



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

October 23, 2013

Mr. David M. Kuklish, PE
Element Design Group
115 W Market Street
Lewes, DE 19958

RE: PLUS review 2013-09-05, Showfield

Dear Mr. Kuklish,

Thank you for meeting with State agency planners on September 25, 2013 to discuss the proposed plans for Showfield. According to the information received, you are seeking rezoning of 139 acres from R-2 and AR-1 to R-2 and R-5 for the construction of a 401 unit subdivision.

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 Sussex County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County. The PLUS application states that you plan to seek annexation into the City of Lewes. According to our records, the Plan of Services for Showfield was approved in 2008 but the City did not move forward with the annexation. If the City makes the decision to move forward with the annexation, they should contact Laura Simmons of this office to verify that there have been no changes to the Plan of Services for this project.**

Strategies for State Policies and Spending

- This project is located in Investment Level 1 according to the *Strategies for State Policies and Spending*. This site is also located adjacent to the City of Lewes. Investment Level 1 reflects areas that are already developed in an urban or suburban fashion, where infrastructure is existing or readily available, and where future redevelopment or infill projects are expected and encouraged by State policy.

Code Requirements/Agency Permitting Requirements

State Historic Preservation Office – Contact Terrence Burns 736-7404

- There is a known Archaeological Site, which was a former railway site (S-540, 7S-D-012) on this parcel, toward Theodore C. Freeman Hwy, and the Lewis Rehoboth Canal. In addition, there were also a couple of known historic houses (S-1052, S-1053) on the parcel, which do not appear to be there anymore. The USGS Topographic Map of 1918 does show and indicate that these houses were there, and were probably built during the late 19th or early 20th century. The houses were towards Gills Neck Road, and there is a barn nearby that may be associated with one of the houses, and the barn has been determined eligible for the National Register of Historic Places. Furthermore, there is also another house (S-1056) near the parcel, towards White's Pond. With this in mind, it is important that the developer be aware of the 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. They are usually in rural or open space areas, and sometimes near or within the boundary of an historic farm site. Even a marked cemetery can frequently have unmarked graves or burials outside of the known boundary line or limit. Disturbing unmarked graves or burials triggers the 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. If there is a discovery of any unmarked graves, burials or a cemetery, it is very costly to have them archaeologically excavated and the burials moved. The Division of Historical & Cultural Affairs recommends that owners and/or developers have a qualified archaeological consultant investigate their project area, to the full extent, to see if there is any unmarked cemetery, graves, or burial sites. In the event of such a discovery, the Division of Historical & Cultural Affairs also recommends that the plans be re-drawn to leave the full extent of the cemeteries or any burials on its own parcel or in the open space area of the development, with the responsibility for its maintenance lying with the landowner association or development. If you would like to know more information that pertains to unmarked human remains or cemeteries, please check 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 potential historic or cultural resources, such as a potential archaeological site, a cemetery or unmarked human remains. Furthermore, the developer should also include a sufficient landscaping protection or barrier between the proposed development, and the surviving house (S-1056) near the parcel, to protect it from any adverse sound and visual effects. In addition, there is 2013 draft report that refers to this parcel titled: Phase 1 Architectural Assessment of the Proposed Extension of the Junction and Breakwater Trail by John

Milner Associates, Inc. If any information pertaining to that report, please contact the Division of Historical & Cultural Affairs, State Historic Preservation Office Research Center at 302-736-7404.

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. Furthermore, any preconstruction activities without adherence to these stipulations may jeopardize the issuance of any permit or funds. 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

- Per Section 2.3.1 of the Standards and Regulations for Subdivision Streets and State Highway Access, Traffic Impact Studies (TIS) are warranted for developments generating more than 400 vehicle trip ends per day or 50 vehicle trip ends per hour. To obtain a scope of work for a TIS, the developer may have their engineer contact Mr. Troy Brestel of the DelDOT Planning office. Mr. Brestel may be reached at (302) 760-2167.

A TIS was done in 2007 for a larger development that would have occupied these parcels and other adjacent parcels. The January 16, 2008 review letter (copy attached) identified several offsite improvements. Preliminarily, DelDOT anticipates requiring the developer to participate in all of these improvements.

Current DelDOT regulations (Section 2.5.2.2 of the Standards and Regulations for Subdivision Streets and State Highway Access) provide specific criteria for the extent of the study area addressed in a TIS, such that the study area could change from what was addressed in 2007. DelDOT recommends that the developer and their engineer meet with them, the City and the Delaware River and Bay Authority (DRBA) if they wish to participate, and determine a scope of work that meets DelDOT, City and DRBA criteria. If there are no new intersections beyond what was addressed in the 2007 study and if the City and the DRBA do not require a new TIS, DelDOT will consider not requiring one.

