

562

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATERSHED MANAGEMENT

ADOPTED AMENDMENT TO THE TRI-COUNTY WATER QUALITY
MANAGEMENT PLAN

Public Notice

Take notice that on **AUG 12 2002**, 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 Tri-County Water Quality Management Plan was adopted by the Department of Environmental Protection (Department). This amendment, submitted by Harrison Township, establishes a Wastewater Management Plan for Harrison Township, and allows the Township to upgrade and expand its existing treatment plant from 0.4 million gallons per day (mgd) to 0.8 mgd, discharging to the Raccoon Creek. This amendment also involves a 115.42 acre increase in the sewer service area. Adjustments were made to the approved delineation of the sewer service area so that it coincides with existing property lines in the Mullica Hill section of Harrison Township. The previously approved sewer service area bisected several properties. In addition, this amendment creates a new sewer service area of 938.10 acres in the northeast portion of the Township, known as the Richwood section of Harrison Township. This sewer service area will be served by a future wastewater treatment plant that discharges to ground water, with an anticipated flow of 0.980 mgd. Through this amendment, Harrison Township becomes the designated WMP planning agency for the entire township, including those portions of the town outside of the sewer service areas.

This amendment has been evaluated in accordance with Executive Order 109 (2000) and the Water Quality Management Planning Rules at N.J.A.C. 7:15-5.18. A nonpoint source (NPS) pollutant loading water quality analysis has been performed for both the Mullica Hill and Richwood sections of Harrison Township, and it has been determined that there will be no increase in NPS pollution from the proposed change in land use from agricultural to residential and commercial/industrial. Harrison Township has adopted a Riparian Buffer Conservation Zone ordinance to ensure the protection of the riparian zone along all perennial and intermittent streams and all lakes and ponds in the sewer service areas. This conservation zone will extend 75 feet from each defined edge of an identified watercourse or surface water body at bank full flow or the 100 year floodplain, whichever is greater. The Township has also adopted a Stormwater Management Ordinance intended to achieve the objective of no net increase in pollutant load within the sewer service areas. The ordinance mandates use of best management practices (BMPs) compatible with achieving the recharge standard that minimizes changes in the hydrologic response.

The current water supply for Harrison Township is obtained from wells operated by the South Jersey Water Company (SJW Co.), an independent water supply franchise serving Harrison Township. SJW Co. currently operates under an NJDEP Water Allocation

withdrawal permit limit of 325 million gallons per year (mgy). On January 1, 2003, the approved SJW Co. withdrawal from the PRM aquifer will be reduced from 325 mgy to 111.932 mgy. According to the requirements of its NJDEP Bureau of Water Allocation permit, SJW Co. is required to connect to the New Jersey American Water Company (NJAW) water distribution pipeline by December 31, 2002 to compensate for this future reduction in water allocation from the PRM. SJW Co. has entered into an agreement with NJAW to meet the projected future water demand associated with the treatment plant expansion. Under this agreement, NJAW will provide up to 6 million gallons of water per day from the Delaware River through their Delran plant. This water will be combined with the supply from the reduced SJW Co. allocation to account for the overall water needs of Harrison Township. Shifting water supply source to the Delaware River addresses concerns about overutilization of the confined PRM aquifer. Because New Jersey American draws from the Delaware River, reduction in baseflows in the Raccoon Creek watershed is not an issue.

This amendment includes an upgrade and an expansion of the existing Harrison Township sewage treatment plant and, therefore, an antidegradation analysis was required. NJPDES discharge permit limits associated with the expanded flow will require that there be no increase in ammonia loading to the stream, a substantial decrease in phosphorus loading to the stream, and that there be no measurable change in water quality for all remaining parameters of concern with the exception of total dissolved solids (TDS). An increase in the amount of TDS permitted to be discharged to the stream is proposed based upon an alternatives analysis and the socio-economic justification provided to the Department, as well as being contingent upon compliance with the Surface Water Quality Standards at N.J.A.C. 7:9B-1.14 for TDS. In accordance with the SWQS, this increased loading of TDS along with a water quality based Whole Effluent Toxicity (WET) limitation is anticipated to be protective of aquatic biota and other existing or designated uses in the Raccoon Creek.

