

**DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF WATER RESOURCES MANAGEMENT COORDINATION**

**ADOPTED AMENDMENT TO THE OCEAN COUNTY WATER  
QUALITY MANAGEMENT PLAN**

**Public Notice**

**DEC 30 2015**

Take notice that on \_\_\_\_\_ pursuant to the provisions of the New Jersey Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq., and the Statewide Water Quality Management Planning rules (N.J.A.C. 7:15-3.4), an amendment to the Ocean County WQMP was adopted by the Department of Environmental Protection (Department). This amendment, proposing a new areawide WMP for Ocean County, was submitted by the Ocean County Board of Chosen Freeholders as the designated planning agency and developed by the Ocean County Planning Department, as the designated WMP agency for Ocean County, in accordance with the WQMP Rules, N.J.A.C.7:15, and P.L. 2011, c. 203, as amended and supplemented by P.L. 2013, c. 188. This WMP amends the Ocean County Water Quality Management (WQM) Plan upon adoption by the Department. The WMP sets out countywide wastewater treatment and conveyance capabilities with respect to municipal master plans and projected development based on existing municipal zoning and projected population growth. This WMP replaces all previously adopted municipal and county utility authority WMP's in Ocean County.

The Ocean County WQMP is divided into three planning areas; Northern, Central, and Southern, each of which is served by a centralized wastewater treatment facility. All three facilities are owned and operated by the Ocean County Utilities Authority (OCUA), which is the designated management agency for wastewater treatment under the WQMP. Within the Northern planning area

of the Ocean County WQMP, there are portions of Monmouth County, specifically areas of Freehold Township, Freehold Borough, Millstone Township, Howell Township, Farmingdale Borough and Wall Township that are primarily located in the Toms River and Metedeconk River drainage areas. However, Monmouth County has WMP responsibility in the portions of the Northern planning area of the Ocean County WQMP that extend into Monmouth County and as a result, these municipalities will be addressed in Monmouth County's Wastewater Management Plan.

The amendment includes a planned 0.6 Million Gallons per Day (MGD) treatment plant for the New Egypt Town Center in Plumsted Township. It is proposed to be located in the vicinity of Route 537 and New Egypt-Allentown Road on Block 40, Lot 4 and discharge to the adjacent Crosswicks Creek. Plumsted Township's redevelopment plan calls for the creation of a new public sewer system which would serve the New Egypt Town Center area of Plumsted Township. The purpose of this system would be to support center-based development to reverse the economic decline of the downtown area, as well as to address ongoing public health and welfare issues. The sewer service area for the new treatment plant would remain consistent with the Future Wastewater Service Area (FWSA) map for Ocean County which was adopted by the Department on February, 7, 2013 (see March 4, 2013 New Jersey Register at 45 N.J.R. 474(b)) and with this proposed WMP.

The amendment anticipates extending sanitary sewer infrastructure to existing buildings at Island Beach State Park in Berkeley Township. Island Beach State Park is an approximately ten mile area of natural beaches and coastal dunes located at the southernmost end of the Barnegat Peninsula in Berkeley Township. The Department is planning to extend sanitary sewer from existing infrastructure

just outside of the park to certain existing structures inside the park. The extension of sanitary sewer lines into the park will create new wastewater flow to the Ocean County Utility Authority and will eliminate the need for the exclusive use of the various on-site treatment systems in the park. The areas of these select structures in the park have been added to the County's proposed sewer service area as part of this WMP proposal. Additional flow from the park to the OCUA's Central Water Pollution Control Facility is projected to be 0.024 MGD, less than the permitted 0.049 MGD approved under the park's New Jersey Pollutant Discharge Elimination System (NJPDES)-Discharge to Groundwater Permit (NJG0133175). Once sewer connections have been constructed, the existing NJPDES permitted onsite treatment plant will continue to operate on a more limited basis.

Amendments to the Water Quality Management Planning (WQMP) Rules in 2008 necessitated changes to previously adopted sewer service areas based on environmental sensitivity and local planning objectives as described in this document. In accordance with these regulatory requirements, 37,061 acres were removed from the previously adopted sewer service area. Also, 11,371 acres that were not part of the previously approved sewer service area had been added based on local planning objectives, NJ Pinelands Commission requirements and an assessment of environmentally sensitive areas. These changes resulted in a net removal of 25,690 acres from the sewer service area

The amendment identifies areas to be served by sewage treatment facilities/sewer systems and areas served by individual subsurface sewage disposal systems (ISSDS) with wastewater planning flows of 2,000 gallons per day (gpd) or less (septic systems). The WMP also evaluates future wastewater treatment needs, water supply demands and nonpoint sources of pollution. All appropriate WMP

requirements for compliance with N.J.A.C 7:15 and P.L. 2011, c. 203, as amended by P.L. 2013, c. 188 are outlined in the following paragraphs.

In accordance with N.J.A.C. 7:15-5.24, environmentally sensitive areas (ESA) have been assessed to determine what areas must be excluded from SSA as adopted herein. Pursuant to N.J.A.C. 7:15-5.24, ESAs are defined as contiguous areas of 25 acres or larger consisting of habitat for threatened and endangered wildlife species as identified on the Landscape Project Maps of Habitat for Endangered, Threatened or Other Priority Specific, Natural Heritage Priority Sites, Category One special water resource protection areas, and wetland, alone or in combination.

