PINELANDS COMMISSION

Pinelands Comprehensive Management Plan

Water Quality; Pilot Program for Alternate Design Wastewater Treatment Systems

Proposed Amendments: N.J.A.C. 7:50-2.11, 6.84, 10.21-10.23

Authorized By:

_____ ___/___/___
New Jersey Pinelands Commission,
John C. Stokes, Executive Director

Authority: N.J.S.A. 13:18A-6j

Calendar Reference: See Summary below for explanation of exception to calendar requirement

Proposal Number:

A **public hearing** concerning this proposal will be held on:

July 15, 2010 at 7:00 P.M.
Richard J. Sullivan Center
15C Springfield Road
New Lisbon, New Jersey

Submit written comments by regular mail, facsimile or e-mail by August 6, 2010 to:

Susan R. Grogan, P.P., AICP
Chief Planner
Pinelands Commission
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The name and mailing address of the commenter must be submitted with all public comments.

The agency proposal follows:

Summary

The New Jersey Pinelands Commission proposes to amend subchapters 2, Interpretations and Definitions, 6, Management Programs and Minimum Standards, and 10, Pilot Programs of the Pinelands Comprehensive Management Plan (CMP). The Pinelands CMP has been guiding land use and development activities in the Pinelands since it took effect on January 14, 1981. Since that time, the CMP has been amended a number of times, most recently in June of 2010 through a set of amendments relating to long-term septic management, published elsewhere in this issue of the New Jersey Register.

The amendments now being proposed by the Commission relate to the Pilot Program for Alternate Design Wastewater Treatment Systems.

In 2000, the Pinelands Commission formed a special Ad Hoc Septic System Committee to research alternate septic system technologies that might better meet the water quality standards of the Comprehensive Management Plan (N.J.A.C. 7:50-6, Part VIII) for residential development on lots smaller than 3.2 acres, where such lots were already authorized pursuant to N.J.A.C. 7:50-5. In its research efforts, the Committee consulted wastewater engineering professionals, state and regional on-site technology demonstration projects, alternate treatment system technology manufacturers, Pinelands Area county health departments and other state and local agencies. Based on this research, the Committee identified five technologies that it determined could be expected to meet Pinelands water quality standards for residential

development on lots smaller than 3.2 acres in size. The identified technologies were the Amphidrome, Ashco RFS^{III}, Cromaglass, Bioclere and FAST treatment systems. Based upon nitrogen removal expectations and the Pinelands Septic Dilution Model, the Committee concluded the Amphidrome, Cromaglass, Bioclere and FAST systems could be permitted on lots of at least one acre and that the Ashco RFS^{III} system could be allowed on residential lots of at least 1.5 acres. All of the identified systems utilize proven biological nutrient removal processes to reduce nitrogen levels in treated wastewater. The water quality requirements of N.J.A.C. 7:50-6, Part VIII**,** include provisions which are aimed at controlling the amount of nitrogen that enters the environment because nitrogen itself is a significant pollutant and because it often serves as an indicator of changes in overall water quality.

The Ad Hoc Septic System Committee unanimously recommended that an interim program be developed for the approval, installation and monitoring of the five identified wastewater treatment technologies and that the interim program include conditions and safeguards to govern their use. To implement these recommendations, the Pinelands Commission adopted a set of amendments to the Comprehensive Management Plan which authorized the use of the technologies through the establishment of the Alternate Design Treatment Systems Pilot Program (see 34 N.J.R. 2804(b)). These Comprehensive Management Plan amendments, which took effect on August 5, 2002, are codified at N.J.A.C. 7:50-10, Part IV. The Pilot Program was implemented to provide a means to test whether the five identified technologies could be maintained and operated so as to meet the water quality standards of the Comprehensive Management Plan in a manner that a homeowner can be reasonably expected to follow.

Implementation of the Pilot Program commenced on August 5, 2002. Applications for unsewered residential development on lots smaller than 3.2 acres, received by the Commission

after that date, were required to use a pilot program treatment system. Completed applications received by the Commission prior to August 5, 2002 were permitted to use a pressure dosing septic system, provided the installation of that pressure dosing system was completed by August 5, 2004. Pursuant to N.J.A.C. 7:50-10.22(a)1, use of the pilot program systems was originally permitted only in those Pinelands municipalities which had adopted ordinances to reflect the standards and requirements of the Pilot Program. Although most municipalities did adopt ordinances to permit use of the pilot program systems, several did not. This led to situations where owners of unsewered parcels under 3.2 acres in size were denied the ability to develop those parcels in a manner consistent with all other municipal land use and environmental standards. To address the hardship imposed upon landowners impacted by those Pinelands Area municipalities which did not to adopt ordinances allowing for the installation of the pilot program systems, the Commission amended N.J.A.C. 7:50-10.22(a) to authorize the use of alternate design systems in all Pinelands municipalities for the duration of the pilot program, whether or not all of the standards of the program have been reflected in a municipal ordinance. (See 39 N.J.R. 5077(b))

Prior to each technology's being certified for use in the Pinelands by the Commission's Executive Director, the manufacturers were required to provide the Commission with detailed engineering plans and specifications for the technologies, a description of an alarm system to alert offsite maintenance personnel of a system malfunction, a monitoring protocol for the sampling and analysis of effluent samples and sample system warranties, maintenance contracts, deed notices and operation and maintenance manuals. Each pilot program treatment system is required to be covered under a five year comprehensive parts and labor warranty and a five year operation and maintenance contract. The Pilot Program also requires quarterly sampling and

analysis of treated effluent during the initial three years of operation for each system. Based upon a review of the submitted documents, the Executive Director certified the Ashco RFS^{III} gravity system on May 15, 2003, the Ashco RFS^{III} gravity dosing system on July 24, 2003, the Amphidrome system on July 24, 2003, the Bioclere system on November 18, 2003, the Cromaglass system on December 29, 2004 and the FAST system on June 9, 2005. The first pilot program treatment system was installed and brought on line in April of 2004.

N.J.A.C. 7:50-10.23 of the Comprehensive Management Plan requires that the Executive Director review the Alternate Design Treatment Systems Pilot Program periodically and report the findings of that evaluation to the Pinelands Commission in a program implementation report. The criteria by which the Pilot Program is periodically evaluated are set forth at N.J.A.C. 7:50-10.23(b)1 through 6. The Executive Director has issued two program implementation reports to date. Links to both reports may be found on the Commission's web site at www.nj.gov/pinelands.

The first evaluation of the pilot program was completed in November 2006. In the November 2006 implementation report, the Executive Director determined that insufficient data was available to render a determination regarding any of treatment technologies and recommended that the pilot program be extended by an additional three years to allow for the collection of additional data.

The second evaluation of the pilot program was completed in November 2009. In the November 2009 implementation report, the Executive Director recommended that the Amphidrome and Bioclere treatment technologies be granted permanent approval status, subject to special administrative controls, that the pilot program be extended for the Cromaglass and FAST treatment technologies by an additional three years (through August 2013) to allow for the

collection and analysis of additional data from these technologies, and that the pilot program be expanded to permit additional prescreened technologies to participate in the pilot program through August 2016.

The November 2009 report states that a total of 178 pilot program systems were installed and activated in 24 different Pinelands Area municipalities during the period April 2004 through August 2009. The installed systems include Amphidrome, Bioclere, Cromaglass and FAST treatment systems. There have been no Ashco RFS^{III} treatment systems installed in the Pinelands Area and the manufacturer of the Ashco RFS^{III} treatment system has reported that it does not intend to supply treatment units to the Pinelands Area, due to shipping costs. In response, the Commission adopted amendments to the CMP, effective December 3, 2007, to remove the Ashco RFS^{III} treatment system from the pilot program. (see 39 NJR 5077(b))

In the latest implementation report, the Executive Director concluded and the Commission agreed that the pilot program has successfully demonstrated that advanced treatment technologies are currently available for residential use and that these technologies can achieve substantial compliance with the purposes and objectives of the Pinelands Protection Act, the Federal Act and the CMP. Specifically, the Executive Director and the Commission have found that the pilot program has demonstrated that the Amphidrome and Bioclere treatment technologies, with proper operation and maintenance, are capable of meeting the water quality objectives of the Pinelands CMP and the Pinelands Protection Act when used to serve residential development on minimum one acre parcels. Based upon a recommendation from the Executive Director, the Commission is proposing to amend the CMP to authorize the use of the Amphidrome and Bioclere technologies on a permanent basis, subject to long term management of the technologies via service contracts with qualified service technicians.

