**STATE OF DELAWARE**
**EXECUTIVE DEPARTMENT**
**OFFICE OF STATE PLANNING COORDINATION**

September 17, 2012

Mr. Ken Christenbury
Axiom Engineering
18 Chestnut Street
Georgetown, DE 19947

RE: PLUS review – 2012-08-04: Silver Woods

Dear Mr. Christenbury:

Thank you for meeting with State agency planners on August 22, 2012 to discuss the proposed plans for the Silver Woods mixed use development to be located on the southside of Beaver Dam Road, ½ mile east of the intersection with SCR 84.

According to the information received, you are seeking site plan approval through the Town of Ocean View for 460 residential units and 100,000 sq. ft. of commercial. The application states that the site plan was changed to include the addition of an assisted living facility and more emphasis on a mixed use community to keep with eth MXPC zoning granted by the Town of Ocean View when the parcel was annexed.

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 Ocean View is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.**

**Strategies for State Policies and Spending**

This project is located in Investment Level 3 according to the Strategies for State Policies and Spending. This site has also been annexed into the Town of Ocean View. Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. Investment Level 3 reflects areas where growth is anticipated by local, county, and state plans in the longer term future, or areas that may have environmental or other constraints to development. State investments may support future growth in these areas, but please be advised that the State has

other priorities for the near future. We encourage you to design the site with respect for the environmental features which are present.

**Code Requirements/Agency Permitting Requirements**

State Historic Preservation Office – Contact Terrence Burns 736-7404

- The developer should be aware that there was a known historic house (S-2346) on this parcel near Beaver Dam Road. This house was probably built during the mid to late 19th century, but it does not appear to be there anymore. According to the Pomeroy and Beers Atlas of 1868, it does appear that there was another dwelling or structure either on or near the parcel that was related to a W. L. W. Williams. The USGS Topographic Map of 1918 also indicated that there was a dwelling or structure approximately in the same location, as well as the house (S-2346) near Beaver Dam Road, and there is a possibility that there may be archaeological remains associated with both of them. With this information in mind, it is important that the developer be aware of Delaware's Unmarked Human Burials and Human Skeletal Remains Law, which is outlined in Chapter 54 of Title 7 of the Delaware Code.

  Abandoned or unmarked family cemeteries are very common in the State of Delaware, and often they are either on or near a historic farm site, in rural areas or open space lands. Disturbing unmarked burials triggers Delaware's Unmarked Human Burials and Human Skeletal Remains Law (Delaware Code Title 7, Chapter 54), and such remains or discoveries can result in substantial delays while the procedures required under this law are carried out. The Division of Historical & Cultural Affairs recommends that owners and/or developers have a qualified archaeological consultant investigate their project area for the presence of such a cemetery. If a cemetery is discovered, it is very costly to have it archaeologically excavated and the burials moved. In the event of such a discovery, the Division of Historical & Cultural Affairs recommends that the plans be re-drawn to leave the cemetery on its own parcel or in the open space area of the development, with the responsibility for its maintenance lying with a homeowners association or development. If you need or would like to read more information in reference to cemeteries, burial grounds or unmarked human remains, please go to the following websites for additional information: www.history.delaware.gov/preservation/umhr.shtml and www.history.delaware.gov/preservation/cemeteries.shtml .

  Prior to any demolition or ground disturbing activities, the developer should consider hiring an archaeological consultant to examine the parcel for archaeological sites, such as a cemetery or unmarked human remains.

- If there is any federal involvement with the project, in the form of licenses, permits, or funds, the federal agency, often through its client, is responsible for complying with Section 106 of the National Historic Preservation Act (36 CFR 800) and must consider

their project's effects on any known or potential cultural or historic resources. Owners and developers who may plan to apply for an Army Corps of Engineers permit or for federal funding, such as HUD or USDA grants, should be aware of the National Historic Preservation Act of 1966 (as amended). Regulations promulgated for Section 106 of this Act stipulate that no ground-disturbing or demolition activities should take place before the Corps or other involved federal agency determines the area of potential effect of the project undertaking. These stipulations are in place to allow for comment from the public, the Delaware State Historic Preservation Office, and the Advisory Council for Historic Preservation about the project's effects on historic properties. Any preconstruction activities without adherence to these stipulations may jeopardize the issuance of a permit or receipt of funding if it is determined that such opportunity to comment has been foreclosed. If you need further information or additional details pertaining to the Section 106 process and the Advisory Council's role, please review the Advisory Council's website at www.achp.gov.

Department of Transportation – Contact Bill Brockenbrough 760-2109

- DelDOT approved an entrance plan for a previous proposal to develop this property on June 23, 2004 but the entrance was never constructed. With the revised site plan, a new Letter of No Objection and entrance plan approval will be required, in accordance with Sections 3.3 and 1.3, respectively, of our Standards and Regulations for Subdivision Streets and State Highway Access.

  The site access must be designed in accordance with DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access, which is available at http://www.deldot.gov/information/pubs_forms/manuals/subdivisions/pdf/Subdivision_Manual_Revision_1_proposed_060110.pdf.

