



**STATE OF DELAWARE
EXECUTIVE DEPARTMENT
OFFICE OF STATE PLANNING COORDINATION**

December 22, 2011

Mr. David Culver
New Castle County
87 Reads Way
New Castle, DE 19720

RE: PLUS 2011-11-03; New Castle County

Dear Mr. Culver:

Thank you for meeting with State agency planners on November 23, 2011 to discuss the proposed New Castle County draft comprehensive plan update.

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.

Certification Comments: These comments must be addressed in order for our office to consider the plan amendment consistent with the terms of your certification and the requirements of Title 22, § 702 of the Del. Code.

There is the possibility of a certification issue based on comments we have received from the Town of Smyrna. Mr. David Hugg, the Town Manager, copied our office on a letter he sent to you concerning some intergovernmental issues in that the Town may oppose certification pending the outcome of a requested meeting to discuss such issues (title 29, Chapter 91, § 9103, (d)). We also understand from conversations with Mr. Peter Besecker, the City of Wilmington Planning Director that he also has some intergovernmental issue questions. We encourage New Castle County to resolve any issues that may exist with both Smyrna and Wilmington at your earliest convenience and inform us of the results of the discussions so that we can recommend the certification of this plan to the governor.

Recommendations: Our office strongly recommends that the Town consider these comments and recommendations from the various State agencies as you review your plan for final approval.

This office has received the following comments from State agencies:

Office of State Planning Coordination – Contact: 739-3090

As noted in our review of the 2007 plan, preparing a comprehensive plan that balances the many competing needs and interests of the general community is a challenging task. As in 2007, we commend the County for doing just that with this plan.

The preparation of such a plan is particularly challenging this time around as the vision and subsequent future land use plan has to project out 10 years instead of the usual five years due to the change in state code. Making this look forward even more challenging is the fact that the plan has to take into account an economic downturn with its uncertain impact on future land use considerations with no certainty as to how and when the economy will turn around.

Furthermore, demographic trends are also changing to the extent that even without an economic downturn, there would be a need for a circumspect look at development policies that will need to be reshaped to reflect such trends. As this plan acknowledges, with regard to the noted demographic trend of an aging population (as noted in this plan, that the largest population gain will be in the 55-74 age category corresponding to the largest decrease in the 40-54 age category, page 8-7), “that existing housing stock is not necessarily appropriate for the County’s aging population. Aging residents will be seeking smaller homes within walkable communities. The number of families seeking large single-family detached dwellings will be decreasing, leaving a large supply of such homes with a much smaller demand for such homes.” (Section 1.4) The need for smaller residential units is further supported by the decreasing household size. So, in addition to meeting the needs of changing population coupled with a changing economy, New Castle County has the additional challenge of dealing with a housing stock, including unbuilt subdivisions that may not be suitable for meeting current and future needs. Thus, the overarching challenge will be to create a wide variety of housing options utilizing the current housing stock as well as with the development of new communities.

Other items for consideration:

- We are pleased to see that you will continue to refine the regulations governing mixed uses, villages and hamlets as it is important to make such developments more common place given the conditions sited above.
- Transfer of Development Rights (TDR): we are glad to see that the County will continue to pursue this as a land use policy.
- Southern New Castle County master plan: this is a very important effort that has already received a lot of attention. We would like to see it carried forward with whatever input it would take to see an implementation timeframe approved by all the parties involved.
- In regards to Southern New Castle County we feel it is important to promote non residential development in the New Community Development area especially in the form

of mixed-use development (which we refer to as “complete communities” in the, **“Moving Toward Complete Communities”** section in the **2010 State Spending Strategies**). Moving in this direction will, among other things, help reduce Vehicle Miles Traveled (VMTs) and promote communities that encourage a healthy life style.

