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July 24, 2006

Constance C. Holland, AICP
State of Delaware
Planning and Coordination
Haslet Armory – Third Floor
122 William Penn Street
Dover, DE 19901

RE: **P.L.U.S. Response Letter**
RECORDS POND VILLAGE
Laurel, Delaware
2004219.01

Dear Ms. Holland:

Below you will find the required PLUS response to your PLUS letter dated March 15, 2006 in reference to the above mentioned project. Each State Comment is listed with the associated response in italics below.

Office of State Planning Coordination – Contact: Dorothy Morris 739-3090

This proposal is located mostly within Investment Levels 1 and 2 with a small portion of the site in Levels 3 and 4 according to the *Strategies for State Policies and Spending*. In these areas, State policies support development that is consistent with local comprehensive plans and sensitive to the natural resources on site. We do want to note and concur with the Delaware State Housing Authority’s concern on the displacement of the existing resident.

According to the PLUS application, this is proposed for annexation into the Town of Laurel. To date, the required plan of services paperwork has not been submitted to the Office of State Planning Coordination. Before annexation can proceed, the Town must submit the plan of services for acceptance by the Office of State Planning Coordination. It does not appear that the subject parcel is contiguous to the Town of Laurel. Annexation cannot proceed until the parcel is contiguous.

It is unclear if any development on the site is proposed within the 100-year floodplain. We discourage development in the 100-year flood plain.

Action: We are not proposing any development within the 100 year floodplain.

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

Nothing is known within this parcel. There are known prehistoric sites in the vicinity, but the historic-period maps show nothing actually within the parcel. Beers Atlas of 1868 shows the J. Chipman Est. House just outside of this area.

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Small, rural, family cemeteries often are found in relation to historic farm complexes, such as the Chipman House, usually a good distance behind or to the side of the house. The developer should be aware of Delaware's Unmarked Human Remains Act of 1987, which governs the discovery and disposition of such remains. The unexpected discovery of unmarked human remains during construction can result in significant delays while the process is carried out. We will be happy to discuss these issues with the developer; the contact person for this program is Faye Stocum, 302-736-7400.

There are areas with potential for prehistoric archaeological sites, mainly in the forested areas and the fields nearby. The DHCA would like the opportunity to check these areas for any archaeological sites and learn something about their location, size, and nature before any ground-disturbing activities, particularly tree clearing, take place.

Action: We are not aware of any archeological sites. Should anything be encountered during construction we will inform your department.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

- 1) The PLUS application indicates that the subject land is to be annexed into the Town of Laurel, but the maps generated by the Office of State Planning Coordination show that the parcel is not contiguous to the Town boundaries. Also, the parcel does not appear on the plan of services review list provided by the Office of State Planning Coordination. It was explained at the PLUS meeting that the developer is working with the property owners in the area to have them annexed either first or at the same time, and to thereby establish contiguity.

Action: We are currently working with the neighbors to annex all required parcels to create contingency.

- 2) Chipmans Pond Road is classified as a local road and US Route 13 is classified as a principal arterial road. Local roads in Delaware typically have right-of-way widths ranging from 33 to 50 feet. Rights-of way for arterial highways vary but are generally much wider. 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 and 50 feet from the centerline on principal arterial roads. For divided highways, such as Route 13, this distance is measured from the inside edge of the travel way; in this instance, the northbound travel way. Therefore DelDOT will require right-of-way dedication along the frontage to provide any additional width needed from this project.

Action: We will dedicate the required right of way.

- 3) Because of its location on US Route 13, the subject land is subject to the Corridor Capacity Preservation Program (CCPP), a legislatively mandated program under which DelDOT manages access along certain arterial highways. Because the land is located in a Level 1 area, DelDOT presently intends to permit the existing access on Route 13 to remain. However, we ask that use of the Chipmans Pond Road access be maximized through changes to the site layout, through signage and landscaping and by any other means that will identify it as the main entrance. If that cannot be done we may want to revisit the matter of access on Route 13. More information on the CCPP is available from our manager of that program, Mr. Charles Altevogt. He may be reached at (302) 760-2124.

