



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF
STATE PLANNING COORDINATION

February 15, 2005

Mr. Phil Toliver
Morris & Ritchie Associates, Inc.
18 Boulden Circle, Ste. 36
Wilmington, De 19720

RE: PLUS review – PLUS 2005-01-07; Tuscany Estates

Dear Ms. Kirkpatrick:

Thank you for meeting with State agency planners on January 26, 2005 to discuss the proposed plans for the Tuscany Estates project to be located along Carpenters Bridge Road, southwest of Frederica.

According to the information received, you are seeking site plan approval for 814 units on 374.31.

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

Executive Summary

The following section includes some site specific highlights from the agency comments found in this letter. This summary is provided for your convenience and reference. The full text of this letter represents the official state response to this project. ***Our office notes that the applicants are responsible for reading and responding to this letter and all comments contained within it in their entirety.***

State Strategies

- This project is located in Investment Levels 2 and 3 of the State Strategies for Policies and Spending and is inside Kent County's growth zone. Our office has no objections to the development of this project in accordance with relevant State and County regulations. However, there are some significant environmental and design recommendations that are a part of this letter that we encourage the developer and the County to take into consideration through the local review process.

Environmental and Cultural Resource Planning

- This site has been identified for its exceptional ecological and natural resource values by DNREC. It is listed as part of a State Resource Area, is in the Murderkill River Natural Area (qualifying it as a State Natural Heritage Site) and contains land listed on Delaware's Natural Area Inventory. These designations are reserved for the highest quality and most important natural lands remaining in Delaware. The site is also adjacent to the Murderkill River, which has been designated as an impaired waterway under the Total Maximum Daily Loads (TMDL) program. The applicant and the County should take extra care when developing this site. Here are some specific recommendations:

- ▶ In order to protect water quality, a minimum 100 foot buffer should be provided along the Murderkill River, the unnamed tributary, and wetland areas. Natural vegetation in this buffer should be left undisturbed, and any open areas should be planted with trees, herbaceous plants, and no-mow grasses.

- ▶ Due to the site's exceptional value it is recommended that the buffer be increased to 300 feet adjacent to the Murderkill River, the unnamed tributary, and wetland areas. While 100 feet is considered sufficient to address water quality concerns, the 300 foot buffer will preserve an important habitat corridor that will benefit the valuable flora and fauna on the site and in the surrounding river ecosystem.

- ▶ Preserve all of the existing trees along the Murderkill River and along the unnamed tributary. It appears that this can largely be accomplished within the 300 foot buffer areas described above.

- ▶ Remove the stormwater management ponds from the forested areas. Cutting down trees just to provide stormwater management is counterproductive, since trees play a role in mitigating stormwater runoff. The District indicated a willingness to work with the developer on non-structural stormwater management practices which would utilize the benefits of the existing trees. An additional benefit to the developer would

be to lower construction costs by avoiding tree clearing and pond construction.

► There are known archeological sites on or adjacent to this parcel, and a high probability that others exist. Some of these sites may be associated with the forested areas due to their close proximity to the waterways and the fact that they have been relatively undisturbed. The applicant should contact the State Historic Preservation Office to arrange for a site visit.

► Based on the conceptual subdivision plan, it appears that complying with these design recommendations would impact 56 lots and four stormwater management ponds. Through some creative redesign involving the reconfiguration of lots, streets, open spaces, and cul-de-sacs these impacts may be reduced or minimized.

Street Design and Transportation

- The street and open space design has resulted in a large number of cul-de-sacs in this development. We encourage the developer to revisit the site design with the goal of minimizing the number of cul-de-sacs proposed.
- DeIDOT notes that as a minimum the developer should anticipate being required to improve Roesville and Carpenter's Bridge Roads in conjunction with the development of the Roseville Estates project.
- The design of the roundabouts should be revisited. If they are intended as open space they are too small; if they are intended as traffic calming devices they are too large.
- One of the four access points will have to be redesigned to be located across from Roesville Road.

Utilities

- Although the PLUS application indicates that Tidewater Utilities will be the water service provider, Artesian Water Company has a CPCN for a portion of the site and an active application for the remainder. The applicant should contact the Public Service Commission for more information.

Due to the exceptional environmental and cultural resources on the site and in the surrounding area, the State Planning Office would like to offer to meet again with the applicants to review these comments in more detail using a full scale version of the plan. We would invite DNREC and other agency representatives to participate with the goal of discussing specific design changes that would address the State's goal of preserving the natural resource and ecological features while addressing the applicant's goal of

developing the property in a sustainable and cost efficient manner. Please contact David Edgell for more information or to schedule a meeting.

