

JKC, LLC

February 7, 2006

Ms. Constance C. Holland, AICP
Office of State Planning Coordination
540 S. DuPont Highway
Dover, DE 19901

RE Ingram's Point
PLUS Response letter
2005-03-07

Dear Ms. Holland,

This letter is in response to comments received from the Office of State Planning dated April 15, 2005. We have revised the plan based on these comments and our response is included for your review. First we would like to report a summary of a number of significant improvements inspired by the suggestions contained in the PLUS comments.

Athletic Field – A park, located on Pine Tree Lane, has been significantly expanded to provide room for an athletic field and other recreation. Two lots were taken from this area to make room for a full size soccer or football field.

Timber Branch Park - A park has been added between lots 310 and 309 to provide recreation opportunities for residents to access and view the forest and stream. Benches placed near the running stream will allow residents to enjoy this scenic location.

Side Yard - No-Cut Zones – 8 foot No-Cut Zones along the sides of all lots have been added to reduce the impact on the forest.

Rear No-Cut Zones – No-Cut Zones at the rear of lots have been expanded and are marked on the site plan for lots that have them. Most of the interior lots include Rear No-Cut Zones ranging from 10 feet to 20 feet.

Limited Clearing - In addition to the clearing limitations provided by the No-Cut Zones, removal of trees greater than a to be determined diameter shall not be permitted for purposes other than for the house, 40 feet in front and to the rear of the house, driveways, septic fields, garages, storage buildings, or by special exemptions provided for in the restrictions.

The **Cul-de-sac** on Mallard Drive was removed to provide improved traffic flow in response to the comments provided by DelDOT.

An easement was added for a **Stub Street** to provide access to the Parker Property to the north

Limited Density - All of the improvements above were accomplished while still maintaining an average lot size of 30,000 square feet or .70 ac. This will significantly reduce the overall impact on clearing of the forest. The ordinance permits up to 200 lots [(150 Acre* 43,560)/32,670] but our plan includes 130 (reduced by three from the original proposal) or only 65% of the total permitted. The site plan gains all of the benefits of the cluster design without the detriments of typical cluster density.

Nature Path – A long 2,900 foot mulched trail has been added in a forested open space to permit walks through the forest.

Open Space – The total amount of active open space has been increased by 17% from the previous Active Open Space. The total open space area has been increased to 41 acers.

Corner Lots – No-Cut Zones on streets that run along the side of corner lots have been added to reduce trees cut and also to enhance the view as you drive through the subdivision.

Paved Multi Modal Paths – Paved 4 foot multi modal paths for walking, biking, and jogging have been added on the interior of all streets.

In the pages that follow, we have provided our response to comments as requested. We thank you for your review and comments for this project. If you have any questions or comments, please contact me at (410) 543-0550.

Sincerely,

Keith A. Cordrey
JKC, LLC.

CC Mr Lawrence Lank Director, Sussex County Planning and Zoning

April 15, 2005

Mr. Keith Cordrey
JKC, LLC
17 Fairway Avenue
Georgetown, DE 19947

RE: PLUS review – PLUS 2005-03-07; Ingram's Point

Dear Mr. Cordrey:

Thank you for meeting with State agency planners on March 30, 2005 to discuss the proposed plans for the Ingram's Point project to be located on County Road 412, west of Millsboro. According to the information received, you are seeking site plan approval through Sussex County for 133 residential units on 150 acres.

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 Office of State Planning Coordination notes that this proposal is located in an Investment Level 4 area according to the Strategies for State Policies and Spending. In these areas, State policies encourage agricultural preservation and the conservation of natural resources, not development. The State will not participate in any infrastructure upgrades necessary to support this proposal.

We acknowledge the State's concern regarding State Strategies and Project Location. We ask that you consider input from the citizens of the state who enjoy living in many of the desirable developing rural areas.

Street Design and Transportation

- *Sidewalks should be provided on all internal streets to encourage walking.*

A paved pathway has been provided along all of the internal streets.

- *DelDOT recommends that the plan be reconfigured to eliminate the cul-de-sacs on Nature's Way, the south end of Mallard Drive and both ends of Deer Run Court.*

The cul-de-sac on the south end of Mallard Drive (now Duck Haven Drive) has been eliminated. The cul-de-sacs on Nature's Way and both ends of Deer Run Court are on a road of only minimal length. We have explored other options but have found the use of the cul-de-sac affords more generous size lots and privacy for the lots in this area.

- *DelDOT recommends that one or more stub streets be provided to the Merrill J. & Betty L. Parker property to the west.*

A Stub Street has been added to provide access to the Merrill J. & Betty L. Parker property to the west.

Natural and Cultural Resources

- *Because there is evidence that wetlands exist on the subject parcel, we strongly recommend that an Army Corps of Engineers (ACOE) approved wetlands delineation be conducted before commencing development.*

Atlantic Resource Management Inc has completed a 404 Wetland delineation. We will obtain required permits prior to commencing development. An application has been submitted to the Army Corps of Engineers for approval of the wetland delineation.

- *Recommended vegetated buffers of no less than 100 feet (increasing the buffer to 300 feet along the eastern side of the site, adjacent to Ingram's Pond, is recommended) should be employed from the edge of the wetland complex and other waterbodies on site.*

The buffers have been increased from 25 feet to 50 feet. All lots are entirely outside of the wetlands.

- *Lot lines should be moved to avoid impact to the mature forested area on the northeastern portion of the parcel.*

We have employed a number of steps to minimize the impact to the forested areas. Please see the Forest section of comments provided by Department of Agriculture for details.

- *The PLUS application indicates that only 13 acres of forest will be removed. This seems unrealistic in order to accommodate the necessary roads, houses, septic systems, and other disturbance that would be necessary to construct the proposed plan.*

The 13 acres of forest estimated to be removed in the PLUS application represented the wooded area that would be supporting the road system. In addition to the roads, 130 homes are estimated to require 10,000 square feet (1,800 square feet for a house, 600 square feet for a garage, and 7,600 square feet for front yard, rear yard and septic) of clearing each for a total of approximately 29.84 acres ($130 \times 10,000 / 43,560$).

