



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

June 21, 2006

Mr. Zach Crouch
Davis, Bowen & Friedel
23 North Walnut Street
Milford, DE 19963

RE: PLUS review – PLUS 2006-05-10; Saratoga

Dear Mr. Crouch:

Thank you for meeting with State agency planners on May 24, 2006 to discuss the proposed plans for the Saratoga project to be located on Lynnbury Woods Road near Cheswold.

According to the information received, you are seeking site plan approval for 1123 units on 351.41 acres. This parcel has been identified as a potential annexation area in a draft plan amendment for the Town of Cheswold (PLUS 2006-03-08). It is our understanding that the applicant intends to seek annexation into the Town of Cheswold at some time in the near future.

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 Kent 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. If the property is annexed into the Town of Cheswold at some time in the future, the developers will have to comply with all regulations/restrictions set forth by the Town.

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

- This project is located in Investment Level 2 according to the *State Strategies for Policies and Spending*. This site is also located in the Kent County Growth Zone. Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future. State investments will support growth in these areas. Our office has no objections to the proposed development of this project in accordance with the relevant County codes and ordinances.
- Although the applicants intend to annex this project into the Town of Cheswold, please be advised that the Town of Cheswold Comprehensive Plan Amendment has not been resubmitted to our office for review after the PLUS meeting on March 22, 2006. This parcel is not currently within an annexation area according to the Town's certified comprehensive plan.

Street Design and Transportation

- Lynnbury Woods Road is classified as a collector road and Moorton Road, south of Lynnbury Woods Road, is classified as a local road. DeIDOT'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 and 40 feet from the centerline on collector roads. Therefore DeIDOT will require right-of-way dedication along the frontage to provide any additional width needed from this project.
- There is a proposed cul-de-sac at the west edge of the property. While DeIDOT understands that there could be as-yet-unmapped wetlands in the way, they are hopeful that this cul-de-sac could be extended as a stub street to the adjoining Henry and Saloma Byler property. DeIDOT recommends that the potential for this connection be investigated and that a stub street be provided for this purpose if there are no overriding environmental issues.

- Near the center of the plan, there are four hammerhead cul-de-sacs proposed to serve townhouse units T348 through T395. DelDOT recommends that the four hammerheads be connected by an alley for better connectivity and accessibility.
- DelDOT appreciates the developer's willingness to work with them with regard to Delaware Airpark. The site layout seems acceptable in this regard. DelDOT has developed language for deed restrictions pertaining to the operation of the airport that they would like the developers to place on the subject property. A copy is enclosed with these comments.

Natural and Cultural Resources

- The Division of Historical and Cultural Affairs recommends that the existing historic house and outbuildings be preserved on a larger lot within this development. If this is not possible, they would like the opportunity to document these buildings before any demolition activities take place. In addition, we would like the opportunity to examine the Denney Site and the prehistoric site to learn something more about their nature prior to any ground-disturbing activities.
- There is one National Priorities List site (a.k.a. Superfund) site adjacent to the proposed development. It is known as Coker Landfill #1 and #2 (DE-0004). It was used for disposing latex rubber waste sludge. Sampled offsite monitoring wells have revealed the presence of organic contaminants. The potential for offsite surface water to be contaminated exists. However, recent groundwater sampling indicates that groundwater contamination is under control, and the site may soon be deleted from the NPL. DNREC recommends that public water should be utilized at the proposed site. If necessary, a limited assessment of groundwater at the proposed site should be conducted.
- DNREC is attempting to verify a 1983 report that latex sludge waste was buried on the south side of the property along Alston Branch. Mapping from the period indicates that this site is located within the proposed Saratoga development. This site is known as Cokers #3 and may occupy approximately one acre. The presence of buried waste would make that portion of the property unsuitable as a building site for geotechnical reasons. The presence of the buried waste may also constitute a release under the Hazardous Substance Cleanup Act. The presence of this site was not discussed at the PLUS meeting.
- DNREC recommends that the local government require a notice to be placed on the deeds of any homes located within one half mile of the Coker Sanitation

Service Landfill site. The purposed of the deed notice would be to inform future home owners of the presence of the US EPA National Priorities List site.

- Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine forested wetlands, and agricultural wetlands on the parcel. PLUS materials indicate that there will be direct impacts to these wetlands. These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex.
- PLUS materials show several impacts (road crossings) to streams. Please note that impacts to streams and associated riparian wetlands, including road crossings, are regulated by the DNREC Wetlands and Subaqueous Lands Section, and by the Corps of Engineers.
- To allow for greater forest and wetland preservation, DNREC recommends the following site plan changes:
 1. To protect the existing coastal plain pond, Lot #s 242-248 should be removed as well as the associated cul-de-sac so that an adequate wetland buffer (at least 300 feet) is around the perimeter of the pond.
 2. To allow for greater forest preservation and wetland protection, Lot #'s S160-171, S182-S185, S223-S248 and S251-S284 should be removed. Associated roadways should also be reconfigured and removed.
 3. Stormwater management ponds that require tree clearing should be relocated and removed from the forested wetlands. Trees function in flood abatement and erosion control and it does not make sense to remove them to control stormwater, especially when tree removal can exasperate flooding problems. Alternate methods of stormwater containment should also be explored (such as bioswales, etc.).
 4. A larger portion of the forested wetlands should be preserved and designated as community open space which could be used by the entire community rather than small, disconnected spaces on corners, behind lots and other 'left over' spaces. 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.

5. Lastly, if a large percentage of forest loss is still going to occur despite recommendations to the contrary, then we recommend that trees not be cleared from April 1st to July 31st to minimize impacts to birds and other wildlife that utilize forests for breeding.

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

Office of State Planning Coordination – Contact: David Edgell 739-3090

This project is located in Investment Level 2 according to the *State Strategies for Policies and Spending*. This site is also located in the Kent County Growth Zone. Investment Level 2 reflects areas where growth is anticipated by local, county, and State plans in the near term future. State investments will support growth in these areas. Our office has no objections to the proposed development of this project in accordance with the relevant County codes and ordinances.

This parcel has been identified as a potential annexation area in a draft plan amendment for the Town of Cheswold (PLUS 2006-03-08). It is our understanding that the applicant intends to seek annexation into the Town of Cheswold at some time in the near future. The Town has not resubmitted their comprehensive plan to our office for review since the PLUS meeting. As of the date of this letter, the parcel is not part of an annexation area in the Town's Certified Comprehensive Plan. A Plan of Services must be prepared by the Town and accepted by our office prior to annexation.

This PLUS review will apply regardless of the annexation status. The project is located within Kent County's growth zone, and there are various County development options which may be compatible with the desired design and layout. The development may be feasible within either jurisdiction.

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

There is a known agricultural complex with a c. 1875 house within this parcel. This may correspond to the site of the G. C. Simpson House shown on Beers Atlas of 1868. There is also a known historic-period archaeological site, the T. H. Denney Site (K-6434; shown on Beers Atlas). There are a number of prehistoric-period archaeological sites known here. All but one of these will be protected within the area of the parcel to be conveyed to the Delaware Airpark. The remaining one (K-7217) will be affected by the construction of the cul-de-sac in the southwestern part of the parcel. This parcel is also adjacent to the T. H. Denney House (K-1400) on Lynnbury Woods Rd to the west, as well as to the Town of Cheswold, which has a number of historic properties.

Small, rural, family cemeteries often are found in relation to historic farm complexes, such as the Denney and Simpson houses, usually a good distance behind or to the side of the house. The developer should be aware of Delaware's Unmarked Human Remains Act of 1987, which governs the discovery and disposition of such remains. The unexpected discovery of unmarked human remains during construction can result in significant delays while the process is carried out. The Division of Historical and Cultural Affairs will be happy to discuss these issues with the developer; the contact person for this program is Faye Stocum, 302-736-7400.