In accordance with N.J.A.C. 7:15-5.24(b)1, to determine areas designated as threatened or endangered wildlife species habitat, an analysis was performed utilizing the Department's Division of Fish and Wildlife, Endangered and Non-Game Species Program "Landscape Project" maps of habitat for Endangered, Threatened, or Other Priority Species, version 2.1 (not version 3.1 as incorrectly stated in the preliminary notice published in the October 5, 2015 New Jersey Register). The Landscape Project identifies areas of critical habitat that support or potentially support Federal or State endangered or threatened species, and other species of concern. Endangered and Threatened Species habitats reviewed under this analysis are Rank 5 (Federal endangered and/or threatened species), Rank 4 (State endangered species), and Rank 3 (State threatened species). This analysis determined that portions of the WMP planning area contained areas that serve as habitat for threatened and endangered species. After extensive coordination and consultations between the Department, Ocean County, municipalities, and municipal utility authorities, many of these environmentally sensitive areas have been removed from the WMP sewer service area. Areas identified by the

Landscape Project as being suitable habitat for threatened and endangered species are not included in the proposed sewer service areas except as provided under N.J.A.C. 7:15-5.24(e) – (h), or unless a site has undergone a site specific Habitat Suitability Determination prepared in accordance with N.J.A.C. 7:15-5.26 that found the site to be not suitable habitat, or pursuant with N.J.A.C. 7:15-5.24(g)2, the Department determined the environmentally sensitive area are not critical to a population of endangered or threatened species the loss of which would decrease the likelihood of the survival or recovery of the identified species. Additionally, pursuant to N.J.A.C. 7:15-8.1(b)2, projects that have received both local approvals and Department wastewater approvals have not been removed from the future sewer service area.

In accordance with N.J.A.C. 7:15-5.24(b)2, areas mapped as Natural Heritage Priority Sites are not included in the adopted SSA of this notice, except as provided under N.J.A.C. 7:15-5.24(e) - (h).

In accordance with N.J.A.C. 7:15-5.24(b)3, areas identified as special water resource protection areas along Category One waters and their tributaries are not included in the proposed sewer service areas, except as provided under N.J.A.C. 7:15-5.24(e) – (h). The required buffer width is applied to both sides of a stream measured from the top of bank of an intermittent or perennial stream, or centerline if the bank is not defined, and from the defined edge of a lake, pond or reservoir at bank full flow or level. Category One waters and their tributaries are afforded a 300-foot buffer. In addition, as required under N.J.A.C. 7:15-5.20(b)3, the WMP text indicates that development in riparian zones, or designated river areas, may be subject to special regulation under Federal or State statutes or rules. Most development within these riparian zones is limited by these regulatory programs

In accordance with N.J.A.C. 7:15-5.24(b)4, areas mapped as wetlands pursuant to N.J.S.A. 13:9A-1 and 13:9B-25 are not included in the adopted SSA, except as provided under N.J.A.C. 7:15-5.24(e) - (h).

In accordance with N.J.A.C. 7:15-5.25(c), an environmental constraints/build-out (build-out) analysis was conducted to identify existing and future projected flow for all parcels within the sewer service areas. Projected flow was evaluated on undeveloped or under-developed parcels within the existing and future SSA. Projected wastewater flow was calculated in accordance with N.J.A.C. 7:14A-23.3 (sewer service areas) or N.J.A.C. 7:9A (septic areas) based upon the current municipal zoning and included potential development of all remaining non-environmentally constrained parcels of vacant land and any existing parcels currently served by ISSDS that are located within the proposed sewer service area and not currently provided sanitary sewer service. Projected wastewater flow calculations excluded environmentally constrained areas specifically, wetlands, riparian zones, and open space. The build out in septic areas was calculated by applying municipal zoning over all undeveloped land except polygons which were too small to support additional development. The number of residential units and non-residential percent lot coverage area were then multiplied by the wastewater planning flow estimates in either N.J.A.C. 7:14A-23.3 or N.J.A.C. 7:9A, as appropriate.

In accordance with N.J.A.C. 7:15-5.25(d), an analysis was performed to assess the existing and future wastewater needs for each treatment plant. The existing wastewater flow for each wastewater treatment plant was calculated based on the annual average of the monthly metered flow from inland municipalities during the period of January 2010 through December 2010 as reported to the Department in the Discharge Monitoring Reports (DMRs) received from all the wastewater

treatment plants in Ocean County. For coastal municipalities, the average summer seasonal peak flow from 2010 was used. Different flow methods were used for inland and coastal municipalities due to the large wastewater flow changes in the summertime in the coastal municipalities due to tourism. Ocean County used 2010 flow data in their calculations because it was the most representative year of normal conditions available to them before Superstorm Sandy hit and impacted typical wastewater flow volumes due to temporary reduction in population. The existing wastewater flow volumes from each wastewater treatment plant and the future wastewater flow as projected in the build out analysis indicated above were combined to determine the total projected future wastewater flow from each specific wastewater treatment plant's SSA. The results were utilized to assess whether sufficient capacity exists in Ocean County's wastewater treatment plants to accommodate future wastewater treatment needs.

The analyses performed pursuant to N.J.A.C. 7:15-5.25(c) and (d) demonstrate that the potential wastewater generation from each treatment plant's SSA does not exceed the permitted capacity for each treatment facility, except for the Northern Water Pollution Control Facility. Specifically, the build out analysis of each treatment plant's SSA and the existing permitted capacity of those treatment plants identified no need for future expansion of the Central Water Pollution Control Facility or for the Southern Water Pollution Control. However, an expansion of the Northern Water Pollution Control Facility (NWPCF) would be necessary if a full build out were to occur within the SSA based on current zoning. Population and flow projections indicate that by 2035 wastewater influent directed to the NWPCF will reach 93% of its present capacity. The OCUA has been independently monitoring growth and flow numbers and recently completed a planning study for the expansion of the NWPCF's capacity from 32 MGD to 36

MGD. The OCUA will move forward on the design and engineering phase at the appropriate time.