- *The PLUS application indicates that Ingram's Pond is going to be used as the outlet for stormwater collected from the site. The Division of Fish and Wildlife has spent a large amount of time and funding to improve the water quality of this pond and is opposed to its use as an outlet. In addition, there are records of rare plant and animal species within the pond and its tributaries that would be detrimentally affected by changes in water quality.*

The storm water management system for the subdivision will employ roadside swales, piping, and utilize an existing pond. The swales will help filter any water prior to it being conveyed to the pond via a pipe system. The pond, which will be designed as a wet pond, will further filter any water by detaining it long enough for solids to settle prior to discharge. The discharge point of the existing pond will remain unchanged both in location and flow rates. Discharge quality will meet or exceed current DNREC and Sussex County requirements per the current standards.

- *It is strongly recommended that all stormwater management pond(s) be at least 100 feet away from all wetlands and/or streams.*

The existing pond is going to be used as the primary pond in the stormwater management system in order to minimize impact on forest.

- *Portions of the property lie within the 100-year floodplain. Long Drain Ditch has never had 100-year flood elevations determined by FEMA. The applicant is required to calculate 100-year flood elevations if the floodplain is not left as open space.*

Our surveyor, Don Miller, has advised that the flood plain for the site is 24 feet above sea level or 2.1 feet above the water level of Ingram's Pond. All lots are located in an area with elevations higher than 24 feet above sea level.

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

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

The Office of State Planning Coordination notes that this proposal is located in an Investment Level 4 area according to the Strategies for State Policies and Spending. In these areas, State policies encourage agricultural preservation and the conservation of natural resources, not development. The State will not participate in any infrastructure upgrades necessary to support this proposal.

This proposal is adjacent to Longwood Lakes, a project to which the State voiced concerns, similar to the concerns over this project. Detail on the State concerns can be found below in the State agency comments, but we are particularly concerned about the loss and fragmentation of the forest on-site and the impact that the proposed development will have on water quality in the Inland Bays watershed.

The project is located along County Road 412 which is in a developing area with attractive homes across the street and in both directions along the road. Another subdivision, Parker's Point, is located south on Road 410. A new golf course community is under construction on approximately 600 acres west of our project also along Road 410 and Route 24. Ingram's Point is adjacent to Longwood Lakes, a project that received preliminary approval from Sussex County in November of 2005. Oakmont is located to the west of the site.

There is a need for single family building lots in the Millsboro area. Much of the development in or near the Town of Millsboro has been town houses and other high-density housing. This project offers single family building lots in a more natural open area. Many of our native Sussex Countians enjoy locating in such areas.

State Historic Preservation Office (SHPO) – Contact: Alice Guerrant 739-5685

While nothing is known on the parcel, it is on a mill pond, and appears to have the tail race within the parcel. Beers Atlas of 1868 notes the location of the Dr. J. Martin House, an unlabelled building, and a saw mill in the general area. There may very well be a mill site within this parcel next to the pond. The probability for prehistoric archaeological sites is relatively low.

SHPO would be happy to work with the owner/developer to delineate any areas of archaeological sensitivity. If the tail race/pond is used as a storm water management pond, they would like to have a record of the bottom contours made before it is modified for that use.

The area to the south and west of the pond will be preserved as open space. SHPO is welcome to visit this area of the site to search for any areas of archaeological sensitivity.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

Because the development is proposed for a Level 4 Area, it is inconsistent with the Strategies for State Policies and Spending. Therefore DelDOT will not participate in the cost of any road improvements needed to support this development. The comments that follow are technical, and are not intended to suggest that DelDOT supports this development proposal.

- 1) *The developer should expect to be required to improve Lakeview Road to DelDOT's local road standards from Phillips Hill Road (Sussex Road 472) to Country Living Road. Those standards are 11-foot lanes and 5-foot shoulders. We are aware that several smaller developments have been built along this section of road and each has presumably made at least some road improvements. Therefore DelDOT has not yet determined specifically what improvements will be required of the developer to meet those standards.*

We are prepared to make improvement required to Lake View Road in agreement with DelDOT's local road standard but believes these improvements should be limited to the area in front of the project.

- 2) *Lakeview Road is classified as a local road. Local roads in rural Delaware typically have right-of-way widths ranging from 33 to 50 feet. DelDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 30 feet from the centerline on local roads. Therefore they will require right-of-way dedication to provide any additional width needed from this project.*

We will provide a minimum right of way width of 30 feet from the centerline on local roads.

- 3) *DelDOT will also require that a paved multi-modal path, located in a 15-foot wide permanent easement, be provided across the frontage of the site. If right-of-way permits, DelDOT may require that the path be extended to provide safe pedestrian access to the millpond located southeast of the development on the opposite side of Lakeview Road*

We will provide a paved multi-modal path located in a 15-foot wide permanent easement.

- 4) *The response to Item 40 on the PLUS form indicates that sidewalks are not proposed. It is recommended that sidewalks be provided on all internal streets to encourage walking.*

A paved path will be provided adjacent to the interior of all streets. We want to offer a more natural feel in the wooded environment, thus have chosen the paved path instead of sidewalks.

- 5) *DelDOT recommends that the plan be reconfigured to eliminate the cul-de-sacs on Nature's Way, the south end of Mallard Drive and both ends of Deer Run Court, possibly by extending the north one to the property line as a stub street. Doing so would enhance the grid street pattern and provide more of a sense of community through additional interconnections.*

The cul-de-sac on the south end of Mallard Drive (now Duck Haven Drive) has been eliminated. The cul-de-sacs on Nature's Way and both ends of Deer Run Court are on a road of only minimal length. We explored other options but have found the use of the cul-de-sac affords more generous size lots and privacy for the lots in this area.

- 6) *DelDOT recommends that one or more stub streets be provided to the Merrill J. & Betty L. Parker property to the west.*

A Stub Street has been added to provide access to the Merrill J. & Betty L. Parker property to the west.

- 7) *The developer's site engineer should contact the DelDOT Subdivision Manager for Sussex County, Mr. John Fiori, regarding their specific requirements for the design of the road improvements and site entrance. Mr. Fiori may be reached at (302) 760-2260.*

We have been in contact with Mr. John Fiori, regarding specific requirements for the design of the road improvements and site entrance.

The Department of Natural Resources and Environmental Control

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.

We acknowledge this comment and have considered it important for our development team to protect the resources through an appropriate site design.

