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EXHIBIT M1

WATER QUALITY MANAGEMENT PERMIT  
FOR DELCORA'S WRTP

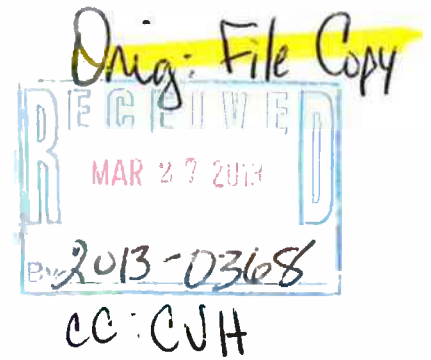
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# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE



March 22, 2013

**CERTIFIED MAIL NO. 7007 3020 0002 8265 1591**

Mr. Joseph Salvucci  
DELCORA  
100 East Fifth Street  
P.O. Box 999  
Chester, PA 19016-0999

Re: WQM Permit - Sewage  
DELCORA Sewer System and STP  
Permit No. WQG02231301  
Authorization ID No. 964977  
Chester City  
Delaware County

Dear Mr. Salvucci:

Your Water Quality Management (WQM) permit is enclosed. You must comply with all Standard and Special Conditions attached to this Permit. Construction must be done in accordance with the permit application and all supporting documentation. Please review the permit conditions and the supporting documentation submitted with your application before starting construction.

Please note that you are responsible for securing all other required permits, approvals, and/or registrations associated with the project if applicable, under Chapters 102 (Erosion and Sedimentation Control), 105 (Stream Obstructions and Encroachments), and 106 (Floodplains) of the Department of Environmental Protection's (DEP) regulations. Construction may not proceed until all other required permits have been obtained.

Enclosed, is the "Water Quality Management Post Construction Certification" form. A Pennsylvania-registered Professional Engineer must sign and complete this form prior to startup of the facilities. You or your authorized representative must also sign the form. This certification and other post-construction documentation must be submitted to DEP within 30 days following startup of the facilities.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals

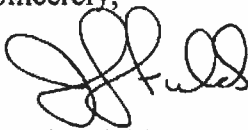
must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717.787.3483) FOR MORE INFORMATION.

During construction or upon completing construction, please contact Mr. Andrew Haneiko at 484.250.5183 or by e-mail at [ahaneiko@pa.gov](mailto:ahaneiko@pa.gov) so that an inspection of the facilities may be conducted, at DEP's discretion.

Sincerely,

A handwritten signature in black ink, appearing to read "Jenifer Fields", with a stylized, looping flourish at the end.

Jenifer Fields, P.E.  
Regional Manager  
Clean Water

Enclosures

cc: Permits Chief  
Operations Section  
Mr. Rodriguez - Catania Engineering Assoc.  
Re 30 (eh13clw)077-4

Permit




pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

**WQG-02**  
**WATER QUALITY MANAGEMENT**  
**GENERAL PERMIT FOR SEWER EXTENSIONS AND PUMP STATIONS**  
**PERMIT NUMBER WQG02231301**

<b>A. PERMITTEE (Name and Address):</b> DELCORA 100 East Fifth Street P O Box 999 Chester, PA 19016-0999  <b>CLIENT ID#:</b> 42332	<b>B. PROJECT/FACILITY (Name):</b> DELCORA Sewer System & STP  <b>C. LOCATION (County, Municipality):</b> Chester City, Delaware County
<b>D. This General Permit approves the construction and operation of:</b> <input checked="checked" type="checkbox"/> <b>SEWER EXTENSION</b> <input type="checkbox"/> <b>PUMP STATION</b>	
<b>E. APPROVAL GRANTED BY THIS GENERAL PERMIT IS SUBJECT TO THE FOLLOWING:</b> 1. All construction, operations and procedures shall be in accordance with the <i>Domestic Wastewater Facilities Manual</i> . <b>Transfers:</b> In the event the permittee plans to transfer ownership of the facility to another entity, the permittee and the transferee shall submit an application for such transfer to DEP. If the transfer is approved by DEP, the transferee is subject to the terms and conditions of this General Permit. 2. The attached conditions apply to this General Permit and are hereby made part of same.	
<b>F. THE AUTHORITY GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING FURTHER QUALIFICATIONS:</b> 1. If there is a conflict between the NOI or its supporting documents and amendments and the attached conditions, the attached conditions shall apply. 2. Failure to comply with the rules and regulations of DEP or with the terms or conditions of this General Permit shall void the authority given to the permittee by the issuance of this General Permit. 3. This General Permit is issued pursuant to the Clean Streams Law, Act of June 22, 1937, P.L. 1987, as amended 35 P.S. §691.1 <i>et seq.</i> Issuance of this General Permit shall not relieve the permittee of any responsibility under any other law.	
<b>PERMIT ISSUED:</b> March 22, 2013	<b>BY:</b>  <b>TITLE:</b> Clean Water Program Manager

Permit



**pennsylvania**

DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

## PERMIT CONDITIONS

### General

1. Consistent with DEP's technical guidance document *Conducting Technical Reviews of Water Quality Management Permit Wastewater Treatment Facilities*, DEP ID: 362-2000-007, available on DEP's Web site, DEP considers the registered professional engineer whose seal is affixed to the design documents to be fully responsible for the adequacy of all aspects of the facility's design.
2. The approval is specifically made contingent on the permittee acquiring all necessary property rights, by easement or otherwise, providing for the satisfactory construction, operation, maintenance and replacement of all sewers or sewerage structures in, along or across private property with full rights of ingress, egress and regress.
3. If, at any time, the sewer extension and/or pump station covered by this General Permit creates a public nuisance, including but not limited to, causing malodors or causing environmental harm to waters of the Commonwealth, DEP may require the permittee to adopt appropriate remedial measures to abate the nuisance or harm.
4. This permit does not relieve the permittee of its obligations to comply with all federal, interstate, state or local laws, ordinances and regulations applicable to the facilities.
5. This General Permit does not give any real or personal property rights or grant any exclusive privileges, nor shall it be construed to grant or confirm any right, easement or interest in, on, to, or over any lands which belong to the Commonwealth.
6. No discharge is authorized from these facilities unless approved by an NPDES Permit.

### Construction

7. An Erosion and Sedimentation (E&S) Control Plan must be developed prior to construction of the permitted facility, pursuant to Title 25 Pa. Code Chapter 102, and implemented during and after the earth disturbance activity.  
If the activity involves 5 or more acres of earth disturbance, or from 1 to 5 acres of earth disturbance with a point source discharge to surface waters of the Commonwealth, an NPDES Permit is required.  
In addition to the state NPDES permitting requirements, some municipalities, through local ordinances, require the E&S Control Plan to be reviewed and approved by the local county conservation district office prior to construction. For specific information regarding E&S control planning approval and NPDES permitting requirements please contact your local county conservation district office.
8. Prior to beginning any construction or excavation, the locations of all utility lines must be identified through notification to the PA One Call system ([www.paonecall.org](http://www.paonecall.org)). The notification shall not be less than three nor more than 10 working days in advance of beginning the construction or excavation.
9. The local waterways conservation officer of the Pennsylvania Fish and Boat Commission (PFBC) shall be notified when the construction of any stream crossing and/or outfall is started and completed. A written permit must be secured from the PFBC if there is any use of explosives in any waterways and the permittee shall notify the local waterways conservation officer when explosives are to be used.
10. Manhole inverts shall be formed to facilitate the flow of the sewage and to prevent the stranding of sewage solids. The whole manhole structure shall be built to prevent undue infiltration, entrance of street wash or grit and provide safe access to facilitate manhole maintenance activities.
11. The facilities shall be constructed under the supervision of a Pennsylvania registered Professional Engineer in accordance with the approved reports, plans and specifications.

