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January 20, 2009

Constance C. Holland, ACIP
The Delaware Office of State Planning Coordination
122 William Penn Street, Third Floor
Dover, DE 19901
P: (302) 739-3090
F: (302) 739-6958

RE: Response to Preliminary Land Use Services (PLUS) Meeting – Sand Hill Dunes

Dear Connie:

We have received and reviewed your PLUS comment letter dated September 22, 2008. The overall site plan has been modified to meet your concerns, as specified below. Please find enclosed a copy of the revised site layout. Our responses to your comments are in [blue](#).

Executive Summary

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

State Strategies/Project Location

- The proposed Sand Hill Dunes project is located within an Investment Level One and Two as defined by the State Strategies for Policy and Spending off Sand Hill Road north of the Clark Drive intersection within the Town of Georgetown and calls for the construction of 225 residential units and 30,000 sq. ft. of commercial space on 41.21 acres.

Street Design and Transportation

- There are several other developments proposed along the south end of Sand Hill Road, including the Parsonage subdivision on the west side and a shopping center east side. DeIDOT anticipates requiring all of the developers to participate in improving Sand Hill Road to meet State

standards for a local road, including 11-foot lanes and 5-foot shoulders. DeIDOT has not determined specifically how they will allocate the cost of those improvements or who will be required to build which improvements.

Natural and Cultural Resources

- DNREC’s Ground Water Protection Branch recommends:
 - The developer provides how the impervious cover was calculated to determine its accuracy.

The impervious areas were calculated from the AutoCAD drawing file. The calculated impervious areas contained within the site parcels include: existing road surface, proposed road surface, proposed curb, proposed sidewalks, proposed parking areas, and proposed buildings (with associated driveways). The following provides a detailed breakdown of the calculated areas.

Existing Roadway	0.223± Acres
Proposed Roadways, Curbs, Sidewalks, Parking Areas	11.096± Acres
Club House & Pool	0.362± Acres
Single Family Cottage Style #1	1.102± Acres
Single Family Cottage Style #2	1.364± Acres
Duplex Units (30)	2.381± Acres
Apartment Building (2)	0.853± Acres
Commercial Buildings (3)	0.689± Acres
Maintenance Building	0.162± Acres
Total Impervious Area	18.232± Acres

- Refer to the Town of Georgetown Ordinance No. 2007-21 for guidance.

The comment is noted.

The proposed site plans shows a stormwater management pond within the wellhead protection area. If a problem were to occur in the stormwater system that released contaminants, they would pose a likely threat to the quality of water drawn by Perdue: Georgetown from these wells.

The comment is noted. The entire site falls within a well head protection area and therefore relocating the stormwater management pond is not practical.

- In addition, because the wellhead protection area the source of public drinking water, the storage of hazardous substances or wastes should not be allowed within the area unless specific approval is obtained from the relevant state, federal, or local program.

The comment is noted.

- Due to existing drainage concerns in this area a meeting to discuss drainage for the site should be held with the applicant, Sussex Conservation District Sediment and Stormwater Program, Brooks Cahall of the State Drainage Program, and the Town of Georgetown.

The developer is currently working with the Sussex Conservation District and an adjacent property owner to address the stormwater management requirements for this site.

This office has received the following comments from State agencies:

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

This Office appreciates the opportunity to review the proposed and offers the following:

- If the developer has not done so, a meeting with the Town of Georgetown should be schedule to discuss the requirements by the community for the future development of this project.
- Coordinate their efforts with the adjacent parcel and the Sussex Conservation District to address current and future drainage problems for this site.
- Coordinate its efforts with the Department of Transportation to address traffic concerns for the intersection of Delaware Route 9 and Sand Hill Road.

If you have any additional questions, please contact this office.

The developer is coordinating this project with the Town of Georgetown, the Sussex Conservation District and DeIDOT.

State Historic Preservation Office (SHPO) – Contact: Terrence Burns 739-5685

No Comments received

Department of Transportation – Contact: Bill Brockenbrough 760-2109

- 1) DeIDOT appreciates the developer's efforts to manage their access along Sand Hill Road and their proposed connections to the Parsonage development. However, DeIDOT anticipates recommending that the Town require improvements to Clarke Drive and its intersection with Sand Hill Road.