Action: We will investigate this option. We will reorganize the site to maximize the access to Chipmans Pond Road. We wish to maintain the existing access to Rt. 13.

- 4) Presently, the road leading into Shady Acres from Route 13 also serves the businesses on either side of it. While it is difficult to tell from the plan provided, it appears that part of the proposed development would involve eliminating the access to those businesses from that road. While DelDOT would encourage the developer to install curbing to limit their access to a specific point or points along that road, they would like to see their access continued because it affords them better access to the crossover and thereby improves traffic flow on Route 13.

Action: We intend to maintain the existing access to the adjacent businesses which gain access from our access.

- 5) At the PLUS meeting, it was suggested that owner of one of the properties adjoining the proposed access on Chipmans Pond Road was using the developer's property for access to their own. A subsequent check of the aerial photography shows that the properties on either side do have their own driveways. However, it also shows a paved entrance to the subject land on Chipmans Pond Road and dirt tracks indicating that the adjoining properties have been using it for access to their backyards. While it does not appear that those property owners necessarily have a right to that access, DelDOT would encourage the developer to work with them to avoid any unnecessary hardship to them in designing and building the site entrance.

Action: We will work with the adjacent property owners. However, we wish to maintain a safe environment for our proposed development and that will be considered in our discussions with adjacent property owners.

- 6) The developer's site engineer should contact the Subdivision Manager for Sussex County, Mr. John Fiori, regarding their specific requirements for access. Mr. Fiori may be reached at (302) 760-2260

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

Green Infrastructure

Portions or all of the lands associated with this proposal are within the Livable Delaware Green Infrastructure area established under Governor Minner's Executive Order #61 that represents a network of ecologically important natural resource lands of special state conservation interest.

Green infrastructure is defined as Delaware's natural life support system of parks and preserves, woodlands and wildlife areas, wetlands and waterways, productive agricultural and forest land, greenways, cultural, historic and recreational sites and other natural areas all with conservation value. Preserving Delaware's Green Infrastructure network will support and enhance biodiversity and functional ecosystems, protect native plant and animal species, improve air and water quality, prevent flooding, lessen the disruption to natural landscapes, provide opportunities for profitable farming and forestry enterprises, limit invasive species, and foster ecotourism.

Voluntary stewardship by private landowners is essential to green infrastructure conservation in Delaware, since approximately 80 percent of the State's land base is in private hands. It is in that spirit of stewardship that the Department appeals to the landowner and development team to protect sensitive resources through an appropriate site design.

Soils

According to the Sussex County soil survey Evesboro, Woodstown and Johnston were mapped in the immediate vicinity of the proposed construction. Evesboro is an excessively well-drained upland soil that has limitations associated with rapid permeability. 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 the highest severity level for development.

Action: We will consider the soils appropriately. As part of the design, we will perform a more detailed soil investigation and determine design based on the findings.

Wetlands

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

These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. A 100-foot vegetated buffer should be implemented 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.

It should also be noted that this parcel contains a sensitive headwater riparian wetlands associated with the Roger's Branch, greatly increasing the probability of harmful impacts to surface and groundwater quality of all waters within the greater Broad Creek watershed, and ultimately reducing the probability that the State will achieve the required TMDL nutrient reductions. Headwater streams 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, including the floodplain system downstream. In recognition of this concern, the Watershed Assessment Section strongly recommends the applicant consider preserving the existing forested buffer in its entirety. At least a 100-foot buffer is recommended from all wetlands and water bodies. Efforts to expand the buffer width beyond the recommended buffer width, is strongly encouraged.

Wetland Regulations

Because there is strong evidence that federally regulated wetlands exist on site, a field 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.

