

Plan Review Workshops Report



July 1992

New Jersey Pinelands Commission

Forestry in the Pinelands

Report on Technical Panel Meeting

I. INTRODUCTION

A panel of experts (Appendix A identifies the panelists) met on April 29, 1992 to discuss this topic. In preparation for the meeting, a series of questions to be explored (Appendix B), background information (Appendix C identifies the sources) and public comments received (Appendix D) were provided to each participant. Public comments received subsequent to the meeting are included in Appendix E of this report.

Mr. Moore served as workshop coordinator and panelists were asked to freely express their opinions as individual experts and not as representatives of an agency or organization.

II. PURPOSE OF THIS REPORT

This report is intended to summarize key discussion points and present all recommendations offered by any of the participants. A tape recording of the entire seven (7) hour session is available for review at the Commission's offices. Since different opinions were offered by panelists, the report also attempts to indicate the level of consensus reached on various discussion points and recommendations.

Recommendations are described throughout the text in **bold** and are numbered sequentially. Because this particular workshop was the first in a series held by the Commission, each recommendation begins with the number 1. For ease of reference, a table has also been prepared which identifies each recommendation presented by one or more panel members. The table also includes staff estimates of the resources and time needed to carry out the recommendation and other information which the Commission may wish to consider when deciding which recommendations should be pursued.

III. PRE-WORKSHOP MEETING

On April 8, 1992, Mr. Moore and other members of the Commission's staff met with James Hall, Assistant Commissioner of the Department of Environmental Protection and Energy (DEPE) and representatives of the Divisions of Fish, Game & Wildlife and Parks & Forestry to seek agreement on certain principles which might help to focus the panel's policy discussion. The results of this meeting are conveyed in an April 9, 1992 letter from Mr. Stokes to Mr. Hall (Appendix F).

In general, the panel concurred with the guiding principles that emerged from the April 8 meeting, with one exception. Three panel members stated that policy statement number three, which refers to taking steps to avoid user conflicts on public lands, should be regarded as a standard rather than a policy statement.

IV. Key Discussion Points and Recommendations

A. Health of the Industry

Because so little information exists on the industry, panelists were not able to offer any specific data which suggested that the industry was prospering or failing in the Pinelands, or that the Pinelands Plan was having a positive, neutral, or negative effect.

A number of different opinions, however, were expressed on the status of the industry and one panel member felt that the industry is not prospering as it was in the early 1980's, primarily because of perceived, and some real, problems with the Comprehensive Management Plan (CMP). One other panel member suggested that if the Commission was to consider significant policy changes in response to concerns about the industry's health, some method to objectively judge its health must be developed.

Three possible studies were identified to judge how the industry is faring, and although most panelists believed they could be informative, concerns were expressed about measuring and interpreting qualitative data. Panel members also noted that the lack of quantitative data maintained by DEPE would make these and many other studies difficult to carry out.

Finally, several panel members expressed the opinion that Commission staff and monetary resources might be better devoted to other recommendations than to these types of studies.

Recommendation 1.01 Analyze trends in sawmill production.

If data could be collected for both the pre- and post-CMP periods and also could be disaggregated for Pinelands and non-Pinelands areas, this study might illustrate whether the CMP has had a positive, negative or neutral effect on the industry. Such a study would need to control for changes in the industry, including demand for different types of timber products and the location of mills relative to the supply of raw products.

Several means of conducting surrogate analyses were presented by panelists, including a comparative analysis of the number of new sawmills relative to acreage under farmland assessment and an analysis of the annual percentages of Pinelands forestry applications which have been approved.

Recommendation 1.02 Analyze trends in the use of wood products. This would entail some type of surveying methodology to elicit information on wood products use by boat builders, home builders, homeowners, etc., for the pre- and post-Pinelands Plan period. A methodology would also need to be developed to control for changes in demand for different types of timber products and to determine whether Pinelands sources are increasing or decreasing on a relative basis.

Recommendation 1.03 Analyze trends in the number of woodcutters operating in the Pinelands. Such a study should address shares in Pinelands and non-Pinelands areas for both the pre- and post-CMP periods. No method for surveying past time periods was offered.

B. CMP Forestry Standards

Discussion on CMP forestry standards was wide ranging; however, there did appear to be general agreement that many standards themselves, or their implications, are misunderstood.

Some panelists expressed the opinion that the Commission should rely more upon the forestry expertise within DEPE and others expressed the view that conservation objectives, more than specific harvesting and reforestation practices, were, appropriately, the focus of the Commission's review.

Two different perspectives seemed to evolve in this and other discussions. One was that professional foresters are capable of managing forest resources and the other was that traditional forest management practices often do not account for other natural resource management objectives.

Recommendation 1.04 Permit forest management practices unless expressly prohibited.

One panel member recommended that the CMP be amended to permit any forest management practice which isn't prohibited in the Plan. The purpose would be to require the Commission to specifically prohibit those practices which it finds to be objectionable; thus, any other practice, whether or not the Commission has evaluated it, would be permitted. Other members of the panel did not express specific support for this recommendation.

Recommendation 1.05 Tailor reforestation standards to the land use following harvesting.

One panel member suggested that the CMP be amended to permit a variety of reforestation practices, depending on the land use which is proposed following harvesting. For example, this could allow for different reforestation of a site to be developed as a recreation area than might be the case for a site which will remain in woodland use. Some panel members thought that such a

policy should be instituted only when the end-users are technically competent in forest management practices. Several panelists felt that the CMP should not include specific reforestation standards tailored to specific land uses.

Recommendation 1.06 Undertake a study to develop best management practices for harvesting and reforestation in the Pinelands.

There was general consensus that such a study could evaluate the full range of harvesting and reforestation techniques and identify those that are preferred in the Pinelands. There was no discussion as to whether these best management practices should be implemented through regulatory measures.

Recommendation 1.07 Amend the CMP to permit the use of herbicides to aid in the re-establishment of harvested cedar standards.

Cedar regeneration was described as problematic because of deer browsing and competition from other plant species. Herbicide use can help in cedar re-establishment. There was general consensus among panel members that, if regulations were carefully developed, herbicide use could be permitted in a manner which does not seriously jeopardize other natural resource objectives.

Recommendation 1.08 Relax reforestation standards to permit non-native plants in areas already dominated by non-native vegetation.

One panelist suggested that loblolly and white pines could be considered "native" Pinelands trees. However, other panelists disagreed with this view. The recommendation which evolved from the discussion was that loblolly, white pines, and possibly other non-native species be permitted only when reforesting areas already dominated by non-native trees planted years ago (e.g., Civilian Conservation Corps plantings). Cultural and possible wildlife benefits were cited in support of the recommendation.

Many panelists stated their position that the use of non-native trees be limited, particularly in the Preservation Area. Although establishment of an acreage limit was discussed, it was not supported by the panel. There was a general consensus that the CMP could be amended to permit the use of non-native trees, outside the Preservation Area, when associated with existing non-native stands. One panel member expressed the opinion that the question of native vs. non-native species is not an issue for the forestry industry.

Recommendation 1.09 Relax reforestation standards to permit non-native plants in areas which are visible to the public.

As an outgrowth of Recommendation 1.08, it was also suggested by one panelist that the CMP could be amended to permit use of non-native trees to reforest state lands which are visible to the public. The primary purpose would be to reforest areas more quickly, thereby improving aesthetics.

There was no consensus on this recommendation.

Recommendation 1.10 Commission staff should inform foresters and other industry members of interpretations of the CMP which affect forest management.

CMP regulations must be interpreted from time to time as unusual circumstances arise, yet two panelists indicated that interpretations which affect forest management are not well known by practitioners. It was suggested that better communication of these interpretations could avoid unnecessary delays and confusion when applicants are preparing forestry proposals. No panel member voiced concern about this proposal.

Recommendation 1.11 Commission staff should increase follow-up inspections on properties which are clear cut to ensure that proper reforestation practices are being followed.

Two panelists expressed concern that clear cutting sites are not being reforested and that Commission staff need to more closely monitor these sites. This was coupled with a recommendation to strengthen reforestation requirements associated with clear cuts (see Recommendation 1.19). No objections to this recommendation were expressed.

Recommendation 1.12 Clarify the meaning of the CMP standard which requires that access to harvesting sites be "direct."

Two panelists indicated that CMP regulations are not clear as to what the direct access requirement means. Since this is confusing to applicants, it was recommended that the requirement be clarified in the regulations. No objections were expressed by other panelists.

Recommendation 1.13 Eliminate the requirement for permission from property owners whose lands are to be crossed.

Two members urged that the CMP be amended to eliminate this requirement, which is an unnecessary burden. The opposite view was expressed by other panelists who felt that an applicant who intends to cross someone else's property should be required to obtain consent.

C. Pinelands Permitting Procedures

In discussing permitting procedures relative to forestry proposals, there appeared to be general agreement that private forestry activities are relatively low profit ventures and that steps to reduce the costs associated with the preparation of forestry proposals would be worthwhile if natural resource goals are not compromised. It was how this latter issue could be best resolved that prevented a consensus on many of the following recommendations.

Recommendation 1.14 Commission staff should assist forestry applicants in conducting cultural resource surveys when needed. One member indicated that cultural resource surveys are time consuming and are expensive for private forestry applicants in terms of the economic return from a harvest. In some cases, these costs are prohibitive. One other panel member stated that lengthy delays in development review are created by applicants not fully completing applications. A third panel member stated that incomplete applications often result from applicants' limited resources to address the many technical requirements of the application.

Recommendation 1.15 Commission staff should assist forestry applicants in conducting threatened and endangered species surveys. This recommendation was offered for private forestry applicants for the same reasons as Recommendation 1.14.

Recommendation 1.16 The Commission should identify areas throughout the Pinelands which are suitable for harvesting and don't require cultural resource surveys or threatened and endangered species assessments. This was presented by one panel member as an alternative to Recommendations 1.14 and 1.15. It was not discussed by other panel members.

Recommendation 1.17A Simplify and streamline the development review process by redefining forestry as something other than development. Several panel members expressed the concern that the current permitting process for forestry is cumbersome, time-consuming and expensive. Since the economic return from woodcutting is small, the current process was felt by some panelists to be a substantial disincentive to forestry in the Pinelands.

Few specifics were presented as to how this would be accomplished or what a streamlined and simplified review process might entail. Other panelists expressed concern that multiple natural resource objectives, such as the protection of rare plant and animal habitats, would be ignored if a total exemption from the Pinelands review process were granted. Even though it was not clear what a streamlined permitting process would entail, there was discussion about municipalities' roles in the review of forestry applications. Two possible approaches were presented:

1. Eliminate the municipal review of forestry applications;
2. Allow municipalities to exempt forestry from municipal permitting requirements.

One panelist recommended that the CMP be amended to preclude municipal review. Other panelists asked whether municipalities should be given the option of exempting forestry applications from their review as an alternative to an outright prohibition of

municipal reviews. Although Pinelands Commission review would remain in place, such an optional provision would allow municipalities which are not well equipped to conduct these reviews or which are satisfied that Pinelands reviews are comprehensive to eliminate duplicative, time consuming and costly reviews at the local level. Alternatively, this approach could permit municipalities to engage forestry professionals who would assume review responsibility. No panelist expressed strong opposition to this latter alternative.

Recommendation 1.17B The Commission should delegate its forestry permit review and enforcement responsibility to DEPE.

One panelist expressed concern that the Commission's review process is not efficient because it relies, in large part, on secondary sources of site data and because the Commission has limited authority to enforce CMP requirements. Consequently, the panelist recommended that the Commission delegate to DEPE the authority to review forestry proposals and enforce Pinelands forestry requirements as an alternative to simplifying the current process.

It was explained that the Forest Stewardship program, administered by the New Jersey Bureau of Forest Management in cooperation with a number of other state and federal agencies, could provide the framework within which such a delegation of authority could work. In the program, a stewardship management plan is prepared by a landowner and reviewed by a state stewardship committee. Upon acceptance, a stewardship certificate and sign are presented to the landowner. Enrollment in the program also qualifies a land owner for financial assistance for management plan preparation as well as on-the-ground technical services.

Although specific details as to how Pinelands forestry standards would be applied and enforced were not discussed, it was recommended that, if a delegation of authority to DEPE is considered, arrangements be made to ensure that the Commission can exercise oversight to ensure adherence to Pinelands standards.

Recommendation 1.18 Eliminate the review of forestry applications by the Pinelands Forestry Advisory Committee.

One panelist expressed the opinion that the review of forestry proposals by the Pinelands Forestry Advisory Committee largely duplicates the review process followed by DEPE when considering forest management proposals on state lands. One other panel member objected to this comment by stating that the Forestry Advisory Committee has facilitated communication between the Commission and DEPE and that its review of forestry applications is needed.

D. Natural Resource Concerns

The panel had a wide ranging discussion of broad forest management practices which directly or indirectly affect forestry practices. Most of the discussion and the following recommendations focused on fire management, plant and animal habitats and particularly important resources such as the Pine Plains and Atlantic white cedar stands.

Recommendation 1.19 Analyze the environmental effects of clear-cutting and establish standards to lessen adverse impacts.

As an outgrowth of Recommendation 1.11, two panel members expressed concern that clearcutting may result in significant environmental impacts, particularly if proper reforestation practices are not followed. In order to develop better harvesting and reforestation practices (e.g., minimum and maximum sizes, screens, forest connectors), it was recommended that a study of clearcutting impacts and measures to mitigate negative impacts be undertaken. One other panelist objected to this recommendation and stated that it would result in overregulation of the forestry industry.

Recommendation 1.20 Examine the ecological effects of fire management practices on threatened or endangered plant and animal species.

One panelist stated that there has been little research on the impacts of forest fire management activities on habitats for rare plants and animals. Although no specifics as to how such a study should be organized and conducted were presented, the recommendation was offered as a means to identify how fire management practices might be refined to avoid adverse impacts or to promote more positive benefits on the continuing survival of rare plant and animal communities.

Recommendation 1.21 Develop environmentally based guidelines for prescribed burning.

As an outgrowth of Recommendation 1.20, it was suggested by one panelist that prescribed burning practices may result in significant environmental impacts. If these practices were analyzed from an environmental standpoint, it might be possible to establish a clear set of guidelines which allow the need to be objectively assessed and which regulate fire intensity, frequency and location. The panel did not discuss the pros and cons of this recommendation.

Recommendation 1.22 Develop a joint DEPE/Pinelands Commission policy on fire management in the Pine Plains and adopt implementing regulations.

Because fire plays such a pivotal role in the maintenance of the Pine Plains and recent studies have suggested a decline in fire cycles, it was recommended by one panelist that a comprehensive policy on fire management in and around the Plains be developed.

Although there did not appear to be opposition to the recommendation, consensus was not reached among the panelists on fire management objectives and techniques for the Plains. For example, concerns were expressed that "managed" wildfire may not be feasible due to public safety concerns. It was also suggested that other techniques (e.g., mowing) might accomplish the same end results as wildfires.

It was recommended that such a policy should:

- 1) Identify a fireshed in which development would be restricted;
- 2) Identify means to prohibit or limit encroachment of development into the area;
- 3) Identify incentives and disincentives so as to avoid development in the area;
- 4) Define the types of fires which should be encouraged and the conditions under which they would be permitted to occur;
- 5) Address how public safety and liability concerns will be handled;
- 6) Consider alternative management techniques if public safety and liability issues remain; and
- 7) Consider possible air quality impacts of the policy.

Recommendation 1.23 Develop a comprehensive cedar policy for the Pinelands.

A consensus was reached that a comprehensive cedar management policy for the Pinelands should be developed in cooperation with DEPE and forest management representatives. The policy would need to address:

- 1) the diversity and extent of cedar swamps in the Pinelands; and
- 2) appropriate management strategies relative to harvesting and reforestation.

It was recognized that some policy details could not be fully articulated until additional research is completed.

Recommendation 1.24 Conduct a pilot cedar management program.

It was also recommended by several panelists that a pilot program to identify and manage approximately ten cedar sites might be helpful in evaluating various harvesting and reforestation techniques. Such a program would involve joint meetings of DEPE, Pinelands and industry representatives to select sites, prepare harvesting and management plans, develop methods to assess en-

vironmental impacts and quicken the permit review process. With regard to harvesting and management, one panelist recommended that attention needs to be focused on steps to ensure regeneration of harvested sites with appropriate enforcement mechanisms.

Although the results of this program could assist in the development of a comprehensive cedar policy, it would not address all aspects of cedar management, such as the extent to which cedar acreage should be increased, how that might be accomplished and how diversity of stands might be encouraged.

Recommendation 1.25 The Commission should seek comments from various DEPE offices on state forest management plans.

Even though the broad elements of a forest management policy can be enunciated, the lack of consensus within DEPE on site specific management proposals and the need to resolve sometimes contradictory management objectives were discussed. It was also noted that DEPE has yet to prepare comprehensive forest management plans for state parks and forests.

This recommendation was offered by one panel member as a means to foster greater communication within DEPE relative to fish, wildlife, natural heritage, forest fire, forestry and recreational interests in each state park and forest. One member opposed this recommendation on the basis that such a formal approach with Commission involvement is inappropriate and that informal consultation should occur within DEPE. Another member stated that informal consultation has not proven to be effective and does not necessarily lend itself to making informed judgments on contradictory management objectives.

V. PUBLIC COMMENTS

One individual suggested that forestry should be viewed as more than just harvesting and that forestry standards should address biological impacts and avoid extraneous considerations, such as civil issues dealing with access to land. The Commission was urged to require Pinelands municipalities to pursue good forest management and to pay more attention to private forestry operations. The individual also expressed displeasure that the workshop did not focus more on incentives to encourage landowners to undertake forestry activities.

Another individual indicated that the final decision on forestry applications should remain in the hands of the Commission, with the assistance of technical experts.

Forestry Workshop Recommendations

Topical Area	Rec. #	Recommendation of One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Health of Forest Resources Industry	1.01	Analyze trends in production from sawmills	Study	6wm - P	-	<ul style="list-style-type: none"> o Difficult to disaggregate Pines and non-Pines shares o Production information may be difficult, if not impossible, to obtain, particularly for pre-Pines period o Difficult to account for changing market conditions o Isolated events may skew results because of small number of sawmills
	1.02	Analyze trends in use of wood products	Study	6wm - P	-	<ul style="list-style-type: none"> o Data may not be available o May be impossible to disaggregate Pines from non-Pines data
	1.03	Analyze trends in the number of woodcutters	Study	4wm - P	-	<ul style="list-style-type: none"> o No method to obtain pre-Pines data has been identified o Without accounting for size of operations and volume, information would have little value
CMP Forestry Standards	1.04	Permit forest management practices unless expressly prohibited	CMP	N/A	N/A	<ul style="list-style-type: none"> o Permits practices where the pros and cons have not been evaluated o Sets precedent for blanket approvals of other practices and land uses

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- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
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	1.05	Tailor reforestation standards to the land use following harvesting	CMP	N/A	N/A	o Specific standards for a multiplicity of succeeding uses may be difficult to develop o General provision may be administratively possible but would foster debate unless coupled with Recommendation 1.06
	1.06	Develop best management practices for harvesting and reforestation	Study	6wm - S 2wm - DR	-	o Ecological and natural resource goals can be considered
	1.07	Permit herbicide use to aid in re-establishment of harvested cedar stands	CMP	N/A	N/A	o Permitted now on an occasional basis o Policy/standard can reconcile production and natural resource goals
	1.08	Relax reforestation standards to permit non-native plants in areas already dominated by non-native vegetation	CMP	N/A	N/A	o Need for intensive management of non-native species should be considered
	1.09	Relax reforestation standards to permit non-native plants in areas visible to the public	CMP	N/A	N/A	o Permitting non-native species in public areas calls into question general policy to discourage non-native species

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	1.10	Inform forest resource industry of CMP interpretations which affect forestry	Admin.	-	-	<ul style="list-style-type: none"> o Can benefit CMP compliance and permitting process o Not difficult or costly to do if practice is not extended to other industries and organizations
	1.11	Increase follow-up inspections on clear cuts to ensure proper reforestation practices	Admin.	1wm - DR	-	<ul style="list-style-type: none"> o Staff inspections in other areas would be reduced slightly o After-the-fact problems difficult to resolve with current authorities
	1.12	Clarify meaning of standard which requires access to harvesting sites be "direct"	CMP	N/A	N/A	<ul style="list-style-type: none"> o Clarification might enhance compliance
	1.13	Eliminate requirement for permission from other property owners whose land is to be crossed	CMP	N/A	N/A	<ul style="list-style-type: none"> o Eliminating CMP requirement does not eliminate woodcutter's legal obligation o Adjoining property owners might seek damages from the Commission

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Permitting Procedures	1.14	Provide staff assistance to forestry applicants in conducting cultural resource surveys	Admin.	2wm/yr.- P	-	<ul style="list-style-type: none"> o Only 18 forestry applications were received in 1991 o Cultural resource surveys are required on a very infrequent basis o Each survey would require approximately 2 to 3 weeks of staff time o Sets precedent for other applicants to seek help
	1.15	Provide staff assistance to forestry applicants in conducting threatened/endangered plant and animal surveys	Admin.	2wm/yr.- DR	-	<ul style="list-style-type: none"> o Although a majority of applicants are required to check state natural heritage records, less than one-quarter ultimately need to do anything further o The level of additional survey, when needed, is variable according to the species and site conditions. Surveys may require up to 10 work days o Sets precedent for other applicants to seek help
	1.16	Identify areas suitable for harvesting and which don't require cultural resource or threatened/endangered species surveys	Admin.	4wm - P 4wm - DR	-	<ul style="list-style-type: none"> o Absent the prehistoric site predictive model (only partially completed due to lack of funding), this is virtually impossible to accomplish for cultural resources o Since threatened & endangered species inventories are continually updated as a result of field work, this would be outdated shortly after completion o Alternative to Recommendations 1.14 and 1.15

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Natural Resource Concerns	1.17A	Simplify & streamline review process by redefining forestry as something other than development 1. Eliminate municipal review of forestry applications 2. Allow municipalities to exempt forestry from municipal permitting requirements	CMP CMP	N/A	N/A	<ul style="list-style-type: none"> o Problems (other than those addressed by other recommendations) need to be defined. o At this point, it is unclear exactly what is to be accomplished o Is contrary to permitting framework established in the Pinelands Protection Act o Likely to be opposed by municipalities o If coupled with CMP amendment to establish direct Commission permitting process, this could streamline the process o Uncertain how many municipalities would opt to exempt forestry
	1.17B	Delegate forestry permit and enforcement responsibility to DEPE	Admin./CMP	1wm - S 2wm - DR	-	<ul style="list-style-type: none"> o Legal authority needs to be explored o Uncertain how natural resource concerns would be handled
	1.18	Eliminate review of applications by Pinelands Forestry Advisory Committee	Admin.	-	-	<ul style="list-style-type: none"> o Forestry committee would continue to review only state management plans
	1.19	Analyze environmental effects of clearcutting and establish standards to lessen adverse impacts	Study/CMP	12wm - S	-	<ul style="list-style-type: none"> o Some preliminary work on cedar already done o Research proposal on cedar pending before MAB program deals with cedar management (including clearcutting) on a regional basis
	1.20	Examine ecological effects of fire management practices on threatened/endangered plants and animals	Study	12wm - S	-	<ul style="list-style-type: none"> o Does not address broader natural resource implications of fire management

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	1.21	Develop environmentally based guidelines for prescribed burning	Study	6wm - S	-	o May be difficult to implement if not set forth in regulations o Consensus with various DEPE offices may be difficult to reach
	1.22	Develop joint DEPE/Pinelands Commission policy on fire management in the Pine Plains and adopt implementing regulations	Admin./ CMP	4wm - S 1wm - DR	-	o Reconciling natural resource and public safety objectives may be difficult
	1.23	Develop a comprehensive cedar policy for the Pinelands	Admin.?	4wm - S	-	o Establishment of a broad policy may provide a good framework for more detailed research to be undertaken and standards to be developed o Research proposal pending before EPA may represent a viable alternative
	1.24	Conduct a pilot cedar management program	Study	?4wm - S ?4wm - DR	-	
	1.25	Seek comments from various DEPE offices on state forest management plans	Admin.	-	-	o Might encourage DEPE offices to consult early in plan formulation o Some DEPE offices may be reluctant to submit independent comments

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

APPENDIX A

"Forestry in the Pinelands" Meeting
List of Participants
April 29, 1992

<u>Name of Participant</u>	<u>Affiliation</u>
G. Lester Alpaugh	NJDEPE, Parks & Forestry State Forestry Service Pinelands Forestry Advisory Committee
James Rozmus	NJDEPE, Parks & Forestry Wharton State Forest
Thomas Breden	NJDEPE, Parks & Forestry Office of Natural Lands Management Natural Heritage Program
Olin White, Jr.	NJDEPE, Parks & Forestry State Forestry Service
Joseph Hughs*	NJDEPE, Parks & Forestry Bureau of Forest Fire Management
Thomas Hampton**	NJDEPE, Parks & Forestry Office of Natural Lands Management Administration
Robert Lund	NJDEPE, Fish, Game & Wildlife Clinton Wildlife Management Area
Larry Niles	NJDEPE, Fish, Game & Wildlife Endangered & Nongame Program
Tony Petrongolo	NJDEPE, Fish, Game & Wildlife Planning Coordinator
Ted Gordon	Philadelphia Botanical Club Pinelands Forestry Advisory Committee
Tom Hirshblond	Pinelands Forester
Liz Johnson**	The Nature Conservancy
John Kuser	Rutgers University Cook College, Fish & Wildlife Section
Terrence D. Moore	Pinelands Commission, Executive Director Workshop Coordinator
Charles Horner	Pinelands Commission, Development Review
Robert Zampella	Pinelands Commission, Science Office
Paul Evans**	Pinelands Commission, Development Review

* Panelist attended in place of David Harrison, Bureau of Forest Fire Management.

** Panelist was invited but was unable to attend meeting.

APPENDIX B

Forestry in the Pinelands

Questions Explored at the Technical Panel Meeting

April 29, 1992

Forestry Trends

1. What factors are useful in measuring the health of the industry?
2. What data exists relative to these factors?
3. Can this data be disaggregated for the Pinelands?
4. As a means of judging Pinelands impacts, is it appropriate to conduct trend analyses of these factors in the Pinelands relative to those in the larger 7 county region and to the state as a whole?
5. Do you have available any data on these factors? If so, what trends are evident when comparing pre-Pinelands conditions (1980 and earlier) with conditions since adoption of the Pinelands Plan? What trends relative to the 7 county region and the state as a whole are evident?
6. If trends in important factors are evident, what conclusions can be drawn? To what extent might these be attributed to the Pinelands Plan?
7. Do you have reason to believe these trends may or may not continue? If so, why?
8. On the basis of your own knowledge, do you have an opinion as to whether the Pinelands Plan has positively or negatively affected the viability of the forestry industry in the Pinelands?
 - o overall?
 - o specific segments or types?

In addition to those already discussed, what other analyses should be done to test these conclusions?

9. If negative trends are evident, what steps can state government in general or the Pinelands Commission in particular take to reverse them?

Pinelands Standards

10. Are the Pinelands Plan's management standards for forestry uses effective in maintaining the industry's viability? What specific changes in these standards might enhance the industry's viability?
11. To what extent, if any, would the following practices enhance the industry?
 - o different forest management objectives and standards for public and private lands;
 - o converting stands to different species (e.g. oak to pine dominated stands, fire damaged and poorly stocked stands to more productive stands); and
 - o use of white pine and loblolly pine for restoration.
12. Would specific criteria for planning and conducting cedar harvests contribute to the long term viability of cedar? If so, what criteria might be considered?
13. Do any of the Plan's other management standards (e.g. wetlands, water quality) negatively affect forestry operations?

To what extent do these negative impacts occur? Do these have industry-wide significance? What, if any, specific changes in these standards might enhance the industry's viability?
14. Do Pinelands permitting and bonding requirements unnecessarily hinder forestry operations? What, if any, changes might be made while still ensuring that harvesting and restoration standards are met?

Environmental Impacts

15. How should the Pinelands landscape and its forest communities be described?
16. How should ecological integrity or essential character be measured in the Pinelands?
 - o characteristic landscapes?
 - o unique or rare communities?
 - o unique or rare plants and animals?
 - o others?

17. How do forest management activities directed towards increased timber production affect the Pinelands landscape, the structure and composition of its forests, and the region's ecological integrity or essential character?
18. Do you have any data available on the impacts of these forest management activities? If so, to what extent are these impacts evident in the Pinelands?
19. Describe the types of forest management techniques that can be employed to preserve and protect the ecological integrity or essential character of the Pinelands. To what extent, if any, do Pinelands forestry management standards enhance the region's ecological integrity or essential character? Are changed or additional standards needed to enhance positive impacts?
20. To what extent, if any, do Pinelands forestry management standards limit the region's ecological integrity or essential character? Are changed or additional standards needed to limit negative impacts?
21. What are the positive and negative aspects of the state's forest fire management programs? Can the program incorporate a broader range of natural resource management goals?
22. Do the Pinelands Plan changes previously suggested as a means to enhance the industry's viability have environmental implications? If so, are they significant, region-wide implications?
23. Is additional research or analysis needed before any of the recommendations previously discussed are considered? If so, what should be its focus?

JCS/RAZ/LC/CP4B

APPENDIX C

Background Information

for

Forestry in the Pinelands Technical Panel Meeting

1. Excerpt from New Jersey Pinelands Comprehensive Management Plan, The Second Progress Report on Plan Implementation - Chapter II Development Review, pg. II-19.
2. Excerpt from New Jersey Pinelands Comprehensive Management Plan, The Second Progress Report on Plan Implementation - Chapter VI Science, pgs. VI-3 through VI-12.
3. Pinelands Development Standards - Subchapter 6 of the Pinelands Comprehensive Management Plan, revised 2/29/88, summary.
4. Excerpts from Subchapter 6, Part III-Fish and Wildlife and Part IV-Forestry, of the Comprehensive Management Plan (N.J.A.C. 7:50-6.31-6.44)
5. Excerpt from Atlantic White Cedar Wetlands, 1987.

APPENDIX D

Public Comments Received Prior to Technical Panel Meeting

CITY OF ESTELL MANOR
OFFICE OF:

PLANNING BOARD
P.O. BOX 102
ESTELL MANOR, NJ 08319

April 1, 1992

The Pinelands Commission
P.O. Box 102
New Lisbon, NJ 08064

Att: Terrence D. Moore
Executive Director

Dear Mr. Moore:

Enclosed please find our response to your letter dated February 28, 1992 regarding key topics for Pinelands Commission review.

Topic One: We have no problem with solid waste.

Topic Two: Resource Based Industries: The problem is that they cannot be the only industries in the municipality.

Topic Three: Economic Impacts: The economic impact is very severe. The Pinelands is not taking into consideration the economic impact on the municipality that they are regulating. The Pinelands regulations are making it difficult to collect the school taxes, which our constitution requires to be imposed, in order to meet the constitutional needs of a thorough and efficient education. The Pinelands Commission must recognize that the municipalities have other concerns beyond those within the egos of the Pinelands, such as the financing of public schools, the financing of other municipal improvements, the provision for health and safety of the residents, and without a proper tax base, no municipality can operate the way we are expected to operate under Pinelands regulations.

Topic Four: Pinelands Permitting: We feel that the Pinelands is operated too strictly, that they follow some untried textbook theories, which we simply do not feel are working in practice.

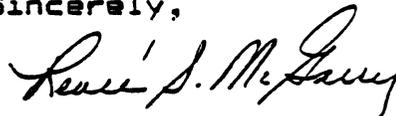
Topic Five: Growth Demands and Policies: This is best left to the municipality and not to the Pinelands Commission, particularly in a municipality such as Estell Manor, where the philosophy for limited but orderly growth, which is consistent with the overall philosophy of the Pinelands. The problem is we feel the local officials are far better able to determine the

APR 06 1992

specific needs of the community and the specific details as to how the community should be regulated better than the Pinelands Commission, which does not consist of any local residents in the case of Estell Manor, which is geographically removed a distance of approximately fifty miles.

If you should have any questions regarding the above comments, please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Renee S. McGarry".

Renee S. McGarry
Secretary



Pinelands
Preservation Alliance

120-348 Whitesbog Road • Browns Mills, NJ 08015 • (609) 893-4747

April 17, 1992

Mr. Terrence Moore
The Pinelands Commission
P. O. Box 7
New Lisbon NJ, 08064

Dear Mr. Moore;

In response to your letter of February 28, I have enclosed recommendations on approaches to five of the key topics the Pinelands Commission has selected for review.

Earlier this month, fifteen members of the Pinelands Preservation Alliance's Plan Review Committee spent a day reviewing these five topics. Individuals who attended the meeting spent the intervening time writing recommendations for the expert panels to consider.

The results are enclosed. The subjects and the authors are:

Topic 1 Solid Waste	Dr. Gerard Vriens
Topic 2 Forestry	Dr. Emile DeVito
Topic 2 Resource Extraction	William Smith
Topic 3 Economic Impact	Sally Price
Topic 5 Growth Demands	William Neil

The pressure of the short time available and other commitments means that the submissions on the last two topics will be hand carried to you next week. Those subjects and the authors are:

Topic 2 Agriculture	Michele Byers
Topic 4 Permitting	Janet Larson

As the full PPA committee reviews the attachments and has further suggestions, they will be submitted to you or the expert panels.

The PPA appreciates this opportunity to submit recommendations to you and the expert panels and looks forward to the meetings of the panels.


Don Kirchhoffer
Coordinator,
PPA Plan Review Committee

The Board of Trustees

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League of Women Voters of NJ

David J. Bardin, Esq.
Arent Fox Law Firm
of Wash., DC; Former
NJ D.E.P. Commissioner

Judith Shaw Berry
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Advisors; Former Chief
of Staff, NJ D.O.T.

Howard P. Boyd
Past Pres., American
Entomological Society;
Author, *A Field Guide to
the Pine Barrens of NJ*

Michael F. Catania
Esqleton Institute;
Former Deputy Com-
missioner, NJ D.E.P.

Buntzie Ellis Churchill
President, World Affairs
Council of Philadelphia

Sally Dudley
Executive Director,
Ass'n of NJ Environ-
mental Commissions

Michael Gallaway
Pinelands Coordinator,
Sierra Club

David F. Moore
Executive Director,
New Jersey Conser-
vation Foundation

Franklin E. Parker
Director, NJ Field Office
of Trust for Public Land

James T.B. Tripp, Esq.
General Counsel, Environ-
mental Defense Fund

Nan Hunter-Walnut
Coordinator,
Pine Barrens Coalition

April 16, 1992

New Jersey Pinelands Comprehensive Management Plan Review

TOPIC 2 - Resource Based Industries - Forestry in the New
Jersey Pinelands

I - Current Policies:

Current CMP Forestry standards for privately owned lands encourage commercial forestry which is conducted in a manner designed to protect the integrity of the timber resource. Pinelands municipal master plans require forests to be managed under approved forestry management plans and forestry activities generally conform to established practices. Unfortunately, typical forestry plans seldom are holistic in their approach. Rather than treating the forest community as a complex assemblage of plants and animals, forest management plans often address forests as agricultural plots with long-term crop rotation.

While it may be difficult to enhance forestry practices on private forest lands, clear opportunity exists to enlist state foresters, conservation groups, plant and animal experts, and wildlife managers in an innovative, holistic approach to the management of the forest ecosystem.

II - Current Trends and Concerns:

The overriding concern over forest management of public lands is the current lack of long-term plans. Plans which are being developed are welcome, but it is unlikely these plans look beyond the timber resources and their management. Without this effort, an opportunity to create an encompassing holistic plan which enhances the integrity of Pinelands forest resources will be lost.

Recently, concerns regarding clear-cutting have been voiced by such varied groups as hunting clubs and the endangered and non-game biologists. Objectives have been voiced about poor stewardship at Atlantic White Cedar forests, and many ecologists are aghast at the resurrection of the bad idea of converting vast areas of public lands to non-native loblolly hybrid plantations. Others are concerned about the harvesting of forest resources being driven by sporadic needs for oak cordwood or wood chips for sewage sludge, rather than by a management goal and needs of a particular forest. Too often, the cuts appear to be planned first, with the ensuing silvicultural justification for the cut invented later.

Forestry in the Pinelands must serve the essential function of improving the quality of Pinelands resources. From a wide variety of viewpoints, human manipulation of Pinelands habitats can be a positive tool. The key is that human disturbances must be made to mimic natural disturbances, thus creating unique habitats essential for the expansion of populations of the most characteristic and unique Pinelands species.

The Pinelands Preservation Alliance does not support an awkward and ecologically unsound position against the harvesting of trees, or against all clearcutting. What we object to is the profligation of archaic forestry techniques, the unsound ecological rhetoric with which cuts are justified, and the establishment of cuts based on resource demands rather than based on the goals established in long-term, holistic, forest ecosystem management plans.

III - Goals & Recommendations

The goals of forestry in the Pinelands should all be designed to enhance Pinelands resources. Long-term enhancement of specific tracts for oak, pine, or cedar is a reasonable goal, but should be part of an overall landscape plan which incorporates not only these habitats but other essential elements of the Pinelands mosaic, such as rare plants or animal habitats. In some regions, forest fragmentation is a major concern, while in other regions, it is less of a problem. A holistic plan should determine where various concerns are important and when different types of management scenarios must be enacted.

First and foremost, all public lands within jurisdiction of the Pinelands CMP must be governed by a long-term management plan. Currently, no such plans exist, and those being developed do not contain a holistic view of ecosystem management. The Pinelands are a mosaic, and should be treated as such. Eliminating the chainsaw can be just as harmful to preserving unique resources as the elimination of fire, beavers, and other natural disturbances. The north-central Pinelands contains unique communities of plants and animals which are less sensitive to forest fragmentation than any other region in New Jersey. Portions of Lebanon and Wharton State Forests are suited for logging, but rather than simply extracting oak, cedar, or pine "because it's there" each cut should have clear objectives.

Examples of holistic approaches to ecosystem management:

1) Rare and unique community development

Any post-cut may be a prime location for the management of rare or unique species which depend upon open, burned areas. Cut areas should have portions set aside for future management as rare species areas. There is no reason why every cut area should be encouraged to rapidly grow back with another set of trees.