We congratulate you on developing a plan that, if properly implemented, will give the citizens of New Castle County a variety of options in meeting their lifestyle needs. As always, we offer our assistance in making this plan a reality

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

- This draft of the New Castle County Comprehensive Plan update for 2012 demonstrates throughout careful attention to the difficult balance of growth and preservation on many issues. New Castle County is one of our oldest and most active partners in the federal historic preservation program, becoming a Certified Local Government when that program was first established by the National Park Service in the late 1970s. The County’s accomplishments in historic preservation since the last plan demonstrate their continuous and successful efforts in this field.
- The historic preservation chapter presents a number of good strategies to slow the rate of loss of historic properties. SHPO particularly supports the approach to encourage preservation within the landscape context. Finding a way to provide grants or loans to historic property owners for basic maintenance issues would fulfill a significant need that we hear about over and over. They also applaud the County’s setting the example in historic preservation with its own properties and working with preservation trades programs. Educating a skilled workforce in the rehabilitation of historic buildings is a need and an economic opportunity that they see as well.
- Historic preservation values are evident throughout the document, not just in that section. For example, the section on agriculture discusses providing incentives for rehabilitation of historic farm buildings and coordinating the County’s program with the Delaware Century Farm Program. Context-based development and infill also support historic preservation needs in a community. Finding ways to adaptively reuse older buildings and improve their energy conservation is also supportive of historic preservation. Indeed, the building that is already built is the greenest building possible; many techniques to retrofit older buildings to appropriate LEED standards are being developed by the Environmental Protection Agency and historic preservationists nationwide. SHPO supports the goals toward more compact developments, a viable transfer-of-development-rights program, redevelopment of brownfields, and walkable, livable communities. They also support the housing goals for maintaining a wide range of housing types and rehabilitating older housing stock; this can act directly in preserving historic buildings.
- Open space preservation is one way the County contributes to the preservation of archaeological sites, and the County may want to add the presence of a site as a factor in

designating which properties to acquire or manage for open space or passive recreation. In addition, the County may want to use the presence of a site as a factor (to avoid) when advising developers on where best to place stormwater management ponds, recreation areas, community facilities, and so on. Furthermore, if you have any questions or concerns in reference to these comments, please contact Alice Guerrant at 302-736-7412.

Department of Transportation – Contact: Bill Brockenbrough 760-2109

- DelDOT has three suggestions regarding Map 1-1, Planning Districts:
 - The Delaware River should be delineated. While it is acceptable to include sections of the river in the districts along it, to our knowledge the County does not plan for activity on or under the water to any significant extent. This same situation occurs on Map 12-1, School Districts.
 - If possible, the district labels for Red Lion, New Castle and Greater Newark should be adjusted to move them outside the municipal boundaries of Delaware City, New Castle and Newark, respectively.
 - Consider using different colors for the Greater Newark and/or Upper Christina Districts, or better delineating the boundary between them. For readers with red-green color blindness (7 to 10 percent of all males) the colors used for these districts are difficult to distinguish from each other.
- On page 2-7, the Plan says that a projected slowing of growth in the number of households “can be caused by any number of factors, including such things as a potential build-out of the County, and an increased mortality rate due to the County’s aging population.” Such wording would be appropriate if used with regard to an observed slowing, where one can only speculate as to the causes, but for a projected slowing one would hope that the County has better knowledge regarding the causes. It may not be appropriate to analyze and present those causes in the text of the Plan, but the text should indicate that the reasons for the projected slowing are complex, rather than unknown.
- Map 3-2, 2012 Future Land Use Draft, has several unincorporated areas that are colored white, the same color designated for municipalities. Future land uses should be identified for those locations and they should be color-coded appropriately. Preliminarily, it appears that these areas might be the proposed Commercial/Office/Industrial Development Area.
- Section 3.2, Growth Management Scenarios: 2012, adequately describes the three scenarios that were examined, but it is not clear why they were examined or how a conclusion was drawn from that work. If it was decided in advance that the base trend in growth was sufficient, why were scenarios tested? If not, how did the County determine that the base trend was most appropriate scenario for which to plan?