If impacts are anticipated, please note that Palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In situations where the applicant believes that the delineated wetlands on their parcel are nonjurisdictional isolated wetlands, the Corps must be contacted to make the final jurisdictional assessment. They can be reached by phone at 736-9763.

In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the Wetlands and Subaqueous Lands 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) 739-9943 to schedule a meeting.

Impervious Cover

Research has consistently shown that once a watershed exceeds a threshold of 10 percent imperviousness, water and habitat quality irreversibly decline. Based on analyses of 2002 aerial photography by the University of Delaware, the Broad Creek watershed, at that time, had about 6.4 percent impervious cover. Although this data is about 4 years old and likely an underestimate, it illustrates the importance of a proactive strategy to mitigate for predictable and likely cumulative environmental impacts. Since the amount of imperviousness generated by this project will be much higher than the desirable watershed threshold of 10 percent, the applicant is strongly advised to pursue best management practices (BMPs) that mitigate or reduce some of the most likely adverse impacts. Using pervious paving materials (“pervious pavers”) in lieu of asphalt or concrete in conjunction with an increase in forest cover preservation or additional tree plantings are examples of practical BMPs that could easily be implemented to reduce surface imperviousness.

Based on a review of the submitted PLUS application, the applicant projects that only about 31% of this parcel will be rendered impervious following this parcel’s development; however, this figure appears to be a significant under estimate given the scope and density of this project. The applicant should be made aware that all forms of constructed surface imperviousness (i.e., rooftops, sidewalks and roads) should be included in the impervious surface calculation; otherwise, an inaccurate assessment of this project’s actual environmental impacts will result. It is strongly recommended that this figure be recalculated in a manner that more accurately account all forms of constructed imperviousness.

Action: A large portion of the project is planned to remain as woodland and wetlands. We will design the stormwater management and discharges in accordance with the current laws and regulations as set forth by DNREC. We will design the roads in accordance with the Town of Laurel Standards.

ERES Waters

This project is located adjacent to receiving waters of the Chesapeake Bay designated as waters having Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State, and shall be protected and/ or restored, to the maximum extent practicable, to their natural condition. Provisions in Section 5.6 of Delaware’s “Surface Water Quality Standards” (as amended July 11, 2004), specify that all designated ERES waters and receiving tributaries develop a “pollution control strategy” to reduce non-point sources of pollutants through implementation of Best Management Practices (BMPs). Best Management Practices as defined in subsection 5.6.3.5 of this section, expressly authorizes the Department to provide standards for controlling the addition of pollutants and reducing them to the greatest degree achievable and, where practicable, implementation of a standard requiring no discharge of pollutants.

TMDLs

Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Broad Creek. A TMDL is the maximum level of pollution allowed for a given pollutant below which a “water quality limited waterbody” 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. In the Broad Creek watershed, “target-rate-reductions” of 30 and 50 percent will be required for nitrogen and phosphorus, respectively.

Action: Our design will be in accordance with all applicable laws and regulations regarding stormwater runoff.

Compliance with TMDLs through the PCS

In the Broad Creek watershed, the primary source of water quality impairment is associated with nutrient runoff from agricultural and/or residential development. In order to mitigate for the aforementioned impairments, a post-development TMDL reduction level of 30 and 50 percent will be required for nitrogen and phosphorus, respectively. Compliance with the post-development TMDL nutrient loading reduction requirements will be assessed via nutrient budget protocol, a computer-based model that quantifies post-development nutrient loading under a variety of land use scenarios in combination with a variety (or absence) of BMP types and intensities. This post-development loading rate is then compared with the pre-development loading rate as a means to assess whether the project meets the acceptable TMDL reduction levels. Based on a preliminary evaluation of this project using this model (using the applicant’s assumptions and some of our arbitrary assumptions in lieu of missing information in the PLUS application), this project meets the TMDL reduction requirements for Nitrogen and Phosphorous. However, the applicant should be made aware that the accurate assessment of a given project’s environmental impacts and its ultimate ability to meet the prescribed TMDL load reduction is highly dependent on an accurate accounting and inventory of all land uses, natural resources and their proposed management. Since it was apparent that some of the key information necessary to make an accurate assessment of this project’s environmental impacts (using the nutrient budget protocol) was omitted, incomplete or inaccurate, the above-mentioned nutrient budget calculation should be considered preliminary. The following listed concerns should be addressed before a reasonably accurate nutrient budget can be calculated:

- 1) The reported impervious cover figure (i.e., 31%) appears to understate the likely amount of created post-development surface imperviousness generated from this project. This figure should be recalculated in a manner that more realistically accounts for all forms of constructed surface imperviousness (roads, sidewalks, and rooftops).

Action: We will reinvestigate the impervious surface calculations once we prepare more accurate plans at a CAD level.

- 2) Wetlands acreage figures were not assessed or disclosed. Wetland acreage figures should be assessed via an analysis of an approved USACOE jurisdictional wetlands delineation.

Action: Prior to preparing final plans, we will perform a wetland delineation and document the wetlands appropriately.

- 3) Wetland and waterbody buffer widths were not specified in the PLUS application.

Action: We will provide the required buffers. All buffers will be shown on the final plans.

It is also strongly advised, therefore, that the applicant be proactive and employ best management practices (BMPs) and Best Available Technologies (BATs) as methodological mitigative strategies to reduce the likely degradative impacts associated with this development. Examples of BMPs or BATs that can be used to significantly reduce nutrient loading from this project include practices that prevent or mitigate or minimize created surface imperviousness, maintenance of recommended wetland buffer widths, and use of innovative "green-technology" stormwater methodologies rather than conventional open-water stormwater management structures.

We then suggest that the applicant verify their project's compliance (after correcting all our concerns and/or using realistic assumptions) with the specified TMDL loading rates by running the model themselves. Please contact Lyle Jones or John Martin of the Watershed Section at 739-9939 for the acceptable model protocol.

Action: We will consider the use of Green Technology when finalizing the design.

Water Supply

The information provided indicates that the Town of Laurel will provide water to the proposed projects through a central public water system. DNREC and PSC files reflect that Town of Laurel does not currently hold a certificate of public convenience and necessity (CPCN) to provide public water in these areas. If the Town annexes this property, they will need to contact the Public Service Commission of the annexation. If the town intends to serve this property without annexing it, they will need to file an application for a CPCN with the Public Service Commission, if they have not done so already. Information on CPCN requirements and applications can be obtained by contacting the Public Service Commission at 302-739-4247.

Action: It is my understanding that the town will be providing services to this project after annexing the property. Plans for extending water are in progress.

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.

Action: Any necessary permits will be obtained as required.

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.

This project shall be served by public water system and not individual wells.

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

Water Resource Protection Areas

The DNREC Water Supply Section has reviewed the above referenced PLUS project and determined that it does fall partially within three wellhead protection areas (see 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 such wells may be adversely affected by land use activities or impervious cover.

The DNREC Water Supply Section recommends that the portion of the new development within the wellhead protection area not exceed 20% impervious cover. Some allowance for augmenting ground-water recharge should be considered if the impervious cover exceeds 20% but is less than 50% of that portion of the parcel within this area. However, the development should not exceed 50% regardless. A water balance calculation will be necessary to determine the quantity of clean water to be recharged via a recharge basin. The purpose of an impervious cover threshold is to minimize loss of recharge (and associated increases in storm water) and protect the quality and quantity of ground water and surface water supplies.

The proposed development would change the impervious over from 15% to approximately 31%. These numbers were provided by developer on the PLUS application. Ideally, relocating any open space areas to the part of the parcel

within the wellhead protection area would decrease the total impervious area in the wellhead protection area. Augmenting the ground-water recharge with clean rooftop run-off systems are another alternative to reducing the total impervious cover.