12. A Pennsylvania registered Professional Engineer shall certify that construction of the permitted facilities was completed in accordance with the application and design plans submitted to DEP, using "Post Construction Certification" (3800-PM-WSFR0179a). It is the permittee's responsibility to ensure that a Professional Engineer is on-site to provide the necessary oversight and/or inspections to certify the facilities. The certification must be submitted to DEP before the facility is placed in operation. If requested, "as-built" drawings, photographs (if available) and a description of any DEP-approved deviations from the application and design plans must be submitted to DEP within 30 days of certification. Construction must be completed within two years of permit issue date.

### **Operation and Maintenance**

13. The permittee shall maintain sewer extension and/or pump station operation and maintenance (O&M) manuals at the facility and ensure proper O&M of the permitted facility. The permittee shall file the O&M manuals with DEP upon request.
14. Stormwater from roofs, foundation drains, basement drains or other sources shall not be admitted directly to the sewer extension or pump station.
15. The sewer extension shall have adequate foundation support as soil conditions require. Trenches shall be back-filled to ensure that sewers will have proper structural stability, with minimal settling and adequate protection against breakage. Concrete used in connection with these sewers shall be protected from damage by water, freezing, drying or other harmful conditions until cured.
16. The approved sewer extensions and/or pump stations shall be maintained in good condition, kept free of deposits by flushing or other cleaning methods and repaired when necessary.
17. The sewer extension and/or pump station shall be properly operated and maintained so that the facility will perform as designed.
18. The attention of the permittee is called to the highly explosive nature of certain gases generated by the digestion of sewage solids when these gases are mixed in proper proportions with air and to the highly toxic character of certain gases arising from such digestion or from sewage in poorly ventilated compartments or sewers. Therefore, at all places throughout the facilities where hazard of fire, explosion or danger from toxic gases may occur, the permittee shall post conspicuous permanent and legible warnings. The permittee shall instruct all employees concerning the aforesaid hazards, first aid and emergency methods of meeting such hazards and shall make all necessary equipment and material accessible.
19. There shall be no physical connection between a public water supply system and a sewer or appurtenance to it which would permit the passage of any sewage or polluted water into the potable water supply. No water pipe shall pass through or come in contact with any part of the sewer extension and/or pump station.
20. Collected screenings, slurries, sludge and other solids shall be handled and disposed of in compliance with Title 25 Pa. Code, Chapters 271, 273, 275, 283 and 285 (related to permits and requirements for land filling, land application, incineration and storage of sewage sludge), Federal Regulations 40 CFR Part 257 and the Federal Clean Water Act and its amendments.



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

**WATER QUALITY MANAGEMENT  
POST CONSTRUCTION CERTIFICATION**

**PERMITTEE IDENTIFIER**

Permittee	DELCORA
Municipality	Chester City
County	Delaware
WQM Permit No.	WQG02231301
Facility Type	Sewage

**All of the above information should be taken directly from the Water Quality Management Permit.**

**CERTIFICATION**

This certification must be completed and returned to the permits section of the DEP's regional office issuing the WQM permit within 30 days of completion of the project and received by DEP prior to operation, and if requested, as-built drawings, photographs (if available) and a discussion of any DEP-approved deviations from the design plans during construction.

I, being a Registered Professional Engineer in Pennsylvania, do hereby certify to the best of my knowledge and belief, based upon personal observation and interviews, that the above facility approved under the Water Quality Management Permit has been constructed in accordance with the plans, specifications and modifications approved by DEP.

Construction Completion Date (MM/DD/YYYY): \_\_\_\_\_

Engineer's  
Seal

**Professional Engineer**

Name \_\_\_\_\_  
(Please Print or Type)

Signature \_\_\_\_\_

Date \_\_\_\_\_

License Expiration Date \_\_\_\_\_

Firm or Agency \_\_\_\_\_

Telephone \_\_\_\_\_

**Permittee or Authorized Representative**

Name \_\_\_\_\_  
(Please Print or Type)

Signature \_\_\_\_\_

Title \_\_\_\_\_

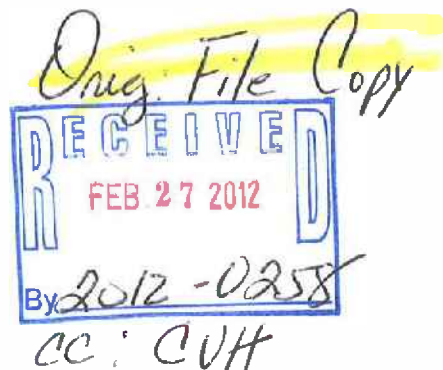
Telephone \_\_\_\_\_



# pennsylvania

DEPARTMENT OF ENVIRONMENTAL PROTECTION

SOUTHEAST REGIONAL OFFICE



February 21, 2012

Ms. Christine Volkay-Hilditch  
Director of Engineering  
DELCORA  
100 East Fifth Street  
Chester, PA 19016-0999

Re: Western Regional WWTP Re-Rate  
Permit No. 2309408  
File Type: Permit  
City of Chester  
Delaware County

Dear Ms. Volkay-Hilditch:

Your permit is enclosed.

You must comply with all Standard and Special Conditions attached to this permit. Construction must be done in accordance with the permit application and all supporting documentation. Please review the permit conditions and the supporting documentation submitted with your application before starting construction.

We would like to bring your attention to the Department's new electronic Discharge Monitoring Report (eDMR) program. The program can be accessed through the Internet at [www.dep.state.pa.us/edmr](http://www.dep.state.pa.us/edmr) and can be used in lieu of paper DMR submissions. Please find enclosed additional information concerning eDMR. We highly encourage your participation in this program.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717.787.3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800.654.5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute provides a different time period. Copies of the appeal form and the Board's rules of practice and procedure may be obtained from the Board. The appeal form and the Board's rules of practice and procedure are also available in braille or on audiotape from the Secretary to the Board at 717.787.3483. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.



IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST REACH THE BOARD WITHIN 30 DAYS. YOU DO NOT NEED A LAWYER TO FILE AN APPEAL WITH THE BOARD.

IMPORTANT LEGAL RIGHTS ARE AT STAKE, HOWEVER, SO YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD (717.787.3483) FOR MORE INFORMATION.

If you have any questions, please call Mr. Andrew Haneiko at 484.250.5183.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jenifer Fields".