The DHCA recommends that the existing historic house and outbuildings be preserved on a larger lot within this development. If this is not possible, they would like the opportunity to document these buildings before any demolition activities take place. In addition, we would like the opportunity to examine the Denney Site and the prehistoric site to learn something more about their nature prior to any ground-disturbing activities.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

- 1) DelDOT appreciates the developer's willingness to work with them with regard to Delaware Airpark. The site layout seems acceptable in this regard. DelDOT has developed language for deed restrictions pertaining to the operation of the airport that they would like the developers to place on the subject property. A copy is enclosed with these comments.
- 2) The developer has completed a traffic impact study (TIS) for this project. They received it on December 30, 2005, and anticipate commenting on it within the next month.
- 3) Lynnbury Woods Road is classified as a collector road and Moorton Road, south of Lynnbury Woods Road, is classified as a local road. 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 and 40 feet from the centerline on collector roads. Therefore DelDOT will require right-of-way dedication along the frontage to provide any additional width needed from this project.
- 4) There is a proposed cul-de-sac at the west edge of the property. While DelDOT understands that there could be as-yet-unmapped wetlands in the way, they are hopeful that this cul-de-sac could be extended as a stub street to the adjoining Henry and Saloma Byler property. DelDOT recommends that the potential for this connection be investigated and that a stub street be provided for this purpose if there are no overriding environmental issues.

- 5) Near the center of the plan, there are four hammerhead cul-de-sacs proposed to serve townhouse units T348 through T395. DelDOT recommends that the four hammerheads be connected by an alley for better connectivity and accessibility.
- 6) Bicycle and pedestrian facilities will be required along the site frontage on Moorton Road and Lynnbury Woods Road. The project manager for Kent County, Mr. Brad Herb, will determine the specific type of improvements, e.g. sidewalks or a multi-use path, as part of the entrance plan review. He may be reached at (302) 266-9600.
- 7) The developer's site engineer should contact Mr. Herb regarding our specific requirements for access.

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

Soils

According to the Kent County soil survey, Sassafras, Woodstown, Elkton, and Fallsington were mapped on subject parcel. Sassafras is a well-drained upland soil that, generally, has few limitations for development. Woodstown is a moderately well-drained soil of low-lying uplands that has moderate limitations for development. Elkton and Fallsington are poorly-drained wetland associated (hydric) soils that have severe limitations for development.

Wetlands

Statewide Wetland Mapping Project (SWMP) maps indicate the presence of palustrine forested wetlands, and agricultural wetlands on the parcel. PLUS materials indicate that there will be direct impacts to these wetlands. These wetlands provide water quality benefits, attenuate flooding and provide important habitat for plants and wildlife. Vegetated buffers of no less than 100 feet should be employed from the edge of the wetland complex. The developer should note that both DNREC and Army Corps of Engineers discourage allowing lot lines to contain wetlands to minimize potential cumulative impacts resulting from unauthorized and/or illegal activities and disturbances that can be caused by homeowners.

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

In addition, individual 404 permits and certain Nationwide Permits from the Army Corps of Engineers also require 401 Water Quality Certification from the DNREC Wetland and Subaqueous Land Section and Coastal Zone Federal Consistency Certification from the DNREC Division of Soil and Water Conservation, Delaware Coastal Programs Section. Each of these certifications represents a separate permitting process.

To find out more about permitting requirements, the applicant is encouraged to attend a Joint Permit Process Meeting. These meetings are held monthly and are attended by federal and state resource agencies responsible for wetland permitting. Contact Denise Rawding at (302) 739-9943 to schedule a meeting.

One area in particular adjacent to lot #'s S245-247 and noted on the site plan as "non-tidal isolated" is a Coastal Plain Pond or Delmarva Bay. This unique type of wetland provides breeding habitat for a variety of animals, including amphibians and invertebrates, and often supports a unique and rare assemblage of plants. Upland forest buffers around these ponds are also critical, protecting the wetland from excess nutrients and invasion by non-native species. This buffer also provides critical habitat for salamanders during most of their annual life cycle. Several studies have shown that salamanders spend most of their lives in forest buffer zones up to 300 meters from wetland edges, using wetlands only during brief breeding periods

It should also be noted that this parcel contains a sensitive headwater riparian wetlands associated with unnamed (or name unknown) tributary to the Willis Branch, greatly increasing the probability of harmful impacts to surface and groundwater quality of all waters within the greater Leipsic River watershed, ultimately reducing the probability that the State will achieve the required TMDL nutrient reductions. Headwater streams and their associated wetlands 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 downstream. In recognition of this concern, the Watershed Assessment Section strongly recommends the applicant consider preserving the existing forested buffer in its entirety. Otherwise, a minimum 100-foot upland buffer

(containing either indigenous or planted native species) is the minimum recommended buffer width that should be maintained from all wetlands and water bodies.