The following are the complete comments received from State Agencies:

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

This project is located in Investment Levels 2 and 3 according to the 2004 State Strategies for Policies and Spending. This site is also located in the Kent County Growth Zone. Investment Levels 2 reflects areas where growth is anticipated in the near-term future by State and local plans. Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. Both of these criteria apply to the subject parcel. This property is on the periphery of the Kent County Growth Zone, and it is adjacent to the Murderkill River. State investments will support growth in these areas. It is also apparent through the review of the site and its location in relation to the Murderkill River corridor that there are some significant environmental issues associated with this development project. Our office has no objections to the proposed development of this project in accordance with the County codes and ordinances, provided that the design of the development takes into considerations the environmental and other design changes expressed in our letter.

The comments in our letter can be summarized in three basic categories:

Environmental Impacts:

Much of the discussion at the PLUS meeting centered around the relationship of the site to the Murderkill River. Specifically, the site design does not respect the buffer areas or the natural drainage ways and habitat. In addition, the plan proposes stormwater areas adjacent to the river which will involve the removal of even more forest. It was recommended at the meeting that the applicants consider preserving the forest and steep slope areas as natural features in their entirety and improving them to incorporate at least a 100' buffer. We also recommend and moving the stormwater management features out of the wooded area entirely. In their comments below DNREC underscores the importance of sensitive site design to minimize the impact of new development on the water quality in the Muderkill River. We strongly encourage the applicant and the County to consider making these important design changes in order to protect and preserve the water quality in the Murderkill River.

Community Design

The project, as designed, appears to have far too many cul-de-sacs for an integrated and truly connected street network. Some more attention to the natural drainage patterns can improve water quality by preserving natural habitat. Such a design change may also have

benefits to the developer including reducing the amount of grading, and possibly reduce the overall extent and cost of structural stormwater management.

Cumulative Impact

It is noted that since April of this year there have been two other PLUS projects in the same vicinity for a total of 1497 proposed residential units. There have been two additional projects near-by that include an additional 745 proposed residential units. This represents as many as 2242 additional dwelling units in this general vicinity. The eventual build out will undoubtedly have a cumulative impact on the water quality in the Murderkill River, TMDL issues, the Town of Frederica, and other State and County services. While this is not specifically an issue that the developer can address through the subdivision plan process, our office would like to go on record to suggest the need for some regional planning to review these cumulative impacts and to plan for necessary environmental protection and infrastructure upgrades. We would like to offer to work with Kent County to accomplish these studies.

State Historic Preservation Office (SHPO) – Contact: Anne McCleave 739-5685

The State Historic Preservation Office is not in favor of this development because of the cultural resources that will be affected. There are known archaeological sites within this area, located in the areas near the water on the north, east and south areas of the development, with a high probability for other sites throughout the property. SHPO requests permission for their archaeologists to access the property and walk the area to gain a better understanding of the sites and enable us to better advise the developer on the proposed development's effects on the sites.

Records indicate that there are (or were) three dwelling complexes within this property. After a quick drive-by, it appears that the house along Carpenters Bridge Road has been demolished. During the meeting, the applicant's representatives stated that some structures still exist on the property. If structures exist, and if the plans are for their removal, SHPO would like permission to access the structures in order to evaluate and document them. If the structures are in good condition, they would like to see them preserved. Please also reference the November 10th letter sent to Ms. Anna Sollenberger of Geo-Technology Associates, and the comments submitted for the Roseville Estates PLUS application, both of which include similar comments.

Please contact Anne McCleave at 302-739-5685 to schedule a time our staff can visit the Tuscany and Roseville Estate properties. Lastly, if there is any federal involvement with the project, in the form of permits, licenses, or funds, the federal agency is responsible to comply with Section 106 of the National Historic Preservation Act (36 CFR 800) and consider any effects their project will have on historic resources.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

