STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION

March 22, 2016

Mr. James Curran
Karins and Associates
17 Polly Drummond Center, Suite 201
Newark, DE 19711

RE: PLUS review 2016-02-05; Shops of Middletown

Dear James:

Thank you for meeting with State agency planners on February 24, 2016 to discuss the proposed plans for the Shops of Middletown project. According to the information received, you are seeking review of a 347 unit subdivision and a site plan for 91,000 square feet of commercial space on 41.18 acres along Middletown Road in Middletown.

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 the Town of Middletown is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by both the Town.**

Strategies for State Policies and Spending

- This project is located in Investment Level 1 according to the *Strategies for State Policies and Spending*. 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

Department of Transportation – Contact Bill Brockenbrough 760-2109

- Per Section 2.2.2.1 of the Development Coordination Manual, Traffic Impact Studies (TIS) are warranted for developments generating more than 500 vehicle trip ends per day or 50 vehicle trip ends per hour in any hour of the day. The 4,860 vehicle trip ends per

day shown on the PLUS application suggests that the subject development would meet these warrants.

- However, per Section 2.2.2.4 of the Manual, if a development is located within a Transportation Improvement District (TID) and is consistent with the Land Use and Transportation Plan for that TID, then under certain conditions DelDOT may require participation in the TID in lieu of conducting a TIS and making improvements based on the TIS. This project is located in a part of Middletown where DelDOT proposes to create a TID, preliminarily named Eastown. The planning for this TID is largely complete but DelDOT does not have a formal agreement with the Town yet and a fee structure for calculating and exacting payments into the TID has not been established. This development is consistent with the plan for the TID and the conditions in Section 2.2.2.4 are met.
- This TID pre-dates Section 2.4 of the Manual, so its administration will be somewhat different from what is described there but the procedures involved are essentially the same. We anticipate requiring the applicant to enter an agreement whereby they would pay toward the improvements contemplated for the TID.
- A significant part of the improvements contemplated for the TID is a new street extending Silver Lake Road north of Main Street and west to connect to Lake Street, as shown on the subdivision plan. As part of their development, we anticipate requiring the applicant to build that extension of Silver Lake Road from Route 299 through their property. The applicant would then receive credit against their monetary contribution to the TID. The applicant should contact our Subdivision Reviewer for this part of New Castle County, Mr. Pao Lin to coordinate regarding the TID agreement as plans for their project are developed. Mr. Lin may be reached at (302) 760-2157.

- The Silver Lake Road extension mentioned above and its intersection with Delaware Route 299 must be designed in accordance with DelDOT's Road Design Manual and Section 4.5 of DelDOT's Development Coordination Manual, which is available at http://www.deldot.gov/information/business/subdivisions/changes/index.shtml.

  - It has not been finally determined whether the Silver Lake Road extension will be under State or Town maintenance once it has been completed. However, the site access on Delaware Route 299 and any access on a State-maintained portion of the Silver Lake Road extension must be designed in accordance with DelDOT's Development Coordination Manual.

  - The proposed terminus of the Silver Lake Road extension at the edge of the Highlands development is not presently acceptable in that the road would stop at the back of a lot in the Highlands, rather than tying into the street network of that development. Coordination between DelDOT, the Town and the developer of the Highlands will be needed but the applicant should be aware that we may require changes to the alignment of their portion of the Silver Lake Road extension.

- Section 3.2.4.2 of the Manual addresses the placement of right-of-way monuments (markers) along the roads on which a property fronts, in this case Delaware Route 299. Monuments sufficient to re-establish the permanent rights-of-way after the dedication discussed below should be shown on the plan and provided in the field in accordance with this section.