Water Bodies

PLUS materials show several impacts (road crossings) to streams. Please note that impacts to streams and associated riparian wetlands, including road crossings, are regulated by the DNREC Wetlands and Subaqueous Lands Section, and by the Corps of Engineers.

Impervious Cover

The applicant should also be informed that all forms of constructed surface imperviousness (i.e., rooftops, sidewalks and roads) should be included in the impervious surface calculation; otherwise, an inaccurate assessment of this project's actual environmental impacts will be made. Based on the scope and density of this project, surface imperviousness is likely to be far higher than the figure (25%) reported by the applicant. It is strongly recommended that the applicant recalculate surface imperviousness to realistically reflect the actual amount of created post-development surface imperviousness

Research has consistently shown that once a watershed exceeds a threshold of 10 percent imperviousness, water and habitat quality irreversibly decline. Based on analyses of 2002 aerial photography by the University of Delaware, the Leipsic River watershed, at that time, had about 5.1 percent impervious cover. Although this data is about 4 years old and likely an underestimate, it illustrates the importance of a proactive strategy to mitigate for predictable and likely cumulative environmental impacts. Since the amount of imperviousness generated by this project is likely to be significantly above the desirable watershed threshold of 10 percent in both watersheds, the applicant is strongly advised to pursue best management practices (BMPs) that mitigate or reduce some of the most likely adverse impacts. Reducing the amount of surface imperviousness through the use of pervious paving materials ("pervious pavers") in lieu of asphalt or concrete in conjunction with an increase in forest cover via additional tree plantings are examples of practical BMPs that could easily be implemented to help reduce surface imperviousness.

TMDLs

A Total Maximum Daily Load (TMDL) is the maximum level of pollution for which a water quality limited water body can assimilate without compromising use and recreational goals such as swimming, fishing, drinking water, and shell fish harvesting.

Compliance with TMDL nutrient loading reduction requirements will ultimately be assessed via nutrient budget protocol, a computer-based model that quantifies post-development nutrient loading under a variety of land use scenarios in combination with a variety (or absence) of BMP types and intensities. This post-development loading rate is then compared with the pre-development loading rate as a means to assess whether the project meets the acceptable TMDL reduction levels. Although TMDLs have not yet been finalized for the Leipsic River watershed to date, the applicant should be made aware that they will be available in the near future (before December 2006), and may be applicable to this project given the large backlog of developments pending County review. It is strongly advised, therefore, that the applicant be proactive and employ best management practices (BMPs) and Best Available Technologies (BATs) as methodological mitigative strategies to reduce the likely degradative impacts associated with this development. Examples of BMPs or BATs that should be used to significantly reduce nutrient loading from this project, include: practices that prevent, mitigate or minimize created surface imperviousness; maintenance of recommended wetland buffer widths (100 feet); and use of innovative "green-technology" stormwater methodologies rather than conventional open-water stormwater management structures. We suggest that the applicant periodically contact our office regarding the status of the nutrient budget protocol and obtain it as soon as possible. When it becomes available, we suggest that the applicant then verify their project's compliance with the specified TMDL loading rates by running the model themselves, or contacting us if assistance is needed. The contact person for obtaining the protocol is Lyle Jones at 739-9939.

Water Supply

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

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

All well permit applications must be prepared and signed by licensed water well contractors, and only licensed well drillers may construct the wells. Please factor in the necessary time for processing the well permit applications into the construction schedule. Dewatering well permit applications typically take approximately four weeks to process, which allows the necessary time for technical review and advertising.

Potential Contamination Sources do exist in the area, and any well permit applications will undergo a detailed review that may increase turnaround time and may require site specific conditions/recommendations. In this case, there is a Coker's Landfill 1 and 2 located within 1000 feet of this project.

Should you have any questions concerning these comments, please contact Rick Rios at 302-739-9944.