Jenifer Fields, P.E.  
Regional Manager  
Clean Water

Enclosures

cc: Permits Chief  
Operations Section  
Mr. Kochubka – Weston Solutions  
Ms. Lashley  
Re (dh12clw) 020-9



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DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATER SUPPLY AND WASTEWATER MANAGEMENT

**WATER QUALITY MANAGEMENT  
PERMIT**

PERMIT NO. 2309408

AMENDMENT NO. \_\_\_\_\_

APS ID 702334

AUTH ID 806534

<b>A. PERMITTEE (Name and Address):</b> <b>DELCORA</b> 100 East Fifth Street Chester, PA 19016	<b>B. PRIMARY FACILITY (Name):</b> <b>DELCORA Western Regional WWTP</b>	
<b>C. LOCATION (Municipality, County):</b> <b>City of Chester</b> <b>Delaware County</b>	<b>SITE ID#:</b> <b>454804</b>	
<b>D. This permit approves the operation of sewerage facilities consisting of:</b> <b>Hydraulic re-rate from 44mgd to 50 mgd.</b>		
<b>Pump Stations:</b> _____ <b>Design Capacity:</b> _____ GPM <b>Average Annual Flow:</b> _____ GPD	<b>Manure Storage:</b>  <b>Volume</b> _____ <b>MG</b> <b>Freeboard:</b> _____ <b>inches</b>	<b>Industrial Wastewater/Sewage Treatment Facility:</b> <b>Annual Average Flow:</b> <u>50</u> MGD <b>Design Hydraulic Capacity:</b> <u>50</u> MGD <b>Design Organic Capacity:</b> <u>125,000</u> lb/day
<b>E. APPROVAL GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING:</b>  1. <b>New Permits:</b> All construction, operations, and procedures shall be in accordance with the Water Quality Management Permit application dated <u>08/21/09</u> , its supporting documentation, and addendums dated _____, which are hereby made a part of this permit.  <b>Amendments:</b> All construction, operations, and procedures shall be in accordance with the Water Quality Management Permit Amendment application dated _____ and its supporting documentation, and addendums dated _____, which are hereby made a part of this amendment.  Except for any herein approved modifications, all terms, conditions, supporting documentation and addendums approved under Water Quality Management Permit No. <u>2303403</u> dated <u>07/09/2003</u> shall remain in effect.  <b>Transfers:</b> Water Quality Management Permit No. _____ dated _____ and conditions, supporting documentation and addendums are also made part of this transfer.  2. <b>Permit Conditions Relating to sewerage</b> are attached and made part of this permit.  3. Special Conditions numbered <u>I-IV</u> are attached and made part of this permit.		
<b>F. THE AUTHORITY GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING FURTHER QUALIFICATIONS:</b>  1. If there is a conflict between the application or its supporting documents and amendments and the attached conditions, the attached conditions shall apply.  2. Failure to comply with the rules and regulations of DEP or with the terms or conditions of this permit shall void the authority given to the permittee by the issuance of this permit.  3. This permit is issued pursuant to the Clean Streams Law Act of June 22, 1937, P.L. 1987, <u>as amended</u> 35 P.S. §691.1 et seq. Issuance of this permit shall not relieve the permittee of any responsibility under any other law.		
<b>PERMIT ISSUED:</b>  <div style="text-align: center;"><b>February 21, 2012</b></div>		<b>BY:</b> _____ <div style="text-align: center;"> <b>TITLE:</b> <u>Water Management Program Manager</u></div>

**Sewerage Permit No. 2309408  
DELCORA – Western Regional WWTP  
City of Chester, Delaware County**

**This permit is subject to the following Special Condition(s):**

- I. The authority granted by this permit is subject to all effluent requirements and other conditions, as set forth in Parts A, B, and C of the Part I Discharge Permit No. **PA0027103-A3**, as issued on **September 28, 2011**. No discharge is authorized for these facilities unless approved by a Part I permit.
- II. If the effluent from the, herein approved, sewage treatment facilities creates a health hazard or nuisance, the permittee shall, upon notice from the Department of Environmental Protection (Department), provide such additional treatment as may be required by the Department.
- III. Consistent with Department policy, the Department did not conduct a detailed technical review of the application for this permit. The Department considers the registered professional engineer whose seal is affixed to the design documents to be fully responsible for the adequacy of all aspects of the facility design.
- IV. **Laboratory Certification**  
  
The Environmental Laboratory Accreditation Act of 2002 requires that all environmental laboratories register with the Department. An environmental laboratory is any facility engaged in the testing or analysis of environmental samples required by a statute administered by the Department relating to the protection of the environment or of public health, safety, and welfare.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATER SUPPLY AND WASTEWATER MANAGEMENT

**PERMIT CONDITIONS RELATING TO SEWERAGE**

For use in Water Quality Management Permits

(Place a  $\checkmark$  in the box that applies)

**General**

- ☒ 1. Consistent with the Department of Environmental Protection's (DEP) technical guidance document *Conducting Technical Reviews of Water Quality Management Permit Wastewater Treatment Facilities* (DEP ID: 362-2000-007) available on DEP's website at [www.dep.state.pa.us](http://www.dep.state.pa.us) . DEP considers the registered Professional Engineer whose seal is affixed to the design documents to be fully responsible for the adequacy of all aspects of the facility design.
- ☐ 2. The permittee shall adopt and enforce an ordinance requiring the abandonment of privies, cesspools or similar receptacles for human waste and onlot sewage disposal systems on the premises of occupied structures accessible to public sewers. All such structures must be connected to the public sewers.
- ☒ 3. The outfall sewer or drain shall be extended to the low water mark of the receiving body of water. Where necessary to ensure proper mixing and waste assimilation, an outfall sewer or drain may be extended with appurtenances below the low water mark and into the bed of a navigable stream provided that the permittee has secured an easement, right-of-way, license or lease from DEP in accordance with Section 15 of the Dam Safety and Encroachments Act, the Act of November 26, 1978, P.L. 1375, as amended.
- ☒ 4. The approval is specifically made contingent on the permittee acquiring all necessary property rights, by easement or otherwise, providing for the satisfactory construction, operation, maintenance and replacement of all sewers or sewerage structures in, along or across private property with full rights of ingress, egress and regress.
- ☒ 5. When construction of the approved sewerage facilities is completed and before they are placed in operation, the permittee shall notify DEP in writing so that a DEP representative may inspect the facilities.
- ☒ 6. If, at any time, the sewerage facilities covered by this permit create a public nuisance, including but not limited to, causing malodors or causing environmental harm to waters of the Commonwealth, DEP may require the permittee to adopt appropriate remedial measures to abate the nuisance or harm.
- ☐ 7. This permit authorizes the construction and operation of the proposed sewerage facilities until such time as facilities for conveyance and treatment at a more suitable location are installed and capable of receiving and treating the permittee's sewage. Such facilities must be in accordance with the applicable municipal official plan adopted pursuant to Section 5 of the Pennsylvania Sewage Facilities Act, the Act of January 24, 1966, P.L. 1535 as amended. When such municipal sewerage facilities become available, the permittee shall provide for the conveyance of the sewage to these sewerage facilities, abandon the use of these approved facilities and notify DEP accordingly. This permit shall then, upon notice from DEP, terminate and become null and void and shall be relinquished to DEP.
- ☒ 8. This permit does not relieve the permittee of its obligations to comply with all federal, interstate, state or local laws, ordinances and regulations applicable to the sewerage facilities.
- ☒ 9. This permit does not give any real or personal property rights or grant any exclusive privileges, nor shall it be construed to grant or confirm any right, easement or interest in, on, to or over any lands which belong to the Commonwealth.
- ☒ 10. The authority granted by this permit is subject to all effluent requirements, monitoring requirements and other conditions as set forth in NPDES Permit No. PA0027103-A3 and all subsequent amendments and renewals. No discharge is authorized from these facilities unless approved by an NPDES Permit.

**Construction**

- ☒ 11. An Erosion and Sedimentation (E&S) Plan must be developed prior to construction of the permitted facility, pursuant to Title 25 Pa. Code Chapter 102, and implemented during and after the earth disturbance activity.  
  
If the activity involves 5 or more acres of earth disturbance, or from 1 to 5 acres of earth disturbance with a point source discharge to surface waters of the Commonwealth, an NPDES permit for the Discharge of Stormwater Associated with Construction Activity is required.  
  