- As necessary, in accordance with Section 3.2.5 and Figure 3.2.5-a of the Development Coordination Manual, DelDOT will require dedication of right-of-way along the site's frontage on Delaware Route 299. By this regulation, this dedication is to provide a minimum of 40 feet of right-of-way from the centerline on Route 299. The following right-of-way dedication note is required, "**An X-foot wide right-of-way is hereby dedicated to the State of Delaware, as per this plat.**"

    - Separate from the Silver Lake Road extension, DelDOT has a project to widen Delaware Route 299 from Delaware Route 1 to Catherine Street to have two through lanes each way, separated by a two-way left-turn lane. This project is scheduled to begin construction in early 2018 and will necessarily require additional rights-of-way beyond the 40 feet just mentioned. The applicant will be able to claim credit against their contribution to the TID for that additional right-of-way. The applicant's engineer should coordinate with Mr. Lin on what additional rights-of-way will be needed.

- In accordance with Section 3.2.5.1.2 of the Development Coordination Manual, DelDOT will require the establishment of a 15-foot wide permanent easement across the property frontage on Delaware Route 299. 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 to the State of Delaware, as per this plat.**"

- Referring to Section 3.4.2 of the Development Coordination Manual, the Initial Stage review fee shall be assessed to this project.

- In accordance with Section 3.4 of the Development Coordination Manual, 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:

    - Initial Stage Fee Calculation Form
    - Initial Stage Review Fee
    - Gate-Keeping Checklist – Site Plan
    - Design Checklist - Record Plan
    - Sight Distance Spreadsheet
    - Owners and Engineers' name and e-mail address
    - Record Plan
    - Conceptual Entrance Plan
    - Submission of the Area-Wide Study Fee (If applicable)

- Referring to Section 3.4.2.1 of the Development Coordination Manual, the following items, among other things, are required on the Record Plan:

    - A Traffic Generation Diagram. See Figure 3.4.2-a for the required format and content.
    - Depiction of all existing entrances within 200 feet of the proposed frontage.
    - Notes identifying the type of off-site improvements, agreements (signal, letter) contributions and when the off-site improvements are warranted.

- Section 3.5.4.1 of the Development Coordination Manual addresses requirements for connections of streets in adjacent subdivisions. The plan presented shows a connection to and an extension of Rutkoske Drive in the Dove Run development. We support that connection substantially as proposed. We are presently working to determine the percentage of the site traffic that could be expected to use this connection.

- Section 3.5.4.2 of the Development Coordination Manual addresses requirements for shared-use paths and sidewalks. Projects located in Level 1 and 2 Investment Areas are required to install a shared-use path or sidewalk along the State-maintained road frontage. Where a physical impossibility exists, we will accept a fee in lieu. We anticipate requiring construction of a shared-use path across the site frontage on Delaware Route 299.

- In accordance with Section 3.8 of the Development Coordination Manual, storm water facilities, excluding filter strips and bioswales, shall be located a minimum of 20 feet from the ultimate State right-of-way along Delaware Route 299.

- Referring to Section 4.3 of the Development Coordination Manual, the Construction Stage review fee shall be assessed to this project.

- Referring to Section 4.3 of the Development Coordination Manual, an entrance plan shall be prepared prior to issuing entrance approval. The following information will be required for Entrance Plan review:

    - Construction Stage Fee Calculation Form
    - Construction Review Fee
    - Gate-Keeping Checklist – Entrance Plan
    - Design Checklist - Entrance Plan
    - Auxiliary Lane Spreadsheet
    - Entrance Plan
    - Pipe/Angle Spreadsheet (If applicable)
    - SWM Report and Calculations (If applicable)

- In accordance with Section 5.2.5.6 of the Development Coordination Manual, Turning Movement Diagrams shall be provided to verify vehicles can safely enter and exit the site

entrance. As per Section 5.2.3 of the Manual, the entrance shall be designed for the largest vehicle using the entrance.

- In accordance with Section 5.2.9 of the Development Coordination Manual, the Auxiliary Lane Worksheet should be used to determine whether auxiliary lanes are warranted at the site entrances onto State-maintained roads and how long those lanes should be. The worksheet can be found at http://www.deldot.gov/information/business/subdivisions/auxiliary_lane_worksheet.xls.