- 2) There are several other developments proposed along the south end of Sand Hill Road, including the Parsonage subdivision on the west side and a shopping center east side. DeIDOT anticipates requiring all of the developers to participate in improving Sand Hill Road to meet State standards for a local road, including 11-foot lanes and 5-foot shoulders. DeIDOT has not determined specifically how they will allocate the cost of those improvements or who will be required to build which improvements.
- 3) DeIDOT appreciates the developer's response to Item 35 on the PLUS application. Improvements to the intersection of Sand Hill Road and US Route 9 are essential for the subject development and the other developments proposed along Sand Hill Road and storm water management is essential for those improvements. DeIDOT has conceptual plans for the road improvements that are needed but they will not begin developing plans for those improvements until an adequate means of draining the area can be identified. As DeIDOT understands it, the Town has asked their engineer, Davis, Bowen & Friedel, to address this problem. If an adequate solution to the area's drainage problems can be identified, we will create a Transportation Improvement District to implement the design and construction of both the drainage improvements and the road improvements. With the creation of this district, the developers of this project and others in the area would have to share with DeIDOT in the cost of improving this intersection.
- 4) The applicant's site engineer should contact the Subdivision Manager for western Sussex County, Mr. Derrick Sapp, for more detailed comments on the proposed access. Mr. Sapp may be reached at (302) 760-4803.

The developer has coordinated with DeIDOT and will continue to do so.

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

Soils

According to the Sussex County soil survey update, Hambrook, Evesboro Pepperbox, and Mullica were mapped in the immediate vicinity of the proposed construction. Hambrook is a well-drained upland soil that, generally, has few limitations for development. Evesboro is an excessively well-drained upland soil that has moderate limitations for development. Pepperbox is a moderately well-drained soil of low-lying uplands. Mullica is a very poorly-drained wetland associated (hydric) soil that has severe limitations for development.

Approximately 25% of parcel(s) land area is mapped as poorly to very poorly-drained hydric Mullica soils. Hydric soils typically have a seasonal high water table at or near the soil surface (within one-foot of soil surface or less). 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 probabilities from surface water runoff

emanating from future created forms of structural imperviousness (roof tops, roads, sidewalks, and stormwater management structures).

Based on the Chapter 99, Section 16A of the Sussex County Code (paraphrased), lands compromised by improper drainage or flooding potential pose significant threats to the safety and general welfare of future residents and, therefore, shall not be developed. Soils mapped as Mullica fit the criterion for improper drainage or high flooding potential, and should be avoided. The Watershed Assessment Section believes permitting development on such soils would be inconsistent with above-mentioned regulatory guidelines in the Sussex County Code.

The soils will be taken into account during site design.

Wetlands

The ditches that bisect this parcel may be associated with jurisdictional wetlands.

The applicant is responsible for determining whether any State-regulated wetlands (regulated pursuant to 7 Del.C. Chapter 66 and the Wetlands Regulations) are present on the property. This determination can only be made by contacting the Division of Water Resources' Wetlands and Subaqueous Lands Section at 302/739-9943 and consulting the State's official wetland regulatory maps, which depict the extent of State jurisdiction. The area regulated by State law may be very different from the area under federal authority. No activity may take place in State-regulated wetlands without a permit from DNREC's Wetlands Section.

In addition, most perennial streams and ditches and many intermittent streams and ditches are regulated pursuant to the Subaqueous Lands Act (7 Del.C. Chapter 72) and the Regulations Governing the Use of Subaqueous Lands. Ponds which are connected to other waters are also regulated, while isolated ponds are not. Any work in regulated streams, ditches or ponds requires a permit from the Wetlands and Subaqueous Lands Section. An on-site jurisdictional determination is recommended in order to determine whether any regulated watercourses exist on the property. Contact the Wetlands and Subaqueous Lands Section at 302/739-9943 to schedule an on-site visit. Such appointments can usually be scheduled within 2 to 3 weeks.

