrient reduction targets are attained. The Department has developed an assessment tool to evaluate how your proposed development may reduce nutrients to meet the TMDL requirements. Additional nutrient reductions may be possible through the implementation of Best Management Practices such as wider vegetated buffers along watercourses, increasing passive, wooded open space, using enhanced nutrient removal wastewater technologies, and the use of stormwater management treatment trains. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool. **A Nutrient Budget was performed for this project, and if required, would meet the goals of the Pollution Control Strategy. An enhanced nutrient removal wastewater treatment system will be utilized for this project.**

Water Supply

The project information sheets state that water will be provided to the project by a central community water system. Our records indicate that the project site is not located in an area where public water service is available. Any public water utility providing water to the site must obtain a certificate of public convenience and necessity (CPCN) from the Public Service Commission. Information on CPCNs and the application process can be

obtained by contacting the Public Service Commission at 302-739-4247. 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 Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells. **At this time, Tidewater Utilities, Inc. will provide community water for this project. A CPCN application will be filed prior to obtaining approvals for the water system.**

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. **Will comply.**

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. **Will comply.**

Potential Contamination Sources exist in the area, and any well permit applications will undergo a detailed review that may increase turnaround time and may require site specific conditions/recommendations. In this case there is a Groundwater Management Zone B, named James Thompson, located within 1000 feet of the proposed project.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-9944.

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 the Sussex Conservation District. Contact the Sussex Conservation District at (302) 856-7219 for details regarding submittal requirements and fees. **Will Comply.**

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

Applying practices to mimic the pre-development hydrology on the site, promote recharge, maximize the use of existing natural features on the site, and limit the reliance on structural stormwater components, such as maintaining open spaces, should be considered in the overall design of the project as a stormwater management technique. Green Technology BMPs must be given first consideration for stormwater quality management. Each stormwater management facility should have an adequate outlet for release of stormwater. **Will Comply.**

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

Drainage

The conceptual plan provided with the PLUS application shows numerous conflicts with tax ditch alignments and rights-of-way. The engineer/planner should contact Brooks Cahall, Division of Soil & Water Conservation, Drainage Program, at 302-855-1930, to schedule a meeting to discuss the limitations and procedures for addressing these issues. **A request has been made with the Drainage Program to reduce the easements for the existing tax ditches.**

Habitat and Open Space

The site plan shows that the developer has avoided impacts to the forest, wetlands, and Grubby Neck Ditch. Avoiding impacts to this area helps maintain important habitat and migratory corridors, and helps maintain water and air quality.

There is opportunity for habitat enhancement along the creek. The developer is strongly encouraged to plant additional buffers along this water body. Planting of additional trees and shrubs can help improve water quality, would improve habitat and would provide the community with additional aesthetic and recreational resources.

The developer is also strongly urged to consider alternatives to mowed grass within community open space areas. Mowing and other maintenance costs from lawn areas can become a substantial burden for community maintenance associations. There may be areas within the development that are appropriate for warm or cool season grasses. The maintenance costs associated with meadow type grasses are much lower than those of lawn grasses, and provide food and habitat for birds and other wildlife and can help reduce non-point source pollution. **The preliminary subdivision plan shows a**

variety of open space that adds up to approximately 57% of the entire site area and 50% of the site area exclusive of the wastewater treatment areas, which exceeds the minimum open space as required by County Code. This open space is provided to the residents of this development for recreation, wild life habitat, landscaping, stormwater management and wastewater treatment. Additional street forested areas are being established throughout the Site to create more recreational opportunities for residents.

According to the Statewide Comprehensive Outdoor Recreation Plan (SCORP), some of the high facility needs in Sussex County are walking, jogging, and bike paths. A portion of the moderate facility needs are picnic areas, hiking trails, and playgrounds. This project provides for most of the facility needs as outlined in the SCORP with 6-foot wide sidewalks on one side of all the roads and walking paths that will be placed through the open space.

The overall recreational purpose for these open spaces consists of a clubhouse, swimming pool, and sidewalks/jogging paths throughout the site. The project will have a 6-foot wide sidewalk on one side of the road. The hiking trail will be located on the perimeter of the property and throughout the open space. Passive recreation space in the form of improved landscape areas and related amenities is provided throughout the site and will provide opportunities for residents to engage in leisure activities

All areas not planned as landscape beds and/or meadow-type grasses will be improved and maintained to provide open space and useable lawn area for passive recreation. Stormwater management structures are included in the passive/active recreation space calculations, due to the fact that these features act as an attractive landscape element that significantly enhances the park-like setting of the open space and the overall passive recreational experience for its users.

It should also be noted that street trees will also be furnished throughout the site. The benefits of street trees have been thoroughly documented. They play a vital role in carbon sequestration, air pollution absorption, street traffic calming and asphalt life cycle extension, energy conservation, and provide intangible sociological benefits.