- Because the site would generate more than 200 vehicle trip ends per day, a Traffic Operational Analysis may be required as part of the site plan review, in accordance with Section 2.14 (formerly 3.9) of the Standards and Regulations. If the developer performs a new TIS, the work involved in a TOA would be included therein.
- The site entrances on Gill Neck Road (Sussex Road 267) 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](http://www.deldot.gov/information/pubs_forms/manuals/subdivisions/pdf/Subdivision%20Manual%20Revision%201%20proposed%20060110.pdf).
- As per documents dated May 11, 2005, between DelDOT and the DRBA, Theodore C. Freeman Highway (Sussex Road 23) from Kings Highway (Sussex Road 268) to Cape Henlopen Drive (Sussex Road 19) is maintained by the DRBA. Accordingly, the proposed entrance on Freeman Highway will need to be reviewed and approved by the DRBA.
- In accordance with Section 3.6.2 of the Standards and Regulations for Subdivision Streets and State Highway Access, the site plan must include a note as to whether the streets are to be maintained privately or municipally. DelDOT does not accept subdivision streets in incorporated municipalities for State maintenance. Also, assuming municipal maintenance, a label should be added within the right-of-way for each street, reading "Dedicated to Public Use – City Maintained."
- Metes and bounds and total areas need to be shown for any drainage easements. Section 5.7.2.5 of DelDOT's Standards and Regulations for Subdivision Streets and State Highway Access requires, in part, a minimum 20-foot wide drainage easement for storm drainage systems that fall outside the existing right-of-way or the drainage/utility easement. These easements must be shown on the record plan, not referenced by a note.
- In accordance with Section 3.4.1.2 of the Standards and Regulations for Subdivision Streets and State Highway Access, the Record Plan should show all existing entrances (residential/commercial) within 400 feet of the proposed site entrances.
- In accordance with Section 3.10 of the Standards and Regulations for Subdivision Streets and State Highway Access, the required off-site improvements and when they are warranted will need to be shown on the Record plan by note or illustration.
- 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 Gills Neck Road (Sussex Road 267) to provide a minimum of 30 feet of right-of-way from the road centerline. The right-of-

way dedication note has been revised to the following, “**An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat.**”

- 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 on Gills Neck Road. The location of the easement shall be outside the limits of the ultimate right-of-way. 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 is hereby established, as per this plat.**”
- In accordance with Section 4.8 of the Standards and Regulations for Subdivision Streets and State Highway Access, a 20-foot wide buffer will be required from the edge of any stormwater management pond to the ultimate right-of-way of the nearest State-maintained road. The ultimate right-of-way is based on the functional classification of the road. From the concept plan presented, DelDOT does not see a problem in this regard.
- As specified in Section 3.4.1.1 of the Standards and Regulations for Subdivision Streets and State Highway Access, a traffic generation diagram is required on the Record Plan.
- In accordance with Section 3.5.5.5 of the Standards and Regulations for Subdivision Streets and State Highway Access, it will need to be determined whether a bus stop will be required for this project and, if so, what if any amenities it may need to have. As necessary, the developer may contact Mr. Wayne Henderson, a Senior Planner at DTC in this regard. Mr. Henderson may be reached at (302) 576-6063.
- Referring to the Standards and Regulations for Subdivision Streets and State Highway Access, Chapter 1 – Introduction, Section 1.4: Review Fees, page 1-8, 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 record plan shall be prepared prior to issuing “Letter of No Objection”. The following information will be required for the “Letter of No Objection” review:

Copy of the Initial Stage Fee Calculation Form

Copy of the Initial Stage Review Fee

Gate-Keeping Checklist – Site Plan

Design Checklist – Record Plan*

Owners and Engineer’s name and e-mail address

Sight Distance Spreadsheet

Three (3) paper sets of the Record Plan

Conceptual Entrance Plan
CD with a pdf of the Site Plan
Submission of the Area-Wide Study Fee (if applicable)

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

- Referring to the Standards and Regulations for Subdivision Streets and State Highway Access, Chapter 1 – Introduction, Section 1.4: Review Fees, page 1-8, the Construction Stage review fee shall be assessed to this project.
- Referring to the Standards and Regulations for Subdivision Streets and State Highway Access, Chapter 4 – Construction Plans, Section 4.3: Subdivision Construction Plan Checklist or Section 4.4: Commercial Entrance Plan Checklist, an entrance plan shall be prepared prior to issuing entrance approval. The following information will be required for Subdivision/Entrance Plan review;

Copy of the Construction Stage Fee Calculation Form
Copy of the Construction Review Fee
Gate-Keeping Checklist – Entrance Plan
Design Checklist – Entrance Plan**
Auxiliary Lane Spreadsheet
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 Streets and State Highway Access, Appendix D, Plan Review Checklist, page D-9 and D-13.