The applicant should also be reminded that they must avoid construction/filling activities in those areas containing wetlands or wetland associated hydric soils as they are subject to regulatory jurisdiction under Federal 404 provisions of the Clean Water Act. A site-specific field wetlands delineation using the methodology described in the 1987 United States Army Corps of Engineers (USACE, or "the Corps") manual is the only acceptable basis for making a jurisdictional wetland determination for non-tidal wetlands in Delaware. The applicant is forewarned that the Corps views the use of the National Wetlands Inventory (NWI) mapping or the Statewide Wetlands Mapping Project (SWMP) mapping as an unacceptable substitute for a field-based jurisdictional wetland delineation (i.e., 1987 USACE manual). To ensure compliance with said Corps regulatory requirements, it is strongly recommended that a field wetlands delineation using the above-referenced methodology be performed on this parcel before commencing any construction activities. It is further recommended that the Corps be given the

opportunity to officially approve the completed delineation. In circumstances where the applicant or applicant's consultant delineates what they believe are non-jurisdictional isolated (SWANCC) wetlands (as asserted by the applicant in the PLUS application form), the Corps must be contacted to evaluate and assess the jurisdictional validity of such a delineation. The final jurisdictional authority for making isolated wetlands determinations rests with the Corps; they can be reached by phone at 736-9763.

Based on a review of existing buffer research by Castelle et al. (1994), an adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100 feet in width. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish a minimum 100-foot upland buffer (planted in native vegetation) from the landward edge of all wetlands and water bodies (including all ditches).

A wetlands investigation report, dated July 2007, has been prepared by JCM Environmental. The report concluded that no wetlands or Waters of the United States were present within the boundary of the subject property. Furthermore, the report identifies the relict swale in the northeastern corner of the property, which did not possess a defined bed and bank nor convey water.

Impervious Cover

The applicant estimates this project's post-development surface imperviousness to reach 42 percent. However, given the scope and density of this project this projection is likely to significantly understate the actual amount of created surface imperviousness. The applicant should realize that all forms of constructed surface imperviousness (i.e., rooftops, parking lots, sidewalks, open-water stormwater management structures, and roads) should be included in the calculation for surface imperviousness. Failure to do so will result in an underestimate of this project's likely post-construction environmental impacts. The calculation for surface imperviousness should be corrected and/or recalculated to reflect all the above-mentioned concerns.

Studies have shown a strong relationship between increases in impervious cover to decreases in a watershed's overall water quality. It is strongly recommended that the applicant implement best management practices (BMPs) that 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 some examples of practical BMPs that could easily be implemented to help reduce surface imperviousness.

The impervious cover has been reviewed and does include all impervious area on-site. Please note that the site design has been revised to address additional agency comments. The revised proposed impervious percentage totals 44.2%

TMDLs

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Broadkill 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 Broadkill watershed, “target-rate-nutrient reductions” of 40 percent will be required for nitrogen and phosphorus. Additionally, “target-rate-reductions” of 75 percent will be required for bacteria.

TMDL Compliance through the PCS

As indicated above, TMDLs for nitrogen and phosphorus have been proposed for the Broadkill watershed. The TMDL calls for a 40 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 75 percent reduction in bacteria from baseline conditions. A Pollution Control Strategy (PCS) 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 BMPs such as increasing the amount of passive, wooded open space (planted with native woody and herbaceous vegetation), use of pervious paving materials to reduce surface imperviousness, and the deployment of green-technology stormwater management treatment technologies. Contact Lyle Jones at 302-739-9939 for more information on the assessment tool.

A TMDL analysis was performed using DNREC’s analysis tool and the site appears to meet the reduction requirements.

Water Supply

The information provided indicates that the Town of Georgetown will provide water to the project(s) through a public water system. DNREC files reflect that the Town of Georgetown does not currently hold a Certificate of Public Convenience and Necessity (CPCN) to provide public water in this project parcel (Parcel Identification # 1-35-15.00-26.04), however, the other project parcel (Parcel Identification # 1-35-15.00-26.02) is located within the public water service area granted to the Town of Georgetown under CPCN 01-CPCN-01. Information on CPCN requirements and applications can be obtained by contacting the Public Service Commission at (302) 736-7547. Should an on-site public well be needed, a minimum isolation distance of 150 feet is required between the well and any potential source of contamination, such as a septic tank and sewage disposal area. Furthermore, it must be located at least 150 feet from the outermost boundaries of the project(s). The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be located and constructed 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 302-739-9944.

