



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF
STATE PLANNING COORDINATION

December 17, 2004

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

RE: PLUS review – PLUS 2004-11-13 – Longwood Lakes

Dear Mr. Davidson:

Thank you for meeting with State agency planners on December 1, 2004 to discuss the proposed plans for the Longwood Lakes project to be located on the south side of Country Living Road, approximately 0.5 miles east of Lakeview Road.

According to the information received, you are seeking site plan approval for 74 units and a conditional use for a borrow pit on 67.39 acres

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.

This office has received the following comments from State agencies:

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

The Office of State Planning Coordination notes that this proposal is within an Investment Level 4 area according to the Strategies for State Policies and Spending and the Low Density area according to the Sussex County Comprehensive Plan. In these areas, State policies support agricultural preservation and natural resource conservation, not development activities. The State will not participate in any infrastructure improvements needed to support this development.

We also note that the site is currently entirely forested, and that most of this forest will be either removed or impacted by the development proposal. We are particularly concerned with the impact that the tree removal and the placement of individual on-site septic systems will have on the water quality of the Inland Bays. As noted in the comments from DNREC, this site is located within the high reduction zone of the Inland Bays. We strongly encourage the developer to re-evaluate the proposal, and if continuing, consider clustering the houses and preserving significant open space on the site. While we are pleased to see a buffer to the stream, we would prefer to see the lot lines outside of the buffer so that individual property owners do not impact the buffer. We encourage you to work with the Department of Agriculture's Urban and Community Forestry program to develop a tree preservation plan for the site if you plan to proceed.

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

There is a high probability for historic archaeological sites within the subject property. The developer is encouraged to contact Anne McCleave at 302-739-5685 if artifacts are found.

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. Therefore DelDOT will not participate in the cost of any road improvements needed to support this development. The comments that follow are technical, and are not intended to suggest that DelDOT supports this development proposal.

- 1) Country Living Road is classified as a local road and has an existing right-of-way width of 50 feet according to the plan presented. DelDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 30 feet from the centerline on local roads. Therefore they will require right-of-way dedication to provide the additional 5 feet from this project.
- 2) 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.
- 3) The proposed development includes two ponds that would be created by the temporary conditional use of the site as a borrow pit. As indicated in the DelDOT letter of November 3, 2004, to Sussex County (copy enclosed), they did not recommend that the County require a traffic impact study for this project. However, because they are concerned that traffic from the proposed pit operation could damage Country Living Road, it was recommended that the County require the developer to provide DelDOT with information on the truck traffic expected before acting on the conditional use application. DelDOT has not received a response.

- 4) DelDOT supports the recommendation from the Department of Natural Resources' (DNREC's) Division of Parks and Recreation that sidewalks and pedestrian paths be included in the development plan.
- 5) The developer's site engineer should contact the DelDOT Subdivision Manager for Sussex County, Mr. John Fiori, regarding their specific requirements for the design of the road improvements and site entrance. Mr. Fiori may be reached at (302) 760-2260.

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

Soils

According to the recent soil survey update, the soils in the vicinity of the proposed construction are mapped as Pepperbox and Rosedale complex.

The following is a summary of mapped soils found within the proposed construction; they are grouped on the basis of drainage class:

Moderately Well to Well to drained – Peppperbox and Rosedale complex

Most of the soils found on subject parcel have water tables from 30 to 40 inches below the surface and have rapidly permeable sandy surface but a slow permeable subsoil. Such soils are conducive to nutrient leaching via groundwater or surface runoff into the surrounding watershed and these impacts are greatly intensified in soils that with shallow water tables.

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine forested wetlands on this site.

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.

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.

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. Recommended vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex and other waterbodies on site. It is important to note that both DNREC and Army Corps of Engineers discourage allowing lot lines to contain wetlands and associated buffers, to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances that can be caused by homeowners.

ERES Waters

This project is located adjacent to receiving waters of Inland Bays designated as waters having Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State, and shall be protected and/ or restored, to the maximum extent practicable, to their natural condition. Provisions in Section 11.5 of Delaware's "Surface Water Quality Standards" (as amended August 11, 1999), specify that all designated ERES waters and receiving tributaries develop a "pollution control strategy" to reduce non-point sources of nutrient runoff through implementation of Best Management Practices (BMPs). Best Management Practices as defined in subsection 11.5(e) of this section, expressly authorizes the Department to provide standards for controlling the addition of pollutants and reducing them to the greatest degree practicable, or where attainable, a standard requiring no discharge of pollutants.