Sediment and Erosion Control/Stormwater Management

Requirements:

1. Land disturbing activities in excess of 5,000 square feet are regulated under the Delaware Sediment and Stormwater Regulations. A detailed sediment and stormwater management plan must be reviewed and approved by the Kent Conservation District prior to any land disturbing activity (i.e. clearing, grubbing, filling, grading, etc.) taking place. The review fee and a completed Application for a Detailed Plan are due at the time of plan submittal to the Kent Conservation District. Construction inspection fees based on developed area and stormwater facility maintenance inspection fees based on the number of stormwater facilities are due prior to the start of construction. Please refer to the fee schedule for those amounts.
2. The following notes must appear on the record plan:
 - The Kent Conservation District reserves the right to enter private property for purposes of periodic site inspection.
 - The Kent Conservation District reserves the right to add, modify, or delete any erosion or sediment control measure, as it deems necessary.
 - A clear statement of defined maintenance responsibility for stormwater management facilities must be provided on the Record Plan.
3. Ease of maintenance must be considered as a site design component and a maintenance set aside area for disposal of sediments removed from the basins during the course of regular maintenance must be shown on the Record Plan for the subdivision.
4. All drainage ways and storm drains should be contained within drainage easements and clearly shown on the plan to be recorded by Kent County.

5. A soils investigation supporting the stormwater management facility design is required to determine impacts of the seasonal high groundwater level and soils for any basin design.

Comments:

1. If the existing farm ponds are to be used for stormwater management, they must be modified to meet Small Pond Code 378. Even if the existing farm pond is not to be used for stormwater management, the Kent Conservation District recommends any steep slopes be modified to eliminate potential hazards associated with the pond, which will be the eventual responsibility of the homeowners.
2. The designer is encouraged to consider the conservation design approach and limit the amount of tree clearing required for the development of the site including the stormwater management facilities shown in the wooded areas.
3. Access to the proposed stormwater facility must be provided for periodic maintenance. This access should be at least 12 feet wide to leading to the facility and around the facility's perimeter.
4. It is recommended that the stormwater management areas be incorporated into the overall landscape plan to enhance water quality and to make the stormwater facility an attractive community amenity.
5. A letter of no objection to re-recording will be provided once the detailed Sediment and Stormwater Management plan has been re-approved.
6. Proper drainage of developed lots and active open space should be considered in the development of the grading plan for this subdivision.
7. Based on the site characteristics, a pre-application meeting is suggested to discuss stormwater management and drainage for this site.

Drainage

The Drainage Program is aware of existing drainage concerns in the area of this project. The Drainage Program requests a meeting with the landowner/developer, project engineer, and the Kent Conservation District sediment and stormwater program staff, to discuss existing drainage concerns in the area of this project.

The Drainage Program does not have a clear understanding how stormwater will be directed to the stormwater management areas. With regards to future maintenance of drainage conveyances, the Drainage Program requests that the majority of the stormwater pipes on this project be located on drainage easements along the streets.

The Drainage Program encourages the elevation of rear yards to direct water towards the streets where storm drains are accessible for maintenance. The Drainage Program requests that all storm drains and catch basins for this project be on open space or within street right-of-ways. However, the Drainage Program recognizes the need for catch basins in rear yards in certain cases. Therefore, catch basins placed in rear yards will need to be clear of obstructions and be accessible for maintenance. Decks, sheds, fences, and kennels can hinder drainage patterns as well as future maintenance to the storm drain or catch basin. Deed restrictions, along with drainage easements recorded on deeds, should ensure adequate future maintenance access.

The Drainage Program requests a 15-foot side yard setback on lots where storm drains and catch basins are on private property to ensure adequate room for future maintenance of the storm drain system. The side yard setback would only increase on the side with the storm drain.

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 on site storm water. The Drainage Program requests that the engineer check downstream for function and blockages prior to construction. Please notify downstream landowners if there will be a change in the volume of water released on them.

Open Space

The developer is strongly urged to consider alternatives to mowed grass within community open space areas. Mowing and other maintenance costs from lawn areas can become a substantial burden for community maintenance associations. There are areas within the development that are appropriate for warm or cool season grasses, especially around storm water management ponds. The maintenance costs associated with meadow type grasses are much lower than those of lawn grasses, and provide food and habitat for birds and other wildlife and can help reduce non-point source pollution.

Forest Preservation

The forest loss estimate on the application, 17 acres lost out of 173 acres, appears to be notably underestimated. According to the site plan there are at least 64 lots either

partially or completely in the woods. There are also associated roadways and two storm water management ponds that will require tree clearing. Once this site is built out and landowners have cleared even more trees for pools, play areas, sheds, etc., the amount of forest loss will likely be even greater. These are forested wetlands which typically support an array of plant and wildlife species and should be preserved. Wildlife currently inhabiting the forest will have to disperse into surrounding areas which can lead to an increase in human/animal conflicts.