Some of the most spectacular areas in the Pinelands are clearings without trees, and were created by man and/or fire. When a harvest is intended to create a "target future stand of trees," the rationale should be reviewed and agreed to by the diverse array of experts on the Forest Advisory Committee.

2) "Burn-Hot" Pine Barrens Community Development

Control burning is a useful tool for protecting developed property, or for protecting and encouraging a particular stand of trees to grow toward harvest in a specific way. But there are large areas of the Pinelands where Pinelands resources are severely degraded by control burning. Control burning reduces species diversity, homogenizes forest composition, and makes the woodland more akin to agriculture than to a diverse forest. Long-term management plans should include the identification of corridors of forest where control burns and future harvests will occur. The intervening locations; surrounded by areas of control burned forest which are relatively inflammable, should be encouraged to burn hot. This would insure that the communities of plants so unique to the Pinelands are encouraged.

The state foresters have maintained that only a small percent of public lands are planned for cutting, and projections for cutting in a long-term plan will still only encompass a relatively small area of the state forest lands. These lands to be cut should be used to enhance the remaining public lands. Planned control burns, future harvests, and uncut areas can be integrated so as to provide for a wide variety of Pinelands environments, encouraging rare plants and animals and providing a mosaic where hot fires may occur without harm to people or property.

3) Contiguous Forest Management Areas

The southern Pinelands forests differ dramatically from the north-central forests. The larger component of oak in the forest, as well as a more diverse structure of herb, canopy, and shrub layers, houses a community of plants and

especially animals which are much more sensitive to forest fragmentation. The long-range management plan for public lands south of the Atlantic City Expressway should be less harvest-oriented, and should focus on the preservation of large, contiguous blocks of forest, including large forest buffers for endangered species such as barred owls, tiger salamanders and bald eagles, and future threatened species such as neotropical migrant songbirds. Areas where harvests can be focused are those where towns, roads, or farms have already severely fragmented the forest and, therefore, contain fewer endangered species. These smaller woodlots should begin to be managed in order to promote the establishment of hardwood stands suitable for timber harvest.

4) Cedar Swamp Moratorium

Simply stated, we know almost nothing about Atlantic White Cedar Swamps. Certain individuals claim to know how to regenerate cedar swamps by manipulating water levels, fencing out deer, or by other methods. A few individuals have had great success at germinating seedlings in nurseries while others have had little success. Almost no one ever mentions other factors, such as the effect of seed predators (redback voles), other herbivores, insects, and abandoned beaver ponds. Hundreds of years ago, something was responsible for the generation of even-aged large stands of Chaemaecyparis. Of course, the role of fires is also frequently discussed as destructive, but regenerative scenarios can also be proposed.

The PPA strongly recommends that no more Atlantic White Cedar be harvested on public lands until research on deer, beaver, voles, insect predators and herbivores, fire, wet and dry years, proximity of seed sources, and other factors are thoroughly investigated. Foresters, ecologists, and graduate students from our many universities should focus their efforts on conducting a wealth of long-term studies in the field using designated experimental study plots. These tracts of cedar may be cut or otherwise manipulated only for carefully designed experimentation. The onslaught on Atlantic White Cedar will doubtless continue on private lands, so let's use our state forests to study the resource. We should not continue to cut cedar due to questionable, market driven pressure, inventing explanations as to how and why the cedar will return on the site, and hoping that it will. Let's cooperate and learn something. The next generation of foresters, sawmill operators, and rare bird and plant watchers will be proud!

These suggestions will, no doubt, be controversial. Suggesting that cutting of public lands should be done in areas where fragmentation has already occurred means that cuts will be nearer to people! Suggesting that cutting and control burning create other areas where hot fires can safely

occur to promote unique Pinelands species may not be well received by those only familiar with an archaic, "Smokey-the-Bear" attitudes toward forests. Learning about the role of beavers, voles, and the manipulation of water levels in the establishment of cedar swamps will no doubt try the patience of those who stand to profit by the continued long-term cutting of the Atlantic White Cedar resource.

Foresters, plant and animal ecologists, landscape ecologists, and habitat management experts must all work together in achieving a level of resource management which has never before existed. Managing the Pinelands to preserve all of the Pinelands resources cannot be accomplished by any one group of professionals. It is a difficult task but one which can occur if we are willing to shed our previous misconceptions and develop an enlightened set of new goals and objectives. Recent cooperation between foresters, ecologists, hunter groups and conservation groups is evidence that we are ready to tackle the larger task of developing a long-term management plan for Pinelands forest resources.

The Pinelands Preservation Alliance offers its assistance and enthusiastically awaits the opportunity to help create a new vision for our Pinelands forests.

April 15, 1992

Mr. Terry Moore
Executive Director, Pinelands Commission
PO Box 7
New Lisbon, NJ 08064

Re: Plan Review

Dear Mr. Moore,

Thank you for the opportunity to comment on approaches for studying topics selected for plan review. I am making these comments on behalf of the New Jersey Chapter of the Sierra Club. I would like to restrict my comments to topics #2 and #3, resource-based industries in the Pinelands and economic impacts of the plan on traditional industries.

We recognize the need for active forestry practices in the Pinelands, both as a continuation of traditional Pinelands life as well as providing wood products for the marketplace. But we are concerned that current forestry management practices on public lands may not be adequate for long-term protection and enhancement of the forest resources and may also clash with other goals of public land management such as preservation of ecosystems, maintenance of aesthetic values, and providing a wide range of outdoor recreational activities.

The State Forestry Department says that logging on public lands is economically necessary to provide wood for the state's wood products industry. They also state that 85% of New Jersey's woodlands are privately owned. An approach to determining the adequacy of the CMP in this area would be a detailed assessment of the economics of forestry practices on private vs. public lands. What portion of the state's (or Pinelands) forestry activities take place on public lands, and what economic benefits do the people of New Jersey receive? Do forestry activities subsidize the Forestry Dept. budget? Does the Forest Service lease lands for logging at less than market value, in effect subsidizing the use of public lands for this purpose? And do these practices negatively affect the market for forestry on private lands? Comparisons could be made between Pinelands forestry activities and those in the rest of the state. Perhaps state forests in the Pinelands and the wood products industry would both be better served by confining large-scale cutting of trees to private lands. State forestry personnel could be used to encourage better silvicultural techniques on private lands, providing a better return for landowners as well as helping to maintain open lands, which benefits the public. Such studies could probably use existing data from the State Forestry Dept. and private forestry organizations.

Any studies of the economic impact of the CMP should consider the potential negative impacts of large scale resource extraction (mining, logging) on recreation and tourism. An additional

threat to certain forms of recreation as well as to Pinelands forests is the inappropriate use of motorized vehicles in the Pinelands. The Sierra Club thinks that the amount of public land in the Pinelands where vehicular access is prohibited (natural areas, etc) is vastly underrepresented when compared to the total amount of land where vehicles are allowed. We recognize the rights of all users of public lands, but feel that there is a great imbalance in how public lands are designated and managed in the Pinelands. Designation of more natural areas could provide economic benefits to surrounding communities, providers of outdoor equipment, etc. A simple methodology to study this issue would be to compare the percentage of public lands in surrounding states that are managed as wilderness areas or where vehicular access is restricted. Certain types of hunting can benefit from restricted access as well, and comments could be solicited from Fish and Game authorities in other states as to the acceptance of these designations by hunters.

Thank you again for the opportunity to make these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Gallaway", with a long horizontal flourish extending to the right.

Michael Gallaway
Pinelands Coordinator
New Jersey Chapter, Sierra Club



J. H. CRESSON
FORTY EAST SECOND STREET
MOORESTOWN, N. J. 08057

FILE 13 1992

April 10, 1992

New Jersey Pinelands Commission
P.O.Box 7
New Lisbon, N.J. 08064

To: Executive Director, Terrence Moore and Commissioners
re: Key Topics for Pinelands Commission Review-"The management, protection and scientific use of cultural resources in the New Jersey Pinelands

In regard to Topic 2: Resource Based Industries, ie. berry farming, the construction and maintenance of berms, dikes and road systems has destroyed irreplaceable archaeological resources and continues to impact and threaten these resources as berry farming practices employ borrow pitting tactics extracting undisturbed soils (sand and gravel) from adjacent or nearby upland pristine locations. Each time this is conducted whole or parts of New Jersey and Pinelands history and prehistory are destroyed.

Policies in the past have either ignored or grandfathered the activity since it has been a long held Pinelands agricultural practice; or treated this as a trade-off situation choosing not to regulate at all since other newer land use practices were easier and less controversial to bring into compliance. The problem is, the very environments that these berry farms occupy-former cedar swamps and adjacent environs-comprise a narrow range of micro environmental niches that are totally unstudied and unknown from the standpoint of early human land use. eg. headwater drainage divide basin of the Rancocas and Mullica systems.

Assessment should be conducted on berry farming practices within the Pinelands and especially in these critical areas to both evaluate the extent of damage (past and ongoing) as well as propose and initiate a selective archaeological program of sampling and retrieval in order to preserve and interpret the past cultural behavior before its totally destroyed.

In regard to activities related to forest management, a topic in and of itself usually of low impact to cultural resources unless new roads and staging areas are being cut or established in locales adjacent to wetlands, ie. present day cedar logging,

or situated on upland dune ridges and terraces. Certain specific landforms with affinities to earlier human associations need to be recognized, mapped and studied as potential sources of historic and prehistoric data.

Also other forest management practices that employ fire prevention techniques using ditches, breaks and fire roads need to be more fully assessed. If possible when these impact areas are predetermined by forest management schemes consideration should be taken to avoid the potential occurrence or mitigate the archaeological resources in these areas.

Under Topic 4, Pinelands Permitting, although I am not adverse to the streamlining of Pineland review and permitting practices but as expressed in a previous letter regarding this topic (see enclosed) serious shortfalls in the protection, management and scientific investigation of cultural resources are still unresolved. (See my letter of Dec. 11, 1991 for specific concerns and recommendations). All archaeological resources need to be proportionally sampled for site specific data regardless of their positions within or outside of the buffers.

Respectfully submitted,



John H. Cresson

JHC/cmc

cc Dr. Barry Brady, N.J. Pinelands Commission

Dr. Anthony Ranere, Temple University, Archaeological Consultant

Joseph Arsenault, Environmental Consultant



J. H. CRESSON
FORTY EAST SECOND STREET
MOORESTOWN N. J. 08057

December 11, 1991

N.J. Pinelands Commission
P.O. Box 7
New Lisbon, N.J. 08064

Maureen, please bring this to the attention of the Commissioners ASAP
re: Issues facing future Pinelands research in archaeological
sampling and collection in buffer areas

An issue of serious concern is the management, protection and scientific use of cultural resources in buffer, deed restricted and set-aside parcels after Pinelands approval. This circumstance serves to greatly impede historical and scientific research. Since little regulation and no protection or retrieval mechanisms exists for archaeological data inquiry after sub-division and individual property ownership an improved program needs to be implemented to both safeguard and sample these resources in the planning and application stages as well as after construction and individual property ownership.

My recommendation is first, to provide some legal and enforcement mechanisms with 'teeth' to prevent individual property owners from knowingly or unknowingly destroying cultural resources in these designated zones; second, to sample all sites of cultural use and resource found within these zones in stage I & II archaeological surveys and third, to establish a separate repository for Pinelands cultural resources for ongoing and future scientific research so a more uniform singular body of documents and artifacts are in one place.

An enormous potential exists for gleaning more direct, pristine and unfettered knowledge of Pinelands history and prehistory in these zones since most of the already known resources occur within 'wetland' buffers. As concerned and serious researchers we are overlooking a large body of data and research potential under the guise of 'protection' that in effect, to this day, denies purposeful, necessary scientific research from these neglected areas.

In essence, we are only getting a minute flicker of reflection through the window of the past in Pinelands history and land-use.

Respectfully submitted,

John H. Cresson

APR 20 1992

The Allegheny Society of American Foresters

NEW JERSEY DIVISION



KEY TOPICS FOR PINELANDS COMMISSION REVIEW

TOPIC 2: RESOURCE BASED INDUSTRIES

Pinelands Commission Statement: "Assess CMP standards for forestry, agriculture, and resource extraction and determine whether changes are necessary to maintain the viability of these uses and enhance Pinelands protection."

N.J.SAF Statement: The New Jersey Division of the Allegheny Society of American Foresters believes the formidable review necessary to get a forestry (harvesting) permit in the Pinelands inhibits forest management in the Pinelands and has an adverse effect on the health, biological diversity, and cultural heritage of the Pinelands.

The current process, through the Pinelands development review procedure, has resulted in forestry's adoption as development at the municipal level in their land use ordinances or master plan. Many municipalities choose to regulate forestry through planning boards. Consequently, site plans are required just like with a major subdivision or mining proposal. Surveyors, engineers, and environmental specialists may be required. The result is a time consuming, often prohibitively expensive review with no guarantee a permit will be granted at all.

Municipalities that don't require application to the planning board may enforce their ordinances through the zoning officer, or building inspector, or council, or the environmental commission. Some planning boards may waive the site plan, others will not. Some municipalities don't want to be bothered by it at all.

On the other hand, agriculture is not reviewed by the Pinelands Commission and is protected from municipal nuisance ordinances. Forestry has much more in common with agriculture than it does with the development activities it is currently associated with.

The need for uniform, workable regulation is apparent. N.J. SAF would like to see forestry permits removed from the development review process and simplified and made uniform at the Municipal level.

Questions to address:

Additional Research:

1. The questions to be studied are simple: a) Is forest management allowed, and to be encouraged in the Pinelands as the CMP currently indicates?
b) Are Pinelands landowners currently able to practice forestry on their lands throughout the Pinelands or where it is allowed or encouraged under the current system of regulation?
c) How has the forest industry dependent on Pinelands timber fared since the inception of the Pinelands Commission current permit review system?
d) Are the forest dependent aspects of the Pinelands cultural heritage thriving?
2. The answers to the questions above can be found in the Pinelands CMP, municipal ordinances or master plans, state records on forest products statistics, and testimony gathered over the review period.

Policies and Regulations

1. We feel regulations need to be changed and further study on the matter is unnecessary. Alternatives need to be developed. Some alternatives are: A. Forestry not reviewed at all by the Pinelands Commission and be protected from nuisance ordinances like agriculture. B. A system where the Bureau of Forestry reviews applications and reports to the Commission a summary of events. C. Pinelands foresters review applications and work with the forester or landowner to protect Pinelands interests. D. Install a uniform process at the municipal level.
2. Changes like those suggested above will accomplish: A. A uniform and predictable permit process. B. A financially feasible process. C. Enable landowners to manage their forests unencumbered by excessive regulation. The benefits of good forest management are consistent with the goals of the Pinelands as we understand them.
3. We feel qualified to present ourselves as technical experts on forestry, but are not familiar with the Pinelands Protection Act and federal Pinelands legislation and are unable to comment.
4. The importance of the woods to the character and qualities of the Pinelands is well documented and generally understood. Forest managements' connection to biological diversity and ecosystem health is also well documented. Specific sources can be provided should the upcoming workshops request them.

Other Approaches:

No further comment.

The N.J. SAF appreciates the Pinelands Commission's responding to the problem and allowing the opportunity to express our concerns. Please keep us informed of events. If

we can be of assistance to the workshops of technical experts or participate in them in anyway, we would welcome the opportunity.

Respectfully submitted,

A handwritten signature in black ink that reads "Craig Kane". The signature is written in a cursive style with a long horizontal stroke at the end.

Craig Kane
Executive Committee N.J.SAF

South Jersey Forest Resource Council
Dedicated To The Conservation of New Jersey Forests

FILE COPY
1992

April 17, 1992

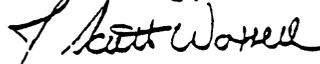
Terrence D. Moore
Executive Director
Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

Dear Mr. Moore:

Over the past several years, the members of our organization have been deeply concerned about the forestry standards contained in the Pinelands Comprehensive Management Plan. We hope that you and your staff will receive and review our comments with the same spirit in which they are offered; that is to encourage the conservation of forests within the region.

Since the last plan review, programs offered by other governmental agencies have been quite successful at renewing interest in forest conservation. We hope that the Pinelands Commission will join the effort. Given this renewed public interest, it would be most beneficial if greater and more meaningful participation of the people working with forest resources could be included in the review process.

Sincerely,



J. Scott Worrell
Council Member, N.J.F.R.C.

COMMENTS REGARDING
THE PINELANDS COMMISSION'S REVIEW
CONCERNING AN ASSESSMENT OF HOW CURRENT CMP STANDARDS
EFFECT THE VIABILITY OF FOREST MANAGEMENT
WITHIN THE REGION

Submitted By

THE SOUTH JERSEY FOREST RESOURCE COUNCIL

To assess the present CMP standards and make determinations about forestry's viability in the region, it is necessary to understand that forestry goes beyond the harvesting of trees, just as wildlife management goes beyond the shooting of animals. Forestry is an issue of social, economic, historic, biological, philosophical and moral importance. As we are all aware the whole region has evolved from a dramatic series of geological events coupled with the dynamic forces of climate, fire and more recently man.

Since colonization, man has added greatly to the dimension of disturbance and change within the region by the repeated removal of forest growth. Man's influence also greatly increased the frequency of wildfires. The first colonists in the region were woodcutters. Most of the early settlements were established around sawmills. All of the early industries, sawmills, iron mills, boat yards, glass factories and charcoalers were made possible and driven by the forest resources of the region. Even the cranberry and blueberry industries were made possible by the forests. Outside of these industries, a culture of people was born with a life style directly linked to the forest's renewable resources. These people stayed when the industries moved on, they made their living off the land. They made duck boats and garrets, decoys, agricultural supplies and equipment, poles, logs, timber and siding to build cabins and homes. They heated their homes with wood and sold wood to others to heat their homes. For three hundred years the region's forest resources have been used to provide for the rich historical and cultural heritage we cherish today.

There is nothing new here, the importance of forestry and it's relationship with all aspects of the pinelands region is well documented in chapter after chapter of the CMP. It is also well documented in the Commission's video which was prepared in testimony to the region and the cultural heritage of it's people.

The forests we know today were not born from some unique evolutionary process, but are a result of their intensive use by man. The forests we know today bear the scars of fire; they have been genetically degraded from over-cutting and poor management. It has been estimated that most of the region's forests have been cut over as many as five times. In the 1800's fires raged out of control. During this time it was calculated that all areas within the pinelands region was destroyed by fire every 20 years. These conditions were not the result of forest management, these conditions resulted from the lack of forest management.

The people of the region, that stayed here and chose not to follow the expanding frontiers, began to develop a new land ethic. Just prior to the turn of the century, the people sought government intervention to develop a means to protect and conserve the forests. Following a study and report, completed by the nations leading forester, Gifford Pinchot, the original Park Commission was formed. This Commission was charged with the protection of our forests through the use of sound forest management and conservation. The Bureau of Parks and Forestry, and the Forest Fire Service were born from this original Commission; their charters today reflect the original basic intent, to protect and conserve the forests for the good of all the people. Following the establishment of the Park Commission, a program of public land acquisition began. This public land was acquired with a tenet which required that forest management goals be developed to insure that forest productivity be expanded and that public lands provide an opportunity to research and demonstrate sound forest management.

It was calculated that these research and demonstration forests would encourage all land owners to practice sound forest management; to the benefit of all the people.

Forestry is a multi-faceted issue, deeply rooted in history, ecology, sociology and the morals of the people. Forestry is the manipulation of a renewable resource to sustain all previously mentioned values. It is a promise of public trust from years past and years yet to come; that trust was confirmed by the original Pinelands legislation. Forestry is the right of a landowner to care for and sustain a renewable resource on their lands. To pass along a land value, ethic and heritage to the next generation. Forestry is not simply an economic value. The importance and benefit of forest management can not be simply extracted and accrued to any single use or user. Forestry is an agricultural activity, it cannot be equated to a fast food store, a gas station, or any other type of development. Forestry is a commitment to the environment, to the land, to wildlife and to the future. Only through forest management, can we sustain, improve and carry forward the forests we enjoy today. For instance, without forest management, much of our cedar stands will be lost by the successional force of change occurring within our forests. Thus by withholding management, we will be breaking the legislated promise to generations past, present and future, to protect and enhance these Pineland resources. Further, it would be environmentally irresponsible to allow forests to grow decadent. Such forests have greatly reduced capacities to sequester carbon, supply oxygen, enhance water quality, reduce the effects of pollution and provide for the greatest level of biological diversity.

The importance of the forest, it's management, it's resources and it's benefits, was recognized by our ancestors. They endeavored, with public support, to provide us with the forests we enjoy today, through the use of legislation to promote forest management for the good of all the people. This comment continues today. The federal government offers several programs which provide economic incentives to promote the creation and maintenance of forest lands. The state also offers economic incentives for the same purpose. However, these incentives do not come without a cost. Landowners wishing to receive these benefits must make a commitment to sound forest management. They must also comply with guidelines and inspections to help insure the success of the public commitment. These programs have been very successful in encouraging sound forest management; this success is easily recognized. This same public trust has been expressed in the Pinelands legislation, however, the success of this legislation is at best in doubt. After more than a decade of Pinelands regulation we find ourselves asking if the management of our forests is being encouraged. Sadly, there is very little evidence to support this proposition. However, we are at a point in time where we can address this issue. The Pinelands Board of Commissioners have recognized that the issue of forest management needs to be examined and addressed. To this end they have solicited public comment. The South Jersey Forest Resource Council respectfully offers the following comments in answer to this solicitation.

The assessment of the effectiveness of Pinelands regulations regarding forestry issues should be addressed on several levels:

- 1) The number of landowners enrolled in government programs linked to forest management assistance and subsidies should be compared to the number of applications received by Pinelands regarding forest management and how many of the applications received were approved. It should be further investigated how many of the applications approved by Pinelands, were approved on the township level.
- 2) Trends should be addressed through an analysis of data from a Federal/State program of forest health monitoring.
- 3) Trends should also be addressed by an analysis of data collected by the U.S. Forest Survey, which is conducted about once every decade.
- 4) Studies and evaluations of existing data should be conducted to measure population trends of rare and endangered plants and animals with regard to forest management practices and trends.
- 5) Assess the number of people currently involved in forest related activities versus the number of people involved in the past (ie: foresters, sawmills, woodcutters, boat builders, decoy carvers, and other crafts people). Further these people should be interviewed to determine if Pinelands regulations have encouraged and promoted their traditional activities.
- 6) A survey of professional organizations should be conducted to determine how current Pineland regulations effect forest practices. Organizations should include: New Jersey Society of American Foresters, South Jersey Forest Resource Council, New Jersey Approved Consulting Foresters, the New Jersey Forest Service and the New Jersey Forest Fire Service.

Most of the above recommendations can be completed by a simple review of existing data, which is commonly available. The Bureau of Parks and Forestry, as well as, the New Jersey Forest Fire Service has this information on hand and personnel who are familiar with it's content. Further the Bureau of Parks and Forestry could be utilized to a great extent in developing additional information. Therefore, these studies could be completed without any significant drain on Pinelands staff manpower.

A through analysis of the CMP standards regarding forestry and related issues must be a elemental part of the current review process; the following should be considered and addressed during this process:

- 1) Forestry must be removed from it's inclusion with "Major Development" and returned to its own section within the CMP. The inclusion of forestry with "Major Development" is completely inconsistent with the Pinelands legislation, the CMP, and every other federal and state program, legislation, and definition.
- 2) Forestry standards must be consistent with other state and federal programs, including: Agricultural Conservation Program, Forestry Incentives Program, Woodland Tax Assessment, and the Forest Stewardship Program.
- 3) Like the programs noted above, forestry standards must be flexible enough to fit various forest conditions. Every forest is composed of an individual continuum of natural variables and therefore, cannot be managed in a "cookbook fashion".
- 4) Forest standards must also be comprehensive enough to encourage good forest management and discourage poor forest management. They must strike a balance between addressing the various needs of the users, protecting the resource from destruction and destroying the resource through protection.

- 5) Forest standards must not arbitrarily revoke the standard and accepted tools of management. For example standards should not be upheld to exclude the use of white pine, loblolly pine or pitch pine hybrids in reforestation projects. These species are not degradative to the environment, but to the contrary, each will add to the genetic pool, which in turn will add to biological diversity and resilience of the environment. Further, white pine and loblolly pine already naturally exist within the pinelands environment.

Again most of these issues can be addressed with ease. Most of the research and regulations regarding these issues already exist, and have proven themselves over the test of time. If assistance from Forest Service personnel, as well as, other forestry professionals is used; these matters can be rapidly addressed without any substantial cost to the Pinelands staff.

It is also essential that the Forestry Permitting process be completely revised. The permit process, now in place, is so cumbersome, intimidating and costly that there can be no doubt the process discourages good forest management. The exasperations of the process is so well known that landowners will not even attempt to obtain permits. Therefore, whatever forest practices are attempted are applied without any guidance or oversight. Secondly, due to the high cost and trouble of the permit process, legitimate applied forest management necessarily must recover these costs, therefore the practices must be of a larger scale and of more intensive use. The overall effects of the current permitting process runs in direct opposition to all of the stated goals of the Pinelands Commission.

- 1) The first step in rectifying this situation is to stop reviewing forestry applications as applications for major development, as is currently done. Although the forest standards are still under the forestry section, the application review process is contained within the application and review requirements for major development. Under this title, forestry applicants have been asked for cultural resource surveys, wetland delineations and buffer models, surveys for threatened and endangered species, access agreements, public comment, as well as, a host of other issues otherwise reserved only for major subdivisions and commercial development.
- 2) The review process must be simplified, redundant review must also be eliminated. Under the current process, the application is first reviewed by Pinelands staff, it is then reviewed by the Bureau of Parks and Forestry, it is reviewed again by the Pinelands staff, at this point a certificate of filing may be obtained, if so, the applicant then proceeds to the township level, where they are open to review by the township committee, the planning board, environmental commissions, the township engineer, and the township solicitor (if the landowner is incorporated they must be represented by an attorney). If at any point any of these reviews require changes as a condition of approval, the applicant must go back to Pinelands where the review process can begin all over again. Even if the applicant obtains township level approval without any modifications, they must still go back to the Pinelands for final approval. Most of this regulatory tangle is due to the fact that forestry applications are treated as applications for major development as mandated by current Pinelands regulations. As most of this has little or nothing to do with forest management, almost all of it can be dismantled without reducing forest regulation.

- 3) Application costs must be reduced. Under the current system an applicant is subject to a wide array of fees, including: escrows, application fees based on arbitrary standards, consultant fees, legal counsel fees, inspection fees, township processing fees, publication and notification fees, fees for review from township engineers and attorneys. The sum of these fees may be prohibitive, are at least constrictive and always detrimental. As with the cost of the review process, it forces forest practices towards recovering these costs to the detriment of silviculture.
- 4) Associated with the costs noted above, there is still another cost issue which must be addressed. Presently there is a requirement for posting a bond for forestry permits. There is no language describing the intent of the bond, what it is to be used for, how it is to be regulated, or how it will be enforced. The process for determining the amount of the bond does not consider impact or risk, but is based upon the economic gain of the practice. As it now stands the bond is nothing more than a pre-paid fine, collectable at the whim of the authority who holds it.
- 5) The process of permit application procedures and costs associated the permit procedure must be addressed on the township level as well. Without revision on the township level, any revision on the regional level will not be of any benefit. If the Pinelands Commission has any desire what so ever to encourage good forest management it must assure that forestry is dealt with in a reasonable manner at the township level, as it does with all other issues it wishes to encourage. One example is agriculture, the Pinelands regulations do not allow township regulations to be more restrictive concerning agricultural operations.

The five issues described above can be addressed and effected very simply. No research is needed and very little manpower will be required. It is simply a matter of returning forestry to it's proper and original place within the CMP standards and regulations, with very little revision required.

Almost all of the problems associated with the application review process, associated costs, site inspection and compliance can be resolved with one very simple solution. This solution is to delegate the entire review and inspection process to the State Forestry Services.

- 1) The State Forest Service has the expert manpower already on staff to provide the required services.
- 2) They have the required facilities in place and are distributed throughout the region.
- 3) They are already responsible for and conduct on a regular basis, regulatory administration and compliance inspections for a wide variety of state and federal forestry programs. Therefore greater consistency and compliance with all other forestry programs, as well as Pinelands regulations, will be achieved, while reducing the demands on the Pinelands staff.
- 4) The delegation of a review, inspection and compliance issue to another regulatory agency is consistent with current Pinelands staff operations; examples include: septic systems (County Health Departments), agricultural planning (Soil Conservation Districts), preliminary threatened and endangered species surveys (Heritage Foundation), building and site compliance (Township Code Officials).

The problems associated with forest management issues within the Pinelands Region are not and need not be complex. The problems are easily identified and have simple solutions. The fundamental questions which needs to be addressed is whether or not the Pinelands Commission wishes to encourage sound forest management. There are a wide variety of federal and state agencies which sponsor, are responsible for administering, or are otherwise committed to programs which do encourage sound forest management, including: U.S.D.A. Forest Service, U.S. Agricultural Stabilization and Conservation Service, Office of Natural Lands Management, N.J. Bureau of Forest Management, Rutgers Cooperative Extension Service, and the N.J. Division of Fish, Game and Wildlife.

The programs these agencies are involved with are simple and effective; at the same time the programs address a wide variety of forestry issues and view points. Further, these programs offer substantial financial incentives to manage forests for a variety of purposes. This reaffirms that the people are committed to encouraging sound forest management and have again backed this commitment with additional funding from the public trust.

With this review of forestry, the Pinelands Commission stands at a cross roads. If nothing is done to address the problems concerning forest management within the region, if nothing is done to bring Pinelands regulations in line with the other forest management programs so that they may be successfully implemented within the region, then the public trust will be betrayed. What is done today will effect not only the present, but will also effect the trust passed to us by our forefathers and the trust which is due and expected of us by future generations.

Just as forestry is intertwined with almost all aspects of the Pinelands Region, so to is it related, at least in part, to certain aspects of all the topics under review. However, time resources were not available to adequately address these relationships. The interests of all concerned, would be best served if this inter-relationship is considered during the review process.

We also feel that it is extremely important that forest resource professionals, as well as, forest landowners, who are actively involved in forest management issues, within the region, are fairly represented on the technical expert workshop committees.

On behave of The South Jersey Forest Resource Council, I wish to thank the Commission and Staff for this opportunity to comment on this important issue. I would also like to thank the Commission and Staff for their attention and concern regarding the viability forestry within the Pinelands region.



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, N. J. 08625

DIVISION OF PARKS AND FORESTRY

PLEASE ADDRESS REPLY TO

Lebanon State Forest
PO Box 215
New Lisbon NJ 08064

April 28, 1992

Terrence D Moore
Executive Director
New Jersey Pinelands Commission
PO Box 7
New Lisbon NJ 08064

Dear Mr Moore:

I was quite pleased to learn recently that the Pinelands Commission has convened expert panels to review key topics including forestry in the Pinelands. It is becoming increasingly obvious that this review is needed.

As a forest superintendent, I am in the unique position of being both a supplier of raw materials, and consumer of finished products. It is becoming ever more difficult to provide timber for sale, and conversely, to purchase needed finished products. I have recently tried to purchase large quantities of white cedar boards, shingles, etc. for restoration of historic structures at Whitesbog Village. Ten years ago I could purchase these materials from any one of several sawmills. Today I find only one mill operating, which can provide only a portion of what is needed.

Forestry in the Pinelands is suffering. It has apparently become so difficult to obtain a harvesting permit that this activity has almost ceased entirely. This was never intended by the Pinelands Act, as witnessed by the Comprehensive Management Plan. Section 6-401 of that plan states the following:

"Forest vegetation represents a unique and financially valuable part of the essential character of the Pinelands. If they are properly managed, Pinelands forests represent significant economic opportunities to their owners while perpetuating the overall ecological value of the Pinelands. This part encourages commercial forestry that will maximize forest land values and provide for the long-term economic and environmental integrity of the Pinelands."

Terrence D. Moore
Page 2

The wisdom of this section lies in its acceptance that economic and environmental issues are inevitably linked in the Pinelands, and are not mutually exclusive. The forest management objectives on State owned lands can usually only be accomplished by commercial timber sales. The timber sale contract is carefully constructed to meet the silvicultural needs of the forest.

Proper forest management can be a key to maintaining the diverse environment that is the Pinelands. Indeed, it was sometimes less than proper forest management that shaped the Pinelands as we know it. Many of the rare and endangered species of the Pinelands are found in the areas of man's greatest disturbance. Yet some now call for all disturbance to cease in order to study these species and develop plans to manage them through carefully designed experimentation.

If over the course of 200 years, man's activities have given us the Pinelands we cherish today, perhaps those activities should continue even as we study and plan for the future.

I applaud your efforts to review the work of the Pinelands Commission as it relates to forestry and other issues, and wish you the best of luck in this process.

Sincerely,



Christian M. Bethmann
Superintendent

CMB/plp
c: See Page 3

c: Pinelands Commission Members

Candace McKee Ashmun
B. Budd Chavooshian
Thomas B. Darlington
Stephen V. Lee, III
Judith Norcross
Richard J. Sullivan

Ann L. Auerbach
Alan Avery
William J. Brown
Helene Chudzik
Michael J. Hogan, Esq.
Brian Lefke
K. Brian McFadden

Pinelands Forestry Workshop Participants

G. Lester Alpaugh
Thomas Breden
Robert Cartica
Paul Evans
Ted Gordon
David Harrison
Tom Hirshblond
Charles Horner

Liz Johnson
John Kuser
Robert Lund
Larry Niles
Tony Petrongolo
James Rozmus
Olin White, Jr.
Robert Zampella

Division of Parks and Forestry

Gregory A. Marshall
Richard F. Barker
Thomas J. Pogranicy

APPENDIX E

Public Comments Received After Technical Panel Meeting

JUL 14 1992 FILE COPY



NEW JERSEY FORESTRY ASSOCIATION, INC.

RONALD J. SHEAY, SECRETARY
1628 PROSPECT ST. • TRENTON, NJ 08638

DIRECTORS
Richard West, President
Charles C. Ryan, Vice President
Ronald J. Sheay, Secretary
Allison Hosford-Knight, Treasurer
John Kuser
Mrs. Sylvia Miller
George H. Pierson
Gregory Terhune
Wayne Martin
Thomas F. Bullock
Enrico Togna

196-A Madison Lane
Jamesburg, NJ 08831
July 8, 1992

Mr. Terrence D. Moore
Executive Director
Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

Dear Mr. Moore:

Please find enclosed a copy of a Resolution passed unanimously by the Board of Directors of our Association regarding the present permit requirements being employed by your Pinelands Commission.

We believe the Resolution speaks for itself and we respectfully ask you to consider this matter carefully.

It is our opinion that the encouragement of good forestry practice will enhance the retention and perpetuation of forests in the Pinelands, which is one of your stated long term goals. The current regulations do not accomplish this.

Sincerely,

Richard F. West
President

NEW JERSEY FORESTRY ASSOCIATION

RESOLUTION

WHEREAS, the New Jersey Pinelands Commission has solicited public review and comment on their present policies and requirements regarding forestry activities within their area of jurisdiction, and

WHEREAS, their current regulations and procedures require forestry practices such as timber harvesting to undergo the same application and approval procedures as is applied to major subdivisions and other developments, and

WHEREAS, we believe these requirements are illogical, unreasonable and unfair; and very burdensome to the landowner wishing to practice forestry by necessitating considerable expense, time and effort, and

WHEREAS, these requirements constitute a significant disincentive to the practice of sound forest management, and are in direct opposition to many of the federal and state agencies and programs which are directed to encourage and promote responsible forest stewardship and silvicultural practice by providing incentives for so doing, and

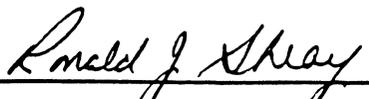
WHEREAS, forestry is an agricultural activity which does not cause a change in land use and should be treated as such, not as a development;

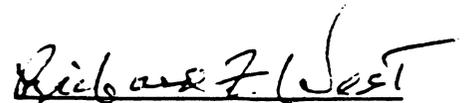
NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the 900-member New Jersey Forestry Association that the Pinelands Commission exempt forestry from the requirements of Pinelands regulations subject only to the requirement of a forest management plan approved by the Office of the State Forester, and

BE IT FURTHER RESOLVED that the State Forestry Services is the singular public agency in New Jersey with professional expertise and experience to supervise and administer forestry activities in the Pinelands, and should be delegated that responsibility by cooperative agreement with the Pinelands Commission, and

BE IT FURTHER RESOLVED that copies of this Resolution be sent to members of the Pinelands Commission and appropriate State officials.

APPROVED by the Board of Directors of the New Jersey Forestry Association at its regular meeting, on June 24, 1992.


Executive Secretary


President

JUL 17 1992

July 15, 1992

THE PINELANDS COMMISSION
P.O. BOX 7
NEW LISBON, NJ 08064

Dear Pinelands Commission:

AS MEMBERS OF THE FORESTRY ASSOC. AND LAND OWNERS IN THE PINELANDS PRESERVE, WE HAVE A VESTED INTEREST IN ANY LAWS, RULES, REGULATIONS, ETC. WHICH MAY CHANGE WITHIN YOUR JURISDICTION.

WE ARE IN COMPLETE AGREEMENT WITH THE "RESOLUTION" PRESENTED TO YOU BY N.J. FORESTRY ASSOCIATION, AND BELIEVE THAT ANY CHANGES MADE CONCERNING SUCH MATTERS SHOULD ALWAYS GET INPUT FROM THE PEOPLE WHOM ^{IT} WILL ULTIMATELY AFFECT.

SINCERELY,



NANCY M. FISHER



DANIEL D. FISHER

FILE JUN 29 1992

Andrew G. Windisch
The Nature Conservancy
P.O. Box 312
Chatsworth, NJ 08019

June 25, 1992

Mr. John Stokes
Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

Dear Mr. Stokes:

I understand that you recently conducted a CMP review workshop related to forestry in the Pinelands. One of the issues brought up by Terrance Moore and discussed briefly by the panel was the need for forestry management standards in the Pine Plains. I have prepared some Pinelands CMP amendment proposals which I feel will address the major ecological concerns of the Pine Plains region. The unique pitch pine genetics, species composition and frequent fire regime of the Pine Plains region raise special concerns pertaining not only to the Forestry Standards of the CMP, but to Fire Management Standards as well. I should state that these CMP amendment recommendations are my own, based on ecological research of the Pine Plains that I and others have done over the years.

