Secretary's Order No. 2008-W-0054

Re: Adopting Final Regulations Governing the Pollution Control Strategy for the Indian River, Indian River Bay, Rehoboth Bay and Little Assawoman Bay Watersheds

Date of Issuance: **October 15, 2008**

Effective Date: **November 11, 2008**

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC") under *29 Del. C. §§8001 et seq.*, 29 *Del. C. §§10111 et seq*. and 7 *Del C.§6010 (a*), the following findings, reasons and conclusions are entered as an Order of the Secretary in the above-referenced rulemaking proceeding.

Background and Procedural History

This Order considers proposed regulations entitled "Pollution Control Strategy for the Indian River, Indian River Bay, Rehoboth Bay and Little Assawoman Bay Watersheds" ("PCS"). The PCS seeks to reduce the discharge of harmful pollutants that impair the water quality of Indian River, Indian River Bay, Rehoboth Bay and Little Assawoman Bay and their tributaries, which are waters collectively named the 'Inland Bays.'[1] The water quality experts within the Department's Division of Water Resources ("DWR"), Watershed Assessment Section[2] ("WAS") drafted the proposed regulations based upon their vast knowledge of the Inland Bays water quality, their knowledge of scientific literature, and their experience working on many of the Department's

[1] For ease of reference the waters and the watershed shall be referred to as the Inland Bays.

[2] While WAS is the primary author of the PCS, other Department programs assisted in its provisions, particularly the Division of Soil and Water Conservation for its expertise in stormwater regulation and the Division of Water Resources' sections such as the Wetlands and Subaqueous Land Section for its expertise in regulating wetlands, the Surface Water Discharge Section for its expertise in regulating point source discharges and the Goundwater Discharge Section for its expertise in regulating onsite wastewater treatment systems.

underlying regulatory actions to improve the Inland Bays' water quality, all of which form the foundation for the PCS and are described in detail below.

The first regulatory foundation for the PCS is the federal and state statutory regulatory authority. The federal authority is under the Clean Water Act ("CWA"), *33 U.S.C. §1251 et seq. as amended,* which the Department administers as a result of delegations from the United States Environmental Protection Agency ("EPA"). In addition, the Department has state statutory authority to protect Delaware's waters from pollution by the issuance of permits and the promulgation of regulations *7 Del. C. Chap. 60.*

The second regulatory action that supports the PCS was the Department's exercise of its federal authority under Section 303(b) of the CWA to study Delaware's waters, to classify each of them into their appropriate uses, and to establish "Surface Water Quality Standards" based upon each classification. The Department classified the Inland Bays as waters of "exceptional recreational or ecological significance,"[3] which recognizes how important these waters are to Delaware's environment and economy. This classification requires the Department to accord the Inland Bays "a level of protection in excess of that provided most other waters of the State" because they "are recognized as special natural assets of the State, and must be protected and enhanced for the benefit of present and future generations of Delawareans."

The third regulatory building block for the PCS was the Department's comprehensive study of the State's existing water quality in a Watershed Assessment Report prepared pursuant to Section 305(b) of the CWA, and subsequent identification of

[3] The designation was for Rehoboth Bay, Indian River Bay, Little Assawoman Bay, and the marine portions of Indian River and Iron Branch.

all Delaware waters that failed to meet their applicable classification, as designated by the "Surface Water Quality Standards," in the list of impaired waters developed pursuant to Section 303(d) of the CWA. The Department's study determined that the Inland Bays' water quality did not meet the standard for 'exceptional waters' and were 'impaired,' which is a finding that triggers the need for the Department to take such regulatory actions as necessary to improve the Inland Bays' water quality so that it is no longer impaired.

The Department found that the Inland Bays' impairment was caused by excessive levels of the nutrients nitrogen and phosphorus, and low dissolved oxygen, which hasl caused excessive growth of macroalgae and phytoplankton and killed fish and other aquatic life that need adequate oxygen levels in water to survive. The overall impact of too much nitrogen and phosphorous, particularly on a fragile ecological system such as the Inland Bays with its limited tidal flows and circulation, is that all aquatic life will be threatened. If the aquatic life dies in the Inland Bays, then this region will no longer be an attraction and valuable natural resource for residents to live near its waters or for visitors to enjoy.