- From the information provided in Item 25 on the PLUS application, the subject development meets DelDOT's volume-based criteria, found in Section 2.3.1 of the Standards and Regulations, for recommending that a Traffic Impact Study (TIS) be required and we anticipate requiring completion of one prior to our issuing a Letter of No Objection. A TIS was scoped on May 20, 2011, for a similar development proposal and the applicant's engineer counted traffic in preparation for the study that summer. DelDOT will need to review those counts and may need to update the scope of work, but we anticipate the applicant's engineer being able to complete the TIS using the counts from 2011. It is recommended that the applicant have their traffic engineer send their counts to Mr. Paul Hogge of this office for review. As necessary, Mr. Hogge may be reached at (302) 760-2124.

- In accordance with Section 3.6.5 and Figure 3-3 of the Standards and Regulations for Subdivision Streets and State Highway Access, DelDOT will require dedication of right-

of-way along the site's frontage on Beaver Dam Road (Sussex Road 368) to provide a minimum of 40 feet of right-of-way from the road centerline. From the concept plan presented, it appears that the developer's site engineer may have accounted for this requirement already.

- In accordance with Section 4.8 of the Standards and Regulations for Subdivision Streets and State Highway Access, DelDOT will require a 20-foot wide buffer between the ultimate right-of-way line of Beaver Dam Road and the edge of any storm water management facilities other than bio-swales. From the concept plan presented, we do not see a problem in this regard.

- In accordance with Section 3.6.5 of the Standards and Regulations for Subdivision Streets and State Highway Access, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage for a future 10-foot wide pedestrian/bike path. The location of the easement shall be outside the limits of the ultimate right-of-way for Beaver Dam Road. The easement area can be used as part of the open space calculation for the site. The following note is required, "**A 15-foot wide permanent easement for a future 10-foot wide multi-use path is hereby established, as per this plat.**"

- The following note will need to be added concerning the maintenance responsibility of the multi-use path, "The multi-use path shall be the responsibility of the developer, the property owners within this subdivision or both. The State assumes no responsibility for the future maintenance of the multi-use path."

    - In accordance with Section 3.4.1 of the Standards and Regulations for Subdivision Streets and State Highway Access, the traffic generation diagram is required to be shown on the site plan.

    - In accordance with Section 3.4.1 of the Standards and Regulations for Subdivision Streets and State Highway Access, the site plan should show all existing entrances (residential/commercial) within 450-feet of the proposed entrances.

    - In accordance with Section 1.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, the Initial Stage review fee shall be assessed to this project.

    - In accordance with Section 3.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, a site plan shall be prepared prior to issuing "Letter of No Objection". The following information will be required for the "Letter of No Objection" review:

        Initial Stage Fee Calculation Form

Initial Stage Review Fee
Gate-Keeping Checklist – Site Plan
Design Checklist – Record Plan*
Owners and Engineer's name and e-mail address
Six (6) signed & sealed paper sets of the Site Plan by the owner and engineer
Conceptual Entrance Plan
CD with a pdf of the Site Plan

*For the design checklist of the site plan, please refer to the Standards and Regulations for Subdivision Street and State Highway Access, under Appendix D; Plan Review Checklist, page D-2 and D-3.

- In accordance with Section 1.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, the Construction Stage review fee shall be assessed to this project.

- In accordance with Sections 4.3 and 4.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, a subdivision plan or an entrance plan shall be prepared prior to DelDOT issuing subdivision/entrance approval. The following information will be required for Subdivision/Entrance Plan review;

  Construction Stage Fee Calculation Form
  Construction Review Fee
  Gate-Keeping Checklist – Entrance Plan
  Design Checklist – Entrance Plan**
  Three (3) paper sets of the Entrance Plan
  SWM Report and Calculations (If applicable)
  CD with a pdf of the Entrance Plan

  **For the design checklist for the entrance plan, please refer to the Standards and Regulations for Subdivision Street and State Highway Access under Appendix D; Plan Review Checklist, page D-9 and D-13.

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

**Wetlands**

- State regulated wetlands ARE NOT located on this property based on a review of the State wetland maps. State regulated wetlands are those wetlands identified on the State's official State Regulated Wetland Maps. Additional information about State regulated wetlands is available by contacting the Wetlands and Subaqueous Lands Section at (302) 739-9943 or on line at http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx.

- State regulated subaqueous lands ARE NOT likely to be located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and USGS topographic maps. State subaqueous lands include all tidal waters (up to the mean high water line), most non-tidal rivers, streams, lakes, ponds, bays and inlets (up to the ordinary high water line), most perennial streams and ditches and many intermittent streams and ditches. Additional information about State regulated subaqueous lands is available by contacting the Wetlands and Subaqueous Lands Section at (302) 739-9943 or on line at http://www.dnrec.delaware.gov/wr/Services/Pages/WetlandsAndSubaqueousLands.aspx.

