



PENNONI ASSOCIATES INC.
CONSULTING ENGINEERS

October 02, 2009

TASB 0501

Ms. Constance C. Holland, AICP, Director
State of Delaware Executive Department
Office of Management and Budget – State Planning Coordination
122 William Penn Street – Suite 302
Haslet Building – Third Floor
Dover, Delaware 19901

RE: The Ovations Residential Subdivision Project
West Side of Duck Creek Road
Town of Clayton, Kent County, Delaware
Preliminary Land Use Service (PLUS) Application 2009-08-09
Response to PLUS Review Comments

Dear Ms. Holland:

We appreciate the opportunity to meet with State agency planners on August 26, 2009 to discuss the development proposed as part of The Ovations Residential Subdivision Project on the west side of Duck Creek Road in the Town of Clayton, Kent County, Delaware. We have received and reviewed your September 23, 2009 review letter (provided as an attachment) and offer the following response to the comments made by the various review agencies:

Executive Summary

The following is our response to site specific highlights provided in the PLUS review letter. A formal response to the agency comments are provided in following sections.

State Strategies/Project Location

The developer appreciates the fact that State Investments supports and has no objections to the proposed development.

Street Design and Transportation

Although the anticipated traffic to be generated by the proposed subdivision will prompt the need for a Traffic Impact Study (TIS), the developer may pay the State of Delaware an area-wide study fee in lieu of performing the TIS. The developer understands that this is a viable option only if the Town of Clayton acknowledges that it is acceptable. However, the developer understands that a Traffic Operational Analysis for the adjoining street network may have to be performed at his expense. Although the internal subdivision streets are to be maintained by the Town of Clayton and not the State of Delaware, the developer appreciates the comments provided. Crescita Lane and Sentir Way incorporate ninety degree (90°) stop-conditions at the northeast and southeast part of the subdivision, respectively. The horizontal curvature shown is for aesthetics only. The developer will install bollards at the end of proposed alleys



where the alleys and subdivision streets nearly intersect. The developer will coordinate with the Kent County Department of Planning Services, GIS//911 Addressing Division in order to secure addresses for the lots that do not front on named subdivision streets.

Natural and Cultural Resources

A wetland delineation was performed by Environmental Consulting Services in March 2005. The wetland areas are illustrated on the land development plans. There is no wetland disturbance proposed on this project. The developer appreciates the fact that a portion of the proposed development is within an excellent groundwater recharge area as mapped by the Delaware Geological Survey. Sensitivity to the recharge potential of this area was taken into account during the planning stage of design. Specifically, residential lots in this area are significantly larger than other lots proposed within the community. In addition, a 0.6± acre common open space area is proposed within this region. Since it is impossible to calculate the amount of impervious surface that an individual home owner will ultimately construct on his or her lot, it is unfeasible for the developer to limit the impervious coverage within the recharge area to twenty percent (20%). However, impervious coverage in the recharge area has been minimized where practical.

Office of State Planning Coordination

The developer appreciates the fact that the Office of State Planning Coordination supports the proposed development.

State Historic Preservation Office (SHPO)

The developer acknowledges the presence of historic structures near the subject site. In addition, the developer understands that there is potential for the discovery of prehistoric archaeological sites during construction. In accordance with the Delaware Unmarked Human Remains Act of 1987, the developer will contact the State Historic Preservation Office if human remains are encountered during construction.

Department of Transportation (DelDOT)

The developer agrees that the trip generation calculations should be revised to incorporate a development of two hundred (200) townhouses and not two hundred (200) single-family detached houses (1,176 in lieu of 1,967 vehicle trip ends per day). Although the anticipated traffic to be generated by the proposed subdivision will prompt the need for a Traffic Impact Study (TIS), the developer may pay the State of Delaware an area-wide study fee in lieu of performing the TIS. A \$5,880.00 cash donation (\$5.00 per vehicle trip end per day = $\$5.00 \times 1,176 = \$5,880.00$) will be submitted to the State of Delaware as part of the plan review process and may be pooled for future use in doing area-wide traffic studies. The developer understands that this is a viable option only if the Town of Clayton acknowledges that it is acceptable. However, the developer also understands that a Traffic Operational Analysis for the adjoining street network may have to be performed at his expense. Specifically, traffic counts at the intersection of Duck Creek Road and Longwood Lane may have to be performed in order to determine the likely traffic distribution from the proposed community. If all or most of the Longwood Lane traffic is oriented through downtown Clayton, DelDOT may require an analysis of conditions on Clayton Avenue. This analysis will determine if road improvements to Clayton Avenue are necessary. We will contact the DelDOT Subdivision Manager for northern Kent County, Mr. Julio Seneus, for detailed comments. Although the internal subdivision streets are to be maintained by the Town of Clayton and not the State of Delaware, the developer appreciates the comments provided. Crescita Lane and Sentir Way incorporate ninety degree (90°) stop-conditions at the northeast and southeast part of the subdivision, respectively. The horizontal curvature shown is for aesthetics only. The developer will install bollards at the end of proposed alleys where the alleys and subdivision streets nearly intersect. The developer will coordinate



with the Kent County Department of Planning Services, GIS//911 Addressing Division in order to secure addresses for the lots that do not front on named subdivision streets.

