

December 10, 2009

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Michael R. Wigley, AIA, LEED AP
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Ms. Constance C. Holland, AICP, Director
The Delaware Office of State Planning Coordination
122 William Penn Street, 3rd Floor
Dover, Delaware 19901

RE: PLUS Comment Responses
#2009-05-05; Inland Bays Community

Dear Ms. Holland:

Thank you for your letter dated June 16, 2009 containing the comments from various agencies regarding the Conceptual Development Plans for the Inland Bays Community. Our responses to these comments are as follows:

Office of State Planning Coordination – Contact: Bryan Hall 739-3090

The proposed Inland Bays Community project is to be located on the north side of Route 360, west of Route One north of Towns of Ocean View and Bethany Beach and is located within an Investment Level 3 according to the State Strategies for Policy and Spending. The proposed seeks site plan approval through Sussex County for 48 residential units on 11.96 acres with the Sussex County Environmentally Sensitive Development District.

Although the project is within what is considered to be in an area where both the State and County anticipate growth, this project is proposed on a site that poses significant environmental challenges to develop the parcel to its fullest residential potential as presented. The developer is encouraged to work with the State and County to address environmental impacts, clarify the homeowner association's responsibilities as related to private roads and community facilities and with the neighboring communities to allow for improved access and connectivity to local services. If you have any questions or additional comments, please contact my office.

RESPONSE:

We concur that the proposed development resides in an Investment Level 3. We will continue to work with the State, County, and Federal agencies as necessary to address environment impacts and to clarify homeowner association responsibilities. It is understood that development of the site poses environmental challenges, and the protection and preservation of

environmentally sensitive features were key considerations of site analysis and conceptual design. The site plan attempts to minimize the negative impacts of the future development while maximizing the Owner's development rights under current zoning regulations. Mitigation will be provided as required for disturbance of any regulated wetlands. The proximity to lands of the Delaware Nature Conservancy was also an important consideration during the conceptual design process. Utilizing existing forested area, a natural forested buffer will be preserved along the eastern property line.

State Historic Preservation Office (SHPO) – Contact: Terrence Burns 739-5685

The role of the Division of Historical & Cultural Affairs in the Preliminary Land Use Service (PLUS) process is to provide information on the development's impacts to historic properties and archaeological sites and is an advocate for their protection. In addition, all of the information is according to the reference and resource materials at the State Historic Preservation Office, which is the central research repository of the Division of Historical and Cultural Affairs. Preserving Delaware's heritage and showcasing the historic legacy of our state are the guiding principles of our agency, and through active historic preservation efforts, the Division is committed to enhancing Delaware's quality of life by helping people connect with those aspects of our past that have made this state what it is today.

In accordance with the Preliminary Land Use Service (PLUS) outlined in Chapter 92 of Title 29 of the Delaware Code, here are the following observations: There are no known historic or cultural resources in this project area, such as archaeological sites or National Register listed properties. The Division of Historical & Cultural Affairs has no objection to this development project. If you need any technical assistance, or would like to discuss these issues further, please contact Terrence Burns at (302) 736-7404.

RESPONSE:

We acknowledge that there are no known historic or cultural resources in the project area and that the Division of Historical and Culture Affairs has no objection to this development.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

- 1) Fred Hudson Road is classified as a major collector road. DelDOT's policy is to require dedication of sufficient land to provide a minimum right-of-way width of 40 feet from the centerline on major collector roads. Therefore they will require right-of-way dedication along the frontage to provide any additional width needed from this project.
- 2) Fred Hudson Road presently has 10-foot lanes and 4-foot shoulders which are marked as bicycle lanes. These widths are significantly less than the standard

widths for major collector roads, which are 12-foot lanes and 8-foot shoulders. DelDOT anticipates requiring the developer to extend the widening done for the Bethany Lakes and Salt Pond entrances east through the entrance to the proposed development, transitioning back to the existing width to avoid or minimize the impact on the wetlands at the east end of the property.

- 3) DelDOT also anticipates requiring the developer to provide a sidewalk or shared used path of some sort to accommodate pedestrians and bicyclists who are not comfortable using the shoulder. At a minimum, this path will need to provide residents with safe access to the intersection of Bethany Loop and Fresh Pond Boulevard (the entrances to Salt Pond and Bethany Lakes, respectively) so that they can travel safely to the Salt Pond Plaza shopping center without driving. The position of a private, fenced-off, path in Bethany Lakes close to the right-of-way presents challenges in this regard, but something will need to be done. Options may include obtaining the use of the Bethany Lakes path by acquisition or easement, and building a separate path closer to the road. As necessary we will consider assisting the developer in acquiring needed rights-of-way for this purpose. DelDOT is still evaluating the need for a path along the site frontage east of the entrance.

RESPONSE:

We will coordinate with DelDOT during the plan approval process to ensure that all standards and regulations are met.

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

DNREC recognizes that the proposed development is in an area that already contains significant development and is in a Level 3, “Environmentally Sensitive Development Area.” But with some attention to conservation design principles, the most serious environmental impacts could have been avoided. DNREC concerns about the proposed “Inland Bays Community” development include the following:

- A maximum-yield site plan that eliminates much of the forestland, wildlife habitat and wetlands that make the site attractive and ecologically valuable. An environmentally sensitive design plan could protect the forested wetlands and related habitat on this site;
- Location of buildings and roads on wetlands regulated by the US Army Corps of Engineers under Section 404 of the Clean Water Act;
- Tree removal to accommodate stormwater management;
- Potential flooding created by tree removal;
- The project’s location on hydric soils that have severe limitations for development, in apparent violation of Sussex County’s building code; and
- Its location in the Inland Bays watershed, where a state regulation for nutrient reduction is in force.

