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DELAWARE CENTER FOR THE
INLAND BAYS
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Public Hearing Testimony on Permit Applications of the City of Rehoboth Beach to Construct and Operate an Ocean Outfall

The Center for the Inland Bays is a private non-profit organization responsible for facilitating a long-term approach to the wise use and enhancement of Delaware's Inland Bays through the implementation of the Inland Bays Comprehensive Conservation and Management Plan.

The Inland Bays have long-suffered from pollution by excess nutrients that has resulted in a near complete loss of underwater bay grass habitat, low dissolved oxygen levels that harm fish and shellfish, and murky waters dominated by algae that do not allow light to reach the bottom of the Bays. Today, the Center released its 2016 State of the Bays Report which demonstrated both long and short term reductions in pollution concentrations and algae levels. This encouraging news is a result of a great deal of cooperation and sacrifice by the communities of the watershed. There remains a great deal of work to do -- particularly to reduce nitrogen loads from non-point sources such as land-based wastewater application, agricultural and residential fertilizers, and stormwater runoff.

The Center supports the City's permit applications to construct and operate an ocean outfall to dispose of the City's treated wastewater. The removal of the discharge to the Lewes & Rehoboth Canal which flows into Rehoboth Bay will be the next to the last point source discharge of an original 13 discharges to the Inland Bays. The elimination of the discharge is required by the State's 1998 Total Maximum Daily Loads Regulations and the 2008 Pollution Control Strategy for the Inland Bays. It is consistent with the Comprehensive Conservation and Management Plan for the Inland Bays.

The removal will eliminate over 17,000 lbs/year of nitrogen and 1,180 lbs/year of phosphorus to a very slowly-flushed and very shallow estuary. Rehoboth Bay has a very long flushing time (90 days by some calculations) which means that the pollutants that enter the Bays stay there for a long time to create lasting water quality degradation. For this reason, it is naturally very sensitive to pollution. Rehoboth Bay is also heavily used by residents and tourists for boating, fishing, swimming, kayaking, crabbing and clamming. Eliminating the City's discharge will remove about a third of the total phosphorus pollution to the Bay instantly.

The Center commends the City and the Department of Natural Resources and Environmental Control for their research on the environmental impacts of the proposed ocean outfall. Some important points to put the impact of the treated wastewater to the ocean are:

The nutrient loads of the flow from the Delaware Bay are between 15,000 and 22,000 times the loads of the effluent from the proposed outfall.

Levels of indicator bacteria measured from the RBWWTP were from 2007 to 2009 were often zero and were well below the permitted limit for bacteria on average.

Heavy metals in the effluent were found to be either below detection limits or were present at concentrations substantially below State Surface Water Quality Standards. With the exception of copper, all of the detections were less than the applicable water quality criteria for the protection of aquatic life.

Of 54 semi-volatile organic compounds analyzed in the effluent there was only a single detection (bis (2-ethylhexyl) phthalate (BEHP)).

The concentration of total PCBs in the effluent was 425 pg/l., well below DNREC's marine chronic aquatic life criterion of 30,000 pg/l.

The outfall effluent would become rapidly diluted in the ocean. Dilution of 100:1 at 415 feet down current was modeled to occur in 5.4 minutes.

Two other nearby ocean outfalls at Bethany Beach and Ocean City have a lower level of treatment and operated for decades with minimal impact to the environment. An EPA study found that the outfalls did not have an effect on fish populations and did reduce the diversity of benthic invertebrates close to the outfalls.

In summary, the treated wastewater from the plant is already pretty clean and will have minimal impacts to the ocean environment limited to a few hundred feet near the outfall. Its removal from the relatively very-sensitive and slowly-flushed Rehoboth Bay will have instantaneous and substantial water quality benefits.

My name is Laura Hansen Reynolds and I am a concerned citizen who loves Rehoboth's beaches, after growing up enjoying Florida beaches. When I heard that Rehoboth was considering an ocean outfall, I was appalled, knowing that Florida banned ocean outfalls years ago.

Delaware's environmental agency, DNREC, clearly states that the preferred method of disposing of treated effluent is land-based application. So, I challenge the DNREC decision to concur with the City of Rehoboth Beach's determination that "the ocean outfall is the only alternative that assures 100% of nutrients from the Rehoboth treatment plant are eliminated from the Inland Bays watershed".