A. PINE PLAINS AND THEIR "PRIMARY FIRESHEDS"

The proposed amendments focus on forestry and fire management activities within the "primary fireshed" of the Pine Plains, as well as the Pine Plains themselves. The pine plains community is dependent on a frequent, severe fire regime. In order to maintain such a naturally frequent fire regime, fires must be able to ignite and burn not only within the plains, but also ignite and burn from a larger, contiguous fireshed into the plains. The "primary fireshed" would be defined as the area that contains most of the fires that burn into or out of the pine plains vegetation. Although less common but far larger wildfires can enter the plains from greater distances away from the "secondary fireshed" (i.e. the entire pine barrens north of the Mullica River), the most frequent, pine plains-maintaining fires would be contained within primary firesheds extending between .25 and 4 miles from the edge of the plains vegetation. This distance depends on vegetation/soil patterns, local topography/geography and the distribution and orientation of wetlands and other firebreaks. I have prepared and enclosed a map of the East and West Plains "primary firesheds" (see attached map), the bounds of which I feel can be justified on the basis of: 1) the distribution of wildfires since the 1930's in and adjacent to the Pine Plains, documented by fire records, historical aerial photography and some preliminary tree ring analyses (Windisch and Good, 1991; Buchholz and Zampella, 1987; NJ Forest Fire Service Records); 2) distributions of dwarf pine plains, transitional pine plains (Harshberger, 1916; Lee and Millen, 1920; McCormick and Buell, 1968; Windisch, 1986) and contiguous pitch pine-blackjack oak barrens and other pine-oak

forest types (McCormick, 1970; McCormick and Jones, 1973), all of which have a similar fire-adapted species composition and high levels of serotiny among their pitch pine populations (Givnish, 1980); and 3) the distribution of firebreaks (both natural and man-made) capable of halting the majority of wildfires (Windisch, 1987), particularly with fire suppression and moderate burning conditions.

In the Forked River Mountain area, several small pockets of dwarf pine plains and hydric pine plains are surrounded by broad areas of transitional pine plains (Windisch, 1986; 1990), pitch pine-blackjack oak barrens, and other pine-oak forest types (McCormick, 1970; McCormick and Jones, 1973), most of which show very high levels of serotiny in pitch pine (Givnish, 1980). The Forked River Mountain Plains Fireshed has been delineated to include these communities (see attached map).

Some extensive tree oak-dominated stands might be considered for inclusion in the primary firesheds because of their proximity to and down wind position from pine plains vegetation without a highly effective intervening firebreak, resulting in a much greater wildfire hazard than the oak-pine fuel type would suggest. These areas include forest between the Garden State Parkway and Munion Field as part of the East Plains Fireshed, between Mill Creek and Rt. 72 as part of the East Plains Fireshed, and between Rt. 539 and Old Halfway Road as part of the West Plains Fireshed.

B. UNIQUE PITCH PINE GENETICS, SPECIES COMPOSITION AND FORESTRY STANDARDS

A whole suite of genetically controlled or influenced traits in Plains pitch pine strongly suggest a genetically distinct ecotype of pitch pine has evolved within the region's frequent, severe fire regime. These traits include early loss of apical dominance among post-fire sprouts and seed-derived stems, resulting in shrubby, contorted, or laterally sprawling growth forms (Good and Good, 1975; Windisch 1986; 1990); production of multiple basal sprouts immediately after and for many years following fire (Buchholz and Good, 1982; Windisch and Good, 1991); spontaneous production of multiple stems in saplings even in the absence of fire (J.Kuser, pers. com.; Windisch, 1990); especially precocious production of cones among sprouts and saplings (Andresen, 1957; Good and Good, 1975; Frasco and Good, 1976); and very high (90-100%) frequencies of serotiny (Givnish, 1980). This genotype occurs in the vast majority of the Plains pitch pine population, and at much lower but still significant frequencies in the surrounding fireshed, except for percent serotiny which remains high throughout.

Tree harvesting within these communities of naturally high serotiny levels is expected to select against the serotinous trait, by removing the trees and serotinous seed bank before seeds can be naturally released by fire. Not only would serotiny levels in the population decline with tree harvesting over time, but all of the unique genetic traits noted above which are often linked with serotiny would decline as well. This selection against serotiny and the unique traits would be particularly acute in stands near the periphery of these communities, or near enclaves of reduced serotiny in and near wetlands, where nearby non-serotinous pitch pine would act as the primary seed source during reestablishment of the harvest site in the absence of fire.

From the standpoint of scientific information, tree harvesting in and near the

Plains would destroy tree ring data obtainable from fire scars and stem age-cohorts, which are used to reconstruct the pre-record fire history of the region. This early fire history information is needed to develop a fire management plan for the Pine Plains and vicinity.

Because of the unique genetics of pitch pine in these communities, and the possibility of unique adaptations to frequent fire in blackjack oak and other species, all reforestation activities in disturbances should use seed locally derived from adjacent or genetically comparable populations. Also, the unique species composition most typically dominated by serotinous pitch pine and blackjack oak with high stand densities, make it necessary to revegetate using the same species composition and densities as existed prior to disturbance.

C. DEVELOPMENT IN THE PINE PLAINS REGION AND FIRE MANAGEMENT

Being among the most flammable fuel types in this country, stands of pine plains and the adjacent pine-dominated forests of their fireshed are by far the most extreme fire hazard areas in the Pinelands. In the face of the frequent catastrophic forest fires of this region, long term protection of structures by fire protection agencies should be considered unlikely, even if the fire hazard mitigation standards and guidelines for construction of N.J.A.C. 7:50-6.124 and 6.125 are implemented. The construction of structures and fire hazard fuel breaks in this region would in many cases disrupt the typical burning regime of the area, causing a significant adverse impact to the fire dependent, globally rare pine plains community. The presence of development in the Pine Plains and their firesheds would also make fire management and fire control efforts far more difficult and dangerous. Development proposals in this region should be required to address all of these ecological and societal costs.

Although resource extraction poses less of a fire hazard problem, the large unvegetated or sparsely vegetated swaths create a far more serious disruption of natural fire regimes, let alone directly destroying rare communities or species. Even with reclamation, the reestablishment of natural communities to their former complete species composition and fireshed function would take several decades. Resource extraction within the Pine Plains and their primary firesheds is a completely incompatible land use, and it is recommended that the appropriate portions of the CMP be amended to reflect this. For existing mines in the primary firesheds, new clearings need to be avoided to prevent further disruption of the fireshed, and revegetation using standards similar to those suggested here under 7:50-6.44, 12 should be considered. New areas of mining below the water table need to be avoided to prevent the permanent disruption of the fireshed by large man-made water bodies.

D. PRESCRIBED BURNING AND ECOSYSTEM MAINTENANCE IN THE PINE PLAINS REGION AND PINELANDS IN GENERAL

N.J.A.C. 7:50-6.121 states that the purpose of fire management in the Pinelands is to protect life and property from catastrophic forest fires, as well as to ensure the maintenance of the Pinelands forest ecosystems. However, no provision was made to address the different fire regimes needed to maintain the diversity of pinelands natural communities and the ecological effects of prescribed burning as presently done in New

Jersey (typically with frequent, low intensity backing fires in winter). Because this type of prescribed burning to reduce fuels is not just being done around buildings or along narrow, strategic firebreaks, but is being conducted on about 10,000 acres annually in State Parks, Forests and Wildlife Management Areas of the Pinelands, some major ecological changes at the community level are becoming apparent. In the more extreme cases, a complete loss of one or more shrub/ground cover strata has occurred and seedling regeneration of pine and oak is halted or altered. The complete loss of strata greatly reduces plant community diversity and removes habitat which many animal species may depend on. Over the long term, this type of prescribed burning can be expected to change canopy composition and structure, particularly for more fire dependent, pine dominated communities. Windisch and Good (1991) demonstrated that repeated backing fires accelerate the loss of dwarf pine plains to transitional pine plains and other pine barrens communities. There are also accounts of state endangered or threatened plant populations being destroyed or damaged by prescribed burning operations. If prescribed burning is going to continue at the current scale, the ecological effects must be addressed and in some cases the prescribed burning methods modified.

Any comments the Commission staff might have on the feasibility of adopting these amendments or some revised version thereof, and on the ecological basis used for the amendments would be appreciated.

Sincerely,

A handwritten signature in black ink, reading "Andrew G. Windisch". The signature is written in a cursive style with a large initial 'A'.

Andrew G. Windisch

cc: Michael Catania

enc.

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**PROPOSED AMENDMENTS TO THE PINELANDS COMPREHENSIVE
MANAGEMENT PLAN PERTAINING TO FORESTRY AND FIRE MANAGEMENT
IN THE PINE PLAINS REGION
(Andrew G. Windisch, 6-25-92)**

**PART IV - FORESTRY
7:50-6.44 Forestry Standards**

Add: 11. and 12.

11. That no harvesting of trees or shrubs be conducted within the pine plains and primary pine plains firehed, except for the purpose of ecologically sound management to maintain or restore natural communities and habitat.

12. That reforestation activities within disturbances of the pine plains and primary pine plains firehed shall use seed locally derived from pine plains and primary pine plains firehed, respectively, which are adjacent to or biologically comparable to that of the disturbance site being planted. Plantings shall use the appropriate species at the appropriate densities to recreate the plant community variant lost to disturbance.

**PART XII - FIRE MANAGEMENT
7:50-6.124 Fire Hazard Mitigation Standards**

Modify: (a) 4

Change, "Except as provided in (a) 5 below"

to, "Except as provided in (a) 5 and 6 below"

Modify: (a) 4. iii.

Change, "In extreme high hazard areas a fuel break of 100 feet measured outward from the structure in which:"

to, "In extreme fire hazard areas, except as provided in (a) 6 below, a fuel break of 100 feet measured outward from the structure in which:"

Modify: (a) 5.

Change, "All residential development of 100 dwelling units or more in high or extreme high hazard areas will have a 200-foot perimeter fuel break between all structures and the forest in which:"

to, "All residential development of 100 dwelling units or more in high or extreme fire hazard areas, except as provided in (a)6 below, will have a 200-foot perimeter fuel break between all structures and the forest in which:"

Add: (a) 6.

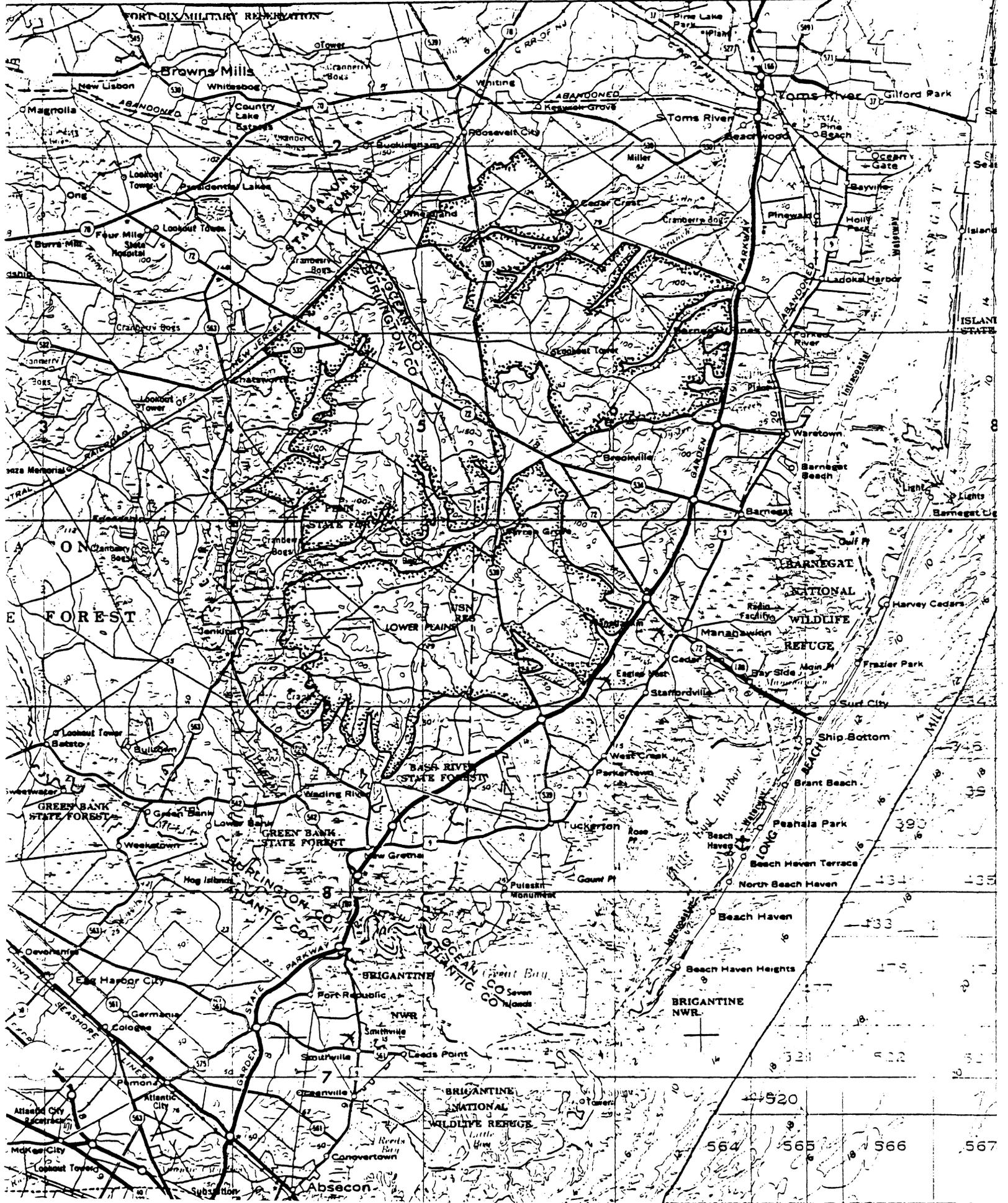
6. In the most extreme fire hazard areas, including pine plains and primary pine plains firehatched, applications for development shall be granted approval only if the applicant demonstrates that:

- i. the proposed development will not place life and property in jeopardy from the frequent catastrophic forest fires of the area, and;
- ii. the proposed development will not cause significant adverse impacts to the naturally frequent fire-regime and uniquely fire dependent species and communities of the area.

Add: 6.126

6.126 Prescribed burning

Prescribed burning on all publicly owned lands within the Pinelands which are forested with native plant communities, shall be conducted in such a manner as to ensure the maintenance or restoration of the Pinelands forest community being burned, as well as its common and rare species. Prescribed fire intensity and frequency in relation to the maintenance needs of the community shall be addressed prior to all prescribed burning, particularly in the most fire dependent communities such as pine plains and other pitch pine dominated communities.



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State of New Jersey
Department of Environmental Protection and Energy
Division of Parks and Forestry
Office of Natural Lands Management
CN 404 Trenton New Jersey 08625-0404
(609) 984-1339
FAX (609) 984-1427

Scott A. Weiner
Commissioner

May 18, 1992

Terrence D. Moore
Executive Director
The Pinelands Commission
P.O. Box 7
New Lisbon, N.J. 08064

Re: Pine Plains Forestry Standards

Dear Mr. Moore:

Thank you for moderating the "Forestry in the Pinelands" Plan Review Workshop and for including me in the panel of experts. One of the issues we briefly covered was the need for forestry management standards in the Pine Plains. As you stated, the pine plains vegetation is one of the most unique and characteristic elements of the Pinelands natural environment. When people all over the world think of the New Jersey Pinelands, an area designated as a UNESCO biosphere reserve, many get a mental picture of the dwarfed forests shaped by frequent fires and sandy soils. For many people, the pine plains are the most defining element of the Pinelands.

I felt compelled to follow up on the brief workshop discussion with a more detailed recommendation of forestry management standards for this globally significant natural community. A number of issues should be addressed in more detail such as: There is a need to identify a primary fireshed for each of the pine plains; The need to consider the Forked River Mountain Plains in addition to the East Plains and the West Plains; When and in what fashion is timber harvesting appropriate in the plains and their firesheds?; How should reforestation activities within the plains and their firesheds be carried out to preserve the genetic uniqueness of the plains vegetation and the species compositions of the plains and their firesheds?; How can fuel reduction work proceed in the pine plains and their firesheds while still maintaining the essential character of the Pinelands ecosystem?

I began developing recommendations on these issues and quickly determined that the expertise of Forest Fire Service and Forest Management would also be needed to provide a thorough evaluation of the issues. Tom Hampton and I discussed this with Olin White and he agrees that it is important for his staff to address these issues. It might take a few weeks to pull together recommendations on these issues. How long will you be able to accept these types of recommendations and still incorporate them into the CMP?

I hope we will be able to take this opportunity to consider the management of the pine plains in more detail. They are certainly a very significant part of the Pinelands environment.

Sincerely,

A handwritten signature in black ink that reads "Tom Breden". The signature is written in a cursive, slightly slanted style.

Thomas F. Breden

cc: Olin White
Thomas Hampton
Gregory Marshall
James Hall
John Stokes

ASSOCIATION OF MUNICIPAL ASSESSORS
OF BURLINGTON COUNTY

June 5, 1992

Pinelands Commission
Attn.: Richard Sullivan, Chairman
P. O. Box 7
15 Springfield Road
New Lisbon, NJ 08064

RE: NON-APPURTENANT WOODLAND-FORESTRY OPERATION, FARMLAND
ASSESSMENT

Dear Mr. Sullivan:

I Carol A. Kerr, President and Sharon R. Austin, Co-Chairman
Pineland/Farmland Committee, both represent the Burlington County
Assessors Association would like comment on a viable established
forestry review system that works and is used throughout the
entire State of New Jersey to implement the Farmland Assessment
Act. This Act establishes a system to review, inspect,
administer and promote professional forestry within the Woodlands
in the State of New Jersey.

The Legislation develops a cooperative partnership between the
Division of Taxation, Local Tax Assessors and the Bureau of
Forest Management. Woodland owners that meet all the regulations
are classified as agricultural and subsequently taxes are based
on Farmland rates. Forestry activities are just one of many
forms of Agricultural uses addressed under our Farmland
Assessment program. Forestry should be actively promoted to
ensure the mutual benefits we all enjoy from healthy diverse
woodlands.

We have personally worked with the staff of the Bureau of Forest Management and have found their sincere interest and professionalism to be of the highest standard and their goal have always been to optimize the forest resources for all.

Very truly yours,



Carol A. Kerr, President
Burlington County Assessor's Assoc.



Sharon R. Austin, Co-Chairman
Burlington County Assoc. Pinelands Committee

SRA-CAK/DB

cc: Donald Kosul, Chairman
AMANJ Pinelands Commission

John Benton
Region B, State Forestry Services

An affiliate of the Association of Municipal Assessors of NJ



FINAL COPY
MAY 28 1992

Vic
pl make copy - send the original back to J. Stokes

The Pinelands Commission

P.O. Box 7, New Lisbon, N. J. 08064 (609) 894-9342

MEMORANDUM

Date: May 18, 1992

TO: G. Lester Alpaugh
FROM: John C. Stokes *JCS*
Assistant Director
SUBJECT: Pinelands Commission Plan Review Workshop

* * * *

Thank you very much for your participation in the technical experts' workshop. I hope you gained as much from the discussion as we did. If you have any additional comments to offer on the topic discussed, please feel free to forward them to me.

LC/ew/CP4B

John - I have many more concerns and ideas. However, I feel that further discussion is needed & that it should be addressed through continued face-to-face discussions or through extensive reviews of proposed changes to the rules. I'm most interested in expediting approvals for forests on private lands, removing forestry from development reviews, establishing a simplified monitoring system, ~~and assisting~~ and developing a consistent, practical forestry program to meet Pinelands goals. I look forward to participating in the process. Les



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July 15, 1992

N.J. First Incorp.
The Pennington Office Park
114 Titus Mill Road
Pennington, N.J. 08534

Attention: Richard J. Sullivan
President

Re: South Jersey Forest Resource
Council review of Pinelands
C.M.P.

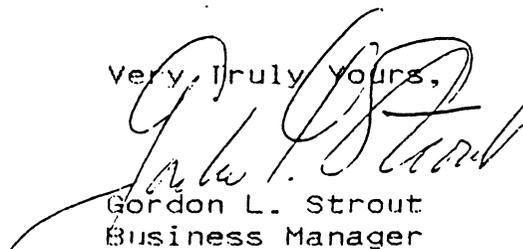
Dear Mr. Sullivan:

Our interest was peaked by the position taken by this review as we are currently seeking tax relief on a tract precluded from any other use by existing regulations.

One must respect its logic and it's professional expertise.

We respectfully request that you give serious consideration to the recommendations offered.

Very Truly Yours,



Gordon L. Strout
Business Manager

July 21, 1992

Mr. Richard J. Sullivan, President
NJ First Incorporated
The Pennington Office Park
114 Titus Mill Road
Pennington, NJ 08534-4305

Dear Mr. Sullivan:

I am a Landscape Architect who has submitted development applications to the Pinelands Commission on several occasions. Based upon my experiences, as well as those expressed to me by developers, landowners, and municipalities, it is apparent that the Commission is failing to achieve its mandate of protecting the Pinelands. They have been extremely effective in preventing development, but unfortunately preventing development does not necessarily protect and certainly does not enhance the Pinelands.

Long before the Pinelands Commission was established to "Protect" the Pinelands, there were farmers, boatbuilders, ironworks, etc., as well as the villages they supported. During formulation of the Comprehensive Management Plan (CMP), these same industries and villages were lauded as part of the Pinelands Heritage. Had they not existed before the Commission, however, the Commission would not allow them to exist today. Furthermore, by developing an expensive and cumbersome permit process in which everything is a major development, the Commission is slowly and systematically eliminating what "heritage" is left. Its impact upon two traditional and supposedly "desired" activities, i.e., farming and forestry, is especially disturbing. Both have suffered immensely since adoption of the CMP and while forestry has not recently been a major industry, it would seem to be perfectly suited to not only protect and enhance the Pinelands, but also provide economic benefit through intelligent management as a renewable natural resource.

The Commission's myopic approach to "protecting" the Pinelands is nothing more than a feeble maintenance of the Status Quo. By their adherence to the belief that all land use is inherently bad, they have dismissed out of hand many opportunities to correct past habitat destruction and thereby enhance the Pinelands.

Mr. Richard J. Sullivan
July 21, 1992
Page Two

This misguided belief underlines the Commission's fundamental misunderstanding of the social and economic aspects of the Pinelands and their interrelationship and inevitable impacts upon its ecology. The Commission has never failed to exhort the bad effects that poor land use and development has had upon the Pinelands. Unfortunately, it has failed miserably to acknowledge, perhaps even grasp the possibilities for enhancement that sensitive land use can, in fact, bring.

- Why can't endangered species be re-introduced?
- Why can't critical habitat be created?
- Why can't foresters be permitted to utilize and manage some of its renewable resources in a manner that will insure its long term health and vigor?
- Why can't thoughtful developers be allowed to provide housing and business opportunities in designated areas to those whose vested interest it would be to protect and enhance the Pinelands?
- Why can't the Pinelands be restored?

Because the Commission has not and will not permit it.

Furthermore, through its unmitigated contempt of landowners who would utilize the Pinelands natural resources and its arrogant disregard of those with the experience and expertise to manage them, the Commission is alienating, and in some cases, destroying its most important constituency. Through its presumed omnipotence, the Commission's staff or inexperienced environmental scientists and experienced lawyers are insuring the Pinelands' slow, but certain, deterioration.

Until the Commission is made answerable for its actions and non-actions, it is inevitable that the "Pinelands" will one day exist only as an image that they dispel upon a naive and uninformed public.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy Kaluhiokalani". The signature is fluid and cursive, with a long horizontal stroke at the end.

Timothy Kaluhiokalani, ASLA
Landscape Architect

RECEIVED JUL 30 1992
AUG 3 1992
FILE COPY

July 29, 1992

Mr. Richard J. Sullivan, President
NJ First Incorporated
The Pennington Office Park
113 Titus Mill Road
Pennington, NJ 08534-4305

Dear Mr. Sullivan:

I am writing this letter to express some of my views and opinions on the Pinelands Commission's intent to preserve and protect the Pinelands. I am an environmental scientist with broad knowledge and understanding of various environmental issues including the unique character of the Pinebarrens gained through my education at Stockton State College, numerous short courses, seminars and certifications, as well as years of experience working as an environmental professional.

Through my experience dealing with Pinelands on development applications, it is my impression that the Commission is anti-development. Their stated mandate is to protect, preserve and enhance the natural resources while promoting agricultural, recreational, residential and commercial uses in the Pinelands. In truth, they do all within their significant power to prevent all land use. I strongly believe that the Commission's strategy to achieve its goal of "preserve and protect" the Pinelands is a "Lets Leave It Alone" policy. Their methodology includes an expensive, cumbersome application procedure generally impossible for a landowner to afford. The endless requests for additional and often irrelevant information, the long delays in their review, the costs imposed on the applicant are all designed to make him just "go away".

For example, rare sighting of endangered or threatened species dating back from 1930s should not constitute a reason for a landowner to give up his or her rights to develop the land. If the landowners wish to dispute the Pinelands, then they are required to hire a professional consultant to perform an extensive detailed study to dispute the Pinelands and as a result, the landowner will most likely "go away" because of the exorbitant cost and lengthy application process.

Mr. Richard Sullivan
July 29, 1992
Page Two

The bias and subjectivity of review staff imposing restrictions on what is developable land is also evident. I have submitted over 200 wetland permit applications to Army Corps of Engineers and New Jersey Department of Environmental Protection and Energy and obtained approvals from both agencies with very little difficulty. However, I have yet to obtain a wetlands approval from the Pinelands without significantly altering the wetlands line, which is based on united methods accepted by EPA, US Fish and Wildlife Service and US Department of Agriculture, because of the inconsistencies in the review staff. To date, I do not know why the Pinelands do not follow the united method of delineating wetlands. In fact, they have no clear definition of what constitutes a wetland which allows them to be extremely capricious.

The Comprehensive Management Plan, (CMP) states that the wetlands serve a number of functions including natural drainage system, removal of excess inorganic nutrient from surface and groundwater, habitat for wildlife, etc., which are excellent reasons to preserve their integrity. Therefore, I do agree with importance of preserving wetlands and other critical areas, however, the Pinelands imposing a 300 feet buffer around an isolated wetland in a cleared field surrounded by major development only indicates the Commission's anti-development policy.

The Pinelands Comprehensive Management Plan (CMP) also addresses the importance of pinelands forest in terms of cultural, ecological, scenic and economic resources and the need for its maintenance and economic return from timber harvest, thus providing opportunities for the continuous uses for the regions renewable resources. In addition, the CMP specifically states "Failure to clearcut Atlantic White Cedar and control competing hardwood reduces the chances of the re-establishment of this economically valuable species". In practice, however, the Pinelands discourages any clearcutting of Atlantic White Cedar. Typically they mention sighting of some endangered or threatened species on the property or cite some other issue requiring costly reports prohibitive to forestry operations in order to discourage any cutting and to ensure "Just Leave It Alone" policy.

Furthermore, if the Commission's forestry program is intended to meet the objectives as stated in CMP by providing opportunities for continuous uses of forest products, and to encourage small scale logging operations, then the Forestry permit application should not be reviewed as a major development application. The requirements of the application is cost prohibitive with cumbersome and sometimes almost impossible for a landowner or small logger to comply, not to mention the fact that most of the requirements are irrelevant when applied to forestry as a land use. A simple means to permit sound forestry and facilitate the CMP's stated goals would be to hire a professional forester with expertise and knowledge o. Pinelands ecosystem to encourage and ensure that the forestry practices are in the best interest of the Pinelands, as well as for the landowners. Currently there are none on staff.

Mr. Richard Sullivan
July 29, 1992
Page Three

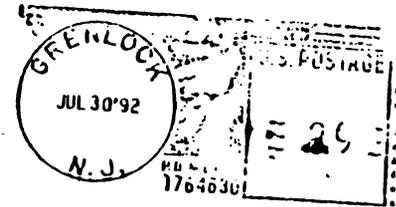
Overall, I applaud Pinelands Commission's accomplishments for protecting one of New Jersey's greatest resources, but there should be a stable balance from just "preserve and protect" to the sound management of these resources to provide maximum benefits to both man and environment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Yong Kong', with a long horizontal flourish extending to the right.

Yong Kong
Environmental Scientist

Yong Kong
222 Mattix Run
Absecon, NJ 08201



Mr. Richard J. Sullivan, President
NJ First Incorporated
The Pennington Office Park
113 Titus Mill Road
Pennington, NJ 08534-4305



FILE COPY

*to Moore
for reply
RJK*

26 Bailey Street
Woodstown, N. J. 08098
July 17, 1992.

Mr. Richard J. Sullivan
President
N. J. First Incorp.
The Pennington Office Park
114 Titus Mill Road
Pennington, N. J. 08534-4305

Dear Mr. Sullivan:

I am a woodland owner and have a Woodland Management Plan which is good for land.

However, I have a difficult time with the over-regulation, by the Pinelands Commission, of forestry activities.

We already have the Department of Environmental Protection Bureau of Forest Management, who oversees the farmland assessments.

Forestry is considered agricultural and should be exempt, as are all other agricultural activities.

Respectfully Yours,

Louis Bader

CC: Olin White
State Forester

P. S.: I would like to mention that I have owned my property for twenty-two years.

*Mr Moore
for response
RJK*



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INDUSTRIAL & CONSTRUCTION SANDS, INDUSTRIAL MINERALS, and FOUNDRY MATERIALS

July 27, 1992



Richard J. Sullivan, President
New Jersey First Incomp.
The Pennington Office Park
114 Titusmill Road
Pennington, N.J. 08534-4305

RE: SILVICULTURE IN THE PINELANDS REGION

Dear Chairman of the Pinelands Commission:

Our Company owns significant acreage of vacant land in southern New Jersey. For many years most of this land has remained idle. Last year, our Company decided to implement a forestry program through Woodland Management Plans on a substantial portion of our vacant land holdings. However, many acres are situated in the Pinelands region. As I understand the process, the fact, where silvicultural farmlands are situated in the Pinelands region, greatly complicates farming and harvesting practices due to regulatory burdens.

I am writing this letter to question both why is not forestry (silviculture) treated as agriculture and why silviculture is treated as a major development with respect to the Pinelands Comprehensive Management Plan in relation to the responsibilities of a landowner.

First, my question to you is "Why is not silviculture treated the same way under Pinelands regulations as agriculture is treated?" Agriculture and silviculture are both practices in farming the soil, albeit on a different time scale. Forestland that is covered under a Woodland Management Plan has a registered professional forester who oversees and provides input into the ongoing activities that occur on a timber stand from year to year. It is my understanding that most timberland farming operations selectively harvest the woods so that regrowth of the next generation is maximized for a given tree type. Agriculture requires complete land clearing for growing farm produce and that exposes the barren topsoil to erosion during off-growing seasons. Agriculture performs complete harvesting which maintains barren topsoil conditions during the off-growing seasons. Thus, a silvicultural practice is advantageous for retaining topsoil on site as compared to an agricultural practice.

Silvicultural practices use dramatically less fertilizers in an operation as compared to an agricultural practice.

Agricultural practices take little or no account for the existing wildlife living in an area. On the one hand, agriculture pursues raising livestock not native to the cleared land area. On the other hand, silviculture takes into account native wildlife considerations in its operational activities. Silviculture pursues reducing adverse impacts to native wildlife during harvesting and enhances some habitats for nesting and breeding of native wildlife. Agricultural practices do not minimize the adverse, environmental impact on an ecosystem and its ecological balance.

In summary, the following six (6) points describe several differences, in no particular order, between silvicultural practices and agricultural practices as examined from a Pinelands protection point of view:

SILVICULTURAL ADVANTAGES OVER AGRICULTURAL PRACTICES
FROM A PINELANDS PERSPECTIVE

1. Professional management oversight on an annual basis.
2. Far less wind erosion impact on topsoil.
3. Far less weather erosion impact on topsoil.
4. Far less ground water pollution impact from fertilizers.
5. Far less wildlife impact from habitat destruction.
6. Far greater wildlife impact in quality and diversity.

Second, my question to you is "Why is silviculture treated the same way under Pinelands regulations as a major development is treated?" Silviculture is a recognized and specialized practice in farming. Forestry nurtures and harvests forest "crops"; forestry does not erect rateable improvements. Major developments create rateable improvements.

Forestry is compatible with the New Jersey Pinelands Comprehensive Management Plan. On Page 234 of the Pinelands C.M.P., under the heading "Forestry Program", the first three (3) sentences of the first paragraph reads as follows: "The Pinelands' forests are an important cultural, ecological, scenic, and economic resource. Proper management of this resource will ensure its maintenance and result in greater economic returns on the harvested timber. The current yield of timber in the Pinelands is below the region's potential because of fire, excessive cutting, and poor management." A woodland management plan can ensure: the proper management of timberland, an increase in the yield of timber and the quantity of native trees, and propagate this important resource.

Further support which illustrates forestry's compatibility with Pinelands C.M.P. is found on Page 412 under Part 4 - Forestry, Section 6-401., under the paragraph describing Purpose. That paragraph states: "Forest vegetation represents a unique and financially

valuable part of the essential character of the Pinelands. If they are properly managed, Pinelands forests represent significant economic opportunities to their owners while perpetuating the overall ecological value of the Pinelands. This part encourages commercial forestry that will maximize forest land values and provide for the long-term economic and environmental integrity of the Pinelands." (emphasis added)

In the global picture, it is important to save trees. Yet trees, like human beings, have definitive life spans. Trees germinate, grow to maturity, live on in decline, and finally die off. I opine that it is best to utilize trees once they are mature and let the landowner foster the regeneration process at an enhanced rate.

Trees are also one of many natural resources. Similar to crude oil, sand, farmers' livestock and natural gas, the tree plays an integral role in the life and quality of mankind as we know it today. Unlike a number of natural resources, however, the tree is a readily renewable resource.

Our Company has a small number of sites where we sold off the timber to interested parties anywhere from ten (10) to thirty (30) years ago. Those parties came in and clear cut the sites leaving behind the tree stumps with about two (2) to three (3) feet of the tree trunk as well. Due to the phenomena of tree sprouting from the trunks and stumps and of site scarification resulting in ground germination regrowth, the number of trees growing per acre now far exceeds the number of trees growing per acre originally! The point I am trying to illustrate is that though a large scale harvest of trees occurred, there are now more trees returning in the same land area!

Accordingly, similar to farmland owners and their practices, woodland owners cultivate and harvest timberland utilizing silvicultural techniques. In the same vein and as compared to "cropland" farmers, I ask you to treat "woodland" farmers in the same fashion. Agricultural farmers cultivate and harvest their crop or livestock year to year. Silvicultural farmers perform the same task, but on a longer time scale. Agriculture and silviculture are both farming practices; please treat them equally.

Along the same lines, I ask you not to treat silvicultural activities as a major development. Farmland operations, whether agricultural or silvicultural in scope, are a continuous and repetitive process. Again, silviculture requires a longer time scale to go through a "crop" cycle. A forestry program is not a major development; please do not treat it as such.

Mr. Sullivan, I thank you for taking the time to read this letter. I have attempted to keep this letter clear and simple with respect to my two (2) questions and supporting statements. I believe I have provided you with enough concise information to allow you to make the changes to relieve silviculture from the current, unnecessary over-kill of regulatory requirements and treat silviculture as an equal to agriculture. I welcome any responses you may have to this letter.

Sincerely,



Beau Pettinos
Real Estate Department

BP/dsp



The Pinelands Commission

P.O. Box 7, New Lisbon, N.J. 08064 (609) 894-9342

April 9, 1992

James Hall
Assistant Commissioner
Natural & Historic Resources
CN 402
Station Plaza 5
501 East State St., Floor 3
Trenton, NJ 08625-0402

Dear Jim:

Thanks very much for meeting with us on April 8. We thought the meeting was productive in that a framework was established within which more detailed forestry policies can be developed and, ultimately, forest management plans for public lands can be formulated.

I believe that the overriding principle which you set forth was that forest management activities should enhance and maintain the characteristic Pinelands environment, which is exhibited by a diversity of forest types, wildlife habitats, and unusual plant and animal communities, and resource based uses should be optimized provided that they do not alter this characteristic environment. Within this context, several points of clarification are appropriate:

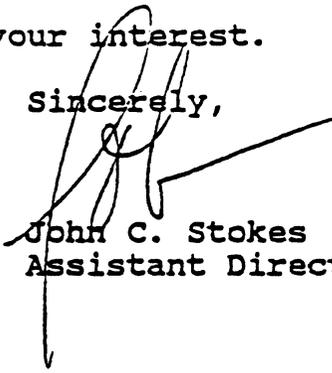
1. In terms of public lands, resource based uses are meant to include those for which DEPE has management responsibility, such as recreation and parks management, forestry and forest management, natural areas management and fish and wildlife management;
2. In terms of private land holdings, optimizing forestry opportunities should consider economics but not, of course, at the expense of the Pinelands environment;
3. Care must be taken to avoid use and user conflicts between these resource based activities on public lands; and
4. It may be appropriate to consider a range of different forest management techniques depending upon specific site conditions, special objectives (e.g., maintenance of pine plains and cedar swamp communities), and the extent to which varying techniques may be incorporated into comprehensive forest management plans for publicly owned lands.

If I have misstated anything, please let me know.

We were also successful in rescheduling the technical experts' meeting for April 29. Invitations will be going out shortly to the appropriate DEPE staff. We'll let you know what comes out of that session.

Again, many thanks for your interest.

Sincerely,



John C. Stokes
Assistant Director

km/SP10C3/CP4B

- cc: Carl Nordstrom
- Olin White
- Steve Herb
- Terrence D. Moore
- Robert Zampella
- Chuck Horner
- Larry Liggett

Economic Impacts of the Pinelands Plan

Report on Technical Panel Meeting

I. INTRODUCTION

A panel of experts (Appendix A identifies the panelists) met on May 6, 1992 to discuss this topic. In preparation for this meeting, a series of questions to be explored (Appendix B), background information (Appendix C identifies the sources) and public comments received prior to the meeting (Appendix D) were provided to each participant. Public comments received subsequent to the meeting are included in Appendix E of this report.

