



**STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF MANAGEMENT AND BUDGET
STATE PLANNING COORDINATION**

December 16, 2005

Mr. Gary Cuppels
ECI, Inc.
P.O. Box 820
Rehoboth Beach, DE 19971

RE: PLUS review – PLUS 2005-11-20; Isaacs Glen Subdivision

Dear Mr. Cuppels:

Thank you for meeting with State agency planners on November 22, 2005 to discuss the proposed plans for the Isaacs Glen Subdivision project to be located on both sides of Delaware Route 30 and both sides of Hummingbird Road northwest of Milton.

According to the information received, you are seeking site plan approval for a cluster development of 1630 residential units on 836.32 acres located in Level 4.

Please note that changes to the plan, other than those suggested in this letter, could result in additional comments from the State. Additionally, these comments reflect only issues that are the responsibility of the agencies represented at the meeting. The developers will also need to comply with any Federal, State and local regulations regarding this property. We also note that as Sussex County is the governing authority over this land, the developers will need to comply with any and all regulations/restrictions set forth by the County.

Executive Summary

The following section includes some site specific highlights from the agency comments found in this letter. This summary is provided for your convenience and reference. The full text of this letter represents the official state response to this project. **Our office notes that the applicants are responsible for reading and responding to this letter and all comments contained within it in their entirety.**

State Strategies/Project Location

- The proposed project is located in an Investment Level 4 area according to the *Strategies for State Policies and Spending* and in the Low Density area according to the Sussex County Comprehensive Plan. Because it is located outside of an area where the State and local governments have planned for growth, the State opposes this proposal.
- The scale of this proposal is larger than many existing towns in Sussex County. The project as proposed is likely to bring more than 4,000 new residents to an area where the State has no plans to invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation.

Street Design and Transportation

- A new traffic impact study (TIS) will be needed.

Natural and Cultural Resources

- Cumulatively, this and other proposed subdivisions along the North Prong headwaters and associated tributaries will result in negative impacts to Sowbridge Branch, North Prong, Reynolds Pond, Ingram Branch, Primehook Creek and adjoining water bodies.
- A portion of the site falls within an excellent recharge area. Guidelines for protecting the recharge area are contained in the section “Water Resource Protection Areas”.
- The Watershed Assessment Section strongly recommends that the applicant consider preserving the existing natural forested buffer adjacent to the North Prong and the Sowbridge Branch in its entirety. Efforts to maximize or expand (beyond the recommended 100-foot minimum) the existing natural buffer width with native herbaceous and/or wood vegetation, is strongly recommended.

- According to the PLUS application, 32 of the 152 acres of forest on the site will be removed for the development. Clearing portions of the forest within the parcel may reduce the habitat value of the entire forest stretch.
- The proposed project is within three miles of a known Delmarva fox squirrel population at Prime Hook National Wildlife Refuge. Delmarva fox squirrels were listed as federally endangered in 1967 and are protected by the Endangered Species Act. The proposed project area contains potential habitat for the Delmarva fox squirrel, and requirements listed in the “Rare/Threatened/Endangered Species” section of the letter must be followed.
- Swamp Pink is a federally listed plant that occurs within the forested wetland along North Prong on the northern border of the project and in wetlands adjacent to Reynolds Pond. Recommendations are included in the “Rare/Threatened/Endangered Species” section of the letter.

The following is a complete list of comments received by State agencies:

Office of State Planning Coordination – Contact: Ann Marie Townshend 739-3090

As you are aware, the State has reviewed this site previously under the PLUS process, both in July 2004 and May 2005. The previous MR-RPC proposal was denied earlier this year by Sussex County Council. The current proposal replaces this previous proposal with a cluster subdivision proposal. Previous State objections to this proposal remain unchanged, due to the location of the proposal, the significant investment in agricultural preservation made in this area, and the proposal’s inconsistency with the rural agricultural character of the area. The following statement restates and updates the Office of State Planning Coordination’s comments on the Isaac’s Glen proposal.

This project represents a major land development that will result in 1,630 residential units in an Investment Level 4 area according to the *2004 Strategies for State Policies and Spending*. This project is also located in the Low Density area according to Sussex County’s certified Comprehensive Plan. Investment Level 4 indicates where State investments will support agricultural preservation, natural resource protection, and the continuation of the rural nature of these areas. New development activities and suburban development are not supported in Investment Level 4. These areas are comprised of prime agricultural lands and environmentally sensitive wetlands and wildlife habitats, which should be, and in many cases have been preserved.

From a fiscal responsibility perspective, development of this site is likewise inappropriate. The cost of providing services to development in rural areas is an inefficient and wasteful use of the State’s fiscal resources. The project as proposed is likely to bring more than 4,000 new residents to an area where the State has no plans to

invest in infrastructure upgrades or additional services. These residents will need access to such services and infrastructure as schools, police, and transportation. To provide some examples, the State government funds 100% of school transportation and paratransit services, up to 80% of school construction costs, and about 90% of the cost of police protection in the unincorporated portion of Sussex County where this development is proposed. Over the longer term, the unseen negative ramifications of this development will become even more evident as the community matures and the cost of maintaining infrastructure and providing services increases.

The proposal is not in compliance with the certified Sussex County Comprehensive Plan. Page 19 of the certified Plan states (emphasis added):

The purpose of the Low Density Area is to provide for a full range of agricultural activities and to protect agricultural lands from the depreciating effect of objectionable, hazardous and unsightly uses. Approval of any rezoning or subdivision in this area is subject to the consideration of the criteria contained in Ordinance 1152 as shown in the Subdivision Regulations. Where approved, low-density single-family residential housing is appropriate, together with such churches, commercial, recreational facilities and accessory uses as may be necessary or are normally compatible with residential surroundings. **The Low Density Area seeks to prevent untimely scattering of dense urban uses, which should be confined to areas planned for efficient extension of public services.**

Specifically related to the criteria specified in Ordinance 1152, the proposal falls short of several of those criteria, most notably the preservation and conservation of farmland and the compatibility with other area land uses.