- 1) On October 6, 2004, a traffic impact study (TIS) was scoped for a project of 1,400 dwellings on a 483-acre assemblage of parcels on both sides of Carpenters Bridge Road. Tuscany Estates is the part of that assemblage on the east side of Carpenters Bridge Road. The part on the west side of the road will be developed as a separate project, reviewed at the November 23, 2004, PLUS meeting as Roseville Estates. DelDOT will comment to Kent County on the results of that study when it is complete and they have reviewed it. At a minimum, the developer should anticipate being required to improve Roesville and Carpenters Bridge Roads in conjunction with the Roseville Estates and Tuscany Estates developments.
- 2) DelDOT commends the developer for providing the proposed stub streets to the large adjacent parcel and the use of the roundabouts and village greens as part of the design. However, both roundabouts are on minor collector streets where the minimum radius is 300' whereas both of these roundabouts show 350' diameter. If the intent of the plan is to use these roundabouts essentially as open space, they need to be much larger to satisfy our criteria for minimum curve radii. If the intent is to use them for traffic control, they are too large and should be designed to discourage pedestrians from accessing the center island.
- 3) Carpenters Bridge Road is classified as a major collector road. According to the plan presented, it has an existing right-of-way width of about 40 feet. DelDOT's policy is to require dedication of sufficient land to provide minimum right-of-way widths of 40 feet from the centerline on collector and minor arterial roads. Therefore we will require right-of-way dedication to provide the additional feet from this project.
- 4) DelDOT will also require that a paved multi-modal path, located in a 15-foot wide permanent easement, be provided across the frontage of the site.
- 5) DelDOT understands the need for cul-de-sacs near the Murderkill River and its tributaries. However, they recommend changing the site design to eliminate some of the 12 proposed cul-de-sacs, in order to enhance the grid street pattern and provide more of a sense of community through additional interconnections. DelDOT supports the Office of State Planning Coordination's comments in this regard.
- 6) Four access points are proposed on Carpenters Bridge Road, none of them opposite Roesville Road. DelDOT will require that one of the access points be opposite Roesville Road. They will evaluate the four access points and determine the appropriate number and location from safety and operational standpoints.

- 7) The developer's engineer should contact the DelDOT project manager for Kent County, Mr. Brad Herb of Johnson, Mirmiran & Thompson, regarding requirements for streets and access. Mr. Herb may be reached at (302) 266-9080.

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

General Comment

This is the sixth development proposed along the Murderkill since April 2004:

| | | |
|------------|------------|------------|
| 2004-06-08 | 2004-11-05 | 2004-09-05 |
| 2004-04-07 | 2004-11-12 | 2005-01-07 |

The approval of these developments will add an additional 2,380 homes along the Murderkill River. The presence of these residential units will bring negative cumulative impacts to the River and adjoining waterbodies.

Design Recommendations

The negative impacts of development can be mitigated by removing lots from the mapped critical natural resource areas. This can be done by increasing buffer distances around wetlands to 300 feet. Removal of the 56 lots and four stormwater management ponds within the existing tree line will minimize the clearing of trees. There should be more emphasis on preserving open spaces by designating open space areas along wetlands and forests. The developer and State should seek to minimize the environmental impacts of this development. It is strongly recommended that the PLUS comments indicate that this development should not be approved without significant changes.

Soils

According to the Kent County soil survey, Sassafras, Rumford, Woodstown, and Johnston were mapped in the immediate vicinity of the proposed construction. Sassafras and Rumford are well-drained upland soils that have few limitations for development. Woodstown is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Johnston is a very poorly-drained wetland associated (**hydric**) floodplain soil that has greatest limitations for development.

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine tidal wetlands along the Murderkill River and Ash Gut. Impacts to wetlands should be avoided to the maximum extent practicable. Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Lots should be

removed in their entirety from the wetland, wetland buffers and the forested areas. Vegetated no-mow buffers of no less than 300 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.

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

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.

Further, this parcel is bordered by an environmentally sensitive unnamed (or unknown) headwater stream to the north, while a near-headwater portion of the Murderkill River borders the parcel to the south. Since headwater and near headwater streams/rivers and their associated wetlands are important for the protection of water quality and the maintenance/integrity of the ecological functions throughout the length of the stream, their protection deserves the highest priority.

In recognition of this concern, the Department strongly recommends that the applicant preserve the existing natural forested buffer adjacent to unnamed tributary and the Murderkill River in its entirety. Efforts to maximize or expand the existing natural forested buffer width via planting of native woody or herbaceous vegetation, is also strongly recommended.