Mr. Stokes served as workshop coordinator and panelists were asked to freely express their opinions as individual experts and not as representatives of an agency or organization.

II. PURPOSE OF THIS REPORT

This report is intended to summarize key discussion points and present all recommendations offered by any of the participants. A tape recording of the entire seven (7) hour session is available for review at the Commission's offices. Since different opinions were offered by panelists, the report also attempts to indicate the level of consensus reached on various discussion points and recommendations.

Recommendations are described throughout the text in **bold** and are numbered sequentially. Because this particular workshop was the second in a series held by the Commission, each recommendation begins with the number 2. For ease of reference, a table has also been prepared which identifies each recommendation presented by one or more panel members. The table also includes staff estimates of the resources and time needed to carry out the recommendation and other information which the Commission may wish to consider when deciding which recommendations should be pursued.

III. KEY FINDINGS AND RECOMMENDATIONS

A. General economy

The panel concluded that the studies done to date on the economic impact of the Pinelands Comprehensive Management Plan (CMP) were generally thorough and do not suggest that it has had a significant negative impact on the region. No other analyses were referenced that would indicate a contrary view.

Although not presented as specific recommendations, the panel discussed a number of indicators which they felt could be used to monitor the region's economy on short and long term bases. Among those discussed were:

- * Product output. Data on industry output is available only at the state level and disaggregation to regional and municipal levels may be problematic. Alternatively, surveys of business data such as numbers of employees, wage levels and value added levels is apparently available from municipalities in five-year time periods. An additional source might be state tax receipts on retail sales.
- * Employment levels. Employment analyses can be structured to account for number of persons employed per household, family income, and unemployment levels.
- * Median income levels. This can be expanded to include a comparison of income levels to median housing prices.

The use of share analyses (e.g., Pinelands municipalities as a percentage of the region and the state) was discussed and the approach was supported by the panel except as noted below for land and housing markets. The panel recognized that most data can not be disaggregated below municipal levels and this may mask some intra-municipal displacement trends from portions of municipalities within the Pinelands to portions outside. Conducting Pinelands-wide share analyses may also mask some inter-municipal shifts within the Pinelands. Comparative analyses of similar municipalities (e.g., growth and low growth communities) may indicate whether or not any of these shifts have occurred.

In the context of general economic topics, the panel also discussed "opportunities foregone" and "costs avoided" as a result of the CMP as well as other less tangible "benefits" of the Plan. One panel member believed that opportunities foregone might have been relevant when the CMP was first instituted, but is not a material issue at this point in time.

Problems with analyzing "opportunities foregone" and "costs avoided" were discussed. Since many of these types of analyses must rely on speculative data, the panel reiterated the benefits of using share and comparative analyses.

For example, significant negative trends in certain indices may be more indicative of opportunities foregone relative to other areas, rather than to a net reduction or loss in that index. Comparative analyses of employment growth and development trends between similar municipalities (growth and low growth communities) in and outside the Pinelands might also indicate

whether opportunities are being foregone within the Pinelands. A similar approach to analyze cost avoidance might be possible using municipal expenditure data.

Benefit analyses were presented as the most difficult of all to conduct because they are much more qualitative in nature.

Recommendation 2.01 Continue to monitor building permit, employment, population and municipal tax and expenditure data.

While past studies have not shown any significant negative impacts of the CMP, there was a consensus among the panelists that the Commission should continue to monitor data on these indicators. Share analysis would continue to be employed.

Other recommendations which follow were offered as a way to supplement this rather basic monitoring effort.

Recommendation 2.02 Classify Pinelands and, where appropriate, non-Pinelands municipalities according to growth potential when conducting trend analyses.

This recommendation was offered as a means to slightly broaden Recommendation 2.01 and as a means to conduct more in-depth analysis of municipal finances (Recommendations 2.07, 2.08 and 2.09) if time and funds permit. If this recommendation is pursued, it was suggested that Pinelands growth municipalities be further grouped to reflect the relative amount of their land area within and outside the Pinelands.

Recommendation 2.03 Develop a method to convert qualitative benefits to monetary benefits.

While a full-fledged benefit/cost study was not recommended by the panel, one member did recommend that the ability to convert the positive benefits of the CMP to a monetary estimate would be very useful in discussions of its impacts. The difficulty of doing this was recognized by all.

B. Land and Housing Markets

The panel discussed the results of the Commission's analyses of land and housing markets, but focused primarily on the independent studies conducted by W. Patrick Beaton and James E. Neumann.

There was consensus that the studies did not suggest that the CMP has had a negative effect on land and housing markets; however, several means for improving the studies were discussed. For example the data relative to land markets in the Preservation Area is extremely limited and does not account for the fact that most sellers have not been aware that Pinelands Development Credit entitlements have a positive effect on property value. Continuing analysis of land sales data in the Preservation Area might over-

come these data limitations. There was also discussion that the independent studies might benefit if specific land characteristics were considered to a greater extent.

Although the panel concluded that the use of control areas successfully accounted for "opportunities lost" when comparing vacant land values in the Pinelands to those outside, some concern was expressed that a similar conclusion could not be reached for residential properties. There was some discussion that an affordability index which ties residential sales prices to income levels might be helpful in this regard.

Recommendation 2.04 Revise and update existing land market studies.

Because land values are often perceived as one of the most controversial aspects of land use planning, the panel generally felt that this recommendation be given priority if the Commission decided to undertake specific studies, over and above the monitoring suggested in Recommendation 2.01. At the same time, the panel recognized that this study would be time consuming and expensive and would probably only confirm earlier findings.

Updating the existing database is expected to be a relatively straightforward prospect. An update might provide the opportunity to refine interpretations and methods. Ways in which the existing studies may be improved include the use of digitized census tract data to get more geographic specificity of areas within and outside the Pinelands boundaries and the introduction of more property-specific characteristics. Improvements would, of course, further increase costs.

In addition, the range of factors examined should be broadened to include the relationship between land price and personal income or revenue potential to provide some indication of affordability of housing to the region's population.

Finally, initial sales data should be separated from resale data in the land market analyses.

One panel member suggested that, to maximize credibility, such a study should be contracted to an independent research entity.

Recommendation 2.05 Verify the accuracy of land market sales data by spot checking selected transactions with buyers and sellers.

One panel member suggested that the accuracy of sales data could be better verified by spot checking selected transactions with buyers and sellers as appraisers do when preparing formal appraisals. Other panelists did not object to the recommendation if time and resources would not be taxed.

Recommendation 2.06 Determine whether the control groups used in residential land market studies can be broadened and improved. One panelist recommended that the geographic scope of control groups for the Beaton residential land market studies be re-examined and broadened to ensure comprehensive and precise comparisons. Although most panel members felt it might be worthwhile to once again evaluate the control groups, no consensus was reached as to whether all of southern and central New Jersey should be considered.

C. Municipal Finances

There was a general consensus among the panelists that the municipal analyses done to date do not suggest any significant, regionwide impacts of the CMP on municipal finances, although it was noted that a few Pinelands municipalities were affected more than others.

The panel generally concluded that, if future analyses are to be conducted, improvements could be made to account for the ability of taxpayers to finance municipal services. This was based upon a view that municipal services are not evenly provided throughout the state and that lower service levels (and thus rates and expenditures) may, in some cases, be influenced by residents' inability to pay.

Recommendation 2.07 Conduct regional share trend analysis of municipal expenditures and tax burdens relative to income. This type of analysis, supported by most panel members, would supplement existing analyses and would account for differences that may exist among communities relative to taxpayers' ability to pay. Income could be considered on a per capita basis although preference was expressed for household income. It was also suggested that earned and unearned income be included, if possible.

It was also suggested by one panelist that municipalities be grouped according to population to account for economies of scale in the delivery of services. For example, the panelist felt that it may be more efficient for communities with populations between 10,000 and 30,000 people to provide services than smaller or larger municipalities. It appeared that such a classification would be in lieu of the "growth" classification presented in Recommendation 2.02.

Although there was discussion that other types of variables might help to make the analysis more informative, no consensus was reached on specific suggestions.

Recommendation 2.08 Conduct regional share trend analysis of equalized tax bases and tax rates on a per capita basis.

As an outgrowth of the discussion on Recommendation 2.07, one panelist suggested that the analysis could be broadened by evaluating equalized tax bases and tax rates on a per capita basis.

Recommendation 2.09 Conduct regional share trend analysis of equalized tax bases and disaggregate the totals for residential and non-residential property classes.

This recommendation was offered as one of the simplest ways to measure fiscal health of a municipality and might be an acceptable alternative if the time and costs associated with other analyses are prohibitive.

There was little discussion as to how the results could be interpreted to account for differing growth levels which would greatly influence ratable bases and increasing costs of municipal services which might be attendant to increasing populations.

D. Specific Industries

Although many panelists felt that the economic analysis previously discussed should be sufficient to judge the "health" of the region, there was discussion about the evaluation of specific industries. The specific segments identified by the panel were agriculture, mining, timber, manufacturing, construction, retail trade and services (including tourism/recreation), finance, insurance and real estate.

The agricultural segment was discussed more than others and it was noted that acreage in production and debt-to-equity ratios might help to supplement the data to be collected relative to general economic indicators. Two panelists felt that the CMP had negatively affected farmers' ability to secure loans; however, other panel members did not agree. One panelist cited previous Pinelands research and a more recent study (Technical Report to the Governor's Commission on Growth in the Chesapeake Bay Region, January 1991) which apparently found that New Jersey farmers have the lowest debt-to-equity levels in the country. It was also stated that the study concluded that cash flow is a more important lending criteria than property value.

After much discussion, the panel appeared to agree that the agriculture and tourism/recreation industries were the least likely industries to be displaced from the Pinelands. Methods to assess displacement and other impacts include changes in employment, production and sales. It was suggested that the U.S. Department of Commerce maintains location quotients which are

reported on a county basis and which indicate the degree to which an area specializes in an industry. The following recommendation reflects this discussion.

Recommendation 2.10 Key industries can be monitored by the location quotient method.

There was general consensus among the panelists that this method represents a relatively simple means of analyzing specific industries.

Recommendation 2.11 Energy consumption data may be utilized to chart growth trends for specific industries.

One panelist stated that utility companies maintain energy consumption data according to standard industrial codes for each municipality. The panelist suggested that this might allow for some analysis of growth trends, particularly if the location quotient method doesn't prove to be useful. This recommendation was not discussed at length by other panelists.

IV. PUBLIC COMMENTS

One member of the public expressed a concern that the environmental protection movement is under attack from development interests. This person felt that the panel did not give sufficient consideration to intangible values, such as quality of life, global warming, etc. This person also urged the panel members to make their economic data available to legislators and the public in a less technical format.

Economics Workshop Recommendations

Topical Area	Rec. #	Recommendation of One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
General Economy	2.01	Continue to monitor building permit, employment, population and municipal tax and expenditure data.	Study	2wm - P	-	<ul style="list-style-type: none"> o Charts general trends but is not industry specific o May assume growth is "good" o Provides P/C with relatively inexpensive monitoring system
	2.02	Classify Pinelands and non-Pinelands municipalities according to growth potential when conducting trend analyses	Study	3wm - P	+25% to any study	<ul style="list-style-type: none"> o Classification can be accomplished by staff o May require GIS and staff to reprogram all data o Analysis will increase costs of other studies
	2.03	Develop a method to convert qualitative benefits to monetary benefits	Study	-	\$40,000	<ul style="list-style-type: none"> o May be very difficult to reach agreement on methods o Results likely to be controversial
Land and Housing Markets	2.04	Revise and update existing land market studies.	Study	-	\$60,000	<ul style="list-style-type: none"> o Expensive o Results may not be commensurate with effort
	2.05	Verify accuracy of land market sales data by spot checking selected transactions with buyers and sellers.	Study	-	\$5,000	<ul style="list-style-type: none"> o Results may not be commensurate with effort
	2.06	Determine whether the control groups used in residential land market studies can be broadened and improved.	Study	-	\$10,000	<ul style="list-style-type: none"> o Results may not be commensurate with effort o If broadened, all old data would have to be redone

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Economics Workshop Recommendations

Topical Area	Rec. #	Recommendation of One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Municipal Finances	2.07	Conduct regional share trend analysis of municipal expenditures and tax burdens relative to income.	Study	6wm - P	-	o May need functional GIS & staff to complete o Most comprehensive picture of municipal finance obtained
	2.08	Conduct regional share trend analysis of equalized tax bases and tax rates on a per capita basis	Study	4wm - P	-	o Implications of "choice" vs. "need" in tax rate analysis may be unclear
	2.09	Conduct regional share trend analysis of equalized tax bases and disaggregate residential and non-residential property classes.	Study	2wm - P	-	o Could easily be combined with 2.01
Specific Industries	2.10	Key industries can be monitored by the location quotient method	Study	4wm - P	-	o Data may not cover key industries in Pinelands o Areas outside the Pinelands but in Pinelands counties may dominate
	2.11	Energy consumption data may be utilized to chart growth trends for specific industries.	Study	4wm - P	-	o Uncertain how reliable trends might be due to technology changes, conservation, etc. o Data may not cover key Pinelands industries

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

APPENDIX A

"Economic Impacts of the Pinelands Plan" Meeting

List of Participants

May 4, 1992

<u>Name of Participant</u>	<u>Affiliation</u>
Marlene Asselta*	Southern New Jersey Development Council
W. Patrick Beaton*	Center for Urban Policy Research Rutgers University
Allen Black	Todd and Black, Inc. Real Estate Appraisers and Consultants
Robert Burchell	Center for Urban Policy Research Rutgers University
Thomas Hamer	Center for Economic Data Analysis Glassboro State College
Donald Hurff, Jr.	Atlantic Electric Company Marketing Research Department
Stephen Kessler	Winslow Township Tax Assessment Department
Robert Kull	Office of State Planning
Theodore Minde**	Office of Economic Research N.J. Dep't of Commerce
James Nicholas	University of Florida College of Law
Lisa Rosenberger	Economic Analyst
Herbert Simmons	Pemberton Township Business Administration
John C. Stokes	Pinelands Commission, Assistant Director, Planning & Mgmt. Workshop Coordinator
Charles Horner	Pinelands Commission Development Review
Larry Liggett	Pinelands Commission Planning & Research
Susan Grogan	Pinelands Commission Planning & Research

* Panelist was invited but was unable to attend meeting.

** Panelist attended in place of George Nagle, Office of Economic Research.

APPENDIX B

Economic Impacts of the Pinelands Plan

Questions Explored at the Technical Panel Meeting

May 4, 1992

1. What are good "indicators" of a region's economic health?
2. Do these indicators enable one to evaluate the economic well being of the following segments?
 - Municipal governments
 - General business activity
 - Specific industries such as
 - forestry
 - resource extraction (mining)
 - tourism & recreation
 - boat building
 - Individuals

If not, what indicators might be informative?
3. Are there other specific segments that warrant special evaluation in the Pinelands? If so, what indicators would be informative?
4. As a means of judging Pinelands economic conditions relative to these indicators, is it appropriate to conduct trend analyses in relation to the same conditions in the larger 7 county region in which the Pinelands resides and to the state as a whole?
5. Are the Pinelands related analyses done to date informative in terms of these indicators?
6. Do these analyses suggest any Pinelands specific trends? If so, to what extent can these be attributed to the Pinelands Plan?
7. What other sources of information are readily available on each of the indicators?
8. Might the indicators and types of analyses discussed so far mask certain specific types of impacts? If so, what are they, how important are they to evaluate and how might one seek to evaluate them?

9. Do you have available any data which is informative about economic conditions in the Pinelands or impacts of the Pinelands Plan? If so, what conclusions can be drawn from that data?
10. What, if any, conclusions do you draw from the Pinelands land value studies done to date?
11. Do you believe that additional land value analyses are warranted? If so, what specific questions should be evaluated? How might the evaluations be structured?
12. On the basis of your own knowledge, do you have an opinion as to the economic effects of the Pinelands Plan?
 - overall?
 - specific segments?

In addition to the types of analyses previously discussed, what other analyses might be done to test these working hypotheses?

APPENDIX C

Background Information

for

Economic Impacts Technical Panel Meeting

1. Excerpt from New Jersey Pinelands Comprehensive Management Plan, The Second Progress Report on Plan Implementation - New Jersey Pinelands Commission, Chapter X, Other Major Activities, pgs. X-10 through X-21.
2. February 18, 1992 Memorandum to Members of the Commission from Terrence D. Moore, Executive Director on Municipal Expenditure Data.
3. Beaton, W. Patrick, "The Impact of Regional Land-Use Controls on Property Values: The Case of the New Jersey Pinelands" in Land Economics, May 1991, 67(2): 172-194.
4. Economic & Fiscal Impacts of the Pinelands Comprehensive Management Plan, New Jersey Pinelands Commission, July 1983.
5. First Biennial Update, Economic & Fiscal Impacts of the Pinelands Comprehensive Management Plan, New Jersey Pinelands Commission, November 1985.
6. The Land Market in New Jersey's Pinelands, Past and Present Trends in Land Use and Transfer, James E. Neumann, Association of New Jersey Environmental Commissions, September 1987.
7. Excerpt from New Jersey Pinelands Comprehensive Management Plan, The Second Progress Report on Plan Implementation - New Jersey Pinelands Commission, Chapter II, Development Review, Tables 2.4 and 2.12.

APPENDIX D

Public Comments Received Prior to Technical Panel Meeting



Pinelands
Preservation Alliance

120-348 Whitesbog Road • Browns Mills, NJ 08015 • (609) 893-4747

April 17, 1992

Mr. Terrence Moore
The Pinelands Commission
P. O. Box 7
New Lisbon NJ, 08064

Dear Mr. Moore;

In response to your letter of February 28, I have enclosed recommendations on approaches to five of the key topics the Pinelands Commission has selected for review.

Earlier this month, fifteen members of the Pinelands Preservation Alliance's Plan Review Committee spent a day reviewing these five topics. Individuals who attended the meeting spent the intervening time writing recommendations for the expert panels to consider.

The results are enclosed. The subjects and the authors are:

Topic 1 Solid Waste	Dr. Gerard Vriens
Topic 2 Forestry	Dr. Emile De Vito
Topic 2 Resource Extraction	William Smith
Topic 3 Economic Impact	Sally Price
Topic 5 Growth Demands	William Neil

The pressure of the short time available and other commitments means that the submissions on the last two topics will be hand carried to you next week. Those subjects and the authors are:

Topic 2 Agriculture	Michele Byers
Topic 4 Permitting	Janet Larson

As the full PPA committee reviews the attachments and has further suggestions, they will be submitted to you or the expert panels.

The PPA appreciates this opportunity to submit recommendations to you and the expert panels and looks forward to the meetings of the panels.


Don Kirchhoffer
Coordinator,
PPA Plan Review Committee

The Board of Trustees

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State of New Jersey

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NJ Audubon Society

Janet N. Larson
Secretary

Natural Resources Committee,
League of Women Voters of NJ

David J. Bardin, Esq.
Arent Fox Law Firm
of Wash., DC; Former
NJ D.E.P. Commissioner

Judith Shaw Berry
Partner, Public Policy
Advisors; Former Chief
of Staff, NJ D.O.T.

Howard P. Boyd
Past Pres., American
Entomological Society;
Author, *A Field Guide to
the Pine Barrens of NJ*

Michael F. Catania
Esqleton Institute;
Former Deputy Com-
missioner, NJ D.E.P.

Bunzie Ellis Churchill
President, World Affairs
Council of Philadelphia

Sally Dudley
Executive Director,
Ass'n of NJ Environ-
mental Commissions

Michael Gallaway
Pinelands Coordinator,
Sierra Club

David F. Moore
Executive Director,
New Jersey Conser-
vation Foundation

Franklin E. Parker
Director, NJ Field Office
of Trusts for Public Land

James T.B. Tripp, Esq.
General Counsel, Environ-
mental Defense Fund

Nan Hunter-Walnut
Coordinator,
Pine Barrens Coalition

TOPIC 3: Evaluate the economic impact of the CMP on communities, businesses and people.

e.g. - viability of traditional industries, forestry, agriculture, and recreation and tourism.

I. Current Policy/Regulations

It would be impossible to summarize the CMP's regulations that control the economic impact of the CMP on the seven categories listed below. Several studies exist on land values. Agriculture, sand and gravel mining, housing markets, municipal finances and employment statistics were only studied once in 1983, and updated in 1985.

II. Trends/Concerns

A. One concern is the wide range of categories that need to be studied to conclusively prove the overall economic impact of the CMP on the Pinelands. This topic includes many categories which have to be reviewed before conclusions can be drawn. Oversimplification of the economic impact on any of these categories would leave the door open to continued criticism that reiterates the disastrous effects of the CMP on communities, people, and businesses. These categories include:

1. Land values
2. Housing markets
3. Employment trends
4. Municipal finances
5. Agriculture, including forestry
6. Sand and gravel mining
7. Recreation and tourism

B. Mistakenly, the area that is criticized most is the area that has been studied most, land values. Several of these studies found that land price indexes on properties within the Pinelands exceeded indexes of

lands outside the Pinelands. Yet, it is important that this criticism be put to rest.

III. Studies to be conducted or reviewed

A. Studies to be reviewed:

1. The Pinelands Commission in 1983 published its "first Progress Report" which gave the results of a two year study on the short-term impacts of the CMP on -
 - a. Land values
 - b. Housing markets
 - c. Employment statistics
 - d. Municipal finances
 - e. Agriculture
 - f. Sand and gravel mining
2. In 1985 the above report was updated and entitled Economic and Fiscal Impacts of the Pinelands CMP: First Biennial Update. It reviewed trends over a twelve year period in 52 municipalities in -
 - a. Land values
 - b. Municipal finances
3. In 1987 James E. Neumann's report, The Land Market in New Jersey's Pinelands: Past and Present Trends in Land Use and Transfer examines -
 - a. Land values
4. In 1988 W. Patrick Beaton reported in The Cost of Government Regulations: Volume I, Impact of Open Space Zoning on Property Values in the New Jersey Pinelands, his findings on -
 - a. Land values

B. Studies to be conducted:

1. Update the studies on those categories initially reviewed in the Pinelands Commission's 1983 "first Progress Report"
2. Tourism must be studied. Data should be gathered on activities that occur within the Pinelands

(i.e. - canoeing, hunting) and outside the Pinelands if those activities impact on the Pinelands in any way (i.e. - traffic travelling to Atlantic City).

- C. Studies of other similar land use plans should be reviewed for purpose of comparison, such as the Impact Assessment of the New Jersey interim State Development and Redevelopment Plan. In addition, participants of these studies might be asked to participate in CMP studies.

IV. Conclusion/Goal

It is the position of the Pinelands Preservation Alliance that studies of the CMP's economic impact on land use values have been conducted and are conclusive and that too much staff-time on this issue would be wasteful. Yet, we must recognize that this is the one area that the CMP is continuously criticized for. Perhaps publicizing the results of an update would be beneficial.

However, the other areas do need to be studied. It is our opinion that these studies would prove that planning, such as that encouraged by the Pinelands Protection Act and regulated by the CMP, does not result in the impediment of the economic development within these seven categories. And if proven should be published and distributed nationally to encourage other such efforts in land-use planning. The State of New Jersey should be encouraged, via the Pinelands Commission, to lead a national effort for proper land use planning. These studies could conclude that the CMP is a successful experiment.

FILL 001
APR 06 1992

CITY OF ESTELL MANOR
OFFICE OF:

PLANNING BOARD
P.O. BOX 102
ESTELL MANOR, NJ 08319

April 1, 1992

The Pinelands Commission
P.O. Box 102
New Lisbon, NJ 08064

Att: Terrence D. Moore
Executive Director

Dear Mr. Moore:

Enclosed please find our response to your letter dated February 28, 1992 regarding key topics for Pinelands Commission review.

Topic One: We have no problem with solid waste.

Topic Two: Resource Based Industries: The problem is that they cannot be the only industries in the municipality.

Topic Three: Economic Impacts: The economic impact is very severe. The Pinelands is not taking into consideration the economic impact on the municipality that they are regulating. The Pinelands regulations are making it difficult to collect the school taxes, which our constitution requires to be imposed, in order to meet the constitutional needs of a thorough and efficient education. The Pinelands Commission must recognize that the municipalities have other concerns beyond those within the egos of the Pinelands, such as the financing of public schools, the financing of other municipal improvements, the provision for health and safety of the residents, and without a proper tax base, no municipality can operate the way we are expected to operate under Pinelands regulations.

Topic Four: Pinelands Permitting: We feel that the Pinelands is operated too strictly, that they follow some untried textbook theories, which we simply do not feel are working in practice.

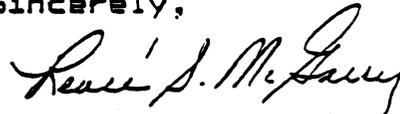
Topic Five: Growth Demands and Policies: This is best left to the municipality and not to the Pinelands Commission, particularly in a municipality such as Estell Manor, where the philosophy for limited but orderly growth, which is consistent with the overall philosophy of the Pinelands. The problem is we feel the local officials are far better able to determine the

APR 06 1992

specific needs of the community and the specific details as to how the community should be regulated better than the Pinelands Commission, which does not consist of any local residents in the case of Estell Manor, which is geographically removed a distance of approximately fifty miles.

If you should have any questions regarding the above comments, please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Renee S. McGarry". The signature is written in dark ink and is positioned above the typed name.

Renee S. McGarry
Secretary

April 15, 1992

Mr. Terry Moore
Executive Director, Pinelands Commission
PO Box 7
New Lisbon, NJ 08064

Re: Plan Review

Dear Mr. Moore,

Thank you for the opportunity to comment on approaches for studying topics selected for plan review. I am making these comments on behalf of the New Jersey Chapter of the Sierra Club. I would like to restrict my comments to topics #2 and #3, resource-based industries in the Pinelands and economic impacts of the plan on traditional industries.

We recognize the need for active forestry practices in the Pinelands, both as a continuation of traditional Pinelands life as well as providing wood products for the marketplace. But we are concerned that current forestry management practices on public lands may not be adequate for long-term protection and enhancement of the forest resources and may also clash with other goals of public land management such as preservation of ecosystems, maintenance of aesthetic values, and providing a wide range of outdoor recreational activities.

The State Forestry Department says that logging on public lands is economically necessary to provide wood for the state's wood products industry. They also state that 85% of New Jersey's woodlands are privately owned. An approach to determining the adequacy of the CMP in this area would be a detailed assessment of the economics of forestry practices on private vs. public lands. What portion of the state's (or Pinelands) forestry activities take place on public lands, and what economic benefits do the people of New Jersey receive? Do forestry activities subsidize the Forestry Dept. budget? Does the Forest Service lease lands for logging at less than market value, in effect subsidizing the use of public lands for this purpose? And do these practices negatively affect the market for forestry on private lands? Comparisons could be made between Pinelands forestry activities and those in the rest of the state. Perhaps state forests in the Pinelands and the wood products industry would both be better served by confining large-scale cutting of trees to private lands. State forestry personnel could be used to encourage better silvicultural techniques on private lands, providing a better return for landowners as well as helping to maintain open lands, which benefits the public. Such studies could probably use existing data from the State Forestry Dept. and private forestry organizations.

Any studies of the economic impact of the CMP should consider the potential negative impacts of large scale resource extraction (mining, logging) on recreation and tourism. An additional

threat to certain forms of recreation as well as to Pinelands forests is the inappropriate use of motorized vehicles in the Pinelands. The Sierra Club thinks that the amount of public land in the Pinelands where vehicular access is prohibited (natural areas, etc) is vastly underrepresented when compared to the total amount of land where vehicles are allowed. We recognize the rights of all users of public lands, but feel that there is a great imbalance in how public lands are designated and managed in the Pinelands. Designation of more natural areas could provide economic benefits to surrounding communities, providers of outdoor equipment, etc. A simple methodology to study this issue would be to compare the percentage of public lands in surrounding states that are managed as wilderness areas or where vehicular access is restricted. Certain types of hunting can benefit from restricted access as well, and comments could be solicited from Fish and Game authorities in other states as to the acceptance of these designations by hunters.

Thank you again for the opportunity to make these comments.

Sincerely,



Michael Gallaway
Pinelands Coordinator
New Jersey Chapter, Sierra Club

101 MORGAN LANE, PLAINSBORO, NEW JERSEY 08536 • (609) 275-8888 • FAX (609) 275-4411
 April 16, 1992

Mr. Terrence D. Moore
 Executive Director
 Pinelands Commission
 P.O. Box 7
 New Lisbon, NJ 08064



Re: Review of the Pinelands Comprehensive Management Plan

Dear Mr. Moore:

In response to your memo of February 28, 1992, the New Jersey Builders Association has reviewed the key topics for Pinelands Commission review.

The NJBA is commenting on three of the five topics listed. These are Economic Impacts, Permitting, and Growth Demands Policies. In addition, we have just learned that the Pinelands Commission has added a sixth topic of Water Quality. The NJBA is reserving its rights to submit comments on the Water Quality topic. We ask that you provide us with a copy of the Pinelands Commission material on the Water Quality topic.

ECONOMIC IMPACTS

The NJBA makes several recommendations for areas of study to evaluate the economic impact of the Pinelands plan.

Housing Affordability

The NJBA is of the opinion that the Pinelands Comprehensive Management Plan (CMP) has had an adverse impact on housing affordability in the Pinelands. Factors which have had impacts on the affordability of housing in the Pinelands include the following:

- 1) The supply of developable land is constrained, leading to increased prices for developable parcels;
- 2) The Pinelands development application process is extremely costly;
- 3) The Pinelands development regulations cause expensive site layouts and on-site improvements; and
- 4) There has been a loss of competition due to a decrease in the number of builders active in the Pinelands. The loss of competition is due to extensive capital requirements required for applicants to withstand long delays in the development application process and the costs associated with understanding the complex regulatory process.

The problem of housing affordability raises an issue of social equity. Although the CMP speaks to the need to provide housing for average workers who will be employed in the Pinelands, it is apparent that a number of Pinelands policies limit development potential to such an extent that many areas of the Pinelands may become a reserve for the elite. While we believe that this is contrary to the goals of the CMP, it is clearly a result of the details of the CMP and its implementations. The issue should be reviewed in detail.

Expiration of Waivers and Prior Approvals

As of January 14, 1991, Pinelands waivers previously approved under the prior municipal

1991 STATE OFFICERS

ROBERT H. KAREN

President

GREGORY C. FOULIOT
 First Vice President
 MICHAEL R. FINK
 Vice President-Treasurer
 ROBERT GOLDKREMAN

JOSEPH RIGGS
 Second Vice President
 LEONARD SOLONOV
 Vice President-Secretary
 PATRICK J. O'KEEFE

• National Association of Home Builders • Atlantic Builders Association of New Jersey • Home Builders Association of Cape May County • Central Jersey Builders Association • Builders Association of Metropolitan New Jersey • Builders Association of Northern New Jersey • Home Builders Association of Northwest New Jersey

Mr. Terrence D. Moore
Review of Pinelands CMP
4/16/92 - Page 2

development approval standard and approvals issued by the Pinelands Development Review Board and by the Commission under the Interim Rules and Regulations expired unless all municipal development approvals were in place. Rules provide that there can be no extensions of those approvals or permits. It is the suggestion of the NJBA that the economic impact of this decision be fully evaluated.

Given these provisions, a number of developers have been unable to acquire financing and performance guarantees to construct fully approved developments. If these approvals and waivers expire, these sites will lose value. This will have to be then reflected in reduced property assessments and declining property tax revenue for these sites. This lost tax revenue will have to be made up by other property owners. In addition, if developers are unable to complete development of the site, it is likely that the property will be acquired by the financing institution through default on outstanding loan obligations. These properties will then become non-performing assets of the financing institution. Development companies, financial institutions and local governments will all be adversely impacted. What is to become of the vacant lots and future unfinished sections? After having forced the developers and banks to absorb high losses, will the Pinelands Commission consider future waiver requests for these sites acquired by others at bargain prices?

In addition, the proposed economic analysis should evaluate economic impacts on partially completed developments. If approvals expire on a development which is partially built out, such a development generally has an unfinished appearance which is reflected in reduced value. Vacant lots become neighborhood problems. When the development is to be built in sections, through streets may end in stubs to future sections. Such conditions adversely affect property values of the previously developed lots.

It is the opinion of the NJBA that the considerable economic impacts of the expiration provisions be thoroughly evaluated.

PERMITTING

The Pinelands Commission is misusing the Certificate of Filing as an independent approvals process. The use of the Certificate of Filing extends far beyond the exercise of oversight of state, county and municipal permitting decisions. When municipalities and counties are in compliance with the Comprehensive Management Plan, development applications should be processed through the municipalities in the manner contemplated when the CMP regulations were written. The Pinelands Certificate of Filing process should be offered as a pre-application option available to the applicant.

When an application is filed with a municipality, a copy of the application should be filed with the Pinelands Commission along with a notice of any public hearing. The Pinelands Commission should then have the opportunity to file written comments with the municipality for municipal consideration in review of the application. In addition, the Pinelands staff should take the opportunity to attend and offer comments at any public hearings on the application. If a municipality or county makes a decision on an application that is inconsistent with the Comprehensive Management Plan, the Pinelands Commission has the authority to call up the application for review. This is sufficient review power.

The Pinelands Commission should not review each application for issuance of a building permit in developments which have been subject to subdivision and/or site plan review. This is an example of unnecessary and redundant regulation which is increasing the cost of

Mr. Terrence D. Moore
Review of Pinelands CMP
4/16/92 - Page 3

housing and development. This building permit review should be limited for use on scattered lots which have not been subject to planning board or zoning board review and Pinelands oversight.

The Pinelands Commission should discontinue its review of county planning board and county soil conservation district applications which are also the subject of local planning board and zoning board review. These continuous Pinelands Commission reviews of the same application are unnecessary and costly.

The Pinelands Commission should discontinue its requirements for municipal issuance of a Certificate of Appropriateness under the cultural resource requirements. The process has proven to be confusing to the municipality and unnecessary.

In reviewing local approvals of development applications, the Pinelands should provide for an intermediate step for the correction of minor violations rather than the formal call up and hearing process. Often the problems are of a very minor nature such as specifying the incorrect species on a landscaping plan. The applicant and affected parties should be given notice of the discrepancy and provided the opportunity to correct the problem before a full call up notice is issued.

GROWTH DEMANDS AND POLICIES

When the carrying capacity analysis of the Pinelands was completed, it included those developments which had been approved under the early waivers, exemptions and approvals issued by the Pinelands Development Review Board and under the Interim Rules and Regulations. The density of many of these developments was subsequently reduced and many units were never built. There should be an analysis of the number of dwelling units actually built in each designated area. The current development potential of each area should be determined and compared to the projections which were prepared when the CMP was adopted. Some growth areas have experienced significant down zoning where certain land areas have been removed from density calculations although these areas were initially included in the development potentials of the area. It appears that growth areas have been developing significantly below design potential. To accommodate the required amount of growth, it may be necessary to increase densities in developable portions of the regional growth area increase the size of some regional growth areas and increase development potential of rural development areas. Increased densities of regional growth areas may lead to more efficient provision of infrastructure. It is clearly inefficient and a waste of sewer planning areas to construct sewer infrastructure at some of the very low densities established for some regional growth areas.

It is important that the regional growth areas accommodate their fair share of growth. This is an implicit requirement of any regional plan that seeks to set aside large land areas in preserved and protected status. The growth areas must be able to accommodate small lot single family detached development at affordable prices. This housing style is the clear market preference today. Failure to accommodate the market demands and needs brings us once again to the point of discussion where the Pinelands can only accommodate exclusive housing, thus becoming a reserve for the elite.

The Pinelands Development Credit (PDC) program is not working. The PDC program is not a viable program to increase densities in the growth area. The bonus density received when using PDCs is far too low to act as an incentive to purchase PDCs. Further the

Mr. Terrence D. Moore
Review of Pinelands CMP
4/16/92 - Page 4

allocation of PDCs to sending sites has been so restrictive that there has been no financial incentive to landowners to sell their rights and permanently restrict the use of their land. In addition, most housing in the Pinelands cannot absorb increased costs of PDCs at a dollar value needed to sustain such a program. While the transfer of development rights is an interesting theory, it does not work in practice and is only effective when mandated by the CMP. The PDC program should not be relied upon in the CMP as a cornerstone of its growth policy.

It is our understanding that these topics will be reviewed by technical committees established to assist the Pinelands Commission and staff in the review of these topics. We at NJBA hope that you will give full consideration to the comments offered for your consideration. We hope that you will accept them in the cooperative spirit in which they are presented. We at NJBA take our role as the market provider of housing in environmentally sensitive communities most seriously. To adequately house our citizens in environmentally sensitive communities which are affordable to the residents of New Jersey, changes in Pinelands procedure and policy are warranted.

We look forward to working with you as the review of the CMP continues. Please direct any questions on these comments to Joanne Harkins, NJBA Director of Land Use and Planning.

Sincerely,



Robert H. Karen
President

APPENDIX E

Public Comments Received After Technical Panel Meeting

FILED MAY 12 1992

ATLANTIC COUNTY

DEPARTMENT OF REGIONAL PLANNING & DEVELOPMENT

1333 ATLANTIC AVENUE
ATLANTIC CITY, N.J. 08401
(609) 345-6700
(FAX: 343-2202)
(TTY: 348-5551)



RICHARD E. SQUIRES
COUNTY EXECUTIVE

April 27, 1992

Terrence Moore
Pinelands Commission
P.O. Box 7
New Lisbon, New Jersey 08064

Dear Mr. Moore:

Thank you for the opportunity to comment on the five topics selected by the Commission for the forthcoming review of the Comprehensive Management Plan. The inclusion of economic impacts and permitting policies is especially warranted, as we deal directly with the public on these issues and have encountered their Pinelands-related concern. Solid waste disposal, resource based industries (particularly agriculture) and growth policies are also directly controlled by the Plan and deserve review.