Department of Natural Resources and Environmental Control – Contact Kevin Coyle 735-3495

Wetlands

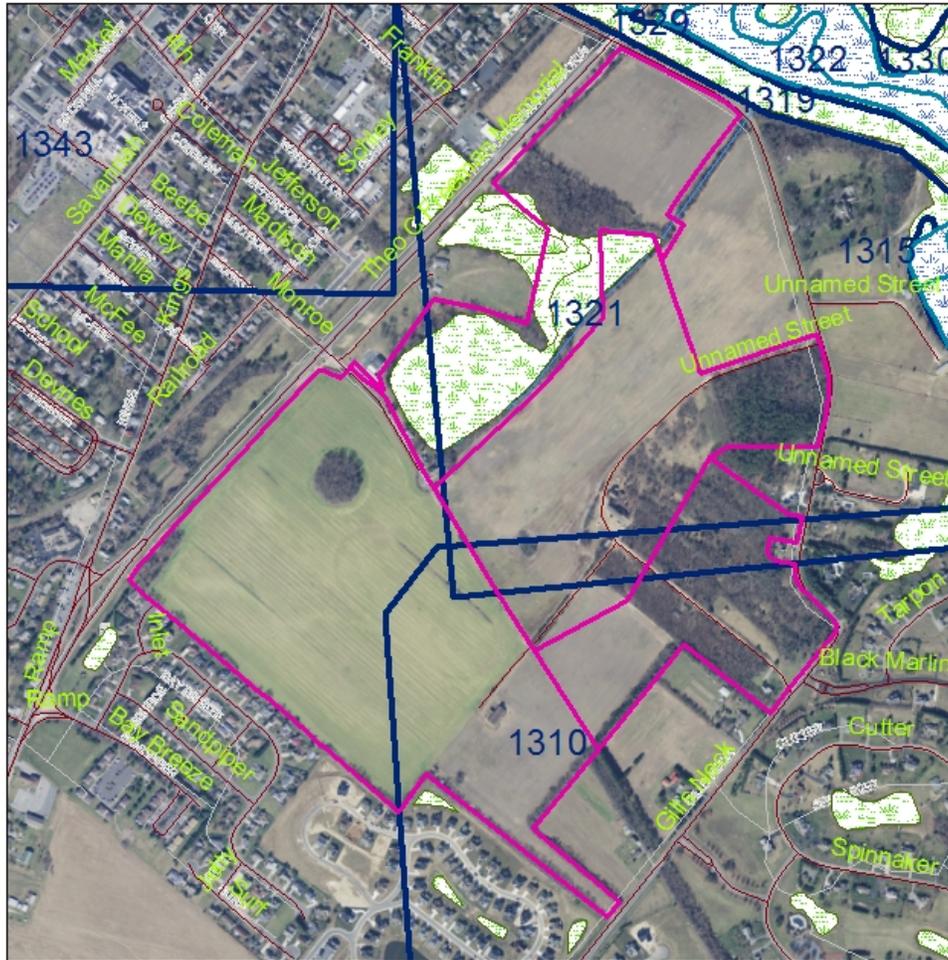
- State regulated wetlands ARE NOT located on this property based on a review of the State wetland maps. State regulated wetlands are those wetlands identified on the State’s official State Regulated Wetland Maps. Additional information about State regulated wetlands is available by contacting the Wetlands 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 likely to be located on this property based on a review of aerial photographs, State Wetland Mapping Project (SWMP) maps,

Soil Surveys and/or USGS topographic maps. This area of subaqueous lands appears to be incorporated into the plan drawings. Caution should be taken to keep county setbacks and to prevent construction material from entering the waterway. 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/or USGS topographic maps. The application states that these were delineated but not signed off on by the U.S. Army Corps. 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>.

Showfield PLUS 2013-09-05



0 0.125 0.25 0.5 Miles



Reviewed By: Kitty Bronson
Source: Sussex County layers
Parcels, DelDOT Rds, Wetland
and SWMP layers, Lakes, Rivers



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 (17 percent for marine waters) in bacteria from baseline conditions.