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 on basis of water quality concerns – that is, the those regions deemed to be of greatest environmental concern will require correspondingly higher levels of nutrient reduction than those regions deemed less environmentally sensitive. In this watershed, these regions are demarcated as high and low reduction zones. The high reduction zone corresponds to the western portion of the watershed, and requires a reduction of nitrogen and phosphorus by 85 and 65 percent, respectively. The low reduction zone corresponds to the eastern portion of the

watershed and requires a reduction of nitrogen and phosphorus by 85 and 65 percent, respectively. **This project is proposed within the high nutrient reduction zone.**

In order for the applicant to verify compliance with the TMDL mandate, a full nutrient accounting process known as a nutrient budget shall be required. This nutrient budget shall assess and compare contemporary nutrient loading rates from current land use(s), with those projected for the changed land use(s). Under the current TMDL nutrient reduction criterion for the Inland Bays watershed, all lands bounded by said watershed must demonstrate nutrient reductions that meet or exceed those percentage reduction level(s) prescribed for that reduction zone (e.g., high or low reduction zone)

To ensure that the desired reductions are consistent with said TMDL, the nutrient budget should employ relevant scientifically defensible assumptions from peer-reviewed research conducted in a geologic setting similar to that of the coastal plain of Delaware. **Such a model is currently being developed by the Department. The developer/consultant should contact Lyle Jones (302-739-4590) in the Department's Watershed Assessment Section for further information regarding the acceptable protocol for calculating a nutrient budget.**

Based on the information provided through the PLUS application, DNREC believes that it will be very difficult for this proposal to meet the TMDL load reductions.

Since the TMDL for the Inland Bays mandates reducing nutrient loading to waters of the Inland Bays significant nitrogen and phosphorus loading must be realized from all sources, including onsite/community wastewater disposal systems. The Department has developed performance standards based on research by Departmental staff and Dr. Mike Hoover (North Carolina State University) for on-site wastewater treatment and disposal systems. For Individual systems, the performance standard dictates that the effluent concentration levels can not exceed average annual nitrogen and phosphorus concentration level of 20 and 7.85 mg/l, respectively. The phosphorus standard only applies when applicable.

Water Supply

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

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction

of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

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

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

Sediment and Erosion Control/Stormwater Management

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. The plan review and approval as well as construction inspection will be coordinated through Sussex Conservation District. Contact Jessica Watson, Program Manager, at (302) 856-7219 for details regarding submittal requirements and fees.

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

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

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.

Each stormwater management facility should have an adequate outlet for release of stormwater. Any drainage conveyed onto this site from neighboring properties must be adequately conveyed through the site to the discharge point without interruption.

A Certified Construction Reviewer (CCR) will be required for the site during construction. You should contact Sussex Conservation District for details regarding the CCR requirement.

A request for a waiver from stormwater quantity management requirements must be submitted to the Conservation District in writing.

The District recommends considering using the locations of the parking islands as bioretention facilities.

Contact DNREC Drainage Section to determine if the stormwater outfall will be into a tax ditch. Discharge into a tax ditch will require Drainage Section approval for both the construction of the outfall and for the discharge from this site. A downstream analysis of the tax ditch may be necessary to demonstrate the ditch's capacity to convey the runoff from this development.

Super Silt Fence must be used in areas adjacent to wetlands.

In general, borrow pits may not be used for stormwater management. A request for a variance must be submitted to the Conservation District in writing. Additionally, the borrow pits must be built to Pond Code 378 standards and the maximum approvable depth of a pond used for stormwater management is six feet.

Floodplains

A very small portion of the site appears to be within the 100-year floodplain. Construction should be kept out of this area.

Forests

According to 2002 aerial photos, the entire parcel is forested. PLUS materials indicate 21% of this forest will be removed. Also, site plans do not indicate whether the existing forest will be incorporated into the plan.

Lot lines should be redesigned to avoid all impacts to the forested area. This area provides important water quality, air quality and habitat benefits both to the site itself and the region. 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.

Forest blocks of 20 acres or more are of special conservation concern because of their value as wildlife habitat; especially, when this tract of forest is attached to a larger forest. The developer is encouraged to incorporate the forest into site plans and minimize impacts to the forested areas. Encroaching into these areas causes "fragmentation" which can decrease the value of the forest for wildlife.

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.

Because the project parcel is part of a larger forest block, legal hunting activities may take place on adjacent properties. Hunting within 300 feet of a dwelling is prohibited and the applicant may want to contact adjacent landowners to determine if this is going to be an issue.

Open Space

To maximize the existing buffering capacity and wildlife habitat on site, it is recommended that lot lines and other infrastructure be pulled out of the forest and areas of community open space be designated along the forested areas. Doing so will create recreational opportunities for residents by allowing them access to and views of the forest.

