



PENNONI ASSOCIATES INC.  
CONSULTING ENGINEERS

TASB 0502

March 07, 2006

**Ms. Constance C. Holland, AICP, Director**  
**The Delaware Office of State Planning Coordination**  
540 South DuPont Highway  
Thomas Collins Building – Third Floor  
Dover, Delaware 19901

**RE: Johnson Farm Property Residential Subdivision Project**  
**Tax Parcel # 3-00-045.00-01-43.00-000**  
**Shaws Corner Road and Seeneytown Road; Cheswold, Kent County, Delaware**  
**Preliminary Land Use Service (PLUS) Application 2006-01-06**  
**Response to PLUS Review Comments**

Dear Ms. Holland:

We appreciated the opportunity to meet with State agency planners on January 25, 2006 to discuss the development proposed as part of the Johnson Farm Property Residential Subdivision Project adjacent to Shaws Corner Road and Seeneytown Road in Cheswold, Kent County, Delaware. We have received and reviewed your February 15, 2006 review letter and offer the following response to the comments made by the various review agencies.

**Office of State Planning Coordination (Contact: David Edgell 739-3090)**

The developer recognizes that this project represents a land development in an Investment Level 4 area located outside of the Kent County Growth Zone. However, the Kent County Comprehensive Plan and the Kent County Zoning Ordinance -- the laws which dictate what uses may be made of the subject site -- recommend and permit low-density residential development of 1.0-2.9 dwelling units per acre on the subject site. Notably, the average density for the proposed development on this 264± acre project site is 0.81 dwelling units per acre, far below the average density permitted at the site by right.

The proposed development does *not* impact wildlife habitats and only impacts approximately 0.13 acres of the total 10.34 acres (or 1.3%) of environmentally sensitive wetlands. In order to mitigate this disturbance, a 0.26 acre wetland mitigation area is proposed (2:1 mitigation ratio). There will actually be more wetlands on the subject site after construction of the proposed improvements than what currently exists.

The site is located within the Capital School District and school bus service is already provided to students who live on Seeneytown Road and Shaws Corner Road. In addition, the Cheswold Fire Company already serves the area of the proposed development, and law enforcement services are already provided to the general area by the Delaware State Police. The developer understands that the State does not intend on investing in infrastructure upgrades or additional services in the area of the proposed development. However, given that school, fire, police, and transportation services are readily available in the area of the proposed development already, and with the understanding that the developer is prepared to fund any infrastructure and service upgrades that are absolutely necessary to support the development,

the developer respectfully submits that it will not be necessary for the State or any other public agency to invest in infrastructure upgrades or additional services in the area as a result of the proposed development.

**Division of Historic and Cultural Affairs (Contact: Alice Guerrant 739-5685)**

There are no known historical sites on the property; however, the developer understands that there is the potential for the discovery of prehistoric-period sites and historic-period sites during construction. In order to comply with the State of Delaware Unmarked Human Remains Act of 1997 and prevent construction delays, the developer is willing to consider hiring an archaeological consultant to perform a survey of the site. In addition, the developer is willing to allow representatives from the Division of Historic and Cultural Affairs to examine the site.

Since there are three (3) wetland crossings proposed for roadway construction, this development will require a U.S. Army Corps of Engineers permit. However, the proposed wetlands disturbance has been limited to only 0.13 acres of the total 10.34 acres (or 1.3%). This is a very low percentage of wetlands to be disturbed. In addition, in order to mitigate this disturbance, a 0.26 acre wetland mitigation area is proposed (2:1 mitigation ratio). There will actually be more wetlands on the subject site after construction of the proposed improvements than what currently exists.

**Department of Transportation (Contact: Bill Brockenbrough 760-2109)**

The developer understands that the Department of Transportation (DelDOT) will not fund any transportation infrastructure improvements which may be required to support the proposed development, and the developer is not asking DelDOT to do so. The developer expects to bear the cost of transportation infrastructure improvements required to support the proposed development, and further, as mentioned above, the developer is willing to consider funding upgrades that are absolutely necessary to public service agencies (fire/emergency/police) already serving the subject area. Hence, none of the tenets of the *2004 Strategies for State Policies and Spending* are either implicated or offended by the proposed development.

It shall be noted that a Traffic Impact Study (TIS) is not required by DelDOT as part of this development. However, in an effort to show its willingness to work with DelDOT, the developer elected to conduct a TIS at its own expense. A TIS Scoping Meeting was conducted with representatives from DelDOT on January 04, 2006. Peak-hour turning movement counts have been collected at nine (9) intersections and the projected traffic from the un-built portions of eight (8) committed developments were incorporated. TIS coordination with DelDOT continues.