A nutrient management plan is required under the *Delaware Nutrient Management Program (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 Inland Bays Pollution Control Strategy (PCS) and the accompanying regulations were finalized by order of the DNREC Secretary on October 2008. 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 that public water will be provided to the project by Tidewater Utilities via a public water system. DNREC records indicate that the project is located within the public water service area granted to Lewes Board of Public Works under Certificate of Public Convenience and Necessity (CPCN) 01-CPCN-07 & 03-CPCN-06. DNREC recommends that the developer contact Lewes Board of Public Works to determine the availability of public water. Any public water utility providing water to the site must obtain a CPCN from the Public Service Commission. Information on CPCN’s and the application process can be obtained by contacting the Public Service Commission at 302-739-4247. Should an on-site Public/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 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 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 an Underground Storage Tank associated with the Lewes Gulf gas station located within 1000 feet of the proposed project.

Water Resource Protection Areas

- A significant portion of this project site falls within an excellent ground-water recharge potential area for the Sussex County. Additionally, White's Pond and a portion of the project falls within the municipal boundaries of the City of Lewes (see attached map). DNREC acknowledges that both Sussex County and the City of Lewes have source water protection ordinances in place.

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.

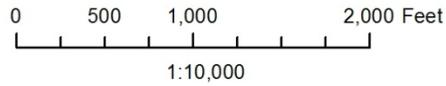
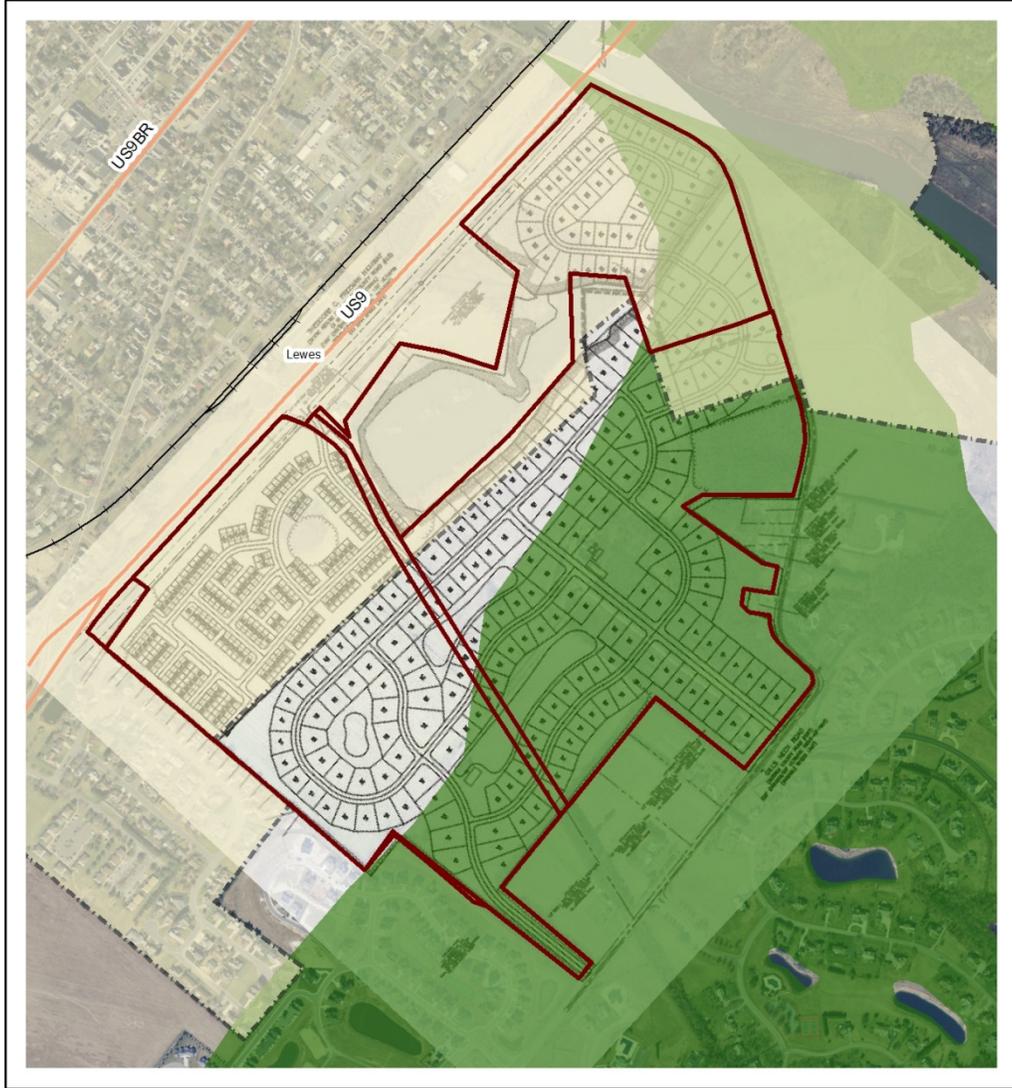
- The site plan shows that wet ponds for the management of stormwater. Wet ponds intersect the water table and have the potential to affect the water quality of the aquifer. Some research suggests that pollutant removal is reduced when ground water contributes substantially to the pool volume (Schueler, 1997). Wet ponds as a BMP utilize a settling pond to remove particulates. This type of BMP reduces nutrients by the biological activity of alga. While these systems address the particulate and nutrient components of stormwater runoff, they do not address pathogens, petroleum hydrocarbons, pesticides, other organic compounds, and other inorganic compounds associated with residential land use (DNREC, 1999). Because this is an area of excellent recharge potential, there exists the potential for these constituents to enter the aquifer and compromise water quality.
- The construction phase of stormwater management ponds requires excavation, hauling, and grading. The heavy equipment used in this phase has the capacity to compact and degrade the structure of the strata that defines the area as an excellent ground-water recharge area (Schueler, 2000a). Changes to the structural soil properties may cause significant reduction in recharge capacity. Installing storm-water management ponds in excellent ground-water recharge areas has the potential to contaminate the ground water beneath it and infiltrate into the aquifer (Schueler, 2000b).
- The proposed project should conform to the City of Lewes Code regarding stormwater and Sussex County Source Water Protection Ordinance No. 1979 §89-7, A. (3) to protect the resource.
- Recommendation:
 - Limiting impervious cover to 35 to 60 percent,
 - Quantify recharge to demonstrate post-development recharge is greater than or equal to pre-development recharge using the elements outlined in Sussex County Source Water Protection Ordinance No. 1979 §89-7, A. (2).
 - Wet ponds should be located outside the excellent ground water recharge potential area