- In the legend of Map 4-1, Strategies for State Policies and Spending, municipalities are indicated by white box with a border around it. The apparent intent is to show the border used to designate municipal boundaries. This is confusing for two reasons, however. First, on the map municipalities are colored in accordance with the applicable Strategy Levels, primarily Levels 1 and 2. Second, the line weight used for municipal boundaries on the map appears heavier than the line weight used in the legend. The easiest fix would be to eliminate municipalities from the legend.
- In Section 4.3, consists primarily of excerpts from DeIDOT's Statewide Long Range Transportation Plan. While such an approach is reasonable, care should be taken to explain terms used in the DeIDOT plan that might be unclear to a reader unfamiliar with that plan. We noticed two such terms. First, "smart transportation systems," while not concisely defined in SLRTP, are essentially transportation systems that support the State's land use and economic development policies. Second, "land use shifts" refers to shifts of future household growth from Level 3 and 4 Investment Areas to Level 1 and 2 Investment Areas. In the context of Section 4.3, we suggest changing the sentences in which these terms occur to read "It is DeIDOT's intent to develop transportation systems consistent with the State's smart growth initiatives" and "...applying a combination of highway and transit improvements and land use planning to yield...
- In Section 4.6, the two transportation goals are very similar to each other. Consider combining them.
- On page 4-9, in the first paragraph of Objective 5, there is a reference to "extension of U.S. Route 301." In fact, Route 301 is already continuous from the Maryland line near Middletown to I-295 near the Delaware Memorial Bridge, it is just that the route is cosigned with Delaware Routes 71 and 896 and US Routes 40 and 13. The work now proposed is the construction of an expressway on a new alignment to carry Route 301 from the Maryland line to Delaware Route 1 near the Chesapeake and Delaware Canal.
- Section 2.9.12.1, paragraph 3, of DeIDOT's Standards and Regulations for Subdivision Streets and State Highway Access, recognizes that as part of its comprehensive plan a local government "may determine that acceptance of a lower Level of Service (LOS) (D, E or F) for some portion of the day is necessary and appropriate for the pattern of development they seek to create." Further, it states that if a proposed development is located in or affects such an area, DeIDOT will consider the local standard to the extent adherence to it does not result in substandard LOS or unacceptable operating conditions outside that area.
- For example, in a central business district, traffic may well be congested, operating at LOS E or even F during peak times. To achieve LOS D, however, would require a major road widening, such that buildings and/or pedestrian facilities would need to be removed. In such a situation it seems only practical to accept LOS E or F and let development proceed.

- While most such areas are likely in incorporated municipalities, there may be unincorporated areas where the County would want to consider an LOS worse than what is currently provided in Section 40.11.210 of the County's Unified Development Code. If so, such areas and the LOS that would be acceptable in them should be specified in the Plan.

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

DNREC offers several comments and suggestions to improve conservation and protection of the County's resources. While the cumulative impact of various program suggestions and concerns may sound negative, the intent is to improve the plan elements related to environmental protection, open space, recreation and water quality and supply. DNREC would welcome the opportunity to meet with the County in a collaborative manner to discuss these recommendations and possible future ordinances.

Recommendations for Comprehensive Plan Revisions

- **Chapter 6, Section 6.1, Environment**

The State is currently refining a Phase II Watershed Implementation Plan for the Chesapeake watershed (see below). Meeting the water quality goals for this watershed by 2025 (60 percent of the goal must be met by 2017) relies heavily on the policies of local governments regarding land use, stormwater management, impervious cover, open space requirements, tree preservation, riparian buffers and other protective measures.

Recommendation: Recognize Total Maximum Daily Loads in the plan's Environment Section by incorporating or referring to the following concepts:

Under Section 303(d) of the 1972 Federal Clean Water Act (CWA), states are required to identify all impaired waters and establish total maximum daily loads (TMDLs) to restore their beneficial uses (e.g., swimming, fishing, drinking water, and shellfish harvesting). A TMDL defines the amount a given pollutant (i.e., or the pollutant loading rate reduction for a given pollutant) that may be discharged to a water body from all point, nonpoint, and natural background sources; thus enabling that water body to meet or attain all applicable narrative and numerical water quality criterion (e.g., nutrient/bacteria concentrations, dissolved oxygen, and temperature) in the State of Delaware's Water Quality Standards. A TMDL may also include a reasonable margin of safety (MOS) to account for uncertainties regarding the relationship between mass loading and resulting water quality.