The Department identified the following sources of nitrogen and phosphorous pollution entering the Inland Bays: 1) discharges directly into the surface waters pursuant to a Department issued permit ("point source"), such as from wastewater treatment plants, 2) nonpoint sources such as onsite wastewater treatment and disposal systems or other land applications of these chemicals in fertilizer or wastewater which enter the Inland Bays via stormwater runoff and groundwater, and 3) the discharges from air

emissions falling on the surface waters. The PCS primarily addresses the nonpoint sources of nitrogen and phosphorous pollution.

The fourth foundation for the PCS was the Department's issuance of regulations, "Total Maximum Daily Loads" (TMDLs), that determined how much nitrogen and phosphorous pollution the Inland Bays may receive and still attain their 'exceptional waters' classification. In effect, TMDLs are similar to limits the Department includes in air pollution control and water pollution control permits, but the important difference is that TMDLs not only apply to any individual source of offending pollutants, but to all properties in a watershed. The TMDLs impose a duty on the Department to implement regulatory actions to reduce the amount of nitrogen and phosphorous within the watershed, which is what the PCS does.

The Department's regulatory actions to improve Delaware's water quality faced a legal challenge, but surprisingly not from polluters but from environmental groups who claimed the Department was not achieving clean water goals fast enough. In 1997, the Department worked with EPA to resolve this litigation in a settlement approved by federal court in *American Littoral Society & Sierra Club v. EPA.* ("Consent Decree"), which established a time schedule for the Department's TMDLs as needed actions to improve water quality to meet the standards. This litigation highlights the prospect that, if the Department does not take action voluntarily to comply with the CWA, then the Department may face another legal challenge to implement the PCS and actually achieve the needed reductions in nitrogen and phosphorous from the Inland Bays' nonpoint sources.

In 1998, the Department promulgated TMDL regulations for the Inland Bays[4] that established how much nitrogen and phosphorous must be reduced from all sources within the Inland Bays watershed in order that the waters may attain their 'exceptional' water quality standard. For point sources, the Inland Bays TMDLs required zero discharges of nitrogen and phosphorous and the systematic elimination of existing surface water discharges of nitrogen and phosphorous into the Inland Bays. The Department is implementing this regulatory action in the federal and state permits issued to regulate these point source discharges into the surface waters, and this will reduce 537 pounds per day of nitrogen and 68 pounds per day of phosphorous from being discharged into the Inland Bays.

The Inland Bays' TMDLs also estimated that 4,447 pounds per day of nitrogen and 163 pounds per day of phosphorus entered the Inland Bays from nonpoint sources. In order for the Inland Bays to attain its 'exceptional' classification and no longer be impaired, the TMDLs require that all nonpoint sources in the Inland Bays watersheds reduce nitrogen discharges by at least 40% and up to 85% and reduce phosphorous discharges by at least 40% and up to 65%. Most of these nonpoint sources of pollutants are not easily regulated by any permit because there is no practical way to monitor these pollutants in groundwater and from stormwater runoff. However, some sources, such as onsite wastewater treatment and disposal systems, as well as stormwater, have some regulatory requirements in their design and operation and the PCS will make this existing regulation more stringent to achieve the TMDLs' needed reductions of the nitrogen and phosphorous pollution of the Inland Bays. However, until this regulation, the Department

[4] The Department issued regulations for the Little Assawoman Bay and the tributaries within the entire basin in 2005.

has not required nutrient reduction standards for stormwater, and only applied nitrogen standards to some large community onsite wastewater treatment and disposal systems to protect drinking water from nitrogen pollution, which regulatory requirements are not based upon the TMDLs and consequently are not intended to achieve reductions needed to end the pollution of the Inland Bays.

