STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION

September 25, 2014

Mr. Phil Toliver
Morris Ritchie Associates
18 Boulden Circle
New Castle, DE 19720

RE: PLUS review 2014-08-07, Westown

Dear Mr. Toliver,

Thank you for meeting with State agency planners on August 27, 2014 to discuss the proposed plans for Westown. According to the information received, you are seeking review of a subdivision for the development of 641 residential units on 207 acres 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 as Middletown is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the Town.**

Strategies for State Policies and Spending

This project is located in Investment Level 2 according to the *State Strategies for Policies and Spending*. This site is also located in the Middletown Growth Zone. Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future. State investments will support growth in these areas.

Code Requirements/Agency Permitting Requirements

State Historic Preservation Office – Contact Terrence Burns 736-7404

- There is a known historic dwelling known as the R. A. Cochran house. The Pomeroy and Beers Atlas of 1868 (19th-century historic map), does show that this house has been on this parcel, and USGS Topographic Map of 1931 also indicated a dwelling there as well. With this in mind, the developer should also be aware of Delaware's Unmarked Human Burials and Human Skeletal Remains Law, which is outlined in Chapter 54 of Title 7 of the Delaware Code.

- Abandoned or unmarked family cemeteries are very common in the State of Delaware. 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 pertaining 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.

  Therefore, prior to any demolition or ground-disturbing activities, the developer may want to hire an archaeological consultant to examine the parcel for any potential archaeological site (historic or pre-historic), historic cemetery or unmarked human remains. In addition, the developer should also consider sufficient landscaping or protection barrier between the proposed development and the R. A. Cochran house, in order to protect the house from any adverse sound or visual effects. Furthermore, 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

- This PLUS application is a property within the Westown Master Plan, a partnership between the Town of Middletown, DelDOT, and area property owners that addresses the growth in an area on the west side of Middletown. The Westown Master Plan included a Circulation Concept Plan in June 2005 that, among other things, consolidated traffic studies required by developers rather than each developer conducting independent studies, resulting in an improved circulation plan and recommendations for comprehensive improvements to existing state roadways in the area. In lieu of the requirement of an individual traffic impact study (TIS), properties within the Master Plan are required to pay a fee based upon the proposed land use, which would be used to either pay for the transportation improvements on state roadways or reimburse DelDOT if the improvements have already been completed. Already completed improvements included widening existing US 301 within the Town limits, and improvements to Levels Rd, St. Annes Church Road, and Bunker Hill Road.

  In the context of DelDOT's Standards and Regulations for Subdivision Streets and State Highway Acccess, this means that in accordance with Section 2.3.4, the requirement for a TIS can be waived due to the project's being located in a Transportation Improvement District, provided that the requirements of that section are met.

  DelDOT finds that the current development proposal is generally consistent with the Master Plan for Westown. In the original Westown Plan, the site was envisioned as 1,000 single-family detached houses, 260 units of duplex age-restricted community, 540 townhouses, 30,000 square feet of office space and 30,000 square feet of town center retail. While the current proposal lacks the office and retail components and area residents may therefore have to travel farther for convenience shopping, the decrease in the number of dwelling units should more than offset that effect with regard to traffic congestion near the site.

  As mentioned above, properties within the Master Plan are required to pay a fee based on the proposed land use. Based on the current development proposal and contribution rates, DelDOT calculates the fee presently owed as follows:

Development	Rate	Amount
499 Single-Family Detached Houses	$2,204.50/dwelling	$1,100,045.50
142 Townhouses	$1,102.25/dwelling	$156,519.50
Total		$1,256,565.00

  This fee is subject to escalation and is to be paid to the Town no later than when the streets are bonded. Advance payment can cut off future escalation cost.

- The site access points of St. Anne's Church Road are already built. However, in accordance with Sections 3.3 and 4.1 of DelDOT's Standards and Regulations for Subdivision Streets and State Highway Acccess, the developer's site engineer should still submit site and entrance plans to DelDOT for a Letter of No Objection and entrance plan approval. As

necessary, the Subdivision Manager for southern New Castle County, Mr. Pao Lin, may be contacted for specific guidance on what is needed. Mr. Lin may be reached at (302) 760-2157.