The developer has worked with the Town of Georgetown and will continue to do so. We are currently waiting on sewer and water concept information from the Town.

Water Resource Protection Areas

The Water Supply Section, Ground-Water Protection Branch (GPB) has determined that the project falls entirely within the wellhead protection area for Perdue: Georgetown (see following map and attached map). Wellhead protection areas are surface and subsurface areas surrounding a public water supply well where the quantity and quality of ground water moving toward these wells may be adversely affected by land use activities. The entire site falls within the municipal boundaries of Georgetown.

The proposed development would change the impervious cover from 0% to approximately 42.3%. The Developer provided these numbers on the PLUS application form. This appears to be an underestimation. Impervious cover calculations must include all impervious surfaces including but not limited to all buildings, roadways, parking lots, stormwater management ponds, and sidewalks. The site plans submitted with the application do not contain the customary table of square footages and features.

The Town of Georgetown limits impervious cover to 50% provided an Environmental Assessment Impact Report demonstrates that post-development recharge is equal to or greater than post-development.

GPB recommends:

- The developer provides how the impervious cover was calculated to determine its accuracy.

The impervious area numbers have been verified. (See detailed breakdown previously shown.)

- Refer to the Town of Georgetown Ordinance No. 2007-21 for guidance.

The developer will review the ordinance.

The proposed site plans shows a stormwater management pond within the wellhead protection area. If a problem were to occur in the stormwater system that released contaminants, they would pose a likely threat to the quality of water drawn by Perdue: Georgetown from these wells.

In addition, because the wellhead protection area the source of public drinking water, the storage of hazardous substances or wastes should not be allowed within the area unless specific approval is obtained from the relevant state, federal, or local program.

The comment is noted.

Sediment and Erosion Control/Stormwater Management

Due to existing drainage concerns in this area a meeting to discuss drainage for the site should be held with the applicant, Sussex Conservation District Sediment and Stormwater Program, Brooks Cahall of the State Drainage Program, and the Town of Georgetown. It is suggested the meeting be held prior to the Sediment and Stormwater pre-application meeting.

A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. Due to existing drainage concerns in this area it is suggested the engineer contact the Sussex Conservation District and schedule a pre-application meeting before going further with the design of this subdivision 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. The plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact Jessica Watson at the Sussex Conservation District at (302) 856-2105 for details regarding submittal requirements and fees.

Because of the parcel's location in an impaired watershed and the amount of impervious surface, green technology BMPs and low impact development practices should be considered a priority to reduce stormwater flow and to meet water quality goals.

A pre-construction meeting has been held with the Sussex Conservation District. The storm water management plans will be prepared per the requirements of the Sussex Conservation District.

Drainage

- The Drainage Program requests that the engineer take precautions 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 onsite storm water. The Drainage Program requests that the engineer check existing downstream ditches and pipes for function and blockages prior to the construction. Notify downstream landowners of the change in volume of water released on them.
- Have all drainage easements recorded on deeds and place restrictions on obstructions within the easements to ensure access for periodic maintenance or future re-construction. Future property owners may not be aware of a drainage easement on their property if the easement is only on the record plan. However, by recording the drainage easement on the deed, the second

owner, and any subsequent owner of the property, will be fully aware of the drainage easement on their property.

The developer is currently working with the Town of Georgetown, DNREC and adjacent property owners to create a new storm drainage outfall.

Nuisance Waterfowl

Wet ponds created for stormwater management purposes may attract 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. Short manicured lawns around ponds provide an attractive habitat for these species.

The Division of Fish and Wildlife does not provide goose control services, and if problems arise, the property owner/land manager 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.

The above comments are noted by the developer.