In accordance with N.J.A.C. 7:15-5.25(e), the future wastewater treatment needs were evaluated for the development of those areas of Ocean County that are outside of the proposed sewer service area and are to be served by ISSDS's. The nitrate dilution model developed by the Department: *A Recharge-Based HUC 11-Scale Nitrate-Carrying-Capacity Planning Tool for New Jersey, v3.0* (MS Excel Workbook) was applied. This model estimates the minimum lot size necessary to support conformance with the Ground Water Quality Standards (GWQS) rules at N.J.A.C. 7:9C, as well as the Water Quality Management Planning Rules at N.J.A.C. 7:15, in order for areas served by ISSDS's to achieve a planning standard of 2 mg/L nitrate on a hydrologic unit classification (HUC) 11 basis. It is, therefore, necessary to determine how much development relying on ground water disposal of wastewater can be supported on a HUC 11 basis within the planning area while attaining this planning standard, using one of the nitrate dilution models described in the Water Quality Management Planning rule. Achieving the planning standard ensures that existing ground water quality will be maintained on a regional basis, thus ensuring compliance with the antidegradation requirements in the GWQS rules.

The Department has established standards for the maximum allowable units on a HUC 11 basis to ensure that nitrate levels in groundwater do not exceed 2 mg/L. Each HUC 11's septic density value is equivalent to the number of acres needed to accommodate a single ISSDS. To calculate a HUC 11's total capacity for additional nitrate dilution in terms of dwelling units, the total acreage of all vacant land is divided by that HUC 11's septic density. With the Department's concurrence, Ocean County included permanently preserved open space in the



vacant land calculation. This value can then be compared to the total units allowed by current municipal zoning regulations. If the total units allowed by zoning is less than or equal to the maximum allowable units capable of sufficient nitrate dilution, no action is required. If the total units allowed by zoning exceed the maximum allowable units capable of sufficient nitrate dilution, this is an indication that if future build out occurs based on the current zoning, there will be increases in the nitrates levels in the groundwater that exceed the nitrate target.

The results of the nitrate dilution analysis indicate that current municipal zoning is sufficient to regulate future septic developments in 22 of the 25 of Ocean County HUC 11s. The initial results of this nitrate dilution analysis indicate that one HUC (# 02040301110) which covers portions of Barnegat, Lacey, and Ocean Townships, would exceed the 2 mg/L nitrate- target if built out under current zoning regulations. The NJDEP model used to produce these results, and all nitrate dilution projections in this WMP, incorporates an Equivalent Dwelling Unit (EDU) formula that appears to overestimate the projected discharge from non-residential parcels. Lacking specific development parameters such as the type of non-residential development permitted in the zone, the square footage of floor space, number of floors, etc., it is difficult to project the actual flow that will be generated in the future. However, some of the numbers generated by the model appear unrealistic in comparison to actual flows from existing non-residential development.

According to the EDU formula, several industrial and commercially zoned parcels in the vicinity of Lacey Township's Oyster Creek Nuclear Generating Station are projected to discharge more than their proportional share of this HUC 11's total assimilative capacity if developed as zoned. At the time of this writing, however, Oyster Creek Nuclear Generating Station is still operational and will start

decommissioning in 2019, a process that is expected to take several years. No development is expected to occur in this area until the decommissioning is complete, and any future development in this area is almost certainly to be either NJPDES permitted or added to the sewer service area through an amendment to the WQMP. Furthermore, the County anticipates that a significant percentage of the remaining area in question will be designated for preservation in the course of decommissioning. The Department has acknowledged that the ultimate nitrate discharges from the Oyster Creek area will most likely be less than what is currently projected and has, therefore, determined that as long as this HUC 11 is identified as “of Special Concern” in the WMP, meaning, that all proposed projects or activities will now be considered on a case-by-case and cumulative basis moving forward, and those that are proposed to be served by ISSDS’s must still meet the septic density criteria established by one of the Department’s approved nitrate dilution/carrying capacity models, that the WMP may be approved with that acknowledgement.

According to the nitrate dilution analysis, portions of Lakewood Township in HUC 11 (# 02040301020) are zoned for a greater density of septic development than can be accommodated to remain within the 2 mg/L nitrate target. The portion of the HUC that is within Jackson Township is zoned at a density that meets the nitrate target. Although 72.26% of this HUC 11 is outside the political boundaries of Ocean County, and municipal zoning and or restricted land in these remaining areas could offset the land deficiency on the Ocean County side, local zoning in several parts of Monmouth County also exceed their proportional shares of the assimilative capacity. It is reasonable to assume that both of these localized zoning imbalances in Monmouth County and Lakewood Township contribute to this HUC 11 exceeding its cumulative nitrate target.

In HUC 11 (# 02040301030), the nitrate dilution model has shown that current zoning regulations in Jackson Township exceed the cumulative capacity for septic development by more than ten percent. As previously mentioned, this may be, in part, due to the projection of greater amounts of septic discharges from large tracts of commercially zoned areas.

At the present time, Ocean County, Monmouth County, and the Department are engaged in discussions regarding HUC 11 (# 02040301020 and # 02040301030), to propose appropriate remedial actions for specific locations in these HUC 11s which are projected to discharge in excess of the assimilative capacity. While this process continues, the Department has advised Ocean County to not include nitrate dilution projections for those municipalities which are situated in HUC 11s initially projected to exceed their cumulative nitrate targets. This applies to Jackson Township and Lakewood Township. The nitrate dilution analysis for these two municipalities will be submitted separately in the future and according to those mechanisms the County may choose to incorporate.