**The Department of Natural Resources and Environmental Control (Contact: Kevin Coyle 739-9071)**

***Investment Level 4 Policy Statement***

The developer recognizes that the proposed development is located in an Investment Level 4 area outside of the Kent County Growth Zone. However, as noted above, the Kent County Comprehensive Plan and the Kent County Zoning Ordinance -- the laws which govern what uses may be made of the subject property -- recommend and permit low-density residential development of 1.0-2.9 dwelling units per acre on the subject site. Furthermore, the average density for the proposed development is far below the average density permitted on the property by right.

The developer is not asking the Department of Natural Resources and Environmental Control (DNREC) or any other public agency to fund additional investments in open space or water or wastewater systems. Instead, the developer will fund any additional investments in open space or water or wastewater systems which may be warranted or required to support the proposed development. Hence, none of the principles



of the 2004 Strategies for State Policies and Spending are either implicated or offended by the proposed development.

Moreover, 23.22 acres of the total 23.44 acres (99.1%) of existing woodlands are to be preserved. According to the Kent County Subdivision and Land Development Ordinance, active recreation space in the amount of six hundred (600) square feet per dwelling unit or one-half (½) acre, whichever is greater, is required. Two hundred and fourteen (214) dwelling units are proposed on the subject site; therefore 2.95 acres (214\*600/43,560=2.95>0.50) of active recreation space is required. A total of 4.29 acres of active recreation space is proposed.

As previously mentioned, the proposed development does *not* impact wildlife habitats and only impacts approximately 0.13 acres of the total 10.34 acres (or 1.3%) of environmentally sensitive wetlands. In order to mitigate this disturbance, a 0.26 acre wetland mitigation area is proposed. There will actually be more wetlands on the subject site after construction of the proposed improvements than what currently exists. In accordance with the *Delaware Sediment and Stormwater Regulations*, water quality will be achieved through the construction of five (5) stormwater management wet ponds. Following Preliminary Plan approval by the Kent County Regional Planning Commission, a Stormwater Management Report will be prepared and submitted to the Kent Conservation District. This report will illustrate how stormwater quality will be achieved. Furthermore, the developer is willing to consider implementing air quality improvement measures.

**Soils**

The following table summarizes the site soils within the limits of the proposed improvements. According to the U.S. Department of Agriculture, Soil Conservation Service, the majority of the development is proposed within the mapping limits of soils which have only slight or moderate limitations to development. There is no development proposed within Pocomoke (Pm or Po) soils.

Abbreviation	Soil Type
Em	Elkton Silt Loam, Thin Subsoil
Fa	Fallsington Sandy Loam
Fs	Fallsington Loam
MeA	Matapeake Silt Loam, 0-2% Slopes
Ot	Othello Silt Loam
SaA	Sassafras Sandy Loam, 0-2% Slopes
SaB	Sassafras Sandy Loam, 2-5% Slopes
SaC2	Sassafras Sandy Loam, 5-10% Slopes, Moderately Eroded
SaC3	Sassafras Sandy Loam, 5-10% Slopes, Severely Eroded
SfA	Sassafras Loam, 0-2% Slopes
SfB	Sassafras Loam, 2-5% Slopes
Wo	Woodstown Sandy Loam
Ws	Woodstown Loam

**Wetlands**

Regulated wetlands were formally delineated by Environmental Consulting Services, Inc. in November 2005. A formal Jurisdictional Determination to verify this delineation will be made by the U.S. Army Corps of Engineers. As previously mentioned, the proposed development only impacts approximately 0.13 acres of the total 10.34 acres (or 1.3%) of environmentally sensitive wetlands. In order to mitigate this disturbance, a 0.26 acre wetland mitigation area is proposed. Where possible, one hundred foot (100') buffers are provided on both sides of the delineated wetlands line. In accordance with the Kent County Zoning Ordinance, there



are no proposed lot lines within delineated wetland areas. This will minimize potential cumulative impacts that may result from unauthorized and/or illegal activities and disturbances that may be caused by individual homeowners. The developer may also be willing to contact the Farm Services Agency of the U.S. Department of Agriculture in order to assess if the wetlands on the subject parcel meet the recognized criteria for classification as "prior converted wetlands".

### *Wetland Regulations*

The developer recognizes that federal and/or State wetlands permits or certifications will be required for the project. It is our understanding that Environmental Consulting Services, Inc. will be attending a Joint Permit Process Meeting in order to discuss/confirm the permitting requirements.