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, 1999, The State of Delaware Source Water Assessment Plan: Dover, DE, p. 301.*
- Schueler, T. 1997. Influence of groundwater on performance of stormwater ponds in Florida. Watershed Protection Techniques 2(4):525.528.*
- Schueler, T. R., 2000a, The Compaction of Urban Soils, in Schueler, T.R., and Holland, H.K., eds., The Practice of Watershed Protection: Ellicott City, MD, Center for Watershed Protection, p. 210 - 218.*
- Schueler, T. R., 2000b, Pollutant Dynamics of Pond Muck, in Schueler, T.R., and Holland, H.K., eds., The Practice of Watershed Protection: Ellicott City, MD, Center for Watershed Protection, p. 453 - 460.*

Showfield (PLUS 2013-09-05)



Legend

-  Excellent Groundwater Recharge Potential Area
-  PLUS Location
-  Municipal Boundaries



As of August 2013. This map is provided by the DNREC solely for display and reference purposes and is subject to change without notice. DNREC will not be held responsible for the assumed accuracy contained in the map or for the use other than its intended purpose.

Sediment and Stormwater Program

- A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. 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)
- The application states stormwater will be discharge into White's Pond. Please contact the Sussex Conservation District as soon as possible to determine what information will be required in order to discharge into the pond.

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.
 - There are five SIRS sites within a ½ miles radius of the property in question:
 - Thompson Property (DE-1527) is located adjacent to the north-west of the project property. A Phase I was conducted on the Site in May 2012, and later joined the Brownfields program in July 2012. A Proposed plan was published for the Site in March 2013 stating there was no risk to the groundwater, however, contaminated soil would be removed, treated and disposed of off-site. The Final plan was published in April 2013.
 - Lowe Site (DE-0217) is located adjacent to the north-east of the project property. A Preliminary Assessment was performed in March of 1990 and was recommended for a No Further Action designation (NFA). A NFA was issued for the Site in 1995.
 - Trails and Pathways (DE-1546) is located adjacent to the north of the project property. The Site is a 16 mile corridor from Georgetown to Cape Henlopen. The corridor follows the old Queen Anne's railroad. The area was identified in the 2006 Statewide Rails to Trails/Rails with Trails

master plan. The Work Plan for the project was approved in August of 2013 and the corridor is in the process of becoming a recreational trail way.