- In accordance with Section 5.4 of the Development Coordination Manual, sight distance triangles are required and shall be established in accordance with American Association of State Highway and Transportation Officials (AASHTO) standards. A spreadsheet has been developed to assist with this task. It can be found at http://www.deldot.gov/information/business/subdivisions/Intersection-Sight-Distance.xls.

- In accordance with Section 5.14 of the Development Coordination Manual, all existing utilities must be shown on the plan and a utility relocation plan will be required for any utilities that need to be relocated.

- Section 7.7.2 of the Manual addresses the need to provide 20-foot wide drainage easements for all storm drainage systems, open or closed, that fall outside the existing right-of-way or the drainage/utility easement. In accordance with this section, metes and bounds and total areas need to be shown for any drainage easements. The easements should be shown and noted on the record plan.

Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352

The Department envisions a Delaware that offers a healthy environment where people embrace a commitment to the protection, enhancement and enjoyment of the environment in their daily lives; where Delawareans' stewardship of natural resources ensures the sustainability of these resources for the appreciation and enjoyment of future generations; and where people recognize that a healthy environment and a strong economy support one another.

Executive Summary.

Upon reviewing the Shops of Middletown project, DNREC has identified that the proposed project is located in an appropriate site for development. Opportunities exist to reduce the environmental impact and provide additional energy efficiency alternatives on-site.

A concern with this project is with source water protection. This site falls entirely within an excellent groundwater recharge potential area for Middletown; land uses in these areas have the potential to negatively influence the quality and/or quantity of public drinking water. In addition, the site is within the Appoquinimink River watershed, which has an established Pollution Control Strategy for Nitrogen, Phosphorus and bacteria. To maintain surface water quality and drinking water quality in the basin, the developer is encouraged to minimize impervious surfaces

within developed areas and use green technologies where possible. These efforts will help to meet stormwater management requirements, protect the water supply and minimize impacts to nearby habitat.

The State of Delaware is threatened by climate change and has a goal of reducing greenhouse gas emissions by 30% by 2030. Appropriate development and re-development that provides access to public transportation, opportunities to walk and bike to shopping and recreation, and that employs energy efficient building standards are among key strategies to meet these goals. We encourage the applicant to provide pedestrian, bike and vehicular access to adjacent neighborhoods where practical. We also encourage the use of high performance building standards and consideration of alternative energy sources to promote clean sustainable energy and reduce greenhouse gas emissions. We further recommend an abundant use of native vegetation and shade trees throughout the landscape, as well as pervious pavement and green infrastructure, where practicable, to absorb carbon dioxide, protect water quality and provide relief to residents on hot days.

The following pages provide information about applicable regulations and detailed recommendations associated with this project, from various DNREC Divisions. We would like to be a partner in creating appropriate development that protects and highlights the environment as a natural amenity of the landscape. The Department has resources and expertise that are available to help make this a reality, often at no expense to the landowner. Contact information for specific offices are listed below or you can contact Michael Tholstrup at (302) 735-3352.

TMDLs.

- The project is located in the greater Delaware River and Bay drainage area, specifically within the Appoquinimink River watershed. In this watershed, the State of Delaware has developed specific Total Maximum Daily Load (TMDL) pollutant reduction targets for nitrogen, phosphorus, and bacteria (under the auspices of Section 303(d) of the Clean Water Act). A TMDL is the maximum level of pollution allowed for a given pollutant below which a "water quality limited waterbody" can assimilate and still meet 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 Appoquinimink River watershed calls for a 60 percent reduction in nitrogen and phosphorus from baseline conditions. The TMDL also calls for an 8 percent (freshwaters) reduction in bacteria from baseline conditions. The specific TMDL nutrient and bacterial load reductions for the Appoquinimink watershed can be viewed in here: http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessmentTMDLs.aspx

Water Supply.

- The project information sheets state that water will be provided to the project by Artesian Water Company via a central water system. DNREC's records indicate that the project is located within the public water service area granted to Artesian Water Company under Certificate of Public Convenience and Necessity 02-CPCN-02.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the DNREC 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 take approximately four weeks to process, which allows the necessary time for technical review and advertising. Should you have any questions concerning these comments, please contact Rick Rios at (302) 739-9944.