The Executive Director has recommended and the Commission has agreed that it is advantageous to maintain the current suspension on new Cromaglass installations, imposed on November 5, 2006 due to substandard nitrogen attenuation, to permit the Cromaglass Corporation to continue to participate in the pilot program, provided it continues to research the basis for substandard performance of the existing treatment systems and implements corrective measures in those systems as needed to attain conformance with the Commission's groundwater quality standards.

The Executive Director recommended and the Commission agreed that insufficient data currently exists from which to draw a definitive conclusion regarding the FAST technology's ability to meet the water quality standards of the CMP.

The Commission is now proposing a series of amendments to the Comprehensive Management Plan to extend and revise the Pilot Program in response to the findings and recommendations set forth in the 2009 implementation report. These proposed amendments, as well as the Executive Director's November 2009 implementation report, were the subject of discussion at two public meetings in January 2010, leading up to the March 29, 2010 Pinelands Commission public meeting at which the amendments were formally proposed. All of the input which the Commission received at these public meetings was in support of the amendments. The proposed amendments are more fully described below.

First, the definition of "alternate design pilot program treatment system" at N.J.A.C. 7:50-2.11 is being amended to reflect the release of the Amphidrome and Bioclere systems from the pilot program. These two systems are being deleted from the definition. In addition, the definition is being amended to recognize the potential for new technologies to be approved by the Commission for participation in the pilot program.

Next, N.J.A.C. 7:50-6.84(a)5iv(1) is being amended to reflect the removal of the RUCK septic system technology as a means to reduce total nitrogen in residential wastewater as no applications for the use of the RUCK system have been submitted to the Commission since at least the start of the pilot program in August 2002. N.J.A.C. 7:50-6.84(a)5iv(1) will now identify the circumstances under which the Commission previously authorized the use of a pressure dosing septic systems to meet the water quality standards of the CMP, previously provided at N.J.A.C. 7:50-6.84(a)5(2). While the use of pressure dosing septic system as a means for new development to achieve compliance with the water quality standards of the CMP expired effective August 5, 2005, pressure dosing septic systems are still authorized for use in the Pinelands pursuant to the provisions of N.J.A.C 7:9A, provided they are used to serve residential development on minimum 3.2 acres parcels, and non-residential development on appropriately sized parcels and that no nitrogen attenuation is attributed to their use.

A new subsection N.J.A.C. 7:50-6.84(a)5iv(2) is being added to reflect the release of the Amphidrome and Bioclere treatment technologies from the pilot program and to authorize their permanent use to serve residential development of minimum one acre parcels in the Pinelands Area. Use of these two systems will be subject to a series of requirements, including mandatory recording of deed notices, conveyance of an approved operation and maintenance manual to the homeowner, compliance with construction standards, as-built certifications, alarm requirements, system warranty requirements and renewable operation and maintenance service agreements. These requirements, now set forth as proposed N.J.A.C. 7:50-6.84(a)5iv(2)(B) through (H), are similar to those imposed under the pilot program except that no water quality testing is required.. The Commission believes the retention of these safeguards for the two permanently authorized systems (Amphidrome and Bioclere) is necessary to ensure their continued performance in a

manner which meets CMP water quality standards. N.J.A.C 7:50-6.84(a)5iv(2)(I) has been added to clarify that the permanent approval status being granted to the Amphidrome and Bioclere treatment technologies does not pertain to non-residential development. This is due to the highly variable nature of wastewater discharged from such development and the lack of data demonstrating a particular efficiency of these technologies to treat wastewater from the broad array of non-residential uses. The rule proposal does however, provide for the opportunity for these technologies to be used to serve non-residential development , provided such proposed use is evaluated on a case by case basis pursuant to N.J.A.C. 7:50-6.84(a)

N.J.A.C. 7:50-10.21(b) is being amended to remove all references to the RUCK wastewater treatment system from the description of the pilot program as RUCK systems will no longer be authorized pursuant to the amendments being proposed at N.J.A.C. 7:50-6.84(a)5iv(1).

N.J.A.C 7:50-10.21(c) is being amended to reflect the Commission's decision to authorize the Amphidrome and Bioclere treatment technologies to be used on a permanent basis, subject to the provisions of proposed N.J.A.C 7:50-6.84(a)5iv(2). Amendments to this section also reflect the Commission's decision to provide an opportunity for expansion of the pilot program to include certain residential nutrient reducing onsite wastewater treatment technologies that have attained verification and/or certification through the United States Environmental Protection Agency's Environmental Technology Verification (USEPA ETV) Program or the National Sanitation Foundation / American National Standards Institute (NSF/ANSI) Standard 245 nutrient reduction testing program. Details on the USEPA ETV Program may be found on the Environmental Protection Agency's website at: http://www.epa.gov/etv/vt-wqp.html#dwtt and http://www.epa.gov/etv/pubs/600s07004.pdf. Details on the NSF/ANSI Standard 245 testing program may be found on the National Sanitation Foundation's website at:

http://www.nsf.org/business/wastewater_certification/standards.asp?program=WastewaterCer#245, http://www.epa.gov/etv/vt-wqp.html#dwtt.

N.J.A.C 7:50-7:50-10.21(d) is being amended to indicate that the Alternate Design Waste Water Treatment Systems Pilot Program will be used to test whether specifically authorized alternative treatment technologies can be maintained and operated in a manner that meets the water quality standards contained in N.J.A.C. 7:50-6, Part VIII of the CMP.

N.J.A.C. 7:50-10.22(a)2i is being amended to require manufacturers of new pilot program systems seeking to participate in the Alternate Design Treatment Systems Pilot Program to provide the Executive Director with detailed specifications and engineering designs including record documents submitted for USEPA ETV and/or NSF/ANSI Standard 245 verification / certification.

The monitoring protocol requirements at N.J.A.C 7:50-10.22(a)2iii are being amended to clarify that the total nitrogen concentration shall be calculated by taking the sum of nitrate-nitrogen, nitrite-nitrogen and total kjeldahl nitrogen from samples collected during a common sampling date. Laboratory results that indicate total ammonia-nitrogen concentrations are in excess of total kjeldahl nitrogen concentrations will not be accepted by the Commission. In such cases, re-sampling for all parameters will be required. These amendments are being proposed to codify the methodology used by the Commission, since the inception of the pilot program, to calculate total nitrogen concentrations in treated wastewater. This total nitrogen calculation methodology is consistent with standard industry practice. The amendment also proposes to require re-sampling of wastewater when laboratory results indicate that ammonia-nitrogen concentrations exceed total kjeldahl nitrogen concentrations. This amendment is intended to address past instances in which laboratory results have reported ammonia-nitrogen

concentrations to be in excess of total kjeldahl nitrogen concentrations. Because total kjeldahl nitrogen is the sum of organic nitrogen and ammonia nitrogen, the concentration of ammonia-nitrogen can equal, but not exceed that of total kjeldahl nitrogen. Said another way, because ammonia nitrogen is a subset or component of total kjeldahl nitrogen, the subset cannot be greater that the whole. Required re-sampling for all parameters is being proposed because total nitrogen is reported as the sum of the individual nitrogen species concentrations present in a grab sample. It would be inaccurate to add individual nitrogen species values from sampling events that did not occur simultaneously. Lastly, the Commission has proposed to eliminate the requirement to test for chlorides because the chloride concentration is not used in determining the ability of a pilot program technology to meet the water quality standards of the CMP.