Soils

According to the soil survey update Evesboro, Pepperbox-Rosedale, Longmarsh-Indiantown, and Pits and gravel were mapped in the immediate vicinity of the proposed construction. Evesboro is an excessively well-drained upland soil that has limitations associated with rapid permeability. Pepperbox-Rosedale is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Longmarsh-Indiantown is a very poorly-drained wetland associated (hydric) soil that has severe limitations for development. Pits and gravel is a soil mapping unit that has been subjected to extensive clearing, grading, or filling activities. Most of the disturbance impacts on this mapping unit are likely to be associated with soil compaction and alterations in the existing soil surface and subsurface hydrology.

The soils available on the project are some of the best available for developing.

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine wetlands on site.

*Impacts to Palustrine wetlands are regulated by the Army Corps of Engineers through Section 404 of the Clean Water Act. 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. **It is strongly recommended that an Army Corps of Engineers (ACOE) approved wetlands delineation be conducted before commencing development.***

Atlantic Resources Management Inc has completed a 404 Wetland delineation. An application has been submitted to the Army Corps of Engineers for approval of the wetland delineation.

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.

We have contacted the State Wetlands Department and has been advised there are no areas on the site where they have jurisdiction.

Wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Lots should be removed in their entirety from the wetland, wetland buffers and the forested areas. Recommended vegetated buffers of no less than 100 feet (increasing the buffer to 300 feet along the eastern side of the site, adjacent to Ingram's Pond, is recommended) should be employed from the edge of the wetland complex and other waterbodies on site. It is important to note that both DNREC and Army Corps of Engineers discourage allowing lot lines to contain wetlands and associated buffers, to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances that can be caused by homeowners.

The buffers have been increased from 25 feet to 50 feet. All lots are entirely outside of the wetlands.

*It should also be noted that headwater riparian wetlands associated with Long Drain Ditch and Shoal's Branch immediately border the northern and southern boundaries of said parcel. 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 waterbodies (Inland Bays) downstream. **In recognition of this concern, the Department strongly recommends that the applicant preserve the existing natural forested buffer adjacent to said wetlands in their entirety. Efforts to maximize or expand (beyond the recommended 100-foot minimum) the existing natural buffer width with native herbaceous and/or woody vegetation, is strongly recommended.***

We acknowledge this comment and have doubled the size of the buffers from 25 feet to 50 feet.

ERES Waters

This project is located adjacent to receiving waters of Inland Bays designated as waters having Exceptional Recreational or Ecological Significance (ERES). ERES waters are recognized as special assets of the State, and shall be protected and/or restored, to the maximum extent practicable, to their natural condition. Provisions in Section 11.5 of Delaware's "Surface Water Quality Standards" (as amended August 11, 1999), specify that all designated ERES waters and receiving tributaries develop a "pollution control strategy" to reduce non-point sources of nutrient runoff through implementation of Best Management Practices (BMPs). Best Management Practices as defined in subsection 11.5(e) of this section, expressly authorizes the Department to provide standards for controlling the addition of pollutants and reducing them to the greatest degree practicable, or where attainable, a standard requiring no discharge of pollutants.

A complete sediment control and stormwater management plan will be prepared and submitted to the Sussex Conservation District for review. No construction will take place on-site until a sediment control and storm water management plan has been approved by the Conservation District.

TMDLs

With the adoption of Total Maximum Daily Loads (TMDLs) as a “nutrient-runoff-mitigation strategy” for reducing nutrients in the Inland Bays Watershed, reduction of nitrogen and phosphorus loading will be mandatory. A TMDL is the maximum level of pollution allowed for a given pollutant below which a “water quality limited water body” can assimilate and still meet water quality standards to the extent necessary to support use goals such as, swimming, fishing, drinking water and shell fish harvesting. Although TMDLs are authorized under federal code, states are charged with developing and implementing standards to support those desired use goals. The Jurisdictional authority for attaining these use goals will fall under the auspices of Section 11.5 of the State of Delaware’s Surface Water Quality Standards (as amended August 11, 1999), and will be achieved via nutrient reductions referred to as “pollution control strategies.”

*Nutrient reductions prescribed under TMDLs are assigned on basis of water quality concerns – that is, the those regions deemed to be of greatest environmental concern will require correspondingly higher levels of nutrient reduction than those regions deemed less environmentally sensitive. In this watershed, these regions are demarcated as high and low reduction zones. The high reduction zone corresponds to the western portion of the watershed, and requires a reduction of nitrogen and phosphorus by 85 and 65 percent, respectively. The low reduction zone corresponds to the eastern portion of the watershed, and requires a reduction of nitrogen and phosphorus by 40 percent. **This project is proposed within the high nutrient reduction zone. Removal of forested areas on the site will make the nutrient reductions difficult, if not impossible, to meet.***

Since the TMDL for the Inland Bays mandates reducing nutrient loading to waters of the Inland Bays significant nitrogen and phosphorus loading must be realized from all sources, including onsite/community wastewater systems. The Department has developed performance standards based on research by Departmental staff and Dr. Mike Hoover (North Carolina State University) for on-site wastewater treatment and disposal systems. Due to the size of a development’s system, the performance standard dictates that the effluent concentration levels can not exceed average annual nitrogen and phosphorus concentration levels of 5 and 2 mg/l, respectively. The phosphorus standard only applies when applicable.

In order for the applicant to verify compliance with the TMDL mandate, a full nutrient accounting process known as nutrient budget should be prepared. The developer/consultant should contact Lyle Jones in the Department’s Watershed Assessment Section for further information regarding the acceptable protocol for calculating a nutrient budget. He can be reached as 739-4590.

[We will incorporate BMP’s during the design of this project.](#)

Water Supply

The project information sheets state that individual on-site wells will be used to provide water for the proposed project. Our records indicate that the project is not located in an area where public water service is available. 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.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-3665.

We will comply with the guidelines supplied regarding water supply. We have changed the proposed project to use a central water system instead of individual on-site wells.

If dewatering is required during construction we will comply with all applicable rules and regulations.