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

Wetlands

- State regulated subaqueous lands ARE NOT likely to be located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and/or USGS topographic maps but do not look to be impacted by the planned construction.

- Waters of the U.S. regulated by the U.S. Army Corps of Engineers ARE located on this property based on a review of aerial photographs, SWMP maps, Soil Surveys and/or USGS topographic maps. DNREC suggests a delineation be done by a licensed consultant to determine the wetland extent more accurately. 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.

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 (freshwater) reduction in bacteria from baseline conditions.

- A nutrient management plan is required under the *Delaware Nutrient Management Law (3 Del. Code, 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 weblink for additional information: http://dda.delaware.gov/nutrients/index.shtml

Flood Management

- FEMA has conducted a study and updated the floodplain designation for this area. The preliminary map shows a Zone AE floodplain, with base flood elevations, along the entire northern edge of this parcel. This information can be viewed at maps.riskmaps.com/DE/Newcastle/ These preliminary maps are scheduled to go effective in February 2015. The Town of Middletown will utilize this data as best available data to enforce their floodplain regulations.

Water Supply

- The information provided indicates that public water will be provided to the proposed project by the Town of Middletown via a public water system. Our records indicate that the project was once located within the public water service area granted to the Town of Middletown under Certificate of Public Convenience and Necessity (CPCN) 97-CPCN-14, but now it shows it as being abandoned. Currently, our records indicate that the project is located within the public water service area granted to Artesian Water Company under CPCN: 03-CPCN-24. DNREC recommends that the developer contact Artesian Water Company and/or the Public Service Commission to determine who the purveyor is for 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 CPCNs and the application process can be obtained by contacting the Public Service Commission at 302-736-7547. 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 are (3)Wastewater Treatment Facility sites associated with: (1)Von Croy, (2) Cochran and (3) Isaacs located within 1000 feet of the proposed project.