There is approximately 37 acres of existing wooded area that will be left virtually undisturbed. This will preserve the existing wildlife and enhance the overall recreation for the residence's of this community.

Rare Species

DNREC has never surveyed this site; therefore, it is unknown if there are state-rare or federally listed plants, animals or natural communities at or adjacent to this project site. Rare species that occur within the vicinity and utilize forested areas such as those on the project site are: *Melanerpes erythrocephalus* (Red-Headed Woodpecker) and *Pseudotriton montanus* (mud salamander). The current site plan does not result in forested wetland removal and as long as there are adequate upland buffers (at least 100 feet), these species and many others that depend on forested wetlands should not be impacted. **Buffers from the wetlands have been provided. The existing woods located on this property will not be disturbed to the extent that would result in the disturbance**

Nuisance Geese

The applicant indicated that nuisance species would be considered regarding stormwater management ponds, however, specific methods were not listed. We recommend native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area (at least 50 feet) around ponds. Geese do not feel as safe from predators when their view of the area is blocked and will be less likely to take up residence in the pond. 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. **During the stormwater design of this site, consideration in designing dry ponds with low maintenance vegetation will be used in order to help not only with deterrence of "Nuisance Geese" but in the overall long-range maintenance of the ponds.**

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. **It should be noted that recycling in this part of Sussex County is voluntary. The varied production practices of home builders and the recycling habits of future occupants will determine the total solid waste generation for this project.**

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 17.0 tons (34,074.7 pounds) per year of VOC (volatile organic compounds), 14.1 tons (28,211.5 pounds) per year of NO_x (nitrogen oxides), 10.4 tons (20,815.0 pounds) per year of SO₂ (sulfur dioxide), 0.9 ton (1,852.9 pounds) per year of fine particulates and 1,425.2 tons (2,850,303.9 pounds) per year of CO₂ (carbon dioxide).

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

Emissions from area sources associated with this project are estimated to be 6.9 tons (13,743.9 pounds) per year of VOC (volatile organic compounds), 0.8 ton (1,512.2 pounds) per year of NO_x (nitrogen oxides), 0.6 ton (1,254.9 pounds) per year of SO₂ (sulfur dioxide), 0.8 ton (1,619.4 pounds) per year of fine particulates and 27.9 tons (55,714.6 pounds) per year of CO₂ (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 2.7 tons (5,447.1 pounds) per year of NO_x (nitrogen oxides), 9.5 tons (18,946.4 pounds) per year of SO₂ (sulfur dioxide) and 1,397.3 tons (2,794,589.3 pounds) per year of CO₂ (carbon dioxide).

	VOC	NO _x	SO ₂	PM _{2.5}	CO ₂
Mobile	17.0	14.1	10.4	0.9	1425.2
Residential	6.9	0.8	0.6	0.8	27.9
Electrical Power		2.7	9.5		1397.3

TOTAL	23.9	17.6	20.5	1.7	2850.4
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For this project the electrical usage via electric power plant generation alone totaled to produce an additional 2.7 tons of nitrogen oxides per year and 9.5 tons of sulfur dioxide per year.

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

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

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

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

They also recommend that the home builders offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for their new occupants. **No specific plan change recommendations regarding air quality. As previously stated above, the benefits of street trees have been thoroughly documented. They play a vital role in carbon sequestration, air pollution absorption, street traffic calming and asphalt life cycle extension, energy conservation, and provide intangible sociological benefits.**

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

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

- a. **Fire Protection Water Requirements:**
 - Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Assembly)
 - 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, 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 Mile Stretch Road must be constructed so fire department apparatus may negotiate it.
 - Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
 - Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The

minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.

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

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

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

e. **Required Notes:**

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- 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.

Will comply.

Department of Agriculture - Contact: Scott Blaier 698-4500

The proposed development is in an area designated as Investment Level 4 under the *Strategies for State Policies and Spending*. The *Strategies* do not support this type of isolated development in this area. The intent of this plan is to preserve the agricultural lands,

forestlands, recreational uses, and open spaces that are preferred uses in Level 4 areas. The Department of Agriculture opposes 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.

More importantly, 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. 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.