The Department's experts determined, after careful consideration of how the nitrogen and phosphorous reduction could be regulated, that a watershed wide regulation was needed to reduce the levels of nitrogen and phosphorous entering the Inland Bays consistent with the Inland Bays' TMDLs from each onsite wastewater treatment disposal system and from the lands adjoining the waters if the natural vegetation is disturbed. The experts developed a PCS for the Inland Bays watershed, which contains three main components: 1) a requirement for performance standards for new or replacement onsite wastewater treatment and disposal systems that reflect improvements in the treatment technology and a requirement for improved maintenance of all systems, 2) inclusion of criteria in sediment and stormwater plans to reduce nutrients in stormwater runoff, and 3) a requirement that any new major land development include a riparian buffer area to reduce the nitrogen and phosphorous pollution from stormwater runoff and groundwater flows into certain designated Inland Bays' waters within the watershed. This buffer area is to be maintained to allow the land to act as a natural filter and absorb the nitrogen and phosphorous pollution before they enter the waters and pollute the Inland Bays.

The PCS' onsite wastewater treatment and disposal system, stormwater, and buffer requirements have many necessary details, but also allow considerable flexibility to accommodate certain specific needs. The details and flexibility are from almost a

decade of development of the PCS. The Department's regulatory development process for the PCS was extraordinary in its efforts to reach all concerned citizens and business owners. The Department worked with many individuals and organizations to identify all concerns with the PCS, and to educate the public on the need to reduce the amount of nitrogen and phosphorous that is polluting the Inland Bays. The common goal of all concerned was that the Inland Bays' water quality needed to be improved to meet the 'exceptional' water quality standard.

The Department conducted a series of meetings and public workshops before it first published its proposed PCS regulation in 2007, which was the subject of a 2007 public hearing. This PCS version addressed the pollution from onsite wastewater treatment and disposal systems and stormwater, but deferred addressing pollution from the destruction of riparian buffers until a later date. Many of the public comments at the 2007 public hearing stressed the need for the Department to address the entire nonpoint source water pollution problem at the same time and include buffer provisions. Based upon the public comments, the Department again met with individuals and organizations in order to resolve concerns with the proposed regulation. The Department eventually withdrew the prior PCS version and published a revised version as a proposed regulation in the June 1, 2008 issue of the *Delaware Register of Regulations*. This PCS addressed the three components, onsite wastewater treatment and disposal systems, a buffer area and stormwater.

The PCS was the subject of a June 23, 2008 public hearing before the Department's Senior Hearing Officer, Robert P. Haynes, at the Cheer Center in Georgetown, Sussex County. An estimated 400 persons attended the public hearing, and

expressed comments both in favor and in opposition to the PCS. Mr. Haynes further developed the Department's administrative record by seeking advice from the Department's technical experts, who prepared a response and suggested minor changes to the PCS. Mr. Haynes prepared a report of recommendations ("Report"), dated October 14, 2008, a copy of which is attached hereto and incorporated herein. The Report recommends that the Department adopt the proposed regulations, as revised to include non-substantive changes, as final regulations.

Discussion and Reasons

The above litany of regulatory actions as building blocks for the PCS and the considerable time and effort in the PCS' regulatory process highlights the Department's difficulty to reduce nitrogen and phosphorous pollution from nonpoint sources. The difficulty is partly due to the fact that the nitrogen and phosphorus that enters the Inland Bays comes from any deposit of such pollutants within the entire watershed because any amount of deposit of these nutrients at the far outer reaches of the watershed will flow to the Inland Bays and adversely impact its water quality, which already has too much nitrogen and phosphorous pollution to attain the required 'exceptional' water quality standard required by the CWA and its regulations, and state law and the Department's regulations.