In an effort to avoid a lowering of water quality, alternatives to the increased TDS concentration were evaluated. One option would involve obtaining water supply from a source other than SJW Co, since the current water supply received from SJW Co. is contributing the majority of the TDS loading. To do this, the Township would need to have all of the water supply within the Mullica Hill sewer service area supplied solely through New Jersey American Water, which does not contain high levels of TDS. This would be impracticable because SJW Co. will provide a mix of the water sources to the entire town, including the Richwood section and septic system areas that do not return wastewater to the Mullica Hill plant.

Another alternative explored was the option of selecting an alternative discharge, so as to infiltrate effluent into the ground and eliminate the additional loading to the stream. This option was deemed infeasible due to the lack of suitable locations to conduct such infiltration in a cost effective manner.

The final alternative considered was to treat the effluent for TDS through a reverse osmosis process. The existing user cost for the Harrison Township sewage treatment

plant is approximately \$375 per household per year. The plant expansion and upgrade will add an additional \$155 per household per year, for a total of \$530 per household per year. The capital cost for the reverse osmosis process is estimated to be between 2.4 and 4.0 million dollars. When combined with operations and maintenance costs, the cost of utilizing reverse osmosis would add an additional \$307 per household per year, which when combined with the \$530 per household per year for the expanded plant, results in a total user cost of \$837 per household per year. These three alternatives were rejected based on a finding of no anticipated environmental impact, and considering the noted feasibility and cost issues.

The Harrison Township treatment plant is currently operating at approximately 80% of the plant capacity, and projects which are already approved and awaiting construction are anticipated to bring the plant to near 100% of the capacity prior to this amendment. This expansion is needed to allow for the construction of 481 units of COAH housing which are required as a result of litigation. These additional COAH units constitute an area of 65.3 acres of the 115.42 acre increase in the Mullica Hill sewer service area, with an anticipated flow of 127,000 gpd, which is approximately one-third of the proposed increase in wastewater flow to the Mullica Hill sewage treatment plant. In addition, this expansion will allow for the elimination of approximately 100 failing septic systems, which would account for approximately 30,000 gpd of the approved increase in flow.

Based on the finding that the increase in TDS from the expanded treatment plant is expected to result in no harmful effects to aquatic biota in the receiving water body, and that the addition of the reverse osmosis would place a significant financial burden on the existing sewer households in Harrison Township, the Department concluded that an increase in loading of TDS should be accepted. The Harrison Township sewage treatment plant will also be required to conduct Whole Effluent Toxicity (WET) tests at an increased frequency. This new requirement will be incorporated into the new or modified permit for the expanded facility and will additionally ensure protection of the aquatic biota in the receiving water. If the Department determines that TDS is having a detrimental impact on the biotic community or existing/designated uses of the receiving stream, the Department may require the facility to take corrective actions.

Protection of groundwater quality with respect to the future Richwood wastewater treatment plant will be handled through the NJPDES permit required for the proposed discharge to groundwater.

The remainder of the Township is designated for wastewater management via discharge to groundwater less than 2,000 gpd. A determination was not made regarding the suitability of the existing zoning to be protective of ground water quality. Therefore, development that will occur in the non-sewer service area portions of Harrison Township will be subject to all applicable Water Quality Management Planning requirements.

This amendment proposal was noticed in the New Jersey Register on May 6, 2002 (34 N.J.R. 1747(a)), and a nonadversarial public hearing was held on June 10, 2002 at the Harrison Township Municipal Building located at 114 Bridgeton Pike, Mullica Hill, New

Jersey 08062. Five commenters were heard at the public hearing, and one additional comment letter was received during the open comment period.

The following persons submitted written comments and/or made oral comments during the June 10, 2002 public meeting:

1. Carole Brodtkin, President of the Federation of Gloucester County Watersheds
2. Donald Kirchhoffer, Trustee of the Federation of Gloucester County Watersheds and Project Manager for the New Jersey Conservation Foundation
3. David Oberlander, Esq., Flaster Greenberg, commenting on behalf of Court Limited Partnership and CBD Development
4. Richard Thomas, 15 Orchard Drive, Mullica Hill, New Jersey
5. Carolyn Uliase, 100 Ashley Court, Mullica Hill, New Jersey
6. David N. Kinsey, Kinsey and Hand, on behalf of the Leigh Court LTD Partnership and CBD Development

The comments submitted and the Department's responses are summarized below. The number(s) in parentheses after each comment identifies the respective commenter(s) listed above.