Most of this site has been designated as having "good" ground-water recharge potential. DNREC has mapped all ground-water recharge-potential recharge areas for the state, and a "good" rating designates an area as having important groundwater recharge qualities. **The Tull family has had extensive soils work completed on this property. The soils for groundwater recharge are fair at best and the overall stormwater design for this project will incorporate best management practices for the mitigation of groundwater recharge.**

Maintaining pervious cover in excellent and good recharge areas is crucial for the overall environmental health of our state and extremely important to efforts which ensure a safe drinking water supply for future generations. Retention of pervious cover to ensure an adequate future water supply is also important for the future viability of agriculture in the First State. The loss of every acre of land designated as "excellent" and "good" recharge areas adversely impacts the future prospects for agriculture in Delaware. The developer should make every effort to protect and maintain valuable ground-water recharge potential areas. **It should be noted that this project has 69.61± acres (50%) open space and with the inclusion of the wastewater facility this site yields 79.63± acres of open pervious cover. This along with the open areas on individual lots will help mitigate water quality concerns as well as recharge of surface water into the the ground.**

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. **30-foot landscaped buffers have been incorporated around the perimeter of the project that abuts existing agricultural fields. The Department should be aware that the adjacent properties are zoned General Residential and have been developed as such. Also, a portion of this property is in the development district of the Town of Greenwood.**

Right Tree for the Right Place

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

Native Landscapes **The final plans will include a landscape design that utilizes the strategies outlined in "the right tree in the right place" concept. Some of the strategies include the use of native species only for buffer areas and under story plantings in and adjacent to retained forest areas. Native species will also be utilized in buffer and yard plantings adjacent to existing single family homes. Street trees will be carefully selected for their use at this site and to provide much needed shading of impervious surfaces. Secondary plantings, within the stormwater facilities, will be provided to provide climate control by limiting unnecessary heat build up in summer and the cooling affects of winter winds in winter.**

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

Tree Mitigation

The Delaware Forest Service encourages the developer to implement a tree mitigation program to replace trees at a 1:1 ratio within the site and throughout the community. This will help to meet the community's forestry goals and objectives and reduce the environmental impacts to the surrounding natural resources. To learn more, please contact our offices at (302) 349-5754. **Approximately 99% (37 Acres) of the existing woods will be undisturbed for this project. Please review the plans and the above comments.**

Public Service Commission - Contact: Andrea Maucher 739-4247

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

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

This proposal is to develop 222 residential units on 150 acres located on the east side of Mile Stretch Road, approximately 0.5 miles north of Cocked Hat Road, south of Greenwood. According to the *State Strategies Map*, the proposal is located in an Investment Level 4 area. As a general planning practice, DSHA encourages residential development only 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. Since 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, DSHA does not support this proposal. **This proposal is for 222 residential units on 139.98 acres located on the east side of Mile Stretch Road. This proposal is being prepared in accordance with the current zoning delineated for this parcel.**

Department of Education – Contact: John Marinucci 739-4658

DOE recognizes that this development project is in level 4 of the State Strategies for Policies and Spending and as such, DOE does not support the approval of this project. This proposed development is within the Woodbridge School District. DOE offers the following comments on behalf of the Woodbridge School District.

1. Using the DOE standard formula, this development will generate an estimated 111 students.
2. DOE records indicate that the Woodbridge School Districts' *elementary schools are very close to 100% of current capacity* based on September 30, 2005 elementary enrollment.

3. DOE records indicate that the Woodbridge School Districts' *secondary schools are not at beyond 100% of current capacity* based on September 30, 2005 secondary enrollment.
4. This development will create additional elementary and secondary student population growth which will further compound the existing shortage of space. The developer is strongly encouraged to contact the Woodbridge School District Administration to address the issue of school over-crowding that this development will exacerbate.
5. DOE requests developer work with the Woodbridge School District transportation department to establish developer supplied bus stop shelter ROW and shelter structures, interspersed throughout the development as determined and recommended by the local school district. **The Tull family has met with the Woodbridge School District in reference to this project.**

Sussex County – Contact: Richard Kautz 855-7878

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. In addition, we recommend they have a wastewater utility provider prior to approving the project. 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. **The Tull family is working with Tidewater Utilities, Inc. on the wastewater treatment for this subdivision. There is approximately 50% open space without including the wastewater facility. It should be noted that the proposal for wastewater disposal is spray irrigation. This type of disposal system will allow the 10 acres to be planted in meadow type grasses to benefit the wildlife habitat in this area.**

The proposed project is within the boundaries of the Western Sussex Planning Area. The Sussex County Engineering Department is currently conducting a planning study of the area. The study is scheduled to be complete by August of 2007. 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 owners expense. **The Tull family have been and continue to be in discussions with the Town of Greenwood about joining together on the wastewater system planned for this site or possibly joining into the Town's future system.**

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

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

Sincerely,

Constance C. Holland, AICP
Director

CC: Sussex County

Attached to our response are the updated site plans that will be incorporated into our re-submittal to Sussex County.

If you have any questions please do not hesitate to call.

Sincerely,

For Design Consultants Group, L.L.C.

A handwritten signature in black ink, appearing to read 'Mark H. Davidson', is written over a horizontal line.

Mark H. Davidson

pc: Tull Family, Applicant