The Department of Natural Resources and Environmental Control (DNREC)

Fish and Wildlife

Rare Species: According to DNREC, there are no records of State-rare or federally-listed plants, animals or natural communities within the project boundaries.

Wildlife Habitat: A substantial setback between the proposed subdivision and the wetlands associated with Providence Creek has been incorporated. While the minimum setback is approximately forty-two feet (42') from the edge of wetlands, the average setback is well over one hundred feet (100'). The land between the proposed community and Providence Creek is owned by Saint Joseph's of Providence Creek and not the developer. Therefore, the developer cannot propose any development (e.g., landscape plantings) within the riparian buffer.

Soil and Water

Sediment and Stormwater Program: The Kent Conservation District reviewed and approved the Sediment and Stormwater Management Plans for this project in July 2007.

Drainage Program: The Drainage Program is not aware of any problems with drainage of this site.

Flood Management: The Federal Emergency Management Agency (FEMA) issued a Conditional Letter of Map Revision Based on Fill (CLOMR-F) for this project on January 03, 2007 (Case Number 07-03-0194C). The developer will submit an as-built Letter of Map Revision Based on Fill (LOMR-F) to FEMA following construction of the site improvements within the one hundred (100)-year floodplain.

Water Resources

Soils Assessment: Our approved stormwater management analysis incorporated site soils mapped by the Soil Survey of Kent County, Delaware as performed by the United States Department of Agriculture, Soil Conservation Service. Some of the soil names and soil boundaries differ slightly than those provided by DNREC. A copy of our Soils Map has been attached to this correspondence. The following table summarizes the site soils within the limits of the proposed improvements:

Abbreviation	Soil Type	Limitations for Development
Mt	Mattapex Silt Loam	Moderate
Pm	Pocomoke Sandy Loam	Severe
SaB	Sassafras Sandy Loam, 2-5% Slopes	Slight
SaC2	Sassafras Sandy Loam, 5-10% Slopes, Moderately Eroded	Moderate
SaC3	Sassafras Sandy Loam, 5-10% Slopes, Severely Eroded	Moderate
SaD2	Sassafras Sandy Loam, 10-15% Slopes, Moderately Eroded	Moderate
SfB	Sassafras Loam, 2-5% Slopes	Slight

According to the Soil Survey of Kent County, Delaware, all soils within the limits of the proposed site improvements (with the exception of the Pm soils) have only slight or moderate limitations for development.



The only development proposed within Pm Soils are improvements to Duck Creek Road as required by DelDOT.

Wetlands: A wetland delineation was performed by Environmental Consulting Services in March 2005. The wetland areas are illustrated on the land development plans. There is no wetland disturbance proposed on this project. FEMA issued a Conditional Letter of Map Revision Based on Fill (CLOMR-F) on January 03, 2007 (Case Number 07-03-0194C) for the site improvements proposed within the one hundred (100)-year floodplain. A substantial setback between the proposed subdivision and the wetlands associated with Providence Creek has been incorporated. While the minimum setback is approximately forty-two feet (42') from the edge of wetlands, the average setback is well over one hundred feet (100').

Impervious Surfaces and Best Management Practices: In order to reduce runoff rates and pollutant loading in runoff, two (2) stormwater management dry ponds (connected by a nine foot (9') wide by three foot (3') deep concrete box culvert underneath Andare Boulevard) are proposed. These stormwater facilities will provide extended detention of the water quality rainfall event in an effort to allow unwanted pollutants to settle and prevent discharge into the adjacent ecosystem.

TMDLs: According to my telephone conversation with Mr. John Martin of DNREC, the regulation to provide a forty percent (40%) reduction in nitrogen and phosphorus levels in the Smyrna River watershed (i.e., Providence Creek) has not been formally accepted by the Pollution Control Strategy. Therefore, this project is not required to meet the TMDL reductions. However, the developer appreciates the State's desire to reduce TMDLs for nitrogen and phosphorus in Providence Creek. In order to reduce negative impacts associated with the development, a substantial setback between the proposed subdivision and Providence Creek has been incorporated. While the minimum setback is approximately forty-two feet (42') from the edge of the Providence Creek wetlands, the average setback is well over one hundred feet (100'). In addition, two (2) stormwater management dry ponds are proposed as part of the development.

Water Supply: Water supply to the proposed development will be provided by the Town of Clayton. We will coordinate with the Town of Clayton in order to assure that a Certificate of Public Convenience and Necessity (CPCN) with the Public Service Commission is applied for (if not already done so). There are no on-site public wells proposed. If necessary, a dewatering well construction permit will be obtained from the Water Supply Section.

Water Resource Protection Areas: The Town of Clayton has not adopted a Source Water Protection Ordinance; therefore, the developer is not required to limit impervious coverage within the excellent groundwater recharge area to twenty percent (20%). However, the developer appreciates the fact that a portion of the proposed development is within an excellent groundwater recharge area as mapped by the Delaware Geological Survey. Sensitivity to the recharge potential of this area was taken into account during the planning stage of design. Specifically, residential lots in this area are significantly larger than other lots proposed within the community. In addition, a 0.6± acre common open space area is proposed within this region. Since it is impossible to calculate the amount of impervious surface that an individual home owner will ultimately construct on his or her lot, it is unfeasible for the developer to limit the impervious coverage within the recharge area to twenty percent (20%). However, impervious coverage in the recharge area has been minimized where practical. The storage of hazardous substances or wastes within the excellent groundwater recharge area shall be prohibited during construction.