To allow for greater forest and wetland preservation, DNREC recommends the following site plan changes:

1. To protect the existing coastal plain pond, Lot #s 242-248 should be removed as well as the associated cul-de-sac so that an adequate wetland buffer (at least 300 feet) is around the perimeter of the pond.
2. To allow for greater forest preservation and wetland protection, Lot #'s S160-171, S182-S185, S223-S248 and S251-S284 should be removed. Associated roadways should also be reconfigured and removed.
3. Stormwater management ponds that require tree clearing should be relocated and removed from the forested wetlands. Trees function in flood abatement and erosion control and it does not make sense to remove them to control stormwater, especially when tree removal can exasperate flooding problems. Alternate methods of stormwater containment should also be explored (such as bioswales, etc.).
4. A larger portion of the forested wetlands should be preserved and designated as community open space which could be used by the entire community rather than small, disconnected spaces on corners, behind lots and other 'left over' spaces. 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.
5. Lastly, if a large percentage of forest loss is still going to occur despite recommendations to the contrary, then we recommend that trees not be cleared from April 1st to July 31st to minimize impacts to birds and other wildlife that utilize forests for breeding.

Site Visit Request

DRNEC has not surveyed this property; therefore, it is unknown if there are state-rare or federally listed plants, animals or natural communities at this project site that would be affected by project activities.

In order to provide more informed comments and to make reasonable recommendations, our program botanist and zoologist request the opportunity to survey the forested and wetland resources which could potentially be impacted by the project. This would also allow the applicant the opportunity to reduce potential impacts to rare species and to ensure that the project is environmentally sensitive. Please contact Bill McAvoy or Kitt Heckscher at (302) 653-2880 to set up a site visit.

Plant Rescue

Because there is forest and wetland loss associated with this project, we recommend that the developer/landowner contact the Delaware Native Plant Society to initiate a plant rescue. Selected plants from the site of disturbance will be collected by Society members and transplanted to the Society's nursery. Plants will then be used in restoration projects and/or sold at the Society's annual native plant sale. This can be done at no expense or liability to the developer/landowner. Please contact Lynn Redding at (302) 736-7726 or lynn_redding@ml.com.

Nuisance Waterfowl

Stormwater management ponds that remain in the site plan may 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. 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 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.

Underground Storage Tanks

There are three inactive LUST site(s) located near the proposed project:

Jo-Eve Farms, Facility # 1-000222, Project # K9301011

Delaware Air Park, Facility # 1-000280, Project # K0107054

DOT-Cheswold, Facility # 1-000305, Project # K9907148

No environmental impact is expected from the above inactive/active LUST site(s). However, should any underground storage tank or petroleum contaminated soil be discovered during construction, the Tank Management Branch must be notified as soon as possible. It is not anticipated that any construction specifications would need to be changed due to petroleum contamination. However, should any unanticipated contamination be encountered and PVC pipe is being utilized, it will need to be changed to ductile steel with nitrile rubber gaskets in the contaminated areas.

Site Investigation and Restoration

One EPA National Priorities List (a.k.a. Superfund) site was found within a ½-mile radius of the proposed site. Coker Landfill #1 and #2 (DE-0004), a National Priorities List (NPL) site, is located northwest of the proposed site. The formal name of the NPL site is “Cokers Sanitation Service Landfill”. It is a single site with two units approximately 1000 feet apart. Cokers Landfill #1 is on the north side of Route 152 and is or was owned by Alberta Schmidt. Cokers Landfill #2 is on the south side of Route 152 and is or was owned by Kowinsky Farms, Inc. Cokers #2 is adjacent to the property that Cheswold is annexing. It was used for disposing latex rubber waste sludge. Sampled offsite monitoring wells have revealed the presence of organic contaminants. The potential for offsite surface water to be contaminated exists. However, recent groundwater sampling indicates that groundwater contamination is under control, and the site may soon be deleted from the NPL. DNREC recommends that public water should be utilized at the proposed site. If necessary, a limited assessment of groundwater at the proposed site should be conducted.