TMDLs

With the adoption of Total Maximum Daily Loads (TMDLs) as a “nutrient-runoff-mitigation strategy” for reducing nutrients in the Inland Bays Watershed, reduction of nitrogen and phosphorus loading will be mandatory. A TMDL is the maximum level of pollution allowed for a given pollutant below which a “water quality limited water body”

can assimilate and still meet water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Although

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

Nutrient reductions prescribed under TMDLs are assigned to those watersheds or subwatersheds on the basis of recognized water quality impairments. In the Murderkill, the primary source of water quality impairment is associated with nutrient runoff from agricultural and/or residential development. In order to mitigate the aforementioned impairments, a TMDL reduction level of 30 and 50 percent will be required for nitrogen and phosphorus, respectively.

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

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

Water Supply

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-3665.

Water Resource Protection Areas

A small portion of the parcel is located in an excellent recharge area (see map). According to the State law that created the Source Water Protection Program, county and municipal governments will be required to enact ordinances to protect Water Resource Protection Areas. The following language has been excerpted from the Source Water Protection Guidance Manual for Local Governments, Supplement 1 - Ground-Water Recharge Design Methodology. While the local ordinances are not yet in place, the developer may find the language useful in modifying the site plan to protect the excellent recharge area.

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

New development in WRPAs may exceed the 20 % impervious cover threshold, but be no more than 50 % impervious, provided the applicant submits an environmental assessment report recommending a climatic water budget and facilities to augment recharge. The environmental assessment must document that post-development recharge will be no less than predevelopment recharge when computed on an annual basis.

Commonly, the applicant offsets the loss of recharge due to impervious cover by constructing recharge basins that convey relatively pure rooftop runoff for infiltration to ground water.

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

1. Preserve WRPAs as open space and parks by acquisition or conservation easement.
2. Limit impervious cover of new development to 20 % by right within WRPAs.
3. Allow impervious cover of new development to exceed 20% within WRPAs (but no more than 50% impervious) provided the applicant develops recharge facilities that directly infiltrate rooftop runoff.
4. Allow impervious cover of new development to exceed 20% within WRPAs (but no more than 50% impervious) provided the

applicant develops recharge facilities that infiltrate stormwater runoff from forested and/or grassed surfaces with pretreatment.

Sediment and Erosion Control/Stormwater Management

Requirements:

1. Land disturbing activities in excess of 5,000 square feet are regulated under the Delaware Sediment and Stormwater Regulations. A detailed sediment and stormwater management plan must be reviewed and approved by the Kent Conservation District prior to any land disturbing activity (i.e. clearing, grubbing, filling, grading, etc.) taking place. The review fee and a completed Application for a Detailed Plan are due at the time of plan submittal to the Kent Conservation District. Construction inspection fees based on developed area and stormwater facility maintenance inspection fees based on the number of stormwater facilities are due prior to the start of construction. Please refer to the fee schedule for those amounts.
2. The following notes must appear on the record plan:
 - The Kent Conservation District reserves the right to enter private property for purposes of periodic site inspection.
 - The Kent Conservation District reserves the right to add, modify, or delete any erosion or sediment control measure, as it deems necessary.
 - A clear statement of defined maintenance responsibility for stormwater management facilities must be provided on the Record Plan.
3. Ease of maintenance must be considered as a site design component. Access to the proposed stormwater facilities must be provided for periodic maintenance. This access should be at least 12 feet wide to leading to the facility and around the facility's perimeter. Maintenance set aside areas for disposal of sediments removed from the basins during the course of regular maintenance must be shown on the Record Plan for the subdivision.
4. All drainage ways and storm drains should be contained within drainage easements and clearly shown on the plan to be recorded by Kent County.
5. A soils investigation supporting the stormwater management facility design is required to determine impacts of the seasonal high groundwater level and soils for any basin design.

Comments:

1. Tree clearing for the placement of stormwater ponds in the wooded riparian buffer along the Murderkill River and Ash Gut is strongly discouraged. The clearing of

these areas are contrary to the intent of providing stormwater quality treatment. The preferred methods of stormwater management are those practices that maximize the use of the natural features of the site, promote recharge and minimize the reliance on structural components. Since most of this will be eligible for a waiver of stormwater quantity management based on a tidal outfall, other options for providing stormwater quality management must be explored before the use of ponds is considered.

2. It is recommended that the stormwater management areas be incorporated into the overall landscape plan to enhance water quality and to make the stormwater facility an attractive community amenity.
3. A letter of no objection to recordation will be provided once the detailed Sediment and Stormwater Management plan has been approved.
4. Proper drainage of developed lots and active open space must be considered in the development of the grading plan for this subdivision.
5. Based on the site characteristics, a pre-application meeting is required to discuss stormwater management and drainage for this site.
6. The Kent Conservation District recommends that no residential lot be recorded within a subdivision that contains wetlands. Placing wetlands in open space will aid in protecting those areas from disturbance and reduce individual property owner complaints regarding poor drainage of areas on their property.