Source Water Protection Areas.

- The DNREC Water Supply Section, GPB, has reviewed the above referenced PLUS project and determined that the project falls entirely within an excellent groundwater recharge potential area for Middletown.

  Although the Town of Middletown's Source Water Protection Ordinance meets the minimum standards of protection, this protection does not limit impervious cover in excellent ground-water recharge potential areas. Impervious cover prevents precipitation from infiltrating through the soil to the water table aquifer. Impervious cover refers to structures including but not limited to roads, sidewalks, parking lots, and buildings. Any impervious cover within an area of excellent ground-water recharge potential area has the potential to negatively effect the quality and quantity of available drinking water.

  New Castle County (NCC) refers to excellent ground-water recharge potential areas as 'recharge areas'. Recharge areas are characterized as deposits of coarser grained material that have the best ability to transmit water vertically through the unsaturated zone to the water table. The NCC recharge areas were mapped using the methods described in the Delaware Geological Survey Open File Report No. 34, "Methodology for Mapping Ground-Water Recharge Areas in Delaware's Coastal Plain" (Andres, 1991), and depicted in a series of maps prepared by the Delaware Geological Survey (Butoryak and Talley, 1993).

  This map category (excellent) is an indicator of how fast contaminants will move and how much water may become contaminated (Andres, 2004). Land use activities or impervious cover on areas of excellent ground-water recharge potential may adversely affect ground water in these areas.

  The DNREC GPB recommends that the portion of the new development within the excellent ground-water recharge area not exceed 20 percent impervious cover. Some allowance for augmenting ground-water recharge should be implemented if the impervious cover exceeds 20 percent but is less than 50 percent of that portion of the parcel within this area. However, the development should not exceed 50 percent regardless (DNREC, 2005). A water balance calculation (environmental assessment) will

be necessary to determine the quantity of clean water to be recharged via a recharge basin (Thornthwaite and Mather, 1957). 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.

These DNREC recommendations appear to be consistent with NCC Unified Code Sections: 40.10.380 (B), 40.10.384 (A), 40.10.385, and 40.10.410.

Recommendations:

- Reduce impervious cover to less than 50 percent.
- Pretreatment of parking area runoff to remove dissolved chemical and nutrient loads prior to infiltration
- Perform an environmental assessment report showing that water quality as well as water quantity of post development recharge is equal to or greater than pre-development recharge (Kauffman et al., 2005).
- Quantify amount of recharge lost, due to impervious cover and provide for onsite infiltration of water at least equal to or greater than pre-development recharge (Kauffman et al., 2005).
- Pretreatment of parking area runoff to remove dissolved chemical and nutrient loads prior to infiltration

The applicant indicates that stormwater will be managed by on-site infiltration and bioretention. The construction phase of these types of structures 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 facilities in excellent ground-water recharge areas has the potential to contaminate the ground water beneath it which can infiltrate into the aquifer (Schueler, 2000b).

In addition, because the excellent ground water recharge area can so quickly 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. S., 1991, Methodology for Mapping Ground-Water Recharge Areas in Delaware's Coastal Plain: Delaware Geological Survey Open File Report No. 34, p. 18.

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

Butoryak, K. R., and Talley, J. H., 1993, Delineation of Ground-Water Recharge Resource Protection Areas in the Coastal Plain of New Castle County, Delaware: Delaware

Geological Survey Project Report for the Water Resources Agency for New Castle County, p. 26.

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

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

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. 215-218.

-, 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.

Thornthwaite, C. W., and Mather, J. R., 1957, Instructions and Tables for Computing Potential Evapotranspiration and the Water Balance: Drexel Institute of Technology, Publications in Climatology v. X, no. 3, p. 129.

Sediment and Erosion Control/Stormwater Management.

- 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 pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through the Town of Middletown. Contact the Town of Middletown at (302) 378-9120 for details regarding submittal requirements and fees.