There are two other sites with similar names—Cokers #3 and Cokers #4. Cokers #4 is located on the Reichold Chemical plant property and is therefore not a problem. Cokers #3 is problematical. It is another latex waste landfill similar but smaller in scale to Cokers #2. It is located on the former Fred Kowinsky farm. From a 1983 map, it appears to be on the south side of the farm next to the creek (Alston Branch) a few hundred feet west of Route 92. Cokers #3 is clearly within the area proposed for the Sarasota development. Our reports on the site are quite old. The 1983 report says that it covers one acre and that 800 tons of latex waste sludge was buried there. It notes that “only a

few hardened, basketball-sized nodules of latex were observed in indicate the possible location of the disposal site". The sampling data is sparse; the waste itself apparently not sampled. Our records suggest that the US EPA did not consider Cokers #3 significant enough to include in the NPL site based on groundwater and surface water samples. However, I do recommend trying to positively identify its extent and **prohibit building houses** right on top of it for geo-technical purposes if not for contamination.

DNREC recommends that the local government require a notice to be placed on the deeds of any homes located within one half mile of the Coker Sanitation Service Landfill site. The purposed of the deed notice would be to inform future home owners of the presence of the US EPA National Priorities List site.

DNREC is attempting to verify a 1983 report that latex sludge waste was buried on the south side of the property along Alston Branch. This site is known as Cokers #3 and may occupy approximately one acre. The presence of buried waste would make that portion of the property unsuitable as a building site for geotechnical reasons. The presence of the buried waste may also constitute a release under the Hazardous Substance Cleanup Act.

Solid Waste

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

Air Quality

Once complete, vehicle emissions associated with this project are estimated to be 93.2 tons (186,489.8 pounds) per year of VOC (volatile organic compounds), 77.2 tons (154,400.9 pounds) per year of NOx (nitrogen oxides), 57.0 tons (113,919.9 pounds) per year of SO2 (sulfur dioxide), 5.1 ton (10,140.8 pounds) per year of fine particulates and 7,799.8 tons (15,599,635.9 pounds) per year of CO2 (carbon dioxide).

Emissions from area sources associated with this project are estimated to be 37.6 tons (75,219.8 pounds) per year of VOC (volatile organic compounds), 4.1 ton (8,276.5 pounds) per year of NOx (nitrogen oxides), 3.4 ton (6,868.3 pounds) per year of SO2 (sulfur dioxide), 4.4 ton (8,863.2 pounds) per year of fine particulates and 152.5 tons (304,924.3 pounds) per year of CO2 (carbon dioxide).

Emissions from electrical power generation associated with this project are estimated to be 14.9 tons (29,811.7 pounds) per year of NOx (nitrogen oxides), 51.8 tons (103,693.0 pounds) per year of SO2 (sulfur dioxide) and 7,647.4 tons (15,294,711.6 pounds) per year of CO2 (carbon dioxide).

	VOC	NOx	SO ₂	PM _{2.5}	CO ₂
Mobile	93.2	77.2	57.0	5.1	7799.8
Residential	37.6	4.1	3.4	4.4	152.5
Electrical Power		14.9	51.8		7647.4
TOTAL	130.8	96.2	112.2	9.5	15599.7

For this project the electrical usage via electric power plant generation alone totaled to produce an additional 14.9 tons of nitrogen oxides per year and 51.8 tons of sulfur dioxide per year.

A significant method to mitigate this impact would be to require the builder to construct Energy Star qualified homes. Every percentage of increased energy efficiency translates into a percent reduction in pollution. Quoting from their webpage, <http://www.energystar.gov/>:

“ENERGY STAR qualified homes are independently verified to be at least 30% more energy efficient than homes built to the 1993 national Model Energy Code or 15% more efficient than state energy code, whichever is more rigorous. These savings are based on heating, cooling, and hot water energy use and are typically achieved through a combination of:

- building envelope upgrades,
- high performance windows,
- controlled air infiltration,
- upgraded heating and air conditioning systems,
- tight duct systems and
- upgraded water-heating equipment.”

The Energy office in DNREC is in the process of training builders in making their structures more energy efficient. The Energy Star Program is excellent way to save on energy costs and reduce air pollution. They highly recommend this project development and other residential proposals increase the energy efficiency of their homes.