N.J.A.C. 7:50-10.22(a)3 is being amended to reflect the release of the Amphidrome and Bioclere technologies from the pilot program. This section is also being amended to specify that each USEPA ETV or NSF/ANSI Standard 245 technology approved by the Commission for participation in the pilot program must be located on a parcel large enough to comply with CMP water quality standards.

N.J.A.C. 7:50-10.22(a)4 is being amended to permit continued installation of the Cromaglass and FAST pilot program systems through August 5, 2013. Currently, installation of the systems is permitted only until August 5, 2010. The three year extension will provide an opportunity for new installations of the FAST treatment system and additional time for the Cromaglass Corporation to work on improvements to the existing Cromaglass units currently operating in the Pinelands Area. This program extension will permit Commission staff to review additional effluent monitoring data for both technologies prior to the Commission's making a final determination of the ability of these treatment technologies to meet Pinelands water quality

standards. This section is also being amended to permit the installation of USEPA ETV or NSF/ANSI Standard 245 technologies, approved by the Commission for participation in the pilot program, until August 5, 2016.

N.J.A.C 7:50-10.22(a)5 is being amended through the addition of subsection ii. to authorize the Executive Director to impose an immediate suspension on all new installations of a technology or technologies that are not adhering to the requirements of the pilot program or is not meeting CMP water quality standards. Currently, this section acknowledged the process by which the Commission may address individual development applications proposing to use such technologies but does not expressly recognize the need for suspension of a technology when significant issues have been identified. The suspension would remain in place until such time as the manufacturer or its agent remedies substandard performance or other problems associated with the technology's use. In such instances, the Executive Director shall publish notice of such action in the New Jersey Register within 60 days of imposing such a suspension.

A new N.J.A.C 7:50-10.22(a)6vi is being added to codify existing administrative practices whereby certain specified documents must be received and approved by Commission staff and Commission staff must authorize the use of the alternative treatment system prior to the local board of health's issuance of a certificate of compliance or similar document authorizing occupancy of the development and use of the alternative treatment system.

N.J.A.C. 7:50-10.22(a)6xi (previously (a)6x) is being amended to specify the dates on which reports from the manufacturers of the alternate treatment systems participating in the pilot program must be submitted to the Commission's Executive Director. These reports must include the number of installed systems, a discussion of any installation problems and solutions, analysis of monitoring results and a discussion of various operation and maintenance issues. Previously,

this section required the submission of reports by July 5 of each year and every six months thereafter. Because the Executive Director is required to provide the Commission with an annual report on the pilot program no later than August 5 of each year, the July 5th reporting deadline for has proven not to afford sufficient time for the Executive Director to review and incorporate the information submitted by the manufacturers into his own annual report. Therefore, the date on which manufacturers must submit their reports is being changed to June 5 of each calendar year, with a second report due to the Executive Director by each December 5. The content of the required reports is not being changed.

N.J.A.C. 7:50-10.22(a)6xiii is being added to indicate that no more that six alternate design treatment technologies shall be approved for use in the pilot program at any one time. Based on the proposed amendments, two technologies (Cromaglass and FAST) are currently approved for use in the pilot program. This means that four additional technologies could be approved by the Commission pursuant to proposed N.J.A.C. 7:50-10.23(b). The proposal to limit the number of alternate design treatment system technologies in the pilot program to no more than six at any time is incorporated in the rule proposal as a means to ensure that an adequate number of treatment systems, representing a particular technology, participate in the program and that adequate data is available to evaluate each technology. Allowing too many technologies to participate at anytime, might increase the risk that insufficient data will be available upon which to render conclusions regarding a technology's ability to meet the Pinelands water quality standards.

N.J.A.C 7:50-10.22(c) is being added to require that the manufacturer of an alternate design treatment system pilot program technology shall trouble shoot and attempt to remediate substandard performance of any system which fails to meet the effluent concentration targets

after two consecutive sampling events and that the manufacturer or its agent report to the Executive Director and the local board of health semi-annually on all remedial measure taken the address substandard performance.

A new N.J.A.C. 7:50-10.23(b) is being added to outline the process by which additional technologies may be approved for participation in the pilot program. N.J.A.C 7:50-10.23(b)1i specifies that manufacturers or their agent of technologies seeking approval to participate in the pilot program must submit all reports and laboratory test data generated to attain USEPA ETV or NSA /ANSI Standard 245 verification or certification.. N.J.A.C. 7:50-10.23(b)1ii notes that the Commission must be provided with a description of the distribution and technical support system that will be utilized to supply and support systems in the Pinelands Area. Proposed N.J.A.C. 7:50-10.23(b)1iii requires the submission of estimated costs for the technology. Proposed N.J.A.C. 7:50-10.23(b)1iv requires the manufacturers or their agent to provide the expected total nitrogen concentration in residential wastewater treated by the technology. The Commission's interest is in identifying technologies which will allow residential development to meet Pinelands water quality standards on one acre lots; therefore, expected nitrogen concentration is a crucial piece of information to be submitted and evaluated when determining which technologies should be accepted into the pilot program. Finally, proposed N.J.A.C. 7:50-10.23(b)1v indicates that an escrow deposit in the amount of $2,500 will be required to cover the cost of Commission staff to review the application materials submitted for each technology seeking entry into the pilot program. This escrow is required in recognition of the considerable staff time which will be required to review the submitted data and reports, determine the required lot size for use of the technology in the Pinelands and make an appropriate recommendation to the Commission. The Commission's ability to require escrows for complex issues necessitating

considerable staff review was previously established at N.J.A.C. 7:50-1.7. In this case, a predetermined escrow amount is being specified in the amendment itself. The proposed figure ($2,500) is in line with the fee that is required pursuant to N.J.A.C. 7:50-1.6(e)1 for review of a development application utilizing an individual on-site septic system outside the pilot program. As is the case with all escrows requested by the Commission, additional escrow funds may be requested as necessary (N.J.A.C. 7:50-1.7(a)3) and any unused funds remaining in the escrow account will be returned (N.J.A.C. 7:50-1.7(a)4).

Proposed N.J.A.C 7:50-10.23(b)2 requires that the Executive Director shall periodically establish a date by which completed applications to participate in the pilot program must be received by the Commission. The establishment of such an application window or "round" will be published in the New Jersey Register and posted on the Commission's web site. The section further notes that the Executive Director may extend the deadline for submission of applications pursuant to N.J.A.C. 7:50-4.4(a).

Proposed N.J.A.C. 7:50-10.23(b)3 provides that upon the conclusion of the application period established in (b)2, the Executive Director shall review the documents submitted by the manufacturer or agent of each technology and determine the eligibility of each technology to participate in the pilot program based upon a comprehensive review of the documents required in (b)1, above. The Executive Director must also determine the minimum lot size on which the technology shall be authorized for residential use. Proposed N.J.A.C. 7:50-10.23(b)4 then requires the Executive Director to submit a report to the Commission setting forth proposed findings and recommendations. Such a report must be submitted to the Commission within 90 days of the deadline for receipt of complete applications. Finally, proposed N.J.A.C. 7:50-10.23(b)5 requires the Commission to review the Executive Director's report and determine

whether the technology or technologies in question should be approved for participation in the pilot program. The Commission's determination must be made within 120 days of the deadline for receipt of complete applications. All determinations of the Commission will be published in the New Jersey Register and posted on the Commission's website.

N.J.A.C. 7:50-10.23(c) (previously (b)) is being amended to require completion of a third comprehensive review of the Pilot Program relative to the Cromaglass and FAST technologies in August 2012. A similar review relative to any USEPA and NSF/ANSI Standard 245 treatment technologies approved for participation in the pilot program must be completed in August 2015. The criteria by which the pilot program is to be reviewed remain unchanged.

N.J.A.C. 7:50-10.23(d) (previously (c)) is also being amended to provide the Executive Director with the ability to continue the evaluation of the pilot program in the event there are insufficient monitoring events for the Cromaglass and FAST technologies at the time of the required review in August of 2012.

A new N.J.A.C. 7:50-10.23(e) is being added to provide the Executive Director with the ability to continue the evaluation of the pilot program in the event there are insufficient monitoring events for the USEPA ETV or NSA /ANSI Standard 245 technologies at the time of the required review in August of 2015.