Additionally, the Department strongly recommends that the periphery of any proposed pond(s) and/or stormwater management ponds contain a 50-foot buffer of native woody and/or herbaceous vegetation. Vegetated buffer(s) help reduce nutrient runoff into waterbodies and reduce the problems associated with nuisance geese. It is further recommended that all stormwater ponds be at least 100 feet from all delineated wetlands and/or watercourses.

Drainage

The Drainage Section is not aware of any existing drainage problem associated with this project. The Drainage Section requests all existing ditches on the property should be checked for function and cleaned if needed prior to the construction of homes. Wetland permits may be required before cleaning ditches.

The Drainage Section requests that all precautions be taken to ensure the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of on site storm water.

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

- Along an open ditch or swale, the Drainage Section recommends a maintenance equipment zone of 20' measured from the top of bank on the maintenance side, and a 10' setback zone measured from top of bank on the non-maintenance side. These zones should be maintained as buffers to aid in the reduction of sediment and nutrients entering into the drainage conveyance. Grasses, forbs and sedges planted within these zones should be 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.
- Along a stormwater pipe the Drainage Section recommends a maintenance equipment zone of 15' 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 selected for their height, ease of maintenance, erosion control, and nutrient uptake capabilities. Trees and shrubs planted within the maintenance zone should be spaced to allow for drainage maintenance at maturity.

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

Floodplains

Portions of the site are within the 100-year floodplain which cannot be subdivided according to Kent County's subdivision regulations.

Forests

According to 2002 aerial photos forested areas exist on this parcel; site plans show that lot lines will contain portions of the forest. This forest provides important riparian habitat, wildlife connectors, and air quality and water quality benefits. The forest tract is extremely beneficial to the region. Fragmentation of this forest can have irreversible effects to the regional ecosystem.

Four stormwater management ponds are proposed in the forested tract on the parcel. These stormwater management ponds should be removed outside of the forest to a more appropriate area in the parcel.

Site plans indicate that 56 lots are within the existing tree line. These lot lines should be redesigned to avoid all impacts to the forested area. Therefore, the developer is strongly encouraged to preserve, and where possible, enhance forested resources on site. This includes removing lot lines and infrastructure (such as storm water management ponds) from forested areas to the extent possible and minimizing any clearing activities. The forested areas on-site should be viewed as a community asset and managed appropriately.

Forested areas on-site set aside for conservation purposes should be placed into a permanent conservation easement or other binding protection. These areas should be clearly marked and delineated so that residents understand their importance and so that homeowner activities do not infringe upon these areas.

Open Space

To maximize the existing buffering capacity and wildlife habitat on site, it is recommended that lot lines and other infrastructure (such as storm water management ponds) be pulled out of the forest and that areas of community open space be designated along the forested/riparian areas. Doing so will accomplish two things: it will preserve and expand the existing riparian buffers on site and its value for birds and wildlife and it will create recreational opportunities for residents by allowing them access to and views of the forest and stream.

In areas set aside for passive open space, the developer is encouraged to consider establishment of additional forested areas or meadow-type grasses. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces.

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

Rare/Threatened/Endangered Species

On November 20, 2004 DNREC sent comments regarding this project to Anna Sollenberger of Geo-Technology Associates, Inc. At that time they were not provided with a detailed site plan, so the following comments may contain more detailed information than those previously.

A review of the database indicates that there are currently no records of state-rare or federally listed plants, animals or natural communities at this project site. However, there are several rare species downstream within or adjacent to the Murderkill River that could

be affected by detrimental changes to water quality. DNREC is especially concerned with the cumulative impacts to water quality from this project and the number of other projects proposed for this area of the Murderkill watershed.

State Natural Heritage Site

Part of the project area lies within the Murderkill River Natural Area, and is therefore within a State Natural Heritage Site. This is one of the criteria used to determine the presence of Critical Resource Waters. The final decision regarding Critical Resource Waters – if this is an issue – will be made by the U.S. Army Corps of Engineers (ACOE). The information above will aid the ACOE in their determination

Nuisance Species

The stormwater management ponds incorporated within the site plan will likely attract waterfowl like resident Canada geese and mute swans that will create a nuisance. 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. Ponds that remain in the plan should be landscaped to deter nuisance species. Short manicured lawns around ponds provide an attractive habitat for these species. However, native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within an adequate buffer area around ponds, are not as attractive to geese because they do not feel as safe from predators and other disturbance when their view of the area is blocked. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with a reduction in the number of ponds, proper landscaping, monitoring, and other techniques, geese problems can be minimized.