In simplistic terms, a TMDL matches the strength, location and timing of pollution sources within a watershed with the inherent ability of the receiving water to assimilate

that pollutant without adverse impact. The realization of these TMDL pollutant load reductions will be through completion or execution of a Pollution Control Strategy (PCS) and/or Watershed Implementation Plan (WIP).

The PCS and the WIP are regulatory directives (by the State and EPA) that identifies and requires the specific actions (i.e., best management practices (BMPs)) necessary for reducing TMDL pollutant loads to a level or levels sufficient to meet the criterion defining acceptable water quality by Delaware's Water Quality Standards. Realizing these TMDL pollutant load reductions will ultimately help restore a given water body's (or watersheds) designated beneficial use(s). Examples of beneficial uses include swimming, fishing, drinking water, and shellfish harvesting. To date, the only watershed in New Castle County with a completed PCS is the Appoquinimink River.

The WIP is a more stringent regulatory directive that specifically addresses water quality concerns for those watersheds (including Elk Creek, C & D Canal West, Bohemia Creek, Sassafra and Chester Rivers in New Castle County) within the Chesapeake Bay drainage. The purpose of the WIP is to accelerate efforts to improve and restore waters in the Chesapeake Bay; the WIP will also require two- year milestone goals to gauge the effectiveness and progress of the restoration process. The WIP and milestones will identify specific pollution reduction practices and programs to reduce nitrogen, phosphorus, and sediment from a variety of sources within the watershed. It will also require accountability by local (including New Castle County), state, federal, and various other stakeholders to achieve milestone goals. Refusal to comply with WIP or meet the two-year milestones will result in the imposition of potential consequences to the State by the EPA.

The WIP is a multiphase process consisting of three phases. The first phase has been completed. Phase I required that all jurisdictions in the Chesapeake Bay drainage demonstrate reasonable assurance that nutrient (nitrogen and phosphorus) and sediment will be achieved and maintained. The second phase is currently being implemented. The purpose of Phase II is to facilitate implementation by identifying key local, state, and federal partners involved in reducing nutrient loads to meet Bay TMDL allocations. The Phase II WIPs will also provide an opportunity by local partners to more clearly demonstrate reasonable assurance that allocations be achieved and decrease the level of EPA oversight (available soon). The final phase is scheduled for 2017 and will allow for any mid-course adjustments and propose any needed refinements to the Bay TMDL allocations. Delaware's Draft Phase 1 WIP is currently available for review at: http://www.wr.dnrec.delaware.gov/Information/Pages/Chesapeake_WIP.aspx.

- **Chapter 6, Page 6-6. Objective 1: Continue to enhance, preserve, protect, and restore biodiversity and habitat linkages.**

To achieve this objective, the County mentions the use of GIS data. The Delaware Ecological Network (DEN) is a data layer created by The Conservation Fund using GIS and field collected data. The DEN is relatively efficient at capturing areas of high quality

wildlife habitat and areas that support Species of Greatest Conservation Need¹ (SGCN). It is a comprehensive data layer and includes the following ecologically important areas 1) core areas- contain relatively intact natural ecosystems, and provide high-quality habitat for native plants and animals, 2) hubs-slightly fragmented aggregations of core areas, plus contiguous natural cover and 3) corridors-link core areas together, allowing wildlife movement and seed and pollen transfer between them. DNREC is currently updating the DEN, which was developed in 2006, and will use this data as its base natural resources layer beginning in 2012.