Sediment and Erosion Control/Stormwater Management

- 1. Please submit a sediment control and stormwater management plan to the Sussex Conservation District for review. No construction (i.e. clearing, filling, grading, etc.) shall take place on-site until a sediment control and stormwater management plan has been approved by the Conservation District.*
- 2. Please indicate on the sediment and stormwater management plan who shall be responsible for maintenance of the stormwater management facilities both during construction and after.*
- 3. During the design of the sediment control and stormwater management plan, considerations should be made for maintenance (i.e. access, easements, etc.) of any structures or facilities.*
- 4. During the design of the stormwater management facility please note that both stormwater quantity and quality must be addressed.*

5. *If a stormwater management pond is going to be utilized as a sediment trap/basin during construction it must be designed to accommodate 3600 cubic feet of storage per acre of contributing drainage area until project stabilization is complete.*
6. *Specify First Floor elevations for all lots.*
7. *All ponds are required to be constructed per pond code 378.*
8. *Please demonstrate to the Conservation District that you have an adequate outfall for the proposed stormwater facilities.*
9. *Please note that if the stormwater facilities will impact wetlands, a permit must be provided to the District prior to receiving approval. Please address this.*
10. *It is the District's understanding that the designer intends to utilize the existing pond as a stormwater management facility. You will be required to demonstrate that the existing natural area can provide water quality as well as management of the 2 and 10 – year storm events and a safe conveyance for the 100-year storm. In addition, the existing facility will have to be modified to comply with the DNREC Health and Safety Memo of 2000, which specifies that all wet ponds are required to have a 10-foot safety bench one foot below the permanent pool with top side slopes of 4:1 or flatter.*
11. Due to the proximity to sensitive areas, the Conservation District will require reinforced and super silt fence to adequately protect wetland areas during the construction of the site.
12. A CCR is required for this development since the gross acreage for the project exceeds 50 acres.
13. Please contact us when design of stormwater management facility is initiated, as we would like to work closely with you in its design.
14. ***It is also strongly recommended that all stormwater management pond(s) be at least 100 feet away from all wetlands and/or streams.***

A detailed sediment control and stormwater management plan will be prepared and submitted to the Sussex Conservation District for review. No construction will take place on-site until a sediment control and storm water management plan has been approved by the Conservation District.

BMP systems employed include swales, piping, and utilizing an existing pond. The swales will help filter any water prior to it being conveyed to the pond via a pipe system. The pond, which will be designed as a wet pond, will further filter any water by detaining it long enough for solids to settle prior to discharge. The discharge point of the existing pond will remain unchanged both in location and flow rates. Discharge quality will meet or exceed current DNREC and Sussex County requirements per the current standards

Floodplains

Portions of the property lie within the 100-year floodplain. Long Drain Ditch has never had 100-year flood elevations determined by FEMA. The applicant is required to calculate 100-year flood elevations if the floodplain is not left as open space.

Our surveyor, Don Miller, has advised that the flood plain for the site is 24 feet above sea level or 2.1 feet above the water level of Ingram's Pond. All lots are located in an area with elevations higher than 24 feet above sea level.

Forests

According to 2002 aerial photos, the site is extensively forested; however, PLUS materials indicate that 13 acres of the forested area will be removed. 1937 maps indicate mature forest still present on majority of the north eastern portion of the parcel. Lot lines should be not impact the mature forested area, therefore any lines within this area should be removed. Preservation of the mature forested area should be given the highest priority. Because this parcel is mapped as a Natural Resource focus area under the Green Infrastructure initiative, and contains mature hardwoods, the developer and County should relocate all lots within this area and preserve this forest.

The forested area within this parcel is a component of a contiguous stretch 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. Therefore, the developer is strongly encouraged to preserve, and where possible, enhance forested resources on site. This includes removing lot lines and infrastructure (such as storm water management ponds) from forested areas to the extent possible and minimizing any clearing activities. The forested areas on-site should be viewed as a community asset and managed appropriately.

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.

More of this forested area could be preserved by reducing the number and size of lots or by arranging the open space so that it is a continuous area rather than small disconnected areas. Larger, connected areas of forest are more beneficial to wildlife than narrow buffer strips or small disconnected areas of forest. As mentioned above, at least 100 feet of forested buffer should be left intact along the tributaries of Ingram's Pond and around any associated wetlands.

We acknowledge the comment regarding the wooded area. We have taken the following steps to minimize the impact to the forested areas:

A significant area selected for open space is forested so as to preserve as much forest as possible with the open space provided. A new 2900 linear foot forested path has been added connecting Timber Branch (formerly Timbercreek Drive) to Ingram's Branch (formerly Branch Drive).

The Athletic field was located in a cleared area to avoid clear cutting of a forested area.

Side No-Cut Zones (8 feet) for side yards have been added to reduce the impact on the forest.

Rear No-Cut Zones have been expanded and are marked on the site plan for lots that have them. Most of the interior lots include Rear No-Cut Zones ranging from 10 feet to 20 feet.

Clearing Density is limited by restrictions. All of the improvements above were accomplished while still maintaining an average lot size of over 30,000 square feet or .70 acres. This will significantly reduce the overall impact on clearing of the forest. The ordinance permits up to 200 lots $[(150 \text{ acres} * 43,560) / 32,670]$ but our plan includes 130 (down from 133 originally proposed) or only 65% of the total permitted. The site plan gains all of the benefits of the cluster design without the detriments of typical cluster density.

A 30 foot forest buffer is included in the plan along all properties that border the subdivision to the north.

Cutting of trees over a to be determined diameter will be restricted by lot owners without the approval of the Homeowner's association.

Open Space

To maximize the existing buffering capacity and wildlife habitat on site, it is recommended that lot lines and other infrastructure be pulled out of the forest and areas of community open space be designated along the forest and wetland areas. Doing so will create recreational opportunities for residents by allowing them access to and views of the forest and streams.

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.

Due to the fact that the adjacent property is a Protected State Resource Area the developer is encouraged to place the forest and/or wetlands into permanent conservation easement. Conservation areas should also be demarked to avoid infringement by homeowners.

A park has been added along Timber Branch to allow recreation opportunities for residents by allowing them to access and view the forest and stream. A park already was provided along the South East point that provided views and access to Ingram's Pond. While this would have been a superior lot, we have dedicated it to open space to preserve this valuable spot so it could be enjoyed by all residents of the community.

The open space along Pinetree Lane has been significantly expanded so that it may be used as an athletic facility. It is located in a mostly non-forested area so that it will not require as much removal of forest.