In addition to the state NPDES permitting requirements, some municipalities, through local ordinances, require the E&S Control Plan to be reviewed and approved by the local County Conservation District office prior to construction. For specific information regarding E&S control planning approval and NPDES permitting requirements, please contact your local County Conservation District office.
- ☒ 12. The facilities shall be constructed under the supervision of a Pennsylvania registered Professional Engineer in

accordance with the approved reports, plans and specifications.

- ☒ 13. A Pennsylvania registered Professional Engineer shall certify that construction of the permitted facilities was completed in accordance with the application and design plans submitted to DEP, using "Post Construction Certification" (3800-PM-WSWM0179a). It is the permittee's responsibility to ensure that a Professional Engineer is on-site to provide the necessary oversight and/or inspections to certify the facilities. The certification must be submitted to DEP before the facility is placed in operation. If requested, "as-built" drawings, photographs (if available) and a description of any DEP-approved deviations from the application and design plans must be submitted to DEP within 30 days of certification.
- ☐ 14. Manhole inverts shall be formed to facilitate the flow of the sewage and to prevent the stranding of sewage solids. The manhole structure shall be built to prevent undue infiltration, entrance of street wash or grit and provide safe access to facilitate manhole maintenance activities.
- ☒ 15. The local Waterways Conservation Officer of the Pennsylvania Fish and Boat Commission (PFBC) shall be notified when the construction of any stream crossing and/or outfall is started and completed. A written permit must be secured from the PFBC if the use of explosives in any waterways is required and the permittee shall notify the local Waterways Conservation Officer when explosives are to be used.

#### Operation and Maintenance

- ☒ 16. The permittee shall maintain records of "as-built" plans showing all the treatment facilities as actually constructed together with facility operation and maintenance (O&M) manuals and any other relevant information that may be required. Upon request, the "as-built" plans and O&M manuals shall be filed with DEP.
- ☐ 17. The sewers shall have adequate foundation support as soil conditions require. Trenches shall be back-filled to ensure that sewers will have proper structural stability, with minimum settling and adequate protection against breakage. Concrete used in connection with these sewers shall be protected from damage by water, freezing, drying or other harmful conditions until cured.
- ☐ 18. Stormwater from roofs, foundation drains, basement drains or other sources shall not be admitted directly to the sanitary sewers.
- ☐ 19. The approved sewers shall be maintained in good condition, kept free of deposits by flushing or other cleaning methods and repaired when necessary.
- ☒ 20. The sewerage facilities shall be properly operated and maintained to perform as designed.
- ☒ 21. The attention of the permittee is called to the highly explosive nature of certain gases generated by the digestion of sewage solids when these gases are mixed in proper proportions with air and to the highly toxic character of certain gases arising from such digestion or from sewage in poorly ventilated compartments or sewers. Therefore, at all places throughout the sewerage facilities where hazard of fire, explosion or danger from toxic gases may occur, the permittee shall post conspicuous permanent and legible warnings. The permittee shall instruct all employees concerning the aforesaid hazards, first aid and emergency methods of meeting such hazards and shall make all necessary equipment and material accessible.
- ☒ 22. An operator certified in accordance with the Water and Wastewater Systems Operator Certification Act of February 21, 2002, 63 P.S. §§1001, *et seq.* shall operate the sewage treatment plant.
- ☒ 23. The permittee shall properly control any industrial waste discharged into its sewerage system by regulating the rate and quality of such discharge, requiring necessary pretreatment and excluding industrial waste, if necessary, to protect the integrity or operation of the permittee's sewerage system.
- ☒ 24. There shall be no physical connection between a public water supply system and a sewer or appurtenance to it which would permit the passage of any sewage or polluted water into the potable water supply. No water pipe shall pass through or come in contact with any part of a sewer manhole.
- ☐ 25. All connections to the approved sanitary sewers must be in accordance with the corrective action plan as contained in the approved Title 25 Pa. Code Chapter 94 Municipal Wasteload Management Annual Report.
- ☒ 26. Collected screenings, slurries, sludge and other solids shall be handled and disposed of in compliance with Title 25 Pa. Code Chapters 271, 273, 275, 283 and 285 (related to permits and requirements for land filling, land application, incineration and storage of sewage sludge), Federal Regulations 40 CFR 257 and the Federal Clean Water Act and its amendments.



COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
BUREAU OF WATER STANDARDS AND FACILITY REGULATION

**WATER QUALITY MANAGEMENT  
POST CONSTRUCTION CERTIFICATION**

<b>PERMITTEE IDENTIFIER</b>	
Permittee	DELCORA - Western Regional WWTP
Municipality	City of Chester
County	Delaware
WQM Permit No.	2309408
Facility Type	WWTP
<b>All of the above information should be taken directly from the Water Quality Management Permit.</b>	
<b>CERTIFICATION</b>	
<p>This certification must be completed and returned to the permits section of the DEP's regional office issuing the WQM permit within 30 days of completion of the project and received by DEP prior to operation, and if requested, as-built drawings, photographs (if available) and a discussion of any DEP-approved deviations from the design plans during construction.</p>	
<p>I, being a Registered Professional Engineer in Pennsylvania, do hereby certify to the best of my knowledge and belief, based upon personal observation and interviews, that the above facility approved under the Water Quality Management Permit has been constructed in accordance with the plans, specifications and modifications approved by DEP.</p>	
Construction Completion Date (MM/DD/YYYY): _____	
	<b>Professional Engineer</b>
	Name _____ (Please Print or Type)
	Signature _____
	Date _____
	License Expiration Date _____
	Firm or Agency _____
	Telephone _____
	<b>Permittee or Authorized Representative</b>
	Name _____ (Please Print or Type)
	Signature _____
	Title _____
	Telephone _____

**Delaware River Basin Commission**

25 State Police Drive • PO Box 7360  
West Trenton • New Jersey • 08628-0360



**Project Review**

**NOTICE OF COMMISSION ACTION**

**Date:** September 21, 2011

**Docket No.** D-1992-018 CP-2

**Project Sponsor:** Delaware County Regional Water Quality Control Authority  
Attention: Joseph Salvucci, Executive Director  
P.O. Box 999  
Chester, Pennsylvania 19016-0999

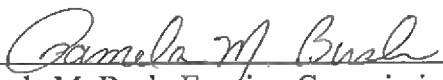
**Project Description:** Delaware County Regional Water Quality Control Authority  
Western Regional Wastewater Treatment Plant  
Trainer Borough, Delaware County, Pennsylvania

**Action by Commission:**

Incorporated in the Commission's *Comprehensive Plan* for the Delaware River Basin and approved pursuant to Section 3.8 of the *Delaware River Basin Compact*. See attached docket for terms and conditions.

**Explanatory Note:**

This action has been taken by the Commission in accordance with its responsibilities under Sections 3.8, 11.1 and 11.2 of the *Delaware River Basin Compact*. The Commission maintains a comprehensive water resources plan for the Delaware River Basin and reviews water resources projects proposed by other public and private agencies. Review of projects enables the Commission to prevent conflicts among water users and to protect the integrity of the *Comprehensive Plan*.

  
Pamela M. Bush, Esquire, Commission Secretary

Enclosure

c: Christine Volkay-Hilditch, P.E., BSCE

**DOCKET NO. D-1992-018 CP-2**

**DELAWARE RIVER BASIN COMMISSION**

**Delaware County Regional Water Quality Control Authority  
Western Regional Wastewater Treatment Plant  
City of Chester, Delaware County, Pennsylvania**

**PROCEEDINGS**

This docket is issued in response to an application submitted to the Delaware River Basin Commission (DRBC or Commission) by the Delaware County Regional Water Quality Control Authority (DELCORA) on June 11, 2009 (Application), as amended on February 5, 2010 and August 5, 2011, for review of a wastewater treatment plant (WWTP) modification and re-rate. The Pennsylvania Department of Environmental Protection (PADEP) issued National Pollutant Discharge Elimination System (NPDES) Permit No. PA0027103 Amendment 2 (A2) on December 4, 2009.