Recommendation: To best identify where ecologically important areas occur, DNREC recommends the County utilize a GIS database layer commonly referred to as the Delaware Ecological Network (DEN). The Planning Section within DNREC can facilitate getting this data layer and associated metadata to the County. Lee Ann Walling is the contact person within the Planning Section: leeann.walling@state.de.us or (302) 739-9006.

- **Chapter 6, Page 6-8, Objective 7: Set conservation priorities and work with appropriate agencies and groups to encourage suitable habitats for wildlife.**

Recommendation: The County should consider coordinating with the Natural Heritage and Endangered Species Program (NHESP) to determine which areas support species of concern or are valuable to wildlife in general. The NHESP can provide technical assistance to the County through the program's environmental review process. The County has utilized this process in the past to ensure that County sponsored projects, or projects on County-owned land, avoid or minimize impacts to species of concern or habitat that supports those species. Through this process the NHESP can also offer recommendations that would enhance habitat for wildlife on those sites. In some cases, a site visit may be needed in order to evaluate existing habitat.

¹ Species of greatest conservation need (SGCN) are indicative of the overall diversity and health of the State's wildlife resources. Some may be rare or declining, others may be vital components of certain habitats, and still others may have a significant portion of their population in Delaware. SGCN are identified in the Delaware Wildlife Action Plan (DEWAP) which is a comprehensive strategy for conserving the full array of native wildlife and habitats-common and uncommon- as vital components of the state's natural resources. Congress challenged the states to demonstrate comprehensive wildlife conservation. Delaware, along with all of the other states and provinces throughout the country are working to implement their wildlife action plans. This document can be viewed via the Division of Fish and Wildlife's website at <http://www.fw.delaware.gov/dwap/Pages/default.aspx>. DEWAP also contains a list of species of greatest conservation need, key wildlife habitat, and species-habitat associations.

- **Chapter 6, pages 6-14 and 6-15, Objective 3. Create incentives to promote and encourage the continuation of agriculture and forest based business.**

The County is considering the use of forestland for wastewater spray irrigation. The compatibility of wastewater spray irrigation on forested land depends largely on the location. In ecologically sensitive areas or areas that support rare, threatened and endangered species, the long-term inputs of the nutrients/chemicals may not be beneficial to the habitat or to those species. The County should consider deleting or rewording the broad statement “*wastewater serves as a nutrient that is beneficial to the growth of the forest*” as long-term inputs of nutrients may not be beneficial to forests that harbor rare plant species or unique natural communities which tend to be more sensitive to environmental changes. The potential exists for the plant community structure and species composition to shift in an unfavorable direction and benefit more tolerant, or in some cases, invasive species. Initial results from a study conducted on Pennsylvania State game lands indicate substantial differences in species composition, density of trees and shrubs, and soil characteristics between wastewater irrigated and non-irrigated forests². In addition, wastewater spray infrastructure often requires tree clearing which fragments the forest and can provide an avenue for invasive species.

Although additional research and consultation of existing literature is recommended, several studies have raised concerns about habitat changes caused by long-term inputs of treated wastewater and the resulting impact to forest dwelling species. Several studies were conducted on forested game lands in Pennsylvania to compare bird species diversity on wastewater irrigated versus non-irrigated sites (Rollfinke et al 1990³, Rohnke & Yahner 2008⁴). Bird species diversity (number of species) and evenness (relative proportions) declined on the irrigated sites. This response could be explained mostly by irrigation-induced changes in vegetation. Depending on the frequency of spraying and the areas to be irrigated, impacts to ground-nesting species is possible. Of particular concern would be changes in vegetative cover and structure that could potentially impact species that are more habitat-specific.

Research findings suggest that treated wastewater sprayed on forested areas could have long-term adverse impacts on amphibian reproduction. Although wastewater effluent is

² Larrick, D.S. and T. W. Bowersox. 1999. Long-term effects of wastewater irrigation of forested ecosystems at Pennsylvania State Game Lands 176 *in* Stringer, Jeffrey W.; Loftis, David L, eds. 1999. Proceedings, 12th central hardwood forest conference; 1999 February 28-March 1-2; Lexington, KY. Gen. Tech. Rep. SRS-24. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station. 293 p. [Peer-reviewed paper].