State Resource Areas/Natural Areas Inventory

This project contains land currently identified as part of a State Resource Area. State Resource Areas are comprised of lands that contain a variety of natural, cultural and open space resources significant to the state. Consideration should be given to protecting these resources during design and construction of this project. For more information, please contact Ron Vickers, Land Preservation Office, 739-3423.

This project contains land currently listed on Delaware's Natural Areas Inventory. Natural Areas contain lands of statewide significance identified by the Natural Area Advisory Council as the highest quality and most important natural lands remaining in Delaware. Consideration should be given to protecting these resources (along Ash Gut to the north and east as well as land on the south) during design and construction of this project. For more information, please contact the Office of Nature Preserves at 739-3423.

Recreation

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

Underground Storage Tanks

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

Air Quality

Air pollution threatens the health of human beings and other living things on our planet. While often invisible, pollutants in the air create smog and acid rain, cause cancer or other serious health effects, diminish the protective ozone layer in the upper atmosphere, and contribute to the potential for world climate change. Breathing polluted air can have numerous effects on human health, including respiratory problems, hospitalization for heart or lung disease, and even premature death. Some can also have effects on aquatic life, vegetation, and animals.

Once complete, vehicle emissions associated with this project are estimated to be **Error! Not a valid link.** tons (**Error! Not a valid link.** pounds) per year of VOC (volatile organic compounds), **Error! Not a valid link.** tons (**Error! Not a valid link.** pounds) per year of NOx (nitrogen oxides), **Error! Not a valid link.** tons (**Error! Not a valid link.** pounds) per year of SO2 (sulfur dioxide), **Error! Not a valid link.** ton (**Error! Not a valid link.** pounds) per year of fine particulates and **Error! Not a valid link.** tons (**Error! Not a valid link.** pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated to be **Error! Not a valid link.** tons (**Error! Not a valid link.** pounds) per year of VOC (volatile organic compounds), **Error! Not a valid link.** ton (**Error! Not a valid link.** pounds) per year of NOx (nitrogen oxides), **Error! Not a valid link.** ton (**Error! Not a valid link.** pounds) per year of SO2 (sulfur dioxide), **Error! Not a valid link.** ton (**Error! Not a valid link.** pounds) per year of fine particulates and **Error! Not a valid link.** tons (**Error! Not a valid link.** pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be **Error! Not a valid link.** tons (**Error! Not a valid link.** pounds) per year of NO_x (nitrogen oxides), **Error! Not a valid link.** tons (**Error! Not a valid link.** pounds) per year of SO₂ (sulfur dioxide) and **Error! Not a valid link.** tons (**Error! Not a valid link.** pounds) per year of CO₂ (carbon dioxide).

| | VOC | NO _x | SO ₂ | PM _{2.5} | CO ₂ |
|------------------|-------------|-----------------|-----------------|-------------------|-----------------|
| Mobile | 62.5 | 51.7 | 38.2 | 3.4 | 5225.6 |
| Residential | 25.2 | 2.8 | 2.3 | 3.0 | 102.1 |
| Electrical Power | | 10.0 | 34.7 | | 5123.4 |
| TOTAL | 87.7 | 64.5 | 75.2 | 6.4 | 10451.1 |

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

State Fire Marshal’s Office – Contact: John Rossiter 739-4394

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

a. **Fire Protection Water Requirements:**

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

b. **Accessibility:**

- All premises which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from Carpenter's Bridge 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.
- If the use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.

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

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

d. **Required Notes:**

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

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

Department of Agriculture - Contact: Mark Davis 739-4811

Overall Comment

The Delaware Department of Agriculture recognizes that this proposal is within the Kent County Growth Zone and State Investment Level 2; however, this does not lessen the value of the environmental resources found within and adjacent to this site. DDA strongly encourages the developer to work with all agencies to address such concerns as preservation of forested areas, preservation of agricultural activities and a reduction to the overall impact to areas service such as schools and EMS.

Adjacent the proposed site on its southern border is located the 140-acre Murderkill River Estates Agricultural Preservation District. DDA encourages the developer to design this subdivision with consideration of that ag district. In addition, please note that the owner of the agricultural district is privileged to a 50- foot set back on adjoining property and a 300-foot notification zone. Please see the following from the Delaware Code.