Air Quality.

- DNREC encourages developers and builders to consider all sustainable growth practices in their design, but we believe, however, that the air quality impacts associated with the project should be completely considered. 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. • 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.dnrec.delaware.gov/Air/Pages/Air-Regulations.aspx.

Based on the information provided, the three air emissions components (i.e., area, electric power generation, and mobile sources) for this project were quantified. Tables 2 & 3 – Projected Air Quality Emissions, represent the actual impact the apartment complex and retail space, respectively, that the Shops of Middletown project may have on air quality:

Table 2: Projected Air Quality Emissions for Shops of Middletown – apartment complex					
Emissions Attributable to Shops of Middletown (Tons per Year)	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO_2)	Fine Particulate Matter ($PM_{2.5}$)	Carbon Dioxide (CO_2)
Area Source Emissions	10.7	1.2	1.0	1.3	43.5
Electric Power Generation	*	4.3	14.8	*	2184.1
Mobile Source Emissions	15.9	16.6	0.5	0.2	10255.6
Total Emissions	26.6	22.1	16.3	1.5	12483.2

Table 3: Projected Air Quality Emissions for Shops of Middletown – retail space					
Emissions Attributable to Shops of Middletown (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 Source Emissions	16.1	2.1	*	*	*

(*) *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.

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

Tank Management.

- 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 (LUST) project is located within a quarter mile from the proposed project area:
  - **Hampstead Court Apartments Facility ID: 3-001889, Project: N1305049, (Inactive)**

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.

For more information, please visit online: *http://www.dnrec.delaware.gov/tanks/Pages/default.aspx* or contact Ross D. Elliott at DNREC-TMS with further questions at Ross.Elliott@state.de.us (302)-395-2500.

State Historic Preservation Office – Contact Terrence Burns 736-7404

- There is a National Register-listed property on this parcel and another next to this parcel toward the east side. The A.M. Vail House (N05211) is a part of the Rebuilding St. Georges Hundred multiple property National Register nomination (N09567). We strongly encourage the developer to maintain this building and reuse it adaptively as part of the complex. There are federal and state tax credits available for appropriate rehabilitation of National Register-listed properties. This office would be happy to discuss these with the developer. Next to this parcel is the J. Shallcross House (N00115), which is also part of Rebuilding St. Georges Hundred (N09567). We request appropriate landscaping to block any adverse visual and noise effects of the development from this property.

  Given the known historic uses these parcels, the developer should also be aware of the Unmarked Human Burials and Human Skeletal Remains Law, which is 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 (7 Del. C. Ch. 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 pertaining to unmarked human remains or cemeteries, please go to the following websites for additional information:

www.history.delaware.gov/preservation/umhr.shtml and
www.history.delaware.gov/preservation/cemeteries.shtml.

Therefore, prior to any demolition or ground-disturbing activities, the developer may want hire an archaeological consultant, to examine the parcel for archaeological resources, as well 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. 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.

Delaware State Fire Marshall's Office – Contact John Rudd 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:

- **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 and Multi-Family Residential 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 occupied as apartments (multi-family living units comprising of 3 or more units) will require automatic sprinkler protection installed.
  - Buildings greater than 10,000 sqft, 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.
  - 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.
  - 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

- Please be advised that as of August 1, 2015, all new plan submittals and re-submittals, including major, minor and commercial plans, shall now be uploaded via the PDCA (Planning Development Coordination Application) with any review fee paid online via credit card or electronic check. Guidance on how to do this is available on our website at http://www.deldot.gov/information/business/subdivisions/

- Be advised that the Standard General Notes have been updated and posted to the DelDOT website. Please begin using the new versions and look for the revision date of January 28, 2016. The notes can be found at http://www.deldot.gov/information/business/subdivisions/Sheet_Notes.doc?012816.

Department of Natural Resources and Environmental Control – Contact Michael Tholstrup 735-3352

Soils Assessment.

- The soil mapping unit mapped on subject parcel is Reybold (ReB). Reybold is a well-drained soil mapping unit that, generally, has few limitations for development (Figure 1).