³ Rollfinke, B., R. Yahner and J. Wakeley. 1990. Effects of forest irrigation on long-term trends in breeding-bird communities. *Wilson Bull.*, 102(2): 264-278.

⁴ Rohnke, A. and R. Yahner. 2008. Long-term effects of wastewater irrigation on habitat and a bird community in central Pennsylvania. *Wilson Journal of Ornithology* 120(1): 140-152.

not believed to be immediately acutely toxic to the terrestrial salamander species that were studied, long-term adverse effects need further study (Laposata & Dunson 2000⁵). Higher concentrations of sodium were found in those species inhabiting wastewater. Studies also suggest that wastewater effluent may reduce the survival of amphibian eggs and larvae (Laposata and Dunson, 2000⁶). In a forested area in Pennsylvania, significantly fewer egg masses of wood frogs (*Rana sylvatica*), Jefferson salamanders (*Ambystoma jeffersonianum*), and spotted salamanders (*A. maculatum*) were found in wastewater irrigated ponds compared to those found in natural ponds.

Prior to purchasing or designating forestland specifically for wastewater disposal, we encourage the County to consider assessments that evaluate parameters such as existing ecological integrity, water and nutrient requirements of existing plant species, existing plant diversity, and expected outcomes of vegetation changes and how those changes could potentially impact forest dwelling wildlife. Caution should be taken before sacrificing good quality forest habitat for wastewater disposal when there may be more suitable areas that could actually realize a net benefit. Impacts to water quality should also be considered as increased nutrient and saline inputs could be detrimental to sensitive aquatic species that occur at the site or downstream. The NHESP can assist the County in determining if a site has habitat that does or could potentially support SGCN, rare plants, unique natural communities or if the forest provides good quality habitat for wildlife.

- **Chapter 9, pages 9-6 and 9-7, Objective 3. Continue to promote redevelopment of existing or underutilized properties.**

There are numerous Brownfield sites listed on DNREC's Brownfields Marketplace inventory within the proposed comprehensive plan amendment area. However, please note that many more properties within the county may qualify as "Brownfield" sites.

Brownfields are real property that may be vacant, abandoned or underutilized as a result of a reasonably-held belief that they may be environmentally contaminated (7 Del.C. § 9103(3)). Productive use of these idle properties provides "new" areas for economic development, primarily in former industrial/urban areas with existing utilities, roads and other infrastructure. DNREC encourages the development of Brownfields and can provide grant funding and other assistance when investigating and remediating Brownfield sites.

⁵ Laposata, M., W. Dunson. 2000. Effects of treated wastewater effluent irrigation on terrestrial salamanders. *Water, Air, and Soil Pollution* 119:45-57.

⁶ Laposata, M., W. Dunson. 2000. Effects of spray-irrigated wastewater effluent on temporary pond-breeding amphibians. *Ecotoxicology and Environmental Safety* 46: 192-201.

The Delaware Brownfields Marketplace is an interactive database that contains a list of market-ready Brownfield sites throughout Delaware. The inventory is designed to make it easier for potential buyers and developers to locate available Brownfield properties. Cleaning up and reinvesting in these properties protects the environment, reduces blight, and helps to create jobs for Delaware citizens, while preserving Delaware's precious green space and natural resources.

To add sites in your municipality to the Marketplace (with owner approval) or to determine if any sites in your municipality are Brownfields, please contact Melissa Leckie at DNREC's Site Investigation and Restoration Section at (302) 395-2600 or by e-mail at Melissa.Leckie@state.de.us. For more information online, please visit: <http://apps.dnrec.state.de.us/BFExt/BFExtMain.aspx>

Another consideration for redeveloping Brownfield, superfund, and former landfill or mining sites within the County may be EPA's RE-Powering America's Land Initiative for evaluating the feasibility of developing renewable energy production on these sites. In 2011, the EPA invested approximately \$1 million for projects across the country to evaluate these types of abandoned sites for possible green energy development. Near Delaware City, Metachem was one of the sites that were selected for a feasibility evaluation of green energy development at the site. The grant application was to determine if the site was suitable for solar energy development, with a secondary goal of wind power. For more information, please contact Todd Keyser or Christina Wirtz at (302) 395-2600, or by e-mail at Todd.Keyser@state.de.us and Christina.Wirtz@state.de.us, respectively.