1. COMMENT: The Raccoon Creek Watershed is home to a diversity of plants and animals, including endangered and threatened species. The water quality continues to deteriorate as the population in the area grows. A preliminary report issued by the Delaware Valley Regional Planning Commission in October 2001 shows that out of the seven biological monitoring sites located along the Raccoon Creek, four show significant loss in ambient biological condition. Three of those four are now listed as severely impaired and the fourth went from non-impaired to moderately impaired. (4)

RESPONSE: Biological monitoring is only one indicator of water quality and impairment can be caused by changes in the stream environment not related to pollutants. Habitat modification resulting from changes in hydrologic patterns is commonly responsible for impairments noted in the biological community. In the Raccoon Creek watershed, the most recent NJDEP Ambient Biological Monitoring Network (AMNET) data does indicate that there has been a decline in the biological ranking at 4 of the 7 monitoring locations. However, the location of the sites with declining ranking do not correlate with effects likely to be attributable to the treatment facility. Two AMNET sites are located downstream of the Mullica Hill Sewage Treatment Plant (STP). The site closest to the STP showed no change, continuing to be moderately impaired. The other site, which showed a decline, is located downstream of the confluence of a tributary to the Raccoon Creek which has a site that also showed a decline. It is more probable that the decline in the mainstem site is related to the decline noted in the tributary. Other sites which

registered a decline are located outside the influences of the STP. One is located upstream of the STP and two are located on separate tributaries to the Raccoon Creek. The remaining monitoring site is located on the main stem of the Raccoon Creek, directly upstream of the treatment plant and remained classified as moderately impaired.

Further, with respect to the increased discharge from the treatment plant, an antidegradation analysis was required as part of the review of this amendment request. This analysis indicated that there would be no measurable change in most parameters as a result of the upgrade and expansion of the STP, a reduction in phosphorus, and an increase in TDS. Based on the finding that the increase in TDS from the expanded treatment plant is expected to result in no harmful effects to aquatic biota in the Raccoon Creek, the Department has concluded that the proposed discharge is consistent with environmental objectives.

Restoration of ecosystem health is one of the main goals of the watershed management programs of the Department. Measures are being implemented and continue to be developed to control nonpoint sources of pollution and minimize changes in hydrologic response from new development. Causes of existing impairments are being identified and strategies, including TMDLs, are being developed to remedy these impairments.

2. COMMENT: In 1997, the Governors of New Jersey, Pennsylvania and Delaware issued a joint statement urging those who control the permitting process to seek out and utilize larger regional facilities for water treatment. It was recognized that these larger facilities have inherent operating cost advantages over smaller municipal facilities, and that larger facilities would discharge into larger bodies of water allowing for a greater assimilation of pollutants. And while the proposed treatment facilities will not increase pollutants, use of a regional facility would provide an opportunity to remove the pollutants entirely from the watershed. (4)

RESPONSE: The Department's role in this amendment process is to ensure that water quality standards are achieved. This will be accomplished through the requirements of the proposed NJPDES permit for this facility. Since the option presented in this amendment met the desired environmental objectives, the connection of Harrison Township to a regional wastewater treatment facility was not considered as an option during this plan amendment process. The Gloucester County Utilities Authority (GCUA), the regional wastewater treatment facility in the area, would be unable to accept the additional flow generated by Harrison Township without requiring an expansion to their existing treatment plant. The costs associated with expansion of the GCUA STP and construction of conveyance facilities were not determined. Because the options for achieving water quality requirements were met, the Department did not require consideration of this option. Had this option not been deemed viable, other alternatives would have been explored more thoroughly. In addition, the GCUA treatment plant discharges directly to the Delaware River, and therefore the connection of the Mullica Hill STP to GCUA's treatment facility would result in decreased stream flows in the Raccoon Creek. Such drops in stream flow could have a serious impact on aquatic life in the stream, the effects of which would need to be further examined.