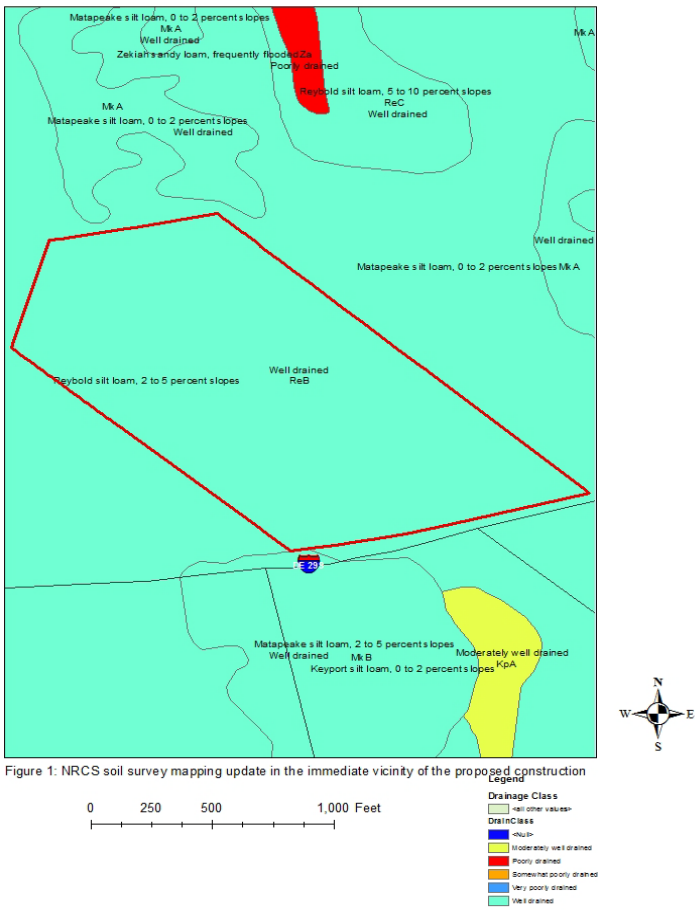


Figure 1: NRCS soil survey mapping update in the immediate vicinity of the proposed construction

Cave-Dwelling Bats.

- The DNREC Division of Fish and Wildlife has been involved with monitoring White Nose Syndrome, a disease that has been killing large numbers of cave bat species in the northeastern United States (for more information see: : http://www.fw.delaware.gov/bats/Pages/Bats WNS.aspx and http://www.fws.gov/WhiteNoseSyndrome/). In Delaware cave dwelling bats have been known to utilize man-made structures. Our Division scientists have been conducting surveys throughout the State at various maternal and hibernation colonies, however, there are many areas in which we have minimal data.

Survey request.

- According to the information provided, there may be abandoned dwellings within the project area. If these structures have not been removed, we would like an opportunity to survey for the presence of bats (bats have been documented in this area). If the buildings are accessible, the survey can be conducted anytime as it simply involves a visual survey for bats or signs of bat presence. If the buildings are not accessible, acoustic surveys during late April or early May when maternity colonies have congregated (but before pups are born) would be best. This type of survey would entail an emergence count at dusk, and the use of acoustic equipment in the vicinity of the building, and could be conducted during a few hours one to two nights. If bats are located, we can provide best management practices to the landowner that would minimize impacts when the structures are removed. This request is non-regulatory but is part of an effort to collect data throughout the state on our dwindling bat populations and gain a better understanding of WNS. Please get in touch with Holly Niederriter if the landowner will allow a survey for the presence of bats. Holly can be contacted at (302) 735-8670 or Holly.Niederriter@state.de.us.

Bog turtle.

- Although no bog turtle habitat appears to be present on site, there are known bog turtle sites in the area. Inputs to Drawyers Creek should be avoided, and impacts that might affect the hydrology of surrounding wetlands should be minimized.

TMDL compliance through the PCS.