It should be noted that even with the ability to extend evaluation of the program, it is possible that an adequate number of systems and sampling events may not exist to conclusively determine performance levels for the FAST, USEPA ETV and/or NSA /ANSI Standard 245 technologies, as few FAST and no USEPA ETV and/or NSA /ANSI Standard 245 technologies have been installed to date. The Executive Director may well need to recommend a further

extension of the Pilot Program with respect to select technologies when conducting the pilot program assessments in 2012 and 2015.

N.J.A.C. 7:50-10.23(i) (previously (g)) is being amended to make clear that installation of a FAST or Cromaglass system is not permitted after August 5, 2013 unless the Commission further amends the CMP to expressly authorize such installation. Similarly, installation of any approved USEPA or NSF/ANSI Standard 245 treatment technology is not permitted after August 5, 2016 unless the CMP is amended.

As the Commission has provided a 60-day comment period on this notice of proposal, this notice is excepted from the rulemaking calendar requirement, pursuant to N.J.A.C. 1:30-3.3(a)5.

Social Impact

No adverse social impact is anticipated as a consequence of the adoption of the proposed amendments. Society as a whole benefits from the protection of the Pinelands and the proposed amendments are designed to do just that. Any social impacts which do result are expected to be positive. Conversely, a negative social impact would result should the proposed rule amendment not be adopted. This stems from the fact that the existing rule, at N.J.A.C 7:50-10.23(g), prohibits the installation of an alternate design pilot program treatment system after August 5, 2010 unless a rule has been adopted by the Commission which expressly authorizes such installations. Absent the adoption of the proposed rule amendment, residential development on unsewered properties of less than 3.2 acres in the Pinelands Area would be prohibited.

The proposed rule provides permanent approval status to certain advanced treatment technologies that have been demonstrated, through participation in the pilot program,

to be capable of meeting Pinelands water quality standards when used to service residential development of lots smaller than 3.2 acres, down to a minimum of one acre. Adoption of the rule amendment will have a positive social impact by permitting the use of these proven technologies on parcels between 1.0 and 3.2 acres without the expense of water quality testing. Adoption of the rule amendment will result in more efficient use of developable land in the Pinelands Area.

Extension of the Alternate Design Treatment Systems Pilot Program for an additional three years to continue to monitor the Cromaglass and Fast treatment technologies will provide a continued opportunity for residential development in unsewered portions of the Pinelands which have already been planned and zoned for such development. Expansion of the pilot program by including up to four new prescreened USEPA ETV or NSA /ANSI Standard 245 nitrogen reducing treatment technologies will increase the number of approved technologies from which Pinelands residents may choose, will ensure that state of the art treatment technology is available in the Pinelands Area and will increase competition between technology vendors. Increased choice and competition is expected to have a positive impact on Pinelands residents. The amendments do not in any way affect permitted residential densities or minimum lot size requirements in the Pinelands Area. Thus, no significant changes in land use patterns will result from the proposed amendments.

Economic Impact

The economic impact of the proposed amendments to the Pilot Program for Alternate Design Wastewater Treatment systems will clearly be positive for those landowners seeking to develop their one to 3.2 acre properties in unsewered portions of the Pinelands Area. Without the proposed amendments, use of pilot program systems would not be permitted after August 5,

2010. This would require landowners to have at least 3.2 acres in order to develop a home (the lot size required for use of a conventional septic system). Many lots would become unbuildable affecting property owners and homebuilders.

The proposed amendments release the Amphidrome and Bioclere technologies from the pilot program and grant permanent approval status to those two technologies. Granting of permanent approval status is expected to result in a positive economic impact to residents of the Pinelands. Permanent approval means that these technologies will no longer be subject to laboratory analysis of treated wastewater discharged from these two technologies. The elimination of the laboratory testing requirement is expected to result in a cost savings to owners of these technologies.

The proposed amendments extend by three years the period of time during which installation of the FAST and Cromaglass alternate design treatment systems will be permitted. The amendments also propose to expand the pilot program to include up to four new treatment technologies. Thus the continued ability to develop on unsewered lots between 1.0 and 3.2 acres, where permissible, will result in more efficient use of land, consistent with the lot size and density requirements set forth in certified municipal land use ordinances.

The addition of new, prescreened technologies to the pilot program is expected to provide consumers with greater choice in selecting a technology, resulting in increased competition between technology vendors. Increased competition in the marketplace should provide an incentive for technology vendors to offer their products at competitive prices.

The proposed amendments would further expand consumer choice by authorizing owners of the pilot program systems to either contract for operation and maintenance with service providers authorized by a specific technology vendor or to contract with qualified individuals

processing a NJDEP wastewater treatment plant operator's license (at the S2 or higher level) upon expiration of the initial vendor provided service contract. System owners will benefit economically from the ability to shop for the most cost competitive qualified service provider.

The proposed amendments continue to impose a number of maintenance, monitoring and reporting requirements on the manufacturers or their agents of those alternate design wastewater treatment systems authorized for use in the Pinelands Area pursuant to the Commission's Pilot Program. These requirements, spelled out at N.J.A.C. 7:50-10.22(a)6, involve the provision of operation and maintenance manuals and five-year warranties and maintenance contracts, all of which the manufacturers already have on hand. This is not to say that the requirements represent insignificant costs for the manufacturers, particularly for the five-year non-cancellable maintenance contract required by N.J.A.C. 7:50-10.22(a)6vii. In addition, manufacturers will continue to be responsible for the provision of resources for the collection and analysis of effluent sampling. These requirements, which do represent a cost to the system manufacturers, are a critical part of the proposed pilot program and the Commission would not be able to extend or expand the program without them. In any case, it is likely that the associated costs will be passed on to the homeowner by the manufacturers. These costs represent a relatively small price to pay for the opportunity to develop lots that would otherwise not be developable.

Environmental Impact

Extension of the Alternate Design Wastewater Treatment Systems Pilot Program through 2013 for the FAST and Cromaglass technologies and through August 2016 for those USEPA ETV or NSA /ANSI Standard 245 technologies approved by the Commission is expected to provide significant environmental benefit. Extension of the program will provide an additional

opportunity for the Commission to collect data and monitor the two existing pilot program technologies and will authorize new prescreened advanced wastewater treatment systems to be installed and monitored. The installation of additional systems will result in more monitoring and testing of effluent and this will ultimately provide the Commission with more data to be evaluated as part of the pilot program. Provided they are maintained properly, these systems provide the potential for improved water quality when compared with conventional septic systems.

Federal Standards Statement

Section 502 of the National Parks and Recreation Act of 1978 (16 U.S.C. §471i) called upon the State of New Jersey to develop a comprehensive management plan for the Pinelands National Reserve. The original plan adopted in 1980 was subject to the approval of the United States Secretary of the Interior, as are all amendments to the plan.

The Federal Pinelands legislation sets forth rigorous goals which the plan must meet, including the protection, preservation and enhancement of the land and water resources of the Pinelands. The proposed amendments are designed to meet those goals by allowing for the continued installation and monitoring of alternate design wastewater treatment systems for residential development.

There are no other Federal requirements which apply to the subject matter of these amendments.

Jobs Impact

Some opportunity for job growth is expected as a result of the ability of system owners to contract for operation and maintenance services either directly with the technology vendor or with holders of NJDEP wastewater treatment plant operator's credentials. Small businesses that

currently provide wastewater treatment service to NJPDES sized decentralized wastewater systems will now be able to offer those services to smaller scale systems servicing residential development. Moreover, extension of the pilot program provides for the continued opportunity for new home construction in areas that are zoned for such use but are not served by public sewerage infrastructure. The proposed rule therefore is expected to result in the creation of jobs associated with new home construction. Conversely, non-adoption of the proposed amendments would have a negative impact on job creation.

Agriculture Industry Impact

Because the proposed amendments address the use of alternate design wastewater treatment systems for residential development on lots between one and 3.2 acres that have been zoned for such purposes, they will have no impact on the agriculture industry in the Pinelands.