Because the development is inconsistent with the *Strategies for State Policies and Spending* and the certified Sussex County Comprehensive Plan, the State is opposed to this proposed subdivision.

Division of Historic and Cultural Affairs – Contact: Alice Guerrant 739-5685

Their comments have not changed much from those given for it as PLUS 2005-05-14. The DHCA still has not received the archaeological consultant's report, and still believes there is excellent potential here for both prehistoric- and historic-period archaeological sites.

However, they did want to add a caution about the potential for unmarked cemeteries associated with the farmsteads once located here. Delaware's Unmarked Human Remains Act of 1987 governs the discovery and disposition of unmarked human remains found on private and other lands. If discovered during construction, unmarked human remains will involve the developer in considerable delays; if ignored, there are substantial penalties. They will be happy to discuss these issues with the developer. The contact person is Faye Stocum, 302-736-7400.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

This project replaces a previous proposal for the same land that was denied rezoning by County Council earlier this year. DelDOT has not changed its position regarding this development proposal. The comments that follow were made when this proposal was presented in May 2005. They are still applicable in that creating a cluster development does not change the fact that this development is proposed in a Level 4 area.

This development is proposed for an area designated as Level 4 under the *Strategies for State Policies and Spending*. The *Strategies for State Policies and Spending* have deemed the type of development being proposed inappropriate for this area. As part of its commitment to support the *Strategies*, DelDOT refrains from participating in the cost of any road improvements needed to support this development and is opposed to any road improvements that will substantially increase the transportation system capacity in this area. DelDOT will only support taking the steps necessary to preserve the existing transportation infrastructure, preserve the capacity of Route 30 to handle through traffic, and make whatever safety and drainage related improvements are deemed appropriate and necessary. The intent is to preserve the open space, agricultural lands, natural habitats and forestlands that are typically found in Level 4 Areas while avoiding the creation of isolated development areas that cannot be served effectively or efficiently by public transportation, emergency responders, and other public services.

DelDOT strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in approved Comprehensive Plans. They encourage the use of transfer of development rights where this growth management tool is available.

If this development proposal is approved, notwithstanding inconsistencies with the relevant plans and policies, DelDOT will provide technical review and comments. Part of those comments will be that a new traffic impact study (TIS) will be needed because of the plan changes, the time that has passed since the counts were done for the previous TIS (in 2003) and the fact that several other developments have been proposed in the area since then.

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

Investment Level 4 Policy Statement

This project is proposed for an Investment Level 4 area as defined by the *Strategies for State Policies and Spending* and is also located outside of a designated growth area in the relevant municipal and county certified comprehensive plans. According to the *Strategies* this project is inappropriate in this location. In Investment Level 4 areas, the State's investments and policies, from DNREC's perspective, should retain the rural landscape and preserve open spaces and farmlands. Open space investments should emphasize the protection of critical natural habitat and wildlife to support a diversity of species, and the protection of present and future water supplies. Open space investments should also provide for recreational activities, while helping to define growth areas. Additional state investments in water and wastewater systems should be limited to existing or imminent public health, safety or environmental risks only, with little provision for additional capacity to accommodate further development.

With continued development in Investment Level 4 areas, the State will have a difficult, if not impossible, time attaining water quality (e.g., TMDLs) and air quality (e.g., non-attainment areas for ozone and fine particulates) goals. Present and future investments in green infrastructure, as defined in Governor Minner's Executive Order No. 61, will be threatened. DNREC strongly supports new development in and around existing towns and municipalities and in areas designated as growth zones in certified Comprehensive Plans. DNREC encourages the use of transfer of development rights where this growth management tool is available.

This particular development certainly compromises the integrity of the State Strategies and the preservation goals inherent in many of DNREC's programs. Of particular concern are: the project impacts all three layers of the Green Infrastructure map (cropland, forest, and natural resources), the project's proximity to an excellent recharge area, possible impacts to rare species along the riparian areas and Reynolds Pond, possible impacts to Delmarva fox squirrel habitat, the loss/fragmentation of 32 out of 152 acres of forest, and possible impacts to 60 acres of wetlands. While mitigating measures such as conservation design, central wastewater systems instead of individual on-site septic systems, and other best management practices may help mitigate impacts from this project, not doing the project at all is the best avenue for avoiding negative impacts. As such, this project will receive no financial, technical or other support of any kind from DNREC. Any required permits or other authorizations for this project shall be considered in light of the project's conflict with our State growth strategies.

Green Infrastructure

Portions or all of the lands associated with this proposal are within the Livable Delaware Green Infrastructure area established under Governor Minner's Executive Order #61 that represents a network of ecologically important natural resource lands of special state conservation interest.

Green infrastructure is defined as Delaware's natural life support system of parks and preserves, woodlands and wildlife areas, wetlands and waterways, productive agricultural and forest land, greenways, cultural, historic and recreational sites and other natural areas all with conservation value. Preserving Delaware's Green Infrastructure network will support and enhance biodiversity and functional ecosystems, protect native plant and animal species, improve air and water quality, prevent flooding, lessen the disruption to natural landscapes, provide opportunities for profitable farming and forestry enterprises, limit invasive species, and foster ecotourism.

Voluntary stewardship by private landowners is essential to green infrastructure conservation in Delaware, since approximately 80 percent of the State's land base is in private hands. It is in that spirit of stewardship that the Department appeals to the landowner and development team to protect sensitive resources through an appropriate site design.