Air and Waste

Air Quality: The developer understands that the proposed development will increase concentrations of volatile organic compounds, nitrogen oxides, sulfur dioxides, and carbon dioxide through area, electric power generation and mobile source emissions. The Sediment and Stormwater Management Plans include specific



details for dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads. The contractor shall not implement open burns on the subject site during the Ozone Season from May 1st to September 30th, burning of land clearing debris or burning of trash or building materials/debris. The developer is willing to consider energy efficient homes which may lessen air quality impacts. The developer is also willing to evaluate the potential to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. 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 developer is also willing to consider funding a lawnmower exchange program for new residents. The sidewalks within the subdivision connect to a ten foot (10') wide multi-modal path adjacent to Duck Creek which may significantly reduce mobile source emissions. There is also a significant amount of landscaping proposed within the subdivision which will 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 thirty percent (30%) and saving twenty (20) to fifty percent (50%) on fuel costs.

Hazardous Waste Sites: A Phase I Environmental Site Assessment, dated February 23, 2006, was prepared by Pennoni in support of this project. Should a release or imminent threat of a release of hazardous substances be discovered during the course of development (e.g., contaminated water or soil), construction activities will be discontinued immediately and DNREC will be notified.

Tank Management Branch: Our Phase I Environmental Site Assessment identifies the leaking underground storage tank (LUST) site that is located adjacent to the subject property (Saint Joseph's School). If underground storage tanks or petroleum contaminated soil is discovered during construction, DNREC will be notified within twenty-four (24) hours. If petroleum contamination is encountered during construction, proposed polyvinyl chloride (PVC) pipes will be replaced with ductile steel and nitrile rubber gaskets in the contaminated area. If aboveground storage tanks (ASTs) less than 12,500 gallons are installed, they will be registered with the Tank Management Branch. If ASTs greater than 12,500 gallons are installed, they will be subject to installation approval by the Tank Management Branch.

State Fire Marshal's Office

The State Fire Marshal's Office reviewed and approved the Site Plans for this project on January 04, 2007.

Department of Agriculture

The developer appreciates the fact that the Department of Agriculture fully supports this development. A landscape design has been performed by Pennoni and Landscape Plans will be made part of the land development improvements. The landscape design incorporates shade trees adjacent to the new subdivision streets and shade, ornamental and evergreen trees/shrubs in open space areas. There is no landscaping proposed on the individual lots, as it will be the property owner's responsibility to landscape his or her property if he or she wishes to do so. However, the developer will avoid using species with a high risk of mortality from insects and disease where landscaping is proposed adjacent to subdivision streets and in open space areas. Instead, native trees and shrubs will be incorporated.

Public Service Commission

Any expansion of natural gas or installation of a closed propane system will be designed and constructed in accordance with the Pipeline Safety Guidelines.



Delaware Economic Development Office

The developer appreciates the fact that the Delaware Economic Development Office fully supports this development.

Delaware Division of Public Health – Health Promotion Bureau

The developer appreciates the fact that the Delaware Division of Public Health – Health Promotion Bureau fully supports this development.

Delaware State Housing Authority

The developer appreciates the fact that the Delaware State Housing Authority fully supports this development.

Department of Education

The developer will communicate and coordinate with the Providence Creek Charter School so as to minimize disruption to the school. In addition, the developer will notify potential buyers of the proximity of the Providence Creek Charter School during marketing efforts. According to the Department of Education, this project will generate an additional one hundred (100) students. Based on September 30, 2008 enrollment records, the Smyrna School District’s elementary schools are very close to one hundred percent (100%) of current capacity. Similarly, secondary schools exceed one hundred percent (100%) of current capacity. The developer is willing to contact the Smyrna School District in order to discuss the issue of school-overcrowding.

In summary, the developer appreciates the fact that the Office of State Planning Coordination supports the proposed development. Nonetheless, the developer stands willing, ready and able to work cooperatively with local, state and federal agencies having jurisdiction over the project to insure that the proposed development is designed and constructed in as environmentally sound and sensitive a manner as possible. We trust that the responses set forth above adequately address the PLUS comments. As the proposed development proceeds forward through the design and approval process, we will continue to give full attention to all comments and concerns from the various PLUS agencies. If you should have any questions or concerns, or require additional information, please do not hesitate to contact me at this office.

Respectfully submitted,

PENNONI ASSOCIATES INC.