Comments and recommendations by division and program follow.

RESPONSE:

We concur that this project is within a Level 3, "Environmentally Sensitive Development Area". Protection and preservation of environmental features were key components of the site analysis and conceptual design process. The proposed plan attempts to minimize the negative impacts of the future development. Mitigation will be provided for any regulated wetland disturbance. The design team will evaluate and coordinate the site layout in hopes of reducing construction related disturbance.

During the design phase the site will be designed to manage additional stormwater runoff and nutrient reduction created by tree removal, increased impervious areas, and change of land use by utilizing best management practices. We will coordinate with Sussex County Conservation District for sediment control and stormwater management plan approval.

The services of a licensed geotechnical engineer will be retained to study the on-site soils in relation to the proposed construction. We will coordinate the project's site and structural engineering design with the geotechnical consultant throughout both the design and construction phases.

Fish and Wildlife

Rare Species/Natural Communities. DNREC field scientists have not surveyed this project area; therefore, they are unable to provide information pertaining to the existence of State-rare or federally listed plants, animals or natural communities at this project site. In the absence of site-specific information, we offer the following comments:

This parcel contains a large area of forested wetlands which can support an array of plants and animal species. GIS data and aerial survey interpretation indicate that this forest could be a fairly mature (>50 years) example of a Red Maple-Sweetgum Swamp community and is part of a larger forest block in the near coastal area.

DNREC has records of Cooper's Hawk (*Accipiter cooperii*), a State-rare bird, just northeast of this site in forest contiguous with the project area. It is possible that this species also occurs on the project parcel. Cooper's Hawk primarily nest from April to June in mature forest, but will also nest in open woodlands and forest edges.

Site Visit Request. In order to provide informed comments, DNREC program scientists request the opportunity to conduct a survey of the property to evaluate habitat and determine the potential for species of conservation concern. Please note that our scientists have decades of experience in comprehensive survey methods. They have extensive knowledge of the flora and fauna of the state and are qualified in making species identifications. The survey will be conducted at no expense to the landowner.

Letter: Ms. Constance C. Holland, AICP Director
The DE Office of State Planning Coordination
December 10, 2009
Page 5

Please contact Edna Stetzar at (302) 653-2880 ext. 101 or at Edna.Stetzar@state.de.us if the landowner will grant a site visit.

RESPONSE:

We are confident that the landowner will be happy to accommodate the referenced survey, however, access to the site will be limited and at the discretion of the property owner.

Forested Wetland Habitat Preservation. The proposed 3.94 acres of forest loss may be underestimated considering that this is a maximum yield site plan with most lots and infrastructure requiring tree removal. The site plan only depicts the forest remaining after initial development, not the existing forested area. Cumulative forest loss throughout the State is of utmost concern to the Division of Fish and Wildlife which is responsible for conserving and managing the State's wildlife (see www.fw.delaware.gov and the Delaware Code, Title 7). Because of an overall lack of forest protection, the State has to rely on applicants and/or the entity that approves the project (i.e. counties and municipalities) to consider implementing measures that will aide in forest loss reduction.

Recommendations:

- DNREC recommends that the applicant consider preservation of the wetland and forested resources at this site. Incentive-based programs for wildlife management are available to private landowners through our agency. Please contact Shelly Tovell at (302) 735-3600 if the landowner(s) is interested in more information.

Although leaving a forest intact is usually more beneficial to the existing wildlife and is preferential to clearing, if preservation is not going to be considered, then DNEC offers the following recommendations which if implemented will reduce impacts to natural resources:

- A more environmentally sensitive plan could have been designed. If approved for development, DNREC highly recommends that the site plan be reconfigured so that most of the development occurs on the west side of the parcel, specifically west of the large area of forested wetlands. This change will still result in forest removal, but access to the east side of the parcel will require tree removal, wetland filling and disturbance within 100 feet of wetlands.
- Leave at least a 100-foot buffer between wetland boundaries and lots/infrastructure and remove lots that contain wetlands. There appears to be at least 6 unit lots that contain wetlands. Buffers are an integral component of aquatic and wetland habitats, reducing the amount of sediments, pollutants, and other non-point source material that may affect the function and integrity of habitat and the condition and survivability of

aquatic organisms. Upland forested wetland buffers also serve as habitat for many terrestrial species that are dependent on aquatic and wetlands habitats for a portion of their annual life cycle.

- There may be stormwater management options that do not require tree removal. We recommend the options be discussed with stormwater engineers. This is a fairly wet site and the existing trees likely function in flood abatement and erosion control. Trees take up water in their root systems for growth and survival. The root systems of trees serve to improve soil structure and enhance the infiltration of rainwater which reduces surface run-off. In addition, the leaves and branches of trees also intercept rainfall reducing erosive effects.
- To reduce impacts to nesting birds and other wildlife species that utilize forests for breeding, DNRC recommends that clearing not occur April 1st to July 31st. This recommendation would only protect those species during one breeding season, because after trees are cleared there is an overall loss of habitat.

RESPONSE:

This proposed site has been revised several times in an effort to minimize the impact to the 404 delineated wetlands and existing upland forest. The majority of the development is located on the western portion of the site and efforts have been made to eliminate adverse impacts to natural habitat. Stormwater management and erosion and sediment control will be coordinated with Sussex Conservation District and will include best management practices and green technologies per DNREC guidelines. The removal for stormwater management features will be limited to only that which is absolutely necessary. The sequence of construction will also be coordinated with Sussex Conservation District per DNREC guidelines, and if possible clearing will be limited to the period that is recommended.