Source Water Protection Areas

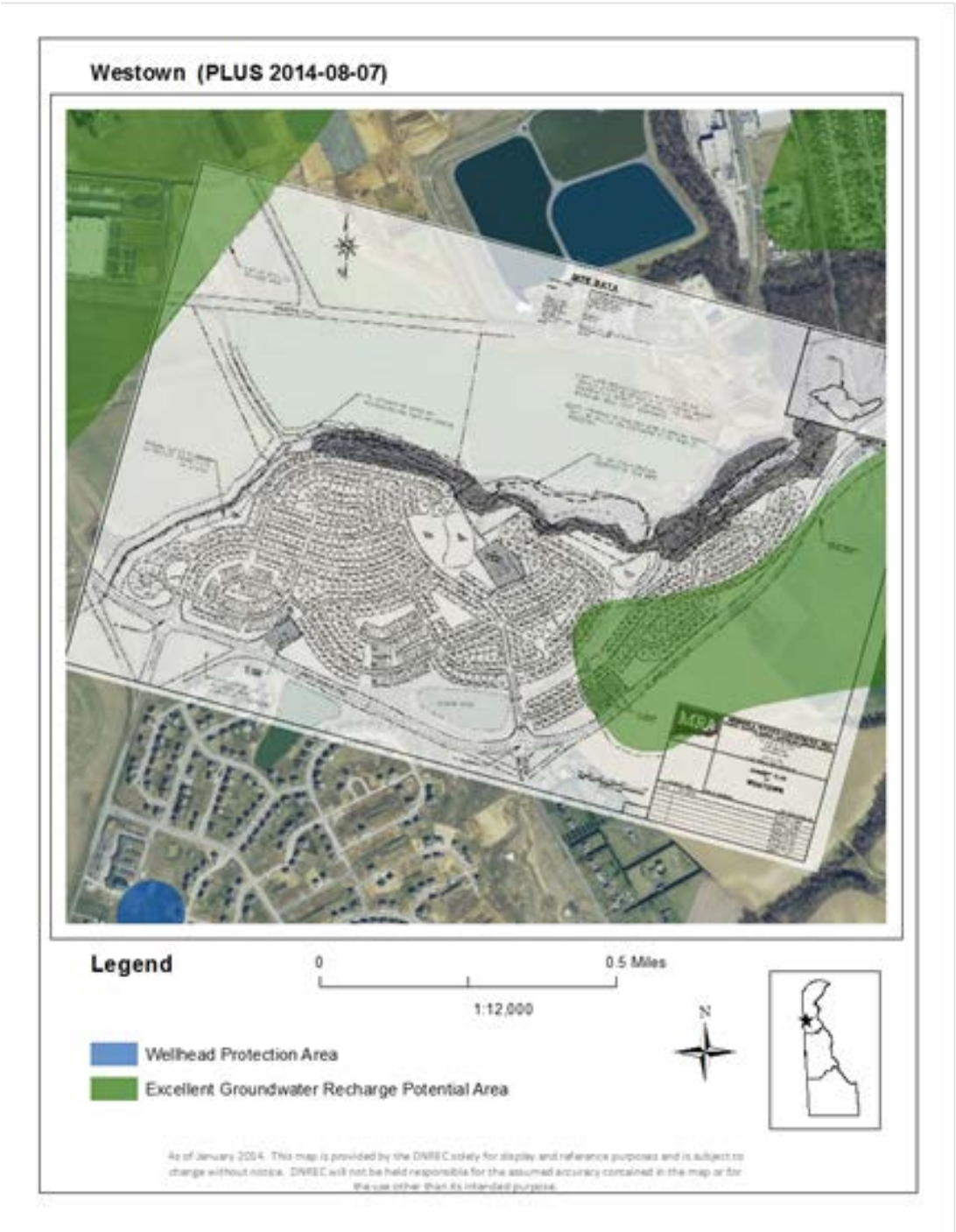
- The DNREC Water Supply Section GPB has reviewed the above referenced PLUS project and determined that a significant portion of the project falls within an excellent ground-water recharge potential area for the Town of Middletown (see map).

- 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 have a negative effect the quality and quantity of drinking water available.

- 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 construction phase of storm water 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, 2000). 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.

  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#nvestigations

Kauffman, G.J., Wozniak, S.L., and Vonck, K.J., 2005, Delaware Ground-Water Recharge Design Manual: Newark, DE, Water Resources Agency, University of Delaware, p. 31.
http://www.wr.udel.edu/swaphome/Publications/SWPguidancemanual.html

Schueler, T. R., 2000, 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. 752.

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 Town of Middletown. Contact the Town of Middletown at (302) 378-9120 for details regarding submittal requirements and fees (Title 7, Delaware Code, Chapter 40 and Delaware Regulations, Title 7, Administrative Code, 5101).

Air Quality

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

Table 1: Potential Regulatory Requirements	
Regulation	**Requirements**
7 DE Admin. Code 1106 - Particulate Emissions from Construction and Materials Handling	Use dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads. 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.

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 three SIRS sites found within a ½-mile radius of the proposed project:
  - Middletown landfill (DE-0196) is located 0.26 miles east of the proposed project. The Site was a former borrow pit that was backfilled with municipal and demolition waste. The landfill operated from 1950 until it closed in 1987. A Preliminary Assessment was conducted in March 1989 and a Site Inspection on September 1989. The Facility Evaluation that was conducted in 1995 concluded that there was no significant impact to groundwater from the Site, and organic and inorganic contamination of surface soils was below risk-based concentrations. The Site was given a No Further Action designation in July 1996.
  - Middletown Sewer Plant (DE-0213) is located 0.36 miles east of the project property. The Site was a former sewer plant that operated from 1940 until 1981. After the sewer plant closed, the plant buildings were demolished and the Site was used as a dump for construction debris from 1982 until 1988. A Preliminary Assessment was conducted in April 1989, followed by Site Inspection in November 1989. The Site is currently being monitored for groundwater.
  - Delaware Highway Dept. (DE-0098) is located 0.36 miles to the east of the project property. The Site was used by the Delaware Department of Transportation to dump tree limbs and inert road debris. A Preliminary Assessment was performed at the site in 1987 and no further action was recommended by DNREC. EPA agreed with DNREC's NFA decision in a 1987.