Regulatory Flexibility Analysis

The proposed amendments continue the imposition of reporting, recordkeeping and compliance requirements on the manufacturers or their agents of those alternate design wastewater treatment systems authorized for use in the Pinelands Area pursuant to the Commission's Pilot Program. It is believed that at least some of these manufacturers may be small businesses, as defined under the Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq. In meeting the standards for use of the authorized technologies which would continue to be authorized under the pilot program, these businesses may continue to incur costs relative to ensuring compliance with the maintenance and monitoring requirements of N.J.A.C. 7:50-10.22(a)6. It is unlikely, however, that engaging professional services will be necessary in order to do so. The design of systems for approval by County health departments and other agencies requires the services of a professional engineer under existing State law; that requirement is not

changed by the proposed amendments. Furthermore, the requirements at N.J.A.C. 7:50-10.22(a)6 merely involve the provision of certain manuals, maintenance guarantees and other documents which the manufacturers already have on hand, as well as the provision of resources for the collection and analysis of effluent sampling. This is not to say that the requirements represent insignificant costs for the manufacturers, particularly for the five-year non-cancellable maintenance contract required by N.J.A.C. 7:50-10.22(a)6vii. However, these requirements are a critical part of the proposed pilot program and the Commission would not be able to extend or expand the program without them. In any case, it is likely that the associated costs will be passed on to the homeowner by the manufacturers. These costs represent a relatively small price to pay for the opportunity to develop lots that would otherwise not be developable.

No differing requirements have been established for small businesses under the pilot program. Instead, the same maintenance and monitoring requirements will continue to be imposed relative to the authorized technologies, regardless of business size. This is necessary to balance protection of Pinelands resources with the Commission's desire to provide a continued opportunity for residential development on lots of less than 3.2 acres in size in unsewered areas of the Pinelands. In fact, the Commission has identified proper system maintenance as the primary factor in ensuring that the alternate technologies will function in a manner which is consistent with CMP water quality standards. It is therefore critical that the requirements continue to be imposed on all of the manufacturers or their agents.

The proposed amendments impose no other reporting, recordkeeping or compliance requirements on small businesses, as defined under the Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq.

Smart Growth Impact

Executive Order No. 4 (2002) requires State agencies which adopt, amend or repeal any rule adopted pursuant to the Administrative Procedure Act (N.J.S.A. 52:14B-4(a)) to describe the impact of the proposed rule on the achievement of smart growth and implementation of the New Jersey State Development and Redevelopment Plan (State Plan). It is important to note that N.J.S.A. 52:18A-206.a. provides that the State Plan shall rely on the Pinelands CMP with respect to the Pinelands. Nevertheless, the Commission has evaluated the proposed amendments to determine the nature and extent of their impact on smart growth and the implementation of the State Plan.

The proposed amendments relative to the Alternate Design Treatment Systems Pilot Program will allow for the continued installation and monitoring of innovative alternate design wastewater treatment systems in unsewered areas of the Pinelands that are zoned for residential development on lots of less than 3.2 acres in size. With few exceptions, these areas are located in Regional Growth Areas, Pinelands Villages and Pinelands Towns, management areas designated for development by the Comprehensive Management Plan. Successful testing could have positive results for other non-sewered areas in the State, outside the Pinelands Area.

No other smart growth impacts are anticipated from the proposed amendments.

Housing Affordability Impacts

The proposed amendments have the potential to reduce the cost of alternate design treatment systems for those landowners seeking to develop homes on lots between one and 3.2 acres in size in the unsewered portions of the Pinelands Area. Two such systems, the Amphidrome and Bioclere technologies, would be authorized for use on a permanent basis in association with such development. The costs associated with monitoring these technologies

would be eliminated. New technologies will have an opportunity to participate in the Commission's pilot program under the proposed amendments. It is the Commission's expectation that this will lead to increased competition among the vendors of existing and new pilot program technologies, resulting in decreased costs of the systems for homeowners.

While the proposed amendments may result in a decrease in the costs of alternate design treatment systems, and therefore a decrease in the average cost of housing utilizing such systems, it is important to note that these systems are being installed in the unsewered portions of the Pinelands Area and primarily in the Regional Growth Areas, Pinelands Villages and Pinelands Towns. Permitted densities in the unsewered portions of these management areas are relatively low, ranging from one unit per acre to one unit per 3.2 acres. Housing units in those portions of the Pinelands Area within which most affordable housing is targeted or anticipated would not be affected as such units are typically expected to be served by public sanitary sewer.

Smart Growth Development Impacts

The proposed amendments allow for the continued installation of alternate design treatment systems for residential development in the Pinelands Area, either on a permanent basis (the Amphidrome and Bioclere systems) or through the Commission's pilot program. These systems are used by landowners in the unsewered portions of the Pinelands Area that are zoned for residential development on lots of less than 3.2 acres in size. With few exceptions, these areas are located in Regional Growth Areas, Pinelands Villages and Pinelands Towns, management areas designated for development by the CMP, equivalent to designated centers under the State Development and Redevelopment Plan. The proposed amendments do not increase the amount of permitted residential development in these management areas; rather, they provide a continued opportunity for the

development of housing in accordance with municipal zoning plans that were previously approved by the Commission. Thus, the proposed amendments are not expected to result in any changes in housing production within designated centers or in any other portions of the Pinelands Area. There will be no effect on new construction in Planning Areas 1 and 2 as designated by the State Development and Redevelopment Plan as these State Planning Areas do not exist in the Pinelands Area.

Full text of the proposal follows (additions indicated in bold **thus**; deletions indicated in brackets [thus]):

7:50-2.11 Definitions

…

"Alternate design pilot program treatment system" means an individual or community on site waste water treatment system that has the capability of providing a high level of treatment including a significant reduction in the level of total nitrogen in the wastewater and [is one of the following] **includes the** systems **listed below**, as described in the report prepared by Anish R. Jantrania, PH.D., P.E., M.B.A. entitled "Performance Expectations for Selected On-site Wastewater Treatment Systems," dated December, 2000, incorporated herein by reference, and available at the principal office of the Commission, that have been authorized for residential development by the pilot program established in N.J.A.C. 7:50-10, Part IV[:]**. In addition, alternate design pilot program treatment system shall also include any technology or technologies that have been approved by the Commission for participation in the alternate design wastewater treatment systems pilot program pursuant to N.J.A.C. 7:50-10.23(b).Detailed plans and specifications for each authorized technology are available at the principal office of the Commission.**

1. FAST;
2. Cromaglass; or
3. [Bioclere; or] **Other nitrogen reducing technologies approved by the Commission pursuant to N.J.A.C. 7:50-10.23(b).**

[4. Amphidrome.]

7:50-6.84 Minimum standards for point and non-point source discharges

(a) The following point and non-point sources may be permitted in the Pinelands:

1.-4. (No change.)

5. Individual on-site septic waste water treatment systems which are intended to reduce the level of nitrate/nitrogen in the waste water, provided that the following standards are met:

i.-iii. (No change.)

iv. The design of the system and its discharge point, and the size of the entire contiguous parcel on which the system or systems is located, will ensure that ground water exiting from the entire contiguous parcel or entering a surface body of water will not exceed two parts per million nitrate/nitrogen calculated pursuant to the Pinelands dilution model dated December, 1993, as amended, (Appendix A) subject to the provisions of (a)5v below and based on the following assumptions and requirements. For purposes of this section, the entire contiguous parcel may include any contiguous lands to be dedicated as open space as part of the proposed development but may not include previously dedicated road rights-of-way or any contiguous lands that have been deed restricted pursuant to N.J.A.C. 7:50-5.30 or 5.47:

[(1) For RUCK septic systems:

(A) For residential development, the system will reduce total nitrogen concentration in the waste water entering the disposal field to 20 parts per million;

(B) For non-residential development, no reduction in total nitrogen concentration will be assumed, except that a reduction in total nitrogen concentration in the waste water entering the disposal field to 20 parts per million will be assumed if either:

(I) The use is comparable to a single family residential use and it can be demonstrated that the waste water quality is similar to residential waste water; or

(II) The applicant demonstrates that the nitrate/nitrogen concentration of the waste water flow is similar to that of a residential use and the ratio of greywater to blackwater is similar to that of a residential use.