Rehoboth's determination was based on a 2005 study that narrowed options to the ocean outfall or land application of effluent. Land application was studied with a 2-month unsuccessful search for land to acquire in 2009. Based on this, the 2011 Environmental Impact Statement (EIS) was drafted and finalized in 2013. So now, in 2016, DNREC is being asked to issue permits for the ocean outfall, based on information that is 7 to 11 years old. During the 2005-2014 timeframe, then state environmental secretary, Collin O'Mara, had concerns about the city's EIS, refusing to sign-off because he felt "a land-based spray application makes more sense in the long-term both environmentally and economically." He updated his opinion, saying he continues to have concerns and the outfall, he said, isn't "worth the risk" to Rehoboth's stature as a tourism destination.

Two private companies approached Rehoboth with land application solutions, neither of which were evaluated in the EIS. Tidewater Utilities and Artesian Resources offer land-based, spray-disposal options that cost less and do not send nutrients into the watershed for Rehoboth Bay. The EIS is not complete without a careful study of these options.

We can all agree that putting waste into the inland bays is pollution. So if it's pollution in the Rehoboth Bay, it's pollution when we put it in the ocean. The state of Florida, in 2008, banned ocean outfalls, and is eliminating existing outfalls over 10 years. Why? Because, according to a research professor at FAU's Oceanographic Institute, "there's a lot of other

stuff" in this effluent, "other than nitrogen and phosphorous. There's viruses, heavy metals, bacteria, personal care products, pharmaceuticals, hormones, plasticizers, house care products – thousand of chemicals that don't even get monitored. Traces of high blood pressure medicines and Viagra have been especially prevalent in local effluent, disrupting the reproductive cycle of marine life."

In October's workshop, watershed manager John Schneider said the situation in Florida differs from that in Delaware because of concerns about drinking water supplies, impacts on coral reefs and the quality of discharge going into the ocean.

In terms of water supplies in Delaware, two of the last five years have seen major field corn crop loss from drought. Treated effluent for irrigation would be a valuable resource to Sussex County farmers.

And, Delaware has reefs! Since 1995, the Delaware Reef Program has established 14 artificial reefs, 2 of which are in the area of Rehoboth's proposed ocean outfall. Blue mussel communities have developed on these reefs, which are hundreds of times richer than adjacent ocean bottom, providing food and physical protection for reef and game fish. The outfall's dispersal area includes the Hen and Chickens Shoal, a shallow spot where fish, particularly young fish, congregate. This shoal is also breeding grounds for Atlantic sturgeon, a prehistoric fish listed as an endangered species in Delaware in 2012, after the 2011 draft of the EIS.

The proposed discharge effluent is only being monitored for one bacteria (enterococcus) and nitrogen and phosphorus – no cleansing or measurement of viruses, heavy metals, other bacteria, all the "lots of other stuff". How can our state permit the ocean discharge of effluent that Florida rejects?

And it's not just the State of Florida. The National Oceanic and Atmospheric Administration states that the "project will have an adverse affect on {Essential Fish Habitat}" because the effluent contains pharmaceuticals and many endocrine inhibitors, which can accumulate in fish, modifying their growth, reproduction and resistance to disease and parasites.

If DNREC grants permits for this ocean outfall, it permits a decades-long, 31-million-dollar commitment to pumping treated effluent into the ocean just off our beaches, a decision based on incomplete data that is 7 to 11 years stale. Yet, for the same or less investment, the City could use a land application solution, which would protect our ocean waterways and leave flexibility to adapt to emerging technologies in the coming years. Sending 3 million gallons of treated effluent into the ocean every day is a huge waste of a precious natural resource.

Weeks ago, the Washington Post reported that in Hampton Roads, Virginia, a wastewater injection system is being designed, to be in full operation between 2020 and 2030. So another option rejected out-of-hand in 2005 has become viable, with new research and technology.

So, I respectfully request that DNREC not approve these permit applications and instead require an updated EIS with current 2016 cost estimates for all alternatives, including impacts on endangered species and artificial reefs. There are also new technology upgrades, such as electrocoagulation, for Rehoboth's effluent treatment plant. For this project, DNREC owes the citizens of Delaware its best decision, based on a comprehensive, current EIS, rather than outdated, incomplete information. Thank you.