Tank Management Section

- 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.

- There are no confirmed leaking underground storage tank (LUST) projects located within a quarter mile from the proposed project area.
- 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 Section by calling 302-395-2500.

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

At the time of formal submittal, the applicant shall provide; completed application, fee, and three sets of plans depicting the following in accordance with the Delaware State Fire Prevention Regulation:

- **Fire Protection Water Requirements**
  - Water distribution system capable of delivering at least 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.
  - Where a water distribution system is proposed for townhouse type dwelling sites, the infrastructure for fire protection water shall be provided, including the size of water mains.

- **Fire Protection Features**
  - For townhouse buildings, provide a section view detail and the UL design number of the 2-hour fire rated separation wall on the Site plan

- **Accessibility**
  - All premises which the fire department may be called upon to protect in case of fire, and which are not readily accessible from public roads, shall be provided with suitable gates and access roads, and fire lanes so that all buildings on the premises are accessible to fire apparatus. This means that the access road to the subdivision from the main thoroughfare must be constructed so fire department apparatus may negotiate it.
  - Fire department access shall be provided in such a manner so that fire apparatus will be able to locate within 100 ft. of the front door.
  - 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
  - Square footage of each structure (Total of all Floors)
  - National Fire Protection Association (NFPA) Construction Type
  - Maximum Height of Buildings (including number of stories)
  - Name of Water Provider
  - Letter from Water Provider approving the system layout
  - Townhouse 2-hr separation wall details shall be shown on site plans
  - 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

- Because the proposed development would generate more than 200 vehicle trips per day, the developer should expect a Pre-Submittal Meeting to be required before plans are submitted for review. Guidance on what will be covered at this meeting and how to prepare for is located at http://www.deldot.gov/information/business/subdivisions/Pre-Submittal_Meeting_Requirements.doc. The form needed to request this meeting is available at http://www.deldot.gov/information/business/subdivisions/Meeting_Request_Form.doc.

- DelDOT's Shared-Use Path and/or Sidewalk Process policy (available at http://www.deldot.gov/information/business/subdivisions/SUP_Sidewalk_Process.pdf) requires that a path or sidewalk be installed along the State-maintained road frontage of any development generating 2,000 or more trips per day. Therefore, the applicant should expect a requirement that a 10-foot path be installed along the property's frontage on Levels Road and St. Anne's Church Road.

- An important element missing from the proposed plan is bicycle connectivity. Previous plans included a Town street leading north to Industrial Drive near the west end of the

site. That connection is no longer proposed. With the elimination of the office and commercial units, arguably a street connection is less important, but a bicycle path is still needed. While there are now five-foot shoulders on Levels Road and St. Anne's Church Road, which could be used by some cyclists, using the shoulders would expose them to higher volumes of higher speed traffic and would mean a longer route to most destinations.

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

Soils Assessment

- The soils on this parcel consist mostly of well-drained upland soils that, generally, have few limitations for development. However, poorly-drained wetland associated (hydric) soils mapping units soil mapping units (Fallsington, Othello, and Zekiah), bound much of the northern boundary of the parcel (Figure 1). DNREC strongly recommends that the applicant avoid these soil mapping units.