- Lewes Coal Gas Site (DE-0190) is located adjacent to the west of the project property. Due to the possible purchase of the former site of a coal gas plant, a Preliminary Assessment (PA) was performed in January of 1989. An 8,000 gallon underground fuel storage tank was removed from the western portion of the Site (the Pagonis property). A Hydrogeologic Investigation was performed in January 1991, and it was determined that there was groundwater contamination due to the coal gas plant. A Facility Evaluation was performed from 1993-1994 which included the removal of buried remains of the former coal gas plant and contaminated soils. A Remedial Investigation took place soon after in May of 1996. The Final Plan of Remedial Action (FPRA) for the Site was published in July of 1998. The FPRA stated that a Groundwater Management Zone (GMZ) would be established and a new drinking water well would be installed. The Site entered the Voluntary Clean-Up Program (VCP) in October of 2003, followed by a Site Assessment in December of the same year. A Supplemental Hydrogeological Investigation was performed in April of 2004 to further evaluate the Site groundwater and if there was any contamination migration to the Pagonis property. The Site entered the Operations and Maintenance (O&M) stage in July of 2005. As part of the O&M plan, the asphalt and landscaping cap, passive recovery using absorbent booms, and groundwater monitoring are inspected annually.
- Pagonis Property (DE-1035) is located adjacent to the west of the project property. The Site is part of the Lewes Coal and Gas Site. An 8,000 gallon underground storage tank was removed from the property after a PA was performed to the Lewes Coal gas Site. Soil samples were collected on the Site during the Remedial Investigation of the coal gas Site. It was determined that there were no signs of a release and no risk to human or environmental health. A Supplemental Hydrogeological Investigation performed in April of 2004 on the Lewes Coal and Gas Site determined that further evaluation of the Site groundwater was needed to monitor any contamination migration to the Pagonis property. The Site has been redeveloped and is part of the O&M annual inspections of the Lewes Coal Gas Site.

Tank Management Branch

Please be aware:

- 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.
- The following confirmed leaking underground storage tank (LUST) projects are located within a quarter mile from the proposed project area:
 - Lewes Gulf, Facility: 5-000190, Project: S9103052 (Inactive)
 - Lewes Coal and Gas Site, Facility: 5-000995, Project: S0504033 (Inactive)
 - Cape Henlopen US Army Reserve, Facility: 5-000606, Project: S9911220 (Inactive)
 - William E Lowe Jr, Facility: 5-000682, Project: S9292030 (Inactive)
 - Jefferson Avenue Residence, Facility: 5-000997, Project: S0503030 (Inactive)
 - City of Lewes, Facility: 5-000421, Project: S9212286 (Inactive)
 - DRBA Freeman Highway Maintenance Area, Facility: 5-001057, Project: S1102022 (Inactive)
 - **Lewes Presbyterian Church, Facility: 5-001056, Project: S1009081 (Active)**
- No environmental impacts are anticipated; however, 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 Branch 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 to your project:

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. 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. Prohibit the burning of land clearing debris. 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. 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). 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

- **Fire Protection Water Requirements:**
 - Where a water distribution system is proposed townhouses it shall be capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 800 feet spacing on centers are required.
- **Fire Protection Features:**
 - For townhouse buildings, provide a section / detail and the UL design number of the 2-hour fire rated separation wall on the Site plan
- **Required Notes:**
 - Townhouse 2-hr separation wall details shall be shown on site plans

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

- From the response to item 28 on the PLUS application, it appears that the proposed development is consistent with DeIDOT planning for extension of the Junction & Breakwater Trail, but it is difficult to verify that from the exhibits provided. DeIDOT recommends that the developer's site engineer coordinate with the DeIDOT manager for that project, Mr. Jeff Niezgoda. Mr. Niezgoda may be reached at (302) 760-2178.
- Further in that regard, DeIDOT recommends that site plan be modified to provide for access to the trail from the nearest subdivision street.
- The plan shows three areas of what appears to be open space that would have no street access. Access would be available only through residential lots. DeIDOT recommends that street frontage be provided for these areas so they can be accessed without walking through residents' yards.
- The Preliminary Project Plan shows a long, straight street extending north from Gills Neck Road opposite Black Marlin Drive and ending at another, similarly long and straight street. Such a design can lead to speeding problems. DeIDOT recommends that the developer consider designing curves in to these streets to avoid a future need for traffic calming measures.