A new open space has been provided. A long 2,900 linear feet of forested open space has been added to permit walks through the forest. The total amount of active open space has been increased to 18.93 acres. The total open space is 41.42 acres or 28% of the total site.

Rare Species and Ingram's Pond

This site has never been surveyed; however, the DNREC database indicates that there are currently no records of state-rare or federally listed plants, animals or natural communities on the project parcel. Because DNREC has not visited the site previously, the Delaware Natural Heritage and Endangered Species Program botanist requests the opportunity to survey the forested and wetland resources which could potentially be impacted by the project. His observations would allow him to make more informed comments on this project and would allow 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.

Ingram's Pond is a publicly owned pond managed by the Division of Fish and Wildlife, DNREC. The State is concerned that the water quality and fish habitats in the pond might be negatively affected by development activities. According to the application, Ingram's Pond is going to be used as the outlet for stormwater collected from the site. The Division has spent a large amount of time and funding to improve the water quality of this pond and is opposed to its use as an outlet. In addition, there are records of rare plant and animal species within the pond and its tributaries that would be detrimentally affected by changes in water quality.

The BMP SWM should prevent any negative changes to the water quality of the pond.

Potential Hunting Issue

Because the project parcel is part of a larger forest block, legal hunting activities may take place on adjacent properties. Hunting within 100yds of a dwelling is illegal 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 100yds of their property for hunting if there is no buffer between lot lines and the adjacent property line.

The property to the East of Long Drain is owned by Indian River School District. The property to the South is owned by the State. Neither of these should have hunting activities.

Nuisance Waterfowl

Stormwater ponds constructed onsite will likely attract waterfowl like resident Canada geese and mute swans that will create a nuisance for community residents. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Ponds that remain in the subdivision plan should be landscaped to deter nuisance species. Short manicured lawns around ponds provide an attractive habitat for these species. However, native plantings, including tall grasses, wildflowers, shrubs, and trees at the edge and within a buffer area (at least 50 feet) around ponds, are not as attractive to geese because they do not feel as safe from predators and other disturbance when their view of the area is blocked. 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 of ponds, proper landscaping, monitoring, and other techniques, geese problems can be minimized.

During the design of the SWM facilities, we will incorporate a plan that will prevent the SWM from becoming an attractive habitat for nuisance waterfowl.

Recreation

It is recommended that sidewalks be built fronting every residence and stub streets. A complete system of sidewalks will: 1) fulfill the recreation need for walking and biking facilities, 2) provide opportunities for neighbors to interact in the community, and 3) facilitate safe, convenient off-road access to neighboring communities, parks, public mass transit stops, schools, stores, work, etc. We recommend that a bike and pedestrian access be provided to both parcels to the north especially to the parcel owned by the Indian River School District.

A paved pathway has been added along all interior streets.

The Division of Parks and Recreation conducted a telephone survey of Delaware residents to gather information on outdoor recreation patterns and preferences as well as other information on their landscape perception. These findings are the foundation of the 2003-2008 Statewide Comprehensive Outdoor Recreation Plan (SCORP) providing guidance for investments in needed outdoor recreation facilities. The high facility needs in Eastern Sussex County are Walking and Jogging, Bike Paths and Fishing Areas. The moderate facility needs are Picnic Areas, Skate Facilities, Canoe/Kayak Access, Hiking Trails, Swimming Pools, Playgrounds, Soccer Fields, Tennis Courts, Power Boat Access and Baseball/Softball Fields. Consideration should be given to incorporate some of these recreation opportunities into the project. For additional information about the outdoor recreation priorities, contact Bob Ehemann at 739-5285.

We have made the following improvements to our recreation facilities.

Athletic Field - The open space along Pinetree Lane has been significantly expanded so that it may be used as an athletic facility. Two lots were removed from this area so that now there is room for a soccer or football field. It is located in a mostly non-forested area so that it will have minimal impact on forested areas.

Ingram's Point Park – A pavilion and picnic area will be provided.

Timber Branch Park – A park located along Timber Branch was added to provide recreational opportunities for residents by allowing them to access and view the forest and stream. Benches placed near the running stream will allow viewing of the scenic location.

Nature Path – A long 2900 foot of a mulched trail has been added in a forested open space to permit walking and jogging. Several loop paths provide residents with flexible accesses to ingress and egress for the path.

Paved Path – A paved path will be provided along all interior streets. This path will accommodate biking and walking.

Plus comments mention “The high facility needs in Eastern Sussex County are Walking and Jogging, Bike Paths and Fishing Areas”. This site has all of these.

Air Quality

Air pollution threatens the health of human beings and other living things on our planet. While often invisible, pollutants in the air create smog and acid rain, cause cancer or other serious health effects, diminish the protective ozone layer in the upper atmosphere, and contribute to the potential for world climate change. Breathing polluted air can have numerous effects on human health, including respiratory problems, hospitalization for heart or lung disease, and even premature death. Some can also have effects on aquatic life, vegetation, and animals.

The Department of Natural Resources and Environmental Control is asking that local jurisdictions consider mitigation to help resolve this issue. Mitigation might involve limiting large new developments to growth zones, focusing development to urban areas capable of providing mass transit services, requiring more energy efficient homes which would lessen air quality impacts, and promoting walkability and bikability within and between developments and town centers.

Once complete, vehicle emissions associated with this project are estimated be 10.2 tons (20,414.1 pounds) per year of VOC (volatile organic compounds), 8.5 tons (16,901.5 pounds) per year of NOx (nitrogen oxides), 6.2 tons (12,470.2 pounds) per year of SO2 (sulfur dioxide), 0.6 ton (1,110.1 pounds) per year of fine particulates and 853.8 tons (1,707,614.5 pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated be 4.1 tons (8,233.9 pounds) per year of VOC (volatile organic compounds), 0.5 ton (906.0 pounds) per year of NOx (nitrogen oxides), 0.4 ton (751.8 pounds) per year of SO2 (sulfur dioxide), 0.5 ton (970.2 pounds) per year of fine particulates and 16.7 tons (33,378.5 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 1.6 tons (3,263.3 pounds) per year of NOx (nitrogen oxides), 5.7 tons (11,350.8 pounds) per year of SO2 (sulfur dioxide) and 837.1 tons (1,674,235.9 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO ₂	PM _{2.5}	CO ₂
<i>Mobile</i>	10.2	8.5	6.2	0.6	853.8
<i>Residential</i>	4.1	0.5	0.4	0.5	16.7
<i>Electrical Power</i>		1.6	5.7		837.1
TOTAL	14.3	10.6	12.3	1.1	1707.6

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 1.6 tons of nitrogen oxides per year and 5.7 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 DNREC 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. We highly recommend this project development and other residential proposals increase the energy efficiency of their homes.