The Application was reviewed for continuation of the project in the Comprehensive Plan and approval under Section 3.8 of the *Delaware River Basin Compact*. The Delaware County Planning Commission has been notified of pending action. A public hearing on this project was held by the DRBC on September 21, 2011.

**A. DESCRIPTION**

1. **Purpose.** The purpose of this docket is to approve the construction of an outfall extension from the existing DELCORA Western Regional WWTP. This docket also approves the re-rate of the WWTP from 44 million gallons per day (mgd) to 50 mgd, effective after the outfall extension has been constructed and is in operation. No modifications to the existing treatment facilities at the WWTP are proposed; however, there are proposed upgrades to the existing sludge handling facilities, designed for 50 mgd.

2. **Location.** The DELCORA WWTP is located adjacent to the Delaware River, approximately one (1) mile south of the Commodore Barry Bridge in the City of Chester, Delaware County, Pennsylvania. The WWTP will continue to discharge treated sewage effluent to Water Quality Zone 4 of the Delaware River at River Mile 80.7.



The project outfall is located in the Delaware River Watershed as follows:

OUTFALL NO.	LATITUDE (N)	LONGITUDE (W)
001 (Existing)	39° 49' 25"	75° 23' 22"
001 (Extension)	39° 49' 21"	75° 23' 18"

### 3. Area Served.

The DELCORA WWTP receives wastewater from residential, commercial, and industrial users located within the municipalities of the City of Chester, Marcus Hook Borough, Nether Providence Township, Brookhaven Borough, Eddystone Borough, Upland Borough, Lower Chichester Township, Trainer Borough, Parkside Borough, Chester Township, Rose Valley Borough, as well as users serviced by the Central Delaware County Authority and the Southern Delaware County Authority sewage collection systems.

The WWTP also receives municipal sludge and residual waste from several municipal treatments plants and industrial users outside the DELCORA WWTP's service area: municipal WWTPs include Little Washington Avenue WWTP (Media, PA), Tinicum Township WWTP (Essington, PA), Rose Valley Borough WWTP (Rose Valley), and Bayside State Prison WWTP (Leesburg, NJ); industrial users include: Irving Textile Products (Atglen, PA), McAdoo & Allen Inc. (Quakertown, PA), Perdue Farms Inc. (Salisbury, MD), and Perfecseal (Philadelphia, PA).

For the purpose of defining the Area Served, the Application is incorporated herein by reference consistent with conditions contained in the Decision section of this docket.

### 4. Physical features.

a. Design criteria The docket holder proposes to construct an outfall extension from the existing WWTP and to hydraulically re-rate the annual average flow of the WWTP from 44 mgd to 50 mgd. There will be no modification to the treatment processes; however, there are proposed upgrades to the existing sludge handling facilities, designed for 50 mgd.

b. Facilities. The DELCORA WWTP treatment processes consist of grit removal/screening, primary settling, secondary biological treatment via return activated sludge, disinfection via chlorine contact, and post-aeration.

The facilities include: two (2) grit/pre-aeration tank chambers, three (3) equalization tanks, eight (8) primary settling tanks, four (4) aeration tanks, five (5) final settling tanks (final clarifiers), one (1) activated sludge pump station, two (2) chlorine contact tanks, four (4) sludge thickening tanks, three (3) belt presses for sludge dewatering, two (2) incinerators, and two (2) post-aeration tanks.

This docket approves the construction of an approximately 445-ft long 72-inch diameter pipe extension to the existing outfall along the bottom of the Delaware River, perpendicular to the channel. The existing WWTP outfall configuration consists of a 45-ft long, 11-ft wide by 6-ft high rectangular concrete culvert connecting the WWTP to an outfall chamber

that is located in a concrete bulkhead on the shoreline of the Delaware River. The outfall chamber features three (3) 42-inch diameter circular openings for discharge from the IWTP to the Delaware River. The invert elevation of the existing openings is -3.0 ft-NGVD. Mean Low Low Water (MLLW) elevation at the WWTP outfall is -1.8' ft-NGVD. The 445-ft long extension will connect to the existing outfall chamber, and feature a reducer (nozzle) at the end of the pipe. The five (5) foot long reducer is six (6) feet in diameter tapering down to 5.7 feet in diameter at the end of the outfall extension. In order to reduce plume interaction with the bottom of the river, the end of the outfall pipe/nozzle will be elevated 5.9 feet above the river bottom, at an invert elevation of -22.6 ft-NGVD. The discharge location is approximately 20 feet deeper than the current outfall. The proposed nozzle will increase the rate of diffusion and mixing of the effluent with the waters of the Delaware River. The docket holder submitted 30-percent design plans of the outfall extension. The final plans and specifications are required to be submitted to DRBC for approval by the Executive Director (see Condition II.1. in the Decision section).

The docket holder proposes to upgrade their sludge thickening facilities, including the replacement of an air flotation thickener and a temporary rotary drum thickener with two (2) new gravity belt thickeners. The upgraded sludge handling facilities are designed for 50 mgd. The docket holder submitted a Water Quality Management (Part II) permit application, Application No. 2311401, to the PADEP, which is currently under review. This docket approves the improvements to the sludge thickening facilities, contingent upon the docket holder obtaining approval from PADEP (See Condition II.a. in the Decision Section).

Incinerated ash is hauled off-site by a licensed hauler for disposal at a State-approved facility.

The project facilities are not in the 100-year floodplain.

c. **Water withdrawals.** The potable water supply in the project service area is provided by the Chester Water Authority, as approved by the DRBC via Docket No. D-1969-060 CP-1 on May 28, 1969.

d. **NPDES Permit / DRBC Docket.** Draft NPDES Permit No. PA0027103-A2, issued by PADEP on December 4, 2009, includes effluent limitations for the project discharges from the WWTP to Delaware River Estuary Zone 4 (Water Quality Zone 4) based on an annual average flow of 44 mgd.

The following average monthly effluent limits are among those listed in the NPDES permit and meet or are more stringent than the effluent requirements of the DRBC and are to be in effect until the proposed outfall is in operation.

**EFFLUENT TABLE A-1:** DRBC parameters included in NPDES permit for existing Outfall No. 001 based on a flow of 44 mgd, to be in effect until the outfall extension goes into operation (See Condition II.d. in the Decision Section).

OUTFALL No. 001 (Existing)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	As required by NPDES permit
Total Suspended Solids	30 mg/l (85% minimum removal)	As required by NPDES permit
Fecal Coliform	200 colonies per 100 ml	As required by NPDES permit
BOD (5-Day at 20° C)*	30 mg/l 85 % removal** 7,000 lbs/day	As required by NPDES permit
CBOD (20-Day at 20° C)*	10,500 lbs/day 89.25 % removal**	As required by NPDES permit
Ammonia Nitrogen	35 mg/l**	As required by NPDES permit
Total Dissolved Solids***	1,000 mg/l**	As required by NPDES permit
Acute WET LC50 Stat 96 hr (P. promelas)	Monitor only	As required by NPDES permit
Acute WET LC50 Stat 48 hr (C. dubia)	Monitor only	As required by NPDES permit
Chronic WET IC25 Statre 7 day (P. promelas)	Monitor only	As required by NPDES permit
Chronic WET IC25 Statre 7 day (C. dubia)	Monitor only	As required by NPDES permit
Copper (Total Recoverable)	Monitor Only	As required by NPDES permit
Zinc	Monitor Only	As required by NPDES permit

\* See Condition II.w. in Decision section

\*\* DRBC requirement

\*\*\* See Condition II.x. in the Decision section

\*\*\*\* After 24 months of monthly sampling, the docket holder may request in writing to the Executive Director to modify the acute toxicity monitoring frequency requirement from monthly to quarterly, and if supported by the data, to limit the monitoring to the most sensitive test species.