- Waters of the U.S. regulated by the U.S. Army Corps of Engineers ARE likely to be located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and USGS topographic maps (See figure 1). According to our GIS SWMP maps, there are considerable wetlands regulated by the U.S. Army Corps of Engineers. We suggest contacting them for an on-site inspection. Waters of the United States include the following: navigable waters of the United States; wetlands; tributaries to navigable waters of the United States, including adjacent wetlands and lakes and ponds; interstate waters and their tributaries, including adjacent wetlands; and all other waters of the United States not identified above, such as isolated wetlands, intermittent streams, and other waters that are not part of a tributary system to interstate waters or to navigable waters of the United States, where the use, degradation or destruction of these waters could affect interstate or foreign commerce.

  The extent of Federal jurisdiction over Waters of the United States is determined by the U.S. Army Corps of Engineers and is based on site specific conditions. Therefore, an on-site inspection by an environmental consultant is recommended to determine if Waters of the U.S. are located on the property and the limits of Federal jurisdictional. The U.S. Army Corps of Engineers can be contacted at (215) 656-6728 or online at http://www.nap.usace.army.mil/cenap-op/regulatory/regulatory.htm.

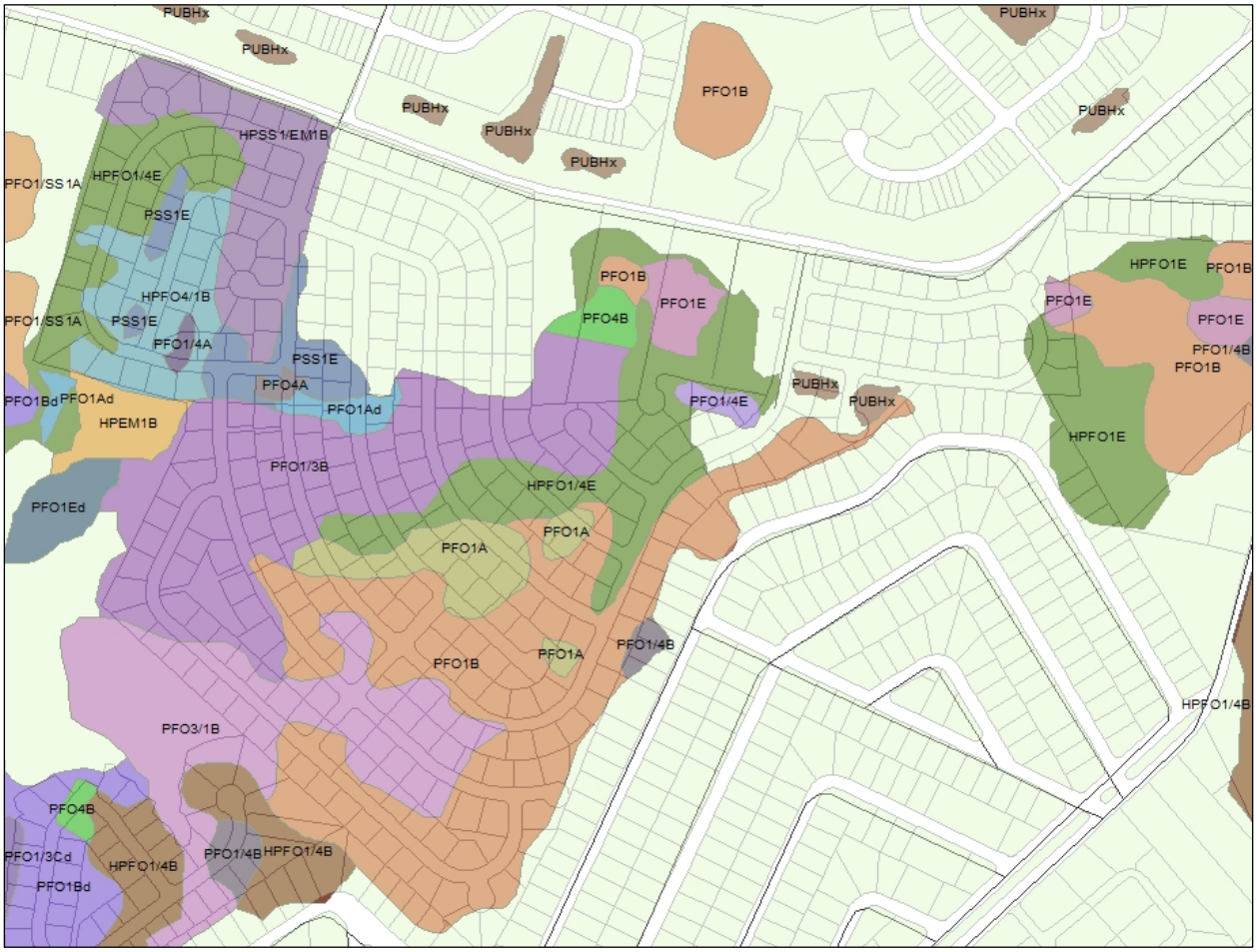



**Figure1:** SWMP mapping in the immediate vicinity of the proposed project

**TMDLs**

- The project is located in the *low nutrient reduction* zone of the greater Inland Bays watershed. In this watershed, Total Maximum Daily Load (TMDL) pollutant reduction targets have been developed by the State of Delaware (under the auspices of Section 303(d) of the 1972 Federal Clean Water Act) for nutrients (e.g., nitrogen, phosphorus), and bacteria. 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 State water quality standards (e.g., dissolved oxygen, nutrients, and bacteria; *State of Delaware Surface Water Quality Standards, as amended July 11, 2004*) to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. The TMDL for the *low reduction* zone of the Inland Bays watershed calls for 40 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for a 40 percent reduction in bacteria from baseline conditions.

- A nutrient management plan is required under the *Delaware Nutrient Management law (3 Del. Chapter 22)* for all persons or entities who apply nutrients to lands or areas of open space in excess of 10 acres. This project's open space may exceed this 10-acre threshold. Please contact the Delaware Nutrient Management Program at 739-4811 for further information concerning compliance requirements or view the following web link for additional information: http://dda.delaware.gov/nutrients/index.shtml.

- The adopted Inland Bays Pollution Control Strategy regulation was published in the Delaware Register of Regulations on November 11, 2008 and is now an enforceable regulatory directive. A Pollution Control Strategy (PCS) is an implementation strategy that identifies the actions necessary (regulatory and nonregulatory) to systematically reduce the pollutant loading to a given water body, and meet the TMDL reduction requirements specified for that water body. These regulations can be reviewed at http://regulations.delaware.gov/documents/November2008c.pdf and background information, guidance documents, and mapping tools can be retrieved from http://www.dnrec.state.de.us/water2000/Sections/Watershed/ws/ib_pcs.htm.