Recommendation: Exclusion is one of the most effective methods at deterring geese. In the commercial portion of this project, completely fencing the pond at the edge (even one foot high) may be feasible. Even though geese can fly over the fence, if they constantly have to fly between land and water the area is less desirable. If fencing is not a desired option, we recommend native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within an adequate buffer (15-30 feet in width) around the ponds. When the view of the surrounding area from the pond is blocked, geese can't scan for predators and are less likely to reside and nest in the area of the pond. The vegetation also blocks the ability to easily move between land and water.

At this time, DNREC does not recommend using monofilament grids due to the potential for birds and other wildlife to become entangled if the grids are not properly installed and maintained. In addition, the on-going maintenance (removing entangled trash, etc.) may become a burden to the property owner/land manager.

Recreation

Though this will be an active adult community in which residents must be 55 or older, playground facilities should be incorporated into this site plan. Many of these residents will have children and grandchildren that come to visit. A playground will provide recreational opportunities for these visitors and at the same time encourage community interaction. The area just north of the clubhouse would provide sufficient space for a playground and be conveniently located near the center of the development and have access to both sidewalks and parking.

A playground facility has been provided adjacent to the clubhouse & pool area within the development. Additionally, courtyard areas have been provided at the Apartment buildings and the commercial area.

Bicycle racks should be provided at the commercial areas of this development. This will encourage walking/biking to these areas and reduce the dependence on automobiles.

Bike racks have been provided at the clubhouse and commercial areas.

Underground Storage Tanks

There no LUST sites located near the proposed project. However, should any underground storage tanks or petroleum contaminated soil be discovered by any person during construction, the DNREC-TMB at (302) 395-2500 and the DNREC Emergency Response Hotline at (800) 662-8802 must be notified within 24 hours.

Should any unanticipated contamination be encountered, PVC pipe materials would have to be replaced with ductile steel and nitrile rubber gaskets in the contaminated areas.

Also, please note that if any aboveground storage tanks (ASTs) less than 12,500 gallons are installed, they must be registered with the TMB. If any ASTs greater than 12,500 gallons are installed, they are also subject to installation approval by the TMB.

The agency comments are noted.

Air Quality

Housing developments may unnecessarily emit, or cause to be emitted, significant amounts of air contaminants into Delaware's air, which will negatively impact public health, safety and welfare. These negative impacts are attributable to:

Emissions that form ozone and fine particulate matter; two pollutants, relative to which Delaware currently violates federal health-based air quality standards,

- The emission of greenhouse gases which are associated with climate change, and
- The emission of air toxics.

Air emissions generated from housing developments include emissions from:

- Area sources like painting, lawn and garden equipment and the use of consumer products like roof coatings and roof primers.
- The generation of electricity needed to support the homes in your development, and
- Car and truck activity associated with the homes in your new development.

These three air emissions components (i.e., area, electric power generation, and mobile sources) are quantified below, based on a per household/residential unit emission factor that was developed using 2002 Delaware data. These emissions in the table represent the actual impact the Sand Hill Dunes development may have.

	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO2)	Fine Particulate Matter (PM2.5)	Carbon Dioxide (CO2)
Direct Residential	7.0	0.8	0.6	0.8	28.2
Electrical Power Generation	ND*	2.8	9.6	ND *	1,416.2
Mobile	17.3	14.3	10.5	0.9	1,444.4
Total	24.3	17.9	20.7	1.7	2,888.8

(*) Indicates data is not available.

Note that emissions associated with the actual construction of the subdivision, including automobile and truck traffic from working in, or delivering products to the site, as well as site preparation, earth moving activities, road paving and other miscellaneous air emissions, are not reflected in the table above.

Recommendations:

The applicant shall comply with all applicable Delaware air quality regulations. These regulations include:

Additional measures may be taken to substantially reduce the air emissions identified above. These measures include:

Regulation 6 Particulate Emissions from Construction and Materials Handling	<ul style="list-style-type: none"> • Using dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads. • Using covers on trucks that transport material to and from site to prevent visible emissions.
Regulation 1113 – Open Burning	<ul style="list-style-type: none"> • Prohibiting open burns statewide during the Ozone Season from May 1-Sept. 30 each year. • Prohibiting the burning of land clearing debris.
	<ul style="list-style-type: none"> • Prohibiting the burning of trash or building materials/debris.
Regulation 1145 – Excessive Idling of Heavy Duty Vehicles	<ul style="list-style-type: none"> • Restricting idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.