**EFFLUENT TABLE A-2:** DRBC parameters not included in NPDES permit for existing Outfall No. 001 based on a flow of 44 mgd, to be in effect until the outfall extension goes into operation (See Condition II.d. in the Decision Section)

OUTFALL No. 001 (Existing)		
PARAMETER	LIMIT	MONITORING
Cadmium	Monitor Only	Monthly
Cyanide	Monitor Only	Monthly

The following average monthly effluent limits are effluent requirements of the DRBC and are to go in effect when the outfall extension is in operation, and are based on an annual average flow of 50 mgd.

**EFFLUENT TABLE A-3: DRBC Parameters for proposed Outfall No. 001 based on a flow of 50 mgd, to go into effect after the new outfall goes into operation (See Condition II.d. in the Decision Section)**

OUTFALL No. 001 (Proposed)		
PARAMETER	LIMIT	MONITORING
pH (Standard Units)	6 to 9 at all times	Daily
Total Suspended Solids	30 mg/l	Daily
Fecal Coliform	200 colonies per 100 ml	Daily
BOD (5-Day at 20° C)	85 % removal	Daily
CBOD (20-Day at 20° C)*	10,500 lbs/day 89.25 % removal	Weekly
Ammonia Nitrogen	35 mg/l **	2/month
Total Dissolved Solids***	1,000 mg/l	2/month
Acute WET Stat 96 hr (P. promelas)	1.6 TUa (Daily Max)	Monthly****
Acute WET Stat 48 hr (C. dubia)	1.6 TUa (Daily Max)	Monthly****
Chronic WET IC25 Statre 7 day (P. promelas)	Monitor Only	Quarterly
Chronic WET IC25 Statre 7 day (C. dubia)	Monitor Only	Quarterly
Copper (Total Recoverable)	53 ug/l (Daily Max)**	Monthly
Cadmium	Monitor Only	Monthly
Zinc	Monitor Only	Monthly
Cyanide	Monitor Only	Monthly

\* See Condition II.w. in the Decision section

\*\* DRBC effluent limit requirement - upon issuance of NPDES permit renewal, more stringent of Ammonia & Copper effluent limits apply (See Condition II.a. in the Decision section)

\*\*\* See Condition II.x. in the Decision section

\*\*\*\* After 24 months of monthly sampling, the docket holder may request in writing to the Executive Director to modify the acute toxicity monitoring frequency requirement from monthly to quarterly, and if supported by the data, to limit the monitoring to the most sensitive test species.

e. **Cost.** The overall cost of this project is estimated to be \$ 2,898,000.

f. **Relationship to the Comprehensive Plan.** The existing WWTP was included in the Comprehensive Plan via Docket No. D-1972-008 CP-1 on February 4, 1973. An upgrade and expansion of the WWTP was approved via Docket No. D-1973-031 CP-1 on February 28, 1973. A second upgrade to the WWTP was approved via Docket No. D-1992-018 CP-1 on April 28, 1993.

## **B. FINDINGS**

This docket approves the construction of an outfall extension from the DELCORA WWTP. This docket also approves the re-rate of the WWTP from 44 mgd to 50 mgd, effective upon the outfall extension going into operation.

The docket holder submitted the Application to re-rate the WWTP from 44 mgd to 50 mgd on June 11, 2009. The Application also included a request to accept wastewater from natural gas projects and an increase in the Total Dissolved Solids (TDS) effluent limit from 1,000 mg/l to 5,000 mg/l. On February 5, 2010, the docket holder amended the Application via letter to the DRBC Executive Director, to withdraw the requests to accept wastewater from natural gas projects and to increase the TDS limit from 1,000 mg/l to 5,000 mg/l. The amended Application included the re-rate from 44 mgd to 50 mgd only.

DRBC Water Quality Regulations (WQR) include stream quality objectives for Zone 4, including criteria to protect the taste and odor of ingested water and fish (Table 4 of WQR), to protect aquatic life (Table 5), and to protect human health (Tables 6 & 7). Toxicity in effluent is measured as Whole Effluent Toxicity (WET), and results from both acute and chronic exposures. The acute toxicity stream quality objective for Zone 4 is 0.3 Toxic Units (TU<sub>a</sub> = 0.3). The chronic toxicity stream quality objective for Zone 4 is 1.0 Toxic Units (TU<sub>c</sub> = 1.0).

The docket holder performed an evaluation of their discharge for compliance with DRBC's acute stream quality objectives in October, 2009, entitled "DELCORA Mixing Zone Analysis" (Report). The results of the Report concluded that, at both the current design flow conditions (44 mgd) and the proposed re-rate design flow conditions (50 mgd), the DELCORA WWTP discharge is unable to meet the acute stream quality objectives for copper and WET contained within Table 5.

The Report concluded that in order to comply with DRBC regulations, DELCORA evaluated the following three (3) alternatives to bring the WWTP discharge into compliance with DRBC regulations: 1) requesting an alternative mixing zone; 2) providing additional source control, including a Toxicity Reduction Evaluation; or 3) modifying the outfall configuration to provide improved mixing. In April, 2010, DRBC advised the docket holder that DRBC staff could not recommend the approval of an alternative mixing zone based on the size and extent of the mixing zone necessary. The docket holder did not pursue an alternative mixing zone. Due to the relative low toxicity in the DELCORA effluent, the docket holder also concluded that performing a Toxics Reduction Evaluation and providing source control was infeasible. The docket holder elected to modify the outfall, submitting a revised evaluation in February, 2011 entitled DELCORA Mixing Zone Analysis Revision A".

On August 5, 2011, the docket holder amended the Application to include the construction of an extension to the existing outfall, including a single outlet reducer (nozzle). The five (5) foot long reducer is six (6) feet in diameter tapering down to 5.7 feet in diameter and is designed to increase the rate of diffusion and mixing of the effluent with the waters of the Delaware River. The discharge location is approximately 20 feet deeper than the current outfall. The extended outfall will be designed to bring the WWTP discharge into compliance with DRBC in-stream water quality requirements both for the existing WWTP, hydraulically rated at 44 mgd,

and the re-rated WWTP, for a hydraulic design rate of 50 mgd. In August, 2011, the docket holder submitted a second revised evaluation entitled "DELCORA Mixing Zone Analysis Revision B" (Report Revision B) that included the preliminary design of the outfall extension. Report Revision B also included evaluations for the proposed diffuser design (see section entitled "Outfall Design Conditions" below).