**Water Supply**

- The project information sheets state water will be provided to the project by Tidewater Utilities via a central water system. Our records indicate that the project is located within the public water service area granted to Public Water Supply (a.k.a. Tidewater Utilities) under Certificate of Public Convenience and Necessity 83-W-6.

- Should an on-site Public or Miscellaneous 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 central sewer lines, septic tank and sewage disposal area, and it must also be located 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 current Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing each and every well(s).

- 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.

**Water Resource Protection Areas**

- The DNREC Ground-Water Protection Branch (GPB) has determined that a significant portion of project proposed in this application is likely to fall within an undelineated wellhead protection for Tidewater Utilities Bethany Bay/Ocean View District (see map). The project is within the municipal boundaries of Ocean View. Ocean View does not have a source water protection ordinance.

- Tidewater Utilities contracted with Green Stone engineering to analyze the impact the pumping wells at their Bear Trap facility would have on the surrounding residential wells. Green Stone used a Time-Drawdown of the pumping well. Based on the findings the allowable pumping rate for the well was limited. The Time-Drawdown study examined the area to the southeast. The area indicated on the attached map shows the results of this study extended in all directions. It is probable that the delineated wellhead protection area will fall within this boundary. Its shape will be more refined as the model used in the Source Water Assessment Report is more complex.

- Wellhead protection areas are surface and subsurface areas surrounding a public water supply well where land use activities or impervious cover may adversely affect the quantity and quality of ground water moving toward such wells.

- Tidewater Utilities withdraws large volumes of water from the wells at Bear Trap as per their allocation permit. This withdrawal is likely to create drawdown of the water table in the wellhead protection area creating drier conditions on the delineated wetlands (See Map). Were these wells to cease pumping, the residents of Silver Woods may experience wetter ground condition than presently exist.

- The DNREC Water Supply Section recommends that the portion of the new development within the scientifically delineated wellhead protection area not exceed 20% impervious cover (DNREC, 2005). Some allowance for augmenting ground-water recharge should be implemented if the impervious cover exceeds 20% but is less than 50%. However, the development should not exceed 50%. A water balance calculation should be required to determine the quantity of clean water recharged via a recharge basin (Kaufmann, 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 and surface water supplies.