An underlying theme connecting these issues is the apparent inequity in distributing the costs and benefits for accomplishing the Pinelands mission. Specifically, the protection of the Pinelands, a reorganized state resource, is primarily the burden of individual property owners, yet all of New Jersey benefits from its protection.

A current planning endeavor, the State Development and Redevelopment Plan, has included an impact assessment study which quantified among other things the State Plan's economic impact on the farm community. The Atlantic County Planning Advisory Board recommends that the Commission conduct a similar study on the economic impacts of the Pinelands Comprehensive Master Plan, followed up by programs to address those impacts.

The Board would also like to bring your attention to an issue relating to growth allocation that may seriously affect the orderly development of the County's Regional Growth Area. The history of the Hamilton Walk development illustrates the need for sensitivity to local conditions when administering regional growth controls.

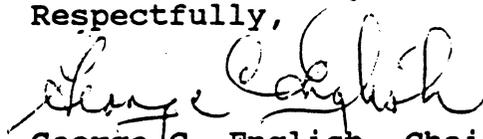
Several areas in Galloway and Hamilton Townships were (and are) zoned at inappropriately high densities given the prospects for serious airport noise impacts. The Commission should recognize



issues not related to water quality on the preservation of regional growth allocations, but which seriously affect the quality of life of our residents.

The Board looks forward to following the progress of your plan review and providing future input.

Respectfully,

A handwritten signature in cursive script, appearing to read "George C. English". The signature is written in dark ink and is positioned above the typed name.

George C. English, Chairman
Atlantic County Planning
Advisory Board

Township of Hamilton

County of Atlantic

FILE COPY

Mayor

JOHN J. PERCY, III, CTA, CMFO
PHONE: 965-3500

Deputy Mayor

CHARLES PRITCHARD
PHONE: 625-9212

Township Committee Members

LORRAINE GRANESE
PHONE: 625-0807

FRANK GRIECO, SR.

PHONE: 625-0524

BRUCE STRIGH

PHONE: 625-0060



21 Cantillon Boulevard, Room 104
Mays Landing, New Jersey 08330

Township Clerk

JOAN I. ANDERSON, RMC
PHONE: 625-1511

Township Administrator

RAYMOND A. TOWNSEND
PHONE: 625-4762

Township Solicitor

ROBERT SANDMAN, ESQ.
PHONE: 344-5161

Township Engineers

JOHN R. WALKER
JAMES N. HOLMES

July 2, 1992

The Pinelands Commission

Mr. Terrence Moore, Executive Director

P.O. Box 7

New Lisbon, NJ 08064

Re: Pinelands Master Plan Review

Dear Terry,

I have enclosed an original and several copies of a report written by our Municipal Engineer, James Holmes, in reference to municipal road projects within the Pinelands.

Please accept this as additional input for your review process.

If the Commission, you or your staff, have any specific questions, please feel free to contact Mr. Holmes (609-399-1927) or myself.

Sincerely,

Raymond A. Townsend

Raymond A. Townsend
Township Administrator

RATmal

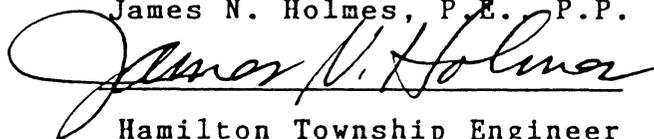
enc.

RECOMMENDATIONS FOR REVISIONS
TO
THE PINELANDS COMPREHENSIVE MANAGEMENT PLAN
FOR
RECONSTRUCTION & MAINTENANCE
OF
MUNICIPAL ROADS
PROJECT NO. 6907.8

PREPARED BY

WALKER, PREVITI, HOLMES, & ASSOCIATES
801 Asbury Avenue
Ocean City, New Jersey
08226

James N. Holmes, P.E., P.P.



Hamilton Township Engineer
N.J. License No. 24,823

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- II - GROWTH DEMANDS
AND POLICIES
- III - ECONOMIC IMPACTS
- IV - STORM WATER MANAGEMENT
- V - SUMMARY

PROPOSED PINELANDS CMP REVISIONS

I INTRODUCTION

The Township of Hamilton was one of the first municipalities in the Pinelands National Reserve to begin the Pinelands Certification process of the Township Developmental Ordinance. After Certification the Township has developed a history of full cooperation with the Pinelands Commission in implementation and enforcement of the Pinelands Comprehensive Management Plan.

As an example of close cooperation, Township Planning Officials have met on a monthly basis with applicants and developers for the past ten years. These meetings, in many instances, are held with applicants prior to a formal application being submitted to the Pinelands Commission or the Township Planning Board. In addition to Township Planning Officials, for a number of years a representative of the Pinelands Commission staff has also attended the meetings.

This cooperative effort has resulted in reduced development review costs for applicants. As two review agencies are involved, a clear understanding of requirements on the part of the applicant in certain matters of concern to both the Pinelands Commission and the Township, and a shortened length of the review process for applicants has resulted.

In the design of storm water management systems, a critical element is the depth to seasonal high groundwater. The Township Engineer's Office and the Pinelands staff have shared this responsibility of witnessing borings to verify

this data, based on work load and availability of the Pinelands Commission staff.

The Township Engineer's Office has also cooperated closely with the Cape-Atlantic Soil Conservation District during the construction of development projects, to insure soil erosion measures are followed. The Township Engineer has given standing orders to his Inspection staff to notify him, or the Cape-Atlantic Soil Conservation District, in the event soil erosion procedures are not followed. In essence, this procedure also aids in the Pinelands Certification process, as the Soil Erosion and Sedimentation Plans are an important element of the Pinelands review and approval.

Through the Planning Board Planner's Office, strict compliance with the Pinelands approved landscaping plan is required prior to the issuance of a Certificate of Occupancy by the Township Construction Code Official. Approval and sign off is also required by the Township Engineer for the Storm Water Management Plan, and any other aspects of the Pinelands approved and certified plans.

The Planning and Zoning Office, through the diligent work of the Planning Board Administrator, also has a history of compliance with, and enforcement of, all aspects of the Pinelands Comprehensive Management Plan.

The above examples demonstrate the Township of Hamilton has a history of cooperation with, and above all, enforcement of the goals of the Pinelands Commission.

The Pinelands Commission is presently reviewing the Comprehensive Management Plan (CMP), and soliciting recommendations from the public, government officials, and organizations during the review process. The Township, based on its excellent history of cooperation and enforcement of Pinelands goals and aims, respectfully submits these recommendations for consideration by the Pinelands Commission.

Of the six topics chosen by the Commission for review of the CMP, this report will primarily focus on the following topics as they relate to and impact upon reconstruction and maintenance of Township Roads.

- 1) Growth Demands and Policies
- 2) Economic Impacts
- 3) Storm Water Management

Although this report is based on Hamilton Township's experience, other Pinelands area municipal engineers have indicated concurrence with the opinions formulated herein.

II GROWTH DEMANDS & POLICIES

Due to the Pinelands mandated growth within the Township, the population has rapidly expanded within the past ten years. This growth has placed an economic burden on the Township in the form of expanded services and new facilities. The Township presently maintains over 400 miles of improved municipal roads. In the context of this report, "improved" means gravel, bituminous surface treatment, or asphalt roads.

In order to simply maintain or widen and improve Township roads to meet ever increasing traffic demands due to growth, the Township has budgeted \$500,000.00 per year for the past six years. Even this yearly expenditure has not kept up with the maintenance requirements. Clearly, every dollar spent must be devoted to the primary purpose of road maintenance and improvement to meet the ever expanding growth demands on the existing roadway infrastructure.

III ECONOMIC IMPACTS

The primary economic impact on the Hamilton Township Road Program in recent years has been conformance with the Pine-lands Comprehensive Management Plan stormwater standards. Funds that should be expended on road maintenance and improvement have been used for stormwater retention facilities, as well as increased engineering and environmental services to design these facilities.

Two recent examples of this economic impact are presented in support of this premise. The first is the 1991 Malaga Road project, which was funded by N. J. D.O.T. under the N.J. State Transportation Trust Fund Grant program. This program allocated \$100,000.00 for the construction and inspection of the project.

The second project is the Hickory Street, Holly Street and Laurel Street improvements, funded under the 1991 Hamilton Township Road Program.

A. Malaga Road - Section I

Malaga Road is a heavily travelled road connecting

the Township of Buena Vista with U. S. Route 322. Prior to reconstruction of Section I, the road was Bituminous Surface Treated, varying in width from 21 feet to 23 feet. The existing cartway was reconstructed with little or no change in profile. The proposed pavement width was designed for 25 feet to accommodate two (2) twelve foot wide travel lanes with allowance for centerline and edge of pavement markings. Two four foot wide gravel shoulders were added as a safety feature.

In order to accommodate Pinelands storm water requirements, the full 50 foot wide R.O.W. had to be cleared of existing native vegetation to construct retention swales. Those construction items directly attributable to retention swale construction are summarized below, with the attributable percentage of the cost indicated.

<u>Item</u>	<u>Contract Amount</u>		<u>%</u>		<u>Amount</u>
Excavation	\$3987.00	X	75	=	\$2990.00
Clearing Site	\$7500.00	X	100	=	\$7500.00
Topsoil	\$1920.00	X	75	=	\$1440.00
Fertilizing & Seeding	\$270.00	X	75	=	\$ 203.00
Mulching	\$1544.00	X	75	=	\$1158.00
Retention Berms	\$4050.00	X	100	=	<u>\$4050.00</u>
			Total		\$17,341.00

Percent of Contract

$$\frac{\$17,341.00}{89,181} = 19.4\%$$

The construction of the retention swales resulted in the removal of 0.2 acre of native vegetation, thus increasing the CN runoff numbers from existing CN 36 to proposed CN 49 in these areas. In essence, the swale construction partially increased the storm water runoff, removed vegetation which was a part of the transpiration process, and possibly had a negative effect on the hydrologic cycle.

The project is located in the FA10 zone of the Township, with limited development and large wooded lots. Storm water runoff previously ran off the road and into these wooded areas. It can be argued that natural percolation and ground water recharge took place, possibly within 50 feet to 100 feet of the roadside edge prior to the improvement.

By trapping the water along the roadside, there is a possibility the useful life of the road and sub-base is shortened, due to trapped storm water seeping into the road underbase, and creating pavement break-up due to freeze thaw cycles.

The economic impact for which the dollars spent for storm water retention, which may or may not have a positive impact on the environment, can be further illustrated as follows:

Project Cost/ L.F. With Retention

$$\frac{\text{Project Cost}}{\text{L. F. of Road}} = \frac{\$89,181}{3200 \text{ Ft.}} = \$27.86/\text{Ft}$$

Project Cost/L.F. Without Retention

$$\frac{\text{Project Cost Retention}}{\text{L.F. of Road}} = \frac{\$89,181 - 17,341}{3200 \text{ L.F.}} = \$22.45/\text{Ft.}$$

$$\begin{array}{rcl} \$89,181 & & 3972 \text{ L.F.} \\ \underline{22.45/\text{L.F.}} & = & \underline{-3200 \text{ L.F.}} \\ & & 772 \text{ L.F.} \end{array}$$

OR

AN ADDITIONAL 772 L.F. OF ROADWAY COULD HAVE BEEN CONSTRUCTED WITH THE FUNDS ALLOCATED TO THE PROJECT, IF STORM WATER RETENTION WAS NOT REQUIRED.

B. Hickory, Holly, Laurel Project

The captioned local streets are to be widened from 18.5 feet ± to 22 feet, with only minor change in the center-line profile. As the streets are located in the RD-5 Zone of the Township, standard drainage swales were not practical due to driveways and other improvements. Stone retention shoulders were therefor designed to minimize impact on the adjacent properties.

The general topography of the area is flat, with center line profiles varying between 0.5% and 1%. Storm water runoff presently runs to the roadside and percolates into the soil naturally, runs into the adjacent woods or lawn areas, and in the case of Hickory Street, runs onto the adjacent soccer fields of the Hickory Street recreation facility.

Opinions and comments in regard to storm water management stated in the previous review on the Malaga Road - Section I in this report are generally applicable to this project

Upon Pinelands Commission approval of the project, bids were taken for the re-construction of the roads on June 9,

1992, with a low bid of \$196,490.00. As with the Malaga Road Section I project, an item was included for clearing site, to facilitate the construction of the stone retention shoulders.

Items that are directly attributable to conformance with Pinelands storm water management standards are summarized as follows:

<u>Item</u>	<u>Contract Amount</u>	<u>%</u>	<u>Amount</u>
Clearing Site	\$6880.00	75	= \$5160.00
Stone Retention 8" thick	\$14,712.00	100	= \$14,712.00
Stone Retention 6" thick	\$20,369.00	100	= \$20,369.00
Stone Retention 12" thick	\$1453.00	100	= <u>\$1454.00</u>
		Total	\$41,695.00

Percent of Contract

$$\frac{41,695}{196,490} = 21.2\%$$

The economic impact of the storm water retention swales on the project cost is illustrated as follows:

PROJECT COST/L.F. WITH RETENTION

$$\frac{\text{Project Cost}}{\text{L.F. of Road}} = \frac{\$196,490}{11,450 \text{ Ft}} = \$17.16/\text{L.F.}$$

PROJECT COST/L.F. WITHOUT RETENTION

$$\frac{\text{Project Cost} - \text{Retention}}{\text{L.F. of Road}} = \frac{196,490 - 41,695}{11,450 \text{ Ft.}} = \$13.52/\text{L.F.}$$

$$\begin{array}{r} \$196,490 \\ \$13,527/\text{L.F.} \end{array} = \begin{array}{r} 14534 \text{ L.F.} \\ -11450 \text{ L.F.} \\ \hline 3080 \text{ L.F.} \end{array}$$

OR
AN ADDITIONAL 3084 L.F. OF ROAD MAINTENANCE OR RE-CONSTRUCTION COULD BE COMPLETED UNDER THE 1991 ROAD PROGRAM.

These examples graphically illustrate the need for review of the Pinelands Comprehensive Management Plan in the context of the economic impact upon local municipalities road maintenance and re-construction programs. An average of 20% of the funding must be devoted to storm water management. It is estimated an additional 8% to 12% is required for engineering costs for the design, preparation of Environmental Statements, and response to Pinelands staff review of applications.

It should be noted the Pinelands Commission staff has fully cooperated with the Township in the review of road projects submitted within the recent past. Average length of time from application submitted to approval by the Pinelands Commission has been 2½ to 3 months. However, when the additional time required for engineering design and environmental review is factored into the time between funding and construction, the time can be 6 to 10 months. In the present recession type economy, this time lag has not been a major factor in project construction costs, as construction costs have stabilized over the past two years. In the event of economic recovery, costs will certainly escalate, and a time lag will become a factor in the amount of road maintenance or reconstruction completed with the available funding.

A final economic impact as a result of CMP storm water management requirements upon local road programs is the long term maintenance of the facilities by the Township Public Works Department. Due to little or no history to date, no data or costs can be presented at this point.

July 21, 1992

Mr. Richard J. Sullivan, President
NJ First Incorporated
The Pennington Office Park
114 Titus Mill Road
Pennington, NJ 08534-4305

Dear Mr. Sullivan:

I am a Landscape Architect who has submitted development applications to the Pinelands Commission on several occasions. Based upon my experiences, as well as those expressed to me by developers, landowners, and municipalities, it is apparent that the Commission is failing to achieve its mandate of protecting the Pinelands. They have been extremely effective in preventing development, but unfortunately preventing development does not necessarily protect and certainly does not enhance the Pinelands.

Long before the Pinelands Commission was established to "Protect" the Pinelands, there were farmers, boatbuilders, ironworks, etc., as well as the villages they supported. During formulation of the Comprehensive Management Plan (CMP), these same industries and villages were lauded as part of the Pinelands Heritage. Had they not existed before the Commission, however, the Commission would not allow them to exist today. Furthermore, by developing an expensive and cumbersome permit process in which everything is a major development, the Commission is slowly and systematically eliminating what "heritage" is left. Its impact upon two traditional and supposedly "desired" activities, i.e., farming and forestry, is especially disturbing. Both have suffered immensely since adoption of the CMP and while forestry has not recently been a major industry, it would seem to be perfectly suited to not only protect and enhance the Pinelands, but also provide economic benefit through intelligent management as a renewable natural resource.

The Commission's myopic approach to "protecting" the Pinelands is nothing more than a feeble maintenance of the Status Quo. By their adherence to the belief that all land use is inherently bad, they have dismissed out of hand many opportunities to correct past habitat destruction and thereby enhance the Pinelands.

Mr. Richard J. Sullivan
July 21, 1992
Page Two

This misguided belief underlines the Commission's fundamental misunderstanding of the social and economic aspects of the Pinelands and their interrelationship and inevitable impacts upon its ecology. The Commission has never failed to exhort the bad effects that poor land use and development has had upon the Pinelands. Unfortunately, it has failed miserably to acknowledge, perhaps even grasp the possibilities for enhancement that sensitive land use can, in fact, bring.

- Why can't endangered species be re-introduced?
- Why can't critical habitat be created?
- Why can't foresters be permitted to utilize and manage some of its renewable resources in a manner that will insure its long term health and vigor?
- Why can't thoughtful developers be allowed to provide housing and business opportunities in designated areas to those whose vested interest it would be to protect and enhance the Pinelands?
- Why can't the Pinelands be restored?

Because the Commission has not and will not permit it.

Furthermore, through its unmitigated contempt of landowners who would utilize the Pinelands natural resources and its arrogant disregard of those with the experience and expertise to manage them, the Commission is alienating, and in some cases, destroying its most important constituency. Through its presumed omnipotence, the Commission's staff or inexperienced environmental scientists and experienced lawyers are insuring the Pinelands' slow, but certain, deterioration.

Until the Commission is made answerable for its actions and non-actions, it is inevitable that the "Pinelands" will one day exist only as an image that they dispel upon a naive and uninformed public.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy Kaluhiokalani". The signature is fluid and cursive, with a long horizontal stroke at the end.

Timothy Kaluhiokalani, ASLA
Landscape Architect

Growth and Community Design in the Pinelands

Report on Technical Panel Meeting

I. INTRODUCTION

A panel of experts (see Appendix A) met on May 7, 1992 to discuss this topic. In preparation for the meeting, a series of questions to be explored (Appendix B), background information (Appendix C) and public comments (Appendix D) were provided to each participant. Public comments received subsequent to the meeting are included in Appendix E of this report. Mr. Moore served as workshop coordinator and panelists were asked to freely express their opinions as individual experts and not as representatives of an agency or organization.

II. PURPOSE OF THIS REPORT

This report is intended to summarize key discussion points and present all recommendations offered by the participants. A tape recording of the entire seven (7) hour session is available for review at the Commission offices. Since different opinions were offered by panelists, the report also attempts to indicate the level of consensus reached on various discussion points and recommendations.

Recommendations of the workshop are described throughout the text in **bold** and are numbered sequentially. Because this particular workshop was the third in a series held by the Commission, each recommendation begins with the number 3. For ease of reference, a table has been prepared which identifies each recommendation presented by one or more panel members. The table also includes staff estimates of the resources and time needed to implement the recommendations and other information which the Commission may wish to consider when deciding which recommendation should be pursued.

III. KEY FINDINGS AND RECOMMENDATIONS

A. Growth Levels and Natural Resource Concerns

The panel discussed a variety of Pinelands growth and community design concerns focusing primarily on Regional Growth Areas (RGAs). Several comparisons were made by the panelists to other New Jersey planning activities, such as the State Development and Redevelopment Plan and the Coastal Area Facilities Review Act (CAFRA) area, and efforts elsewhere such as in Oregon, Vermont, and Florida.

On the whole, the panelists felt that the existing RGA density allocations were reasonably appropriate in the Pinelands. In some cases, questions were raised about the capacity of existing infrastructure and public services, most notably in a few municipalities in the Atlantic City region.

Even though the panel did not find the overall density allocations of the Comprehensive Management Plan (CMP) to be unrealistically high or low from a planning standpoint, there was discussion about their ultimate effect on the protection of the Pinelands. The following criteria were identified, against which RGA development levels could be evaluated: water quality, water quantity, air quality, maintenance of plant and animal communities, forest fire regimes, nutrient balances, indigenous people, villages, culture, and businesses.

The panel discussed the fact that these criteria, and physical development characteristics, were used in the CMP to determine geographic areas which would be oriented towards conservation or development but that using them to then determine precise development thresholds was much more difficult. The following two recommendations were offered as ways to confirm how the development levels permitted in RGAs may impact upon the overall protection of the Pinelands.

Recommendation 3.01a Establish development thresholds in RGAs based on average per capita impacts on Pinelands ecology.

One panelist recommended that development levels in RGAs should be based upon per capita impacts. It was recognized that this would involve the establishment of environmental thresholds, a study to determine per capita impacts, and a monitoring system to track these impacts relative to the thresholds.

The panel did not reach a consensus on this recommendation, primarily because of concerns that thresholds represent a dynamic, interrelated, and complex series of factors. Because they may not be fully understood, it may be difficult to understand, interpret and apply them in a meaningful way.

Recommendation 3.01b Re-evaluate RGA densities based on hydrological impacts.

Several of the panel members stressed that water quantity and quality issues should be the primary focus of growth management planning in the RGAs. One panelist noted that water supply concerns have already affected CMP density assignments, such as in the Mullica River Basin in lower Camden County where densities were reduced because estimated water supply demands were beyond an ecologically-based water supply threshold. Another panelist said that this experience may indicate that some of the CMP's original assumptions may need to be evaluated and that better data is needed on water quantity issues.

Another panelist stated that average consumer water demands and water quality treatment technologies will continue to change over time, and therefore will always need further study. Still another panelist recommended that water be selected as a determining growth factor recognizing, however, that strict water policy sometimes does not make for good land use planning decisions. The group generally agreed that hydrological impacts were the most relevant evaluation tool and that it would be worthwhile to re-evaluate RGA densities in a manner similar to what was done for the Mullica River basin.

B. CMP Densities

As indicated earlier, panelists thought that the density allocations were generally appropriate but may need some re-evaluation based on actual development and market trends since 1980. In particular, several panelists were concerned about "lost" RGA development and Pinelands Development Credit (PDC) opportunities due to either municipal over-zoning or under-utilization of land.

Recommendation 3.02. Re-evaluate individual municipal CMP density allocations to determine if they adequately respond to area market conditions.

Several panelists expressed a concern that the CMP's RGA density obligations may be too high or too low in some areas. For example, one panelist suggested that the densities in the Camden County area were too low and those in the Atlantic City area were too high. Another panelist expressed the opinion that CMP prescriptions of one dwelling unit per acre in sewerred areas is too low.

It was noted that the CMP's original density allocations were based on the existing patterns of development in municipalities at the time of the study. In response, another panelist noted that if the densities were now higher than market demand and thereby not built to capacity, those wasted base and PDC units defeat the CMP's purpose of focusing development in the RGA and protecting the Preservation and Agricultural Production Areas. Several of the panelists then recommended that the CMP's municipal density allocations and current market demand be evaluated. Although not expressly stated, the implication was that significant differences between market demand and densities would suggest that density changes be made.

Recommendation 3.03 Review certified RGA densities to verify if they can be realistically reached.

A few panelists suggested that the Commission review individual certified zoning districts to determine the feasibility of their being built at the zoning densities provided. They believed that wetlands buffers, infrastructure availability and other constraints may have an impact on the assigned densities. It was suggested that certified zoning should perhaps be based on achievable net densities. Another panelist recommended that such a study should not be too site-specific, but policy oriented. Another stated a concern about actual market demand for higher density housing and mixed-use development. This led to Recommendation 3.17.

There was consensus that municipally-assigned densities in RGAs should be further evaluated to determine if they are realistic. Although not explicitly discussed, the implication was that the Commission should require municipalities to re-zone if density assignments in given zoning districts are not realistically achievable.

Recommendation 3.04a Require municipalities to have minimum development densities to ensure efficient use of RGA land.

One panelist stated that the problem with community development and infrastructure planning was that the CMP growth allocations control only maximum development levels. Often, developers may build under capacity which in turn impacts on the adequacy of transportation planning, school size and other infrastructure and social service provisions. It was recommended that the CMP be amended to include a range of minimum acceptable densities. In this way, communities would be able to provide for predictable ranges of development. It was explained that Oregon's planning policies, planned municipal industrial parks and redevelopment plans reflect minimum densities.

There was a consensus among the panelists that the recommendation would represent a significant improvement in the CMP's implementation.

Recommendation 3.04b Require municipalities to set minimum development densities at the threshold for PDC use to ensure efficient use of RGA land.

One panelist recommended an alternative to the above recommendation that would specify the minimum development density. The minimum would be set at the point where PDC use is first required, i.e. essentially requiring all development to be built at the full base density. It was noted that if a property owner wanted to build fewer units than the amount required by the minimum density, the owner would then need to subdivide the property to exclude enough land (i.e. landbank) so that the developed density would match the minimum. Another panelist suggested that the Commission could permit fewer than the minimum units required

if PDCs were used for the lost units, but this idea was not further discussed. There was no consensus on the overall recommendation.

C. Flexible Densities

Following the discussion of overall densities, panelists suggested a series of CMP amendments which could be used to make CMP-prescribed densities more flexible. Flexibility in the CMP density provisions would make growth obligations more acceptable to municipalities, ensure that land and development opportunities would not be wasted, and provide opportunities for better community design.

Recommendation 3.05 Allow municipalities to modify CMP densities if they are determined to be inappropriate.

One panelist recommended that the CMP provide a formal mechanism for a municipality to raise or lower densities if it wanted to do so, and if the original CMP assumptions were found to be inappropriate. Other members of the panel did not express support or objections to this recommendation.

Recommendation 3.06 Allow municipalities to raise densities if they also reduce total RGA size.

Two panel members recommended that a major way of reducing adverse environmental effects would be to shrink the areal extent of RGAs and then raise the densities within them. In this way, the same number of units could be built but less land area would be impacted. They also suggested that smaller RGAs would make higher densities more marketable. Mixed-use and higher-density development, they said, would also be more fiscally practical in terms of financing public services and infrastructure. Other panelists did not object to or support this recommendation.

Recommendation 3.07 Allow municipalities to exempt certain projects or types of development from PDC requirements when they achieve a community design or public policy goal.

A few of the panelists proposed that the CMP specifically address when and how municipal zoning bonuses could be used, and in what cases they could preempt the PDC program. One suggested that the use of PDCs be required when there would be any major deviation from the development standards. Another wanted bonuses to be based on good planning and design techniques (e.g., mixed-use development), while another questioned whether bonuses for public policy housing needs, such as low-income and senior housing, could be compatible with the PDC program.

Recommendation 3.08 Permit RGA housing obligation transfers among RGA municipalities.

One of the panelists stated that Oregon's urban area zones permit the exchange of housing obligations to promote affordable housing. It was recommended that, if a municipality needed more units than it was assigned, it could arrange a transfer of units from another area which might have more than it needed. Another panelist compared the inter-municipal transfer of Pinelands housing obligations to Council on Affordable Housing transfers where communities with too many affordable housing responsibilities would agree to have them built in another community. The end result is housing built where it is most welcome and where land is available. There was no consensus on transferring CMP RGA unit obligations between municipalities.

Recommendation 3.09 Permit municipalities the option of allowing density increases by accruing units from other RGA sites not built to maximum density.

One of the panelists said that in some municipalities housing is not being built to capacity and that PDCs are not often used because the base densities are too high. Another suggested setting minimum densities and letting the market set the maximum density through the purchase of PDCs. (see Recommendations 3.04a and 3.04b) Another panelist recommended that developers be permitted, with municipal discretion, to purchase development "credits" from under-utilized developed land in RGAs.

D. Performance Standard Flexibility

Successful communities with a high quality of life were areas which panelists described as having sufficient infrastructure and public services, affordable housing, good community design, as well as natural resource and landscape preservation. While no specific problems in the Pinelands were identified, several panelists suggested that the CMP could be amended to address potential problems which are being experienced throughout the state. The panelists discussed relaxation of CMP development standards in RGAs or, in certain cases, to permit more flexible development.

Recommendation 3.10a Evaluate how CMP development standards might be relaxed in RGAs to meet density without adverse environmental impacts.

A variety of different opinions were offered on whether CMP development standards should be relaxed in RGAs. The need to consider quality of life issues in addition to environmental standards, the benefits of accommodating more housing in growth areas, and the varying degrees of environmental sensitivity which exist between management areas were cited in support of the recommendation. Concerns were expressed that development stan-

dards may not be adequate now to protect the Pinelands environment and that relaxation of standards might result in significant hydrologic and water quality issues.

There was consensus that the question warranted further study.

Recommendation 3.10b Evaluate how CMP development standards might be relaxed in RGAs, in certain cases, to permit development to achieve public policy objectives without adverse impacts.

A few panelists offered an alternative recommendation that standards be relaxed in RGAs only for special cases, such as those for a public need, like affordable housing, or a public design goal, like mixed-use development.

E. Infrastructure Needs

Several panelists mentioned that infrastructure and public services were becoming more difficult to provide in areas around Atlantic City, but again, not unlike other areas outside the Pinelands. These problems sometimes evolve from inadequate planning by municipalities, but more often happen because of the way infrastructure is financed in New Jersey. The group agreed that the Commission could get more involved in making sure that the infrastructure needs of Pinelands development areas can be met.

Recommendation 3.11 Identify ways to help municipalities finance infrastructure needs.

The panel began this part of the session by identifying infrastructure as the basic community planning constraint in RGAs, especially transportation/transit, water supply and wastewater treatment. The consensus was that the existing infrastructure is not adequate to meet the expected demand. The panel also concluded that the primary problem was the feasibility of financing future infrastructure, in part based on the state's cap on municipal budgets. One panelist added that there is money available for sewers, but not roads or schools. Several panelists recommended that the Commission evaluate creative ways in which municipalities can finance infrastructure costs.

Recommendation 3.12a Design capital improvement plans for all RGAs.

One panelist recommended that the Commission should prepare capital improvement plans for RGAs. Although there was consensus that better capital planning is needed, concerns were expressed that the Commission may not be in the best position to prepare individual municipal plans because the needs vary according to community character and citizens' expectations. There was some discussion that, if the Commission pursued this recommendation, it could prepare more generalized plans which each municipality could refine and adopt to its own needs and circumstances.

Recommendation 3.12b Require municipalities to include circulation, community facility and utility service plan elements in their master plans for their RGAs.

As an alternative to the above recommendation, one panelist recommended that the Commission could have municipalities consider these issues by requiring adoption of circulation, facility and infrastructure plan elements.

Recommendation 3.13 Design sub-regional land use plans for major growth generators, e.g., Atlantic City Airport.

A few panelists noted that major sub-regional issues, such as the Atlantic City airport, were about to generate more need for housing and public services than perhaps what municipalities can reasonably accommodate. Although the New Jersey Department of Transportation, the Delaware Valley Regional Planning Commission, and county transportation and land use planning bodies may be helpful in some ways, some issues, such as the airport and growth along the highway corridors (Atlantic City Expressway, US 30, NJ 55, etc.), need stronger sub-regional planning with active municipal participation.

F. Municipal Reserves

One of the ways of providing adequate services that the panel discussed was the phasing of growth by "land-banking" some portions of RGAs for future development. The panelists agreed that this method of ensuring logical development patterns in RGAs could increase land use efficiency, increase public service and infrastructure efficiency, and improve the quality of life in growth communities. The panel members recommended that greater use of the CMP's municipal reserve program should be explored.

Recommendation 3.14 Identify Municipal Reserve Areas (MRAs) for all Rural Development Areas and re-evaluate standards for converting MRAs to RGAs.

One panelist observed that Municipal Reserves (portions of Rural Development Areas reserved for future growth) were used on a very limited basis by municipalities. Consequently, a recommendation was made that the Commission itself identify Municipal Reserves.

Recommendation 3.15 Require delineation of municipal reserves within RGAs to foster phased development.

Several of the panelists were concerned about random development in RGAs, which may result in some land being under-utilized due to the lack of available wastewater infrastructure. Others were concerned that unorganized growth in the RGAs could be one of the major causes of traffic congestion, inadequate service delivery, municipal budgeting difficulties, etc.

One panelist recommended that the development of reserves within RGAs would enable municipalities to better plan for infrastructure and services in their communities. There was a general consensus to recommend that municipal reserves be established in RGAs, much like Hamilton Township's. These reserves would not be allowed to develop at RGA densities until adequate densities have been achieved as required in the developed zones.

G. Housing Issues

The panel briefly discussed issues relating to the type of housing stock (e.g., affordable, higher-density, and mixed-density housing) available in the Pinelands. A couple of panel members raised anecdotal concerns about these issues. Not having a complete understanding of the issue with respect to the Pinelands, the panel recommended further study of these concerns.

Recommendation 3.16 Evaluate impacts of CMP density standards on the provision of affordable housing.

A number of different opinions were presented during the panel's discussion of the CMP's effect on affordable housing. Opinions ranged from the belief by one individual that the CMP density and development standards prevented builders from providing anything other than "exclusive" housing, to a belief that the CMP permits municipalities to zone for a variety of housing types. Ultimately, the panel concluded that the question warranted further study.

Recommendation 3.17 Analyze the relationship between market demand for high density (multi-family) development and certified municipal RGA zoning densities to determine whether CMP housing obligations respond to those demands.

This recommendation evolved as an outgrowth of the discussion on Recommendation 3.03. One panelist said that there may not be a sufficient market for existing high-density and mixed-use development zones because people generally prefer to live on smaller lots in single family homes, and only choose to live in higher-density housing during transitional periods in their lives. Mid-rise and high-density development were cited as too expensive to build, and are therefore not sufficiently affordable to their potential market. Others disagreed and the panel suggested that a study could shed further light on whether the issue is significant.

Recommendation 3.18 Determine whether RGAs provide appropriate housing opportunities relative to employment projections.

One panelist recommended that a re-evaluation be undertaken of whether the housing opportunities provided by the CMP match future employment projections within and around the region.

A few panelists recommended that the Commission also study whether the CMP's RGA housing standards provide a real opportunity for people to live adjacent to employment centers. Locating housing supply next to employment and commercial centers would reduce air pollution, energy consumption, traffic congestion and highway construction needs by limiting commutation and discretionary travel demands.

H. Community Design Issues

When discussing community design issues, the panelists concluded that the Commission should encourage compatible mixed-use growth in RGAs and should have a role in coordinating better community design in growth municipalities. They recommended that by increasing local awareness of community design issues, municipalities could develop into communities with a higher quality of life than what more often is characterized by strip development and disjointed housing developments, both inside and outside the Pinelands.

Recommendation 3.19 Prepare model mixed-use zoning and community design guidelines and provide educational assistance on those subjects.

There was a wide-ranging discussion on community design and panelists sometimes differed on what good community design represented.

There was, however, a general consensus that municipal planning doesn't often consider community design issues. For example, opinions were offered that higher-density and mixed-use developments can foster better community design. Other panelists indicated that cultural resource and community design objectives might not always be in keeping with a community's definition of quality of life.

Towns with community centers, like Egg Harbor City, were cited as examples of development types that the Commission should foster. In summary, the panel overwhelmingly agreed that the Commission should prepare model community design guidelines and encourage municipalities, through active educational programs, to embrace them.

Recommendation 3.20 Require municipalities to include community design plan elements in their master plans and land development ordinances for their RGAs.

Although not a direct alternative to Recommendation 3.19, two of the panelists said that the Commission should not dictate how RGAs and other development areas should look. Because civic design tastes are not homogenous (they change over time, and what designers think is appropriate now may not be so in the near future), other panelists said that municipalities should choose their own community design themes, but that these should be addressed in a mandatory community design element in municipal master plans and land development ordinances.

Recommendation 3.21 Limit strip development.

Several of the panelists recommended that the CMP restrict "strip development" due to its adverse impact on traffic circulation, scenic quality, and inefficient use of RGA land. They recommended a few alternative measures, such as the use of feeder roads, clustering, and reverse frontage, as a way of correcting those problems.

IV. Public Comments

One citizen expressed a concern that municipalities should be encouraged by the Commission to coordinate planning across municipal boundaries and for major sub-regional developments such as the Atlantic City Airport.

Growth and Community Design Works... / Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Growth Levels and Natural Resource Concerns CMP Densities	3.01a	Establish development thresholds in RGAs based on average per capita impacts on Pinelands ecology.	Study	-	\$150,000	o Establishment of a method to predict per capita impacts may be technically difficult o Implementation of a per capita density system may be difficult o System to monitor impacts on a per capita basis will be difficult and expensive to establish
	3.01b	Re-evaluate RGA densities based on hydrological impacts.	Study	-	\$75,000	o Different scenarios may be required due to various water supply alternatives o Coastal areas difficult to analyze
	3.02	Re-evaluate individual municipal CMP density allocations to determine if they adequately respond to area market conditions.	Study	4wm - P	\$30,000	o Market studies needed before RGA analysis begins o Market conditions change over time o Difficult to relate market studies (with specific time periods) to CMP prescriptions which are not time dependent
	3.03	Review certified RGA densities to verify if they can be realistically reached.	Study	12wm - P	-	o Will require analysis of municipal design standards o Test analysis done through PDC study identified several problems which have been corrected o More attention now focused on this issue during certification reviews but detailed analyses are not done
	3.04a	Require municipalities to have minimum development densities to ensure efficient use of RGA land.	CMP	-	-	o Question exists as to how much discretion to grant to municipalities o Little municipal discretion and relatively high minimum densities are likely to be controversial o Much municipal discretion and relatively low minimum densities will likely undermine purpose o To what extent should market conditions be considered in setting minimums?