Douglas D. Barry, P.E., Project Manager

Attachments

cc: Providence Creek II, LLC
The Town of Clayton

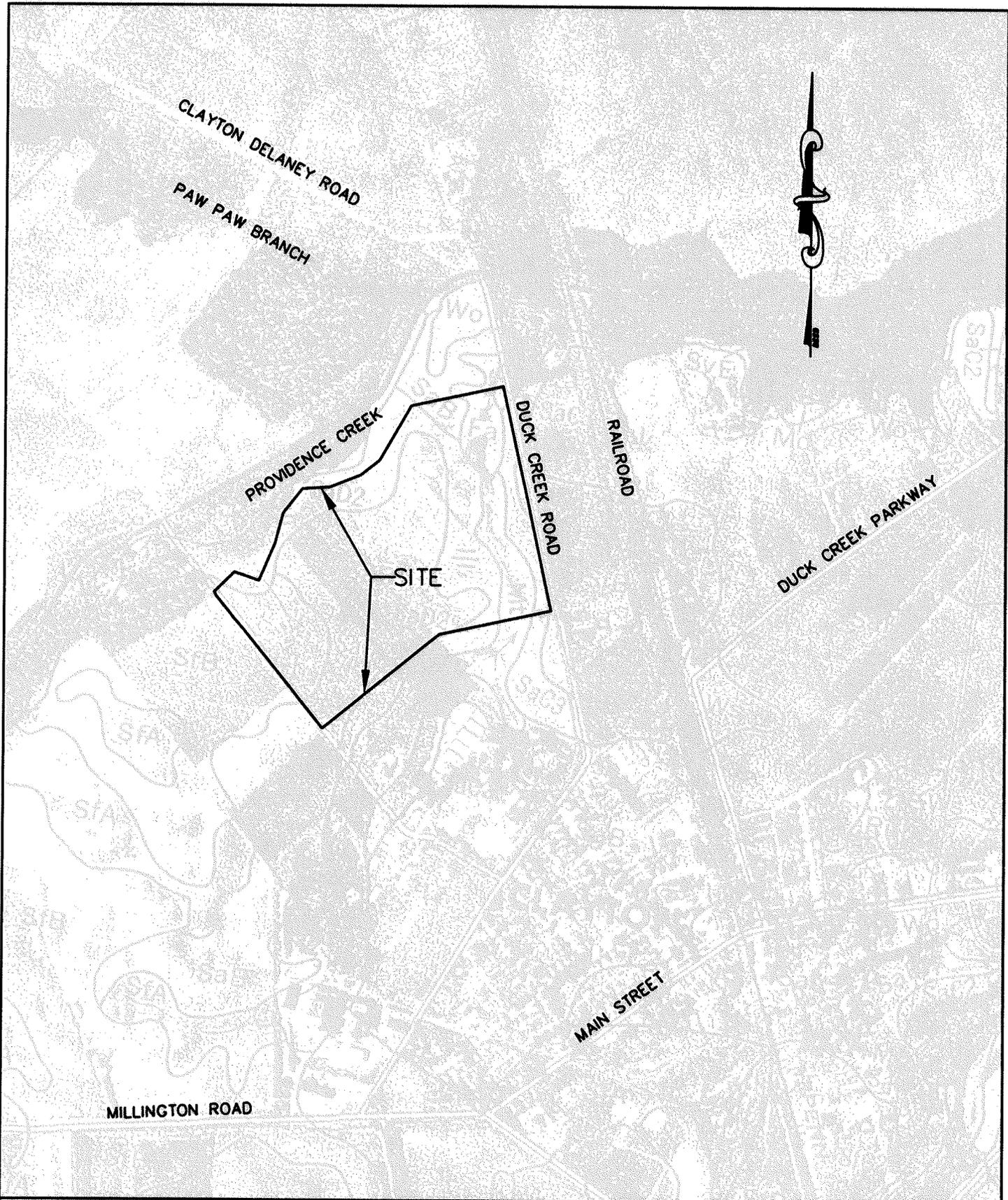


FIGURE #2
SOILS MAP

THE OVATIONS SUBDIVISION PROJECT
TOWN OF CLAYTON, KENT COUNTY, DELAWARE

SCALE: 1"=800'
TASB 0501

04-27-07
Soils.dwg



PENNONI ASSOCIATES INC.

Consulting Engineers
62 Rockford Road, Suite 201
Wilmington, Delaware 19806



STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF MANAGEMENT AND BUDGET
Budget Development, Planning and Administration
State Planning Coordination

September 23, 2009

Mr. Douglas Barry
Pennoni Associates, Inc.
62 Rockford Road, Suite 201
Wilmington, De 19806

RE: PLUS review – 2009-08-09; The Ovations

Dear Mr. Barry:

Thank you for meeting with State agency planners on August 26, 2009 to discuss the proposed plans for the Ovations project to be located on the west side of Duck Creek Road, just south of Providence Creek.

According to the information received, you are seeking site plan approval for 200 residential units (duplexes and triplexes) on 50 acres. It is noted that this project was originally seen through PLUS 2008-11-06 for 200 age-restricted units. It is our understanding that the current site plan eliminates the age restricted designation. The subdivision plan itself is unchanged.

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

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

This project is located in Investment Level 2 according to the *Strategies for State Policies and Spending*. This site is also located in the Town of Clayton. Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future. State investments will support growth in these areas. Our office has no objections to the proposed development of this project in accordance with the relevant Town codes and ordinances.

The removal of the age restriction from this development proposal does not alter our comments regarding the State Strategies. However, please pay particular attention to the comments from DelDOT and DOE as these agencies do have additional comments due to the proposed non-age restricted development.