[We acknowledge the concern regarding air quality.](#)

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 estimate the amount of solid waste that will be generated as a result of construction and occupancy.

[We acknowledge the concern regarding Solid Waste.](#)

State Fire Marshal's Office – Contact: Duane Fox

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:**

- *Since the dwellings of the subdivision are proposed to be served by individual on-site wells (No Central Water System), set back and separation requirements will apply.*

b. **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 Sussex County Road 412 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.*
- *The use of speed bumps or other methods of traffic speed reduction must be in accordance with Department of Transportation requirements.*
- *The local Fire Chief, prior to any submission to our Agency, shall approve in writing the use of gates that limit fire department access into and out of the development or property.*

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

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

d. **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*
- *National Fire Protection Association (NFPA) Construction Type*
- *Maximum Height of Buildings (including number of stories)*
- *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 our website: www.delawarestatefiremarshal.com, technical services link, plan review, applications or brochures.

Water Supply plans have been changed from individual wells to a central system. We will work closely with the State Fire Marshal's office to ensure our plan is in compliance with the current regulations.

Department of Agriculture - Contact: Mark Davis 739-4811

Overall Comments

The Delaware Forest Service does not support the development of this parcel within an Investment Level 4 area. This development as proposed will lessen the value of the environmental resources found within and adjacent to this site. Noted within the plans it says that 13 acres of forested land will be removed. Upon inspection of the site we found that the removal of the 13 acres will not be possible if it includes the road system and housing area. The Forest Service strongly encourages the developer to work with all agencies to address such concerns as preservation of the forested since this area is almost all forested. The Delaware Department of Agriculture Forest Service offers it services to the developer in the re-design of this project, to learn more please contact our office at (302) 698-4500.

The 13 acres of forest estimated to be removed in the PLUS application represented the wooded area that would be supporting the road system. In addition to the roads, 130 homes are estimated to require 10,000 square feet (1,800 square feet for a house, 600 square feet for a garage, and 7,600 square feet for front yard, rear yard and septic) of clearing each for a total of approximately 29.84 acres ($130 * 10,000 / 43,560$).

We have minimized the clearing of forest on the site by incorporating a number of restrictions. Please see the section under forest for details.

Right Tree for the Right Place

The Delaware Department of Agriculture Forest Service encourages the developer to use the "Right Tree for the Right Place" for any design considerations. This concept allows for the proper placement of trees to increase property values in upwards of 25% of appraised value and will reduce heating and cooling costs on average by 20 to 35 dollars per month. In addition, a landscape design that encompasses this approach will avoid future maintenance cost to the property owner and ensure a lasting forest resource.

Native Landscapes

The Department of Agriculture Forest Service encourages the developer to use native trees and shrubs to buffer the property from the adjacent land-use activities near this site. A properly designed forested buffer can create wildlife habitat corridors and improve air quality to the area by removing six to eight tons of carbon dioxide annually and clean our rivers and creeks of storm-water run-off pollutants. To learn more about acceptable native trees and how to avoid plants considered invasive to our local landscapes, please contact the Delaware Department of Agriculture Plant Industry Section at (302) 698-4500.

We appreciate the suggestions to use “right tree for the right place” for design considerations and to use native trees and shrubs to buffer the property from the adjacent land-use activities near this site. We will direct our landscape professional to contact the Department of Agriculture Plan Industry Section to learn more about acceptable native trees and how to avoid plans considered invasive to our local landscapes.

Road Design and Construction

The Delaware Department of Agriculture Forest Service encourages the developer to design a road system that better suites the development and its future residents. Designing a better road system will allow the developer to better utilize the land, while at the same time create a unique road system for the residents and surrounding areas.

We have enhanced the road design by connecting Timber Branch to the collector street Ingram’s Drive.

Forest Buffers

The Delaware Department of Agriculture Forest Service recommends that the developer use 30’ forest buffer along all properties that boarder the subdivision. The Forest Service encourages the developer to seek the assistance of a certified arborist to aid in this design process. A forest buffer also offers great opportunities to increase property values within the subdivision.

A 30 foot forest buffer is included in the plan along all properties that border the subdivision to the north. A 50 foot landscaped buffer has been provided along the west which borders Road 412. The remainder of the site borders the streams known as Long Drain and Sheila’s Branch where the natural wetlands provide significant buffers from neighboring properties.

Public Service Commission - Contact: Andrea Maucher 739-4247

Project is not in a certificated area. If water is requested from a private utility, that utility will need to apply to the Commission for a Certificate of Public Convenience And Necessity.

Our selected private utility will apply to the PSC for a CPCN.

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.

We do not plan for installation of a closed propane system. On-site individual septic will be provided.

If wastewater services are requested from a non-governmental entity, and there would be 50 or more customer served, the provider will need to apply to the Commission for a Certificate of Public Convenience and Necessity (CPCN). Additional requirements may apply if the provider has not previously been awarded a CPCN by the Commission.

Individual on-site septic systems will be used.

Delaware State Housing Authority – Contact Karen Horton 739-4263

As a general 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 Map. The proposal is located in an area targeted for agricultural activities and natural resource protection, and therefore inconsistent with where the State would like to see new residential development.

Please see our comment under State Office of Planning Coordination.

Delaware Emergency Management Agency – Contact: Don Knox 659-3362

Due to the number of residential units being proposed, an impact to public safety is foreseen by implementation of this project. The developer should notify the police, fire service, and emergency medical response organization serving this portion of Sussex County, to keep them apprised of all development activities. Routes 20 and 113 are coastal storm evacuation routes and this development will be affected by traffic volume on these routes during a coastal storm event.

We will notify the police, fire service, and emergency medical response organization serving this portion of Sussex County upon receiving preliminary approval in order to keep them apprised of all development activities.