Nuisance Waterfowl. Wet ponds created for stormwater management purposes may attract resident Canada geese and mute swans that will create a nuisance for community residents. High concentrations of waterfowl in ponds create water-quality problems, leave droppings on lawn and paved areas and can become aggressive during the nesting season. Short manicured lawns around ponds provide an attractive habitat for these species.

DNREC recommends plantings of native plant species, including tall grasses, wildflowers, shrubs, and trees at the edge and within an adequate buffer (15-30 feet in width) around the ponds (to be planted in accordance with the Sediment and Stormwater Plan approval agency requirements). When the view of the surrounding area from the pond is blocked, geese can't scan for predators and are less likely to reside and nest in the area of the pond.

Letter: Ms. Constance C. Holland, AICP Director
The DE Office of State Planning Coordination
December 10, 2009
Page 7

At this time, they do not recommend using monofilament grids due to the potential for birds and other wildlife to become entangled if the grids are not properly installed and maintained. In addition, the on-going maintenance (removing entangled trash, etc.) may become a burden to the homeowners association or land manager.

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. *Edna Stetzar - (302) 653-2880, Edna.Stetzar@state.de.us*

RESPONSE:

During the design process the Engineer and Landscape Architect will evaluate the proposed site conditions and, with the developer's consent, provide plantings to reduce the geese population around the proposed ponds.

Soil and Water

Sediment and Stormwater Program. A detailed sediment and stormwater plan will be required prior to any land disturbing activity taking place on the site. Contact the reviewing agency to schedule a pre-application meeting to discuss the sediment and erosion control and stormwater management components of the plan as soon as practicable. The site topography, soils mapping, pre- and post-development runoff, and proposed method(s) and location(s) of stormwater management should be brought to the meeting for discussion. The plan review and approval as well as construction inspection will be coordinated through the Sussex Conservation District. Contact Jessica Watson at the Sussex Conservation District at (302) 856-2105 for details regarding submittal requirements and fees.

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

RESPONSE:

During the design process the Engineer will coordinate all sediment and stormwater plan requirements for the proposed project with Sussex County Conservation District.

Drainage Program. The submitted preliminary site plan depicts owner-occupied condos constructed on filled wetlands. If constructed as such, a statement should be placed on the deed informing the prospective buyers of potential drainage issues.

In periods of wet weather the wetland will expand and the surrounding ground may be too wet for normal residential use. From a drainage standpoint the site plan should be redrawn to show a 25-foot separation between the condos and wetland line.

The site plan does not show how the north-east stormwater management area will be accessed for construction or maintenance.

The Drainage Program requests that the engineer take precautions to ensure the project does not hinder any off site drainage upstream of the project or create any off site drainage problems downstream by the release of onsite storm water. The Drainage Program requests that the engineer check existing downstream ditches and pipes for function and blockages prior to the construction. Notify downstream landowners of the change in volume of water released on them.

Have all drainage easements recorded on deeds and place restrictions on obstructions within the easements to ensure access for periodic maintenance or future re-construction. Future property owners may not be aware of a drainage easement on their property if the easement is only on the record plan. However, by recording the drainage easement on the deed, the second owner, and any subsequent owner of the property, will be fully aware of the drainage easement on their property.

Sediment/Stormwater and Drainage comments provided by James Sullivan - (302) 7399921, James.Sullivan@state.de.us

RESPONSE:

The engineer will analyze the existing drainage patterns of the site itself, and the adjacent properties, to ensure the proposed work will not negatively affect, or hinder, said drainage patterns in any way.

Grading for each new building will be done to confirm proper drainage for the development as a whole as well as for each building. All proposed drainage patterns will comply with the Sussex County Conservation District's Sediment and Erosion Control/Stormwater program. The stormwater management areas will be designed utilizing best management practices and in such a manner that existing forest clearing will be minimized.

The proposed setbacks will comply with the standard requirements defined by the Sussex County Department of Planning and Zoning. All drainage easements shall meet the spatial standards required by the Sussex County Soil Conservation District and the Sussex County Department of Planning and Zoning.

Letter: Ms. Constance C. Holland, AICP Director
The DE Office of State Planning Coordination
December 10, 2009
Page 9

Flood Management. The site plan appears to show correctly that a majority of this site is located within a Zone X (shaded) floodplain as indicated on FEMA's FIRM panel 10005C0515J. This is considered the 500 year floodplain or 0.2% chance flood area. This floodplain area is considered a lower risk area than the 100 year or 1% annual chance flood area. Because of the wetlands on site, we recommend building to the 100year base flood elevation on the west side of the site. *Gregory Williams - (302) 739-9921, Gregory.Williams@state.de.us*

RESPONSE:

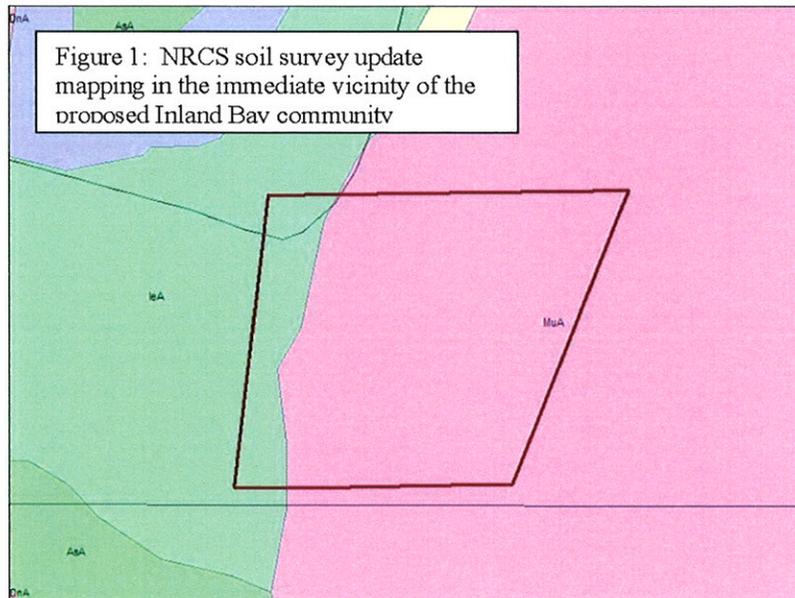
The proposed residential units and support facilities will be designed and engineered to code as required for building with in the 100 year base flood elevation.

Water Resources

Soils Assessment. Based on the NRCS soil survey update, Ingleside (IeA) and Mullica (MuA) were mapped in the immediate vicinity of the proposed construction (Figure 1). Ingleside is a well-drained upland soil that, generally, has few limitations for development. Mullica is a very poorly-drained wetland associated (hydric) soil that has severe limitations for development. Approximately 80-90% of the project area contains very poorly drained wetland associated (hydric) Mullica soils which have a seasonal high water table occurring at or near the soil surface (within one-foot of soil surface or less). Building in such soils is likely to leave prospective residents of this and adjoining properties susceptible to future flooding problems from groundwater-driven surface water ponding, especially during extended periods of high-intensity rainfall events such as tropical storms/hurricanes or "nor'easters." This is in addition to increased flooding probabilities from surface water runoff emanating from future created or constructed forms of structural imperviousness (e.g., rooftops, roads, sidewalks, and stormwater management structures).

Based on the Chapter 99, Section 16A of the Sussex County Code (paraphrased), lands compromised by improper drainage or flooding potential pose significant threats to the safety and general welfare of future residents and, therefore, shall not be developed. Soils mapped as Mullica fit the criterion for improper drainage or high flooding potential, and should be avoided. The Watershed Assessment Section believes permitting development on such soils would be inconsistent or counter to the above-stated regulatory guidelines in the Sussex County Code.

Existing wetlands have been mapped by a qualified wetlands expert and the services of a licensed geotechnical engineer will be retained to further study on-site soils in relation to the proposed construction. We will coordinate site engineering with the wetlands consultant and the geotechnical engineer, throughout the development process, to avoid drainage and flooding problems on-site and affects to adjacent



properties.

Wetlands. Based on the Statewide Wetland Mapping Project (SWMP) maps, palustrine forested scrub-shrub wetlands (PF01/SS3A) were throughout most of subject parcel (Figure 2).

Subaqueous Lands. A blue line water body appears to be located on the eastern boundary of the site and contours on the plan suggest another water body may be on the site. These water bodies may be regulated by the Wetlands and Subaqueous Lands Section. If any impacts are anticipated for these waterways, we suggest that the applicant request a jurisdictional determination from the Wetlands and Subaqueous Lands Section (WLS) at (302) 739-9943. Impacts to jurisdictional waterways would require a Subaqueous Lands permit. The WLS recommends that impacts to waters be avoided, if possible.

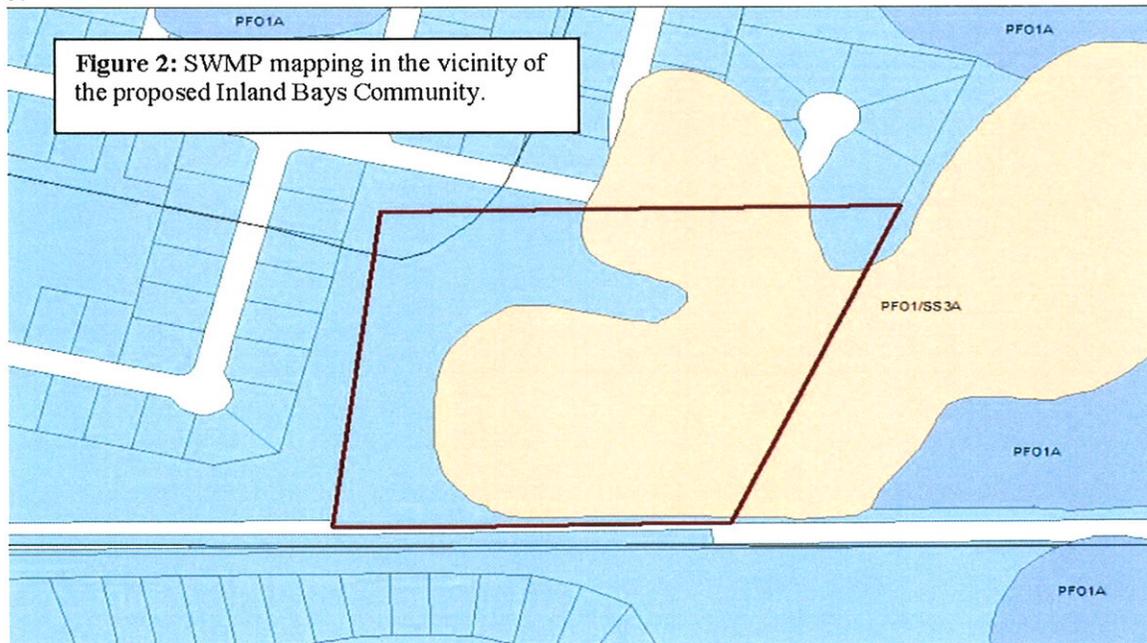
State Tidal Wetlands. There are no State-regulated wetlands on the property.