(C) The patent holder or his agent shall certify to the Commission and the local board of health that installation of each system has been properly completed;

(D) The patent holder or his agent shall provide to each owner a complete operation and maintenance manual that has been approved by the Executive Director;

(E) Each system shall be covered by a five-year warranty that has been approved by the Executive Director and a minimum five-year maintenance contract that has been approved by the Executive Director, that cannot be cancelled and is renewable and which includes a provision

requiring that the patent holder or his agent inspect the system at least once a year and undertake any maintenance or repairs determined to be necessary during any such inspection; and

(F) The property owner shall record with the deed to the property a notice that identifies that a RUCK system is being utilized for wastewater disposal on the parcel, acknowledges the owner's responsibility to operate and maintain it in accordance with the manual required in (a)5iv(1)(D) above, and grants access, with reasonable notice, to the local board of health, the Commission and its agents for inspection and monitoring purposes. The recorded deed shall run with the property and shall ensure that the maintenance requirements are binding on any owner of the property during the life of the system; and]

[(2)]**(1)** For pressure dosed septic systems:

(A)-(B) (No change.)

(2) For Amphidrome and Bioclere systems:

(A) For residential development, the system will be located on a parcel of at least one acre for each individual single family residential dwelling unit or the system or systems for multi-family developments will be located on a

parcel with an overall density equal to or greater than one residential unit per acre of land;

(B) Each system shall be designed and constructed so that samples of effluent leaving the system can be readily taken. A scaled as-built drawing which clearly identifies the location of the effluent sampling port shall be filed with the local board of health and the Commission prior to the board of health's issuance of a certificate of compliance, or similar authorization to occupy the development and utilize the treatment system;

(C) Each system shall be consistent with the plans and specifications approved by the Executive Director for participation of the technology in the Pinelands Alternate Design Treatment Systems Pilot Program pursuant to N.J.A.C. 7:50-10.22(a)2i. Manufacturers may submit modified specifications or engineering designs for the system which may then be utilized if the Executive Director determines the modifications are consistent with the originally approved specifications and engineering design and the modified system will be at least as effective as the originally approved system;

(D) Prior to the local board of health's issuance of a certificate of compliance, or similar authorization to

occupy the development and utilize the treatment system, the technology manufacturer or its agent and a New Jersey licensed professional engineer shall provide written certification, in a form acceptable to the Commission and the local board of health, that installation of each system, and all components and appurtenances, including but not limited to pumps, switches, blowers, micro-processors, and local audio / visual and service provider notification alarms has been performed properly and the system and all of its components are operating properly;

(E) The manufacturer or its agent shall provide to each owner an operation and maintenance manual and shall provide a five-year warranty consistent with the requirements of N.J.A.C 7:50-10.22(a)6.viii;

(F) Each system shall be equipped with a functioning warning system which will activate audible and visual alarms which can be readily seen and heard by occupants of the building served and which also provide immediate remote alarm notification to the system service provider and shall be covered at all times by a renewable Operation and Maintenance Agreement in accordance with N.J.A.C. 7:50-6.85(b);

(G) The property owner shall record with the deed to the property a notice consistent with the sample deed notice approved pursuant to N.J.A.C. 7:50-10.22(a)2vi that identifies the technology, acknowledges the owner's responsibility to operate and maintain it and grants access, with reasonable notice, to the local board of health, the Commission and its agents for inspection and monitoring purposes. The recorded deed shall run with the property and shall ensure that the maintenance requirements are binding on any owner of the property during the life of the system and any replacement nitrogen reducing system, if applicable. Evidence that the deed notice was filed shall be provided to the local board of health and the Commission prior to the board of health's issuance of a certificate of compliance, or similar authorization to occupy the development and utilize the treatment system; and

(H) The manufacturer, its agent, the system owner, or the duly authorized service provider shall make available for inspection by the Commission or its agents, upon reasonable notice, all records relating to each system installed in the Pinelands.

(I) For nonresidential development, no reduction in total nitrogen will be assumed. Since insufficient data is available to determine a particular efficiency of these technologies for nonresidential development, due to the high degree of variability in wastewater from nonresidential development, the use of these systems for such development will be evaluated on a case by case basis pursuant to N.J.A.C 7:50-6.84(a)1 if any such system is proposed to reduce total nitrogen in nonresidential effluent.

(3) (No change.)

v.-ix. (No change.)

6. (No change.)

7:50-10.21 Purpose

(a) (No change.)

(b) The water quality requirements of N.J.A.C. 7:50-6, Part VIII, include provisions which are aimed at controlling the amount of nitrogen that enters the environment both because nitrogen in itself is a significant pollutant, but also because it often serves as an indicator of changes in overall water quality. To that end, N.J.A.C. 7:50-6.84(a) limits the concentration of nitrogen in wastewater to two parts per million at the property line. Based on the Pinelands Septic Dilution Model (found in N.J.A.C. 7:50-6, Appendix A), a standard septic system, to which no nitrogen removal is attributed, requires at least 3.2

acres to dilute the concentration of nitrogen to two parts per million at the property line for a single family dwelling. N.J.A.C. 7:50-5 authorizes residential development utilizing an on-site wastewater system on lots between one and 3.2 acres in certain circumstances. [In those circumstances, N.J.A.C. 7:50-6.84(a)5 currently allows lots between 1.5 and 3.2 acres in size to be developed if a RUCK on-site wastewater treatment system is used. However, it has been several years since a RUCK system has been installed in the Pinelands Area.] In those circumstances prior to August 5, 2002, pressure dosed septic systems were allowed to be utilized on lots between one and 3.2 acres in size. Studies undertaken by the Commission have found that the pressure dosed septic system being installed in the Pinelands Area has not been effective on lots smaller than 3.2 acres in meeting the water quality standards of N.J.A.C. 7:50-6, Part VIII.

(c) In 2000, the Commission formed a special committee to investigate alternate septic system technologies that would better meet the water quality requirements of N.J.A.C. 7:50-6, Part VIII, for residential development on lots smaller than 3.2 acres where such lots are currently authorized by N.J.A.C. 7:50-5. After conducting extensive research, the Committee identified five technologies that can be expected to meet these water quality requirements for residential development. The Committee recommended that an interim program be developed for the approval, installation and monitoring of the five technologies for use under certain conditions and safeguards. Based on the available information, the Committee recommended that the Ashco RFS III system be allowed on residential lots of at least 1.5 acres and the other four systems be allowed on residential lots of at least one acre. In November 2006, the Commission decided to remove the Ashco RFS III system from the Alternate Design Treatment Systems Pilot Program. The

Commission made this decision due to the manufacturer's failure to make systems commercially available in the Pinelands during the initial five year period of the pilot program or to otherwise demonstrate the ability or intention for future participation in the pilot program. Residential development using any of [these] **the authorized** systems would still have to conform to the lot size and density requirements contained in the municipal land use ordinances that have been certified by the Commission pursuant to N.J.A.C. 7:50-3**. In 2010, the Commission decided to release two of the original pilot program technologies (Amphidrome and Bioclere) from the pilot program and authorize them for permanent use, subject to the provisions of N.J.A.C 7:50-6.84(a)5iv(3). The Commission also decided to provide an opportunity for expansion of the pilot program to include certain other residential nutrient reducing onsite wastewater treatment technologies that have attained verification and/or certification through the United States Environmental Protection Agency Environmental Technology Verification (USEPA ETV) Program or the National Sanitation Foundation/ American National Standards Institute (NSF/ANSI) Standard 245 testing program. Information regarding the USEPA ETV Program is available from the United States Environmental Protection Agency website at: http://www.epa.gov/etv/vt-wqp.html#dwtt and http://www.epa.gov/etv/pubs/600s07004.pdf. Information regarding the NSF/ANSI Standard 245 testing program is available from the National Sanitation Foundation website at: http://www.nsf.org/business/wastewater_certification/standards.asp?program=WastewaterCer#245.**