Additional measures may be taken to substantially reduce the air emissions identified above. These measures include:

- **Constructing only energy efficient homes.** Energy Star qualified homes are up to 30% more energy efficient than typical homes. These savings come from building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems and upgraded water-heating equipment. Every percentage of increased energy efficiency translates into a percent reduction in pollution. The Energy Star Program is excellent way to save on energy costs and reduce air pollution.
- **Offering geothermal and/or photo voltaic energy options.** These systems can significantly reduce emissions from electrical generation, and from the use of oil or gas heating equipment.
- **Providing tie-ins to the nearest bike paths and links to any nearby mass transport system.** These measures can significantly reduce mobile source emissions.
- **Funding a lawnmower exchange program.** New lawn and garden equipment emits significantly less than equipment as little as 7 years old, and may significantly reduce emissions from this new development. The builder could fund such a program for the new occupants.

Additionally, the following measures will reduce emissions associated with the actual construction phase of the development:

- **Using retrofitted diesel engines during construction.** This includes equipment that are on-site as well as equipment used to transport materials to and from site.
- **Using pre-painted/pre-coated flooring, cabinets, fencing, etc.** These measures can significantly reduce the emission of VOCs from typical architectural coating operations.
- **Planting trees at residential units and in vegetative buffer areas.** Trees reduce emissions by trapping dust particles and by replenishing oxygen. Trees also reduce energy emissions by cooling during the summer and by providing wind breaks in the winter, whereby reducing air conditioning needs by up to 30 percent and saving 20 to 50 percent on fuel costs.

This is a partial list, and there are additional things that can be done to reduce the impact of the development on air quality. The applicant should submit a plan to the DNREC Air Quality Management Section which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Sand Hill Dunes development. Air Quality Management Section points of contact are Phil Wheeler and Deanna Morozowich, and they may be reached at (302) 739-9402.

The agency comments are noted.

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.
- Where a water distribution system is proposed for multi-family sites, 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:**

- For townhouse buildings, provide a section / detail and the UL design number of the 2-hour fire rated separation wall on the Site plan.
- 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. No parking is permitted between the fire lane and the buildings where Fire Lanes is adjacent to main entrance to the building.
- 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 Clark Drive 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
- Townhouse 2-hr separation wall details shall be shown on site plans
- 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.statefiremarshal.delaware.gov technical services link, plan review, applications or brochures.

The agency comments are noted.

Department of Agriculture - Contact: Scott Blaier 739-4811

The Delaware Department of Agriculture has no objections to the proposed project. The project is located within the Town of Georgetown and the Strategies for State Policies and Spending encourages environmentally responsible development in Investment Level 2 and 3 areas.

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 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.

The agency comments are noted.

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.

The agency comments are noted.

Delaware Division of Public Health- Health Promotion Bureau- contact Michelle Eichinger (302) 744-1011

Ensuring that new residential and commercial development incorporates pedestrian- and bicycle-friendly features allows people to travel by foot or by bicycle and promotes physical activity as part of daily routines. Regular physical activity offers a number of health benefits, including maintenance of weight and prevention of heart disease, type 2 diabetes and other chronic diseases.¹ Research shows that incorporating physical activity into daily routines has the potential to be a more effective and sustainable public health strategy than structured exercise programs.² This is particularly important considering about 65% of adult Delawareans are either overweight or obese.³ This current obesity crisis is also affecting children. Approximately 37% of Delaware's children are overweight or obese⁴, which places them at risk for a range of health consequences that include abnormal cholesterol, high blood pressure, type 2 diabetes, asthma, depression and anxiety.¹

In Delaware, as in other states across the nation, certain patterns of land use can act as a barrier to physical activity and healthy eating for children and adults alike. Examples of such barriers include neighborhoods constructed without sidewalks or parks and shopping centers with full-service grocery stores situated too far from residential areas to allow for walking or biking between them.