US Army Corps of Engineers Jurisdiction. The SWMP maps and the site plan indicate the presence of forested and scrub/shrub wetlands regulated by the Army Corps of Engineers (COE). Based on the site plan, the development will impact COE regulated wetlands and potentially waters of the United States. The WLS recommends that impacts to wetlands and waters be avoided or minimized. The WLS also questions whether Sussex County requires any setbacks from these wetlands.

If the impacts cannot be avoided, the applicant will need to apply for either an individual or nationwide permits from the COE. If the work requires an individual permit from the COE, or if the site is in a critical resource water, Water Quality Certification and Coastal Zone Consistency permits, issued by DNREC, may be required.

Any area of the lots within federal wetlands will be included in the total acreage of wetland impact and will affect the type of federal permit required.

Based on a review of existing buffer research by Castelle et al. (Castelle, A. J., A. W. Johnson and C. Conolly. 1994. *Wetland and Stream Buffer Requirements – A Review*. J.



Environ. Qual. 23: 878-882), an adequately-sized buffer that effectively protects wetlands and streams, in most circumstances, is about 100 feet in width. In recognition of this research and the need to protect water quality, the Watershed Assessment Section recommends that the applicant maintain/establish a minimum 100-foot upland buffer (planted in native vegetation) from all water bodies (including ditches) and wetlands.

Existing on-site wetlands have been delineated by a qualified wetlands expert, and a jurisdictional determination has been requested. The appropriate permits will be sought when the limits of any potential disturbance to existing wetlands has been officially verified.

Impervious Surfaces and Best Management Practices. The applicant estimates this project's post-construction surface imperviousness to reach about 30 percent. According to the TR-55 methodology for determining impervious cover, given a townhouse development that averages 4 units/acre (gross density), impervious cover is more likely to be between 38 and 65 percent. When calculating surface imperviousness it is important to include all forms of constructed surface imperviousness, such as all paved surfaces including rooftops, sidewalks, driveways, and roads; open-water stormwater management structures and/or ponds; and community wastewater systems (if applicable); this will

ensure a realistic assessment of this project's likely post-construction environmental impacts. Surface imperviousness should be recalculated to reflect all of the above-mentioned forms of surface imperviousness in the finalized calculation for surface imperviousness. Moreover, wetlands should be excluded from the parcel's total open space area for when calculating the parcel's total surface imperviousness.

Studies have shown a strong relationship between increases in impervious cover to decreases in a watershed's overall water quality. It is strongly recommended that the applicant implement best management practices (BMPs) that reduce or mitigate some of this project's most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials ("pervious pavers") in lieu of asphalt or concrete in conjunction with an increase in forest cover preservation or additional tree plantings are some examples of practical BMPs that could easily be implemented to help reduce surface imperviousness.

RESPONSE:

During the design process the Engineer will coordinate all stormwater plan requirements including surface imperviousness and best management practices for the proposed project with Sussex County Conservation District.

TMDLs. Total Maximum Daily Loads (TMDLs) for nitrogen and phosphorus have been promulgated through regulation for the Inland Bays Watershed. 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 required by federal law, states are charged with developing and implementing standards to support these desired use goals. This project is located in the low nutrient reduction area requiring a 40 percent reduction in nitrogen and phosphorus from baseline conditions. Additionally, a 40 percent reduction in bacteria is also required.

Additional nutrient reductions may be possible through the implementation of Best Management Practices such as wider vegetated buffers along watercourses (and wetlands), increasing passive, wooded open space, use of pervious paving materials to reduce surface imperviousness (i.e., pervious pavers), and the use of green-technology stormwater management technologies.

A Pollution Control Strategy (PCS) is an implementation strategy that identifies the actions necessary to systematically reduce the pollutant loading rate for a given water body, and meet the TMDL reduction requirements specified for that water body. As mentioned previously, the pollutants specifically targeted for reduction in the Inland Bays watershed are nutrients (e.g., nitrogen and phosphorus) and bacteria. A variety of site

Letter: Ms. Constance C. Holland, AICP Director
The DE Office of State Planning Coordination
December 10, 2009
Page 13

specific best management practices (BMPs) will be the primary actions required by the PCS to reduce pollutant loadings associated with nutrients and bacteria. The PCS for the Inland Bays was approved on November 11, 2008, and is now an enforceable regulatory directive.

The Department has developed an assessment tool that will help evaluate whether your proposed development meets the required TMDL nutrient reduction requirements specified by the PCS. Contact Lyle Jones at 302-739-9939 for more information on the PCS and the assessment tool.

RESPONSE:

A nutrient budget will be prepared as part of the final engineering for the project and the use of "Green Technology", BMP's set forth by DNREC, will be utilized to the fullest extent feasible.

Soils, wetlands, subaqueous lands and TMDL comments provided by Joanne Lee, Wetlands and Subaqueous Lands Section, (302) 739-9943, Joanne.Lee@state.de.us, and John Martin, Watershed Assessment Section, (302) 739-9939, John.Martin@state.de.us

Water Supply. The project information sheets state water will be provided to the project by Sussex Shores Water Company via a public water system. Our records indicate that the project is located within the public water service area granted to Sussex Shores Water Company under Certificate of Public Convenience and Necessity 89-CPCN-02.