They also recommend that the home builders offer geothermal and photo voltaic energy options. Applicable vehicles should use retrofitted diesel engines during construction. The development should provide tie-ins to the nearest bike paths, links to mass transit, and fund a lawnmower exchange program for their new occupants.

State Fire Marshal's Office – Contact: John Rossiter 739-4394

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

- b. **Fire Protection Features:**
 - All structures over 10,000 Sq. Ft. aggregate will require automatic sprinkler protection installed.
 - Buildings greater than 10,000 sqft, 3-stories of more or over 35 feet, or classified as High Hazard, are required to meet fire lane marking requirements.
 - Show Fire Department Connection location (Must be within 300 feet of fire hydrant), and detail as shown in the DSFPR.
 - Show Fire Lanes and Sign Detail as shown in DSFPR
 - 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 Lynnbury Woods Road and Commerce Street 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.

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

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

e. **Required Notes:**

- Provide a note on the final plans submitted for review to read “ All fire lanes, fire hydrants, and fire department connections shall be marked in accordance with the Delaware State Fire Prevention Regulations”
- Proposed Use
- Alpha or Numerical Labels for each building/unit for sites with multiple buildings/units
- Square footage of each structure (Total of all Floors)
- National Fire Protection Association (NFPA) Construction Type
- Maximum Height of Buildings (including number of stories)
- Townhouse 2-hr separation wall details shall be shown on site plans
- Note indicating if building is to be sprinklered
- Name of Water Provider
- Letter from Water Provider approving the system layout
- Provide Lock Box Note (as detailed in DSFPR) if Building is to be sprinklered
- Provide Road Names, even for County Roads

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

Department of Agriculture - Contact: Milton Melendez 698-4500

The Delaware Department of Agriculture has no objections to the Markowitz Property application. The *Strategies for State Policies and Spending* encourages environmentally responsible development within Investment Levels 2 and 3 areas.

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 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.

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.

Delaware State Housing Authority – Contact Karen Horton 739-4263

The proposal is a site plan review for 1,215 residential units on 523 acres located on Lynnbury Woods Road, Cheswold. The proposed subdivision includes single family, active adult, townhouse and condominium lots/units. According to the State Strategies Map, the proposal is located in Investment Levels 2 and 3. As a general planning

practice, DSHA encourages residential development in areas where residents will have proximity to services, markets, and employment opportunities such as Investment Level 1 and 2 areas outlined in the State Strategies Map. Furthermore, DSHA encourages residential development in Level 1 and 2 areas that is affordable to first time homebuyers.

The proposal targets the full range of incomes including first time homebuyers. DSHA encourages the use of mixed income and supports the variety of housing. For informational purposes, the most recent real estate data collected by DSHA, the median income price in Kent County is \$189,500. However, families earning respectively 80%-100% of Kent County's median income only qualify for mortgages of \$138,205-\$176,741, thus creating an affordability gap of \$51,295-\$12,759. The provision of units within reach of families earning at least 80%-100% of Kent County's median income would help increase housing opportunities for first time homebuyers.

Department of Education – Contact: John Marinucci 739-4658

This project appears as though it will span two school districts – the Smyrna School District and the Capital School District. The southern most area of the proposed development appears to cross the Capital School District boundary line.

DOE offers the following comments on behalf of the Smyrna School District, as well as the Capital School District.

1. Using the DOE standard formula, this development will generate an estimated 607 students.
2. In a letter dated March 20, 2006, addressed to Commissioner David R. Burris, President, Kent County Levy Court, the Superintendent of the **Smyrna School District** officially informed the Kent County Levy Court that it does not have capacity to accommodate the students resulting from any continued development.
3. DOE records indicate that the **Capital School Districts' elementary schools are at or beyond 100% of current capacity** based on September 30, 2005 elementary enrollment.
4. DOE records indicate that the **Capital School Districts' secondary schools are at or beyond 100% of current capacity** based on September 30, 2005 secondary enrollment.

The developer is strongly encouraged to contact both the Smyrna School District and Capital School District Administration to discuss the issue of school over-crowding that this development will exacerbate and potential resolutions

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

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

Sincerely,

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

Constance C. Holland, AICP
Director

CC: Town of Cheswold
Kent County