Soils

According to the Sussex County soil survey, Evesboro, Rumford, Sassafra, and Johnston were mapped in the immediate vicinity of the proposed construction. Evesboro is an excessively well-drained upland soil that has moderate limitations for development on account of its rapid permeability. Rumford and Sassafra are well-drained upland soils that have few limitations for development. Johnston is a poorly-drained wetland associated (**hydric**) floodplain soil that has severe limitations for development.

Wetlands and Water Bodies

The proposed development is bordered by the North Prong, Sowbridge Branch and Reynolds Pond and is within the headwater area of the North Prong. Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine wetlands in this parcel. These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. PLUS materials indicate that the developer will provide 100 foot buffers from water bodies, but not from wetlands. DNREC recommends a 100-foot buffer around wetlands and discourages allowing lot lines to contain wetlands.

PLUS materials indicate that there will not be direct impacts to these wetlands through construction activities; however, secondary impacts of construction could be detrimental to the health of these wetlands. As stated in Better Models for Development in Delaware (2004), “subdivision lines should be drawn so that stream banks are buffered with dedicated open space that protects water quality, wildlife habitat, and other riparian resources while also enhancing property values and reducing the likelihood of flood damage”. DNREC recommends that vegetated buffers of no less than 100’ be employed around wetlands and water bodies; given that this site is within the headwaters of North Prong and within a mapped State Resource area, these buffers should be maximized and particularly because ground disturbance will occur within 100 feet of the wetland complex. To minimize potential homeowner activities within wetlands, no lot lines should contain wetlands, their buffers or other resources of conservation concern.

It is recommended that the Farm Services Agency of the USDA be contacted to assess whether the farmed wetlands on subject parcel meet the recognized criteria for classification as “prior converted wetlands.” Prior converted wetlands are farmed wetlands that have drained or altered before December 23, 1985, and no longer meet the wetland criteria established under the 404 program. Such wetlands are considered exempt from regulatory protection provided that there is no proof of a continuous “fallow period” of five years or greater in that parcel’s cropping history. Parcels converted after said date regardless of cropping history are considered jurisdictional by the Army Corps of Engineers (ACOE). The contact person for assessing a parcel’s cropping history is Sally Griffin at the USDA – she can be reached at 678-4182.

It should also be noted that this parcel contains a sensitive headwater riparian wetlands associated with two headwater tributaries (North Prong and Sowbridge Branch) eventually emptying into Waples Pond and the Delaware Bay. Headwater streams are important for the protection of water quality and the maintenance/integrity of the ecological functions throughout the length of the stream, including the floodplain system and/or water bodies downstream. Since headwater streams are usually a major avenue for nutrient-laden stormwater and sediment runoff, their protection deserves the highest priority. **In recognition of this concern, the Watershed Assessment Section strongly recommends that the applicant consider preserving the existing natural forested buffer adjacent to the North Prong and the Sowbridge Branch in its entirety. Efforts to maximize or expand (beyond the recommended 100-foot minimum) the existing natural buffer width with native herbaceous and/or wood vegetation, is strongly recommended.**

The Sowbridge Branch is particularly sensitive because it harbors the unique and threatened Atlantic white cedar wetland plant community type. This plant community

type is considered unique and threatened because it contains an assemblage of state and globally rare (some federally threatened) plant associates. Therefore, because of this need to maintain effective natural resource protection in an area of high functional and/or resource value – such as the immediate vicinity of subject parcel –implementation of larger protective buffer widths may be necessary to maintain effective environmental protection. Research by Castelle (1994) has shown that buffer widths of at least 300-foot is necessary for maintaining high species diversity in high value wetlands.

The Watershed Assessment Section strongly supports the notion that buffer width should be based on the protective efforts necessary to support both water and habitat quality. Since the Atlantic white cedar and its associated plant community are an example of a high value environmentally-sensitive wetland resource DNREC is trying to protect, the Watershed Assessment section is adopting a 300-foot buffer width as the recommended minimum from this plant community and all recorded lot lines. It is strongly recommended that the State's Natural Heritage Program be allowed to locate and inventory the existing plant community so as to ensure that the appropriate buffering distances are maintained. Otherwise, as stated previously, a 100-foot minimum buffer width is still the recommended minimum.

Wetland Permitting Information

PLUS application materials indicate that wetlands have been delineated (presumably a field delineation). This delineation should be verified by the Army Corps of Engineers through the Jurisdictional Determination process. Please note that impacts to palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. In situations where the applicant believes that the delineated wetlands on their parcel are nonjurisdictional isolated wetlands, the Corps must be contacted to make the final jurisdictional assessment. They can be reached at 736-9763.

In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process. To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-4691 to schedule a meeting.

Impervious Cover

Research has consistently shown that once a watershed exceeds a threshold of 10 percent imperviousness, water and habitat quality irreversibly decline. Based on analyses of 2002 aerial photography by the University of Delaware, the Broadkill River watershed, at that time, had about 7.9 percent impervious cover. Although this data is almost 4 years old and likely an underestimate, it illustrates the importance of a proactive strategy to mitigate for predictable and cumulative environmental impacts. Since the amount of imperviousness generated by this project (reported as 13%, but appears to be significantly higher) will exceed the desirable watershed threshold of 10 percent, the applicant is strongly advised to pursue best management practices (BMPs) that mitigate or reduce some of the most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials in lieu of asphalt or concrete in conjunction with an increase in forest cover via preservation or additional tree plantings – are examples of practical BMPs that could easily be implemented to reduce surface imperviousness.

TMDLs and the Pollution Control Strategy (PCS)

Although Total Maximum Daily Loads (TMDLs) have not yet been developed for the Broadkill watershed to date, work is currently progressing on their development and they should be available in the near future. Until the specified TMDL reductions and pollution control strategies are adopted, it shall be incumbent upon the developer to employ best available technologies (BATs) and/or best management practices (BMPs) as “methodological mitigative strategies” to reduce degradative impacts associated with development.