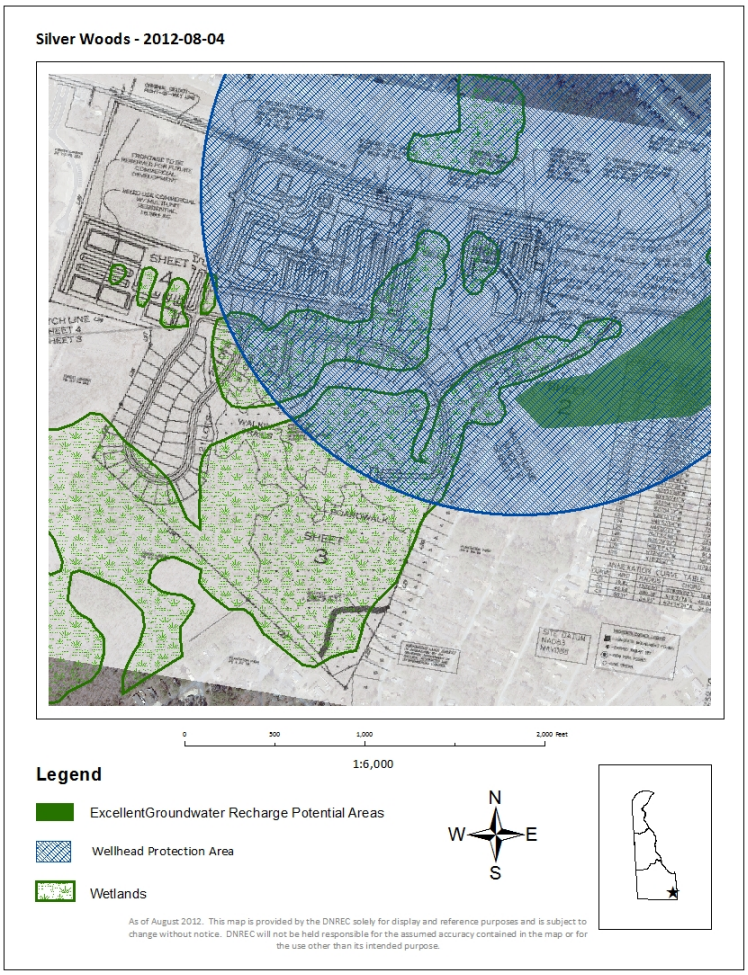
- In addition, because the wellhead protection area is an existing source of public drinking water and the excellent ground-water recharge area so readily affects the underlying aquifer, the storage of hazardous substances or wastes should not be allowed within these areas unless specific approval is obtained from the relevant state, federal, or local program.

- DNREC recommends limiting impervious cover within the Time-Drawdown line delineation as described above.

*References*

Delaware Department of Natural Resources and Environmental Control, 2005, Source Water Protection Guidance Manual for the Local Governments of Delaware, p. 144. 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. Listed as: "Supplement 1 – Groundwater Recharge Design Methodology" http://www.wr.udel.edu/swaphome/Publications/SWPguidancemanual.html



**Sediment and Stormwater Program**

- A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. Please contact the reviewing agency to schedule a project application meeting to discuss the sediment and erosion control and stormwater management components of the plan as soon as practicable. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact Jessica Watson at the Sussex Conservation District at (302) 856-2105 for details regarding submittal requirements and fees. (Title 7, Delaware Code, Chapter 40 and Delaware Regulations, Title 7, Administrative Code, 5101)

**Hazardous Waste Sites**

- If it is determined by the Department that there was a release of a hazardous substance on the property in question and the Department requires remediation pursuant to the Hazardous Substance Cleanup Act, the provisions of 7 Del.C., Chapter 91, Delaware Hazardous Substance Cleanup Act and the Delaware Regulations Governing Hazardous Substance Cleanup shall be followed.

**Tank Management Branch**

- If a release of a Regulated Substance occurs at the proposed project site, compliance of 7 Del.C., Chapter 60, 7 Del.C., Chapter 74 and DE Admin. Code 1351, State of Delaware *Regulations Governing Underground Storage Tank Systems* (the UST Regulations) is required.

- Per the **UST Regulations: Part E, § 1. Reporting Requirements**:

    - Any indication of a Release of a Regulated Substance that is discovered by any Person, including but not limited to environmental consultants, contractors, utility companies, financial institutions, real estate transfer companies, UST Owners or Operators, or Responsible Parties shall be reported within 24 hours to:

        - The Department's 24-hour Release Hot Line by calling 800-662-8802; and
        - The DNREC, Tank Management Section by calling 302-395-2500.

**Air Quality**

- The applicant shall comply with all applicable Delaware air quality regulations. Please note that the following regulations in Table 1 – Potential Regulatory Requirements may apply:

| **Table 1: Potential Regulatory Requirements** | |
|---|---|
| **Regulation** | **Requirements** |
| **7 DE Admin. Code 1106** - Particulate Emissions from Construction and Materials Handling | • Use dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads.<br>• Use covers on trucks that transport material to and from site to prevent visible emissions. |
| **7 DE Admin. Code 1113** – Open Burning | • Prohibit open burns statewide during the Ozone Season from May 1-Sept. 30 each year.<br>• Prohibit the burning of land clearing debris.<br>• Prohibit the burning of trash or building materials/debris. |
| **7 DE Admin. Code 1135** – Conformity of General Federal Actions to the State Implementation Plan | • Require, for any "federal action," a conformity determination for each pollutant where the total of direct and indirect emissions would equal or exceed any of the de minimus levels (See Section 3.2.1) |
| **7 DE Admin. Code 1141** – Limiting Emissions of Volatile Organic Compounds from Consumer and Commercial Products | • Use structural/ paint coatings that are low in Volatile Organic Compounds.<br>• Use covers on paint containers when paint containers are not in use. |
| **7 DE Admin. Code 1144** – Control of Stationary Generator Emissions | • Ensure that emissions of nitrogen oxides ($NO_x$), non-methane hydrocarbons (NMHC), particulate matter (PM), sulfur dioxide ($SO_2$), carbon monoxide (CO), and carbon dioxide ($CO_2$) from emergency generators meet the emissions limits established. (See section 3.2).<br>• Maintain recordkeeping and reporting |

| | |
|---|---|
| | requirements. |
| **7 DE Admin. Code 1145** – Excessive Idling of Heavy Duty Vehicles | • Restrict idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes. |

For a complete listing of all Delaware applicable regulations, please look at our website: http://www.awm.delaware.gov/AQM/Pages/AirRegulations.aspx.