**Regulatory Mixing Zone (RMZ) and Associated Dilution Factor**

Section 4.20.5.A.1. of the WQR states that:

*"In establishing wasteload allocations and other effluent requirements, exceedances of stream quality objectives for the protection of aquatic life from acute effects may be permitted in small areas near outfall structures, provided that all of the following requirements are met:*

- a. *As a guideline, the dimensions of the area where objectives are exceeded should be limited to the more stringent of the following structures:*
  - 1). *A distance of 50 times the discharge length scale in any direction from the outfall structure, or*
  - 2). *A distance of 5 times the local water depth in any direction from the outfall structure.*
- b. *Stream quality objectives shall not be exceeded in areas designated as critical habitat for fish and benthic organisms.*
- c. *Stream quality objectives shall not be exceeded where effluent flows over exposed benthic habitat prior to mixing with the receiving waters.*
- d. *A zone of passage for free-swimming and drifting organisms equal to 50% of the surface width of the river at the location of the discharge shall be provided.*
- e. *The total surface area of the Delaware River Estuary where stream quality objectives for the protection of aquatic life from acute effects are exceeded shall be limited to: 5% of the total surface area of Zone 2, 3 & 4."*

The discharge length scale referred to in Item a. above is defined in Section 4.20.5.B.2. of the WQR as the square root of the discharge cross-sectional area. The outlet for the nozzle to be installed at the end of the outfall extension is 5.7 feet in diameter. The discharge cross-sectional area of the nozzle is 25.5 ft<sup>2</sup>. The tidally averaged, local water depth in any direction from the outfall structure is 29.0 ft (8.85 meters). The resulting dimensions for the guideline mixing zone, referred to as the regulatory mixing zone, or RMZ, are calculated as the more stringent of:

- 1).  $50 * (\sqrt{25.5}) = 252 \text{ ft (77.0 meters)}$
- or
- 2).  $5 * 29 = 145 \text{ ft (44.3 meters)}$



Therefore, the local water depth is the controlling factor to the dimensions of the RMZ. The RMZ is a radius of 145 ft (44.3 meters) about the end of the nozzle. The total regulatory mixing area for the outfall is 66,052 ft<sup>2</sup> (or 6,165 m<sup>2</sup>) based on a circular area around the outfall; however, the actual predicted plume occupies half this area (the semicircle around the outfall located on the side of the direction of the discharge). DRBC staff concludes that the critical one hour dilution factor of 5.2 to 1 (4.2 parts ambient and 1 part wastewater) will be achieved by the proposed outfall for a flow of 50 mgd at the edge of the RMZ. The critical one hour dilution is the minimum one hour dilution over the tidal cycle, and occurs at the mid-ebb tide during the summer condition.

#### Hydraulic Re-rate Approval

Approval of the hydraulic re-rate of the WWTP from 44 mgd to 50 mgd included in this docket is contingent upon the new outfall being constructed and placed into operation. In accordance with Condition II.l. in the Decision section of this docket, the docket holder must then notify the DRBC after the outfall extension goes into operation and must obtain written approval from the Executive Director prior to increasing the discharge greater than 44 mgd (average annual flow).

#### Outfall Design Conditions

Since the docket holder will be constructing the outfall extension to serve current and expected future needs of the DELCORA WWTP service area, the docket holder had requested that the DRBC review the docket holder's evaluations to establish a dilution factor at the edge of the RMZ for a design flow of 60 mgd, the proposed outfall's hydraulic design flow. These evaluations were included in Report Revision B. DRBC staff reviewed this analysis for informational purposes only. The outfall configuration included in the analysis at 60 mgd is the same outfall configuration approved under this docket (including extension). Since the dimensions of the RMZ are dependent on the outfall configuration, the dimensions of the RMZ for 60 mgd would not change from the evaluation at 50 mgd, unless the local water depth at the time of the future evaluation has changed. The associated dilution factor at the edge of the RMZ for a future build-out flow of 60 mgd under the proposed outfall configuration is 6.1 to 1 (5.1 parts ambient and 1 part wastewater). The dilution factor is greater for the higher flow (60 mgd vs. 50 mgd) due to increased exit velocities achieved from a larger flow over the same nozzle dimensions, resulting in increased mixing at the project discharge location and throughout the RMZ. However, prior to expanding beyond the approved design flow rate of 50 mgd, the docket holder must submit an Application to the DRBC and receive Commission approval for the increased flow.

#### Outfall Design Plans Approval

The docket holder has yet to submit final plan and specifications for the construction of the outfall. This docket includes a condition providing that the Executive Director must approve the plans and specifications for the new outfall construction prior to the construction of the outfall and subsequent re-rating of the WWTP from 44 mgd to 50 mgd (See Condition II.k. in the Decision section).

### CBOD<sub>20</sub> Wasteload Allocation

The Commission's *Water Quality Regulations (WQR)* provide for the allocation of the stream assimilative capacity where waste discharges would otherwise result in exceeding such capacity. It was determined in the late 1960's that discharges to the Delaware Estuary be limited to a total of 322,000 lbs/day of carbonaceous biochemical (first stage) oxygen demand (CBOD<sub>20</sub>). In accordance with the Regulations, the assimilative capacity of each Delaware Estuary zone minus a reserve was originally allocated in 1968 among the individual dischargers based upon the concept of uniform reduction of raw waste in a zone (Zones 2, 3, 4 and 5). The totals and percent reduction for each zone are given in Table 1 of the Commission's *Status of CBOD<sub>20</sub> Wasteload Allocations* (Revised October 1, 2000). The DELCORA WWTP is located in Zone 4 at river mile 80.7. Zone 4 is allocated at 91,000 lbs/day of CBOD<sub>20</sub> and has a minimum percent removal requirement of CBOD<sub>20</sub> of 89.25%. The Commission approved a CBOD<sub>20</sub> allocation for the DELCORA WWTP of 10,500 lbs/day on December 10, 1976. This docket will continue the approval to discharge up to 10,500 lbs/day of CBOD<sub>20</sub>.

### CBOD<sub>20</sub> Monitoring

The docket holder may request to establish a ratio between BOD<sub>5</sub> and CBOD<sub>20</sub> in order to reduce the required monitoring for CBOD<sub>20</sub> contained in the effluent tables in Section A.4.d. of this docket. The docket holder shall submit the request in writing to the Executive Director along with historical influent and effluent data for BOD<sub>5</sub> and CBOD<sub>20</sub> used to establish the ratio. Upon review, the Executive Director may modify the docket to require only BOD<sub>5</sub> monitoring or reduce the CBOD<sub>20</sub> monitoring frequency required within this docket (See Condition II.w. in the Decision Section).

### Notification of DRBC

DELCORA is required to notify the Commission and obtain prior written approval from the Commission for the acceptance of a new waste for treatment and discharge from the DELCORA WWTP. Wastewater from natural gas well drilling, hydraulic fracturing or natural gas production may not be accepted for treatment and disposal. If in the future the docket holder proposes to accept these types of waste streams, the docket holder must apply and obtain approval from the Commission prior to accepting these types of waste streams (See Condition II.o. in the Decision section).

The limits in the NPDES Permit are in compliance with Commission effluent quality requirements, where applicable.

The project is designed to produce a discharge meeting the effluent requirements as set forth in the *Water Quality Regulations* of the DRBC.

The project does not conflict with the Comprehensive Plan and is designed to prevent substantial adverse impact on the water resources related environment, while sustaining the current and future water uses and development of the water resources of the Basin.



**C. DECISION**

I. Effective on the approval date for Docket No. D-1992-018 CP-2 below:

a. The projects described in Docket Nos. D-1972-008 CP-1, D-1973-031CP-1, and D-1992-018 CP-1 are removed from the Comprehensive Plan to the extent that they are not included in Docket No. D-1992-018 CP-2; and

b. Docket Nos. D-1972-008 CP-1, D-1973-031CP-1, and D-1992-018 CP-1 are terminated and replaced by Docket No. D-1992-018 CP-2

c. The project and the appurtenant facilities described in the Section A "Physical Features" of this docket shall be added to the Comprehensive Plan.