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. The plan review and approval as well as construction inspection will be coordinated through Sussex Conservation District. The applicant should contact Sussex Conservation District at (302) 856-7219 for details regarding submittal requirements and fees.

A Notice of Intent (NOI) for Stormwater Discharges Associated with Construction Activity must be submitted to DNREC Division of Soil and Water Conservation along with the \$195 NOI fee prior to plan approval.

Applying practices to mimic the pre-development hydrology on the site, promote recharge, maximize the use of existing natural features on the site, and limit the reliance

on structural stormwater components, such as maintaining open spaces, should be considered in the overall design of the project as a stormwater management technique. Green Technology BMPs must be given first consideration for stormwater quality management. Each stormwater management facility should have an adequate outlet for release of stormwater. It is strongly recommended that the applicant contact the reviewing agency to schedule a preliminary 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.

Water Resource Protection Areas

The DNREC Water Supply Section has determined that a section of the eastern edge of the proposed development falls within an area of excellent groundwater recharge (see following map and attached map). The proposed development would change the total impervious cover from approximately 0.4% to approximately 13% in proposed development area. The proposed development area impacts the excellent recharge area. The numbers were provided by the developer on the PLUS application.

The eastern edge of the development area is proposed to be single family home lots and some open space. If possible, the amount of open space in this area should be increased to decrease the amount of excellent recharge area that is impacted by development. The DNREC Water Supply Section recommends that that portion of the new development within the excellent recharge area not exceed 20% impervious cover. Further, some allowance for augmenting ground-water recharge should be considered if the impervious cover exceeds 20% but is less than 50% of that portion of the parcel within this area. For more information refer to the Final Source Water Protection Guidance Manual for the Local Governments of Delaware

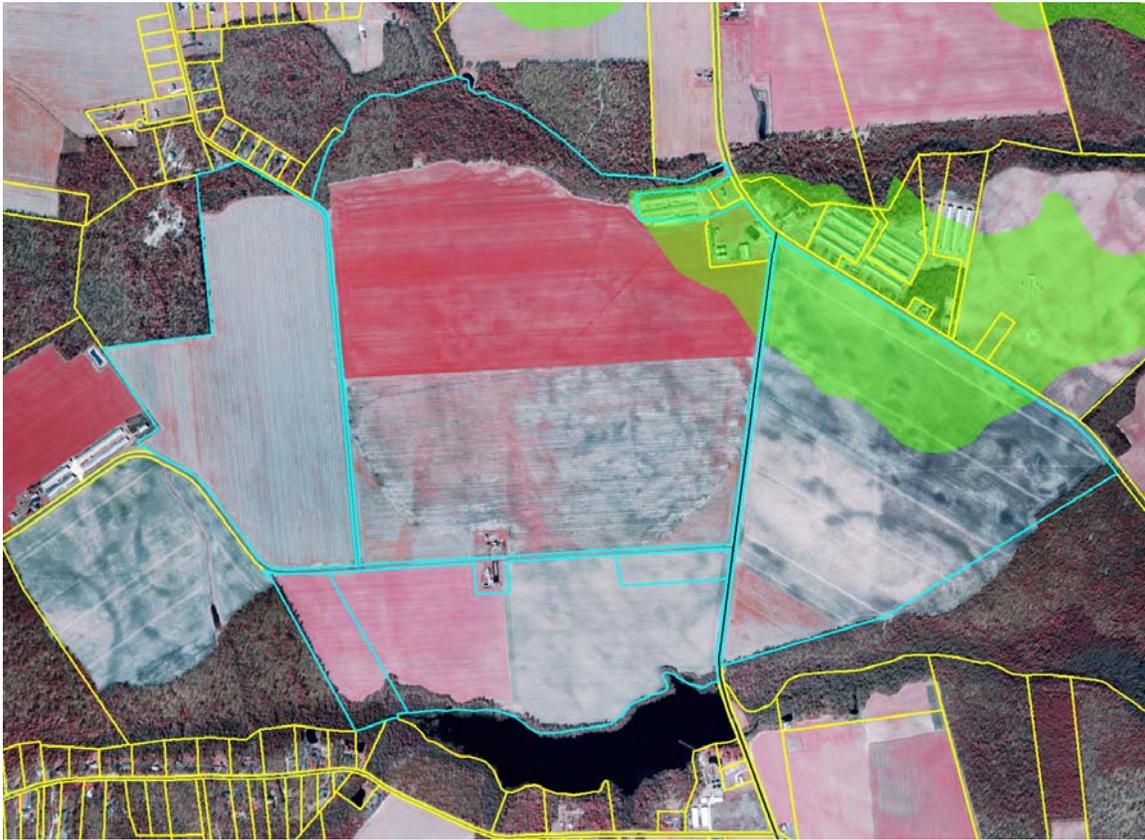
<http://www.wr.udel.edu/swaphome/phase2/SWPguidancemanual.html>

and

Ground-Water Recharge Design Methodology

http://www.wr.udel.edu/swaphome/phase2/Publications/swapp_manual_final/swapp_guidance_manual_supp_1_2005_05_02.pdf.

Isaacs Glen (PLUS 2005-11-20) with excellent recharge in green and affected parcels outlined in light blue.



Water Supply

Should an on-site public well be needed, it must be located at least 150 ft. from the outermost boundaries of the project. The Division of Water Resources will consider applications for the construction of on-site wells provided the wells can be constructed and located in compliance with all requirements of the Regulations Governing the Construction and Use of Wells. A well construction permit must be obtained prior to constructing any wells. Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising. For questions concerning these comments, please contact Rick Rios at 302-739-9944.

Floodplains

Portions of the proposed project are located within the 100-year floodplain. It is recommended that development be limited to those areas which are outside of the 100-year floodplain.