Should dewatering points be needed during any phase of construction, a dewatering well construction permit must be obtained from the Water Supply Section prior to construction of the well points. In addition, a water allocation permit will be needed if the pumping rate will exceed 50,000 gallons per day at any time during operation.

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising. *Ricardo Rios - (302) 739-9944, Ricardo.Rios@state.de.us*

RESPONSE:

All applicable permits will be obtained for the proposed water system including a dewatering well construction permit, if required.

Parks and Recreation

Natural Areas. The nine acres of forest that are currently on the site are connected to a

Letter: Ms. Constance C. Holland, AICP Director
The DE Office of State Planning Coordination
December 10, 2009
Page 14

much larger contiguous forest complex extending into the Fresh Pond Tract of Delaware Seashore State Park and is currently listed on Delaware's Natural Areas Inventory. Natural Areas contain lands of statewide significance identified by the Natural Areas Advisory Council as the highest quality and most important natural lands remaining in Delaware.

The fragmentation and loss of adjacent forested areas will negatively affect wildlife populations. Consideration should be given to protecting these resources during design and construction. The Division of Parks and Recreation would rather see the forested area on the western side of the proposed development remain as forest (a recreational amenity in its own right) rather than be removed for stormwater management or developed recreational facilities. The developer could also investigate dedicating this area as a Nature Preserve through a conservation easement or donation of land. For more information, please contact the Office of Nature Preserves at 739-9235.

RESPONSE:

Consideration has been given during the schematic design phase to conserve contiguous forested area as much as possible. The resulting wooded areas remain as viable forest that are capable of supporting the wildlife habitat. In an effort to separate land uses and conserve wooded areas, we have incorporated a forested buffer along the entire Eastern side of the development and contiguous to the natural forested area on the adjacent State land. Ornamental landscaping will also be placed throughout the common areas. The revegetation/landscaping plans will emphasize native species. The proposed stormwater management ponds will be designed utilizing DNREC's "Green Technologies" and therefore pond areas will be reduced as much as possible and possibly eliminated entirely in the forested area next to the proposed recreational facilities.

Fresh Pond Tract of Delaware Seashore State Park. Aside from the recreational facilities, we appreciate the buffer between lot lines and the State's adjoining property line. This ensures that no trees will endanger homes, fences, etc. which is a common conflict when developments are built adjacent to State Parks.

Typically when developments are built next to park property, there is a demand from the residents for a pedestrian connection to the public facilities. Unfortunately, in this case,

there are site limitations that preclude trail development from the proposed Inland Bays Community into the Fresh Pond Tract of Delaware Seashore State Park. *Kendall Sommers - (302) 739-9242, Kendall.Sommers@state.de.us*

RESPONSE:

We concur that that based on site limitations that a pedestrian connection for this development is not appropriate in this situation.

Air and Waste

Air Quality. Housing developments may unnecessarily emit, or cause to be emitted, significant amounts of air contaminants into Delaware's air, which will negatively impact public health, safety and welfare. These negative impacts are attributable to:

- Emissions that form ozone and fine particulate matter; two pollutants relative to which Delaware currently violates federal health-based air quality standards,
- The emission of greenhouse gases which are associated with climate change, and
- The emission of air toxics.

Air emissions generated from housing developments include emissions from:

- Area sources like painting, lawn and garden equipment and the use of consumer products like roof coatings and roof primers.
- The generation of electricity needed to support the homes in your development, and
- Car and truck activity associated with the homes in your new development.

These three air emissions components (i.e., area, electric power generation, and mobile sources) are quantified below, based on a per household/residential unit emission factor that was developed using 2002 Delaware data. These emissions in the table represent the actual impact the Inland Bay Community development may have.

Emissions Attributable to Inland Bays Community Subdivision (Tons per Year)

	Volatile Organic Compounds (VOC)	Nitrogen Oxides (NOx)	Sulfur Dioxide (SO ₂)	Fine Particulate Matter (PM _{2.5})	Carbon Dioxide (CO ₂)
Direct Residential	1.5	0.2	0.1	0.2	6.0
Electrical Power Generation	ND*	0.6	2.0	ND*	302.1
Mobile	2.2	2.3	0.1	0.0	1,418.6
Total	3.7	3.1	2.2	0.2	1,726.7

(*) Indicates data is not available.

Note that emissions associated with the actual construction of the subdivision, including automobile and truck traffic from working in, or delivering products to the site, as well as site preparation, earth moving activities, road paving and other miscellaneous air emissions, are not reflected in the table above.

Recommendations:

The applicant shall comply with all applicable Delaware air quality regulations. These regulations include:

Regulation 6 - Particulate Emissions from Construction and Materials Handling	<ul style="list-style-type: none"> • Using dust suppressants and measures to prevent transport of dust off-site from material stockpile, material movement and use of unpaved roads. • Using covers on trucks that transport material to and from site to prevent visible emissions.
Regulation 1113 – Open Burning	<ul style="list-style-type: none"> • Prohibiting open burns statewide during the Ozone Season from May 1-Sept. 30 each year. • Prohibiting the burning of land clearing debris. • Prohibiting the burning of trash or building materials/debris.
Regulation 1145 – Excessive Idling of Heavy Duty Vehicles	<ul style="list-style-type: none"> • Restricting idling time for trucks and buses having a gross vehicle weight of over 8,500 pounds to no more than three minutes.