Street Design and Transportation

- DelDOT understands that the developer may wish to pay the fee in lieu of doing the TIS. If the Town does not require a TIS, that would be acceptable. However, payment of the fee does not exempt the developer from having to perform a traffic operational analysis or make off-site improvements if they are required.
- Because the proposed development is in the Town and would have Town streets, the internal layout is outside the DelDOT jurisdiction. Nonetheless, they offered the following comments as to how the plan could be improved:
 - a) Crescita Lane and Sentir Way both include right-angle turns, which would not meet DelDOT standards. For better traffic flow, DelDOT recommends more gradual turns when an intersection is not involved.
 - b) In eight places, alleys are shown ending just a few feet away from a through street. Why is that proposed? If these locations are not fenced, they will likely be used for pedestrian access and could, conceivably, be driven over by residents with trucks or sport-utility vehicles. The developer should consider extending these alleys the rest of the way through the blocks that they serve. In any location where that is determined to be inappropriate, we recommend that pedestrian easements and paths be provided and that a standard closure of some type, such as bollards or parking blocks, be provided.
 - c) Lots 1, 2, 7 through 10, 81 through 84, 184 and 185 do not front on named streets. How would they be addressed for 911 purposes?

Natural and Cultural Resources

- 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. Since this parcel contains State-regulated tidally-influenced wetlands, the State Wetlands section should be contacted prior to commencing any development activities.
- The DNREC Water Supply Section recommends that the portion of the new development within the excellent ground-water recharge area not exceed 20% impervious cover.

This office has received the following comments from State agencies:

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

This project is located in Investment Level 2 according to the *Strategies for State Policies and Spending*. This site is also located in the Town of Clayton. Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future. State investments will support growth in these areas. Our office has no objections to the proposed development of this project in accordance with the relevant Town codes and ordinances.

The removal of the age restriction from this development proposal does not alter our comments regarding the State Strategies. However, please pay particular attention to the comments from DelDOT and DOE as these agencies do have additional comments due to the proposed non-age restricted development.

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

There is one National Register-listed property, the St. Joseph's Industrial School (N-5054), two historic agricultural outbuildings (K-5052, K-5053), and one known cemetery (K-5051) within this parcel. In addition, according to the Pomeroy and Beers Atlas of 1868, it appears that there was a dwelling associated with an E. Beck on this parcel as well.

Besides these properties, there is a possibility of other historic or archaeological resources on this parcel. With this in mind, it is important that the developer be aware of the Delaware Unmarked Human Remains Act of 1987, outlined in Chapter 54 of Title 7 of the Delaware Code, which pertains to 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.

Finally, prior to any demolition or ground-disturbing activities, the developer may want to consider hiring an archaeological consultant to examine the parcel for archaeological resources or sites such as a cemetery, burial ground or unmarked human remains there. We ask that the developer consider maintaining the existing historic buildings within the development on separate, larger parcels. The boundary of the development should be sufficiently landscaped in order to block the view of the development from the St. Joseph's Industrial School (N-5054), the agricultural outbuildings (K-5052, K-5053), and the cemetery (K-5051). If you have any questions, or would like to discuss this further, please contact Terence Burns at 302-736-7404.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

Ashburne Homes, Inc. seeks to develop a 200-lot duplex and triplex development on 50 acres of a larger parcel (Tax Parcel KH-04-018.06-01-65.00-000) in the Town of Clayton. The land fronts on the east side of Duck Creek Road a.k.a. Clayton-Greenspring Road (Kent Road 38 and part of Delaware Route 15) opposite the Longwood Lane subdivision.

The parcel is zoned RS in the Town received most of the approvals needed for development, including DelDOT entrance approval, as an age-restricted development. The developer now seeks to have the age restriction removed.

DelDOT comments are as follows:

1. The PLUS application shows a daily trip generation of 1,967 vehicle trip ends. DelDOT would expect this volume from a development of 200 single-family detached houses. However, from the plan it appears that the proposed dwellings would more closely resemble townhouses. For this reason, DelDOT would expect a lower trip generation, more on the order of 1,176 vehicle trip ends per day.

DelDOT regulations specify that a traffic impact study (TIS) is warranted for a development generating more than 400 vehicles per day or 50 vehicles per hour. However, they also provide that a developer may instead pay a fee of \$5 per daily trip in lieu of doing the TIS if: 1) the development would generate less than 2,000 vehicles per day and less than 200 vehicles per hour, 2) there is not an existing congestion problem in the area (level of service worse than D, or C in rural areas) and 3) the local jurisdiction does not require a TIS. The fees are collected as part of the plan review process and are pooled for future use in doing area-wide traffic studies.

DelDOT understands that the developer may wish to pay the fee in lieu of doing the TIS. If the Town does not require a TIS, that would be acceptable. However,

payment of the fee does not exempt the developer from having to perform a traffic operational analysis or make off-site improvements if they are required. If all or most of the development traffic were oriented through downtown Clayton, there could be noticeable effects on Clayton Avenue. For this reason, DelDOT anticipates requiring traffic counts at the intersection of Duck Creek Road and Longwood Lane to determine the likely distribution of traffic. If all or most of the Longwood Lane traffic is oriented through downtown Clayton, they may require analysis of conditions on Clayton Avenue, and possibly road improvements there.