(d) The Alternate Design Waste Water Treatment Systems Pilot Program is authorized as a means to test whether [these] **specifically authorized** systems can be maintained and operated so as to meet the water quality standards contained in N.J.A.C. 7:50-6, Part VIII with maintenance requirements that a homeowner can be reasonably expected to follow. Since these systems do require maintenance beyond that which would be required for a standard septic system in order to optimize treatment efficiencies, municipalities were originally encouraged, but not required, to adopt ordinances incorporating the requirements of N.J.A.C. 7:50-10.22 into their own land use ordinances. The use of the pilot program systems was then allowed only in those municipalities which had adopted such ordinances. Although most municipalities did adopt ordinances, several did not. This led to situations where owners of unsewered parcels under 3.2 acres in size were denied the ability to develop those parcels in an manner consistent with all other municipal land use and environmental standards, due simply to a municipality's failure to adopt an ordinance allowing for the installation of the pilot program systems. This resulted in considerable hardship to landowners, an outcome which was never the intent of the pilot program. The program has therefore been revised to authorize use of the pilot program systems in all municipalities for the duration of the program, whether or not the specific terms of the program are reflected in a municipal ordinance. Municipalities will continue to be encouraged to allow community systems to be installed in larger residential developments where densities between one and 3.2 acres are currently authorized. Since insufficient data is available to determine a particular efficiency of these alternate design pilot program treatment systems for non-residential development, the use of these systems for non-residential development will be evaluated on a case by

case basis pursuant to N.J.A.C. 7:50-6.84(a)1 if any such system is proposed to reduce total nitrogen in the effluent for non-residential development.

7:50-10.22 General standards

(a) Alternate design pilot program treatment systems shall be authorized for residential use in all municipalities provided that the following standards are met:

1. (No change.)

2. The manufacturer of the alternate design pilot program treatment system has submitted to the Executive Director and the Executive Director has approved:

i. Detailed specifications and an engineering design for the system. Separate specifications and designs may be submitted for systems serving an individual dwelling and for community on-site systems. These specifications and designs may only be approved by the Executive Director if they are determined to be consistent with the description of the relevant technology contained in the report prepared by Anish R. Jantrania, Ph. D., P.E., M.B.A. entitled "Performance Expectations for Selected On-site Wastewater Treatment Systems," dated December, 2000, incorporated herein by reference and available at the principal office of the Commission **or are determined to be consistent with record documents submitted for USEPA ETV and/or NSF/ANSI Standard 245 testing**. Subsequent to that approval, manufacturers may submit modified specifications or engineering designs for the system which may then be utilized if the Executive Director determines the modifications are

consistent with the originally approved specifications and engineering design and the modified system will be at least as effective as the originally approved system.

ii. (No change.)

iii. A monitoring protocol that ensures that sufficient data will be obtained to enable a determination of whether the technology complies with the two ppm nitrogen requirement and the water quality standards contained in N.J.A.C. 7:50-6, Part VIII. For each system being monitored, the protocol will provide at a minimum that the effluent will be sampled at least quarterly for a period of at least three years and that at least the following parameters will be analyzed: total nitrogen, nitrate-nitrogen, nitrite-nitrogen, ammonia-nitrogen, **and** total kjeldahl nitrogen [and chlorides]. **Total nitrogen shall be reported as the sum of nitrate-nitrogen, nitrite-nitrogen, plus total kjeldahl nitrogen from samples collected during a common sampling date. Where laboratory results indicate ammonia-nitrogen concentration to be greater than total kjeldahl nitrogen concentrations, the results will not be accepted by the Commission and re-sampling for all required parameters shall be required;**

iv.-vi. (No change.)

3. Subject to being increased during the pilot program based on the results of a hearing conducted pursuant to (a)5 below, each FAST[,] **or** Cromaglass[, Bioclere or Amphidrome] system shall be located on a parcel containing at least one acre

for each dwelling unit that will be served by the system. **Each USEPA ETV or NSF/ANSI Standard 245 technology approved by the Commission for participation in the pilot program pursuant to N.J.A.C. 7:50-10.23(b) shall be located on a parcel containing sufficient land area to comply with the two parts per million nitrogen requirement and the water quality standards contained in N.J.A.C. 7:50-6, Part VIII, as calculated using the Pinelands Septic Dilution Model and the expected effluent total nitrogen value for the technology based upon the findings of the USEPA ETV and /or NSF/ANSI Standard 245 test data.**

4. The **Cromaglass and FAST** alternate design pilot program treatment systems identified in (a)3 above are authorized to be installed [for a period of eight years from] until August 5, [2002] **2013 and the USEPA ETV or NSF/ANSI Standard 245 technologies approved by the Commission for participation in the pilot program pursuant to N.J.A.C. 7:50-10.23(b) are authorized to be installed until August 5, 2016**.

5. The Executive Director shall submit an annual report to the Commission describing installation, maintenance and performance data for each technology. The Executive Director also shall submit an interim report to the Commission if it is determined there is a significant installation, maintenance or performance issue with one or more technologies that needs to be addressed before the issuance of the next annual report. Copies of each annual and interim report shall be provided to each manufacturer and agent of a technology that is discussed in that report. If it is determined in a report either that a manufacturer or its agent is not adhering

to any of the requirements of this pilot program or that any one of the technologies, based on maintenance or installation issues or on an evaluation of all the monitoring results for that technology under this pilot program, is not meeting the minimum water quality standards in N.J.A.C. 7:50-6.83 or the two parts per million total nitrogen requirement in (a)6x below on all lots smaller than 3.2 acres or on lots smaller than a particular size because the effluent exiting the system is higher than was anticipated in establishing the lot sizes in (a)3 above[,]**:**

i. [then any] **Any** subsequent local approvals for a development that is proposing use of said technology shall be determined to raise a substantial issue and shall be reviewed by the Commission pursuant to the provisions set forth in N.J.A.C. 7:50-4.31 through 4.42. Notice of any hearing scheduled pursuant to this paragraph and any subsequent determination on the application made by the Executive Director or the Commission pursuant to N.J.A.C. 7:50-4.31 through 4.42 shall be provided to the manufacturers of said system and any agent designated by said manufacturer. The annual or interim report issued by the Executive Director shall be part of the hearing record in any hearing conducted pursuant to this paragraph[.]**; and**

ii. The Executive Director may impose an immediate suspension on all new installations of said technology until such time as the manufacturer or its agent remedies substandard performance and any other identified compliance issues. The Executive Director shall

publish notice of such action in the New Jersey Register and on the Commission's website within 60 days of imposing such suspension.

6. Conditions for the use of alternate design pilot program treatment systems are as follows:

i.-v. (No change.)

vi. **The local board of health shall not issue a certificate of compliance or similar authorization to permit occupancy of the building served or use of the alternative design wastewater treatment system until such time as the Pinelands Commission provides written authorization to the local board of health that such system may be authorized for use by the board of health;**

[vi] **vii.** The manufacturer or its agent shall provide to each owner an operation and maintenance manual approved pursuant to (a)2iv above;

[vii]**viii.** Each system shall be covered by a five-year warranty and a minimum five-year maintenance contract that cannot be cancelled and is renewable and which includes a provision requiring that the manufacturer or its agent inspect the system at least once a year and undertake any maintenance or repairs determined to be necessary during any such inspection or as a result of observations made at any other time, including when effluent monitoring occurs or that is identified based on the results of any effluent monitoring. Said warranty and maintenance contract shall be consistent with the sample warranty and maintenance contract approved pursuant to (a)2v above. In addition to complying with the reporting requirements of

N.J.A.C. 7:9A-3.4(b) concerning system malfunctions, the manufacturer or agent shall report to the Executive Director and local board of health on all necessary maintenance and repairs within 10 days and shall report to the Executive Director and local board of health semi-annually as to the inspections conducted during the preceding six months including a description of any maintenance and repairs that were undertaken and the success of those measures and their costs;