This proposed development is in a Level 2 area. Developing in such an area is consistent with the Strategies for State Policies and Spending. DPH is committed to the Strategies and therefore, does support development in the proposed area.

DPH supports new development in and around existing towns and municipalities where compact and mixed land use patterns facilitate physical activity. As a way to promote physical activity and access to healthy foods, we recommend that the following amenities be included in the Sand Hill Dunes plan:

Amenities to encourage active transportation

- Ensure that there are sidewalks and walking paths connecting the public destinations (i.e. proposed clubhouse) within the residential development.
- Include amenities such as sidewalks and cross walks that will enable residents from neighboring areas to walk, bike or use other means of non-motorized transportation to access commercial development that is in close proximity to this project.
- Install bike racks in convenient locations throughout the development

These amenities would encourage residents of the residential development to walk between destinations within the development, and also enable local residents to travel to the commercial development and other public destinations by foot or by bicycle. Studies have shown that people who have access to sidewalks are more likely to walk and also to meet the Surgeon General's recommendations for physical activity.² A recent study cited by Active Living by Design showed that integrated land use can increase the number and percentage of walking and biking trips.⁵ Recent public opinion surveys reveal that people want more opportunities to incorporate walking into their day. A survey by the Surface Transportation Policy Project found that 55% of Americans want to walk more on a daily basis to get exercise or to travel to specific destinations, and 63% want to walk more to stores and other locations to take care of errands.⁶

Amenities to encourage walking and physical activity for recreation

- Designate a portion of the open space area for a tot lot. Although this plan is proposed as an active adult community, playgrounds would provide an opportunity of physical activity for visiting grandchildren.

Increase opportunities for healthy eating

- Designate an area for a seasonal farm stand or mini farmer's market that will promote the sale of fruits and vegetables.

¹ Nemours Health and Prevention Services (2005). *Delaware Children's Health Chartbook*, Newark, DE.

² Active Living by Design. *Transportation Fact Sheet*. Retrieved May 17, 2007, from http://www.activelivingbydesign.org/fileadmin/template/documents/factsheets/Transportation_Factsheet.pdf.

³ Delaware Health and Social Services (2008), *Division of Public Health, Behavioral Risk Factor Surveillance System (BRFSS), 1990-2007*.

⁴ Nemours Health and Prevention Services (2007). *2006 Delaware Survey of Children's Health Descriptive Statistics Summary, Volume 1*.

⁵ Active Living by Design. *Land Use Fact Sheet*. Retrieved May 17, 2007, from http://www.activelivingbydesign.org/fileadmin/template/documents/factsheets/LandUse_Factsheet.pdf.

⁶ Surface Transportation Policy Project (2003). *Americans' Attitudes Toward Walking and Creating Better Walking Communities*. Retrieved February 12, 2008, from http://www.transact.org/library/reports_pdfs/pedpoll.pdf.

The plan has been revised to encourage greater pedestrian activity throughout the development. Walking/biking trails have been provided throughout the development with connections points to the development sidewalks. Sidewalks have been provided on both sides of the street within the community. These two modal facilities encourage the residents to exercise safely through the community. Bike rack areas have been provided at the clubhouse & pool area and the commercial area. Crosswalks through the commercial area have provided to ensure pedestrian safety. Additionally a tot-lot area has been provided adjacent to the clubhouse. Lastly, courtyard areas have been provided at the Apartment Buildings and the commercial area to encourage neighborhood activity.

Delaware State Housing Authority – Contact Vicki Powers 739-4263

This proposal is for a site plan review of 225 residential units and 30,000 sq. ft. of commercial property located on Sand Hill Road, northwest of Route 9 within the Town of Georgetown. According to the State Strategies Map, the proposal is located in an Investment Level 1 and 2 area. DSHA supports this proposal because residents will have proximity to services, markets, and employment opportunities.