If this site is developed, then the Foundation's regulations governing development adjacent to Agricultural Preservation Districts applies. If a proposed new subdivision borders or is near an Agricultural Preservation District, then the owner of the preservation district is entitled to the following use protections, quoted from the Delaware Code: (and mirrored in Sussex County ordinances)

§ 910. Agricultural use protections.

(a) Normal agricultural uses and activities conducted in a lawful manner are preferred and priority uses and activities in Agricultural Preservation Districts. In order to establish and maintain a preference and priority for such normal agricultural uses and activities and avert and negate complaints arising from normal noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations, land use adjacent to Agricultural Preservation Districts shall be subject to the following restrictions:

(1) For any new subdivision development located in whole or in part within 300 feet of the boundary of an Agricultural Preservation District, the owner of the development shall provide in the deed restrictions and any leases or agreements of sale for any residential lot or dwelling unit the following notice:

"This property is located in the vicinity of an established Agricultural Preservation District in which normal agricultural uses and activities have been afforded the highest priority use status. It can be anticipated that such agricultural uses and activities may now or in the future involve noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations. The use and enjoyment of this property is expressly conditioned on acceptance of any annoyance or inconvenience which may result from such normal agricultural uses and activities."

(2) For any new subdivision development located in whole or in part within 50 feet of the boundary of an Agricultural Preservation District, no improvement requiring an occupancy approval shall be constructed within 50 feet of the boundary of the Agricultural Preservation District.

b) Normal agricultural uses and activities conducted in accordance with good husbandry and best management practices in Agricultural Preservation Districts shall be deemed protected actions and not subject to any claim or complaint of nuisance, including any such claims under any existing or future county or municipal code or ordinance. In the event a formal complaint alleging nuisance related to normal agricultural uses and activities is filed against an owner of lands located in an Agricultural Preservation District, such owner, upon prevailing in any such action, shall be entitled to recover reasonably incurred costs and expenses related to the defense of any such action, including reasonable attorney's fees. (68 Del. Laws, c. 118, § 2.)

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 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 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.

Berm Design and Construction

The Delaware Department of Agriculture Forest Service encourages the developer to design a landscape feature above the current county code that reflects the local topography and utilizes native trees and shrubs. A well designed berm can create an attractive feature that is welcoming to the community and will beneficial to both desired economic and environmental issues.

Open Space Considerations

The Delaware Department of Agriculture and the Delaware Forest Service supports comments made by DNREC Parks & Recreation Department to allow for improved design to open space and provide areas of connectivity to both passive and open space areas within the planned community.

Forest Buffers

This site does have elements of riparian corridors and forest buffers along the northern and eastern edges of the property. The Delaware Department of Agriculture Forest Service encourages the developer to implement tree preservation practices and supports the Kent County Conservation Office in their efforts to preserve trees on this site. Both agencies agree that trees should not be removed for construction of storm water management facilities. The Forest Service encourages the developer to seek the assistance of a certified arborist or certified forest to aid in this design process.

The Delaware Department of Agriculture Forest Service offers it assistants to the developer to implement these practices, please contact our office at (302) 698-4500.

Public Service Commission - Contact: Andrea Maucher 739-4247

The application notes Tidewater Utilities, Inc.; however, a portion of the project is in a certificated area of Artesian, and there is presently a pending application by Artesian requesting a CPCN for the remainder of the project area.

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.

If this project lies outside of the County's service territory, the County must update the information it filed with the Commission during October 2004.

Delaware State Housing Authority – Contact Karen Horton 739-4263

According to the State Strategies Map, the proposal is located in Investment Level 3 and inside the growth zone. While the State Strategies Map does support limited investment in these areas, the scale of the proposal may change the rural landscape of the area significantly. Developments in these areas should preserve as much open space as possible while incorporating design elements that preserves its rural character.

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

Due to the large number of residential units being proposed, a significant impact to public safety is foreseen by implementation of this project. The developer should notify the police, fire service, and emergency medical response organization serving this portion of Kent County, to keep them apprised of all development activities.

Portions of this property are located in the Special Flood Hazard Area inundated by the 100-year flood (FIRM map 355). This area could also experience possible flooding from a category 2 or greater hurricane. Routes 1, 12, 13, and 113 are coastal storm evacuation routes and this development will be affected by traffic volume on these routes during a coastal storm event.