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/Habitat

Based on review of topographic maps, aerial photographs, and because they have not visited the site previously, the DNHESP botanist requests the opportunity to survey the forested and wetland resources which could potentially be impacted by the project. His observations would allow them to make more informed comments on this project and would allow the applicant the opportunity to reduce potential impacts to rare species. Please contact Bill McAvoy at (302) 653-2880 to set up a site visit.

The DNHESP would gladly assist the landowner(s) in evaluating these parcels for wildlife habitat. Many new incentive-based programs for wildlife management are available to private landowners through our agency. Please contact their office if the landowner(s) is interested in more information.

It is recommended that you leave 100-foot forested buffer along Long Ditch to preserve water quality downstream. DNREC has records of two rare freshwater mussel species in Ingram Pond that could potentially occur in Long Ditch as well. Because freshwater mussels are filter feeders, and have a long lifespan and complex life cycle, they are

susceptible to detrimental changes in water quality. Impacts to this population of freshwater mussels can be minimized by taking measures to decrease downstream sedimentation during construction activities.

Revegetation/Landscaping

DNREC requests that no invasive species be used in the revegetation of disturbed or landscaped areas. A list of species considered invasive in Delaware can be found on the DNHP web site, www.dnrec.state.de.us/fw/invasive.htm. They further encourage, where possible/feasible, the use of native plants for habitat restoration projects on-site and their Botanist, Bill McAvoy can be contacted at (302) 653-2880 to assist you in developing a plant list.

Nuisance Species

The ponds within the subdivision will likely attract waterfowl like resident Canada geese and mute swans that will create a nuisance for community residents. Although small numbers of these species are enjoyed by residents, geese and swans can quickly multiply and overwhelm the area. 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 subdivision 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 a 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, proper landscaping, monitoring, and other techniques, geese problems can be minimized.

Natural Areas Inventory

This project contains land proposed for listing 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 during design and construction of this project. The developer should investigate dedicating the Natural Area as a Nature Preserve through a conservation easement or donation of land. 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. Single-entrance communities, like this proposal, discourages pedestrian mobility to nearby schools, stores, and places of work.

It is recommended that a stub street with sidewalks be provided to the adjacent parcel to the east for the mobility reasons stated earlier.

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 5.7 tons (11,358.2 pounds) per year of VOC (volatile organic compounds), 4.7 tons (9,403.8 pounds) per year of NO_x (nitrogen oxides), 3.5 tons (6,938.3 pounds) per year of SO₂ (sulfur dioxide), 0.3 ton (617.6 pounds) per year of fine particulates and 475.1 tons (950,101.3 pounds) per year of CO₂ (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 2.3 tons (4,581.3 pounds) per year of VOC (volatile organic compounds), 0.3 ton (504.1 pounds) per year of NO_x (nitrogen oxides), 0.2 ton (418.3 pounds) per year of SO₂ (sulfur dioxide), 0.3 ton (539.8 pounds) per year of fine particulates and 9.3 tons (18,571.5 pounds) per year of CO₂ (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 0.9 tons (1,815.7 pounds) per year of NO_x (nitrogen oxides), 3.2 tons (6,315.5 pounds) per year of SO₂ (sulfur dioxide) and 465.8 tons (931,529.8 pounds) per year of CO₂ (carbon dioxide).

	VOC	NO _x	SO ₂	PM _{2.5}	CO ₂
Mobile	5.7	4.7	3.5	0.3	475.1
Residential	2.3	0.3	0.2	0.3	9.3
Electrical Power		0.9	3.2		465.8
TOTAL	8.0	5.9	6.9	0.6	950.2

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: Duane Fox 856-5298

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

a. **Fire Protection Water Requirements:**

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

b. **Accessibility:**

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

DDA and the Delaware Forest Service do not support this project.

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

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

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

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

A portion of the property adjacent to Long Drain Ditch is located in the Special Flood Hazard Area inundated by the 100-year flood.

Routes 20, 24, and 113 are coastal storm evacuation routes and this development will be affected by traffic volume on these routes during a coastal storm event

Sussex County – Contact: Richard Kautz 855-7878

No wetland buffers should be included within lot lines and the buffer limits should be permanently marked on the ground. The developer should provide stub road access to adjacent property as requested by DeIDOT.

The Sussex County Engineer Department notes that this proposed subdivision is not within any current County planning area. It is also west of the current annexation area as defined in the Millsboro Comprehensive Plan.

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: Sussex County
PGS Properties, LLC