Delaware State Fire Marshall's Office – Contact Duane Fox 739-4394

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):

- **Fire Protection Water Requirements**:
  - Water distribution system capable of delivering at least 1500 gpm for 2-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.
  - Where a water distribution system is proposed for mercantile sites, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

- **Fire Protection Features:**
  - All structures over 10,000 sq. ft. aggregate will require automatic sprinkler protection installed.
  - Buildings greater than 10,000 sq. ft., 3-stories or more, over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements
  - Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
  - Show Fire Lanes and Sign Detail as shown in DSFPR

- **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 from the main thoroughfares must be constructed so fire department apparatus may negotiate it.
  - Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
  - Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making

not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also, please be advised that parking is prohibited in the cul-de-sac or turn around.
  - The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.
  - The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.

- **Gas Piping and System Information:**
  - Provide type of fuel proposed, and show locations of bulk containers on plan.

- **Required Notes**:
  - Provide a note on the final plans submitted for review to read " All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations"
  - Proposed Use
  - Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
  - Square footage of each structure (Total of all Floors)
  - National Fire Protection Association (NFPA) Construction Type
  - Maximum Height of Buildings (including number of stories)
  - Note indicating if building is to be sprinklered
  - Name of Water Provider
  - Letter from Water Provider approving the system layout
  - Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
  - Provide Road Names, even for County Roads

**Recommendations/Additional Information**

This section includes a list of site specific suggestions that are intended to enhance the project. These suggestions have been generated by the State Agencies based on their expertise and subject area knowledge. **These suggestions do not represent State code requirements.** They are offered here in order to provide proactive ideas to help the applicant enhance the site design, and it is hoped **(but in no way required)** that the applicant will open a dialogue with the relevant agencies to discuss how these suggestions can benefit the project.

Department of Transportation – Contact Bill Brockenbrough 760-2109

- DelDOT recommends that access easements and, perhaps, a stub right-of-way from the east-west internal street be provided for connection to the Wesley O. Taylor property for use when that property is developed. How to connect to the Taylor property, i.e., through an easement or the right-of-way, would depend on how that property is developed.

- DelDOT Recommends that sidewalks be provided along both sides of the internal streets and commercial driveways to encourage walking.

- It is recommended that the clubhouse and pool be moved to a more central location, such as the end of the proposed 9-lot cul-de-sac, to make it more accessible by walking for the majority of residents. While the proposed walking trails are a good idea, regardless of where the pool is located, they are unlikely to be used at night or in inclement weather.

- There is a significant amount of pavement shown surrounding the proposed convenience store. If there is any intention to sell gasoline there, DelDOT recommends that that fact be mentioned and that the fuel pump canopies be shown on the plan. From our perspective, gasoline sales affect the trip generation of a convenience store. It would also seem to be relevant to other agencies.

- It is recommended that the "future commercial development" shown on the plan be quantified and accounted for in the TIS. Even if the precise use is not known, having a sufficiently large placeholder in the TIS can help to avoid the need for additional work when that area is, later, proposed for development.

- It is recommended that the south access to the future commercial development be moved further west into the adjoining parking lot to provide a longer throat approaching the internal street.

- DelDOT recommends that the developer have their site engineer contact our Subdivision Manager for this part of Sussex County, Mr. John Fiori, for a pre-submittal meeting prior to submitting a site plan for review and approval. Mr. Fiori and be reached at (302) 760-2260.

<u>Department of Natural Resources and Environmental Control – Contact Kevin Coyle 739-9071</u>

**Soils Assessment**

- Based on soils survey mapping update, Hurlock (HvA) and Mullica (MmA) is the primary – and most environmentally sensitive - soil mapping units mapped in the immediate vicinity of the proposed project. Hurlock and Mullica are poorly to very poorly-drained wetland associated (hydric) soil mapping units that have severe limitations for development (considered unsuitable for development). Building on such soils is likely to increase the potential for on-site and off-site flooding potentials (See figure 2). We strongly recommend avoiding areas containing said soil mapping units.