In accordance with N.J.A.C 7:15-5.25(f), the water supply needs associated with the environmental build out performed at N.J.A.C. 7:15-5.25(c) were evaluated to determine whether the water supply needs can be met with existing, new or expanded water supplies that do not conflict with the current NJ State Water Supply Plan, last adopted in August 1996. To satisfy the water supply analysis, Ocean County used data provided by the Department's Division of Water Supply and Geoscience to document current monthly supplies of potable water by public water utilities and projected water demand at buildout by public water utilities and private wells located outside of water purveyor areas.

Current water allocation and demand were derived from NJDEP Public Water System Deficit/Surplus database <http://www.nj.gov/dep/watersupply/pws.html>. Future water demand was calculated by applying the Daily Residential Water Demand for a 3-bedroom house (Residential Site Improvement Standards (RSIS) at N.J.A.C. 5:21-5.2, Table 5.1 “Water Demand/Generation by Type/ Size of Housing”) and Daily Non-Residential Water Demand for the applicable use (Safe Drinking Water Act rules, N.J.A.C. 7:10-12.6(b)2, (Table 1) to the buildout results. The results were then converted to millions of gallons per month (MGM). To determine if a purveyor will have a deficit in future water supply, Current Water Allocation was subtracted from the sum of Current Water Demand and Future Water Demand.

For developable land outside of purveyor areas, a comparison was made between Available Water and Future Water Demand by Regional Water Resources Planning Areas (RWRPA). A number of resources were needed to complete this comparison. The 1996 NJ Statewide Water Supply Plan was used to find water availability by RWRPA. Water Demand Average 2005-2009 was derived from a report created by the NJDEP entitled “NJGWS DGS13-1 Computer Workbook Summarizing New Jersey Withdrawals and Discharges on a HUC 11 Basis”, December 2014. Finally, Future Water Demand was calculated, by HUC 11 watershed, using the results of the buildout analysis and the same calculations that were used in purveyor areas, were used in this case as well. In order to make the comparison between water availability and future water demand, HUC 11 watersheds were grouped into Regional Water Resources Planning Areas. To determine if a purveyor will have a deficit in future water supply, Water Available was subtracted from the sum on Water Demand Average 2005-2009 and Future Water Demand.

The results of the water supply demand calculations indicate that 46 out of the 50 purveyors that service the non-urban towns in Ocean County, will have excess capacity at buildout. Three purveyors, Lacey Township MUA, Manchester Township Water Utility and New Jersey American Water Company – New Egypt, project a deficit in future water supply and Jensen’s Deep Run Adult Village is currently in a water supply deficit. In addition, private well areas in Metedeconk, Toms River, and Atlantic Coastal water resources planning areas are in deficit at buildout.

While the affected towns will not be required to rezone, specific projects in these areas will be addressed on an individual basis when a permit is requested from the NJDEP. Other strategies for addressing deficit areas are listed in NJAC 7:15-5.25(f)2, and include: obtaining additional water supply through reuse, obtaining water from a source with available capacity, adopting water conservation ordinances to reduce demand to match available supply or reducing the amount of water demand by reducing the amount or altering the type of planned future development.

In accordance with N.J.A.C. 7:15-5.25(g)1, an assessment of nonpoint source pollution impacts with respect to stormwater was evaluated. To comply with this requirement, Ocean County municipalities adopted stormwater management ordinances. These ordinances specify that the stormwater performance requirements of the Stormwater Management rules, N.J.A.C 7:8 must be met through the use of non-structural measures, where possible. If non-structural measures alone are insufficient to meet the rule requirements, then the proposed project must be supplemented with structural best management practices (BMPs) as necessary.

In accordance with N.J.A.C. 7:15-5.25(g)2, an assessment of nonpoint source pollution impacts with respect to riparian corridors was evaluated. Three Ocean County municipalities, Barnegat Township, Brick Township and Stafford Township, adopted riparian zone ordinances that are in compliance with N.J.A.C. 7:15 to ensure the protection of the riparian corridors along all perennial and intermittent streams. As required, the adopted ordinances establish and protect riparian buffer conservation zones (“stream corridor buffer”). The stream corridor buffers vary in width depending upon the water body’s classification in the Surface Water Quality Standards at N.J.A.C. 7:9B-1.15, the minimum width being 50 feet of undisturbed vegetation on both sides of the stream, under the following regulations: the Flood Hazard Area Control Act Rules, the Stormwater Management rules, and the Water Quality Management Planning rules. The Department will continue to work with Ocean County to ensure that the remaining municipalities proceed to implement protections to riparian corridors from the effects of nonpoint source pollution.

This amendment proposal was noticed in the New Jersey Register on October 5, 2015 at 47 N.J.R. 2507(b). A public hearing on the proposed amendment was conducted on November 16, 2015, at the Ocean County Public Library Toms River Branch, Toms River Township, New Jersey. The Department and the Ocean County Department of Planning received comments during the comment period. The following individuals provided comments on this amendment during the public comment period:

#### List of Commenters

##### **Number-- Name, Affiliation**

1. Keith Marcoon, Ocean County Utilities Authority
2. Nancy Wittenberg, NJ Pinelands Commission

### 3. Britta Wenzel, Save Barnegat Bay

As noted below in response to specific comments requesting modification to the WMP, the Department is adopting the proposed amendment with minor changes pursuant to N.J.A.C. 7:15-3.4(g)9ii. These minor changes do not effectively destroy the value of the public notice of the proposed amendments and are technical/administrative corrections or modifications. Substantial changes include those changes to the proposed amendment which the Department has determined would enlarge or curtail who and what will be affected by the proposed amendment, change what is being prescribed, proscribed, or otherwise mandated by the proposed amendment, or enlarge or curtail the scope of the proposed amendment and its burden on those affected by it. Thus, changes which would enlarge or curtail which properties would be affected by the adopted WMP and/or the way in which properties would be affected by the adopted WMP would be considered substantial. Making such substantial changes on adoption would effectively destroy the value of the public notice and, thus, a new notice and public comment period are required prior to consideration of such changes pursuant to the process set forth in N.J.A.C. 7:15-3.4.