- In response to concerns about the need for reducing nonpoint source nutrient (nitrogen and phosphorus) and bacterial pollutants to levels sufficient to meet the prescribed TMDL reduction requirements in the Appoquinimink watershed, a multifaceted and comprehensive process known as a Pollution Control Strategy (PCS) has been developed to enable such reductions. Specifically, a PCS is a combination of best management practices and control technologies that reduce nutrient and bacterial pollutant runoff loading in waters of a given watershed to levels consistent with the TMDL reduction levels specified for that watershed. The PCS for the Appoquinimink River watershed consists of recommendations from the following four areas: agriculture, land preservation (open space), stormwater, and wastewater. Additional information about Appoquinimink River PCS is available here:

http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedManagementPlans.aspx.

In further support of the PCS, the applicant is urged to reduce nutrient and bacterial pollutants through voluntary commitment to the implementation of the following recommended BMPs:

- Maintain as much of the existing forest cover as possible. We suggest additional native tree, shrub and/or native herbaceous vegetation plantings in available open space, wherever possible.

- 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. Omission of any of the above-stated forms of surface imperviousness will result in an underestimate of the actual post-development surface imperviousness and the associated environmental impacts.

- Employ green-technology storm water management and a rain gardens (in lieu of open-water management structures) as BMPs to mitigate or reduce nutrient and bacterial pollutant runoff. Please contact Lara Allison at (302) 739-9939 for further information about the possibility for installing rain gardens on this parcel.

- Use pervious paving materials instead of conventional paving materials (e.g., asphalt or concrete) to help reduce the amount of water and pollutant runoff draining to adjoining streams and wetlands. Pervious pavers are especially recommended for areas designated for parking.

- 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 impacts on baseline water quality. We strongly encourage the applicant/developer to use this protocol to help design and implement the most effective BMPs. Please contact John Martin or Jen Walls of the Division of Watershed Stewardship, at (302) 739-9939 for more information on the protocol.

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.

Hazardous waste sites.

- DNREC 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 Town.

  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 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 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 the new homes, and
- All transportation activity.

Recommendations: 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 an 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.

- **Constructing with high albedo, high solar reflectance materials**. This includes roofing and hardscape. These materials help to reduce heat island impacts and, by extension, help to minimize the potential for localized ground-level ozone formation. These materials also help reduce demands on air conditioning systems and save on energy costs.

- **Providing infrastructure for plug-in vehicles.** Such measure may entice a potential apartment owner/renter or employee to purchase an electric vehicle if the electrical outlets are available as this will help minimize vehicle emissions.

- **Providing shade for parking lot areas.** Approaches may include architectural devices, vegetation, or solar panels. Providing shade for parking areas helps to reduce heat island impacts, and, by extension, helps to minimize the potential for localized ground-level ozone formation. Such measures can also have the additional benefit of channeling or infiltrating stormwater.

- **Encouraging the use of safe multimodal transportation**. This measure can significantly reduce mobile source emissions. For every vehicle trip that is replaced by the use of a sidewalk or bike path, 7 pounds of VOC and 11.5 pounds of NOx are reduced each year.

- **Using retrofitted diesel engines during construction**. This includes equipment that is 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**. Native trees reduce emissions by trapping dust particles and 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 project. The applicant should submit a plan to the DNREC Division of Air Quality (DAQ) which addresses the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Shops of Middletown project. The DAQ point of contact is Deanna Cuccinello, (302) 739-9402.

Delaware State Fire Marshall's Office – Contact John Rudd 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.

Department of Public Health – Contact: Laura Saperstein 744-1011

- The Delaware Division of Public Health (DPH) is pleased to be able to participate in the PLUS application process. In keeping with its mission to protect and promote the health of all people in Delaware, DPH looks for opportunities to encourage and enhance our population's health behaviors that will result in healthy people and healthy communities.