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Growth and Community Design Works. Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Flexible Densities	3.04b	Require municipalities to set minimum development densities at the threshold for PDC use to ensure efficient use of RGA land.	CMP	-	-	<ul style="list-style-type: none"> o Precludes development at densities less than the PDC threshold o Municipal discretion is limited to that density which it sets as the threshold for PDC use o Questions may be raised on the extent to which these thresholds reflect market conditions
	3.05	Allow municipalities to modify CMP densities if they are determined to be inappropriate.	CMP	-	-	<ul style="list-style-type: none"> o Guidelines relative to CMP amendments to lower densities have been established o Proofs are likely to be difficult to make o Unlikely to lead to many RGA density modifications
	3.06	Allow municipalities to raise densities if they also reduce total RGA size.	CMP	-	-	<ul style="list-style-type: none"> o Will raise PDC density thresholds o Results in greater development efficiencies o CMP development standards may limit achievement of higher densities o Municipalities now have some flexibility to lower densities in some portions of the RGA and raise them in other portions
	3.07	Allow municipalities to exempt certain projects or types of development from PDC requirements when they achieve a community design or public policy goal.	CMP	-	-	<ul style="list-style-type: none"> o May result in some loss of PDC opportunities o Municipalities now have some flexibility to accomplish this, e.g., in affordable housing o May be difficult to establish universal guidelines that would apply equally to all RGAs
	3.08	Permit RGA housing obligation transfers among RGA municipalities.	CMP	-	-	<ul style="list-style-type: none"> o Guidelines for permitting transfers need to be developed o Environmental considerations may be difficult to evaluate o Higher densities in some areas will raise PDC density thresholds o Lower densities in other areas may result in lower development efficiency

(1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.

(2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.

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(5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.

(6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Growth and Community Design Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Performance Standard Flexibility	3.09	Permit municipalities the option of allowing density increases by accruing units from other RGA sites not built to maximum density.	CMP	-	-	<ul style="list-style-type: none"> o Development levels will more closely approximate CMP zone capacity estimates o Will raise PDC density thresholds o Municipalities are likely to be pressed to "transfer" lost units to specific sites o May not promote sound land use patterns on a long-term basis o Municipalities may now seek rezoning if land development trends warrant density changes
	3.10a	Evaluate how CMP development standards might be relaxed in RGAs to meet density without adverse environmental impacts.	Study	2wm - P 1wm - S	-	<ul style="list-style-type: none"> o Recognizes differences between management areas o Variable standards in other management areas may be sought o Greater development efficiencies will be realized in RGAs o Consensus on the degree of relaxation may be difficult to achieve o Commission may be viewed as "writing off" RGAs
	3.10b	Evaluate how CMP development standards might be relaxed in RGAs, in certain cases, to permit development to achieve public policy objectives without adverse impacts.	Study	2wm - P	-	<ul style="list-style-type: none"> o Variable standards in other management areas for public policy objectives may be sought o Consensus on which public policy objectives should be addressed may be difficult to achieve o Consensus on the degree of relaxation may be difficult to achieve o Provides a tool for achievement of important policy objectives
Infrastructure Needs	3.11	Identify ways to help municipalities finance infrastructure needs.	Study	6wm - P	-	<ul style="list-style-type: none"> o Evaluation may ultimately require outside expertise o Should involve consultation with the Office of State Planning and local governments o Recommendations are likely to be beyond Commission's ability to implement

(1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.

(2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.

(3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.

(4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.

(5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.

(6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Growth and Community Design Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Municipal Reserves	3.12a	Design capital improvement plans for all RGAs.	Study	-	\$100,000	o May be viewed as an assumption of local prerogatives o Would provide mechanism to judge future Pinelands Infrastructure Trust Fund applications o May require new staff expertise if detailed plans are to be prepared
	3.12b	Require municipalities to include circulation, community facility and utility service plan elements in their master plans for their RGAs.	CMP	-	-	o Unless standards are developed to judge their adequacy, this may not result in meaningful plans o Just requiring municipalities to prepare plans may still represent a worthwhile first step o Enforcement of the requirement may be difficult
	3.13	Design sub-regional land use plans for major growth generators, e.g., Atlantic City Airport.	Study	-	\$50,000	o Estimate is based upon preparation of one such plan o Atlantic City Airport planning may provide an opportunity for South Jersey Transportation Authority to address this issue
	3.14	Identify Municipal Reserve Areas (MRAs) for all Rural Development Areas and re-evaluate standards converting MRAs to RGAs.	Study/ CMP	6wm - P	-	o Not all RDAs will be appropriate as MRAs o Delineating boundaries may be contentious o Some communities may not want growth reserves
	3.15	Require delineation of municipal reserves within RGAs to foster phased development.	CMP	-	-	o New CMP standards or guidelines will be needed o May not be appropriate or necessary in all instances
Housing Issues	3.16	Evaluate impacts of CMP density standards on the provision of affordable housing.	Study	-	\$30,000	o May be difficult to judge since flexibility is already provided when municipalities propose affordable housing programs o May be viewed by some as contrary to Pinelands Protection Act prohibition on Pinelands affordable housing standards

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
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- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Growth and Community Design Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Community Design Issues	3.17	Analyze the relationship between market demand for high density (multi-family) development and certified municipal RGA zoning densities to determine whether CMP housing obligations respond to those demands.	Study	3wm - P	\$20,000	o Represents one element of Recommendation 3.02
	3.18	Determine whether RGAs provide appropriate housing opportunities relative to employment projections.	Study	4wm - P	\$40,000	o Will require that areas within and outside the Pinelands be examined relative to employment and housing opportunities o Employment forecasts are somewhat speculative o Establishment of "commutersheds" may be difficult
	3.19	Prepare model mixed-use zoning and community design guidelines and provide educational assistance on those subjects.	Study	4wm - P	\$50,000	o Model ordinances and design guidelines must be developed before education efforts begin o Municipalities may be unable to undertake detailed evaluations of their use without financial assistance
	3.20	Require municipalities to include community design plan elements in their master plans and land development ordinances for their RGAs.	CMP	-	-	o Unless standards are developed to judge their adequacy, this may not result in meaningful plans o Standards, if developed, would be judgemental o Just requiring municipalities to prepare plans may still represent a worthwhile step o Enforcement of the requirement may be difficult
	3.21	Limit strip development.	CMP	-	-	o The new state highway access code may help to address this issue o Likely to be controversial as it has been in the past

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
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- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

APPENDIX A

"Pinelands Growth/Design" Meeting
List of Participants

May 7, 1992

Name of Participant	Affiliation
Frank Banisch	Banisch & Associates planning consultant
Martin Bierbaum	N.J. DEPE, Land Use Regulation Element
Richard Dovey	Atlantic County Utilities Authority
Shirley Goetz	N.J. Department of Labor, Div. of Labor Markets & Demographic Research
Joanne Harkins	N.J. Builders Association
John Keene	Coughlin, Keene & Associates architecture/planning consultant
Mark Lapping	Rutgers University Urban and Regional Planning Department
Charles Newcomb	N.J. Department of Treasury Office of State Planning
Michael Ontko	Delaware Valley Regional Planning Com- mission, former Pinelands Commissioner
Robert Pierson	CH2M-Hill architecture/planning consultant
Creigh Rahenkamp*	John Rahenkamp Consultants Inc. architecture/planning consultant
Keith Robinson	U.S. Department of Interior U.S. Geological Survey
Raymond Townsend	Hamilton Township, Atlantic County
Susan Grogan	Pinelands Commission Planning & Research
Larry Liggett	Pinelands Commission Planning & Research
Terrence D. Moore	Pinelands Commission, Executive Director Workshop Coordinator
John C. Stokes	Pinelands Commission, Assistant Director Planning & Management
Robert Zampella	Pinelands Commission, Science Office

* Panelist was invited but was unable to attend meeting.

APPENDIX B

Pinelands Growth/Design

Questions Explored at the Technical Panel Meeting

May 7, 1992

Growth Demands/Environmental Constraints

1. What environmental factors are relevant in determining the level of growth (residential, commercial and industrial) that should be accommodated in the Pinelands? Which of these do you consider to be threshold factors that should determine growth levels?
2. What environmental factors are relevant in determining the intensity with which development should be permitted to occur within any given area? Which of these do you consider to be threshold factors?
3. Are there special environmental factors that should be considered in determining the level or intensity of growth in specific regions of the Pinelands? Are such regions definable? How well do Pinelands growth area zoning plans reflect these factors?
4. What existing data or information are you aware of that address these factors? What, if any, conclusions might be drawn from such data or information?
5. What planning factors are relevant in determining the level of development that should be accommodated in the Pinelands? Which of these do you consider to be short-term or long-term threshold issues?
6. What planning factors are relevant in determining the intensity of development to be permitted in any given area of the Pinelands? Which of these do you consider to be short-term or long-term threshold issues?
7. Are there special planning factors such as the proposed Atlantic City Airport, civilian use of Fort Dix and McGuire Air Force Base that should be considered in determining the level of intensity of growth in specific regions of the Pinelands. Are such regions definable?
8. What data or information are you aware of that address these factors? What, if any, conclusion may be drawn from such data or information?
9. What additional data or information do you believe needs to be gathered to enable the Commission to better understand environmental and planning factors that should shape the level and intensity of growth in the Pinelands or portions thereof?

10. What conflicts can you identify between environmental and planning factors, and how would you suggest the Commission go about resolving such conflicts? Can you identify compatible environmental and planning factors? How would you suggest that the Commission build upon these common factors?

Growth Management

11. In light of environmental considerations and the setting of maximum population densities, are there strategies that the Commission may employ that would better enable counties and municipalities to manage growth? Are there existing growth management programs in other locations that are worthy of investigation?
12. Do existing municipal zoning plans provide a reasonable opportunity for use of Pinelands Development Credits. What factors would contribute to increased use of PDCs within local growth management strategies?

Community Design

13. What planning and design techniques do you believe are most successful in helping municipalities achieve growth management-oriented community design objectives? Which do you believe are worthy of consideration in the Pinelands?
14. What reasons are most often cited for the failure of community design objectives? Which are most often cited for their success?
15. Do Pinelands Regional Growth and Town zoning schemes inhibit the use of successful design techniques? How might they be changed to encourage better design? What are the environmental implications of such changes?
16. What roles do you believe the Pinelands Commission can plan in encouraging better community design in the region? What strategies do you suggest be employed to implement these roles?

APPENDIX C

Background Information

for

Pinelands Growth/Design Technical Panel Meeting

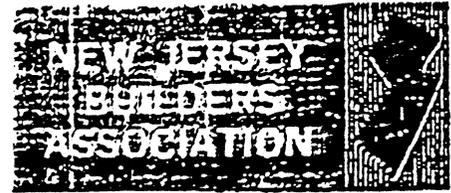
1. Briefing Memorandum
2. Pinelands Regional Growth Area Municipal Zoning Density and Capacity Estimates, (sheets 1 through 23) updated 3/27/92.
3. An Assessment of the Hydrological Impact Resulting from Development in Regional Growth Areas in Hamilton Township, Atlantic County (Mullica Basin Water Study), New Lisbon, NJ: Pinelands Commission, 1990.
4. 6/8/88 Pinelands Commission Memorandum from the Executive Director to the Commissioners regarding "Sewer and Water Supply Policies for Regional Growth Areas in the Mullica Township River Basin, Camden County".
5. Update on NJ Department of Labor, Office of Demographic and Employment Analysis (NJ ODEA) population projections.
6. Excerpt from New Jersey Pinelands Comprehensive Management Plan, The Second Progress Report on Plan Implementation - Chapter I Land Use, pgs I-1 through I-24.
7. Pinelands Development Standards - Subchapter 6 of the Pinelands Comprehensive Management Plan, revised 2/29/88, summary.

APPENDIX D

Public Comments Received Prior to Technical Panel Meeting

101 MORGAN LANE, PLAINSBORO, NEW JERSEY 08536 • (609) 275-8888 • FAX (609) 275-4411
 April 16, 1992

Mr. Terrence D. Moore
 Executive Director
 Pinelands Commission
 P.O. Box 7
 New Lisbon, NJ 08064



Re: Review of the Pinelands Comprehensive Management Plan

Dear Mr. Moore:

In response to your memo of February 28, 1992, the New Jersey Builders Association has reviewed the key topics for Pinelands Commission review.

The NJBA is commenting on three of the five topics listed. These are Economic Impacts, Permitting, and Growth Demands Policies. In addition, we have just learned that the Pinelands Commission has added a sixth topic of Water Quality. The NJBA is reserving its rights to submit comments on the Water Quality topic. We ask that you provide us with a copy of the Pinelands Commission material on the Water Quality topic.

ECONOMIC IMPACTS

The NJBA makes several recommendations for areas of study to evaluate the economic impact of the Pinelands plan.

Housing Affordability

The NJBA is of the opinion that the Pinelands Comprehensive Management Plan (CMP) has had an adverse impact on housing affordability in the Pinelands. Factors which have had impacts on the affordability of housing in the Pinelands include the following:

- 1) The supply of developable land is constrained, leading to increased prices for developable parcels;
- 2) The Pinelands development application process is extremely costly;
- 3) The Pinelands development regulations cause expensive site layouts and on-site improvements; and
- 4) There has been a loss of competition due to a decrease in the number of builders active in the Pinelands. The loss of competition is due to extensive capital requirements required for applicants to withstand long delays in the development application process and the costs associated with understanding the complex regulatory process.

The problem of housing affordability raises an issue of social equity. Although the CMP speaks to the need to provide housing for average workers who will be employed in the Pinelands, it is apparent that a number of Pinelands policies limit development potential to such an extent that many areas of the Pinelands may become a reserve for the elite. While we believe that this is contrary to the goals of the CMP, it is clearly a result of the details of the CMP and its implementations. The issue should be reviewed in detail.

Expiration of Waivers and Prior Approvals

As of January 14, 1991, Pinelands waivers previously approved under the prior municipal

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JOSEPH RIGGS
 Second Vice President
 LEONARD SOLONITZ
 Vice President-Secretary

• National Association of Home Builders • Atlantic Builders Association of New Jersey • Home Builders Association of Cape May County • Central Jersey Builders Association • Builders Association of Metropolitan New Jersey • Builders Association of Morris County • Home Builders Association of Morris County • Home Builders Association of Somerset County

Mr. Terrence D. Moore
Review of Pinelands CMP
4/16/92 - Page 2

development approval standard and approvals issued by the Pinelands Development Review Board and by the Commission under the Interim Rules and Regulations expired unless all municipal development approvals were in place. Rules provide that there can be no extensions of those approvals or permits. It is the suggestion of the NJBA that the economic impact of this decision be fully evaluated.

Given these provisions, a number of developers have been unable to acquire financing and performance guarantees to construct fully approved developments. If these approvals and waivers expire, these sites will lose value. This will have to be then reflected in reduced property assessments and declining property tax revenue for these sites. This lost tax revenue will have to be made up by other property owners. In addition, if developers are unable to complete development of the site, it is likely that the property will be acquired by the financing institution through default on outstanding loan obligations. These properties will then become non-performing assets of the financing institution. Development companies, financial institutions and local governments will all be adversely impacted. What is to become of the vacant lots and future unfinished sections? After having forced the developers and banks to absorb high losses, will the Pinelands Commission consider future waiver requests for these sites acquired by others at bargain prices?

In addition, the proposed economic analysis should evaluate economic impacts on partially completed developments. If approvals expire on a development which is partially built out, such a development generally has an unfinished appearance which is reflected in reduced value. Vacant lots become neighborhood problems. When the development is to be built in sections, through streets may end in stubs to future sections. Such conditions adversely affect property values of the previously developed lots.

It is the opinion of the NJBA that the considerable economic impacts of the expiration provisions be thoroughly evaluated.

PERMITTING

The Pinelands Commission is misusing the Certificate of Filing as an independent approvals process. The use of the Certificate of Filing extends far beyond the exercise of oversight of state, county and municipal permitting decisions. When municipalities and counties are in compliance with the Comprehensive Management Plan, development applications should be processed through the municipalities in the manner contemplated when the CMP regulations were written. The Pinelands Certificate of Filing process should be offered as a pre-application option available to the applicant.

When an application is filed with a municipality, a copy of the application should be filed with the Pinelands Commission along with a notice of any public hearing. The Pinelands Commission should then have the opportunity to file written comments with the municipality for municipal consideration in review of the application. In addition, the Pinelands staff should take the opportunity to attend and offer comments at any public hearings on the application. If a municipality or county makes a decision on an application that is inconsistent with the Comprehensive Management Plan, the Pinelands Commission has the authority to call up the application for review. This is sufficient review power.

The Pinelands Commission should not review each application for issuance of a building permit in developments which have been subject to subdivision and/or site plan review. This is an example of unnecessary and redundant regulation which is increasing the cost of

Mr. Terrence D. Moore
Review of Pinelands CMP
4/16/92 - Page 3

housing and development. This building permit review should be limited for use on scattered lots which have not been subject to planning board or zoning board review and Pinelands oversight.

The Pinelands Commission should discontinue its review of county planning board and county soil conservation district applications which are also the subject of local planning board and zoning board review. These continuous Pinelands Commission reviews of the same application are unnecessary and costly.

The Pinelands Commission should discontinue its requirements for municipal issuance of a Certificate of Appropriateness under the cultural resource requirements. The process has proven to be confusing to the municipality and unnecessary.

In reviewing local approvals of development applications, the Pinelands should provide for an intermediate step for the correction of minor violations rather than the formal call up and hearing process. Often the problems are of a very minor nature such as specifying the incorrect species on a landscaping plan. The applicant and affected parties should be given notice of the discrepancy and provided the opportunity to correct the problem before a full call up notice is issued.

GROWTH DEMANDS AND POLICIES

When the carrying capacity analysis of the Pinelands was completed, it included those developments which had been approved under the early waivers, exemptions and approvals issued by the Pinelands Development Review Board and under the Interim Rules and Regulations. The density of many of these developments was subsequently reduced and many units were never built. There should be an analysis of the number of dwelling units actually built in each designated area. The current development potential of each area should be determined and compared to the projections which were prepared when the CMP was adopted. Some growth areas have experienced significant down zoning where certain land areas have been removed from density calculations although these areas were initially included in the development potentials of the area. It appears that growth areas have been developing significantly below design potential. To accommodate the required amount of growth, it may be necessary to increase densities in developable portions of the regional growth area increase the size of some regional growth areas and increase development potential of rural development areas. Increased densities of regional growth areas may lead to more efficient provision of infrastructure. It is clearly inefficient and a waste of sewer planning areas to construct sewer infrastructure at some of the very low densities established for some regional growth areas.

It is important that the regional growth areas accommodate their fair share of growth. This is an implicit requirement of any regional plan that seeks to set aside large land areas in preserved and protected status. The growth areas must be able to accommodate small lot single family detached development at affordable prices. This housing style is the clear market preference today. Failure to accommodate the market demands and needs brings us once again to the point of discussion where the Pinelands can only accommodate exclusive housing, thus becoming a reserve for the elite.

The Pinelands Development Credit (PDC) program is not working. The PDC program is not a viable program to increase densities in the growth area. The bonus density received when using PDCs is far too low to act as an incentive to purchase PDCs. Further the

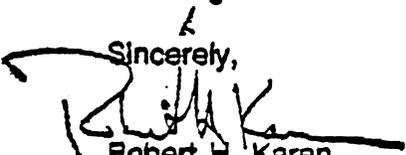
Mr. Terrence D. Moore
Review of Pinelands CMP
4/16/92 - Page 4

allocation of PDCs to sending sites has been so restrictive that there has been no financial incentive to landowners to sell their rights and permanently restrict the use of their land. In addition, most housing in the Pinelands cannot absorb increased costs of PDCs at a dollar value needed to sustain such a program. While the transfer of development rights is an interesting theory, it does not work in practice and is only effective when mandated by the CMP. The PDC program should not be relied upon in the CMP as a cornerstone of its growth policy.

It is our understanding that these topics will be reviewed by technical committees established to assist the Pinelands Commission and staff in the review of these topics. We at NJBA hope that you will give full consideration to the comments offered for your consideration. We hope that you will accept them in the cooperative spirit in which they are presented. We at NJBA take our role as the market provider of housing in environmentally sensitive communities most seriously. To adequately house our citizens in environmentally sensitive communities which are affordable to the residents of New Jersey, changes in Pinelands procedure and policy are warranted.

We look forward to working with you as the review of the CMP continues. Please direct any questions on these comments to Joanne Harkins, NJBA Director of Land Use and Planning.

Sincerely,



Robert H. Karen
President

CITY OF ESTELL MANOR
OFFICE OF:

PLANNING BOARD
P.O. BOX 102
ESTELL MANOR, NJ 08319

April 1, 1992

The Pinelands Commission
P.O. Box 102
New Lisbon, NJ 08064

Att: Terrence D. Moore
Executive Director

Dear Mr. Moore:

Enclosed please find our response to your letter dated February 28, 1992 regarding key topics for Pinelands Commission review.

Topic One: We have no problem with solid waste.

Topic Two: Resource Based Industries: The problem is that they cannot be the only industries in the municipality.

Topic Three: Economic Impacts: The economic impact is very severe. The Pinelands is not taking into consideration the economic impact on the municipality that they are regulating. The Pinelands regulations are making it difficult to collect the school taxes, which our constitution requires to be imposed, in order to meet the constitutional needs of a thorough and efficient education. The Pinelands Commission must recognize that the municipalities have other concerns beyond those within the egos of the Pinelands, such as the financing of public schools, the financing of other municipal improvements, the provision for health and safety of the residents, and without a proper tax base, no municipality can operate the way we are expected to operate under Pinelands regulations.

Topic Four: Pinelands Permitting: We feel that the Pinelands is operated too strictly, that they follow some untried textbook theories, which we simply do not feel are working in practice.

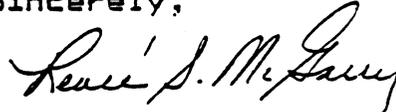
Topic Five: Growth Demands and Policies: This is best left to the municipality and not to the Pinelands Commission, particularly in a municipality such as Estell Manor, where the philosophy for limited but orderly growth, which is consistent with the overall philosophy of the Pinelands. The problem is we feel the local officials are far better able to determine the

APR 06 1992

specific needs of the community and the specific details as to how the community should be regulated better than the Pinelands Commission, which does not consist of any local residents in the case of Estell Manor, which is geographically removed a distance of approximately fifty miles.

If you should have any questions regarding the above comments, please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Renee S. McGarry".

Renee S. McGarry
Secretary



Pinelands
Preservation Alliance

120-34B Whitesbog Road • Browns Mills, NJ 08015 • (609) 893-4747

April 17, 1992

Mr. Terrence Moore
The Pinelands Commission
P. O. Box 7
New Lisbon NJ, 08064

Dear Mr. Moore;

In response to your letter of February 28, I have enclosed recommendations on approaches to five of the key topics the Pinelands Commission has selected for review.

Earlier this month, fifteen members of the Pinelands Preservation Alliance's Plan Review Committee spent a day reviewing these five topics. Individuals who attended the meeting spent the intervening time writing recommendations for the expert panels to consider.

The results are enclosed. The subjects and the authors are:

Topic 1 Solid Waste	Dr. Gerard Vriens
Topic 2 Forestry	Dr. Emile DeVito
Topic 2 Resource Extraction	William Smith
Topic 3 Economic Impact	Sally Price
Topic 5 Growth Demands	William Neil

The pressure of the short time available and other commitments means that the submissions on the last two topics will be hand carried to you next week. Those subjects and the authors are:

Topic 2 Agriculture	Michele Byers
Topic 4 Permitting	Janet Larson

As the full PPA committee reviews the attachments and has further suggestions, they will be submitted to you or the expert panels.

The PPA appreciates this opportunity to submit recommendations to you and the expert panels and looks forward to the meetings of the panels.


Don Kirchhoffer
Coordinator,
PPA Plan Review Committee

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Howard P. Boyd
Past Pres., American
Entomological Society;
Author, *A Field Guide to
the Pine Barrens of NJ*

Michael F. Catania
Eagleton Institute;
Former Deputy Com-
missioner, NJ D.E.P.

Bunzie Ellis Churchill
President, World Affairs
Council of Philadelphia

Sally Dudley
Executive Director,
Ass'n of NJ Environ-
mental Commissions

Michael Gallaway
Pinelands Coordinator,
Sierra Club

David F. Moore
Executive Director,
New Jersey Conser-
vation Foundation

Franklin E. Parker
Director, NJ Field Office
of Trust for Public Land

James T.B. Tripp, Esq.
General Counsel, Environ-
mental Defense Fund

Nan Hunter-Walnut
Coordinator,
Pine Barrens Coalition



11 Hardscrabble Road; P.O. Box 693, Bernardsville, NJ 07924 (908) 766-5787 / Fax: (908) 766-7775

NEW JERSEY
AUDUBON
SOCIETY

PINELANDS PRESERVATION ALLIANCE
120-348 WHITEBOG
BROWNS MILLS, NEW JERSEY 08015

April 14, 1991

NEW JERSEY AUDUBON SOCIETY REFLECTIONS UPON PINELANDS GROWTH DEMANDS AND POLICIES, TOPIC FIVE FOR THE PPA PLAN REVIEW COMMITTEE, WITH ADDITIONAL THOUGHTS DRAWN FROM THE "COMPREHENSIVE MANAGEMENT PLAN: THE SECOND PROGRESS REPORT ON PLAN IMPLEMENTATION.

NJAS does not have an easy answer to the question: are the densities allocated to the Regional Growth Area eleven years ago appropriate today? Here's why, and what needs to be done to answer the question in the future.

There are really two big growth questions looming over the Commission's future actions, and the fate of the natural resources it is charged to protect, by law. The first is: should the existing Pinelands Towns and Regional Growth Areas be allowed to grow geographically - that is, horizontally, with the clear implication that they will impinge upon, with varying degrees of ecological impact, Forest Areas. This is apparently a pressing problem in the Elwood corridor area. We are concerned also that there are other site specific Forest Areas that have a species richness and diversity approaching that or exceeding some areas in the Preservation District that the Commission staff has not protected in some of their forestry approvals and perhaps, incremental municipal boundary trade-offs. We think Emile DeVito of the Conservation Foundation can pinpoint the areas for you.

Our answer to this first question is therefore, no outward extension of existing growth management boundaries be allowed. We are familiar with a number of fine resources on the history of the Pinelands Commission and individuals with direct ongoing involvement. We have not heard the case yet made that the original growth boundaries were delineated with a specific future year target date in mind - or even a specific population, although we would hope that federal and state infrastructure planning would require it. It is our sense from the Second Progress Report that most municipalities are not near build out at the densities set by the Comprehensive Management Plan, and have not, in most cases, begun using their already set-aside reserve areas. It has been suggested by one respected and knowledgeable Pineland observer that the Commission needs to link

any future boundary adjustments to a prior fulfillment of current densities and specified locations for the receiving zones of the PDC program. The Commission staff needs to be more open about discussing these issues of growth, population and boundaries for the year 2050.

The second big question about growth and boundaries follows logically from the discussion and recommendations flowing from the answer of the first. Since we don't hear a case for growing outward, nor think it wise from the resource protection point of view, growth that is currently allocated or that will be allocated in the future is going to happen within the existing specified growth areas. The question is then: what are the existing environmental impacts based on the growth patterns already set in motion, and how do we cope with the implied direction of even greater future densities within the existing boundaries?

Here we must sound a critical note on the Second Progress Report. At two points, pages, VI-3 and VI-7, mention is made of water quality related studies. One has been completed, the other reference is a game plan for study. But we can't find any mention of existing trend directions. Where's the beef?

Table 6.1, Long Term Research Recommendations, asks a lot of the right questions. We recommend that some of the specific studies be directed to the habitat effects of full build out densities within the allotted growth areas, especially upon aquatic and wetland communities. We assume that the Commission staff have written off worrying about fragmentation effects upon species within the growth areas. (Fragmentation effects should be a clear worry and lead to a study based upon the large potential for such an effect stemming from grandfathering and hardship exemptions, especially within the most sensitive Preservation Area District). Assuming we are going more densely within growth boundaries, we need the nutrient loading studies upon the carrying waterways and to ask where they lead and where they will deposit their nutrient load. Since we have recommended going more dense within existing boundaries rather than spatially outward - is tertiary sewage treatment going to be the way to grow and reduce impacts twenty years down the road? We think there may be reasonably close and relevant technical work done for the National Park Service and the Delaware River Basin Commission in their struggle to come up with a protective land use-water quality impact proposal to protect the Upper Delaware River that may be of some help to the Commission, even if it is just on the modeling level.

We think the Commission needs to link the basic scientific research needed to answer these questions to the continued justification of its policies and regulations. As we can see by

the Resolution of the Atlantic County Mayor's Association of January 30, 1992, some elected officials see only the restrictions the Commission has placed upon them and have lost sight of the reasons for the regulations: to protect the resources. Knowing that some officials will never accept any form of transmunicipal environmental regulation should be a spur to link research to protection goals, existing regulations, and the likely angle of attack from opponents. We think that the place to look for pollutant impacts from greater building densities - nonpoint sources as well as municipal sewerage point discharges - is upon the egg and larvae stages of development, and not upon adults. Improper pH need not happen constantly over the discharge year to wipe out future populations: just at certain cycles, especially in the spring. Although NJAS's principal focus has been development impacts upon bird habitats, especially fragmentation effects upon the nesting needs for neotropical migrants for large contiguous forest tracts of 450 acres on up - we also have taken note of the disappearance of reptiles and amphibians mentioned in the first chapter of John Terborgh's Where Have All the Birds Gone? It wasn't just the neotropical migrants which had disappeared from his boyhood Arlington, Virginia haunts. Loss of wintering habitats in Central and South America can't be blamed for the reptile and amphibian declines he noted upon returning thirty years later. These creatures don't migrate over long distances. Research is needed to refine the reasons for decline, with the two chief culprits being physical fragmentation of habitat and declines in water quality.

But there is a broader context to the issues we have been dealing with under Topic Five. It involves politics and philosophy and the Commission's strategy of laying low on the points of conflict. That is certainly one plausible approach, but it does not seem to have placated the mayors of Atlantic County, farm interests or the building community. Now they have a rising national tide of attacks on environmental regulations, specifically focused on land-use issues, to latch on to: wetlands, zoning, the takings question. Despite a recent unanimous New Jersey Supreme Court decision that bucks these trends, the public background against which the Commission must argue its case for maintaining or strengthening its regulations is getting worse, not better, and will soon be having an effect upon court attitudes. Freedom for entrepreneurial activity from government regulation is being held up as the dominant national ideal. How poorly that freedom has been exercised in regards to habitat protection is not much discussed in the current mood. The Pinelands Commission has pioneered in techniques to protect habitat but that run strongly against the type of pure economic freedom now being touted. Its research must be directed to answering the questions most related to the likely attacks upon its regulations. We think these would be prudent areas for research even in a different political climate. Now they may

become a matter of institutional life or death. We also think the Commission needs to ask itself whether its self-effacing style, 'down-playing of key and controversial issues is generating the level of interest and support that it will need to survive the coming political onslaught. Sure, the low-key approach reduces conflict and makes day-to-day interaction with the municipalities easier. And that day-to-day attitude shouldn't change. It's the best way to relate to people, regardless of the political winds. But if it is carried over to the way the whole Pinelands movement relates to the press and a broader potential audience, the very uniqueness of its tools, goals and accomplishments may be obscured from potential allies. There is a responsible way to galvanize around tough issues, by clearly stating why laissez-faire in land-use won't work in protecting our Pinelands resources and showing here's the scientific research on the trends and the basis for our regulations. Perhaps the Commission Staff itself can't take this approach. But by clarifying rather than denying or "planing down" the very real conflicts between regulation and protection goals and the desire for pure freedom for economic actors, the PPA may be doing ourselves and the Commission a public service. A very useful way to do this is to move the burden to those insisting on fewer regulations by asking exactly what it is they intend to do with this greater freedom - and its habitat implications. Has their model of economic behavior saved any significant patch of resources in our fully developed counties, such as Mercer, Middlesex, Bergen? If these old "models" saved so little when the nation and state were more affluent, why should anyone have confidence that they could do the large-scale job in the Pinelands today, in worse financial times?

Regards,



William R. Neil
Assistant Director
of Conservation

FILE
MAR 23 1992



State of New Jersey
Department of Environmental Protection and Energy
Water Supply Element
CN 029
Trenton, NJ 08625-0029
Tel. # 609-292- 7219
Fax. # 609-292-1654

Scott A. Weiner
Commissioner

Terrence D. Moore, Executive Director
Pinelands Commission
P.O. Box 7
New Lisbon, N.J. 08064

MAR 17 1992

Dear Mr. Moore:

We are pleased to see that the Pinelands Commission is conducting a reanalysis of the growth demands and policies contained within the Pinelands Plan (Topic 5). A critical issue with regard to Regional Growth Districts is the provision of secure water supplies to consumers. We believe strongly that the Pinelands Commission cannot properly assess the impacts of its growth policies unless the water supply issue is addressed.

Specifically, the Commission should compare existing water supplies (in terms of infrastructure and base sources) against the projected water demands. The Commission should also determine where (in terms of base source) the water should come from to supply the projected deficits. This analysis must consider the implications of water withdrawals from the Pinelands area, regarding current or proposed Pinelands Commission standards. In short, you should determine whether the Commission's policies will allow the withdrawal of sufficient water to satisfy demands from consumers in the Regional Growth Districts.

Please feel free to call upon us for information we have that may aid in your analysis. We look forward to the results. They will help us make water allocation decisions within the context of the Pinelands Plan.

Sincerely,

Steve Nieswand, P.E.
Administrator
Water Supply Element



APR 10 1992

FILE COPY

State of New Jersey
Department of Environmental Protection and Energy
Municipal Wastewater Assistance
CN 029

Trenton, NJ 08625-0029
Tel. # 609-292-8961
Fax # 609-633-8165

Scott A. Weiner
Commissioner

Nicholas G. Binder, P.E., P.P.
Administrator

M E M O R A N D U M

APR 09 1992

TO: Terrence D. Moore, Executive Director
Pinelands Commission

FROM: Nicholas G. Binder, P.E., P.P., Administrator
Municipal Wastewater Assistance

SUBJECT: Key Topics for Pinelands Commission Review

In accordance with your request, we have reviewed the five key topics selected for focus in the latest review of the Pinelands Comprehensive Master Plan. Our only suggestion for an approach to the desired study deals with Topic 5: Growth Demands and Policies, in which the stated intent is to re-examine growth demands and growth allocation. Because this topic deals with the factor so intrinsic to the premise of establishing the Pinelands, it is important that it not be viewed in isolation. In the course of exploring this topic it is suggested that a comprehensive evaluation be conducted of the impacts of current growth allocation policies compared with alternative growth allocation plans that may be devised.

It is also suggested that this analysis should take a National Environmental Policy Act (NEPA)-like Environmental Impact Statement approach (as with the original establishment of the Pinelands National Reserve) in which affected parties/agencies are identified and assembled to formulate and set forth issues and the means to address them. It will be important to weigh and optimize the need to maintain a desirable quality of life for those areas targeted as growth areas with the need to preserve essential resources within the Pinelands.

It would be useful to explore establishing an environmental holding capacity, similar to build-out analyses done for Regional Growth Areas, for the overall Pinelands considering constraints imposed by:

- 1) land: reaffirm or establish resources to be protected and/or conserved;

- 2) water supply: establish acceptable safe yields respecting stream base flows; and
- 3) air quality: coordinate with State Implementation Plan policies.

Related parameters to consider might include transportation and other social infrastructure issues.

Thank you for the opportunity to provide comments on this effort. Barbara Hirst, Section Chief, Technical Services Section, is available for further discussion of this approach at (609) 633-1170.

BH:rrd

c: Steve Nieswand, Administrator, WSE
Bill O'Sullivan, Administrator, AQ
Bob Tudor, Administrator, LUR



State of New Jersey
DEPARTMENT OF TRANSPORTATION

THOMAS M. DOWNS
COMMISSIONER

1035 PARKWAY AVENUE
CN 600
TRENTON, NEW JERSEY 08625

April 16, 1992

IN REPLY PLEASE REFER TO
Key Topics for
Pinelands Commission
Review

Mr. Terrence D. Moore
Executive Director
The Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

Attention: Mr. Larry Liggett

Dear Mr. Moore:

This is in response to your memorandum of February 28, 1992 which requested assistance on the most appropriate approaches in pursuing the key topics of concern in the Pinelands Area. The New Jersey Department of Transportation has ideas on topics in the following areas:

Solid Waste

The Department is interested in participating in efforts to study the application of composted sewage sludge for highway landscaping as a "one time" soil additive to help establish roadside turf. Normal DOT specifications call for 2.75% organic material content for seeded areas. Since this inexpensive material is readily available, we would like to arrive at an agreement on the use & level of application of this material.

Also, policies and regulations should be changed to allow soil-reuse in the Pinelands when it can be proven safe and inexpensive.

A mechanism to initiate these changes is the proposed Memorandum of Agreement between the Department of Environmental Protection and Energy and the Pinelands Commission. DOT would be amenable to being designated an "interested third party" in the negotiations. DOT has experienced staff which deals with soil reuse and recycling on a regular basis.

Pinelands Permitting

DOT recommends that duplicative reviews between the Pinelands Commission and NJDEPE be reduced as much as possible especially in the overlap area of the Pinelands Preservation Area and the CAFRA Zone. Standard procedures should be developed to determine which agency takes the lead and what specifications must be followed. Conflicting statements sometimes occur at pre-application meetings for such projects.

Mr. Terrence D. Moore

April 16, 1992

Page 2

Growth Demands and Policies

NJDOT's Bureau of Statewide Planning would like to become involved in the review process for proposed changes to Growth Policies and designation of the Management Areas of the Pinelands. Also, it would benefit the Commission if it attended the annual local outreach meetings that DOT conducts to receive feedback on DOT's priority projects. DOT may have existing planning data which may be very useful in allocating Regional Growth Areas within the Pinelands.

In addition, Policy and Planning serves as the lead unit for development of the Transportation Control Measure (TCM) component of the State Implementation Plan for air quality in accordance with the 1990 Clean Air Act Amendments. Air quality issues should receive consideration in re-evaluation of growth demands in the Pinelands. It should also be noted that the Pinelands Commission officially participates in the Statewide Transportation Air Quality Planning Organization under the State Certified Organization, the policy level body for State Implementation Plan development.

Thank you for allowing DOT to comment on these topics, and please contact Andras Fekete at (609)530-2824 for further clarification of DOT's position on these topics.