Forest Preservation

According to 2002 aerial photos there is a forested area in parcel. PLUS materials indicate that 31.7 acres will be removed for development. This forest tract is extremely beneficial to the region as it is connected to a larger tract of forest. Large contiguous stretches of forest like this not only provide important water and air quality benefits, but provide important habitat for many wildlife species that depend on interior forest. Clearing portions of the forest within the parcel may reduce the habitat value of the entire forest stretch.

Forested areas on-site set aside for conservation purposes should be placed into a permanent conservation easement or other binding protection. These areas should be clearly marked and delineated so that residents understand their importance and so that homeowner activities do not infringe upon these areas. Reforestation of the open space areas in the parcel is strongly recommended both to increase the buffer zone to the forest and to decrease long term maintenance costs for the homeowners association.

Open Space

PLUS materials indicate that 116.47 acres are proposed for open space. In areas set aside for passive open space, the developer is encouraged to consider establishment of additional forested areas or meadow-type grasses. Once established, these ecosystems provide increased water infiltration into groundwater, decreased run-off into surface water, air quality improvements, and require much less maintenance than traditional turf grass, an important consideration if a homeowners association will take over responsibility for maintenance of community open spaces. Open space containing forest and/or wetlands should be placed into a permanent conservation easement or other

permanent protection mechanism. Conservation areas should also be demarked to avoid infringement by homeowners.

Request for a Site Visit

Based on review of topographic maps, aerial photographs, and because the site has not been visited previously, the Delaware Natural Heritage Program (DNHP) botanist requests the opportunity to survey the forested and wetland resources which could be impacted by this project. This would allow more informed comments on this project and provide the applicant the opportunity to reduce potential impacts to rare species. Please contact Bill McAvoy at (302) 653-2880 to set up a site visit. **The DNHP has not been contacted yet---this is the fourth request for a site visit.**

Potential for Rare Species

Although DNHP has not surveyed the parcels, there are some records from along the riparian areas and within Reynolds Pond; however, the list below is incomplete as there could be additional rare species on the project parcels. A review of DNHP database indicates that the following species and/or communities at or adjacent to the project site:

Scientific Name	Common Name	Taxon	State Rank	State Status	Global Rank	Federal Status
<i>Sciurus niger cinereus</i>	Delmarva Fox Squirrel	Mammal	S1	E	G5T3	LE
<i>Helonias bullata</i>	Swamp Pink	Plant	S2		G3	LT
<i>Enneacanthus chaetodon</i>	Blackbanded Sunfish	Fish	S2		G4	
<i>Potamogeton pusillus</i>	Slender Pondweed	Plant	S1		G5	
<i>Lycopus amplexans</i>	Sessil-Leaved Bugleweed	Plant	S2		G5	
<i>Schoenoplectus subterminalis</i>	Water Bulrush	Plant	S2		G4G5	
<i>Rhynchospora scirpoides</i>	Long-Beaked Bald-Rush	Plant	S2		G4	
<i>Xyris smalliana</i>	Small's Yellow-Eyed-Grass	Plant	S2		G4	
<i>Drosera rotundifolia</i>	Roundleaf Sundew	Plant	S2		G5	
<i>Sagittaria engelmanniana</i>	Engelmann's Arrowhead	Plant	S2		G5	
<i>Juncus pelocarpus</i>	Brown-Fruited Rush	Plant	S2		G5	
<i>Rhynchospora alba</i>	White Beak-Rush	Plant	S2		G5	
<i>Eriocaulon parkeri</i>	Parker's Pipewort	Plant	S2		G3	
<i>Eriocaulon aquaticum</i>	Seven-Angled Pipewort	Plant	S2		G5	

State Rank: S1- extremely rare within the state (typically 5 or fewer occurrences); S2- very rare within the state (6 to 20 occurrences); B - Breeding; N - Nonbreeding; **State Status:** E – endangered, i.e. designated by the Delaware Division of Fish and Wildlife as seriously threatened with extinction in the state; **Global Rank:** G1 - imperiled globally because of extreme rarity (5 or fewer occurrences worldwide); G2 - imperiled globally because of great rarity (6 to 20 occurrences); G3 - either very rare and local throughout its range (21 to 100 occurrences) or found only locally in a restricted range; G4 - apparently secure globally but uncommon in parts of its range; G5 - secure on a global basis but may be uncommon locally; T_ - variety or subspecies rank; Q – questionable taxonomy; **Federal Status:** LE – endangered, i.e. designated by the U.S. Fish and Wildlife Service as being in danger of extinction throughout its range; LT – threatened, i.e. designated by USFWS as being likely to become endangered in the foreseeable future throughout all or a significant portion of its range; PS – proposed status.

The proposed project lies within the area where Delmarva fox squirrel (*Sciurus niger cinereus*, DFS) are likely to occur. Delmarva fox squirrels are large-bodied tree squirrels that only inhabit mature forests on the Delmarva Peninsula. Threatened mainly by loss of its forested habitat, DFS have been protected as an endangered species since 1967. As required by the Endangered Species Act, the U.S. Fish and Wildlife Service reviews projects that may harm this species or their habitat. Based on past movement data, the Service only requires consultation on projects within 3 miles of known DFS populations. Please contact Charisa Morris of the U.S. Fish and Wildlife Service (410-573-4550) to learn how to avoid impacting the habitat. She may recommend simple alterations to the project or suggest surveys to determine if Delmarva fox squirrels are present. Surveys must be done twice by a federally approved fox squirrel surveyor, once in the fall, and again between March 15 and May 30. A list of qualified surveyors is available upon request. Please note that surveys may confirm the presence of fox squirrels but cannot confirm absence.

Swamp pink is a federally listed plant that occurs within the forested wetland along North Prong on the northern border of the project and in wetlands adjacent to Reynolds Pond. This species occurs in Atlantic white cedar and maple/gum swamps which are present along these riparian corridors. In addition, this wetland community often harbors rare plants and animals and is susceptible to sedimentation and other changes to water quality. Appropriate erosion and sediment control measures should be taken during construction activities to minimize impact to this species. In addition, because this species is federally listed, there may be additional requirements and the USFWS should be contacted.