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.

For more information refer to the Final Source Water Protection Guidance Manual for the Local Governments of Delaware

<http://www.wr.udel.edu/swaphome/phase2/SWPguidancemanual.html>

and Ground-Water Recharge Design Methodology

http://www.wr.udel.edu/swaphome/phase2/Publications/swapp_manual_final/swapp_guidance_manual_supp_1_2005_05_02.pdf.

For more information contact John Barndt at (302) 739-9945.

Action: This project does not intend to utilize the existing well head system for the project as water will be extended from the Town of Laurel.

Sediment and Erosion Control/Stormwater Management

The Sediment and Stormwater plan review and approval as well as construction inspection will be coordinated through Sussex Conservation District. Green Technology BMPs such as bioretention, biofiltration, filter strips, and infiltration must be given first consideration prior to ponds as a method of stormwater quality management.

Each stormwater management facility should have an adequate outlet for release of stormwater.

Action: The sediment and stormwater plans will be in accordance with the current sediment and stormwater regulations.

Floodplains

Portions of the property are within the 100-year floodplain. It is recommended that construction be limited to those areas outside of the 100-year floodplain and on land above the base flood elevation for this site

Action: We do not intend to construct within the 100 year floodplain.

Open Space

PLUS materials indicate that 13.8 acres are proposed for open space. In areas set aside for passive open space, the developer is encouraged to consider establishment of additional forested areas or meadow-type grasses. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces.

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

Action: We will consider landscaping of open spaces as mentioned above. We do not intend to disturb any wetlands on site and will maintain them as they currently exist.

Rare Species

The following State-rare species are located within or associated with Records Pond and could be affected by detrimental changes to water quality from run-off generated by this development:

Animals: *Celithemis monomelaena* (black spotted skimmer), *Enallagma dubium* (burgundy bluet), *Notropis chalybaeus* (ironcolor shiner), *Enneacanthus chaetodon* (blackbanded sunfish), *Elliptio fisheriana* (Northern lance), *Lamptera aepyptera* (least brook lamprey)

Plants: *Juncus pelocarpus* (Brown-fruited rush), *Juncus militaris* (bayonet rush), *Rhynchospora inundata* (drowned beak-rush), *Eleocharis equisetoides* (horse-tail spike-rush), *Drosera rotundifolia* (roundleaf sundew), *Utricularia juncea* (southern bladderwort), *Utricularia biflora* (two-flowered bladderwort),

Community: *Taxodium distichum* sp. (Bald cypress wetland). This community type is especially important in terms of defining Delaware's natural heritage as it is a southern species at the extreme northern limit of its range. It is important to preserve species that are at the edge of their range because they are adapted to living in a different environment than those in the center. This helps maintain the genetic diversity of the species.

Action: Stormwater discharges will be in accordance with the current sediment and stormwater regulations set forth by DNREC.

State-owned Pond

The proposed project is adjacent to lands owned by the State of Delaware which border Records Pond. This land and pond is managed by the Division of Fish and Wildlife, DNREC. With an estimated 31% impervious surface, the State is concerned that the water quality and fish habitats in the pond might be negatively affected by run-off from this development, especially since the proposed outlet for stormwater management is Rogers Branch which empties into the pond.

Stormwater is comprised of sediments, lawn chemicals, and basically whatever is sprayed, poured, or spilled on lawns and paved areas. This type of water is not conducive to aquatic life or the integrity of stream systems and should not be allowed to flow into these systems. At present, there is already a problem with nutrient enrichment and the resultant overgrowth of algae and weeds in this pond. The State has to bear the cost of weed control, and run-off from this development will only make this on-going problem worse. This pond is also a popular fishing area for licensed anglers, including non-residents (Records Pond has the 5th highest number of non-resident anglers in Delaware).

Further, the proposed stormwater management pond should not be located within 100 feet of any wetlands or riparian areas and appears to be too close to Rogers Branch. There should also be at least a 100-foot forested buffer along Rogers Branch.