Very truly yours,



F. Howard Zahn
Director

Division of Project Development

BJH:slz

APPENDIX E

Public Comments Received After Technical Panel Meeting

FILED MAY 12 1992

ATLANTIC COUNTY

DEPARTMENT OF REGIONAL PLANNING & DEVELOPMENT

1333 ATLANTIC AVENUE
ATLANTIC CITY, N.J. 08401
(609) 345-6700
(FAX: 343-2202)
(TTY: 348-5551)



RICHARD E. SQUIRES
COUNTY EXECUTIVE

April 27, 1992

Terrence Moore
Pinelands Commission
P.O. Box 7
New Lisbon, New Jersey 08064

Dear Mr. Moore:

Thank you for the opportunity to comment on the five topics selected by the Commission for the forthcoming review of the Comprehensive Management Plan. The inclusion of economic impacts and permitting policies is especially warranted, as we deal directly with the public on these issues and have encountered their Pinelands-related concern. Solid waste disposal, resource based industries (particularly agriculture) and growth policies are also directly controlled by the Plan and deserve review.

An underlying theme connecting these issues is the apparent inequity in distributing the costs and benefits for accomplishing the Pinelands mission. Specifically, the protection of the Pinelands, a reorganized state resource, is primarily the burden of individual property owners, yet all of New Jersey benefits from its protection.

A current planning endeavor, the State Development and Redevelopment Plan, has included an impact assessment study which quantified among other things the State Plan's economic impact on the farm community. The Atlantic County Planning Advisory Board recommends that the Commission conduct a similar study on the economic impacts of the Pinelands Comprehensive Master Plan, followed up by programs to address those impacts.

The Board would also like to bring your attention to an issue relating to growth allocation that may seriously affect the orderly development of the County's Regional Growth Area. The history of the Hamilton Walk development illustrates the need for sensitivity to local conditions when administering regional growth controls.

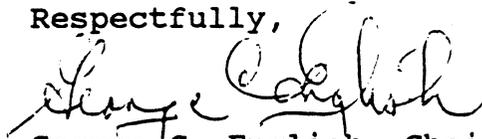
Several areas in Galloway and Hamilton Townships were (and are) zoned at inappropriately high densities given the prospects for serious airport noise impacts. The Commission should recognize



issues not related to water quality on the preservation of regional growth allocations, but which seriously affect the quality of life of our residents.

The Board looks forward to following the progress of your plan review and providing future input.

Respectfully,

A handwritten signature in cursive script, appearing to read "George C. English". The signature is written in dark ink and is positioned above the typed name.

George C. English, Chairman
Atlantic County Planning
Advisory Board

Raymond Townsend

ATLANTIC CITY AIRPORT - Due to established zoning and development, Airport expansion must be reviewed and planned with reference as to how it impacts existing developed areas, zoning changes that may be necessary, and quality of life. runway directions and locations, hours of operation, aircraft type and ultimate size (enplanements & deplanements). If we are looking to the future for this entire area we should know to what extent this facility should grow and if necessary limit this growth. (C.L.U.Z. = Compatible Land Use Zone)

THE COASTAL ALTERNATIVE - Transporting our sewerage to the A.C.U.A treatment facility and discharging into the Atlantic, how might this ultimately effect our aquifer and the increased chances of salt water intrusion.

DENSITY CALCULATIONS - The original projections of growth predicated on casino pressures, associated development and normal demands must be reviewed and adjusted to more accurately reflect actual growth trends.

CAPABILITY OF MEETING DENSITIES - Market demands are changing trends more to single family as opposed to multi-family. Due to these changes, how will single family lot sizes be able to meet maximum densities and if this trend lasts how will the unmet density numbers be adjusted or accomplished.

Specific land parcels are not always able to carry the maximum densities due to environmental constraints, retention/detention areas, roads, open space, etc. Where are the densities adjustments made or are they reallocated elsewhere.

PINELANDS DEVELOPMENT CREDITS - The present price of developments credits may in fact be limiting their use, as developers may find it financially inefficient to build out at the higher densities and stay with their by-right numbers. Also, the use of residential land for commercial purposes and the mandate by Pinelands to purchase PDC will negatively impact municipalities ratable bases by discouraging commercial growth.

INFRASTRUCTURE - Municipalities must provide much of the necessary infrastructure for the demands made on them by growth. The major capital projects and associated expenses are breaking the backs of municipalities. Increases in personnel and the associated benefits, public works equipment, trash collection and tipping fees, additional police and equipment, fire and rescue apparatus, new or expanded buildings and renovations, road maintenance, increased professional fees, and the like.

FINANCIAL IMPACT STATEMENTS AND IMPACT FEES - The Planning Board is hamstrung by the lack of ability to fairly assess impact fees for new developments. F.I.S.'s can be and many times are required, but even a negative one can not be used as a reason to deny an application. We understand that these costs do increase sale prices, but understand the alternative is much higher property taxes and a possibility that the municipality will not be able to provide the necessary items due to C.A.P., Bonding issues, etc.

SCHOOLS - Growth has a major impact on our school systems and new construction and renovation have increased taxes at an unbelievable rate. New growth, on paper, also increases the value of a municipality which effects school aid and distribution figures, which also costs taxpayers.

HOMEOWNER ASSOCIATIONS - Initial financial projections show positive ratable and all services self-contained. Changing laws, sentiments and failing associations or developments cause much unanticipated costs for the municipality. Sometimes the socio-economic differences between the existing single family population and the newly injected multi-family developments cause political (small "p") consternation.

RETENTION/DETENTION AREAS - Maintenance or lack of is a problem. Eventual unsightliness and an attractive nuisance for children - fence or no fence, a real insurance issue. These areas also are slowly lost as development starts to landscape and fill them.

Residents see no useful purpose and unknowingly eliminate them,.
Are deed restrictions necessary? Who enforces? Who maintains?

CAP RESTRICTIONS - Spending limitations imposed by the state to protect taxpayers from runaway property taxes has not taken into affect the need for growth areas to do just that, grow. Of course, even with CAP relief the municipality must have the financial where-with-all or borrowing capacity to accomplish the growth needs.

Township of Hamilton

FILED COPY

County of Atlantic

Mayor

JOHN J. PERCY, III, CTA, CMFO
PHONE: 965-3500

Deputy Mayor

CHARLES PRITCHARD
PHONE: 625-9212

Township Committee Members

LORRAINE GRANESE
PHONE: 625-0807

FRANK GRIECO, SR.

PHONE: 625-0524

BRUCE STRIGH

PHONE: 625-0060



21 Cantillon Boulevard, Room 104
Mays Landing, New Jersey 08330

Township Clerk
JOAN I. ANDERSON, RMC
PHONE: 625-1511

Township Administrator
RAYMOND A. TOWNSEND
PHONE: 625-4762

Township Solicitor
ROBERT SANDMAN, ESQ.
PHONE: 344-5181

Township Engineers
JOHN R. WALKER
JAMES N. HOLMES

July 2, 1992

The Pinelands Commission
Mr. Terrence Moore, Executive Director
P.O. Box 7
New Lisbon, NJ 08064

Re: Pinelands Master Plan Review

Dear Terry,

I have enclosed an original and several copies of a report written by our Municipal Engineer, James Holmes, in reference to municipal road projects within the Pinelands.

Please accept this as additional input for your review process.

If the Commission, you or your staff, have any specific questions, please feel free to contact Mr. Holmes (609-399-1927) or myself.

Sincerely,

Raymond A. Townsend

Raymond A. Townsend
Township Administrator

RATmal

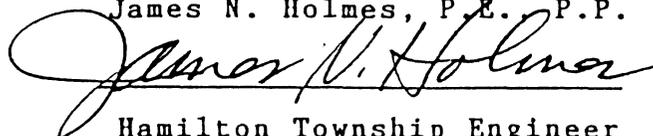
enc.

RECOMMENDATIONS FOR REVISIONS
TO
THE PINELANDS COMPREHENSIVE MANAGEMENT PLAN
FOR
RECONSTRUCTION & MAINTENANCE
OF
MUNICIPAL ROADS
PROJECT NO. 6907.8

PREPARED BY

WALKER, PREVITI, HOLMES, & ASSOCIATES
801 Asbury Avenue
Ocean City, New Jersey
08226

James N. Holmes, P.E., P.P.



Hamilton Township Engineer
N.J. License No. 24,823

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- I - INTRODUCTION
- II - GROWTH DEMANDS
AND POLICIES
- III - ECONOMIC IMPACTS
- IV - STORM WATER MANAGEMENT
- V - SUMMARY

PROPOSED PINELANDS CMP REVISIONS

I INTRODUCTION

The Township of Hamilton was one of the first municipalities in the Pinelands National Reserve to begin the Pinelands Certification process of the Township Developmental Ordinance. After Certification the Township has developed a history of full cooperation with the Pinelands Commission in implementation and enforcement of the Pinelands Comprehensive Management Plan.

As an example of close cooperation, Township Planning Officials have met on a monthly basis with applicants and developers for the past ten years. These meetings, in many instances, are held with applicants prior to a formal application being submitted to the Pinelands Commission or the Township Planning Board. In addition to Township Planning Officials, for a number of years a representative of the Pinelands Commission staff has also attended the meetings.

This cooperative effort has resulted in reduced development review costs for applicants. As two review agencies are involved, a clear understanding of requirements on the part of the applicant in certain matters of concern to both the Pinelands Commission and the Township, and a shortened length of the review process for applicants has resulted.

In the design of storm water management systems, a critical element is the depth to seasonal high groundwater. The Township Engineer's Office and the Pinelands staff have shared this responsibility of witnessing borings to verify

this data, based on work load and availability of the Pinelands Commission staff.

The Township Engineer's Office has also cooperated closely with the Cape-Atlantic Soil Conservation District during the construction of development projects, to insure soil erosion measures are followed. The Township Engineer has given standing orders to his Inspection staff to notify him, or the Cape-Atlantic Soil Conservation District, in the event soil erosion procedures are not followed. In essence, this procedure also aids in the Pinelands Certification process, as the Soil Erosion and Sedimentation Plans are an important element of the Pinelands review and approval.

Through the Planning Board Planner's Office, strict compliance with the Pinelands approved landscaping plan is required prior to the issuance of a Certificate of Occupancy by the Township Construction Code Official. Approval and sign off is also required by the Township Engineer for the Storm Water Management Plan, and any other aspects of the Pinelands approved and certified plans.

The Planning and Zoning Office, through the diligent work of the Planning Board Administrator, also has a history of compliance with, and enforcement of, all aspects of the Pinelands Comprehensive Management Plan.

The above examples demonstrate the Township of Hamilton has a history of cooperation with, and above all, enforcement of the goals of the Pinelands Commission.

The Pinelands Commission is presently reviewing the Comprehensive Management Plan (CMP), and soliciting recommendations from the public, government officials, and organizations during the review process. The Township, based on its excellent history of cooperation and enforcement of Pinelands goals and aims, respectfully submits these recommendations for consideration by the Pinelands Commission.

Of the six topics chosen by the Commission for review of the CMP, this report will primarily focus on the following topics as they relate to and impact upon reconstruction and maintenance of Township Roads.

- 1) Growth Demands and Policies
- 2) Economic Impacts
- 3) Storm Water Management

Although this report is based on Hamilton Township's experience, other Pinelands area municipal engineers have indicated concurrence with the opinions formulated herein.

II GROWTH DEMANDS & POLICIES

Due to the Pinelands mandated growth within the Township, the population has rapidly expanded within the past ten years. This growth has placed an economic burden on the Township in the form of expanded services and new facilities. The Township presently maintains over 400 miles of improved municipal roads. In the context of this report, "improved" means gravel, bituminous surface treatment, or asphalt roads.

In order to simply maintain or widen and improve Township roads to meet ever increasing traffic demands due to growth, the Township has budgeted \$500,000.00 per year for the past six years. Even this yearly expenditure has not kept up with the maintenance requirements. Clearly, every dollar spent must be devoted to the primary purpose of road maintenance and improvement to meet the ever expanding growth demands on the existing roadway infrastructure.

III ECONOMIC IMPACTS

The primary economic impact on the Hamilton Township Road Program in recent years has been conformance with the Pine-lands Comprehensive Management Plan stormwater standards. Funds that should be expended on road maintenance and improvement have been used for stormwater retention facilities, as well as increased engineering and environmental services to design these facilities.

Two recent examples of this economic impact are presented in support of this premise. The first is the 1991 Malaga Road project, which was funded by N. J. D.O.T. under the N.J. State Transportation Trust Fund Grant program. This program allocated \$100,000.00 for the construction and inspection of the project.

The second project is the Hickory Street, Holly Street and Laurel Street improvements, funded under the 1991 Hamilton Township Road Program.

A. Malaga Road - Section I

Malaga Road is a heavily travelled road connecting

July 21, 1992

Mr. Richard J. Sullivan, President
NJ First Incorporated
The Pennington Office Park
114 Titus Mill Road
Pennington, NJ 08534-4305

Dear Mr. Sullivan:

I am a Landscape Architect who has submitted development applications to the Pinelands Commission on several occasions. Based upon my experiences, as well as those expressed to me by developers, landowners, and municipalities, it is apparent that the Commission is failing to achieve its mandate of protecting the Pinelands. They have been extremely effective in preventing development, but unfortunately preventing development does not necessarily protect and certainly does not enhance the Pinelands.

Long before the Pinelands Commission was established to "Protect" the Pinelands, there were farmers, boatbuilders, ironworks, etc., as well as the villages they supported. During formulation of the Comprehensive Management Plan (CMP), these same industries and villages were lauded as part of the Pinelands Heritage. Had they not existed before the Commission, however, the Commission would not allow them to exist today. Furthermore, by developing an expensive and cumbersome permit process in which everything is a major development, the Commission is slowly and systematically eliminating what "heritage" is left. Its impact upon two traditional and supposedly "desired" activities, i.e., farming and forestry, is especially disturbing. Both have suffered immensely since adoption of the CMP and while forestry has not recently been a major industry, it would seem to be perfectly suited to not only protect and enhance the Pinelands, but also provide economic benefit through intelligent management as a renewable natural resource.

The Commission's myopic approach to "protecting" the Pinelands is nothing more than a feeble maintenance of the Status Quo. By their adherence to the belief that all land use is inherently bad, they have dismissed out of hand many opportunities to correct past habitat destruction and thereby enhance the Pinelands.

Mr. Richard J. Sullivan
July 21, 1992
Page Two

This misguided belief underlines the Commission's fundamental misunderstanding of the social and economic aspects of the Pinelands and their interrelationship and inevitable impacts upon its ecology. The Commission has never failed to exhort the bad effects that poor land use and development has had upon the Pinelands. Unfortunately, it has failed miserably to acknowledge, perhaps even grasp the possibilities for enhancement that sensitive land use can, in fact, bring.

- Why can't endangered species be re-introduced?
- Why can't critical habitat be created?
- Why can't foresters be permitted to utilize and manage some of its renewable resources in a manner that will insure its long term health and vigor?
- Why can't thoughtful developers be allowed to provide housing and business opportunities in designated areas to those whose vested interest it would be to protect and enhance the Pinelands?
- Why can't the Pinelands be restored?

Because the Commission has not and will not permit it.

Furthermore, through its unmitigated contempt of landowners who would utilize the Pinelands natural resources and its arrogant disregard of those with the experience and expertise to manage them, the Commission is alienating, and in some cases, destroying its most important constituency. Through its presumed omnipotence, the Commission's staff or inexperienced environmental scientists and experienced lawyers are insuring the Pinelands' slow, but certain, deterioration.

Until the Commission is made answerable for its actions and non-actions, it is inevitable that the "Pinelands" will one day exist only as an image that they dispel upon a naive and uninformed public.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy Kaluhiokalani". The signature is fluid and cursive, with a long horizontal stroke at the end.

Timothy Kaluhiokalani, ASLA
Landscape Architect

Resource Extraction in the Pinelands
Report on Technical Panel Meeting

I. INTRODUCTION

A panel of experts (see Appendix A) met on May 8, 1992 to discuss this topic. In preparation for the meeting, a series of questions to be explored (Appendix B), background information (Appendix C) and public comments (Appendix D) were provided to each participant. Public comments received subsequent to the meeting are included in Appendix E of this report.

Mr. Liggett served as workshop coordinator and panelists were asked to freely express their opinions as individual experts and not as representatives of an agency or organization.

II. PURPOSE OF THIS REPORT

This report is intended to summarize key discussion points and present all recommendations offered by any of the participants. An audio-taped recording of the entire seven (7) hour session is available for review at the Commission offices. Since different opinions were offered by panelists, the report also attempts to indicate the level of consensus reached on various discussion points and recommendations.

Recommendations for the workshop are described throughout the text in **bold** and are numbered sequentially. Because this particular workshop was the fourth in a series held by the Commission, each recommendation begins with the number 4. For ease of reference, a table has been prepared which identifies each recommendation presented by one or more panel members. The table also includes staff estimates of the resources needed to implement the recommendations and other information which the Commission may wish to consider when deciding which recommendations should be pursued.

III. KEY FINDINGS AND RECOMMENDATIONS

A. Industry Health

In terms of measuring the health of the industry in the Pinelands and the economic impact that the Comprehensive Management Plan (CMP) has had on mining, there was a general opinion by all that the CMP may have affected the industry by limiting residential, commercial and industrial development in the Pinelands, which has in turn decreased demand for local construction materials such as

concrete, gravel, sand, etc. This was felt to be particularly the case for smaller operations with only limited markets. No data was offered to support this opinion. Most large mining operations, however, service markets outside the Pinelands and are only affected by regulations which impact the mining site itself.

It was agreed by all that the health of the industry is widely varied and depends on a number of factors, such as type of mineral, local and regional markets, distance to markets and transportation costs, corporate size, economies of scale (vertical vs. horizontal processing orientation), the regional and national economy, etc. Many of these factors are external to the Pinelands and it would be difficult to separate the CMP's specific impacts on the industry. Although the general health of the industry in New Jersey could be studied from national statistics, data on individual operations may be difficult to obtain and even harder to interpret, considering the variables involved in explaining profitability. There was a general consensus, however, that it might be valuable to monitor and analyze the health of the industry in the Pinelands.

Recommendation 4.01 Collect and monitor land use and permitting data of Pinelands mining operations.

The panel agreed that there was a general lack of comprehensive descriptive information on Pinelands mines. Without a good statistical data base on the location, mineral type, land size, processing scale, operation/reclamation status, etc. of individual operations, discussion of industry impact issues could not be properly evaluated. There was a consensus that a data collection and monitoring process be established to track land use and permitting issues for Pinelands mines.

Recommendation 4.02 Analyze CMP's economic impact on various types of operations in the Pinelands.

There was a general consensus that an objective study be done to evaluate the effects, if any, of the CMP on the industry's economic viability. Due to the lack of readily accessible data, the study would begin only after completing Recommendation 4.01 and upon collection of statistical data from various industry and government sources. Details, such as what data might be available, what indices would be used and what analytical methods would be needed, were not discussed. It was understood by all that interpretation of the findings of such a study may prove difficult given the variety of mining operations in the Pinelands, the range of physical, economic, and regulatory variables, and the existence of regional and national trends that may far outweigh CMP effects.

B. CMP Standards

Due to the relatively shallow aquifer in most of the Pinelands, much of the mining community's operations involve underwater excavation, especially in the southern part of the Pinelands. Therefore, the panel addressed how the standards relate to wet mining industry practices. The general consensus was that some changes might be made to benefit the industry. Because the environmental implications of some of these changes are still unknown, several studies were recommended to evaluate the CMP amendment proposals.

Recommendation 4.03 Clarify language relating to maximum mining cell size of 20 acres.

Some panelists said that many operators infer that the CMP's existing regulations permit only 20 acres per permit to be mined and that such a small site may make it uneconomical to stay in business. Other panel members said that operators like to have different kinds of mineral exposed (i.e., more excavated land) because it protects them from being caught short when the market for a certain material increases and the operator does not have all the permits necessary to newly excavate land for that mineral.

In response, other panel members stated that the regulations do permit larger mines, but limit the amount of un-reclaimed land. The purpose of such regulations is to not let excavation get too out-of-hand and to focus on reclamation immediately after excavation. At least one panelist agreed that the existing standards were not that onerous. There was a consensus among all panelists to clarify that reference to 20 acre cells is not a mining limit.

Recommendation 4.04 Extend excavation depth limit from 65' below surface to 65' below depth to seasonal high water table.

Several panel members recommended that the CMP excavation depth limit be changed from a depth below grade to depth below the water table. Such a change would allow dredging equipment to be used more efficiently and might limit the areal extent of mining at any one time.

Other panel members agreed that there is no significant environmental benefit to having the current excavation depth limit based upon earth surface level and acknowledged that the draft CMP had depth limits based upon water table levels. No panelist objected to this recommendation; however several did express concern about deep mining. Recommendation 4.11 emanated from these concerns.

Recommendation 4.05a Specify that shoreline sloping requirements (1 foot vertical to 5 feet horizontal) apply until water depth exceeds 7 feet.

The existing regulations specify a graded shoreline of a slope not to exceed 1-foot vertical to 5-foot horizontal. Other than at the shoreline, the slope is 1:3. Several industry representatives said that the CMP is ambiguous about the definition of "shoreline" and the method used for calculating sloping requirements above and below the shoreline, and recommended that the CMP be amended to clarify that "shoreline" is meant to extend to the point where water depth exceeds 7 feet. One panelist stressed that the purpose of the slope is not only to stabilize against erosion but to also provide transitional wetland habitats which could justify a more gradual sloping requirement to benefit more shallow habitats. Another panelist said that a 7-foot depth is a good level for safety reasons because the 1:5 slope requirement would result in a 35-foot shoreline. Most panelists agreed with this recommendation; however, there was not a consensus on whether the requirement should start at the high or low water mark.

There was also discussion about the shoreline sloping requirement above the high water mark but no recommendation was offered on the linear distance to which the 1-foot vertical to 5-foot horizontal standard should apply. Concerns were expressed about safety and regrading steep areas which might provide habitat for certain bird species.

Recommendation 4.05b Specify that shoreline sloping requirements (1-foot vertical to 5-foot horizontal) apply for a linear distance of 7 feet from the water's edge.

One panelist, who opposed Recommendation 4.05a on the basis that 35 feet of shoreline was excessive, offered this as an alternative. It was not supported by any other panelists.

Recommendation 4.06 Determine sloping requirements needed to stabilize underwater excavation pit walls away from the shore.

The next issue raised by the panel members was identification of the proper underwater sloping required away from the shoreline. Several panelists favored a slope of 1:3 which they interpreted from the plan as the proper gradient. Other panel members questioned if this slope was adequate to maintain the shoreline and that a proper sloping requirement be researched while the adjustments were being done to the other sloping regulations. Another said it was impossible to maintain such slopes due to water depth and erosion. The panel generally supported such an analysis, and some panelists offered to supply data.

Recommendation 4.07 Clarify re-vegetation policy flexibility in reclamation standards.

Several of the panel members stated that the current reclamation standards should be made more flexible and results-oriented. Another panel member argued that the current standards were designed to allow for forest succession and that they provide for sufficient flexibility. A third panel member said that most engineers simply schedule replantings at 1000 seedlings per acre because they are not aware of the cluster planting alternative or feel that the regulations discourage landscape creativity.

It was also stated that the Pinelands contains a variety of habitats which might be more suited to other forms of re-vegetation, such as meadows, blueberry fields, shrub areas, etc. Consensus was reached to recommend that the CMP be amended to clarify that alternative reclamation measures are acceptable if they successfully stabilize the area, and are consistent with naturally occurring conditions in the area.

Recommendation 4.08 Determine the impacts of making the CMP wetlands standards comparable to state and federal regulations, especially buffer requirements and the possibility for wetlands re-creation and mitigation.

Several panelists recommended that the Commission use the Army Corps of Engineers (COE) wetlands delineation procedure and state buffer standards. One member expressed the concern that abandoned mines qualify as wetlands, and should not. Another said that some wetlands and their buffers are more valuable than others and should therefore be ranked like the state program.

One panel member said that the Commission's wetlands regulations have been recognized by state and federal agencies as appropriate for the special conditions in the New Jersey Pinelands. The panelist also indicated that the 300-foot buffer was developed by the Commission as a basic standard from which less impacting uses could use smaller buffers, and that a Rutgers study had recommended that mining operations be given the maximum 300-foot buffer.

Another panel member said that the state and federal regulations (which are undergoing revision) are unreliable, and that the Commission's standards are the most predictable. Another panelist reported that outside the Pinelands, resource extraction buffers could range from 150 feet to 1000 feet.

There was also discussion about mining in wetlands if mitigation is undertaken. Although one panelist advocated such a policy, other panelists expressed opposition.

There was no consensus reached on this recommendation.

Recommendation 4.09 Permit firms with good compliance and reclamation records to mine in wetlands buffers with mitigation. As a way of increasing flexibility, one panel member suggested that firms with good compliance and reclamation records be rewarded by being permitted to mine in wetlands buffers if acceptable mitigation plans are developed. This would provide an economic incentive for firms to follow CMP standards. A few other panel members agreed, while other panelists thought that this type of reward might be regarded as potentially arbitrary. The original proponent of the recommendation said that the standard would not be arbitrary if performance standards were established beforehand. Others again argued that encroachment on buffers would not protect wetlands, but only serve to benefit mining operations. No consensus was reached.

Recommendation 4.10 Permit leaf composting and construction debris and recycling facilities as accessory uses on mining sites.

Citing a potential need for revenues on otherwise vacant land and a history of such accessory uses, several panelists recommended that the CMP be amended to permit some types of minor solid waste processing and storage facilities at mining sites. This recommendation was referred to the solid waste workshop. (see Solid Waste Recommendation 5.09)

C. Natural Resource Concerns

The third aspect of the session involved discussion of major impacts of mining and how they might be avoided. It was noted that mining occupies a very small percentage of the Pinelands land area and its reclamation provides "new" habitats. Conversely, its location in sensitive areas and the extent of the disturbance was a general cause of concern.

Recommendation 4.11 Study the impact of deep mining on hydrology and water quality.

A panel member stated that deep mines may have a significant impact on local hydrology, such as intrusion below clay layers protecting deeper areas of the aquifer from potential pollution. Other panel members indicated that most wells are not affected by mines. Still another panelist said that groundwater contamination may be more likely in larger mines than smaller ones, i.e. because of greater exposure. Some other panelists mentioned studies which they believe conclude no significant contamination or aquifer impacts from mines; however, impacts upon cranberry bogs due to upgradient mining activity was mentioned by another panelist. Due to the conflicting opinions on this matter, there appeared to be a general consensus that a study would be worthwhile.

Recommendation 4.12a Prohibit new mining operations in the Forest Area.

One panel member recommended amending the CMP to prohibit new mining operations to be started in the Forest Area because the Forest Area is often characterized as environmentally sensitive as the Preservation Area District, where the CMP has prohibited new mines. Another panel member said that there is something wrong with the CMP when housing development in the Forest Area is so limited but a mine, with all of its associated negative impacts, (e.g., disruption of the aquifer, noise, dust, wildlife and habitat destruction, etc.) is permitted.

Two other panelists expressed concern about such a limitation because mining is already subject to prohibition by municipalities; and it is doubtful that new mines will be located in Forest Areas since mining companies have received approvals for their land holdings. It was also suggested that such an amendment may just move the mining "problem" to Rural Development Areas and Regional Growth Areas where there are more people. Also, data on the location of mining operations and their current operation status may need to be collected and interpreted to evaluate the full impact of this change. (see Recommendation 4.01)

Recommendation 4.12b Prohibit new mining operations in sensitive sub-basins in the Protection Area.

As an alternative to the previous recommendation, one panel member recommended that this amendment be tailored to protect particularly valuable sub-basins in the Forest Area as well as the rest of the management areas in the Protection Area. This recommendation was better received by several other members of the panel who recognized that protection of these environmentally sensitive areas would be more consistent with the rationale behind the Preservation Area District prohibition.

Recommendation 4.13 Require documentation of all environmental conditions and impacts in all mining applications.

One panelist stated that not all of the information needed to make accurate decisions on mining applications was being submitted to the Commission and the municipal approving bodies. It was recommended that a full environmental impact statement be filed for all mining applications, as is done in at least one municipality.

Two other panelists expressed the opinion that existing regulations do request sufficient information and that the Commission may not be requesting other site-specific information (e.g. cultural resources, and species sightings) because it is already on file at the Commission offices. There were no other comments.

Recommendation 4.14 Analyze applicability and success of current CMP reclamation standards.

Part of this recommendation originated from a discussion about the Pinelands native vegetation listing, and that a wider range of species and expansion of the potential number of reclamation habitats be considered. The Coordinator stated that this specific issue had been discussed at an earlier workshop on forestry.

Several of the panel members questioned whether the current CMP mining reclamation standards were actually designed for and applicable to the Pinelands Area because they appeared to be standardized reforestation practices (e.g. 1000 pitch pine seedlings per acre), which may need to be tailored for a variety of different Pinelands habitats.

Another panelist stated that the regulations permitted sufficient flexibility for alternative re-planting measures. One panelist offered examples of failed re-forestation projects and suggested that the Commission evaluate whether the current standards were well suited to the Pinelands and requested that reclaimed sites be studied to measure their success. The panel generally agreed that this sort of study would be worthwhile.

Recommendation 4.15 Design standards to require complete restoration of Preservation Area District lands and sensitive sub-basins, but allow more flexibility in other parts of the Protection Area.

As an outgrowth of the discussion on Recommendation 4.07, one panelist recommended that the CMP be modified to require that closed mines in the Preservation Area District and in environmentally sensitive sub-basins be restored to their former habitats, instead of reclaimed with the standard 1000 pitch pine seedlings per acre. Although the current standards require that the mined areas must be reclaimed within two to three years, environmentally sensitive land should be restored, not reclaimed. In return, it was suggested that more flexibility be permitted in other non-critical management areas to promote and ensure ground cover re-vegetation. The panel generally agreed that this issue might warrant further evaluation.

D. Permitting and Enforcement

Several development review issues were raised regarding the permitting and enforcement processes. There appeared to be a general consensus that some CMP amendments recommended below would make the development review process smoother and could benefit mining operations without adversely impacting the Pinelands.

Recommendation 4.16a Extend the mining permit renewal period from 2 years to up to 5 years as a municipal option.

One of the primary concerns about the existing resource extraction permit renewal system was that the current two year permit period is too short in relation to the lengthy review process. Several panelists agreed that the permit length should be extended as a municipal option for up to five years. This type of extension would reduce expenses for both operators and regulators alike, still provide surety bonds, encourage better long-range planning, and if folded into a yearly inspection and bond renewal program, improve general enforceability.

Another panelist said that some Pinelands municipalities, e.g. Maurice River Township, have already been certified to have a three year permit period. A few panelists expressed concerns that five years was too much time and preferred to extend it only to three years. However, if annual inspection and enforcement powers were upgraded along with the permit extension, the five year period might be acceptable.

Recommendation 4.16b Extend the mining permit renewal period from 2 to 3 years as a municipal option, and up to 5 years for municipalities with good enforcement records.

One panelist recommended amending the CMP to reward municipalities with good enforcement records by giving them the authority to extend permit renewal periods. There was no other comment on this matter.

Recommendation 4.17 Clarify the definition of the CMP's final approval date so that operators, municipalities, Soil Conservation Service offices and the Commission proceed under identical permit periods.

This recommendation originated through a discussion about the Commission's certificate of filing and the time it takes for Commission and municipal reviews to be completed. Members of the panel suggested that the actual problem may be that the Commission and municipal approval periods confuse some operators and result in "lost" time in a two-year renewal process. They suggested that the CMP be changed to correct what they believe may be an unclear procedure. In particular, they thought that the exact time of the final approval date, i.e., when operators can begin to mine and when they must renew, is ambiguous. It was suggested that the final approval date should be the date when the Commission issues its no call-up letter.

One of the panelists explained the various steps involved in the filing and approval process, and that the CMP identifies how resource extraction applications are processed. The panel member stated that the Commission interprets the final approval date as the municipal permitting body's approval date, unless the application is called up for Commission review. Several of the

panelists recommended that the CMP be clarified to ensure that operators know the approval procedure and which date is the final one.

Recommendation 4.18a Permit municipalities to approve minor expansion of existing approved operations, e.g., new conveyers or towers, without Commission review.

One of the panelists indicated that if an operator needed to add a minor improvement to an existing operation, such as a new conveyor or tower, an application would need to go through the entire development review process as if it were a major expansion. It was suggested that municipalities be given the option of reviewing and approving minor additions without Commission review, just like they may now do for single family houses. Several other panelists agreed this would be an improvement to the existing regulations.

However, one panelist indicated that municipalities may not want to exercise this type of authority and assume responsibility without Commission review.

Recommendation 4.18b Permit municipalities to approve minor expansion of existing approved operations, e.g., new conveyers or towers, without Commission review in municipalities with good enforcement records.

As an alternative to the previous recommendation, one of the panelists recommended amending the CMP to permit local governments with good enforcement records to review operation expansions without Commission review. In this way, municipalities may have a greater interest in improving enforcement. No other panelists supported this recommendation.

Recommendation 4.19 Transmit all historical data regarding permit renewals to municipal authorities.

Based upon planning board experience, one panelist indicated that local governments do not usually receive copies of all of the information maintained by the Commission for resource extraction applications. It was recommended that the Commission send the municipal boards all the historical material on those applications so that municipalities can make better decisions on the appropriateness of future applications.

Another panelist indicated that the Commission may not always request information such as topography, hydrology, species sightings, cultural resources, etc. for renewal applications because the information is already on file or can be retrieved from other sources.

Recommendation 4.20 Examine ways in which municipalities, the Commission and the Soil Conservation Service offices can better enforce mining and reclamation regulations.

Several panel members recommended that something be done to improve the level of enforcement for mining and reclamation regulations. Reasons cited for the recommendations were: (1) municipalities are often lax in documenting violations and implementing remediation measures or penalties, either because they lack the professional skill or the political will to do it; and (2) the Soil Conservation Service permit system is not really an effective way of protecting against environmental damage.

Another panelist believed that most municipalities have sufficient enforcement capacity through the use of local ordinances, municipal engineers and attorneys.

The panel generally agreed that the Commission should explore improving enforcement measures, although no specific suggestions were offered.

Recommendation 4.21 Examine ways in which municipalities and the Commission can better enforce prohibitions on dumping and off-road vehicle use on mined land.

Similar comments were made about this recommendation as were made for Recommendation 4.20. Several panelists said that these two problems are prevalent throughout the Pinelands but other panelists said that mined tracts are exceptionally vulnerable. Although no immediate CMP or administrative changes were identified, there was consensus that the issue warranted further evaluation.

V. PUBLIC COMMENTS

One individual expressed concern about the re-use of mined property, especially proposals to develop housing after mining is complete. The individual stated that once mines are reclaimed per CMP standards, they should not be intensively developed.

Resource Extraction Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Industry Health	4.01	Collect and monitor land use and permitting data of Pinelands mining operations.	Study	2wm - P	-	o Not clear how this data will be used
	4.02	Analyze CMP's economic impact on various types of operations in the Pinelands.	Study	4wm - P	-	o See Recommendation 2.10 o May be difficult to separate CMP impacts vs. other impacts o Data may not be available o Study estimate uncertain as the scope, etc., are unclear
CMP Standards	4.03	Clarify language relating to maximum mining cell size of 20 acres.	CMP	-	-	o Where several open areas for various types of minerals exist, may not address problem
	4.04	Extend excavation depth limit from 65' below surface to 65' below DSHWT.	CMP	-	-	o Little additional impact, but penetration of clay layers in general may be a problem (see Recommendation 4.11) o May be difficult to determine level because of fluctuation o A practical change that will help miners
	4.05a	Specify that shoreline sloping requirements (1 foot vertical to 5 feet horizontal) apply until water depth exceeds 7 feet.	CMP	-	-	o Clarifies an ambiguous situation o Water's edge needs to be defined o Creates shallow wetland habitat and addresses safety issue o Upland sloping requirements along shoreline still need clarification

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- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
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Resource Extraction Workshop Recommendations

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				Staff(4)	\$\$\$ (5)	
	4.05b	Specify that shoreline sloping requirements (1 foot vertical to 5 feet horizontal) apply for a linear distance of 7 feet from the water's edge.	CMP	-	-	<ul style="list-style-type: none"> o Easier for industry to meet o Creates little transitional wetlands habitat o Safety issues may exist o Upland sloping requirements along shoreline still need clarification
	4.06	Determine sloping requirements needed to stabilize underwater excavation pit walls away from the shore.	Study	-	\$10,000	<ul style="list-style-type: none"> o Addresses a practical concern
	4.07	Clarify re-vegetation policy flexibility in reclamation standards.	CMP	-	-	<ul style="list-style-type: none"> o Will help miners understand options
	4.08	Determine the impacts of making CMP wetlands standards comparable to state and federal regulations, especially buffer requirements and the possibility for wetlands re-creation and mitigation.	Study	6wm - S	-	<ul style="list-style-type: none"> o Implications extend well beyond resource extraction o Natural resource impacts will be substantial if changes are made o Mitigation is in its initial stages of development
	4.09	Permit firms with good compliance and mitigation records to mine in wetland buffers with mitigation.	CMP	-	-	<ul style="list-style-type: none"> o Requires establishment of evaluative criteria for "good" records o Implications for other types of use o Mitigation is in its initial stages of development

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Natural Resource Concerns	4.10	Permit leaf composting and construction debris recycling facilities as accessory uses on mining sites.	CMP	-	-	o See Recommendation 5.09 which involves a CMP change concerning construction debris recycling on such sites o Should be considered when evaluating Recommendations 5.07 and 6.09
	4.11	Study the impact of deep mining on hydrology and water quality.	Study	-	\$50,000	o Conclusions may result in wet mining becoming infeasible
	4.12a	Prohibit new mining operations in the Forest Area.	CMP	-	-	o Will not address significant lands already approved for mining and located next to existing mined areas o May not impact the industry if no new mines are being considered. o Eliminates a land use option which municipalities now decide
	4.12b	Prohibit new mining operations in sensitive sub-basins in the Protection Area.	CMP	3wm - S	-	o Sub-basins need to be identified o Targets concern to least disturbed areas o Apparently may not impact the industry if no new mines are being considered o Limits a land use option which municipalities can decide

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Permitting and Enforcement	4.13	Require documentation of all environmental conditions and impacts on mining applications.	CMP	-	-	<ul style="list-style-type: none"> o Unclear what would be provided that is not currently available o Unclear how information not related to Pinelands standards will be used o Will add to cost of permitting
	4.14	Analyze applicability and success of current CMP reclamation standards.	Study	6wm - S 2wm - DR	-	<ul style="list-style-type: none"> o May be insufficient cases where reclamation has occurred to draw conclusions
	4.15	Design standards to require complete restoration of Preservation Area District lands and sensitive sub-basins, but allow more flexibility in other parts of the Protection Area.	Study/ CMP	2wm - S	-	<ul style="list-style-type: none"> o Will make re-vegetation more costly in critical areas, and less costly in other areas
	4.16a	Extend the mining permit renewal period from 2 to up to 5 years as a municipal option.	CMP	-	-	<ul style="list-style-type: none"> o Implements current policy, e.g., the recent Maurice River ordinance
	4.16b	Extend the mining permit renewal period from 2 to 3 years as a municipal option and up to 5 years for municipalities with good enforcement records.	CMP	-	-	<ul style="list-style-type: none"> o Requires establishment of evaluative criteria for "good" records o May encourage better local enforcement

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	4.17	Clarify the definition of the CMP's final approval dates so that operators, municipalities, SCS offices and the Commission proceed under identical permit periods.	CMP	-	-	<ul style="list-style-type: none"> o Recommendation 4.16 addresses most of the concern, i.e., time "lost" in a 2-year cycle during processing o May be impossible to implement as the events are sequential, pre-dating accomplishes nothing, and requiring all entities to use the Commission's date may require mine closures until that date
	4.18a	Permit municipalities to approve minor existing approved operations, e.g., new conveyors or towers, without Commission review.	CMP	-	-	<ul style="list-style-type: none"> o May also be covered in Recommendation 7.13 o Implications for other types of uses o "Minor" needs to be carefully defined
	4.18b	Permit municipalities with good enforcement records to approve minor expansion of existing approved operations, e.g., new conveyors or towers, without Commission review.	CMP	-	-	<ul style="list-style-type: none"> o May also be covered in Recommendation 7.13 o Implications for other types of uses o "Minor" needs to be carefully defined o Requires establishment of evaluative criteria for "good" records o May encourage better local enforcement
	4.19	Transmit all historical data regarding permit renewals to municipal authorities.	Admin.	1wm - DR per yr.	-	<ul style="list-style-type: none"> o May be time consuming, e.g., redundancy, multiple files, etc.