The PCS is the method the Department's experts recommend as an appropriate regulatory action to require nonpoint sources in the Inland Bays watershed to reduce the pollution from nitrogen and phosphorous to levels consistent with the Inland Bays TMDLs. Based upon the entire record, and relying upon the knowledge of the Department's staff, I find that there is considerable science to support the need to take

regulatory action now to reduce nonpoint source pollution. I hereby adopt the proposed regulations attached to the Report as the Department's final regulations and I further adopt the Report to the extent it is consistent with this Order. The reason for this decision is simple and straightforward. The Department's failure to take regulatory action now will jeopardize the continued viability of the Inland Bays as bodies of water classified as 'exceptional waters.' Moreover, not approving this PCS could cause more litigation based upon a failure to comply with the CWA. Consequently, I approve of the PCS as a reasonable method to reduce nitrogen and phosphorous entering the Inland Bays from nonpoint sources.

All empirical evidence supports that action is needed now to improve the Inland Bays water quality in order that these waters may attain their 'exceptional' water quality standard. The PCS is based upon sound science and well-supported by the technical judgment of water quality experts, including those outside of the Department. The reasonableness of the PCS is based in part upon the hard work of many, including those who continue to oppose the regulation of nonpoint sources of pollution. The Department is grateful for the time and interest spent by all concerned. Nevertheless, the lack of a complete consensus does not provide an excuse for inaction. The PCS will allow the Department to satisfy state and federal laws and regulations, which impose upon the Department a duty to take regulatory action to reduce nitrogen and phosphorous discharges into the Inland Bays.

The PCS will reduce the amount of harmful pollutants that will enter the Inland Bays, but the improvements will occur over time as new developments include buffer areas and improved stormwater management and as new onsite wastewater treatment and

disposal systems with better treatment technology are installed. The time to make these improvement also supports adopting the PCS now because the Inland Bays' water quality cannot afford any more delays while more nitrogen and phosphorous enters the water from nonpoint sources. Any delay in reducing the pollution from nonpoint sources will only delay the time when the Inland Bays achieves its 'exceptional' water standard, as required by the CWA and the Department's regulations. While the costs of individual technologies may decrease, the overall costs associated with reducing nonpoint sources of pollution will continue to increase; hence, taking action now will enhance the cost-effectiveness of the necessary controls. The need for regulatory action now also is prompted by growth of the population that resides in the Inland Bays watershed and its popularity with tourists. Each resident and visitor, while welcome, places a strain on the Inland Bays water quality because onsite wastewater discharges will increase and more of the riparian buffer areas will be lost to new development. Consequently, this PCS is needed now to start reducing prospectively the nitrogen and phosphorous pollution caused by onsite wastewater treatment and disposal systems and by the destruction of natural riparian buffers that absorb the nitrogen and phosphorous to reduce it from entering the waters.

The PCS establishes a requirement that any new "major" land development, as defined by local zoning authorities, include a buffer area adjoining Inland Bays waters that have been mapped by the Department after consultation and public input during the lengthy regulatory development process. This buffer area requirement was challenged as unreasonable and outside the Department's authority. The buffer area requirement also was viewed as interfering with local authority over land use regulation. The Department

does not agree that the buffer areas requirement is unreasonable, outside of its federal and state authority or in conflict with local land use regulation. The buffer areas are required to protect the water quality of the Inland Bays, which is one of the Department's central purposes, as delegated from the General Assembly. The regulation to ensure water quality requires property owners to change the way they may use their property, but this exercise of regulation is similar to authority to prevent the discharge of pollution from a pipe into a stream, or by requiring property owners to install stormwater management facilities, or to ban buildings near wells or septic systems and to require a safe separation distance between a well and septic system. Environmental regulation means exercising control over sources of pollution, and property owners have no right to unfettered pollution.

The buffer areas are needed to protect the Inland Bays from adverse water quality consequences of more nitrogen and phosphorous pollution entering these already 'impaired' and, hence, polluted waters. The regulatory concept protects and improves water quality in two ways: 1) it protects already vegetated riparian corridors from transitioning from an ecological mechanism that naturally filters out these pollutants, and 2) it protects water quality in cases where no riparian buffer zone exists by creating an area that will improve and protect water quality. Because of the natural ability of buffers to protect streams from these harmful pollutants, the PCS' establishment of buffer zones may seem unusual since the owner of the buffer zone's land may not have any nitrogen or phosphorous (either as fertilizer or wastewater from a septic system) anywhere on the property. Nevertheless, the buffer area is needed under the watershed concept of regulation in which every property owner is subject to regulation to reduce nitrogen and