II. The project and appurtenant facilities as described in the Section A "Physical features" of this docket are approved pursuant to Section 3.8 of the *Compact*, subject to the following conditions:

a. Docket approval is subject to all conditions, requirements, and limitations imposed by the PADEP in its NPDES permit & Part II permit, and such conditions, requirements, and limitations are incorporated herein, unless they are less stringent than the Commission's. Commission approval of this sludge thickening facilities improvements is contingent on the PADEP's approval of the Part II permit.

b. The facility and operational records shall be available at all times for inspection by the DRBC.

c. The facility shall be operated at all times to comply with the requirements of the *Water Quality Regulations* of the DRBC.

d. The docket holder shall comply with the requirements contained in Effluent Tables A-1 & A-2 in Section A.4.d. of this docket. Upon completion of the construction of the outfall extension approved in this docket, the docket holder shall comply with the requirements contained in Effluent Table A-3 in Section A.4.d. of this docket. The docket holder shall submit the required monitoring results directly to the DRBC Project Review Section. The monitoring results shall be submitted annually, absent any observed limit violations, by January 31. If a DRBC effluent limit is violated, the docket holder shall submit the result(s) to the DRBC within 30 days of the violation(s) and provide a written explanation that states the action(s) the docket holder has taken to correct the violation(s) and protect against any future violations.

e. Except as otherwise authorized by this docket, if the docket holder seeks relief from any limitation based upon a DRBC stream quality standard or minimum treatment requirement, the docket holder shall apply for approval from the Executive Director or for a docket revision in accordance with Section 3.8 of the *Compact* and the *Rules of Practice and Procedure*.

f. If at any time the receiving treatment plant proves unable to produce an effluent that is consistent with the requirements of this docket approval, no further connections shall be permitted until the deficiency is remedied.

g. Nothing herein shall be construed to exempt the docket holder from obtaining all necessary permits and/or approvals from other State, Federal or local government agencies having jurisdiction over this project.

h. The discharge of wastewater shall not increase the ambient temperatures of the receiving waters by more than 5°F above the average 24-hour temperature gradient displayed during the 1961-1966 period, nor shall such discharge result in stream temperatures exceeding 86°F.

i. This docket approves a regulatory mixing zone (RMZ) consisting of a radius of 145 ft (44.3 meters) about the end of the reducer (nozzle) on the outfall extension. The total regulatory mixing area for the outfall is 66,052 ft<sup>2</sup> (or 6,165 m<sup>2</sup>). The dilution factor at the edge of the RMZ is 5.2:1.

j. Sound practices of excavation, backfill and reseedling shall be followed to minimize erosion and deposition of sediment in streams.

k. The docket shall submit final constructions plans and specifications for the proposed outfall extension by December 21, 2011, to be approved by the Executive Director. The docket holder shall construct the outfall extension in accordance with the plans approved by the Executive Director and as described in the Findings section of this docket. Subject to the receipt of all necessary permits and approvals, and assuming no delays beyond DELCORA's control, the construction of the outfall extension shall be completed no later than December 21, 2012. The outfall extension shall be placed in operation by February 21, 2013. Upon approval by the Executive Director, the hydraulic flow rate increase from 44 mgd to 50 mgd is approved and the WWTP is permitted to discharge beyond the annual average flow rate of 44 mgd, and the effluent limits in Effluent Table A-3 shall apply.

l. Within 10 days of the date that construction of the outfall extension has started, the docket holder shall notify the DRBC of the starting date and scheduled completion date. Within 30 calendar days of completion of construction of the outfall extension, the docket holder is to submit to the attention of the Project Review Section of DRBC a Construction Completion Statement ("Statement") signed by the docket holder's professional engineer for the project. The statement must (a) either confirm that construction has been completed in a manner consistent with any and all DRBC-approved plans or explain how the as-built project deviates from such plans; (b) report the project's final construction cost as such cost is defined by the project review fee schedule in effect at the time application was made; and (c) indicate the date on which the project was (or is to be) placed into operation. In the event that the final project cost exceeds the estimated cost used by the applicant to calculate the DRBC project review fee, the statement must also include (d) the amount of any outstanding balance owed for DRBC review. Such outstanding balance will equal the difference between the fee paid the Commission and the fee calculated on the basis of the project's final cost, using the formula and definition of "project cost" set forth in the DRBC's project review fee schedule in effect at the time application was made.

m. This approval of the outfall construction shall expire three years from date of this approval, prior thereto the docket holder has commenced operation of the subject project or

has provided the Executive Director with written notification that is has expended substantial funds (in relation to the cost of the project) in reliance upon this docket approval.

n. The docket holder is permitted to treat and discharge the categories of wastewaters defined in the "Area Served" section of this docket.

o. Wastewater from natural gas well drilling, hydraulic fracturing or natural gas production may not be accepted for treatment and disposal at the DELCORA WWTP. If in the future the docket holder proposes to accept these types of waste streams, the docket holder must apply and obtain approval from the Commission prior to accepting these types of waste streams.

p. The docket holder shall make wastewater discharge in such a manner as to avoid injury or damage to fish, wildlife, and/or other aquatic life and shall avoid any injury to public or private property.

q. No sewer service connections shall be made to newly constructed premises with plumbing fixtures and fittings that do not comply with water conservation performance standards contained in Resolution No. 88-2 (Revision 2).

r. Nothing in this docket approval shall be construed as limiting the authority of DRBC to adopt and apply charges or other fees to this discharge or project.

s. The issuance of this docket approval shall not create any private or proprietary rights in the waters of the Basin, and the Commission reserves the right to amend, suspend or rescind the docket for cause, in order to ensure proper control, use and management of the water resources of the Basin.

t. A complete application for the renewal of this docket, or a notice of intent to cease the operations (withdrawal, discharge, etc.) approved by this docket by the expiration date, must be submitted to the DRBC at least 12 months prior to the expiration date below (unless permission has been granted by the DRBC for submission at a later date), using the appropriate DRBC application form. In the event that a timely and complete application for renewal has been submitted and the DRBC is unable, through no fault of the docket holder, to reissue the docket before the expiration date below, the terms and conditions of this docket will remain fully effective and enforceable against the docket holder pending the grant or denial of the application for docket approval.

u. The Executive Director may modify or suspend this approval or any condition thereof, or require mitigating measures pending additional review, if in the Executive Director's judgment such modification or suspension is required to protect the water resources of the Basin.

v. Any person who objects to a docket decision by the Commission may request a hearing in accordance with Article 6 of the Rules of Practice and Procedure. In accordance with Section 15.1(p) of the Delaware River Basin Compact, cases and controversies arising under the Compact are reviewable in the United States district courts.

w. The docket holder may request of the Executive Director in writing to establish a ratio between  $BOD_5$  and  $CBOD_{20}$  in order to reduce the required monitoring contained within this docket approval. Upon review, the Executive Director may modify the docket to reduce or eliminate the  $CBOD_{20}$  monitoring requirements contained in the effluent tables in Section A.4.d. of this docket.

x. The docket holder may request of the Executive Director in writing the substitution of specific conductance for TDS. The request should include information that supports the effluent specific correlation between TDS and specific conductance. Upon review, the Executive Director may modify the docket to allow the substitution of specific conductance for TDS monitoring.

y. Nothing in this docket constitutes a defense to any penalty action for past conduct of the docket holder.

**BY THE COMMISSION**

**DATE APPROVED** [REDACTED] September 21, 2011

**EXPIRATION DATE** [REDACTED] September 21, 2016