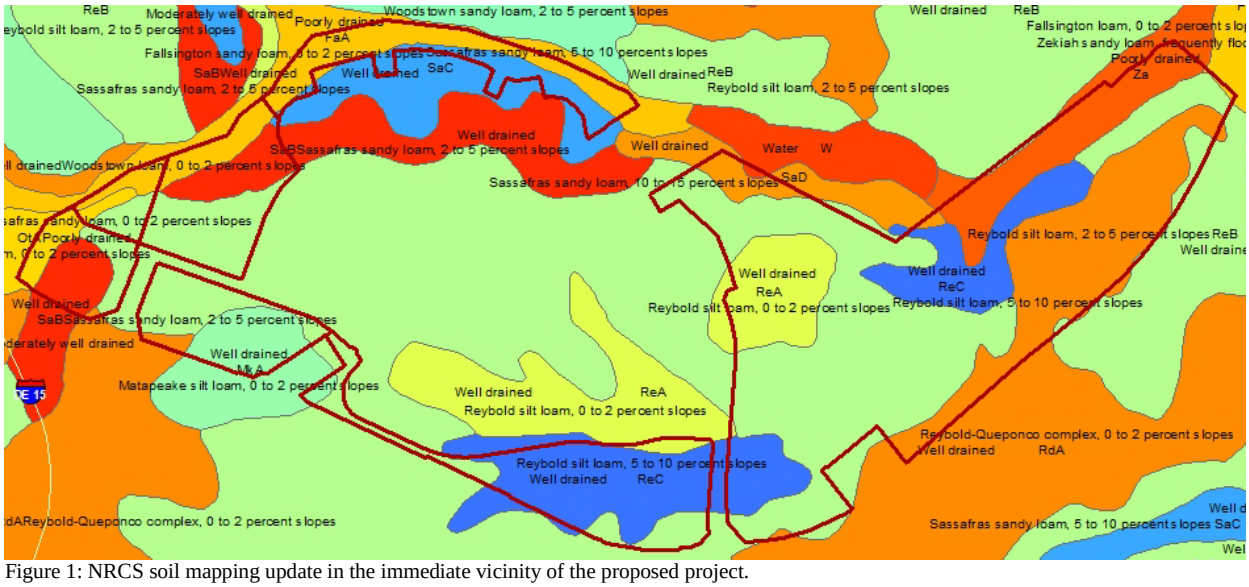


Figure 1: NRCS soil mapping update in the immediate vicinity of the proposed project.

Bog Turtle

- A bog turtle (*Glyptemys muhlenbergii*) survey was conducted throughout this property in 2012. A review of the bog turtle survey report indicates that the Delaware Division of Fish Wildlife's Endangered Species Review Requirements have been satisfied. Due the elusiveness of the species and the proximity of the site to historical records, a result of "*No Bog Turtles Found*" does not conclusively confirm their absence. Bog turtles can persist in low numbers or could move into to the habitat in the future. Therefore, we recommend that impacts to the habitat be minimized. If you require further information, please contact Endangered Species Biologist, Holly Niederriter, at (302) 653-2880.

Wetland Buffers and Habitat

- To protect the function and integrity of wetlands, a minimum 100-foot buffer should be left intact around the perimeter. This recommendation is based on peer reviewed scientific literature that shows an adequately-sized buffer that effectively protects wetlands and streams - in most circumstances - is about 100-foot in width. Upland buffers also serve as habitat for many terrestrial species that are dependent on aquatic and wetlands habitats for a portion of their annual life cycle. Lot lines, roadways, and infrastructure should not be placed within this buffer zone. Buffers are an integral component of aquatic and wetland habitats, reducing the amount of sediments, pollutants, and other non-point source material that may affect the function and integrity of habitat and the condition and survivability of aquatic organisms.

Nuisance Waterfowl

- The following comments apply if there is a stormwater management pond proposed in the study area. Wet ponds created for stormwater management purposes may attract resident Canada geese and mute swans that will create a nuisance for community residents. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Short manicured lawns surrounding ponds provide attractive habitat for these species.

Additional information on TMDLs and water quality

- 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 within a given watershed to a level(s) consistent with the TMDL(s) 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. Although a PCS to achieve the required TMDL nutrient and bacterial load reduction requirements has been established for the Appoquinimink watershed, attainment of the load reduction(s) is hampered by the fact that the strategies in the Appoquinimink PCS are mostly voluntary in nature. Additional information about Appoquinimink River PCS is available from the follow web link:
  http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedManagementPlans.aspx.