2. DelDOT recommends that the developer have their site engineer contact the DelDOT Subdivision Manager for northern Kent County, Mr. Julio Seneus, for more detailed comments. Procedurally, they will treat the development without the age restriction as a new project. Mr. Seneus may be reached at (302) 760-2145.
3. Because the proposed development is in the Town and would have Town streets, the internal layout is outside the DelDOT jurisdiction. Nonetheless, they offered the following comments as to how the plan could be improved:
 - d) Crescita Lane and Sentir Way both include right-angle turns, which would not meet DelDOT standards. For better traffic flow, DelDOT recommends more gradual turns when an intersection is not involved.
 - e) In eight places, alleys are shown ending just a few feet away from a through street. Why is that proposed? If these locations are not fenced, they will likely be used for pedestrian access and could, conceivably, be driven over by residents with trucks or sport-utility vehicles. The developer should consider extending these alleys the rest of the way through the blocks that they serve. In any location where that is determined to be inappropriate, we recommend that pedestrian easements and paths be provided and that a standard closure of some type, such as bollards or parking blocks, be provided.
 - f) Lots 1, 2, 7 through 10, 81 through 84, 184 and 185 do not front on named streets. How would they be addressed for 911 purposes?

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

Fish and Wildlife

Rare Species. A review of the DNREC database indicates that there are currently no records of state-rare or federally listed plants, animals or natural communities within project boundaries.

Wildlife Habitat. Cumulative impacts to water quality and wildlife habitat loss are a concern along this stream system. Aerial photographs indicate that land bordering this creek has been largely cleared for agriculture and/or development. Only narrow vegetative buffers are left intact along most of the length of this stream. Upland buffers along wetlands provide critical breeding habitat for wetland dependent species and provide a travel corridor for wildlife which also utilize land along water courses for foraging, resting and breeding.

To protect wetland wildlife habitat and water quality, it is recommended that an upland buffer of at 100 feet or greater be left intact between any structures/infrastructure and the edge of wetlands associated with the stream. This may entail pulling back lot #s 122-134. If the existing vegetative buffer is less than 100 feet in width, we recommend species native to Delaware be planted to a width of 100 feet or greater. Bill McAvoy, program botanist, would gladly assist with developing a list of plants best suited for this site (302-653-2880 ext. 117). *Edna Stetzar - (302) 653-2880, Edna.Stetzar@state.de.us*

Soil and Water

Sediment and Stormwater Program. The Kent Conservation District reviewed and approved the sediment and stormwater management plans for this project in July of 2007.

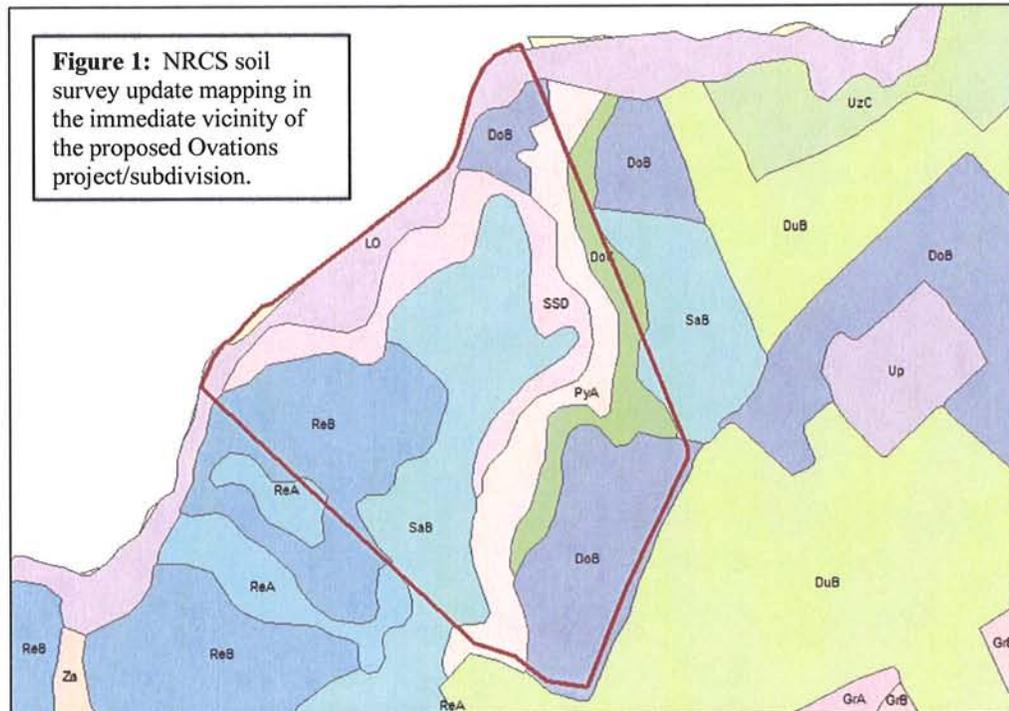
Drainage Program. The Drainage Program is not aware of any problems with drainage of this site.

Sediment/Stormwater and Drainage comments provided by James Sullivan - (302) 739-9921, James.Sullivan@state.de.us

Flood Management. The proposed Subdivision plan shows a small number of lots in the floodplain. DNREC would like to know the case number of the CLOMR-F that was submitted to FEMA. If the structures are built as shown on the CLOMR-F and an as-built LOMR-F is submitted by the developer and approved by FEMA, DNREC has no issues with the subdivision.