Recommendations for Ordinances and Plan Implementation

- **Source Water Protection.** In a letter dated April 11, 2008, from Mr. Charles Baker (former NCC General Manager) to Ms. K. B. Bunting-Howarth (former Acting Director, Division of Water Resources), Mr. Baker summarized the protection afforded by the UDC. He stated that the UDC protected 100% of the Level 1A area, 90.2% of the Level 2B area, and 54% of Level 2 areas. Mr. Baker concluded that the UDC met the standards for Source Water Protection as described in the Delaware Source Water Protection Law. In a response letter dated May 14, 2008, Ms. Bunting-Howarth concurred with Mr. Baker's findings. However, the County was urged to work with DNREC's Source Water Protection staff to enhance the protection of Level 1B and Level 2 watershed areas.

Recommendation: With the assistance of the Groundwater Protection Section, develop regulations to further protect Level 1B and Level 2 watershed areas.

- **Total Maximum Daily Loads (TMDLs):** All open space land uses should be designed and managed in a manner that mitigates or reduces nutrient pollutant loading and its damaging impacts to water quality. Since changes in land use often increase runoff of nutrient pollutants into nearby waterways (including wetlands) draining to a common

watershed, these nutrient pollutant loading impacts should be assessed at the preliminary project design phase. To this end, the Watershed Assessment Section has developed a methodology known as the “Nutrient Load Assessment Protocol” to assess such impacts. The protocol is a tool used to assess changes in nutrient loading that result from the conversion of individual or combined land parcels to a different land use(s), and serves as a “benchmark indicator” of that project’s likely impacts to water quality. It is the intention of this protocol to inform those relevant governmental entities (i.e., State, county, and municipal) how a given project will affect water quality in their jurisdictions, while informing/encouraging developers of the need to incorporate better conservation practices (i.e., BMPs) in their project designs to help improve water quality.

Recommendation: Require completion of a Nutrient Budget protocol before granting preliminary approval for any proposed projects/developments. The protocol is currently being refined by the Department.

Recommendation: The applicant should be further required by the County to meet any combination of approved Best Management Practices (BMPs) necessary to meet the TMDLs required by the WIP.

- **Wetlands Delineations:**

Recommendation: Require all applicants to submit to the County a copy of the development site plan showing the extent of State-regulated wetlands (as depicted by the State Wetland Regulatory Maps), and a United States Army Corps of Engineers (USACE) approved wetlands delineation as conditional approval for any new commercial and/or residential development. Additionally, the site plan should depict all streams and ditches which are jurisdictional pursuant to the Subaqueous Act (7 Del. C., Chapter 72) as determined by DNREC.

- **Freshwater Wetlands Protections:**

Recommendation: Implement regulations to protect freshwater wetlands where regulatory gaps exist (i.e., isolated wetlands and headwater wetlands).

- **100 Foot Upland Buffer:** 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 water quality in 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.

Recommendation: Require a 100-foot upland buffer width from all delineated wetlands (approved by the USACE and DNREC) or water bodies (including ditches).

- **Impervious Surface Mitigation Plan:**

Recommendation: Require the calculation for surface imperviousness (for both commercial and residential development) take in to account all constructed forms of surface imperviousness - including all paved surfaces (roads, parking lots, and sidewalks), rooftops, and open-water storm water management structures.