Any party may submit an application to the Department for a site specific amendment or revision to a WQM plan in accordance with N.J.A.C. 7:15 and P.L. 2011, c. 203, as amended and supplemented by P.L. 2013, c. 188, as applicable.

A summary of the comments and the Department's responses follows. The number(s) in parentheses after each comment identifies the respective commenter listed above.

**1. Comment:** This comment as well as comments 2 and 3 refer to the section of the WMP entitled OCUA Facilities which is on page 8. The Central Water

Pollution Control Facility outfall is at a depth of 50 feet below the ocean surface and the Northern Water Pollution Control Facility Outfall is at a depth of sixty feet below the ocean surface. The proposed WMP listed 40 feet for both locations.  
(1)

**Response:** The WMP text has been revised to reflect the accurate depths of the outfall locations.

**2. Comment:** The text which reads “Population growth and flow projections for these five Monmouth County municipalities were provided by OCUA, and were used to calculate future wastewater treatment capacity needs in the Northern Planning Area.”, should be revised to “Population growth and flow projections for these five Monmouth County municipalities were provided by Monmouth County Planning Board in consultation with MRRSA and OCUA, and were used to calculate future wastewater treatment capacity needs in the Northern Planning Area.” (1)

**Response:** The WMP text has been revised to include the modified language provided by the commenter.

**3. Comment:** The percentage of capacity utilized at the Southern Water Pollution Control Facility is not 22% as indicated in the WMP text. The 2011 average daily flow was 7.1 mgd. Dividing the plant’s existing permitted capacity of 20 MGD by the average daily flow of 7.1 mgd yields a figure of 35.5% of utilization of available capacity. (1)

**Response:** The WMP text has been revised to include the corrected percentage capacity amount.



**4. Comment:** This comment as well as comments 5 through 8 refer to the section of the WMP entitled Coordination with the Pinelands Commission which is on page 24. Due to data unavailability and differences in build out methods, we are unable to verify or offer specific feedback on the sewer and septic demand projections provided in the WMP for that portion of the County in the Pinelands Area. The County projections for several areas (portions of Barnegat and Jackson Townships) bear no relationship to the Commission's build-out projections. (2)

**5. Comment:** The WMP text states that the County notes that the Department advised the County to use build-out data provided by the Pinelands Commission. It appears that the County opted not to use the build-out data that the Commission provided. If this is accurate, the WMP should explicitly state that Pinelands Commission data was not used and why. (2)

**Response to comments 4 and 5:** The Department advised the County to obtain any build out calculations previously generated by the Pinelands Commission in lieu of analyses performed by the County. However, the Pineland's build out calculation data did not integrate with the County's data set and was not usable in the Department's Model Builder program that is used to calculate the buildout analysis for a WMP's planning area. The Department approved the County's request to use only the County data and thus, the County's build out analyses data alone were incorporated into the WMP. All analyses in this WMP used to project future wastewater demand make no distinction on the basis of the situation within or outside of the Pinelands CMP area. The WMP text has been revised to reflect this updated information.

**6. Comment:** The WMP quotes the Pinelands Commission as stating that “All land-except for publicly-owned, deed-restricted land, within Regional Growth Areas, Rural Development Areas, Pinelands Towns, or Pinelands Villages should be included in a Sewer Service Area”. This quote is incorrect and should be removed or revised. The Pinelands Comprehensive Management Plan (CMP) does not permit sewer service in Rural Development Areas. In addition, the April 2012 Memorandum of Understanding (MOU) between the Pinelands Commission and the Department makes clear that Pinelands Rural Development Areas are not to be included in sewer service areas. Furthermore the MOU makes clear that Pinelands Regional Growth Areas, Pinelands Towns and Villages are to be included in the sewer service area in their entirety; publicly-owned, deed-restricted lands are not to be removed. (2)

**Response:** The quote has been removed and the WMP text has been revised to reflect the provisions of the CMP and MOU in regards to the Pinelands Management Areas which are to be included in the WMP’s sewer service areas.

**7. Comment:** The WMP text states that “...the Pinelands Commission is engaged in the process of reassessing which portions of the Pinelands Areas not included in the aforementioned areas will require inclusion in the sewer service area.” This sentence is, at best, misleading because there is no such ongoing reassessment. Sewer service areas in the Pinelands Area have already been delineated based on the April 2012 MOU.

**Response:** The above referenced text has been removed from the WMP.

**8. Comment:** The WMP proposes that an expansion of the Northern Water Pollution Control Facility and the proposed wastewater treatment facility for New

Egypt in Plumsted Township will discharge to surface water bodies. In an effort to encourage groundwater recharge in the Kirkwood-Cohansey surface aquifer, the Commission encourages the use of wastewater infiltration basins as opposed to surface water discharge. The recharging of treated wastewater into the surface aquifer is important to the local and regional environment as well as future public water supply. (2)