3. COMMENT: In August of 2000, the Federation of Gloucester County Watersheds presented a petition to the State Planning Commission requesting the State Plan Map for Harrison Township be changed. The request involves changing the Planning Area for the Richwood section of Harrison Township from PA-3 to PA-4. If the Richwood section were in PA-4, it is unlikely that this proposed amendment would be approved by DEP, or that any State funds would be made available to offset the cost of the proposed expansion. The Federation urges the State to delay any action on this proposal until after the State Planning Commission has ruled on the Federation's petition. (2)

RESPONSE: According to the GIS coverage of the State Development and Redevelopment Plan, Planning Area Map: 2001, the Richwood section of Harrison Township is located in PA-2, not PA-3 as stated in comment 3 above. Furthermore, the Richwood section of Harrison Township is adjacent to, and shares a boarder with, the town of Glassboro which is identified as a PA-1, redevelopment zone. It should be noted that sections of the Township in the Mullica Hill service area are located in PA-3. ←

The proposed wastewater management strategy for the Richwood section of Harrison Township was evaluated in accordance with EO 109. As detailed earlier in this amendment notice, all environmental objectives have been met with regard to the identified areas of concern, which included nonpoint source pollution loading, riparian buffer and water use issues.

4. COMMENT: Although this proposal was reviewed against the requirements of Executive Order 109 under the Whitman administration, shouldn't it also be tested against Executive Order 4 of the current administration, which would require that the provisions of the State Plan be taken into consideration? (2)

RESPONSE: Executive Order 4 created the Smart Growth Policy Council in the Office of the Governor. The Council was given various responsibilities, including development of procedures and programs to assure that State agency functional plans, programs, and projects are consistent with and serve the principles of smart growth and implement the State Plan. The Council is also empowered to make recommendations for legislative and administrative changes to advance the principles of smart growth and the State Plan. The Council's efforts are ongoing, and the Department will continue to work with the Council to develop and implement recommendations that are consistent with and serve the principles of smart growth and implement the State Plan. Executive Order 4 also requires that, prior to the adoption, amendment or repeal of any rule adopted pursuant to Section 4(a) of the Administrative Procedure Act, each State agency must include a Smart Growth Impact Statement that describes the impact of the proposed rule on the achievement of smart growth and implementation of the State Plan. Amendments to Areawide Water Quality Management Plans are processed under the Water Quality Planning Act and implementing rules at N.J.A.C. 7:15-3.4. While this plan amendment is not subject to the Smart Growth Impact Statement requirement, the Department supports the concepts of Smart Growth and the State Plan.

5. COMMENT: The proposal tends to look at the two portions of the project (new sewer service area in Richwood section and the Mullica Hill treatment expansion) as two spot permits instead of considering them as part of an overall project which impacts the headwaters of the Raccoon Creek. "Spot planning" such as this is not in the best interest of the citizens that live in the Raccoon Creek Watershed. (1)

RESPONSE: This WMP application focuses on the areas currently in need of centralized wastewater management. Expediting the amendment process with this focus allows Harrison Township to address COAH obligations and to take advantage of the financing available to the Township through the Environmental Infrastructure Financing program.

The environmental analyses completed for this amendment adequately demonstrate that all applicable environmental objectives have been met, as detailed earlier in this amendment notice. Future development in the service areas will be subject to the requirements of the Riparian Buffer ordinance and the Stormwater Management ordinance adopted by Harrison Township as part of this amendment process.

6. COMMENT: The expansion of the sewer service area which runs predominately south along Route 77 is an extreme manner in which to solve the problem of failing septic systems in the Mullica Hill section of Harrison Township. Other options would include extension to older homes that are experiencing failures in their septic systems, and financial aid for those homeowners in need of assistance in properly repairing this problem. The issue of failing septic systems is poor justification for doubling the size of the treatment plant. (1)

RESPONSE: The issue of failing septic systems in the Mullica Hill section of Harrison Township is one reason for the expansion of the Mullica Hill treatment plant and its service area. The township has reported approximately 100 failing septic systems which when connected to the treatment plant will account for approximately 30,000 gpd of the expanded flow. Septic system failure is a situation that needs to be addressed, and the elimination of these systems through connection to the Mullica Hill treatment plant is a feasible solution. However, the failure of these septic systems is not the sole reason for the increase. In addition to the connection of these existing systems, the expansion also allows for the construction of 481 units of COAH housing which are required as a result of litigation. These additional COAH units constitute an anticipated flow of 127,000 gpd, which is approximately one-third of the proposed increase in wastewater flow to the Mullica Hill sewage treatment plant. When combined with the flow to be generated by the areas of septic system failure, the total flow for these two elements is 0.157 mgd, of the overall 0.4 mgd expansion.