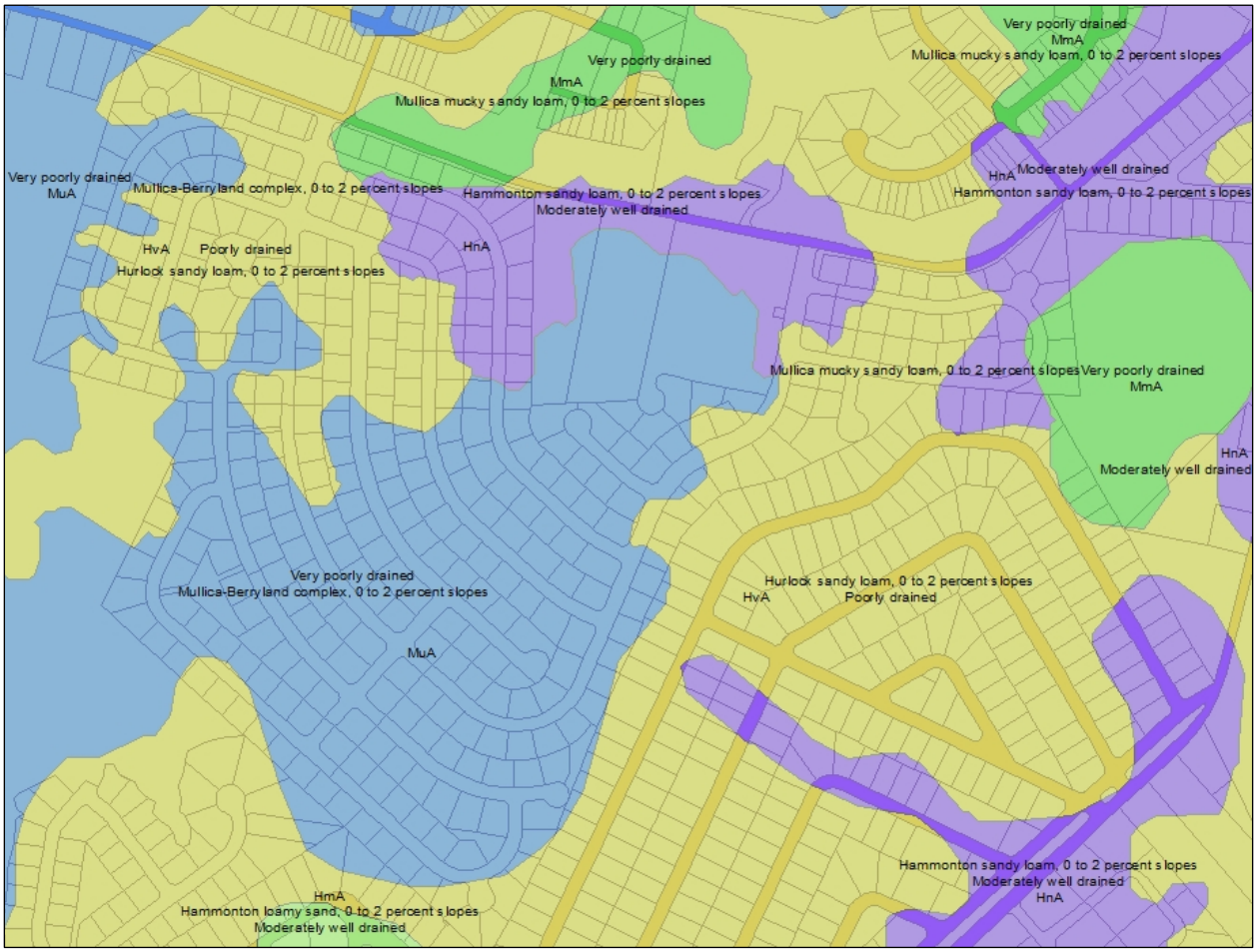



**Figure 2:** Soils mapping in the immediate vicinity of the proposed project area

**Additional information on TMDLS and water quality**

- The adopted Inland Bays Pollution Control Strategy regulation was published in the Delaware Register of Regulations on November 11, 2008 and is now an enforceable regulatory directive. A Pollution Control Strategy (PCS) is an implementation strategy that identifies the actions necessary (regulatory and nonregulatory) to systematically reduce the pollutant loading to a given water body, and meet the TMDL reduction requirements specified for that water body. These regulations can be reviewed at http://regulations.delaware.gov/documents/November2008c.pdf and background information, guidance documents, and mapping tools can be retrieved from http://www.dnrec.state.de.us/water2000/Sections/Watershed/ws/ib_pcs.htm.

- The applicant is encouraged to have a U.S. Army Corps of Engineers (USACE)-approved wetlands delineation conducted from the onset. According to the PLUS application, an approved USACE wetlands delineation has been conducted but not presented to DNREC.

- 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, DNREC recommends that the applicant maintain/establish a minimum 100-foot upland buffer (planted in native vegetation) from all water bodies (including ditches) and wetlands.

- Maximize the amount and/or preservation of passive wooded open space. We further recommend additional planting of native trees or shrubs wherever possible.

- The applicant should calculate post-construction surface imperviousness with all forms of created (or constructed) surface imperviousness (e.g., rooftops, driveways, parking lots, sidewalks, open-water storm water management structures, and roads) included in the calculation.