**Response:** The use of a groundwater discharge for the proposed New Egypt Treatment Plant was evaluated in the Socio-Economic Analysis for the Plumsted Township Wastewater Treatment Plant which was prepared by the Plumsted Municipal Utilities Authority, Van Cleef Engineering Associates, and HDR Hydrqual which was issued in May, 2014. The analysis states that this option was vigorously pursued by the Plumsted Municipal Utilities Authority. After an extensive analysis of potentially suitable sites within Plumsted Township, 3 separate sites were identified and investigated. A fourth site had been previously reviewed. The investigation determined that none of the sites were suitable for groundwater disposal. The factors which precluded the sites from consideration included seasonally high water tables, steep slopes, the presence of endangered species, limited capacity, potential flooding issues, Green Acres and preserved farmland access issues, and higher projected capital costs relative to other options. The analysis concluded that a surface water discharge to Crosswicks Creek is the only viable solution to address the critical need for wastewater facilities for the New Egypt Town Center. With regards to the Northern Water Pollution Control Facility, OCUA has completed a comprehensive feasibility study for the beneficial reuse of treated secondary effluent within the service area for this facility, as well as for the Southern and Central treatment facilities. The study concluded that there are few economically feasible projects due to the availability of potable water at reasonable prices. Additional economic, legal, institutional,

and public perception obstacles were identified which precluded further development of reuse projects. Other alternatives to expansion, including increased discharges to groundwater, were also deemed infeasible. Lastly, in the event there is a real need for additional capacity to serve the Northern Water Pollution Control Facility, an evaluation of alternatives will be conducted to determine whether the resolution involves expansion of the current facility or construction of a new one. Additionally, the determination as to whether an expansion or a new treatment plant is needed will include the evaluation as to whether the plant can discharge to surface water or groundwater.

**9. Comment:** The WMP proposes expanded sewer service areas which will result in additional impervious cover and nutrient loading via stormwater runoff and groundwater inflow to Barnegat Bay. (3)

**Response:** The WMP does not expand sewer service areas and, in fact, its adoption will result in a net decrease in sewer service areas. As stated in the August 28, 2015 WQMP Amendment Preliminary Notice: “Amendments to the Water Quality Management Planning (WQMP) Rules in 2008 necessitated changes to previously adopted sewer service areas based on environmental sensitivity and local planning objectives as described in this document... These changes resulted in a net removal of 25,690 acres from the sewer service area.”

**10. Comment:** The proposed amendment to the Ocean County WQMP fails to quantify or account for the impacts that will be caused to the water quality of Barnegat Bay and the tributaries of Barnegat Bay resulting from non-point source (NPS) pollution. As specifically noted within the NJDEP’s public notice of the proposed WQMP Amendment, the potential effects of non-point source pollution impacts to Barnegat Bay will be subject to the stormwater management

requirements set forth in N.J.A.C. 7:8, the State's stormwater management rules. However, N.J.A.C. 7:8 and the municipal separate stormwater sewer systems (MS4) rules do not mandate the control or removal of nitrogen and phosphorus from stormwater runoff or require a specific reduction to be attained in nitrogen and phosphorus loading. The Department has not evaluated or quantified the increase in nutrients and contaminants transferred to the Bay via inadequately managed and treated stormwater runoff. The Department's assumed compliance with N.J.A.C. 7:8 does not constitute an analysis of the potential impacts to the water quality of Barnegat Bay, or the base tributaries, resulting from stormwater runoff. Thus the Department has not fully analyzed the role and impact of stormwater related NPS loading on Barnegat Bay that will result from the proposed Ocean County WQMP Amendment. Because none of the existing state regulations governing stormwater runoff mandate the reduction in nutrient loading, in particular nitrogen loading, to the waters of the State, the DEP's reliance on these rules alone leave Barnegat Bay vulnerable. (3)

**Response:** Stormwater discharges are required to be regulated through rules at 40 CFR Part 122) and N.J.A.C. 7:14A, (See [www.nj.gov/dep/dwq/714a.htm](http://www.nj.gov/dep/dwq/714a.htm)). The regulation of stormwater runoff is intended to provide substantial water quality benefits and prevent increased flooding and erosion. At the municipal level, the Municipal Separate Storm Sewer System (MS4) permit, which is issued under N.J.A.C. 7:14A, is the regulatory mechanism which addresses stormwater quality and quantity issues related to public works operations, new development, redevelopment, and existing developed areas by requiring municipalities to implement stormwater programs. The intent of the MS4 permit is to limit and/or reduce the discharge of these pollutants to waterways. The MS4 permit is protective of the local surface waterways by having the municipalities take responsibility for discharges from outfalls, requiring proper design, operation, and

maintenance of best management practices, and giving municipalities the power to enforce local ordinances that would reduce stormwater pollutants. Properly implementing the above approaches and complying with the minimum standards and measureable goals of the MS4 permit will reduce pollutant discharges to the local surface waterways to the maximum extent practicable. New Jersey's MS4 permit program is prescriptive in nature in that it clearly defines the Statewide Basic Requirements (SBR) applicable to municipalities. SBRs include public involvement and participation, local public education and outreach, post-construction stormwater management in new development and redevelopment, pollution prevention/good housekeeping for municipal operators, MS4 outfall pipe mapping, and illicit discharge and scouring detection and control.

Stormwater for new development and redevelopment is addressed, in part, by requiring municipalities to maintain and enforce stormwater management plans and ordinances in accordance with the Stormwater Management rule, N.J.A.C. 7:8 (See [www.nj.gov/dep/rules/rules/njac7\\_8.pdf](http://www.nj.gov/dep/rules/rules/njac7_8.pdf)). Specifically, New Jersey's Stormwater Management rule establishes the minimum standards for stormwater management to which the municipality must adhere when approving new development and redevelopment projects. The Stormwater Management rule requires compliance with minimum standards for stormwater runoff quantity, water quality, and groundwater recharge. The Stormwater Management rule also requires the municipality to ensure that stormwater management measures are properly operating and maintained. The proper application of the Stormwater Management rule at N.J.A.C. 7:8, as the Surface Water Quality Standards at N.J.A.C. 7:9B, and the proper implementation of the MS4 permit program adequately provide protection to the waters of the state from impacts due to stormwater runoff.