Water Resources

Soils Assessment. According to the Kent County soil survey update, Downer (DoB; 2-5% slope & DoC; 5-10% slope), Sassafras (SaB; 2-5% slope & SSD; 10-15% slope), Reybold (ReB), Pineyneck (PyA), and Longmarsh (LO) were mapped in the immediate vicinity of the proposed construction. Downer, Reybold, and Sassafras (SaB) are well-drained upland soils that, generally, have few limitations for development. The soils mapped as Sassafras (SSD; 10-15% slope), although well drained, have severe limitations for development because of their steeply-sloping topography- consequently, these soil should be avoided. Pineyneck (PyA) is a moderately well-drained soil of low-lying uplands and has moderate limitations for development. Longmarsh (LO) is a very poorly-drained wetland associated (hydic) soil that has severe limitations for development and should be avoided. (Figure 1).



Wetlands. Based on Statewide Wetlands Mapping Project (SWMP) mapping, palustrine wetlands were mapped over a significant portion of this parcel (Figure 2).

crossings should be avoided. Where road crossings are necessary, bridge spans which avoid significant impacts to stream banks and channels should be used wherever possible. Where placement of culverts is unavoidable, culvert designs which utilize multiple barrels at different elevations to preserve a low flow channel are usually preferred. Contact the Wetlands and Subaqueous Lands Section for further information regarding preferred designs.

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 acceptable basis for making a jurisdictional wetland determination for nontidal 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 making such delineations. 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 nonjurisdictional isolated (SWANCC) wetlands, 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. (Castelle, A. J., A. W. Johnson and C. Conolly. 1994. *Wetland and Stream Buffer Requirements – A Review*. J. Environ. Qual. 23: 878-882), 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 all water bodies (including ditches) and wetlands.

Impervious Surfaces and Best Management Practices. 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 this project’s 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.

TMDLs. Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Smyrna River 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 Smyrna River watersheds, a post-development TMDL reduction level of 40% will be required for nitrogen and phosphorus. Additionally, a TMDL post-development reduction level of 75% will be required for bacteria.

The Department developed an assessment tool to evaluate how your proposed development may reduce nutrients and bacteria to meet the TMDL requirements. Additional nutrient reductions may be possible by increasing passive, wooded open space, 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.

Soils, wetlands, subaqueous lands and TMDL comments provided by John Martin, Watershed Assessment Section, (302) 739-9939, John.Martin@state.de.us

Water Supply. The information provided indicates that the Town of Clayton will provide water to the proposed projects through a public water system. Our files reflect that the Town of Clayton does not currently hold a certificate of public convenience and necessity (CPCN) to provide public water in these areas. 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 302-736-7547.

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, and at least 150 feet from the outermost boundaries of the project. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells.

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.

Potential Contamination Sources exist in the area, and any well permit applications will undergo a detailed review that may increase turnaround time and may require site specific conditions/recommendations. In this case there is a Groundwater Management Zone B associated with Hanover Foods located on the leftmost part of the property within 1000 feet of the proposed project. *Ricardo Rios - (302) 739-9944, Ricardo.Rios@state.de.us*

Water Resource Protection Areas. The Water Supply Section, Ground-Water Protection Branch (GPB) has determined that the project falls partially within an excellent ground-water recharge potential area for the Town of Clayton, Investment Level 2 (see following map and attached map).

The Town's population in the 2000 Census was less than 2000 persons. Title 7, Delaware Code, Chapter 60, Subchapter VI, §6082 (c) encourages municipalities with populations less than 2000 persons to adopt a source water protection ordinance. The Town does not have an ordinance. It would benefit the Town to develop an ordinance that protects wellhead and excellent ground-water recharge potential areas.

Excellent Ground-Water Recharge Areas are those areas mapped by the Delaware Geological Survey where the first 20 feet of subsurface soils and geologic materials are exceptionally sandy. These soils are able to transmit water very quickly from the land surface to the water table. This map category (excellent) is an indicator of how fast contaminants will move and how much water may become contaminated (Andres, 2004). Land use activities or impervious cover on areas of excellent ground-water recharge potential may adversely affect ground water in these areas.

The DNREC Water Supply Section recommends that the portion of the new development within the excellent ground-water recharge area not exceed 20% impervious cover. Some allowance for augmenting ground-water recharge must be implemented 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 (DNREC, 2005). A water balance calculation (environmental assessment) will be necessary to determine the quantity of clean water to be recharged via a recharge basin (Thorntwaite, 1957).

The environmental assessment must document that post-development recharge will be no less than predevelopment recharge when computed on an annual basis (Kauffman, 2005). 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.

The proposed development would change the impervious over from 0% to approximately 53%. The developer on the PLUS application provided these numbers. These numbers do not show the amount of impervious cover within the excellent ground-water recharge potential area

GPB recommends:

- Limiting impervious cover to less than 20% within the excellent ground-water recharge potential area
- Allow for more open space

In addition, because the excellent ground water recharge area can readily affect the underlying aquifer if contaminants are spilled or discharged across the area, 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.

References

Andres, A. Scott, 2004, Ground-Water Recharge Potential Mapping in Kent and Sussex Counties, Delaware: Delaware Geological Survey Report of Investigations No. 66, p. 14.