Department of Education – Contact: Nick Vacirca 739-4658

133 dwelling units could generate an estimated 66 additional students for the Indian River School District. Sussex County does not have school concurrence legislation at this time. We recommend that the developer submit a package to the school district for informational purposes.

This development is planned in a level 4 area of the State Strategies map. Development in this area is not recommended nor is the allocation of State resources to support development in this area. In an effort to not promote development in level 4 area, the Indian River school district was not approved to build a school on a parcel of land they own along Ingram's Pond. The proposed school (Sussex Central HS) was moved to an area that best met the needs of the district and the States Strategies. State spending strategies recommend no development in level 4 areas, or if development occurred, there would be little or no State funding utilized. Development that is approved in level 4 areas will require student transportation support, a State financed program.

If the development is approved and built, please use the following information for school transportation planning. If there are homes more than 1/2 mile from the nearest public road (outside the development), developers should plan wide enough streets so that large school buses can access and turn around (without backing) from the furthest areas within the development while picking up and dropping off students. Should there not be any sites more than 1/2 mile from the nearest public road, provisions for appropriate pick-up and drop-off at the development entrance should be included. The developer should work closely with the school district transportation supervisor.

We will work closely with the school district transportation supervisor by submitting the site plan for their review so they may verify streets are wide enough so that school buses can access and turn around (without backing) from the furthest area within the development while picking up and dropping off students. The roads are proposed to meet the state specifications.

Sussex County – Contact: Richard Kautz, 855-7878

Because the Concept Plan is not in sufficient detail, the developer should make sure that the subdivision layout can meet the cluster design requirement of having all lots completely outside of all wetlands.

All lots are completely outside of wetlands.

The developer should provide the stub road access to adjacent property as requested by DelDOT.

A stub road access (Hummingbird Lane) to the adjacent property has been provided.

This proposed subdivision is not within a current County wastewater planning area.

No county wastewater is required as the site has excellent soils and will include on site septic. We have completed the septic feasibility application and received the feasibility letter from DRNEC.

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). 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.

[We will document for the Planning and Zoning Commission how this development is better than the standard option.](#)

The Sussex County Engineer Comments:

- *For questions regarding above comments, contact Chris Calio, Sussex County Engineering Department at (302) 855-7839.*
- *The north side of Lakeview drive is listed by the State Historic Preservation Office archaeological probability maps as an area of particular interest. It is highly likely that archaeological sites are present on the property. If any federal permits are required for the project, the contractor is required under section 106 of the National Historic Preservation Act to bring this up with the Delaware State Historic Preservation Office for their review.*

[If any federal permits are required for the project, we will bring this up with the Delaware State Historic Preservation Office for their review](#)

- *For questions regarding above comments, contact Brian Page, Sussex County Engineering Department at (302) 856-6138.*

Following receipt of this letter and upon filing of an application with the local jurisdiction, the applicant shall provide to the local jurisdiction and the Office of State Planning Coordination a written response to comments received as a result of the pre-application process, noting whether comments were incorporated into the project design or not and the reason therefore.