### *Impervious Cover*

Following construction of the proposed improvements, it is estimated that the 264± acre site will be approximately sixteen percent (16%) impervious. This was determined by estimating the area of proposed streets and sidewalks within public right-of-way and assuming that twenty percent (20%) of each lot will be impervious. The maximum allowable impervious lot coverage is twenty percent (20%). Therefore, our calculations do include building rooftop areas. The State's suggestion that our calculations result in an artificially understated percentage of impervious lot coverage is incorrect.

Imperviousness has been reduced to the greatest degree practical for environmental protection purposes. The developer is also willing to consider the use of pervious paving materials in lieu of asphalt or concrete in conjunction with the additional native tree and shrub plantings as Best Management Practices (BMPs) to reduce surface imperviousness. In order to offset the increase in runoff rates and pollutant loading in runoff, five (5) stormwater management wet ponds are proposed. These facilities will detain stormwater runoff so that the post-development discharge rate is equal to or less than pre-development discharge rates. In addition, the ponds will provide extended detention of the "first-flush" rainfall event in an effort to allow unwanted pollutants to settle and prevent discharge into the adjacent ecosystem.

### *TMDLs*

As mentioned above, five (5) stormwater management wet ponds are proposed as part of the development. These BMPs are proposed as "methodological mitigative strategies" in order to reduce degradative impacts associated with development.

### *Water Resource Protection Areas*

The developer understands that DNREC has mapped a portion of this property as an "excellent" recharge area. It is our contention that the reason this area has been mapped as an "excellent" recharge area is due to the fact that previous agricultural land use activities on the subject property have resulted in a localized sump. Since there is no conveyance mechanism within this sump, runoff has no way of leaving the site unless it is infiltrated into the groundwater table. The U.S. Department of Agriculture, Soil Conservation Service, has mapped the soil in the area of "excellent" recharge as Woodstown Loam (Ws), a soil with only moderate permeability rates. Because Woodstown Loam (Ws) soils provide only moderate permeability, the developer respectfully submits that the portion of the property which DNREC has mapped as an "excellent" recharge area is actually no better than a "moderate" recharge area. Please note that the Department of Agriculture acknowledges as much, labeling the site as a "good" rather than an "excellent" recharge area.

The developer also understands that the DNREC Water Supply Section recommends that the portion of new development within the "excellent" recharge area not exceed twenty percent (20%) impervious



cover. According to our calculations, the recharge area encapsulates approximately 4.77 acres of the subject property and proposed development within the recharge area encapsulates approximately 0.95 acres of the recharge area. This equates to 19.9%, just less than the twenty percent (20%) threshold. As stated above, the impervious quantity was determined by estimating the area of proposed streets and sidewalks within public right-of-way and assuming that twenty percent (20%) of each lot will be impervious (includes building rooftop areas). It should also be noted that the storage of hazardous substances or wastes will not be permitted within the recharge area.

### *Water Supply*

Water supply to the proposed development will be provided by either Tidewater Utilities, Inc. or Artesian Water Company. The developer will be filing an application for a Certificate of Public Convenience and Necessity (CPCN) with the Public Service Commission.

### *Sediment and Erosion Control/Stormwater Management*

A detailed Sediment and Stormwater Management Plan Package will be submitted to the Kent Conservation District upon Preliminary Plan approval by the Kent County Regional Planning Commission.

### *Drainage*

The developer is willing to consider implementing drainage improvements within the Pinks Branch waterway in order to ensure the safe conveyance of stormwater runoff from the site. Specifically, downstream conveyance and pipes will be checked for functionality and blockages.

The majority of the stormwater pipes proposed as part of the improvements will be located within public rights-of-way. Where possible, thirty-foot (30') wide open space areas are proposed in lieu of drainage easements along property lines. This will prevent the placement of garages, sheds, fences, kennels, and other accessory structures along drainage conveyance system areas, thereby facilitating maintenance of the drainage conveyance system. The installation of catch basins and the routing of major stormwater pipes through yards will be avoided where possible. However, if absolutely necessary, deed restrictions and easements will be provided where necessary to ensure adequate future maintenance access.

In order to provide stormwater management *quality* control, five (5) stormwater management wet ponds are proposed. The existing buffer areas between the proposed development and the environmentally sensitive wetland and wildlife habitat areas will also act as natural bioretention areas. These areas will provide additional stormwater *quality* control. Fifty-foot (50') wide buffers are provided from the surveyed top of bank of all drainage ditches. Although the existing vegetation within these buffer areas will alone provide stormwater *quality* control, the developer may also be willing to consider planting trees, selected for their height, ease of maintenance, erosion control, and nutrient uptake capabilities, in these buffer areas.