The remaining plant species listed in the table above are found within the Reynolds Pond system and could be detrimentally affected by eutrophication and sedimentation resulting from build out and changes in drainage patterns. Blackbanded sunfish (*Enneacanthus chaetodon*), a state rare species, favors heavily vegetated areas on sand or mud bottoms.

Reynolds Pond is a public-owned pond managed by the Division of Fish and Wildlife. The State is concerned that the water quality and fish habitats in the pond might be

negatively affected by this development if adequate buffers are not maintained and run-off controlled. The developer should consult with the Regional Fisheries Biologist (currently Cathy Martin, 302-653-2887) and the Division of Soil and Water Conservation (Bonnie Willis 302-739-3451) to ensure that appropriate measures such as vegetated buffer strips or nonpoint-source pollution reduction devices are part of the project design.

Critical Resource Waters

Due to the presence of the species listed above and the existence of one or more state Natural Areas, this project lies within a State Natural Heritage Site. However, it does not lie within a Delaware National Estuarine Research Reserve. This is one of the criteria used to determine the presence of Critical Resource Waters. The final decision regarding Critical Resource Waters – if this is an issue – will be made by the U.S. Army Corps of Engineers (ACOE). The information above will aid the ACOE in their determination.

Potential Hunting Issue

Because portions of this project area are part of a larger forest block, legal hunting activities may take place on adjacent properties. Hunting within 100 yards of a dwelling is prohibited and the applicant may want to contact adjacent landowners to determine if this is going to be an issue. In effect, the adjacent landowner will be losing 100 yards of their property for hunting if there is not buffer between lot lines and the adjacent property line.

Nuisance Geese

The ponds that remain in the subdivision will likely attract waterfowl like resident Canada geese and mute swans. Because this is a mixed residential community, typical methods of goose control utilized on golf courses are not advisable. The best method would be one of prevention. Native plantings of tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area around the perimeter are recommended. Waterfowl do not feel safe when they can not see the surrounding area for possible predators. It is easier to control geese when there are only a few than to remove them once they are plentiful. These plantings should be completed as soon as possible. The Division of Fish and Wildlife does not provide goose control services, and if problems arise, residents or the home-owners association will have to accept the burden of dealing with these species (e.g., permit applications, costs, securing services of certified wildlife professionals). Solutions can be costly and labor intensive; however, with a reduction in the number and/or size of the ponds, proper landscaping, monitoring, and other techniques, geese problems can be minimized.

Solid Waste

Each Delaware household generates approximately 3,600 pounds of solid waste per year. On average, each new house constructed generates an additional 10,000 pounds of construction waste. Due to Delaware's present rate of growth and the impact that growth will have on the state's existing landfill capacity, the applicant is requested to be aware of the impact this project will have on the State's limited landfill resources and, to the extent possible, take steps to minimize the amount of construction waste associated with this development.

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 112.3 tons (224,555.2 pounds) per year of VOC (volatile organic compounds), 93.0 tons (185,916.5 pounds) per year of NO_x (nitrogen oxides), 68.6 tons (137,172.6 pounds) per year of SO₂ (sulfur dioxide), 6.1 ton (12,210.7 pounds) per year of fine particulates and 9,391.9 tons (18,783,759.2 pounds) per year of CO₂ (carbon dioxide).

However, because this project is in a Level 4 area, mobile emission calculations should be increased by 118 pounds for VOC emissions for each mile outside the designated growth areas per household unit; by 154 pounds for NO_x; and by 2 pounds for particulate emissions. A typical development of 100 units that is planned 10 miles outside the growth areas will have additional 59 tons per year of VOC emissions, 77 tons per year of NO_x emissions and 1 ton per year of particulate emissions versus the same development built in a growth area (level 1,2 or 3).

Emissions from area sources associated with this project are estimated to be 45.3 tons (90,573.3 pounds) per year of VOC (volatile organic compounds), 5.0 ton (9,965.8 pounds) per year of NO_x (nitrogen oxides), 4.1 ton (8,270.2 pounds) per year of SO₂ (sulfur dioxide), 5.3 ton (10,672.3 pounds) per year of fine particulates and 183.6 tons (367,164.0 pounds) per year of CO₂ (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 17.9 tons (35,896.8 pounds) per year of NO_x (nitrogen oxides), 62.4 tons (124,858.3 pounds) per year of SO₂ (sulfur dioxide) and 9,208.3 tons (18,416,595.1 pounds) per year of CO₂ (carbon dioxide).

	VOC	NO _x	SO ₂	PM _{2.5}	CO ₂
Mobile	112.3	93.0	68.6	6.1	9391.9
Residential	45.3	5.0	4.1	5.3	183.6
Electrical		17.9	62.4		9208.3

Power					
TOTAL	157.6	115.9	135.1	11.4	18783.8

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 17.9 tons of nitrogen oxides per year and 62.4 tons of sulfur dioxide per year. A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, <http://www.energystar.gov/>:

“ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. 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.”

The energy office in DNREC is in the process of training builders in making their structures more energy efficient. The Energy Star Program is excellent way to save on energy costs and reduce air pollution. DNREC highly recommends this project development and other residential proposals increase the energy efficiency of their homes and offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for new occupants.