phosphorous from entering the Inland Bays. This is because the regulation is designed to reduce nutrient loads from all nonpoint sources, and nitrogen-rich ground-waters are, in many cases, intercepted and treated by soils and vegetation growing within a buffer. Owners of the buffer zone land play an essential role because they are adjacent to designated waters that are needed in this watershed-wide regulatory effort. If the remaining buffer areas are destroyed, then buffers as a natural method of pollution control will be removed forever and the pollution of the Inland Bays will continue and water quality will decline. The buffer areas are needed to absorb the nitrogen and phosphorous before it enters the waters and the PCS properly requires that the remaining buffer areas be preserved.

The Department submits that the PCS' buffer zone requirement does not conflict with local laws and ordinances. The Department's purpose is to regulate for water quality purposes. The Department is not aware of any conflict between the buffer area and the county land use ordinances. Should a building be built in a PCS buffer area, then there would be a violation of the PCS, which could allow the Department to undertake such enforcement action as appropriate to end the pollution. This type of environmental regulation is no different than the requirement that owners in their building plans set aside land for stormwater management facilities in order to satisfy environmental regulations. The Department's PCS also is taken under its joint federal and state authority to administer the CWA, which may also allow federal regulation to trump any state or local law that prevents reducing the pollution entering the Inland Bays. Thus, any conflict between the Department's regulation and local land use regulation hopefully will not occur, but this Order shall direct the Department's permits to be issued consistent

with the PCS in order to reduce any possible conflict with current or future local land use control. With the PCS, the Department is fulfilling its CWA and state law duties to improve the water quality of the Inland Bays so that it attains its 'exceptional' water quality standard. The protection of the existing riparian buffer areas is necessary to protecting the Inland Bays.

The PCS' onsite wastewater treatment and disposal system performance standards also were challenged as unreasonable, especially those applicable to individual onsite septic systems. The PCS recognizes that new technology is available for septic system installations that will reduce the amount of nitrogen and phosphorous discharged into the groundwater and then to surface waters. This change is consistent with the Department's recognition and adoption of regulations that require the best available technology be used to prevent pollution.

Admittedly, the Inland Bays will not change overnight as a result of this Order. Instead, the deterioration of water quality is occurring gradually, but relentlessly due to increased destruction of the natural buffer areas along the waters and the installation of each onsite wastewater treatment and disposal systems that discharge more nitrogen and phosphorous than discharged by the types required by the PCS, which have been commercially available for many years. Despite the great controversy over the PCS, there is one point of agreement, namely, everyone wants the Inland Bays to have the cleanest possible water and the most abundant aquatic life.

The dispute arises over what regulatory action the Department should implement to achieve the 'exceptional' water standard. The only alternative from opponents of the PCS is to do nothing or very little, which is not a viable option in light of the federal

mandate to take regulatory action. The PCS is a reasonable method of regulation, which will require that new systems installed in particularly sensitive areas employ improved treatment technology to reduce the discharge of nitrogen and phosphorous. Similarly, the PCS is reasonable in its regulation to require any new land development to preserve and maintain buffer areas to protect the water quality from receiving excessive amounts of nitrogen and phosphorous. The PCS provides flexibility in the size of the buffer based on a development's use of other ways to reduce nutrients in the development. Further, the PCS is fair and equitable in that it addresses all major sources of nonpoint source pollution and distributes the costs of improving water quality over a broad base of watershed users.

The Department understands that every regulatory action it takes controls the use of property. Indeed, the very essence of environmental regulation is to regulate the use of property in a way to reduce pollution. The same principle applies to creating a buffer area that requires a wastewater treatment facility to eliminate its surface water discharge into the Inland Bays, or for the Department to regulate property owners to install any pollution control equipment to meet certain established standards designed to protect the environment and public health. The Department requires pollution control equipment for solid waste facilities, air emission, and water discharges and the only difference is the regulation of a watershed, but that is the appropriate action to take to improve the Inland Bays' water quality that is being polluted by nonpoint sources throughout the watershed.