Department of Education – Contact: Nick Vacirca 739-4658

814 dwelling units could generate an estimated 407 additional students for the Lake Forest School District.

Kent County does not have school concurrence legislation at this time. It is recommended that the developer submit a package to the school district for informational purposes.

If the development is approved and built, please use the following information for school transportation planning. If there are homes more than 1/2 mile from the nearest public

road (outside the development), developers should plan wide enough streets so that large school buses can access and turn around (without backing) from the furthest areas within the development while picking up and dropping off students. Should there not be any sites more than 1/2 mile from the nearest public road, provisions for appropriate pick-up and drop-off at the development entrance should be included. The developer should work closely with the school district transportation supervisor.

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

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

Sincerely,

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

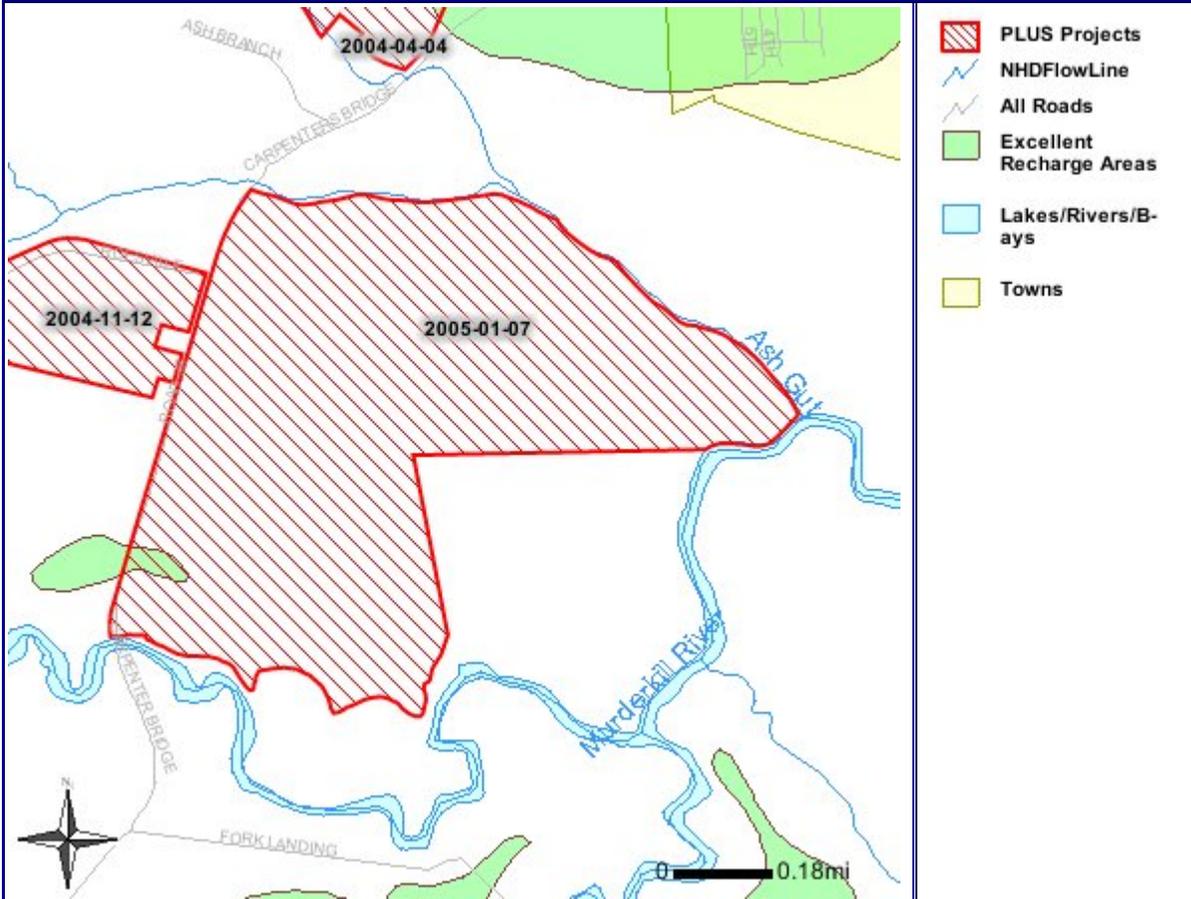
Constance C. Holland, AICP
Director

CC: James Lampkin, Millennium Land Development, LLC



Tuscany Estates

2005-01-07



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