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

- Completion of a United States Army Corps of Engineers (USACE) field wetlands delineation before commencing any development activities on this parcel(s). The USACE can be reached by phone at 736-9763**.**
- Based on a review of existing buffer research by Castelle et al. (Castelle, A. J., A. W. Johnson and C. Conolly. 1994. *Wetland and Stream Buffer Requirements – A Review*. J. Environ. Qual. 23: 878-882.), an adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100 feet in width. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish a minimum 100-foot upland buffer (planted in native vegetation) from all waterbodies (including ditches) and wetlands (field delineated and approved by the USACE). Based on the above-mentioned buffer research, the applicant's proposed 50-foot buffer width from wetlands is clearly not sufficient for the protection of water quality.
- Maintain as much of the existing open space as possible; we further suggest additional native tree and native herbaceous planting, 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, and roads) included in the calculation.
- Whenever practical, use of pervious paving materials (instead of conventional asphalt and concrete) to mitigate surface water runoff impacts.
- Use of rain gardens, and green-technology storm water management structures (in lieu of open-water management structures) to mitigate or reduce nutrient and bacterial pollutant impacts via runoff from impervious surfaces. Please contact Lara Allison at 739-9939 for further information about raingardens.
- 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) that result from the conversion of individual or combined land parcels to a different land use(s), while providing applicants with quantitative information about their project's impact(s) on baseline water quality. DNREC strongly encourages the applicant/developer use this protocol to help them design and implement the most effective BMPs. Please contact John Martin or Jen Walls at 302-739-9939 for further 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.

Additional information on 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 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 air quality

- New homes and businesses 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 and businesses include emissions from the following activities:
  - Area sources such as painting, maintenance equipment and the use of consumer products like roof coatings and roof primers.
  - The generation of electricity needed to support your home or business, and
  - All transportation activity.

- Based on the information provided, the three air emissions components (i.e., area, electric power generation, and mobile sources) were quantified. Table 2 – Projected Air Quality Emissions represents the actual impact the Westown may have on air quality.

Table 2: Projected Air Quality Emissions for Westown					
Emissions Attributable to Westown (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	19.8	2.2	1.8	2.3	80.4
Power emissions	*	7.9	27.4	*	4,034.5
Mobile emissions	29.4	30.7	0.9	0.3	18,944.8
Total emissions	49.2	40.8	30.1	2.6	23,059.7

(*) *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 DAQ 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;
  - 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 which 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 NOx 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, 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 DAQ which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Westown project.

Division 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, physical activity has a direct correlation to many chronic diseases, including hypertension, diabetes and obesity. In 2012, 39.1% of Delawareans reported a BMI of "overweight," and 26.9% 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.

- DPH recently released its State Health Improvement Plan (SHIP). As a result of the community collaborative work, two goals were developed, which if addressed, would have a significant impact on the health of Delawareans. One of these is stated as; "To assure an infrastructure necessary to increase the adoption of healthy eating and active living." To that end, DPH has the following recommendations for the Westtown Development Plan, as these will create an opportunity to increase positive health behaviors for its residents:
  - The development should include sidewalks and crosswalks. The PLUS application indicates no existing or proposed sidewalks, but the Middletown Comprehensive Plan does include sidewalks for land development, as was mentioned in the PLUS meeting. The inclusion of this pedestrian infrastructure will enable residents to choose walking as a recreational option.
  - Provide pedestrian connection to the existing development(s) to further active transportation (walking/Biking) among residents. Additionally, since the proposed

development is within 1 mile of a local charter school, interconnectivity, or "Safe-Routes-To-School" could be a potential mode of active transportation for school children.
- Include pedestrian lighting on all paths and walkways to enhance the usability of active and recreational transportation options.
- Enhance and improve the connectivity of internal trail networks.
- Include marked crosswalks at all key intersections
- Further consider SCORP regional priorities by including the proposed swimming pool and/or club-house in open space within the development as mentioned at the PLUS meeting.

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,

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

CC: Town of Middletown