The Department's ability to regulate the Inland Bays' water quality is supported by considerable federal and state regulatory authority. In contrast, the right of property owners to pollute is subject to environmental regulation. There is no constitutional right

to pollute when laws and regulations prohibit such pollution, and the Inland Bays TMDLs established that the Inland Bays are being polluted from nonpoint sources that allow too much nitrogen and phosphorous to enter the waters. The nonpoint sources contribute most of this pollution and the PCS is the reasonable, fair and equitable solution to reduce the pollution from nonpoint sources.

The Department is aware of the higher cost of the improved onsite wastewater treatment and disposal systems and the burden imposed by not allowing a land owner to develop every inch of waterfront property. The Department has carefully considered the financial impacts, and concluded that, on balance, the PCS is needed and reasonable even with the potentially adverse economic impact to individual property owners. Additionally, the flexibility provided within the regulation minimizes adverse financial impacts to individual property owners. The right of a citizen to pollute does not depend on their income or whether they live in a modest home with a septic system or own waterfront property in the hopes of a significant windfall from future land development. The Department regulates for the purpose of replacing the onsite wastewater treatment and disposal systems that add to the Inland Bays pollution the most to be replaced with commercially available pollution-reducing technologies, and will assist those who cannot afford the cost within its authority to provide such assistance. Moreover, the PCS includes flexibility for specific financial hardship considerations that may provide certain property owners more time to comply. The plight of the waterfront owner is the same as others who are faced by any change in environmental regulation or law. It is the same risk as other changes that may occur to the property, such as the location of a highway or a solid waste disposal facility. The Department's analysis indicates that the buffer area

will offer aesthetic amenities and will be beneficial in the long-term to the value of property, particularly since buffers will ultimately reduce pollutant loads and eliminate nuisance algal accumulations and fish kills.

In sum, the PCS is a reasonable, albeit not a perfect effort, to confront the difficult regulatory task to reduce the amount of nitrogen and phosphorous that enters the Inland Bays from nonpoint sources, which are reductions that the TMDLs and the CWA require. The buffer area, stormwater requirements, and performance standards for onsite wastewater treatment and disposal systems will only go into effect prospectively for new land development and new or replacement onsite wastewater treatment and disposal systems. Owners of onsite wastewater treatment and disposal systems will be required to employ pollution-reducing technologies in the future, beginning with the properties within 1,000 feet of the tidal portions of the Inland Bays and ending by 2015 when it applies to all properties in the Inland Bays watershed. These components of the PCS will achieve the needed reduction to allow the Inland Bays to attain the duly promulgated water quality standards along with the other regulatory actions the Department is undertaking.

In conclusion, the following findings and conclusions are entered:

1. The Department, acting through this Order of the Secretary, adopts the proposed regulation as final regulations, as set forth in the Appendix to the Report, under 29 *Del. C.* §6010 (a);

2. The issuance of the proposed regulations as final regulations will protect and improve the water quality of the Inland Bays and allow, together with other

Department regulatory actions, the Inland Bays to attain their duly promulgated water quality standards;

3. The PCS approved by this Order is a reasonable, fair and equitable method of regulation to reduce the discharge of nitrogen and phosphorous from onsite wastewater treatment and disposal systems and from properties adjoining the Inland Bays' waters, and is supported by sound technical analysis, ample scientific literature and facts;

4. The Department provided adequate public notice of the proceeding and the public hearing in a manner required by the law and regulations, held a public hearing in a manner required by the law and regulations, and considered all timely and relevant public comments in making its determination;

5. The Department's proposed regulations, as set forth in the Appendix to the Report, are not arbitrary or capricious, and are consistent with the applicable laws and regulations; and that;

6. The Department shall provide written notice to the persons affected by the Order, as determined by those who participated in this rulemaking at the June 23, 2008 public hearing, including participation through the submission of written comments.

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John A. Hughes
Secretary