State Fire Marshal’s Office – Contact: Duane Fox 302-856-5298

These comments are intended for informational use only and do not constitute any type of approval from the Delaware State Fire Marshal’s Office. 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 (DSFPR):

a. **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. (Treatment)
- 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. (Assembly)
- Where a water distribution system is proposed for single family dwellings it shall be capable of delivering at least 500 gpm for 1-hour duration, at 20-psi residual pressure. Fire hydrants with 1000 feet spacing on centers are required. (One & Two- Family Dwelling)
- Where a water distribution system is proposed for the site, the infrastructure for fire protection water shall be provided, including the size of water mains for fire hydrants and sprinkler systems.

b. **Fire Protection Features:**

- All structures over 10,000 Sq. Ft. aggregate will require automatic sprinkler protection installed.
- Buildings greater than 10,000 sq.ft., 3-stories of more or 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

c. **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 Issacs Road, Humming Bird Road, and Beideman Road 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.
- Any dead end road more than 300 feet in length shall be provided with a turn-around or cul-de-sac arranged such that fire apparatus will be able to turn around by making not more than one backing maneuver. The minimum paved radius of the cul-de-sac shall be 38 feet. The dimensions of the cul-de-sac or turn-around shall be shown on the final plans. Also,

please be advised that parking is prohibited in the cul-de-sac or turn around.

- If the use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.

d. **Gas Piping and System Information:**

- Provide type of fuel proposed, and show locations of bulk containers on plan.

e. **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

Preliminary meetings with fire protection specialists are encouraged prior to formal submittal. Please call for appointment. Applications and brochures can be downloaded from www.delawarestatefiremarshal.com, technical services link, plan review, applications or brochures

Department of Agriculture - Contact: Milton Melendez 698-4500

The Delaware Department of Agriculture vehemently opposes this project. The development of these key parcels in a traditional, establish and viable agricultural community is not only counter to the principles of “Livable Delaware,” but will also act as a catalyst development helping to stimulate the further residential and commercial development of the area. This site is located in a Level 4 area where the State Spending Strategies promote preservation and conservation of our precious natural resources. In addition, a great deal of farm preservation activity has occurred in this surrounding area. To date, in an area approximately three miles surrounding this proposed development

site, 33 permanent agricultural easements, encompassing 5,681 acres have been established at a cost of approximately \$7.3 million. Within that same geographical area, landowners have also donated approximately that same value in order to preserve their viable and productive agricultural land. The state has a vested interest in securing the future agricultural viability of this area. We (the state) also have a responsibility to ensure the future agricultural viability for landowners in this area who have donated significant land value to permanently preserve their land. Please see attached map for additional details. This development will lessen the value of the environmental resources found within and adjacent to this site.

If this site is developed, then because the site borders the 239-acre, Ponder Farm Agricultural Preservation Easement, the 50 foot setback and 300 foot notification zone requirement do apply. The developer will be required to place the below stated deed notice in every new recorded deed located within the whole development. See below:

§ 910. Agricultural use protections.

(a) Normal agricultural uses and activities conducted in a lawful manner are preferred and priority uses and activities in Agricultural Preservation Districts. In order to establish and maintain a preference and priority for such normal agricultural uses and activities and avert and negate complaints arising from normal noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations, land use adjacent to Agricultural Preservation Districts shall be subject to the following restrictions:

(1) For any new subdivision development located in whole or in part within 300 feet of the boundary of an Agricultural Preservation District, the owner of the development shall provide in the deed restrictions and any leases or agreements of sale for any residential lot or dwelling unit the following notice:

"This property is located in the vicinity of an established Agricultural Preservation District in which normal agricultural uses and activities have been afforded the highest priority use status. It can be anticipated that such agricultural uses and activities may now or in the future involve noise, dust, manure and other odors, the use of agricultural chemicals and nighttime farm operations. The use and enjoyment of this property is expressly conditioned on acceptance of any annoyance or inconvenience which may result from such normal agricultural uses and activities."

(2) For any new subdivision development located in whole or in part within 50 feet of the boundary of an Agricultural Preservation District, no improvement requiring an occupancy approval shall be constructed within 50 feet of the boundary of the Agricultural Preservation District.

(b) Normal agricultural uses and activities conducted in accordance with good husbandry and best management practices in Agricultural Preservation Districts shall be deemed protected actions and not subject to any claim or complaint of nuisance, including any such claims under any existing or future county or municipal code or ordinance. In the event a formal complaint alleging nuisance related to normal agricultural uses and activities is filed against an owner of lands located in an Agricultural Preservation District, such owner, upon prevailing in any such action, shall be entitled to recover reasonably incurred costs and expenses related to the defense of any such action, including reasonable attorney's fees. (*68 Del. Laws, c. 118, § 2.*)

The Delaware Department of Agriculture strongly encourages the developer to work with all agencies to consider alternative uses for this site. The Delaware Department of Agriculture and the Delaware Forest Service offers our services to the developer and its contractors in the re-design of this project and for other uses by the owner, to learn more please contact our office at (302) 698-4500.

Public Service Commission - Contact: Andrea Maucher 739-4247

The project information sheets state that water will be provided to the project by a PSC Regulated & Licensed Public Utility. Records indicate that the project site is not located in an area where public water service is available. Any public water utility providing water to the site must obtain a certificate of public convenience and necessity (CPCN) from the Public Service Commission. Information on CPCNs and the application process can be obtained by contacting the Public Service Commission at 302-739-4247. Any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines. Contact: Malak Michael at (302) 739-4247.