<http://www.udel.edu/dgs/Publications/pubform.html#investigations>

Delaware Department of Natural Resources and Environmental Control (2005): *Source Water Protection Guidance Manual for the Local Governments of Delaware*: Dover, DE, 144 p.

http://www.wr.udel.edu/publications/SWAPP/swapp_manual_final/swapp_guidance_manual_final.pdf

Kauffman, G.J., Wozniak, S.L., and Vonck, K.J., 2005, *Delaware Ground-Water Recharge Design Manual*: Newark, DE, Water Resources Agency, University of Delaware, p. 31.

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

Thorntwaite, C. W., and Mather, J. R., 1957, Instructions and Tables for Computing Potential Evapotranspiration and the Water Balance, Volume x, Drexel Institute of Technology, Laboratory of Climatology.



Map of Ovation (PLUS 2008-11-06) Excellent ground-water recharge potential area is shaded in green. The site plan submitted by the Developer is overlain on the parcel.

Air and Waste

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 Ovations development may have.

Emissions Attributable to Ovations Subdivision (Tons per Year)

	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Direct Residential	6.2	0.7	0.6	0.7	25.1
Electrical Power Generation	ND*	2.5	8.5	ND*	1,258.8
Mobile	15.3	12.7	9.4	0.8	1,283.9
Total	21.5	15.9	18.5	1.5	2,567.8

(*) 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:

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.

	<ul style="list-style-type: none"> • Prohibiting the burning of land clearing debris. • 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 Ovarions development.

Deanna Morozowich - (302) 739-9402, Deanna.Morozowich@state.de.us

Hazardous Waste Sites. Only one Site Investigation & Restoration Branch (SIRB) site was found within a half mile radius of the proposed site: Delcote/ Eastwind (DE-0290) is located 0.17 miles east of the proposed site. Delcote/ Eastwind produced rain gear for the US military while Khem-Cote, a division of Delaware Eastwind produced the chemical coating for the gear. Delaware Eastwind was a small quantity hazardous waste generator with a valid EPA identification number. In September of 2003, Delcote/ Eastwind received a No Further Action (NFA) designation. Based on the previous manufacturing and industrial use of the proposed project site, which involved the use of hazardous substances, SIRB recommends that a Phase I Environmental Site Assessment be performed prior to development. In addition, should a release or imminent threat of a release of hazardous substances be discovered during the course of development (e.g., contaminated water or soil), construction activities should be discontinued immediately and DNREC should be notified at the 24-hour emergency number (800-662-8802). SIRB should also be contacted as soon as possible at 302-395-2600 for further instructions.

Krystal Stanley - (302) 395-2644, Krystal.Stanley@state.de.us

Tank Management Branch. There is one (1) inactive leaking underground storage tank (LUST) site located within the perimeter of the proposed construction, one (1) inactive LUST site located within a quarter mile from the proposed construction, and one (1) active LUST site located a quarter mile from the proposed construction.

Name: St. Joseph's School (Inactive—within proposed construction boundary)

Facility ID: 1-000586

Project: K0303027

Name: Nature's Pride-Hanover Foods (Inactive)

Facility ID: 1-000080

Project: K9203057

Name: Clements Supply Company (Active)

Facility ID: 1-000055

Project: K8803030

Should any additional 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.

In addition, should petroleum contamination be encountered during new construction activities, note that PVC pipe materials will 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. *Elizabeth Wolff - (302) 395-2500, Elizabeth.Wolff@state.de.us*

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

No comments were received from the State Fire Marshal's Office regarding this project.

Department of Agriculture - Contact: Scott Blaier 739-4811

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

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. To further support this concept the Delaware Forest Service does not recommend the planting of the following species due to the high risk of mortality from insects and disease:

Callery Pear
Leyland Cypress

Ash Trees
Red Oak (except for Willow Oak)

If you would like to learn more about the potential problems or impacts associated with these trees, please contact the Delaware Forest Service for more information at (302) 698-4500.

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

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

Delaware Economic Development Office – Contact: Jeff Stone 672-6849

No comments were received regarding this proposed comprehensive plan amendment.

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

No comments were received regarding this project.

Delaware State Housing Authority – Contact Valerie Miller 739-4263

No comments were received regarding this project.

Department of Education – Contact: John Marinucci 735-4055

This proposed development is within the Smyrna School District boundaries.

1. DOE offers the following comments on behalf of the Smyrna School District as well as the Providence Creek Charter School.
2. The development is in very close proximity to the Providence Creek Charter School. DOE recommends the developer communicate and coordinate with the charter school so as to minimize disruption to the school. DOE further recommends that during the marketing of these units the potential buyers be made fully aware of the proximity of the school.
3. Using the DOE standard formula, this development will generate an estimated 100 students.
4. DOE records indicate that the Smyrna School Districts' *Elementary schools are very close to 100% of current capacity* based on September 30, 2008 elementary enrollment.
5. DOE records indicate that the Smyrna School Districts' *Secondary Schools exceed 100% of current capacity* based on September 30, 2008 secondary enrollment.
6. This development will create additional elementary and middle school student population growth which the school district will need to address.
7. The developer is strongly encouraged to contact the Smyrna School District Administration to address the additional students that this development will likely generate.

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

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

Sincerely,

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

Constance C. Holland, AICP
Director

CC: Jeffrey Hurlock