Action: Stormwater discharges will be in accordance with the current sediment and stormwater regulations set forth by DNREC.

State Natural Heritage Site

Because of the presence of the species and community listed above and the existence of a State Natural Area, this project lies 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.

Action: Stormwater discharges will be in accordance with the current sediment and stormwater regulations set forth by DNREC.

Nuisance Waterfowl

The stormwater management pond in the site plan may attract waterfowl like resident Canada geese and mute swans. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Short manicured grass around ponds provide an attractive

habitat for these species. We recommend native plantings of tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area around the perimeter. Waterfowl do not feel safe when they can not see the surrounding area for possible predators. These plantings should be completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, property managers or owners 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.

Action: We will consider the above mentioned options.

Solid Waste

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

Action: We understand the concerns mentioned above. However, it is difficult for a developer to control the amount of waste generated by a development.

Underground Storage Tanks

There are four inactive LUST site(s) located near the proposed project:

Paradee Bulk Storage, Facility # 5-000807, Project # S8606033
State Equipment Company, Facility # 5-000673, Project # S9105094
DeLux Dairy #14, Facility # 5-000195, Project # S9211250
Laurel Oasis Truck Stop, Facility # 5-000127, Project # S9911227

No environmental impact is expected from the above inactive/active LUST site(s). 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 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 with nitrile rubber gaskets in the contaminated areas.

Action: If any underground tanks are encountered during construction, the tank management branch will be notified.

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 20.5 tons (40,981.7 pounds) per year of VOC (volatile organic compounds), 17.0 tons (33,930.1 pounds) per year of NOx (nitrogen oxides), 12.5 tons (25,034.2 pounds) per year of SO2 (sulfur dioxide), 1.1 ton (2,228.5 pounds) per year of fine particulates and 1,714.0 tons (3,428,068.1 pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 8.3 tons (16,529.8 pounds) per year of VOC (volatile organic compounds), 0.9 ton (1,818.8 pounds) per year of NOx (nitrogen oxides), 0.8 ton (1,509.3 pounds) per year of SO2 (sulfur dioxide), 1.0 ton (1,947.7 pounds) per year of fine particulates and 33.5 tons (67,008.1 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 3.3 tons (6,551.2 pounds) per year of NOx (nitrogen oxides), 11.4 tons (22,786.8 pounds) per year of SO2 (sulfur dioxide) and 1,680.5 tons (3,361,060.1 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO ₂	PM _{2.5}	CO ₂
Mobile	20.5	17.0	12.5	1.1	1714.0
Residential	8.3	0.9	0.8	1.0	33.5
Electrical Power		3.3	11.4		1680.5
TOTAL	28.8	21.2	24.7	2.1	3428.0

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 3.3 tons of nitrogen oxides per year and 11.4 tons of sulfur dioxide per year.

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

“ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of: building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems and upgraded water-heating equipment.”

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

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

Action: We will consider "Energy Star" options.

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

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

a. **Fire Protection Water Requirements:**

- Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers. (Assembly and Townhouses)

Action: We will design a water distribution system which meets the above 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. (One & Two- Family Dwelling)

Action: We will design a water distribution system which meets the above requirements.

- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

Action: Water mains will be labeled accordingly.

b. **Fire Protection Features:**

- All structures over 10,000 Sq. Ft. aggregate will require automatic sprinkler protection installed.

Action: The buildings for this project are intended to be townhomes which are exempt from the above requirement.

- Buildings greater than 10,000 sq.ft., 3-stories of more or over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements.

Action: The buildings for this project are intended to be townhomes which are exempt from the above requirement.

- Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.

Action: The buildings for this project are intended to be townhomes which are exempt from the above requirement.

- Show Fire Lanes and Sign Detail as shown in DSFPR

Action: The buildings for this project are intended to be townhomes which are exempt from the above requirement.