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

Sincerely,

*Constance C. Holland, AICP
Director*

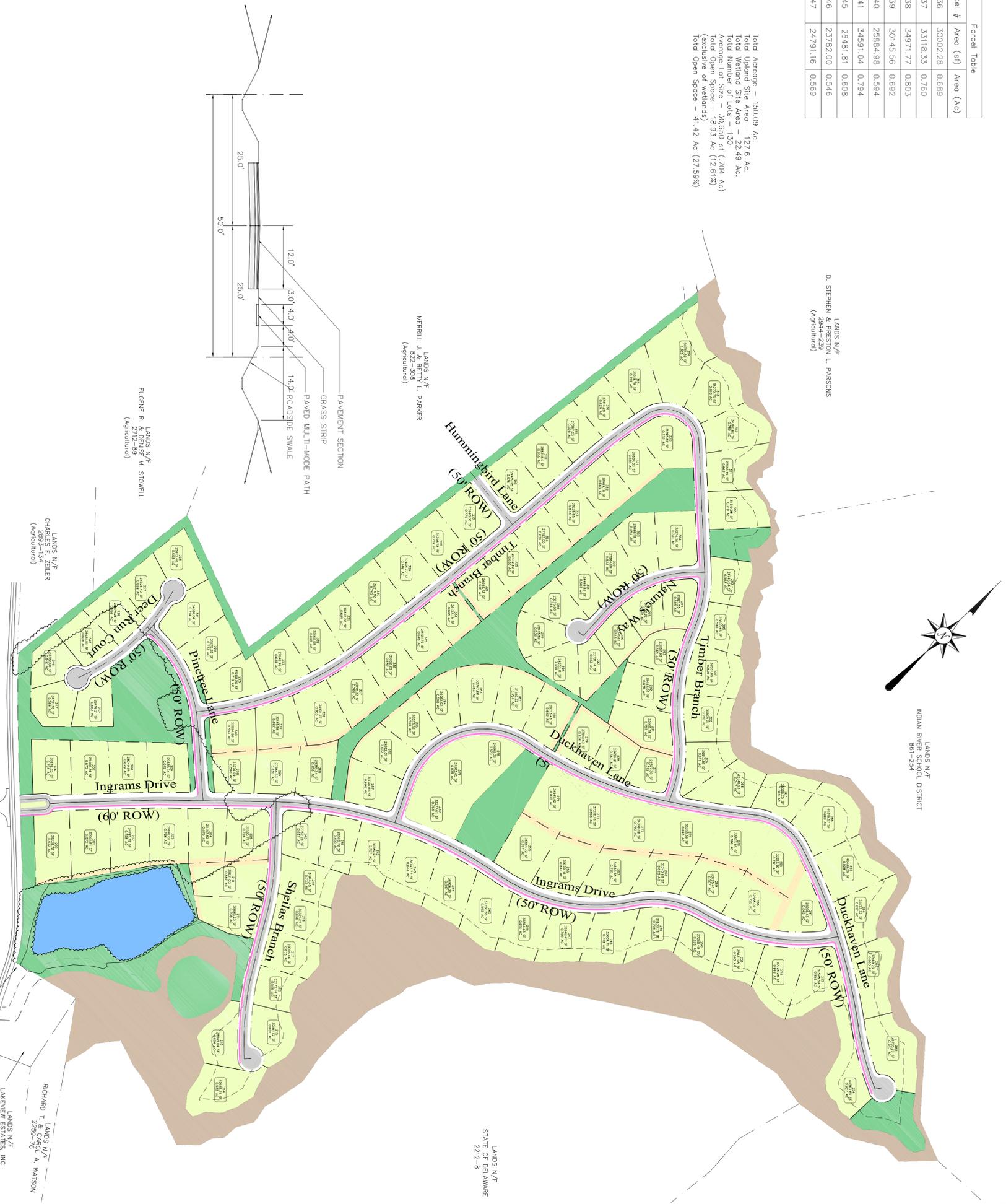
C: *Sussex County*

Parcel Table		Parcel Table		Parcel Table	
Parcel #	Area (sf)	Area (Ac)	Parcel #	Area (sf)	Area (Ac)
200	36228.72	0.832	274	34941.42	0.802
201	37981.51	0.872	275	24848.38	0.570
202	34781.75	0.798	276	37303.65	0.856
203	31692.07	0.728	277	22327.30	0.513
204	29457.82	0.676	278	23650.91	0.543
205	31530.77	0.724	279	27610.43	0.634
206	30646.92	0.704	282	31550.22	0.724
207	29400.34	0.675	283	32797.88	0.753
208	28249.94	0.649	284	26052.92	0.598
209	29588.04	0.679	285	26073.32	0.599
210	38631.03	0.887	286	29262.01	0.672
211	30843.23	0.708	287	30040.85	0.690
213	28945.04	0.664	288	28318.34	0.650
214	40645.19	0.933	289	27844.53	0.639
215	30081.12	0.691	290	25276.39	0.580
216	22172.14	0.509	291	32995.78	0.757
217	29395.46	0.675	292	29442.03	0.676
218	30321.24	0.696	293	23887.98	0.548
219	31944.45	0.733	294	21921.55	0.503
223	31288.26	0.718	295	22157.22	0.509
Parcel Table		Parcel Table		Parcel Table	
Parcel #	Area (sf)	Area (Ac)	Parcel #	Area (sf)	Area (Ac)
224	31870.33	0.732	296	22341.61	0.513
228	25812.40	0.593	297	22731.14	0.522
227	24336.40	0.558	298	24233.11	0.556
228	28574.26	0.656	299	23415.59	0.538
232	29416.21	0.583	300	23675.03	0.544
239	33277.61	0.764	301	24499.82	0.562
240	27752.26	0.637	302	27564.09	0.633
241	26560.72	0.610	303	28496.18	0.654
242	30789.93	0.707	304	32274.36	0.741
243	36747.72	0.844	305	28613.16	0.611
244	36906.30	0.847	306	30909.21	0.710
245	37250.53	0.855	307	36551.85	0.839
246	35564.43	0.816	308	25603.45	0.588
247	32648.47	0.750	309	24745.54	0.568
248	32604.71	0.749	310	31319.98	0.719
249	31639.75	0.726	311	28816.19	0.662
250	27288.49	0.626	312	34360.80	0.789
251	25831.08	0.593	313	35272.76	0.810
252	37726.28	0.866	314	56761.52	1.303
253	37598.39	0.863	315	31019.76	0.712
Parcel Table		Parcel Table		Parcel Table	
Parcel #	Area (sf)	Area (Ac)	Parcel #	Area (sf)	Area (Ac)
254	40363.85	0.927	316	27414.28	0.629
255	35684.72	0.817	317	27387.03	0.629
256	36638.18	0.841	318	28531.64	0.655
257	34640.45	0.795	319	29439.15	0.676
258	27340.63	0.628	320	31895.62	0.732
259	30795.41	0.707	321	28534.30	0.655
260	32668.01	0.750	322	28969.10	0.665
261	28206.43	0.648	323	28226.65	0.648
262	41705.27	0.957	324	27797.00	0.638
263	37469.26	0.860	325	27442.32	0.630
264	35577.32	0.817	326	26056.73	0.598
265	40439.26	0.928	327	33940.60	0.779
266	46319.57	1.063	328	31298.78	0.719
267	30068.75	0.690	329	32478.77	0.746
268	32548.93	0.747	330	32214.92	0.740
269	32218.26	0.740	331	29826.00	0.685
270	33373.45	0.766	332	30060.08	0.690
271	30255.56	0.695	333	27849.46	0.639
272	34396.08	0.790	334	28152.19	0.600
273	37256.16	0.855	335	28091.73	0.645

Parcel #	Area (sf)	Area (Ac)
336	30002.28	0.689
337	33118.33	0.760
338	34971.77	0.803
339	30145.56	0.692
340	25884.98	0.594
341	34591.04	0.794
345	26481.81	0.608
346	23782.00	0.546
347	24791.16	0.569

Total Average = 150.09 Ac.
 Total Method Site Area = 272.6 Ac.
 Total Method Site Area = 22.49 Ac.
 Total Number of Lots = 130
 Average Lot Size = 30,650 sf (0.704 Ac)
 Total Open Space = 18.93 Ac (12.61%)
 (exclusive of wetlands)
 Total Open Space = 41.42 Ac (27.58%)

LANDS N/F
 2944-239
 (Agricultural)
 D. STEPHEN & PRESTON L. PARSONS



LANDS N/F
 INDIAN RIVER SCHOOL DISTRICT
 861-254

LANDS N/F
 STATE OF DELAWARE
 2212-8

LANDS N/F
 RICHARD T. & CAROL A. WATSON
 2299-76
 LANDS N/F
 LAKEVIEW ESTATES, INC.
 2789-279
 SUSSEX COUNTY ROAD #412
 BENCH MARK MONUMENT
 35.88 N.C.V.D. 1929

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PLUS Layout

SCALE:	As Noted	PROJECT NUMBER:	04161
DRAWN BY:	TK	DRAWING NUMBER:	
ISSUE DATE:	DATE		
LAST REVISION DATE:	05 Feb 06		
		C1.3	

I certify that these documents were prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Delaware. License number: 22000. Expiration date: 2/28/06.

I certify that these documents were prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Delaware. License number: 22000. Expiration date: 2/28/06.