Recommendation: To encourage compact development and redevelopment, require an impervious surface mitigation plan for all residential and commercial developments exceeding 20% imperviousness outside that area, or at least in excellent recharge areas outside that area. The impervious surface mitigation plan should demonstrate that the impervious cover in excess of 20% will not impact ground water recharge, surface water hydrology, and/or water quality of the site and/or adjacent properties. If impacts to groundwater recharge, surface water hydrology will occur, the plan should then demonstrate how these impacts will be mitigated. If the impacts cannot be mitigated, the site plan should then be modified to reduce the impacts from impervious cover.

- **Poorly Drained (Hydric) Soils:**

Recommendation: Prohibit or restrict development in poorly or very poorly-drained (hydric) soil mapping units. Building in such areas predictably leads to flooding and drainage concerns from homeowners, as well as significant expense for them and, often, taxpayers. Proof or evidence of hydric soil mapping units should be provided through the submission of the most recent NRCS soil survey mapping of the parcel, or through the submission of a field soil survey of the parcel by a licensed soil scientist.

- **Drainage Easements:**

Recommendation: The County should pursue drainage easements along waterways and storm drains where currently there are none.

Department of Agriculture - Contact: Scott Blaier 739-4811

- The Department of Agriculture would like to commend and congratulate the County on a well-written comprehensive plan. The Department also appreciates the County's careful attention to the agricultural issues we discussed early in the comprehensive plan update process (6.2 Agriculture).

- The Department suggests that the County update Map 6-4 with the latest information regarding the Delaware Agricultural Lands Preservation Program. The program has added a number of new farms in New Castle County, as well as permanently preserving several of the farms already in the program since the map was drafted. The Department frequently updates the GIS layer showing farms in the program; the link below is where that information can be downloaded.
<http://66.173.241.168/dda/downloads.html>

Delaware State Housing Authority – Contact Vicki Powers 739-4263

- The County did an excellent job addressing housing in their comprehensive plan. Specifically, the County:
 - Included a thorough discussion on activities taken over the last five years to achieve the housing goals established in their 2007 plan.
 - Took a comprehensive approach to analyzing the housing stock, market conditions and trends, demographic changes and projections in order to have a clear understanding of the critical housing issues facing the County.
 - Outlined specific and appropriate strategies that tied back to the analysis to: encourage appropriate densities; encourage development along transit corridors; and, strengthen at-risk communities and resuscitate vacant properties.
- DSHA is very encouraged by the draft 2012 Comprehensive Plan update and offers any assistance needed to achieve their housing goals. If you have questions, please do not hesitate to contact Karen Horton at 739-4263, ext. 251, or via e-mail at karenh@destatehousing.com.

Procedures for Plan Certification:

1. The jurisdiction will reply to the state comments in writing and submit a revised plan, if necessary, to the Office of State Planning Coordination for review.
2. Within 20 working days, the State will reply to the revised plan and send a letter either accepting changes or noting discussion items.
3. The Office of State Planning Coordination shall submit a final comprehensive plan report and recommendation to the Cabinet Committee on State Planning Issues for its consideration;
4. Within 45 days of the receipt of the report the Committee shall issue its findings and recommendations and shall submit the plan or amendment to the Governor or designee for certification.

- a. Within this timeframe, the Cabinet Committee, at its discretion, may conduct a public hearing on the proposed plan or amendment, except that no hearing shall be held if the proposed plan or amendment is found to be consistent with state goals, policies and strategies and not in conflict with plans of other jurisdictions;
5. Within 20 days of receipt of the findings and recommendations from the Cabinet Committee the Governor shall certify the plan or return it to the local jurisdiction for revision. The local jurisdiction shall have the right to accept or reject any or all of the recommendations as the final decision on the adoption of the plan is up to the local jurisdiction. According to 9 Del Code §6958 (b) The State shall not be obligated to provide state financial assistance or infrastructure improvements to support land use or development actions by the county where the county's adopted comprehensive plan or portions thereof are determined to be substantially inconsistent with State development policies.
 6. The jurisdiction shall adopt the plan as final following certification.
 - a. The jurisdiction shall send a copy of the adopted plan to the Office of State Planning Coordination.

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
Office of State Planning Coordination Director