- Since this is a large project that will likely generate a great amount of impervious cover, we strongly advise the use of pervious paving materials (instead of conventional asphalt and concrete) as a BMP to reduce the impacts associated with surface imperviousness, wherever practicable.

- DNREC recommends the use of rain gardens, and green-technology storm water management structures (in lieu of open-water management structures) as BMPs to mitigate or reduce nutrient and bacterial pollutant impacts via runoff from impervious surfaces.

- The applicant should voluntarily assess nutrient and bacterial pollutant loading at the preliminary project design phase. To this end, the Watershed Assessment Section has developed a methodology known as the "Nutrient Load Assessment protocol." The protocol is a tool used to assess changes in nutrient (e.g., nitrogen and phosphorus) and bacterial loading that result from the conversion of individual or combined land parcels to a different land use(s), while providing applicants with quantitative information about their project's impact(s) on baseline water quality. We encourage the applicant/developer use this protocol to help them design and implement the most effective BMPs. Please contact Lyle Jones at 302-739-9939 for more information on the protocol.

**Recreation/Trails**

- Walking paths should be provided within the community. If the boardwalk is not an option, we suggest reconfiguring the walking path to fit within the site plan without intruding on the designated wetland areas.

**Additional information on hazardous waste sites**

- SIRS strongly recommends that the land owner perform environmental due diligence of the property by performing a Phase I Environmental Site Assessment (including a title search to identify environmental covenants) in accordance to Section 9105(c) (2) of the Delaware Hazardous Substance Cleanup Act (HSCA). While this is not a requirement under HSCA, it is good business practice and failure to do so will prevent a person from being able to qualify for a potential affirmative defense under Section 9105(c) (2) of HSCA.

  Additional remediation may be required if the project property or site is re-zoned by the county.

- 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). SIRS should also be contacted as soon as possible at 302-395-2600 for further instructions.

**Additional information on tank management.**

- When contamination is encountered, PVC pipe materials should be replaced with ductile steel and nitrile rubber gaskets in the contaminated areas.
- If any aboveground storage tanks (ASTs) less than 12,500 gallons are installed, they must be registered with the TMS. If any ASTs greater than 12,500 gallons are installed, they are also subject to installation approval by the TMS.

**Additional information on air quality**

- Homes may emit, or cause to be emitted, 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 new homes include emissions from the following activities:

  - Area sources such as painting, maintenance equipment and the use of consumer products like roof coatings and roof primers.
  - The generation of electricity needed to support your home, and
  - Car and school bus activity associated with a new home.

- The three air emissions components (i.e., area, electric power generation, and mobile sources) were quantified and the emissions in Table 2 and Table 3 represent the projected impacts the Silver Woods mixed use development may have on air quality.

| **Table 2: Projected Air Emissions for the Silver Woods (460 residential units)** | | | | | |
|---|---|---|---|---|---|
| Emissions Attributable to the Silver Woods Development (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 Area Source | 14.2 | 1.6 | 1.3 | 1.7 | 57.7 |
| Electrical Power Generation | * | 5.6 | 19.6 | * | 2895.3 |
| Mobile | 21.1 | 22.0 | 0.6 | 0.2 | 13595.3 |
| **Total** | 35.3 | 29.2 | 21.5 | 1.9 | 16548.3 |

| **Table 3: Projected Air Emissions for the Silver Woods (100,000 sq. ft. assisted living facility)** | | | | | |
|---|---|---|---|---|---|
| Emissions Attributable to the Silver Woods Development (Tons per Year) | Volatile Organic Compounds (VOC) | Nitrogen Oxides (NOx) | Sulfur Dioxide ($SO_2$) | Fine Particulate Matter ($PM_{2.5}$) | Carbon Dioxide ($CO_2$) |
| Mobile | 59.8 | 78.8 | * | * | * |

(*) *Indicates data is not available.*

Note that emissions associated with the actual construction of the development, 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 tables above.

- DNREC encourages sustainable growth practices that:

  - Control sprawl;
  - Preserve rural and forested areas;
  - Identify conflicting land use priorities;
  - Encourage growth on previously developed sites and denser communities while at the same time protect our diminishing land base;

- Coordinate transportation, housing, environment, and climate protection plans with land use plans; and
- Demonstrate that communities can achieve the qualities of privacy, community, and contact with nature without degrading the natural environment or generating unacceptable environmental costs in terms of congestion, use of natural resources, or pollution.

- Measures may be taken to substantially reduce the air emissions. These measures include:

  - **Constructing with only energy efficient products.** Energy Star qualified products are up to 30% more energy efficient. 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. For every vehicle trip that is replaced by the use of a sidewalk, a bike path or mass transit, 7 pounds of VOC and 11.5 pounds of NOx are reduced each year.

- Additionally, the following mitigation measures will reduce emissions associated with the actual construction phase of the project:

  - **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. The applicant should submit a plan to the DAQ which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Silver Woods development.

**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,

Constance C. Holland, AICP
Director, Office of State Planning Coordination

CC: Town of Ocean View