**11. Comment:** The County limited their analysis of the added groundwater loading attributable to new septic systems through the application of a nitrogen dilution model (A Recharge-Based HUC-11 Scale Nitrate-Carrying-Capacity Tool for New Jersey). The primary purpose of this analysis was to demonstrate that the added septic loading would not increase groundwater nitrate levels above 2 mg/l as computed at the boundary of the study area. The analysis was conducted specifically to protect human health. It was not conducted as a means of demonstrating protection of the environment from eutrophication impacts. A nitrate concentration of 2 mg/l in groundwater or surface water is an order of magnitude greater than that considered enough to stimulate and sustain eutrophication. Therefore the nitrate analysis conducted by the County in their Environmental Analysis of the proposed WQMP Amendment falls far short of assessing the impacts of the added septic systems to the eutrophication of the Bay and/or the ability of the Bay and its tributaries to support aquatic life and meet their designated uses. (3)

**Response:** Ocean County chose to use one of the acceptable methods for its analysis in determining the attainment of 2 mg/L nitrate in groundwater, specifically, “A *Recharge-Based HUC11-Scale Nitrate-Carrying-Capacity Planning Tool for New Jersey, MS Excel Workbook.*” This model uses watershed-wide recharge estimates to eliminate the need to determine the area of each soil type within the HUC 11. This model is best used for the regional planning analysis envisioned for WMP development. The statewide, representative nitrate concentration of 2 mg/L was determined through an analysis conducted by the New Jersey Geologic Survey as a reasonable and scientifically-defensible threshold upon which the Department could establish a “baseline” for assessing the relative or “acceptable” health of a waterbody or resource with regard to the WQMP rules. The Department acknowledges that ground water recharge can be

estimated using different techniques. GSR-32 is a soil water-moisture-budget approach that for a year of average monthly meteorological conditions, calculates how much rainfall will be evaporated, how much held in the soil, and how much infiltrates down through the soil. This approach was developed using reasonable estimates of New Jersey-specific values for all input parameters. The result is a method that can be applied consistently across the State, using available data, and which yields reasonable estimates of ground water recharge. This approach also has the advantage of yielding values that reflect local conditions, such as different soils and land use. The Department selected this as an acceptable model because it has been peer reviewed, is scientifically defensible and can be applied Statewide to relatively large geographic areas such as HUC 11 watersheds.

**12. Comment:** A number of Barnegat Bay's tributaries appear on New Jersey's 303d list of impaired waterways. Many organizations, including Save Barnegat Bay, have repeatedly requested that Barnegat Bay be declared an impaired body of water for the purposes of setting Total Maximum Daily Loads ("TMDL"). In part, because this necessary action has not been taken, NJDEP and Ocean County must enact a Wastewater Management Plan that calculates and then mitigates the risk of nutrient loading impacts from the new sewer service areas and septic systems in the Barnegat Bay watershed made possible by this proposal. (3)

**Response:** State water quality assessments are performed biennially per federal requirements for all waters for which there is sufficient data and are normally based upon five broad types of monitoring data: biological integrity, chemical, physical, habitat, and toxicity. Each type of data yields an assessment that must then be integrated with other data types for an overall assessment. The Department will continue to perform state-wide assessments every two years as



indicated in the “2012 Integrated Water Quality Monitoring and Assessment Methods” document. (See [http://www.nj.gov/dep/wms/bears/support\\_docs.htm](http://www.nj.gov/dep/wms/bears/support_docs.htm)). Based on the assessment criteria laid forth in the Methods Document, if a waterbody is found to exceed the Surface Water Quality Standards (SWQS) for a specific parameter, it is placed on the 303(d) List of Water Quality Limited Waters. Based on the 2012 303(d) List, the Barnegat Bay 04 station located in the Toms River Estuary is listed as impaired for DDT, PCB and Mercury in Fish Tissue and the assessment unit Manahawkin Bay/LEH Bay (Mill Creek- Turtle Cove is listed for Dissolved Oxygen impairment. (See [http://www.nj.gov/dep/wms/bears/docs/2012\\_final\\_303\(d\)\\_list.pdf](http://www.nj.gov/dep/wms/bears/docs/2012_final_303(d)_list.pdf)).

A Total Maximum Daily Load (TMDL) is only one such remedy to address any impairments listed on the 303(d) List for waters in Barnegat Bay. Another remedy to consider is the development of an approved watershed based plan (WBP). Similar to a TMDL, a watershed based plan must identify the source of the pollutant, the relative contribution and the load reduction needed to attain SWQS. WBPs employ an adaptive management approach in which available information and analytical tools are used to support the best planning decisions that can be made ensuring restoration and stewardship of impaired waters. The implementation specification found in WBPs is more detailed than in a TMDL. Both TMDLs and WBPs may inform the need for enhanced regulatory requirements under the MS4 permitting. Therefore, there is no loss of implementation authority using the tool of a WBP over a TMDL, in the intended circumstances.

Moreover, it should be noted that the Department has been taking and continues to take actions to identify the problems that the Bay is facing and implement the appropriate measures to address the ecological health of the watershed. Governor

Christie's "Comprehensive Action Plan to Address the Ecological Decline of Barnegat Bay" April 2014 outlines the specific progress the Department has made in collaboration with its partners to restore Barnegat Bay. Implementation of the Action Plan would continue regardless of the adoption of a TMDL.