[viii] **ix**. The property owner shall record with the deed to the property a notice consistent with the sample deed notice approved pursuant to (a)2vi above that identifies the technology, acknowledges the owner's responsibility to operate and maintain it in accordance with the manual required in (a)6vi above, and grants access, with reasonable notice, to the local board of health, the Commission and its agents for inspection and monitoring purposes. The recorded deed shall run with the property and shall ensure that the maintenance requirements are binding on any owner of the property during the life of the system and that the monitoring requirements are binding on any owner of the property during the time period the monitoring requirements apply pursuant to this pilot program or any subsequent regulations adopted by the Commission that apply to said system;

[ix] **x**. The manufacturer or its agent shall make available for inspection by the Commission or its agents, upon reasonable notice, all records relating to each system installed in the Pinelands pursuant to this pilot program;

[x] **xi**. By [July 5, 2003 and every six months thereafter] **June 5 and December 5 of each calendar year,** until the conclusion of the pilot program, each manufacturer or its agent shall submit to the Executive Director a report which includes the number of systems installed during the previous six months and since the beginning of the pilot program, a discussion of any installation problems and what has been done to address those problems, an analysis and evaluation of the monitoring results to date and a discussion of any operational or maintenance issues, including the number of systems requiring maintenance or repairs and the nature and success of such maintenance and repairs, and the number of times the automatic dialing system was set off and the reasons for each such occurrence; and

[xi] **xii**. The system complies with the requirements of N.J.A.C. 7:50-6.84(a)4i through v.

xiii. No more than six alternate design treatment technologies shall be approved for use in the Alternate Design Waste Water Treatment Systems Pilot Program at any one time.

(b) (No change.)

(c) The technology manufacturer or its agent shall trouble shoot and attempt to remediate substandard performance of any system that fails to meet effluent concentration targets after two consecutive sampling events by implementing measures including, but not limited to, homeowner education, process adjustments, and equipment retrofits. The technology manufacturer or its agent shall report to

the Executive Director and local board of health semi-annually on all remedial measures undertaken, pursuant to a)6viii above.

7:50-10.23 Pinelands Commission approval and evaluation

(a) (No change.)

(b) New technologies shall be approved pursuant to this subsection as follows:

1. In order to be considered for participation in this pilot program, the manufacturer or agent of an alternate design treatment system that has attained verification and/or certification status through the USEPA ETV Verification Program or NSF/ANSI Standard 245 testing program must apply to the Commission. Any such application shall be accompanied by the following:

i. All laboratory test data and reports associated with the technology's participation in the USEPA ETV Verification Program or NSF/ANSI Standard 245 testing program;

ii. A description of the distribution and technical support system that the technology vendor will utilize to supply and support the treatment system in the Pinelands Area;

iii. An estimate of the cost of the technology including but not limited to equipment, shipping, warranty, operation and maintenance services, and effluent monitoring;

iv. The expected total nitrogen concentration to be achieved by the technology when serving residential development in the Pinelands Area; and

v. An escrow in the amount of $2,500 pursuant to N.J.A.C. 7:50-1.7. to cover the cost of review for entry into the pilot program.

2. The Executive Director shall periodically establish a date by which completed applications in accordance with (b)1 above must be received by the Commission in order to be considered for participation in this pilot program. Notification of the dates associated with any such round of applications shall be published in the New Jersey Register and posted and made available electronically on the Commission's website. The Executive Director may extend the deadline pursuant to N.J.A.C. 7:50-4.4(a).

3. Upon the conclusion of the application period established in (b)2 above, the Executive Director shall review the submitted documents for each technology seeking participation in the program. The Executive Director shall determine the eligibility of each technology to participate in the pilot program, based upon a comprehensive assessment of those items required for submission in (b)1 above. The Executive Director shall also determine the minimum lot size on which the technology could be authorized for residential use, subject to future modification, pursuant to N.J.A.C. 7:50-10.22(a)3.

4. Within 90 days after the deadline established for the receipt of complete applications or any extension thereto, the Executive Director shall submit a report to the Commission setting forth proposed findings and a recommendation as to whether each technology should be permitted to participate in this pilot program. The Executive Director shall evaluate the eligibility of each technology to participate in the pilot program based upon

expected effluent quality, estimated costs and system availability. Any such recommendation shall specify the minimum lot size necessary for compliance with the water quality standards of N.J.A.C. 7:50-6, Part VIII.

5. Upon receipt of the Executive Director's report, the Commission shall review the findings, conclusion and recommendation of the Executive Director and shall, within 120 days of the deadline for receipt of complete applications, or any extension thereto, determine whether each technology should be approved for participation in this pilot program. All determinations of the Commission shall be published in the New Jersey Register and posted and made available electronically on the Commission's website.

[(b)]**(c)** The Executive Director shall review this pilot program **relative to the FAST and Cromaglass treatment technologies** [four years after] **no later than** August 5, [2002] **2012** and shall report to the Commission within three months of that date on its implementation. **The Executive Director shall review this pilot program relative to any approved USEPA and NSF/ANSI Standard 245 treatment technologies no later than August 5, 2015 and shall report to the Commission within three months of that date on its implementation.** The Executive Director shall determine whether the pilot program is successful in accordance with the following criteria:

1.-6. (No change.)

[(c)]**(d)** If the Executive Director finds that the number of monitoring events for [any alternate design pilot program] **the FAST and Cromaglass** treatment [system technology] **technologies** is not adequate to evaluate that technology under this pilot program in accordance with [(b)] **(c)** above, the Executive Director shall so inform the Commission

and, upon receiving the Commission's approval, initiate a second review to be completed [within eight years of] **no later than** August 5, [2002] **2014**;

[(d)]**(e) If the Executive Director finds that the number of monitoring events for any approved USEPA and NSF/ANSI Standard 245 treatment technologies is not adequate to evaluate any of those technologies under this pilot program in accordance with [(b)] (c) above, the Executive Director shall so inform the Commission and, upon receiving the Commission's approval, initiate a second review to be completed no later than August 5, 2017;**

[(d)]**(f)** If the Executive Director finds that this pilot program has not been implemented or has not been successful for one or more of the alternate design pilot program treatment system technologies based on the criteria set forth in [(b)] **(c)** above, the Executive Director shall propose, within three months of the issuance of the report required in [(b)] **(c)** above, an amendment to this subchapter, in accordance with N.J.A.C. 7:50-7, to repeal the pilot program as to that technology or technologies.

[(e)]**(g)** If the Executive Director finds that this pilot program has not been successfully implemented for one or more of the alternate design pilot program treatment system technologies because insufficient numbers of that technology or technologies have been installed to fully evaluate any such technology but the available information indicates that the technology can significantly reduce the level of nitrogen in the effluent, the Executive Director may propose an amendment to this subchapter, in accordance with N.J.A.C. 7:50-7, to establish a new pilot program as to that technology or technologies.

[(f)]<u>(h)</u> If the Executive Director finds that this pilot program has been successful for one or more of the alternate design pilot program treatment system technologies based on the criteria

set forth in [(b)] **(c)** above, the Executive Director shall propose, within three months of the issuance of the report required in [(b)] **(c)** above, an amendment to this Plan in accordance with N.J.A.C. 7:50-7 to permit installation of said technology or technologies on a permanent basis. Prior to submitting that proposal, the Executive Director shall specify either in the report required in [(b)] **(c)** above or in a separate report to the Commission the institutional and governmental arrangements necessary to ensure adequate maintenance and monitoring of each such technology and the minimum lot size required for each such technology to comply with the water quality standards of N.J.A.C. 7:50-6, Part VIII.

[(g)](i) Nothing in this section shall be construed to authorize the installation of [an] **a FAST or Cromaglass** alternate design pilot program treatment system after August 5, [2010] **2013 or to authorize the installation of any USEPA ETV and NSF/ANSI Standard 245 treatment technology approved by the Commission for participation in the pilot program after August 5, 2016** as set forth in N.J.A.C. 7:50-10.22(a)4, unless a rule has been adopted by the Commission which expressly authorizes such installation pursuant to [(e) or (f)] **(g) or (h)** above.