Delaware State Housing Authority – Contact Jimmy Atkins 739-4263

The proposal is to develop 1,630 units on 836 acres located on either side of Isaac's Road, north of Reynolds Pond and south of Jefferson Crossroads, between Milford and Milton. According to the *Strategies for State Policies and Spending*, the proposal is located in an Investment Level 4 area and outside the growth zone. As a general planning practice, DSHA encourages residential development in areas where residents will have proximity to services, markets, and employment opportunities such as Investment Level 1 and 2 areas outlined in the *State Strategies*. DSHA opposes this proposal because it is located in an area targeted for agricultural and natural resource protection. Therefore, the proposal is inconsistent with where the State would like to see new residential development

Sussex County – Contact: Richard Kautz 855-7878

There are factual discrepancies between the PLUS application form and the site plan, the number of lots for example. Because this project is an AR-1 Cluster subdivision, the developer must include in the application a plan for the management of all open space. Also, the developer must document for the Planning and Zoning Commission how the proposed development: provides for a total environment and design which are superior to that which would be allowed under the standard lot option; preserves the natural environment and historic or archeological resources; and, will not have an adverse effect on any of the items included under Ordinance Number 1152 (County Code 99-9C). For example, the reduction of 1,630 lots from 20,000 sq. ft. to 7,500 sq. ft. allows for more than 460 acres of open space yet only 360 acres of "useable" open space is provided. As a result, many of the lots do not have direct access to open space. These issues can be addressed by including in the application an explanation of how the developer plans to mitigate the issues raised by the State agencies.

This fiscal year Sussex County will be considering implementation of a Source Water Protection Program required by the State. Depending on the requirements adopted by the County Council this project might be affected. Any well location should insure that the wellhead protection area is entirely on site.

The Sussex County Engineer comments: the project proposes to develop using a private central community wastewater system. It is recommended that the wastewater system be operated under a long-term contract with a capable wastewater utility. In addition, a wastewater utility provider should be in place prior to approving the project. The proposed project is located outside of the Inland Bays Planning area where Sussex County expects to provide sewer service. Sussex County requires design and construction of the collection and transmission system to meet Sussex County sewer standards and specifications. A review and approval of the treatment and disposal system by the Sussex County Engineering Department is also required and plan review fees may apply. Disposal fields should not be counted as open space. Wastewater disposal fields should be clearly identified on recorded plots. Submission and approval of a sewer Concept Plan is required before submission and review of construction plans. A checklist for preparing sewer concept plans is attached.

If Sussex County ever provides sewer service, it is required that the treatment system be abandoned and a direct connection made to the County system at the developers and/or homeowners association expense.

Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of

State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.

Thank you for the opportunity to review this project. If you have any questions, please contact me at 302-739-3090.

Sincerely,

A handwritten signature in cursive script that reads "Constance C. Holland".

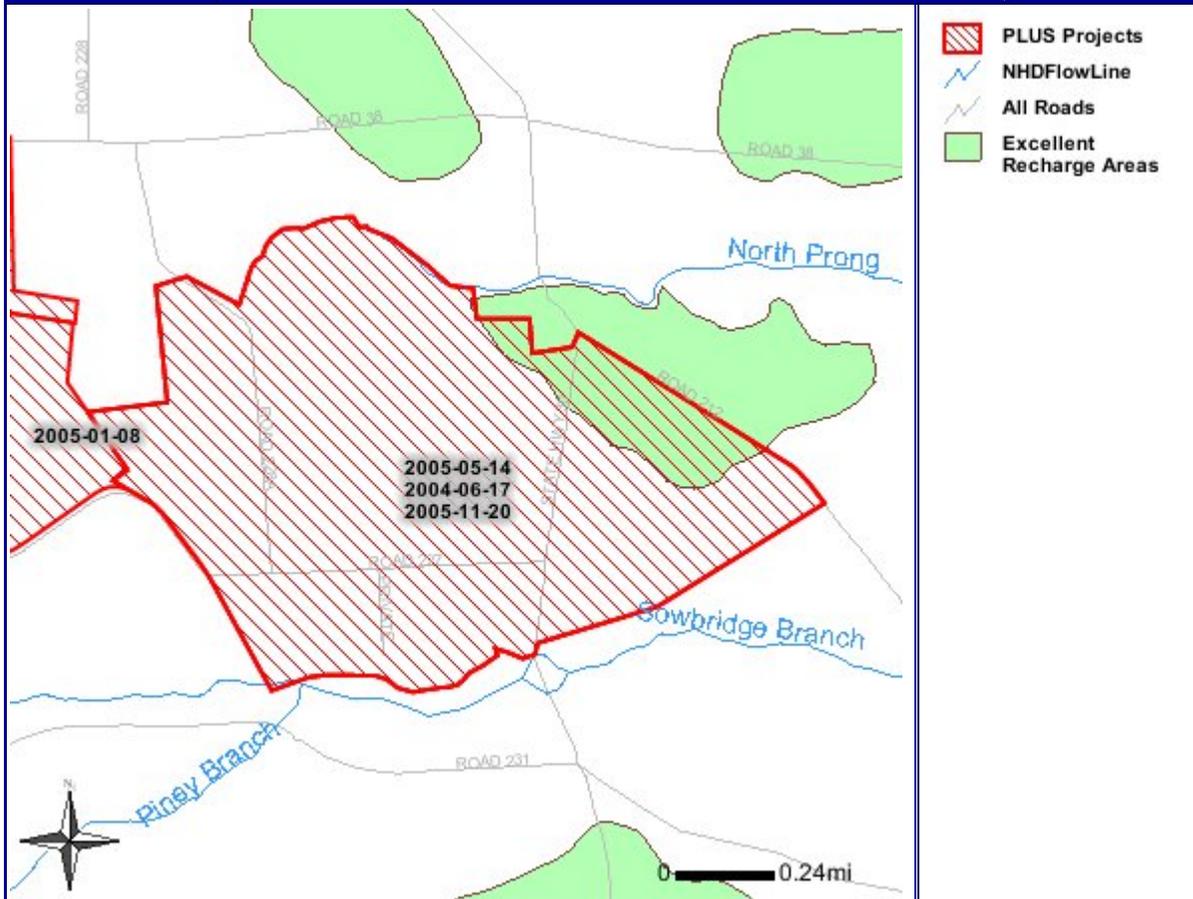
Constance C. Holland, AICP
Director

CC: Sussex County



Village of Issacs Glen November 2005 Review

2005-11-20



This map was produced by the Delaware
Department of Natural Resources and Environmental Control.