### *Floodplains*

The site is partially inundated by the one hundred (100)-year floodplain of the Taylor Branch and the Pinks Branch. The only development that is proposed within the limits of the one hundred (100)-year floodplain is a short segment of new roadway adjacent to the Taylor Branch at the central east side of the subject property. The developer understands that the portion of roadway (and associated drainage culvert) proposed within the floodplain will have to be designed to convey runoff from the one hundred (100)-year recurrence storm event. The development will be designed in an effort to prevent the exacerbation of flooding.

### *Open Space*

As previously mentioned, 23.22 acres of the total 23.44 acres (99.1%) of the existing woodlands are to be preserved. In order to meet Kent County requirements, 2.95 acres of active recreation space is required. A total of 4.29 acres of active recreation space is proposed. The current landscape in the proposed buffers will act as natural ecosystems and provide increased water infiltration into groundwater, decreased run-off into surface water, and obvious air quality improvements, requiring much less maintenance than traditional turf grass.

### *Nuisance Waterfowl*

As mentioned above, stormwater management will be provided through the installation of five (5) stormwater management wet ponds. In order to deter waterfowl such as resident Canada geese and mute swans, the developer is willing to consider native plantings of tall grasses, wildflowers and trees at the edge and within the peripheral strip of the stormwater facilities.

### *Underground Storage Tanks*

If any underground storage tanks or petroleum-contaminated soils are discovered during construction, the DNREC Task Management Branch will be notified. In addition, if petroleum-contaminated soils are discovered, ductile steel with nitrile rubber gaskets will be used in lieu of polyvinyl chloride pipes in areas where contamination exists.

### *Solid Waste*

The developer will dispose of construction waste in an environmentally appropriate manner.

### *Air Quality*

Although the developer disputes DNREC's premise that the amount of emissions generated by a development located in an Investment Level 4 area outside the Kent County growth zone is necessarily greater than the amount of emissions generated by a development located inside the Kent County growth zone, as well as the specific emission calculations projected for this proposed development in particular, the developer understands that the proposed development will increase concentrations of volatile organic compounds, nitrogen oxides, sulfur dioxides, and carbon dioxide through mobile, residential, and electrical power emissions. The developer is willing to consider more energy efficient homes which may lessen air quality impacts. The developer is also willing to evaluate the potential to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems, and upgraded water-heating equipment.

### **State Fire Marshal's Office (Contact: John Rossiter 739-4394)**

An Application for Fire Protection Plan Review will be submitted to the Office of State Fire Marshal following Preliminary Plan approval by the Kent County Regional Planning Commission and a Pre-Application Meeting with a Fire Protection Specialist. A proposed water main and fire hydrant layout designed in accordance with the *Delaware State Fire Prevention Regulations* will be provided on the project subdivision plans. In addition, all necessary or required notes and details will be provided on the project subdivision plans. The developer fully intends on constructing the proposed improvements in conformance



with the *Delaware State Fire Prevention Regulations* as they relate to fire protection water requirements, fire protection features, accessibility, gas piping, and system information.

**Department of Agriculture (Contact: Milton Melendez 698-4500)**

The developer understands and appreciates the fact that the site is designated as high value cropland on the *Green Infrastructure Investment Strategy*. As previously mentioned, 23.22 acres of the total 23.44 acres (99.1%) of the existing woodlands are to be preserved. In order to meet Kent County requirements, 4.29 acres of active recreation space is proposed. Farm equipment should not currently be using Seeneytown Road or Shaws Corner Road adjacent to the subject site as a transportation route.

As stated above, the developer understands that DNREC has mapped a portion of this property as a “good” recharge area. It is our contention that the reason this area has been mapped as a “good” recharge area is due to the fact that previous agricultural land use activities on the subject property have resulted in a localized sump. Since there is no conveyance mechanism within this sump, runoff has no way of leaving the site unless it is infiltrated into the groundwater table. The U.S. Department of Agriculture, Soil Conservation Service, has mapped the soil in the area of “excellent” recharge as Woodstown Loam (Ws), a soil with only moderate permeability rates. According to our calculations, impervious percentage within the recharge area is 19.9%, just less than the twenty percent (20%) threshold recommended by the DNREC Water Supply Section.

