

## **Soil and Water**

**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 pre-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 Kent Conservation District. Contact Jared Adkins at the Kent Conservation District at (302) 741-2600 ext. 3 for details regarding submittal requirements and fees.

Because of the parcel's location in an impaired watershed and the potential amount of impervious surface, green technology BMPs and low impact development practices should be considered a priority to reduce stormwater flow and to meet water quality goals.

**Drainage Program.** There have been problems with drainage to the south and east of the proposed rezoning.

*Sediment/stormwater and drainage comments provided by James Sullivan - (302) 739-9921, [James.Sullivan@state.de.us](mailto:James.Sullivan@state.de.us)*

## **Water Resources**

**Water Allocation.** The project information sheets state water will be provided to the project by Tidewater Utilities via a public water system. Our records indicate that the project is located within the public water service area granted to Tidewater Utilities under Certificate of Public Convenience and Necessity PSC-1464.

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. *Ricardo Rios - (302) 739-9944, [Ricardo.Rios@state.de.us](mailto:Ricardo.Rios@state.de.us)*

**Water Supply.** The Water Supply Section, Ground Water Protection Branch has determined that the southern portion of the proposed development falls within a wellhead protection area for

the Pinnacle Rehabilitation and Ridgewood Manor (see map). Wellhead protection areas are surface and subsurface areas surrounding a public water supply well where land use activities or impervious cover may adversely affect the quantity and quality of ground water moving toward such wells. The application does not indicate the amount of impervious cover within the proposed development.

DNREC Water Supply Section recommends that the portion of the new development within the wellhead protection area not exceed 20% impervious cover (DNREC, 2005). Allowance for augmenting ground-water recharge need be implemented if the impervious cover exceeds 20% but is less than 50% of that portion of the parcel within the wellhead protection area from the edge of the 150-foot radius to the outer edge of delineated wellhead protection area. However, the development should not exceed 50%. A water balance calculation is necessary to determine the quantity of clean water to be recharged via a recharge basin (Kaufmann, 2005). The purpose of an impervious cover threshold is to minimize loss of recharge (and associated increases in stormwater) and protect the quality and quantity of ground water and surface water supplies.

Ground Water Protection Branch recommends:

- Reduce impervious cover to 20% or less. The development cannot exceed 50%. If it falls within the 20 to 50% range there must be an environmental assessment report including a climate budget, documenting post-development is equal to or greater than predevelopment recharge when calculated on an annual basis.
- Relocate any open space areas to the part of the parcel within the wellhead protection area.
- Direct run off from the impervious surface away from the wellhead protection area.
- Augment ground-water recharge with clean rooftop run-off systems
- A water balance calculation will be necessary to determine the quantity of clean water to be recharged via a recharge basin (DNREC, 2005; Supplement 1).
- Because a portion of the parcel falls within the 150-foot radius of two public wells (see map), the impervious cover in this portion of the wellhead protection area should be limited to the buildings, treatment facilities, and access ways associated with the maintenance of the well.

NOTE. These recommendations are consistent with Kent County's Ordinance LC07-36

- In addition, because the wellhead protection area the source of public drinking water, the storage of hazardous substances or wastes should not be allowed within the area

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unless specific approval is obtained from the relevant state, federal, or local program.  
*Anne Mundel* - (302) 739-9945, [Anne.Mundel@state.de.us](mailto:Anne.Mundel@state.de.us)