Furthermore, the proposal targets this development as an active adult community. According to the most recent real estate data collected by DSHA, the median home price in Sussex County is \$275,000. However, households earning respectively 100% of Sussex County's median income only qualify for mortgages of \$168,646, thus creating an affordability gap of \$106,354. Furthermore, the elderly are the fastest growing segment of our population, specifically in Sussex County. We encourage both the Town of Georgetown and the developer to coordinate setting aside some of the units to be affordable to the elderly low- and moderate-income households. The provision of units within reach of households earning at least 100% of Sussex County's median income will ensure housing that is affordable to the elderly population.

The agency comments are noted.

Department of Education – Contact: John Marinucci 735-4055

This proposed development is within the Indian River School District boundaries. DOE offers the following comments on behalf of the Indian River School District.

1. Using the DOE standard formula, this development will generate an estimated 113 students, however this PLUS application indicates that the residential development will be an age restricted active adult community. The following school district enrollment information is tendered in the event the developer modifies the current plans.
2. DOE records indicate that the Indian River School Districts' elementary schools are at or beyond 100% of current capacity based on September 30, 2007 elementary enrollment.
3. DOE records indicate that the Indian River School Districts' secondary schools are not at or beyond 100% of current capacity based on September 30, 2007 secondary enrollment.
4. In multiple correspondences from the Indian River School District administration, the district asserts that while the Indian River High Schools have capacity, the Indian River Middle Schools' student population exceeds student capacity.

The agency comments are noted.

Sussex County – Contact: Richard Kautz 855-7878

No comment about the project. The site is to be entirely within the town limits and does not directly impact County services or properties outside the town limits.

The developer has taken value in working though the PLUS process as it relates to Sand Hill Dunes. The developer feels that the revised plan greatly enhances the livability of the proposed

Community, in addition to creating an aesthetically pleasing neighborhood. Should you have any further questions or comments, please feel free to contact Jason Palkewicz, P.E. or myself.

Sincerely,

A handwritten signature in blue ink, appearing to read "Hearne".

Hollis Hearne, E.I.T.
McCrone, Inc.



Lands N/F
PARTNERSHIP DEVELOPMENT, LLC
Tax Map 1-35-15, p. 15
Deed Ref.: 2875/32
Zone: UR1 (URBAN RESIDENTIAL DISTRICT)

Lands N/F
OAKS AT GEORGETOWN, LLC
Tax Map 1-35-15, p. 26
Deed Ref.: 3035/292
Zone: UR1 (URBAN RESIDENTIAL DISTRICT)

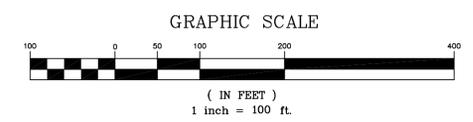
Lands N/F
PARTNERSHIP DEVELOPMENT, LLC
Tax Map 1-35-15, p. 15.05
Deed Ref.: 2875/29
Zone: UR1 (URBAN RESIDENTIAL DISTRICT)

Lands N/F
CHEER APARTMENTS, LP
Tax Map 1-35-15, p. 26.02
Deed Ref.: 2345/93
Zone: UR1 (URBAN RESIDENTIAL DISTRICT)

10,000± S.F. COMMERCIAL
10,000± S.F. COMMERCIAL
10,000± S.F. COMMERCIAL

SAND HILL ROAD
VARIABLE WIDTH RIGHT OF WAY
DELDOT CONTRACT No. 1504

CLARKE DRIVE
60' RIGHT OF WAY



REV. #	DATE	DESCRIPTION

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117 MAY OAK MILL ROAD, SUITE 6
SALISBURY, MD 21801
PHONE 410-546-1982 FAX 410-546-2065
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DATE:	5-19-08
JOB NUMBER:	D207034
SCALE:	1"=100'
DRAWN BY:	HAH
DESIGNED BY:	HAH
APPROVED BY:	JP
FOLDER REFERENCE:	N/A

REVISED SITE LAYOUT
FOR
SAND HILL DUNES
TOWN OF GEORGETOWN, SUSSEX COUNTY, DELAWARE
Prepared For: OCEAN ATLANTIC ASSOCIATES

SHEET NO.: **1 OF 1**
FILE NO.: Concept Plan.DWG

SEAL
DATE