**13. Comment:** Under the New Jersey Water Pollution Control Act, New Jersey is required to "assure that there shall be achieved... cost effective and reasonable best management practices for nonpoint source control." However, without the benefit of TMDL's, NJDEP unreasonably relies on the stormwater management and buffer requirements set forth in its rules which leave Barnegat Bay vulnerable to continued eutrophication. These rules do not mandate the measurement, control or removal of nitrogen or phosphorous, thus violating the federal Clean Water Act. (3)

**Response:** Although a TMDL calculates the loading associated with point sources, nonpoint sources, and includes a margin of safety, it is not intended to address cost effective and reasonable best management practices for nonpoint source control. Rather, establishing and refining water quality standards that will support designated uses of the state's waters, measuring water quality throughout the Department's various monitoring networks, and assessing the data collected relative to the standards, provide the scientific foundation for the protection of New Jersey's water resources in accordance with state law and the federal Clean Water Act. Overall, the commenter's suggestion to amend the Department's rule to address the risk of eutrophication in Barnegat Bay due to nitrogen and phosphorous loading is beyond the scope of this amendment.

**14. Comment:** The proposal conflicts with the goals of Governor Christie's Comprehensive Action Plan to Address the Ecological Decline of Barnegat Bay.

In particular, the proposal conflicts with the Governor's goals to mitigate storm water runoff and adopt more rigorous water quality standards. In addition, the proposal is inconsistent with the Barnegat Bay National Estuary Program Strategic Plan to reduce eutrophication and improve water quality among other priorities. (3)

**15. Comment:** The Department has historically focused on the control of eutrophication on reducing total phosphorous (TP) concentrations rather than nitrogen. Unfortunately for Barnegat Bay, the Department's numeric criteria for nitrogen focuses on drinking water and are intended to protect human health and not to control or lessen the eutrophication of fresh or estuarine ecosystems. The existing water quality standards for nitrate set a maximum allowable concentration of 10 mg/l. This threshold value is specifically intended to protect human health. Nitrate concentrations as low as 0.2 mg/l are associated with eutrophic ecosystems. As such the existing Department nitrate standard is not relevant when discussing the eutrophication of Barnegat Bay. (3)

**Response to Comments 14 and 15:** As described by the Department in its "Comprehensive Action Plan to Address the Ecological Decline of Barnegat Bay 2014 Update", work is currently underway to develop numeric nutrient criteria or other translators of the narrative nutrient criteria, which will include studies of various trophic levels of aquatic communities to help identify nutrient thresholds that would support healthy communities and dynamic models of the fate and transport of nutrients in the estuary which will inform the next steps in identifying additional management responses to restore the Bay. Until such work is complete, the Department will assess water quality in the Bay based on adopted, applicable water quality criteria and assessment methods for estuarine waters.

The Nitrate-Dilution/Capacity Build-out analysis based on the environmental threshold of 2 mg/L nitrate protects public health and safety as well as the environment. High nitrate levels on the order of the EPA drinking water standard of 10 mg/L can similarly cause adverse health conditions for wildlife, such as fresh fish like trout. This analysis was not developed as a means to address eutrophication but rather as an assessment tool for planning purposes.

The Ocean County WMP is not in violation of the Governors Comprehensive Action Plan nor the Barnegat Bay National Estuary Program Strategic Plan. The purpose of the WMP is to identify the wastewater generation potential within each county or municipality and designate which areas are appropriate for sewer service. Sewer service areas identify where wastewater is conveyed by a collection system and interceptors to a centralized facility for treatment and ultimate discharge. This discharge in turn is regulated and requires a New Jersey Discharge Elimination System permit.

**16. Comment:** Because none of the existing State regulations governing stormwater runoff mandate the reduction in nutrient loading (in particular nitrogen loading) to the waters of the State, the Department's reliance on these rules alone leave Barnegat Bay vulnerable to continued eutrophication. (3)

**17. Comment:** The acknowledged continued degradation of Barnegat Bay is in direct conflict with the States anti-degradation rules and the mandates of the Clean Water Act. At a minimum the Department cannot move forward with the proposed Wastewater Management Plan until a more exhaustive analysis is conducted of the impacts that the expanded sewer service areas will have on the continued eutrophication of the Bay. (3)

**Response to Comments 16 and 17:** While it is known that ongoing and/or increasing eutrophication is a vital concern in the Barnegat Bay, the WQMP program is required to look at specific parameters related to wastewater management and how those parameters and issues related to them may adversely affect water quality, water quantity, and/or environmental health throughout the state. Issues relating to implementation of the Stormwater rule, the anti-degradation requirements of the Surface Water Quality Standards, the NJPDES surface or ground water rules, etc., are beyond the WQMP rules purview other than for long-term planning consideration and coordination. These comments regarding proposed shortcomings in any of the above rules or programs that administer them are beyond the scope of this WMP amendment. This amendment and its analyses are not intended to provide a quantitative analysis of current pollutant loads or load reductions that could be achieved by implementing targeted management practices like TMDLs or NPS pollution control strategies.

This proposed amendment represents only one part of the permit process and other issues may need to be addressed prior to final issuance of all appropriate permits. Additional issues which may need to be addressed may include, but are not limited to, the following: compliance with stormwater regulations; antidegradation; effluent limitations; water quality analysis; exact locations and designs of future treatment works (pump stations, interceptors, sewers, outfalls, wastewater treatment plants); and development in wetlands, flood prone areas, designated Wild and Scenic River areas, or other environmentally sensitive areas which are subject to regulation under Federal or State statutes or rules. Approval of this amendment does not eliminate the need for any permits, approvals or certifications required by any Federal, State, County or municipal review agency with jurisdiction over this project/activity.

Sewer service to any particular project is subject to contractual arrangements between municipalities, authorities and/or private parties, and is not guaranteed by this amendment.



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Collen Kokas, Director  
Office of WRM Coordination  
Department of Environmental Protection

12.30.15

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Date