Additional measures may be taken to substantially reduce the air emissions identified above. These measures include:

- **Constructing only energy-efficient homes.** Energy Star qualified homes are up to 30% more energy efficient than typical homes. These savings come from building envelope upgrades, high performance windows, controlled air infiltration, upgraded heating and air conditioning systems, tight duct systems and upgraded water-heating equipment. Every percentage of increased energy efficiency translates into a percent reduction in pollution. The Energy Star Program is excellent way to save on energy costs and reduce air pollution.
- **Offering geothermal and/or photo voltaic energy options.** These systems can significantly reduce emissions from electrical generation, and from the use of oil or gas heating equipment.
- **Providing tie-ins to the nearest bike paths and links to any nearby mass transport system.** These measures can significantly reduce mobile

source emissions.

- **Funding a lawnmower exchange program.** New lawn and garden equipment emits significantly less than equipment as little as 7 years old, and may significantly reduce emissions from this new development. The builder could fund such a program for the new occupants.

Additionally, the following measures will reduce emissions associated with the actual construction phase of the development:

- **Using retrofitted diesel engines during construction.** This includes equipment that are on-site as well as equipment used to transport materials to and from site.
- **Using pre-painted/pre-coated flooring, cabinets, fencing, etc.** These measures can significantly reduce the emission of VOCs from typical architectural coating operations.
- **Planting trees at residential units and in vegetative buffer areas.** Trees reduce emissions by trapping dust particles and by replenishing oxygen. Trees also reduce energy emissions by cooling during the summer and by providing wind breaks in the winter, whereby reducing air conditioning needs by up to 30 percent and saving 20 to 50 percent on fuel costs.

This is a partial list, and there are additional things that can be done to reduce the impact of the development on air quality. The applicant should submit a plan to the DNREC Air Quality Management Section which address the above listed measures, and that details all of the specific emission mitigation measures that will be incorporated into the Inland Bay Community development. Air Quality Management Section points of contact are Phil Wheeler and Deanna Morozowich, and they may be reached at (302) 739-9402. *Deanna Morozowich - (302) 739-9402, Deanna.Morozowich@state.de.us*

RESPONSE:

We agree that the above recommendations are important considerations that will be taken into account as the design process progresses.

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

and DNREC should be notified at the 24-hour emergency number (800-662-8802). SIRB should also be contacted as soon as possible at 302-395-2600 for further instructions.
Krystal Stanley - (302) 395-2644, Krystal.Stanley@state.de.us

RESPONSE:

It has been noted that there are no SIRB sites or salvage yards found within a 0.5 mile radius of the proposed development. We concur with the importance of a Phase I Environmental Assessment and will strongly recommend one to the owner if one has not already been performed.

State Fire Marshal's Office – Contact: Duane Fox 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 1000 gpm for 1-hour duration, at 20-psi residual pressure is required. Fire hydrants with 800 feet spacing on centers.
- Where a water distribution system is proposed for townhouse type dwelling sites, the infrastructure for fire protection water shall be provided, including the size of water mains.

b. **Fire Protection Features:**

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

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 Fred Hudson Road must be constructed so fire department apparatus may negotiate it. . If a "center island" is placed at an entrance into the subdivision, it shall be arranged in such a manner that it will not adversely affect quick and unimpeded travel of fire apparatus into the subdivision.

- 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.

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
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Name of Water Provider
- Letter from Water Provider approving the system layout
- Townhouse 2-hr separation wall details shall be shown on site plans
- Provide Road Names, even for County Roads

Letter: Ms. Constance C. Holland, AICP Director
The DE Office of State Planning Coordination
December 10, 2009
Page 20

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

RESPONSE:

Applicable requirements from the Fire Marshal's office will be complied with.

Department of Agriculture - Contact: Scott Blaier 739-4811

The Department of Agriculture has no objections to the proposed project. The project is located in an Investment Level 3 area according to the State's *Strategies for State Policies and Spending*.

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.

Do Not Plant List

Due to the high risk of mortality from insects and disease, the Delaware Forest Service does not recommend planting any of the following species:

Callery Pear Leyland Cypress Red Oak (except for Willow Oak) Ash Trees

Native Landscapes

The Delaware Department of Agriculture and the Delaware 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 will 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.

RESPONSE:

It has been noted that the Department of Agriculture has no objections to the proposed project. The above recommendations will be taken into consideration

Letter: Ms. Constance C. Holland, AICP Director
The DE Office of State Planning Coordination
December 10, 2009
Page 21

as the design process progresses.

Public Service Commission - Contact: Andrea Maucher 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.

RESPONSE:

We agree that any expansion of natural gas or installation of a closed propane system must fall within Pipeline Safety guidelines.

Delaware Economic Development Office – Contact: Jeff Stone 672-6849

No comments were received regarding this application.

RESPONSE:

We will continue to coordinate with all Local, State, and Federal requirements.

Delaware Division of Public Health- Health Promotion Bureau- Contact: Michelle Eichinger (302) 744-1011

Ensuring that new residential and commercial development incorporates pedestrian- and bicycle-friendly features allows people to travel by foot or by bicycle and promotes physical activity as part of daily routines. Regular physical activity offers a number of health benefits, including maintenance of weight and prevention of heart disease, type 2 diabetes and other chronic diseases.¹ Research shows that incorporating physical activity into daily routines has the potential to be a more effective and sustainable public health strategy than structured exercise programs.² This is particularly important considering about 65% of adult Delawareans are either overweight or obese.³ This current obesity crisis is also affecting children. Approximately 37% of Delaware's children are overweight or obese⁴, which places them at risk for a range of health consequences that include abnormal cholesterol, high blood pressure, type 2 diabetes, asthma, depression and anxiety.¹

In Delaware, as in other states across the nation, certain patterns of land use can act as a barrier to physical activity and healthy eating for children and adults alike. Examples of such barriers include neighborhoods constructed without sidewalks or parks and shopping centers with full-service grocery stores situated too far from residential areas to allow for walking or biking between them.