- For townhouse buildings, provide a section / detail and the UL design number of the 2-hour fire rated separation wall on the Site plan.

Action: We will provide the detail as required.

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 Chipmans Pond Road and Sussex Hwy 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.

Action: Cul-De-Sacs will be provided when required.

- The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.

Action: We do not anticipate the use of speed bumps.

- 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.

Action: We will coordinate with the local fire department.

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

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

Action: At this point, we anticipate utilizing Chesapeake utilities for gas service.

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)
- Townhouse 2-hr separation wall details shall be shown on site plans
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout
- Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
- Provide Road Names, even for County Roads

Action: We will provide all notes as required.

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: Milton Melendez 698-4500

The Delaware Department of Agriculture has no objections to the Records Pond Village application. The *Strategies for State Policies and Spending* encourages environmentally responsible development in areas within Investment Levels 1 & 2. This site is a part of a "good recharge" area. DNREC has mapped all ground water potential recharge areas. A "good recharge" rating is the highest rating and designates an area as having important groundwater recharge qualities. Maintaining pervious cover in "Excellent" and "Good" recharge areas is crucial for the overall environmental health of our state and extremely important to efforts which ensure a safe drinking water supply for future generations. Retention of pervious cover to ensure an adequate future water supply is also important for the future viability of agriculture in the First State. The loss of every acre of land designated as "excellent" and "good" recharge areas adversely impacts the future prospects for agriculture in Delaware.

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.

Action: We intend to provide heavy landscaping for this project.

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.

Public Service Commission - Contact: Andrea Maucher 739-4247

If this will be an expansion to the Town of Laurel's wastewater service area, it must provide an update to the Commission.

Action: We intend to utilize the Town of Laurel for wastewater discharge. We are currently coordinating with the Town of Laurel and their engineer to determine the best options.

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.

Action: Chesapeake utilities will be responsible for the design and installation of the gas service.

Delaware State Housing Authority – Contact Jimmy Atkins 739-4263

This proposal is to rezone 40 acres from AR-1 and GR to R3 to replace the existing Shady Acres community with 216 townhomes east of Laurel. The DSHA is opposed to the displacement of the existing residents created by this project. It is important to note that there are several requirements under Section 7010 of Title 25 Chapter 70 of the Delaware Code for landlords regarding the:

- Provision of a 1-year termination or non-renewal notice;
- Provision of a relocation plan to each affected tenant; and
- Submission of the relocation plan to the Delaware Manufactured Home Relocation Authority.

In addition, the tenants should be notified of the Delaware Manufactured Home Relocation Trust Fund, established for assisting manufactured homeowners, who are tenants in a manufactured home community, where the community owner intends to change the use of all or part of the land on which the community is located. A tenant may contact the Relocation Trust Fund at (800) 544-5868 or (302) 674-5868 to apply for financial assistance.

Action: We will provide the proper notification as required by law. In addition, the developer currently operates many other facilities which have available spaces for the displaced residents.

Department of Education – Contact: John Marinucci 739-4658

Accommodation of DelDOT and State Fire Marshal requirements for road widths, turning radii and fire lanes will address the needs of school bus access.

DOE requests the developer work with the local school district transportation department to establish developer supplied bus stop shelter ROW and shelter structures, interspersed throughout the development as determined and recommended by the local school district.

Action: We will coordinate with the local school district as suggested.



ARCHITECTURE
ENGINEERING

Sussex County – Contact: Richard Kautz 855-7878

The town is encouraged to avoid the creation of new enclaves and to eliminate existing enclaves during its negotiation of the annexation agreement.

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

Action: We will adhere to any new laws and regulations that are adopted.

Please call with any questions that you may have.

Sincerely,

BECKER MORGAN GROUP, INC.

A handwritten signature in black ink, appearing to read "J. Michael Riemann".

J. Michael Riemann, P.E.
Associate

JMR/rlh

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