- On June 27, 2012, DelDOT announced changes in the way that DelDOT receives checks. A letter in this regard can be found at <http://www.deldot.gov/information/business/subdivisions/PaymentProcedure.pdf>
- Please refer to the DelDOT website for guidance as to whether a pre-submittal meeting is required and how to prepare for one. That guidance is available at <http://www.deldot.gov/information/business>.
- Be advised that the standard general notes have been updated and posted to the DelDOT website. Begin using the new versions and look for the revision date of June 28, 2013 for the Record/Site Plan and Construction Plan general notes. The Temporary Traffic Control Notes (TTCN) still have the revision date of August 14, 2012. The notes can be found at http://www.deldot.gov/information/business/subdivisions/DelDOT_Development_Coordination_Plan_Sheet_Notes.doc
- In accordance with Section 3.6.4 of the Standards and Regulations for Subdivision Streets and State Highway Access, we recommend that right-of-way monuments be furnished and placed along the subdivision streets.
- Please check to determine if any utilities will need to be relocated as part of this project.
- The developer should anticipate a requirement that any sub-station and/or wastewater facilities have access from the internal subdivision streets with no direct access to the State-maintained highway. That does not appear to be a concern on this plan.
- The developer's engineer should anticipate a requirement that the sight distance triangles for the Gills Neck Road entrances be shown on the record plan.
- The developer's engineer should anticipate a requirement that that at turning template plan be provided to verify that vehicles can enter and exit the development safely. The minimum design vehicle that should be used for this development is SU30.
- The proposed development is located in a Level 1 Investment Area relative to the Strategies for State Policies and Spending. Accordingly, as per DelDOT's Shared Use Path/Sidewalk Process, the developer should anticipate a requirement that a shared use path or a sidewalk be installed along the property's frontage on Gills Neck Road. The Process is available at http://www.deldot.gov/information/business/subdivisions/SUP_Sidewalk_Process.pdf.
- All PLUS comments should be addressed prior to submitting record, subdivision or entrance plans for review.

Department of Natural Resources and Environmental Control – Contact Kevin Coyle 735-3495

Soils Assessment

- Based on soils survey mapping update, following soil mapping units were mapped on subject parcel:

1. Well drained – Fort Mott (FmB), Downer (DoB), Greenwich (GrA & GrB)
2. Excessively well drained – (EvB & EvD)
3. Poorly drained (hydric) – Fallsington (FgA)
4. Very poorly drained (hydric) – Manahawkin (Ma)

Based on NRCS soils survey mapping update, the primary soil mapping units of concern are Fallsington (FgA) and Manahawkin (Ma). Fallsington and Manahawkin are poorly to very poorly-drained wetland associated (hydric) soils that have severe limitations for development (considered unsuitable; Figure 1). DNREC strongly recommends that the applicant avoid construction in the immediate vicinity of both these soil mapping units.

- A field evaluation by a licensed soil scientist is strongly recommended (ARCPACS certified and licensed Class D) to make a site-specific field delineation of the hydric soils in this parcel. Please contact the Underground Discharges Branch at 739-9948 for a list of licensed soil scientists.

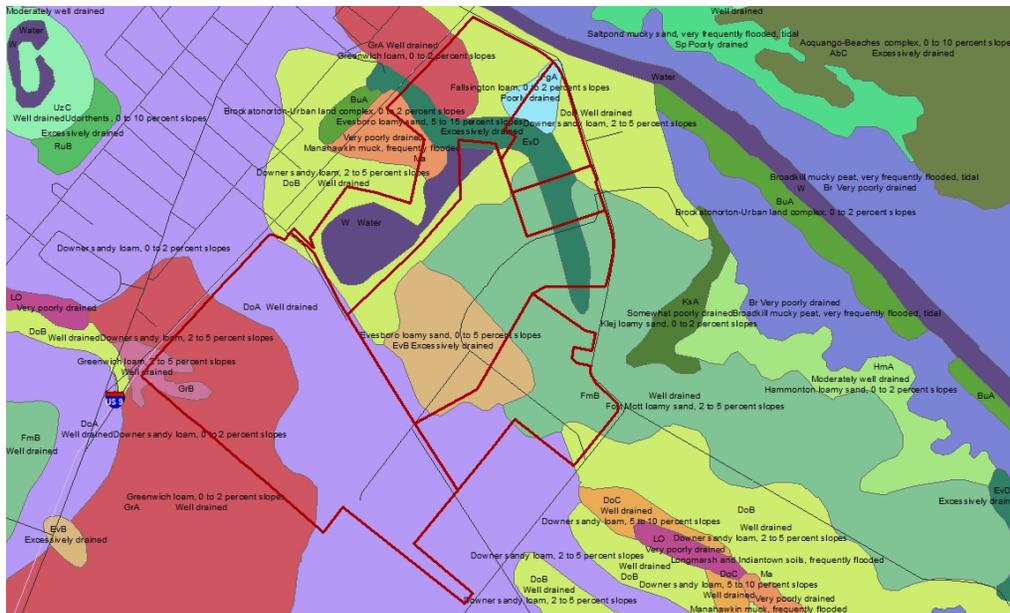


Figure 1: NRCS soil survey mapping update in the vicinity of the proposed construction.