This proposed development is in a Level 3/Environmentally Sensitive Area. Developing in such an area is consistent with the *Strategies for State Policies and Spending*. DPH is committed to the *Strategies* and therefore, does support development in the proposed area.

DPH supports new development in and around existing towns and municipalities where compact and mixed land use patterns facilitate physical activity. As a way to promote physical activity and access to healthy foods, we recommend that the following amenities be included in the Inland Bays Community:

Amenities to encourage active transportation

- Ensure there are sidewalks, crosswalks and walking/bicycling paths connecting the neighboring residential subdivision, Bethany Lakes.
- Ensure safe connectivity with sidewalks, crosswalks and walking/bicycling paths within the site.
- Designate bike paths to supplement the sidewalks already so that residents can travel by foot or by bicycle to the site. In addition, install bike racks in convenient and safe locations within the site.

Amenities to encourage recreation

- Although the developer is commended for including amenities for active recreation, it is recommended that these amenities are centrally located in the site plan. This would encourage optimal use and accessibility. Further, the path to the proposed location for the amenities is in a wetland and as a result, may inhibit use.

RESPONSE:

The above recommendations will be taken into consideration as the design process progresses.

¹ Nemours Health and Prevention Services (2005). *Delaware Children's Health Chartbook*, Newark, DE.

²

Active Living by Design. *Transportation Fact Sheet*. Retrieved May 17, 2007, from http://www.activelivingbydesign.org/fileadmin/template/documents/factsheets/Transportation_Factsheet.pdf.

^{f.}

³

Delaware Health and Social Services (2008), *Division of Public Health, Behavioral Risk Factor Surveillance System (BRFSS), 1990-2007*. Nemours Health and Prevention Services (2007). *2006 Delaware Survey of Children's Health Descriptive Statistics Summary, Volume 1*.

Delaware State Housing Authority – Contact Valerie Miller 739-4263

This proposal is for a site plan review of 48 residential units on 11.96 acres, located on the north side of Route 360 (Fred Hudson Road), 5,000 ft. west of Route One. According

to the *State Strategies Map*, the proposal is located in an Investment Level 3 area. Additionally, this proposed development is located in the Environmentally Sensitive Developing Area of Sussex County. DSHA supports this proposal because residents will have proximity to existing services, markets, and employment opportunities. As noted on your application, the proposed development will target second homebuyers and move-up buyers. According to the most recent real estate data collected by DSHA, the average home price in Sussex County is \$206,000. However, families earning respectively 100% of Sussex County's median income only qualify for mortgages of \$199,104, thus creating an affordability gap of \$6,896. The provision of units within reach of families earning at least 100% of Sussex County's median income will ensure housing that is affordable to all Sussex Countians.

RESPONSE:

It has been noted that Delaware State Housing Authority (DSHA) supports this project.

Department of Education – Contact: John Marinucci 735-4055

This proposed development is within the Indian River School District boundaries. DOE offers the following comments on behalf of the Indian River School District. Using the DOE standard formula, this development will generate an estimated 24 students.

1. DOE records indicate that the Indian River School Districts' *elementary schools are at or beyond 100% of current capacity* based on September 30, 2008 elementary enrollment.
2. DOE records indicate that the Indian River School Districts' *secondary schools are not at or beyond 100% of current capacity* based on September 30, 2008 secondary enrollment.
3. In multiple correspondences from the Indian River School District administration, the district asserts that while the Indian River High Schools have capacity, the Indian River Middle Schools' student population exceeds student capacity.
4. This development will create additional elementary school and middle school student population growth which will further compound the existing shortage of space.
5. The developer is strongly encouraged to contact the Indian River School District Administration to address the issue of elementary and middle school overcrowding that this development will exacerbate.
6. DOE requests the developer coordinate with the Indian River School District transportation department to establish developer supplied bus stop shelter ROW and shelter structures, interspersed throughout the development as determined and recommended by the local school district.

Letter: Ms. Constance C. Holland, AICP Director
The DE Office of State Planning Coordination
December 10, 2009
Page 24

RESPONSE:

We will coordinate with the Department of Education as the approval process continues.

Sussex County

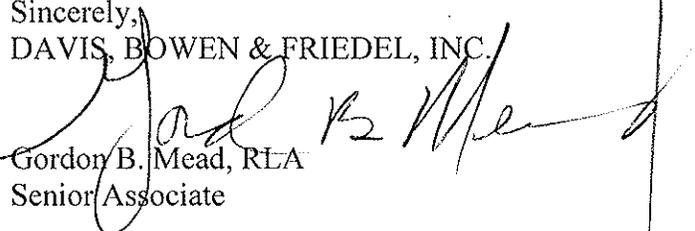
No comments were received regarding this project.

RESPONSE:

It has been noted that Sussex County provided no comments at this point. However through the design process we will coordinate with Local, State, and Federal agencies.

This concludes our responses to the comments provided by your office and all reviewing agencies. The input is appreciated. If you have any questions, please contact me at your convince.

Sincerely,
DAVIS, BOWEN & FRIEDEL, INC.


Gordon B. Mead, RLA
Senior Associate

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cc: Mr. Lawrence Lank, Director
Sussex County Planning Office