As part of the development, five (5) stormwater management wet ponds are proposed. Nonetheless, the developer may still be willing to consider installing dry stormwater management ponds in lieu of wet facilities. Dry ponds typically provide some infiltration of stormwater runoff into the groundwater table. However, the adequacy of these facilities will not be known until a detailed soils investigation is conducted in order to determine permeability rates and groundwater table elevations in the area where the facilities will be constructed.

Where required, the developer will also provide the necessary notices in the deed restrictions and leases or agreements of sale related to the existence of the adjacent Agricultural Preservation District. In addition, the plans provide a fifty foot (50’) agricultural buffer from the adjacent Agricultural Preservation District. No improvement requiring an occupancy approval shall be constructed within these agricultural buffers.

**Public Service Commission (Contact: Andrea Maucher 739-4247)**

As part of the development, a community septic disposal facility is proposed. This facility will be designed to accommodate sewer flows from all 214 single-family homes in the proposed development. The developer will apply to the Public Service Commission for a Certificate of Public Convenience and Necessity (CPCN). Any expansion of natural gas or installation of a closed propane system will be designed and constructed in accordance with Pipeline Safety guidelines. Water supply to the proposed development will be provided by either Tidewater Utilities, Inc. or Artesian Water Company. The proposed septic disposal facility will be a rapid infiltration basin. Design specifications for this system will be determined following DNREC’s review and approval of a Soils Investigative Report (SIR) and Preliminary Groundwater Impact Assessment (PGIA).

**Delaware State Housing Authority (Contact: Jimmy Atkins 739-4263)**

The developer understands and respects the objections of the Delaware State Housing Authority, based upon location of the proposed development in an Investment Level 4 area outside of the Kent County Growth Zone. However, as noted above, the Kent County Comprehensive Plan and the Kent County Zoning Ordinance -- the laws which govern what uses may be made of the subject property -- recommend and permit low-density residential development of 1.0-2.9 dwelling units per acre on the subject site. Hence,

while the proposed development may be inconsistent with certain tenets of State *policy*, the proposed development is entirely consistent with applicable and governing *law*.

**Department of Education (Contact: John Marinucci 739-4658)**

Adequate school bus access will be provided through proposed road widths, turning radii and fire lanes that conform to current DelDOT and State Fire Marshal requirements. The developer will not be permitted to initiate construction of the proposed roadway system until Letters of No Objection are issued by these agencies. In addition, the developer would be willing to consider working with the Capital School District Transportation Department in order to establish bus stop shelters throughout the development.

In summary, the developer recognizes that the proposed development is located within an Investment Level 4 area outside of the Kent County Growth Zone. However, low-density residential development is a by-right use for the subject property, and therefore, the developer's plans to subdivide and develop the subject property cannot be denied. Nevertheless, the developer stands willing, ready and able to incorporate both the letter and the spirit of the PLUS comments by designing its project in the most environmentally-sensitive, sound and responsible manner possible, utilizing best management practices (BMPs) and best available technologies (BATs) wherever possible, including, but not limited to, the following:

- Use pervious paving materials in lieu of asphalt or concrete, in conjunction with native tree plantings, as best management practices (BMPs) to reduce surface imperviousness
- Implement BMPs and BATs to reduce nutrient loading and minimize imperviousness with wetland buffers and "green technology" stormwater methodologies and utilize performance-based wastewater disposal systems
- Keep imperviousness within DNREC-designated recharge area to less than twenty percent (20%)
- Use conservation design approach and limit the amount of tree clearing
- Check existing downstream conveyance and pipes for function and blockages and locate all storm drains and catch basins in open space or within street rights-of-way
- Where possible, plant a buffer of trees and grasses along drainage ditches and wetlands
- Establish forested areas of meadow type grasses in areas set aside for passive open space
- Place open space containing forest and/or wetlands into a permanent conservation easement
- Evaluate the potential to construct Energy Star qualified homes

We trust that the responses set forth above adequately address all of the PLUS comments. As the proposed development proceeds forward through the design and approval process, we will continue to give full attention to all comments and concerns from the various PLUS agencies. If you should have any questions or concerns, or require any additional information, please do not hesitate to contact me at the above address.

Respectfully submitted,

**PENNONI ASSOCIATES, INC.**



Douglas D. Barry, P.E., Project Manager

cc: Antoine Ashburn, President – Tony Ashburn & Son, Inc. Builders  
John W. Paradee, Esquire – Prickett, Jones & Elliott, P.A.  
Kristopher Connelly, Planner I – Kent County Department of Planning Services