Additional information on TMDLs and water quality

- Compliance with the specified TMDL nutrient and bacterial reduction requirements specified for the Inland Bays watershed can be facilitated by the strategies and requirements described in the Inland Bays PCS, and the implementation/adherence to the following recommended BMPs:
 - A United States Corps of Engineers (USACE) approved wetlands delineation is strongly recommended. According to information presented in the PLUS application, a wetlands delineation was conducted but not approved by the USACE.
 - 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 (field delineated and approved by the USACE).
 - 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. DNREC strongly recommends that the applicant avoid all hydric soil mapping units (e.g., Fallsington). Building on such soils is likely to contribute to an increased probability of future flooding problems.
 - According to the conceptual plot plan, the applicant intends to install storm water ponds in this parcel. DNREC strongly advises against the installation of any new additional open-water ponds because they will contribute to increases in nuisance algae, geese and mosquitoes. Green technology storm water management can be utilized in lieu of open-water storm water management ponds.
 - Use 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/discharges from impervious surfaces.
 - 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, ponds, and roads) included in the calculation.

- Wherever practicable, use pervious paving materials (instead of conventional asphalt and concrete) as a BMP(s) to reduce the impacts from all forms of created surface imperviousness.
- 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 loading (e.g., nitrogen and phosphorus) resulting from the conversion of individual or combined land parcels to a changed land use(s); thus providing applicants and governmental entities with quantitative information about the project’s impact(s) on baseline water quality. We strongly encourage the applicant/developer use this protocol to help them design and implement the most effective BMPs. Please contact Jen Walls or John Martin at (Division of Watershed Stewardship) at 302-739-9939 for more information on the protocol.

Species of Concern/Site Visit request

- DNREC Wildlife Species Conservation and Research Program (WSCR) scientists have not surveyed this project area; therefore, DNREC is unable to provide information pertaining to the existence of state-rare or federally listed plants, animals or natural communities at this project site. However, study of aerial maps and off-site observations suggest that Species of Concern may exist on the tax parcels.

In order to provide more informed comments, DNREC requests the opportunity to conduct a survey to evaluate habitat and determine the potential for species of conservation concern. Please note that our scientists have extensive knowledge of the flora and fauna of the state. The survey will be conducted at no expense to the landowner. In the event that authorizations will be needed from DNREC's Coastal Management Program and/or Wetlands and Subaqueous Lands Section, they will require complete and up to date info from the Species Conservation and Research Program as part of their review. Therefore, allowing access to the site will increase the efficiency of the State authorization process. Please contact Matthew Bailey at (302) 735-8677 or matthew.bailey@state.de.us if the landowner will grant a site visit.

Forest Preservation

- According to the PLUS application for the parcels in question, 33 acres of forest will be lost as a result of this project. WSCR requests that forest loss be minimized to the greatest extent possible.

Vegetated Buffers

- The applicant indicated that ‘appropriate stormwater management measures’ would be taken for nuisance species; however, methods were not discussed. The applicant did indicate that 50-foot buffers would be left intact around water features. We recommend that the buffer be planted with native species of trees, shrubs, and tall grasses as nuisance

geese do not feel as safe if they can't scan the surrounding area for predators. These plantings should be completed as soon as possible as it is easier to deter geese when there are only a few than it is to remove them once they become plentiful. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with proper landscaping, monitoring, and other techniques, geese problems can be minimized.

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). SIRB 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

- New 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 commercial spaces 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 the commercial space, and
 - All transportation activity.
- Based on the information provided, the three air emissions components (i.e., area, electric power generation, and mobile sources) for the development were quantified. Table 1 represents the actual impact the Showfield development may have on air quality.

Emissions Attributable to Showfield (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	18.4	19.2	0.6	0.2	11,851.6
Electric Power	*	4.9	17.1	*	2,523.9
Area Source	12.4	1.4	1.1	1.5	50.3
Total	30.8	25.5	18.8	1.7	14,425.8

(*) *Indicates data is not available.*

- Note that emissions associated with the actual construction of the road, 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.
- 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.

- Additional measures may be taken to substantially reduce the air emissions identified above. 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 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 NO_x are reduced each year.**
 - **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 in vegetative buffer areas.** Trees reduce energy emissions by cooling during the summer and by providing wind breaks in the winter, thereby 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 DNREC DAQ which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Showfield development.

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

- Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from our website: www.statefiremarshal.delaware.gov, technical services link, plan review, applications or brochures.

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". The signature is written in dark ink and is positioned above the typed name and title.

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

CC: City of Lewes
Sussex County