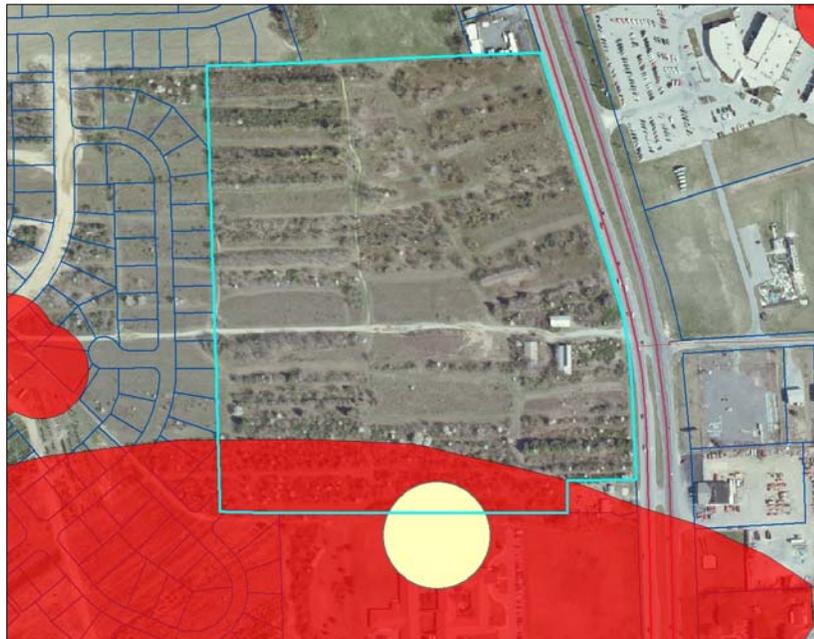
### References

Delaware Department of Natural Resources and Environmental Control, 2005, Source Water Protection Guidance Manual for the Local Governments of Delaware, p. 144.  
<http://www.wr.udel.edu/swaphome/Publications/SWPguidancemanual.html>

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>

### Map of Wick Commercial (PLUS 2009-02-04)

The parcel under review is highlighted in blue. The wellhead protection area is shown in red. The yellow inset indicates the portion of the wellhead protection area that should be free of impervious surface that does not support the use and maintenance of the well.



### Air and Waste

**Hazardous Waste Sites.** DNREC's Site Investigation and Restoration Branch (SIRB) has reviewed the proposed project. No SIRB sites or salvage yards were found within a ½-mile radius of the proposed development. However, based on the previous agricultural use of the proposed project site, which may have involved the use of pesticides and herbicides, SIRB recommends that a Phase I Environmental Site Assessment be performed prior to development. In addition, should a release or imminent threat of a release of hazardous substances be discovered during the course of development (e.g., contaminated water or soil), construction activities should be discontinued immediately and DNREC should be notified at the 24-hour

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emergency number (800-662-8802). SIRB should also be contacted as soon as possible at 302-395-2600 for further instructions. *Krystal Stanley* - (302) 395-2644, [Krystal.Stanley@state.de.us](mailto:Krystal.Stanley@state.de.us)

**Tank Management Branch.** The Delaware Department of Natural Resources and Environmental Control-Tank Management Branch (TMB) appreciates the opportunity to comment on the proposed development. There are three (3) inactive LUST sites located within a quarter mile of proposed rezoning location.

Name: Paradise Nursery (Inactive)

Facility ID: 1-000538

Project: K8603019

Name: Williams Service Incorporated (Inactive)

Facility ID: 1-000230

Project: K9405100

Name: Willis Chevrolet Inc (Inactive)

Facility ID: 1-000031

Project: K9103053

Should any underground storage tanks or petroleum contaminated soil be discovered by any person during construction, the DNREC-TMB at (302) 395-2500 and the DNREC Emergency Response Hotline at (800) 662-8802 must be notified within 24 hours.

Should any contamination be encountered, PVC pipe materials will have to be replaced with ductile steel and nitrile rubber gaskets in the contaminated areas.

Also, please note that if any aboveground storage tanks (ASTs) less than 12,500 gallons are installed, they must be registered with the TMB. If any ASTs greater than 12,500 gallons are installed, they are also subject to installation approval by the TMB. *Elizabeth Wolff* - (302) 395-2500, [Elizabeth.Wolff@state.de.us](mailto:Elizabeth.Wolff@state.de.us)