  Community design can impact the health of a population. Studies show that persons in lower-income communities, the elderly, and children often suffer more from consequences of inadequate land-use and transportation. Additionally, we know physical activity has a direct correlation to many chronic diseases, including hypertension, diabetes and obesity. In 2013, 33.6% of Delawareans reported a BMI of "overweight;" and an additional 31% reported a BMI as "obese." To that end, DPH looks to make recommendations for land-use that can empower Delawareans to make good health behaviors a part of their daily lives. A recent study by Sallis, et.al., "Is your Neighborhood Designed to Support Physical Activity? A Brief Streetscape Audit Tool," identified that modifiable microscale element of the environment may affect an individual's physical activity levels. An example of a microscale environment factor might be including crosswalks, or curb cuts at crossings and intersections, and/or including streetscape characteristics like street lights, benches, sidewalk buffers, trees and overhead coverage as part of the community design.

  DPH would offer the following recommendations for consideration to the Shops of Middletown plan for development:

  1. DPH is pleased to see the inclusion of Mixed Use development. According to the Guide to Community Preventive Services, community design that includes having residences in close proximity to stores can be an effective approach in increasing physical activity within a population. Further street design support cues should include:
     a. Having well-connected, safe and attractive sidewalks or paths between destinations
     b. Shorter blocks
     c. More intersections
     d. Street lighting
     e. Landscaping
     f. Traffic calming
     g. Sidewalk features that separate walkers and motor vehicles
  2. DPH is pleased to see the inclusion of passive recreation as an intended use of open space, as well as the inclusion of a clubhouse defined within the residential

development. Active recreation means recreation that involves movement. Recreation options are important because when individuals have access to these options they are able to incorporate leisure physical activity into their daily lives. Therefore, Active recreation is of fundamental importance to healthy living. DPH would further recommend that Highlands of Middletown LLC review the recreational needs and priorities identified through Statewide Comprehensive Outdoor Recreation Plan, or SCORP, for that specific area. (http://www.dnrec.delaware.gov/parks/information/Pages/2013Scorp.aspx).

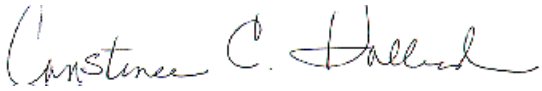
3. The PLUS application indicates locations where The Shops of Middletown could physically be connected to existing or future development on adjacent lands such as Silver Lake Road, Highlands Development and Rutkoske Drive; however, no pedestrian or bike connections are proposed.
    a. Communities that are more walkable and connected have the potential to improve public health outcomes and should, therefore, aim to avoid disconnected or isolated developments.
    b. The Shops of Middletown have the opportunity to bring new services and amenities and should therefore consider the viability of active transportation through walking and biking, and reducing the need for private automobiles from neighboring communities.
    c. There currently exits a growing demand for housing options that are in walkable neighborhoods and are more convenient to transit. This can increase or stabilize the property values of existing [surrounding] neighborhoods as well as contribute to higher rents within the proposed development due to desirability.
4. DPH recommends including sidewalks throughout the development. Pedestrian infrastructure will enable residents to incorporate active transportation as well as active recreation into their daily lives.
    a. Sidewalks are strongly associated with pleasantness and the perception of safety which directly affects consumer desirability.
    b. Additionally, curb cuts improve this access for older adults, people with disabilities, and parents with baby strollers. By adding internal walkways and/or including marked crosswalks, the presence of these attributes could be particularly important for improving the experience of pedestrians, and according to recent research, are indicators of a broader pattern of activity-supportive design features.
5. DPH recommends including bike facilities into the land use plan, such as bike lanes, particularly across the frontage, turn lanes in/out at entrance, bike signage bike parking.
    a. Bicycling is a low-cost and efficient means of active transportation that effectively improves the built environment by including non-motorized options to the transportation systems. Moreover, active transportation is of fundamental importance to healthy living.
6. DPH recommends the inclusion of healthy food retail and dining options within the proposed development as restaurants and commercial are indicated in the proposed plan.

a. Supporting healthy food access promotes equitable distribution of needed services and is responsive to the needs of each community.

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: New Castle County
Town of Middletown