7. COMMENT: Why have potential dissolved solids gone up so substantially and is there a way in which this could be solved? Has beneficial reuse of the effluent been considered as a means to reduce the solids going into the streams? And is there funding available for beneficial reuse? Also, has there been an assessment of the possibility of treating the total dissolved solids (TDS)? (1)

RESPONSE: There is a currently pending application to renew the permit for the Harrison Township STP. The proposed limits have been determined to be consistent with protection of the aquatic biota. Further, the proposed renewal permit is imposing a monitoring requirement for TDS during the time period in which the plant is being upgraded and expanded and is imposing a limit for TDS once the upgraded plant begins operation at the new flow. Data submitted by the permittee in a May 1999 "Impact Analysis of a Wastewater Discharge on the Quality of Raccoon Creek" contains effluent data for TDS and reports an average of 830.8 mg/L in the effluent. With the increased treatment which will be part of the STP expansion and upgrade, the effluent limitation in the permit of 962 mg/L will ensure that there is no substantial increase in TDS discharged to the receiving waters when compared to the 830.8 mg/L average. The final effluent limitation of 962 mg/L will also ensure that the facility's effluent will be in compliance with the 500 mg/L in-stream New Jersey Surface Water Quality Standard (NJSWQS) at N.J.A.C. 7:9B-1.14.

Alternatives to increasing TDS concentrations in the receiving waters were analyzed by the permittee, as detailed earlier in this adoption notice. Beneficial reuse of the facility's effluent, as suggested in Comment # 7 was not feasible in this case due to the lack of suitable locations to conduct such reuse in a cost effective manner. The Department supports the beneficial reuse of treated effluent and would encourage the applicant to pursue this if a feasible option were to arise in the future.

The only available treatment to reduce TDS in the effluent is a reverse osmosis process. The permittee analyzed what the user cost after installation and operation of this treatment would be. The final user cost after adding the additional \$307 needed for the treatment to the existing cost of \$530 for the expansion is \$837. The Department has determined that, because the small increase in the TDS loading to the receiving stream would not impact aquatic biota and the addition of reverse osmosis would place a significant financial burden on the existing sewerage households of Harrison Township, the proposed increase in pollutant discharge is acceptable.

8. COMMENT: The construction of 162 units of residential housing in Harrison Township is included as part of a Mount Laurel Obligation settlement agreement between Leigh Court LTD Partnership/CBD Development and Harrison Township. The approval of this amendment will enable Harrison Township to fulfill its Mount Laurel obligation. The expansion of the Mullica Hill treatment area and the expansion of the Mullica Hill treatment plant are crucially necessary to construct these units. The Township's assistance with this is mandated by the Court of Approved Settlement Agreement. It is hoped that the DEP will give all necessary approvals to proceed with this as soon as possible. (3)

RESPONSE: The Department acknowledges the commenter's support of the amendment which will allow for the construction of 162 units of the 481 units of COAH housing approved by this amendment.

9. COMMENT: Will the proposed permit for the expansion of the Harrison Township Mullica Hill Treatment Plant deal with the issue of odor control?

RESPONSE: The Department understands the concern for odor at the facility. The proposed treatment plant will incorporate an odor control system that will address the odor concerns.

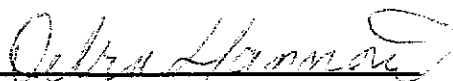
10. COMMENT: The proposed expansion of the Mullica Hill service area is an important component of the Township's compliance with its constitutional housing obligation under the Mount Laurel doctrine and should be approved promptly by the Department. (6)

RESPONSE: The Department acknowledges the commenter's support of the proposed project.

11. COMMENT: Map #4 (Zoning Map) of the proposed Harrison Township Wastewater Management Plan (last revised June 2001) should be revised to include the accurate zoning for the Leigh Court parcel. The current version of Map #4 shows this 55.37 acre parcel in R-1 zone. However, it is now in the R-7 zone. (6)

RESPONSE: All mapping and other documentation submitted as part of a Wastewater Management Plan should reflect the most accurate information available. Therefore, the Department will request revised copies of the Harrison Township Zoning Map (Map #4) from the applicant.

This amendment represents only one part of the permit process and other issues may need to be addressed prior to final permit issuance. Additional issues which may need to be addressed may include, but are not limited to, the following: 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.


Debra Hammond, Acting Director
Watershed Management
Department of Environmental Protection

AUG 12 2002

Date