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Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
	4.20	Examine ways in which municipalities, the Commission and the SCS offices can better enforce mining and reclamation regulations.	Study	1wm - P 2wm - DR	-	o Unknown if substantive recommendations will be identified o Intergovernmental coordination will improve
	4.21	Examine ways in which municipalities and the Commission can better enforce prohibitions on dumping and off-road vehicle use on mined land.	Study	1wm - P 2wm - DR	-	o Mining industry should participate o Unknown if substantive, relatively inexpensive recommendations will be identified o Intergovernmental coordination will improve

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

APPENDIX A

"Pinelands Resource Extraction" Meeting

List of Participants

May 8, 1992

Name of Participant	Affiliation
Joseph Arsenault	Pinelands nurseryman & reclamation consultant
Frank Burns	N.J. Dep't of Agriculture, Atlantic- Cape May Counties Soil Conservation District
Christine Hafner*	U.S. Dep't of Interior U.S. Fish & Wildlife Service
Robert Ellis	Ward Sand & Gravel Co., Pinelands miner
Leslie Ficaglia	Maurice River Township Planning Board
Robert Fimble	Rutgers University, Cook College Forestry & Wildlife Section
Mark Godfrey	N.J. DEPE, Land Use Regulation Element Coastal Regulation, mining geologist
Mark Gorsky	Monroe Township Environmental Commission
Ian Harker	University of PA, Department of Geology
David Hergert	Mays Landing Sand & Gravel Company Pinelands miner
Stephen Kehs	Cumberland County Department of Planning & Economic Development
James Zadorozny	Morie Mining Co., Pinelands miner
William Harrison,	Pinelands Commission, Assistant Director Development Review
Charles Horner	Pinelands Commission, Development Review
Larry Liggett	Pinelands Commission, Planning & Research Workshop Coordinator
Karen Young	Pinelands Commission, Development Review

* Panelist attended in place of Clifford Day, U.S. Fish & Wildlife Service.

APPENDIX B

Resource Extraction in the Pinelands

Questions Explored at the Technical Panel Meeting

May 8, 1992

Industry-Oriented

1. Are the following factors relevant in judging the "health" of resource extraction as an industry?

- o total acreage being mined
- o number of active mines
- o total tonnage of sand, gravel, clay, ilmenite mined
- o industry employment statistics
- o extraction costs versus market prices

What other factors are useful in measuring the health of the industry?

2. What data exists relative to these indicators? Can this data be dis-aggregated for the Pinelands?
3. As a means of judging Pinelands impacts, is it appropriate to conduct trend analyses of these indicators in the Pinelands relative to those in the larger seven Pinelands county region and to the state as a whole?
4. Do you have data available on these indicators? If so, what trends are evident when comparing pre-Pinelands conditions (1980 and earlier) with conditions since adoption of the Pinelands Plan? What trends relative to the seven county Pinelands region and the state as a whole are evident? Do you have reason to believe these trends may or may not continue? If so, why?
5. If trends in important indices are evident, what conclusions can be drawn? To what extent might these be attributed to the Pinelands Plan?
6. On the basis of your own knowledge, do you have an opinion as to whether the Pinelands Plan has positively or negatively affected the viability of the resource extraction industry in the Pinelands?
 - overall?
 - specific segments or types?

In addition to those already discussed, what other analyses should be done to test these working hypotheses?

7. If negative trends are evident, what steps can state government in general or the Pinelands Commission in particular take to reverse them?
8. To what extent do Pinelands land use standards affect the viability of the resource extraction industry in the Pinelands? What, if any, specific changes in the Pinelands land use standards might enhance the industry's viability in the Pinelands?
9. Are the Pinelands Plan's resource extraction standards effective in maintaining the industry's viability? What specific changes in these standards might enhance the industry's viability?
10. Do any of the Plan's other management standards (e.g. wetlands, water quality) negatively affect mining operations? To what extent do these negative impacts occur? Do these have industry-wide significance? What, if any, specific changes in these standards might enhance the industry's viability?
11. What, if any, types of development essential to mining operations must receive Pinelands permits? Should these developments be exempted from the Pinelands permitting process? How would these permit exemptions enhance the industry's viability?
12. The original CMP stated that current (1980) New Jersey legislation did not adequately address resource extraction. To what extent has state legislation changed, and how do Pinelands resource extraction and restoration regulations differ from or compare to current state mining regulations? Are changes in Pinelands regulations warranted? Are there Federal or other state policies which might be appropriate to consider in New Jersey or in the Pinelands?
13. Is additional research or analysis needed before any of the recommendations previously discussed are considered? If so, what should be its focus?

Environment-Oriented

14. What types of positive and negative environmental impacts are generally exhibited by resource extraction activities? Are they short or long term in nature?
15. Do you have any data available on these impacts in the Pinelands? If so, to what extent are the impacts evident?

16. Does this data suggest that trends are evident? Are these positive or negative in nature? To what extent might these be attributed to the Pinelands Plan? Do you have reason to believe these trends may or may not continue? If so, why?
17. On the basis of your own knowledge, do you have an opinion as to whether resource extraction activities have positively or negatively affected the long-term maintenance of the Pinelands ecosystem and its natural resources? What analyses should be done to test these working hypotheses?
18. If negative impacts are evident, what steps can state government in general or the Pinelands Commission in particular take to reverse them?
19. To what extent do Pinelands land use standards relative to resource extraction help maintain the essential character of the Pinelands environment? What, if any, specific changes in land use standards might better protect or enhance natural resource values?
20. Are the Pinelands Plan's resource extraction standards, including those relative to reclamation, effective in maintaining natural resource values or limiting significant negative impacts? What, if any, specific changes in these standards might be warranted?
21. To what extent do the Plan's other management standards (e.g. wetlands, water quality) promote natural resource protection at resource extraction sites? What, if any, specific changes might you suggest relative to resource extraction activities?
22. To what extent do any of the recommendations previously identified to enhance the industry have environmental implications? Are they positive or negative? Are they significant from a regional perspective?
23. To what extent have New Jersey legislation and/or regulations relative to resource extraction and its environmental impacts changed since 1980 when the Pinelands Plan was formulated? Do any of these changes warrant revisions to the Pinelands Plan?
24. Are there other Federal or state regulations relative to resource extraction and its environmental impacts which might be appropriate for consideration in the Pinelands? If so, how do they compare with current Pinelands requirements? What natural resource values might be better addressed if these other standards are considered?

25. Is additional research or analysis needed before any of these recommendations previously discussed are considered? If so, what should be its focus?

APPENDIX C

Background Information

for

Pinelands Resource Extraction Technical Panel Meeting

1. Map of Pinelands Sand & Gravel Mining Operations, Active as of 1991, (NJGS: GRS 25, 1991).
2. Excerpt from New Jersey Pinelands Comprehensive Management Plan, A Progress Report on the First Three Years of Implementation - Chapter VII Studies Program, pgs VII-10 through VII-12.
3. Pinelands Development Standards - Subchapter 6 of the Pinelands Comprehensive Management Plan, revised 2/29/88, summary.
4. Excerpt from Subchapter 4, Resource Extraction Application Requirements of the New Jersey Pinelands Comprehensive Management Plan, (N.J.A.C. 7:50-4.2(7)).
5. Excerpt from Subchapter 6, Resource Extraction Standards of the New Jersey Pinelands Comprehensive Management Plan, (N.J.A.C. 7:50-6.61 through 6.67).
6. Minerals Yearbook 1989: New Jersey, Washington, DC: US Department of the Interior, Bureau of Mines, 1991.
7. Minerals Industry Surveys: The Mineral Industry of New Jersey in 1991, Washington, DC: US Department of the Interior, Bureau of Mines, 1991.

APPENDIX D

Public Comments Received Prior to Technical Panel Meeting

CITY OF ESTELL MANOR
OFFICE OF:

PLANNING BOARD
P.O. BOX 102
ESTELL MANOR, NJ 08319

April 1, 1992

The Pinelands Commission
P.O. Box 102
New Lisbon, NJ 08064

Att: Terrence D. Moore
Executive Director

Dear Mr. Moore:

Enclosed please find our response to your letter dated February 28, 1992 regarding key topics for Pinelands Commission review.

Topic One: We have no problem with solid waste.

Topic Two: Resource Based Industries: The problem is that they cannot be the only industries in the municipality.

Topic Three: Economic Impacts: The economic impact is very severe. The Pinelands is not taking into consideration the economic impact on the municipality that they are regulating. The Pinelands regulations are making it difficult to collect the school taxes, which our constitution requires to be imposed, in order to meet the constitutional needs of a thorough and efficient education. The Pinelands Commission must recognize that the municipalities have other concerns beyond those within the egos of the Pinelands, such as the financing of public schools, the financing of other municipal improvements, the provision for health and safety of the residents, and without a proper tax base, no municipality can operate the way we are expected to operate under Pinelands regulations.

Topic Four: Pinelands Permitting: We feel that the Pinelands is operated too strictly, that they follow some untried textbook theories, which we simply do not feel are working in practice.

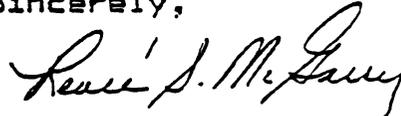
Topic Five: Growth Demands and Policies: This is best left to the municipality and not to the Pinelands Commission, particularly in a municipality such as Estell Manor, where the philosophy for limited but orderly growth, which is consistent with the overall philosophy of the Pinelands. The problem is we feel the local officials are far better able to determine the

APR 06 1992

specific needs of the community and the specific details as to how the community should be regulated better than the Pinelands Commission, which does not consist of any local residents in the case of Estell Manor, which is geographically removed a distance of approximately fifty miles.

If you should have any questions regarding the above comments, please do not hesitate to contact us.

Sincerely,



Renee S. McGarry
Secretary

Pinelands
Preservation Alliance

120-348 Whitesbog Road • Browns Mills, NJ 08015 • (609) 893-4747

April 17, 1992

Mr. Terrence Moore
The Pinelands Commission
P. O. Box 7
New Lisbon NJ, 08064

Dear Mr. Moore;

In response to your letter of February 28, I have enclosed recommendations on approaches to five of the key topics the Pinelands Commission has selected for review.

Earlier this month, fifteen members of the Pinelands Preservation Alliance's Plan Review Committee spent a day reviewing these five topics. Individuals who attended the meeting spent the intervening time writing recommendations for the expert panels to consider.

The results are enclosed. The subjects and the authors are:

Topic 1 Solid Waste	Dr. Gerard Vriens
Topic 2 Forestry	Dr. Emile DeVito
Topic 2 Resource Extraction	William Smith
Topic 3 Economic Impact	Sally Price
Topic 5 Growth Demands	William Neil

The pressure of the short time available and other commitments means that the submissions on the last two topics will be hand carried to you next week. Those subjects and the authors are:

Topic 2 Agriculture	Michele Byers
Topic 4 Permitting	Janet Larson

As the full PPA committee reviews the attachments and has further suggestions, they will be submitted to you or the expert panels.

The PPA appreciates this opportunity to submit recommendations to you and the expert panels and looks forward to the meetings of the panels.


Don Kirchhoffer
Coordinator,
PPA Plan Review Committee

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Former Governor,
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David J. Bardin, Esq.
Arent Fox Law Firm
of Wash., DC; Former
NJ D.E.P. Commissioner

Judith Shaw Berry
Partner, Public Policy
Advisors; Former Chief
of Staff, NJ D.O.T.

Howard P. Boyd
Past Pres., American
Entomological Society;
Author, *A Field Guide to
the Pine Barrens of NJ*

Michael F. Catania
Eggleston Institute;
Former Deputy Com-
missioner, NJ D.E.P.

Buntzie Ellis Churchill
President, World Affairs
Council of Philadelphia

Sally Dudley
Executive Director,
Ass'n of NJ Environ-
mental Commissions

Michael Gallaway
Pinelands Coordinator,
Sierra Club

David F. Moore
Executive Director,
New Jersey Conser-
vation Foundation

Franklin E. Parker
Director, NJ Field Office
of Trust for Public Land

James T.B. Tripp, Esq.
General Counsel, Environ-
mental Defense Fund

Nan Hunter-Walnut
Coordinator,
Pine Barrens Coalition

Pinelands Preservation Alliance
Plan Review Commentary

RESOURCE EXTRACTION

I. CURRENT POLICY

It has been recognized from the onset that resource extraction poses a unique problem in the Pinelands. It is a resource that is non-renewable. Unlike any other land use, the use consumes the land.

The original Comprehensive Management Plan (p.249) states the situation and concern concisely. The all-important balance of economic benefits and disruption of the Pinelands ecosystem is recognized as a situation that must be addressed through mitigation measures. A general delineation of registration requirements such as bonding, plans and specifications for operation and reclamation, safety issues, etc., has been in place since the origin of the plan. Under Feasibility Considerations, Extent of Activities and Summary of Impacts (CMP pp 151-152) are key statements that "...whatever soils have developed are destroyed and the landscape is significantly altered." "Excavation below the water table level...exposes the aquifer to possible surface contamination;" and "when the water table is exposed...a direct hydrologic link to the aquifer is established, which results in aquifer mining and disturbance of groundwater flow."

II. CURRENT TRENDS AND CONCERNS

A. Forest Area Mining

The Second Progress Report on Plan Implementation published in December 1991 documents a disturbing three-fold increase in mining operations being conducted in the Forest Area. The report points out the potential conflict this trend poses in maintaining the conservation goals established for the Forest Area.

Twenty-nine (29) approval actions in the Forest Area out of a total seventy-six (76) approval actions in all Pinelands Management Areas indicates this area is under siege. Being often contiguous to the Preservation Area, with similar geological features, these sites are desirable to the resource extraction industry. However, since the environmental sensitivity of the Forest Area most closely matches that of the Preservation Area, perhaps the Commission should consider prohibiting future operations within the Forest Area.

The Pinelands Preservation Alliance would make that recommendation to the commission based on the existing data contained in the Commission's own findings. This recommendation is a reflection of the concern engendered by the data. The Preservation Area resource extraction sites have not experienced significant change in the past ten year period and still contain approximately 3,000 permitted but unmined acres (see Attachment 'A') out of a total available grandfathered 8,293 acres. Data from the approved Forest Area sites within the same time frame should be analyzed for total acreage broken down into mined and unmined categories as a base for decision making to redress the balance which has shifted toward economic benefits and away from ecosystem integrity.

B. Under-Water Mining

Under-water mining has been and continues to be practiced at various extraction locations. There appears to be no regulations governing this practice in the State of New Jersey. In several instances, older Preservation Area sites which appeared to have mined out their acreage then turned to under-water mining. Municipalities seeking to address this situation as well as environmental and citizen groups questioning this practice are directed to the CMP standards which amount to a statement allowing excavation to a depth of 65 feet below the natural surface prior to excavation.

What is the basis for establishing this uniform depth of 65 feet? The remainder of the paragraph containing this standard allows mining below 65 feet if it can be demonstrated by the applicant that no significant adverse impact will occur. The implication is that no adverse impact would result in mining to 65 feet.

Mining to 65 feet would breach the first aquiclude in most areas of the Pinelands thus establishing a direct hydrologic link to the aquifer and disturbing ground water flow. Given the importance of protecting the Cohansey aquifer, a review of hydrogeological data originally compiled when drawing up the CMP would seem to be in order.

The current concern to fund a Cohansey aquifer study may be a partial reflection of limited data in this area. The PPA supports the funding of such a study and would recommend that a specific task within the study be an evaluation of the impacts of under-water mining on the Cohansey and the associated areas of inter-aquifer transfer, aerial pollution and groundwater flow.

C. Restoration

Restoration of excavated extraction sites is a desirable goal and existing standards should be enforced to assure that restoration occurs. A wide spectrum of responses to reclamation requirements exists from properly graded and vegetated sites to complete avoidance of compliance. Avoidance is accomplished in some situations through a combination of a weak local ordinance and little enforcement and insistence by some mining operators that materials are needed from all parts of the pit area and reclamation cannot begin in any area that still contains a particular grade of sand or stone required for his market.

Enforcement as we all know is the key to maintaining established standards. It is in this area that the Commission needs to take the lead and create a model for municipalities to follow. A current overview of all existing resource operations in the Pinelands by the Commission, coupled with a pro-active approach such as an annual update and evaluation of compliance would be a worthwhile future task.

D. Buffer Areas

Buffers as determined in the original CMP required 200 feet to any property line and 500 feet to any residential or non-resource extraction related commercial use in existence prior to issuance of an extraction permit. Industry representatives have successfully argued to reduce the Commissioner's role regarding buffers. A provision to allow for buffers of even less than 200 feet is a lessening of the original minimum standards that should not have happened. Hopefully the reduction of buffers will not continue during this revision process. Beyond safety and environmental concerns, aesthetic and noise issues become very important to residents of private homes adjacent to mining operations. Quality of life for the human inhabitants of the pinelands must not be overlooked in maintaining the balance.

E. Resource Extraction and the Forked River Mountains

It is time that the Forked River Mountains are recognized and treated by the Commission as an important part of the Pinelands which must be preserved. Without short-term special consideration and innovative thinking, a large piece of Pinelands heritage will be lost. The crest of the Forked River Mountains divides the Preservation and Forest Areas in a large portion of Ocean County. The presence of Middle Branch, Factory Branch and Oyster Creek stream corridors

and their complex network of threatened and endangered flora and fauna should mandate extensive inventories and studies to facilitate preservation. The Commission should be pro-active here rather than reactive to the concerns of local residents and environmental groups.

A trade-off with the Division of Fish and Game might be proposed in an area like the Forked River Mountains to swap acreage of greater environmental sensitivity for state lands suitable for resource extraction. Such a bold proposal may be necessary to preserve the ecosystem surrounding the Forked River Mountains. Minimum standards are not going to save the Forked River Mountains, the Pinelands Preservation Alliance is requesting the Commission to make a commitment to act to save them now.

III. RECOMMENDATIONS/STUDIES NEEDED

A. Forest Area Mining Sites

1. Collect and collate data regarding existing Forest Area extraction locations to determine total acreage and project future production capacity (short term).
2. Solicit industry projections of future resource extraction product needs (long term).
3. Fund study to assess and evaluate future industry needs versus maintenance of Forest Protection Area ecological values.

B. Under-water Mining

1. Re-examine original data base for depth standards if such data exists.
2. Commission study to examine hydrogeological impacts of under-water mining in the Pinelands.
3. Re-evaluate minimum standards in light of inter-aquifer transfer, aerial pollution and ground-water flow impacts.

C. Restoration/Reclamation Status

1. Conduct study to establish extent of restoration activity since implementation of CMP.
2. Create system for annual update and evaluation of active mining operations.

D. Buffers

1. The minimum 200 foot buffer as delineated in the original CMP should be maintained.
2. The 500 foot buffer requirement included in the original CMP should be re-instituted.

E. Forked River Mountains

1. Reassess the status of the Forked River Mountains as a component of the Pinelands National Reserve.
2. Evaluate the threat of continued resource extraction operations to the preservation of the Forked River Mountains.
3. Investigate interagency trade-off options to preserve this site.

IV. SUMMARY

The Pinelands Commission's original charge is to preserve and protect the Pinelands. The Commission has sought to balance the needs of indigenous industry such as resource extraction against the preservation of the Pinelands unique ecology. At the same time it must be recognized that resource extraction by its very nature destroys the landscape and vegetation. The three-fold growth of mining operations in the Forest Area in the last 10 years is an indication of a need for strong controls. The Pinelands Preservation Alliance recommends a prohibition of further encroachment into the Forest Area and we have made recommendations toward reaching that goal.

Stewardship of the land has become a familiar concept in recent years— resource extraction is the antithesis of that concept. If a balance is to be maintained, the minimum standards of the CMP must be strengthened and enforced emphasizing many of the approaches we have recommended.

'Attachment A'

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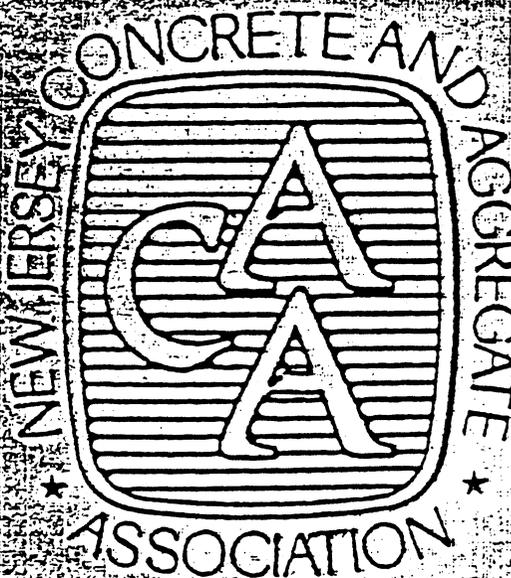
RESOURCE EXTRACTION APPLICATIONS
 IN THE PRESERVATION AREA OR
 SPECIAL AGRICULTURAL PRODUCTION AREA

AFF NUMBER	AFFILICANT NAME	MUNICIPALITY	MANAGEMENT AREA	TOTAL ACRES	DEV. ACRES
800008.01	FRENCH CONSTRUCTION CO	LACEY TOWNSHIP	PRESERVATION	459.00	459.0
800012.01	PARKER C/O PARKER CONSTRUCTION	LACEY TOWNSHIP	PRESERVATION	99.00	99.0
800014.01	WARD SAND AND MATERIAL CO.	WOODLAND TOWNSHIP	PRESERVATION	493.00	387.0
800029.01	CLAYTON SAND COMPANY	WOODLAND TOWNSHIP	PRESERVATION	1500.00	1500.0
800051.01	MT. HOLLY CONCRETE	LITTLE EGG HARBOR TWP	PRESERVATION	172.75	172.7
800051.01	LENTINE	BARNEGAT TOWNSHIP	PRESERVATION	227.80	227.8
800052.01	ROBERT WINZINGER INC.	WOODLAND TOWNSHIP	PRESERVATION	284.36	284.3
800073.01	HARRIS BROTHERS	LACEY TOWNSHIP	PRESERVATION	100.00	14.5
800074.01	ERICK WALL CORPORATION	LACEY TOWNSHIP	PRESERVATION	267.00	267.0
800076.01	FRANCIS MOON, INC.	BARNEGAT TOWNSHIP	PRESERVATION	209.00	209.0
810091.01	SOUTHERN MATERIALS INC. C/O CR	WOODLAND TOWNSHIP	PRESERVATION	219.27	219.2
810144.01	PARKER CONSTRUCTION CO	LACEY TOWNSHIP	PRESERVATION	3958.00	1000.0
810145.01	PARKER CONSTRUCTION CO	LACEY TOWNSHIP	PRESERVATION	37.50	37.5
810146.01	ATLANTIC GRAVEL, INC.	LACEY TOWNSHIP	PRESERVATION	25.21	25.2
823012.01	TWP. OF BERKELEY	BERKELEY TOWNSHIP	PRESERVATION	0.53	0.5
834185.01	MT. HOLLY CONSTRUCTION CO	WOODLAND TOWNSHIP	PRESERVATION	121.99	121.9
850853.01	HAAS, JR.	TABERNACLE TOWNSHIP	PRESERVATION	63.00	63.0
871057.01	BROWER	WOODLAND TOWNSHIP	SPECIAL AGRICULTURE PRODUCTION	25.22	25.2
GRAND TOTAL:				8292.63	5104.1

1992 PINELANDS COMPREHENSIVE MANAGEMENT PLAN REVIEW

Comments by the

RESOURCE EXTRACTION INDUSTRY



Prepared by:

Pinelands Resource Extraction Advisory Committee

of the

New Jersey Concrete and Aggregate Association

April 17, 1992



New Jersey Concrete and Aggregate Association

770 River Road • West Trenton • New Jersey 08628

(609) 771-0099

FAX (609) 771-1729

April 17, 1992

William J. Cleary
Executive Director

Mr. Terrence D. Moore
Executive Director
The Pinelands Commission
P.O. Box 7
New Lisbon, New Jersey 08064

Re: Comments on Upcoming Five Year Review of PCMP

Dear Mr. Moore:

The New Jersey Concrete and Aggregate Association (NJCAA) is pleased to present the enclosed comments regarding the five year review of the Pinelands Comprehensive Management Plan.

NJCAA is a statewide organization representing the interests of ready mix concrete and resource extraction industries. Through the association's Pinelands Resource Extraction Advisory Committee (PREAC) we welcome the opportunity to share with you our concerns.

The Association has primarily restricted our comments to Topic #2, Resource Based Industries. You will note however, that our comments also indirectly address Topics #3 (Economic Impacts) and #4 (Permitting) as they relate to this industry. We have also included a separate discussion of Topic #1 (Solid Waste) as a part of this Report; and our comments pertaining to wetlands contains several elements which would fall under the broad category of Water Quality, the recently identified sixth topic.

At our previous appearance before the Commission, two questions arose which have also been addressed. First, the right to continue mining is addressed by Appendix II and second, the confusion over sloping is addressed in a letter dated January 29, 1992, and can be found in the prior correspondence section.

Page 2
April 16, 1992
Terrence D. Moore, E.D.

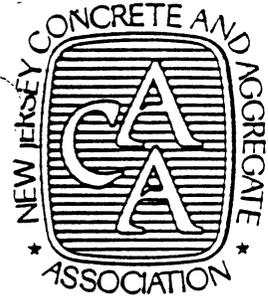
We have included 20 copies of this report so that each member of the Commission will receive one. If additional information or clarification is needed, please do not hesitate to contact us. We would also gladly offer any technical assistance you may need to carry out the goals of your April workshops of technical experts.

Again, Thank you for the opportunity to participate in this process.

Sincerely,

A handwritten signature in cursive script, appearing to read "William J. Cleary".

William J. Cleary, CAE
Executive Director



New Jersey Concrete and Aggregate Association

770 River Road • West Trenton • New Jersey 08628

(609) 771-0099
FAX (609) 771-1729

William J. Cleary
Executive Director

PREAC COMMENTS

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The New Jersey Concrete and Aggregate Association appreciates the opportunity to address the key topics chosen for the Pinelands Commission review of the Comprehensive Management Plan. Many of our members maintain facilities in the Pinelands region and have a vested interest in any changes under consideration for the plan.

The Resource Extraction Industry in the Pinelands Region of New Jersey is an important economic and environmentally sensitive member of this community. We often represent a "best use" for land in the Pinelands and in many cases can create wetlands, improve vegetation and wildlife habitat.

The industry has recognized a number of problems which prevents them from operating in the most efficient and productive manner and ask you to consider them in a factual light.

I. RESOURCE EXTRACTION PERMITTING

A. Duration of Resource Extraction Permits

Action: 1) Change from a two year permit cycle to a five year permit; 2) allow municipalities to extend the duration of their permits.

B. Certificate of Filing: Redundancy of Review

Action: Amend the CMP to specifically state that receipt of a Certificate of Filing be predicated upon providing all information necessary for a local agency to determine compliance with their certified local ordinances, not based upon a lengthy determination that the proposed development is in full compliance with all CMP standards.

C. Date of Final Pineland Review

Action: This industry recommends that this standard be changed to specify that the two year approval period commence with the date of the no-callup. This would provide two years of uninterrupted operations, during which the operator would be responsible for obtaining all approvals for the next two year period.

D. Application Review Period

Action: This industry recommends that the review period for resource extraction renewals be shortened to fifteen days from the present thirty days. The present review period of thirty days could be retained for new mining applications.

II. RESOURCE EXTRACTION STANDARDS

A. Area Constraints

Action: The New Jersey Concrete and Aggregate Association would request that the Pinelands Commission modify the clearing limit in concert with the extension of the approval to a five year term.

B. Depth of Excavation

Action: Recommends that standard be amended to sixty-five feet below the water table.

C. Sloping of Ponds

Action: Amend to "a shoreline graded to a slope not to exceed one foot vertical to five feet horizontal to a depth of seven feet below the surface of the water within the waterbody.

D. Reclamation Standards

Action: 1) Expand the list of acceptable species to reflect true vegetative diversity of the Pinelands; 2) amend standard to provide approval for alternative reclamation strategies; 3) the Commission should seek technical and historical data from the New Jersey Bureau of Forestry on this subject.

III. WETLANDS

A. Wetlands Delineation

Action: It is the Associations recommendation that the Pinelands modify their delineation procedure to be consistent with the NJDEPE and the Army Corps of Engineers, by specifically referencing the delineation methodology as outlined in the Unified Federal Manual for Delineating Jurisdictional Wetlands.

B. Wetlands Transition Area Standards

Action: Re-examine the Wetland buffer issue as part of the CMP review.

C. Inactive Mining Areas

Action: This industry recommends that a clear policy be established which permits mining wetlands buffers, or areas now considered to be wetlands (pursuant to Pinelands jurisdictional determination), up to the existing limits of disturbance/inactive mining operations . This policy should particularly be applied to those cases where it is clear that the inactive mining area was formerly uplands. This amendment would provide an equitable solution to those operators who had planned on the continued mining of those reserves, and will still remain consistent with the goals of the CMP.

D. Wetlands Mitigation

Action: Request that the Commission revise the CMP to allow for mitigation.

E. Impact of Mining on Water Quality

Action: Joint industry/Commission study to determine impacts on water quality including effects on vegetation and wildlife.

IV. SOLID WASTE ISSUES

A. Recycling

Action: Request that the revised PCMP allows for the transportation, storage, recycling, use and sale of source separated construction debris to include concrete, rebar, asphalt, brick, block, wallboard and wood.

B. Uses of Waste Derived Materials/Composting

Action: Request the use of certain soils and sludge derived compost material be permitted as part of restoration plans at any approved resource extraction sites at levels based upon existing research and future Pinelands specific research efforts.

RESOURCE EXTRACTION PERMITTING

I. RESOURCE EXTRACTION PERMITTING

A. DURATION OF RESOURCE EXTRACTION PERMITS

1. Existing Standard (7:50-6.64)

Presently, the resource extraction industry is required to renew its permit every two years. This process is a) highly expensive (See Economic Impact Report in Appendix I; b) time consuming due to the permitting process on both the local and Pinelands level; and, c) redundant due to the existing municipal review required.

The economic impact associated with this biannual review are severe. As detailed in the Economic Impact Analysis in Appendix I, the costs involved with keeping all required approvals valid is exorbitant to the point of affecting the economic vitality of this industry.

Similarly, the time frames included with the two-year permitting process are so lengthy as to occupy a substantial portion of the two year approval period. In effect, the resource extraction industry needs to engage in nearly full-time permit preparation.

This permit duration dilemma can be illustrated by evaluating the typical permit approval process for the mining operator in the Pinelands Area as follows:

Step 1 - Prior to the expiration of the two year Pinelands approval, a new application must be filed with the Pinelands Commission for renewal of a resource extraction approval. According to the CMP, this process should be a relatively short one - i.e., submit a complete application and after 30 days review time they will issue a Certificate of Filing (or Certificate of Compliance in an uncertified municipality.)

In reality, this process usually takes months, since one does not often submit a complete application which addresses all applicable and relevant PCMP standards on the first attempt, due to the ever changing nature of information now being requested. It is more realistic to expect to submit what you believe to be a complete application, only to receive a response from the Pinelands Commission after thirty days requesting additional information; after receipt of which they then have an additional thirty days to review and to respond.

Depending upon the complexity of the application, this can occupy numerous thirty day cycles, extending your application period over a number of months. Submittal of complete applications is highly unlikely, even if prepared by a consultant familiar with the resource extraction standards in the PCMP.

Step 2 - After receipt of your Pinelands Certificate of Filing (or Compliance), an application must be filed with the municipality and County Soil Conservation District to renew your local mining permit for approval. The length of time involved in obtaining your local approval is highly variable and depends upon the requirements of each municipality. In practical terms, this process usually averages one to six months.

Step 3 - After receipt of local approvals, the Pinelands Commission reviews the local approvals and, if no objections are noted, issues a final "approval", known as a No-callup letter, within fifteen days. If the Pinelands Commission has objections to your local approval, you will be issued a Callup letter which will involve considerably more time until receipt of your Pinelands approval.

It is important to note that the final Pinelands "approval" is the No-callup letter, which is valid for a two year period from the date of your local approval. The time which lapses between the date of your municipal approval and the date of the No-callup letter is time lost from the two year approval. In effect, a two year approval is valid for less than two years.

In an ideal situation, this process should not take longer than two to three months - thirty days for the submittal of a complete application and the issuance of a Certificate of Filing by the Pinelands Commission, assume another month for receipt of local approval, and then fifteen days for receipt of the No-callup letter from the Pinelands.

In reality, this process typically occupies eight to eighteen months, meaning that the resource extraction industry, by virtue of a two year permit, must engage in almost continued permitting. This situation has imposed a severe economic hardship on the vitality and ultimate existence of this industry in the Pinelands Area.

2. Proposed Amendment

This industry recommends that 7:50-6.64 be amended to extend the permit duration from a two to five year period. This would alleviate the extreme financial burden of almost constant permitting, while still permitting resource extraction to occur in compliance with the goals and standards of the CMP. This industry recommends that this option formally be included as an amendment to this policy.

Finally, an alternative proposed amendment would be to permit any municipalities, at their discretion (with Pinelands approval), to extend the duration of the two year mining approval. This extension, could be made contingent upon annual compliance certification by either the Pinelands Commission or by municipal inspectors. It is noted that this option is being pursued with the consent and approval of the Pinelands Commission in Maurice River Township, where a three year approval is being considered.

B. Certificate of Filing: Redundancy of Review

1. Issue/ Existing Standard

The Certificate of Filing (as described in Part III of the CMP) is purported to represent a certification that sufficient information has been provided in an application such that a certified local agency can now proceed to review that application. As such, the Certificate is not supposed to represent an "approval", but rather a document by which the Pinelands Commission serves as an "oversight" commission for local agencies.

In practical terms, the Certificate of Filing, and receipt thereof, has become the predominant step in securing a mining approval. The review on the local level has become of less importance, which does not appear to be consistent with the goals of the CMP. The overwhelmingly time-consuming and costly part of obtaining a two year approval is now spent on obtaining a Certificate of Filing, after which obtaining local approvals is less difficult. The primary review is now being conducted by the Pinelands Commission, not by the local agency. Not only is this unnecessary and highly redundant, but inconsistent with the goals of the CMP.

2. Proposed Amendment

This industry recommends that this redundancy be eliminated by amending the CMP to specifically state that receipt of a Certificate of Filing be predicated upon providing all information necessary for a local agency to determine compliance with their certified local ordinances, not based upon a lengthy determination that the proposed development is in full compliance with all CMP standards. This should be inherent in the granting of a local approval in a certified municipality. This amendment would shorten the review time considerably, while still ensuring that proposed development was consistent with the CMP (via certified municipal ordinances).

It should be recognized that this amendment would not remove any of the "oversight" capacity of the Pinelands Commission to ensure that local approvals were in conformance with the CMP standards, since the Final Review mechanism would remain unaffected. If for whatever reason a local agency issued an approval in contravention of CMP standards, the Commission could still "call up" the approval, thereby ensuring compliance with the goals and standards of the CMP.

C. EFFECTIVE DATE OF FINAL PINELANDS REVIEW

1. Issue / Existing Standard

As previously described, a two year approval is shortened due to the requirement of receipt of a Final Review "approval" after receipt of any local approval (the no-callup process, as described at 7:50-4.40). The time spent by the Commission on reviewing the local approval (15 days) and writing the no-callup, followed by delays in receiving the no-callup through the mail, results in time lost from the two year approval, since the two year approval period commences on the date of the local approval, not on the date of the no-callup.

2. Proposed Amendment

This industry recommends that this standard be changed to specify that the two year approval period commence with the date of the no-callup. This would provide two years of uninterrupted operations, during which the operator would be responsible for obtaining all approvals for the next two year period.

D. APPLICATION REVIEW PERIOD

1. Issue / Existing Standard

The resource extraction industry is required to submit plans for review every two years. Typically, conditions change little between each successive two year period. Given this constraint, a thirty day period for the review of information submitted to the Commission for mining permit renewals is too long.

2. Proposed Amendment

This industry recommends that the review period for resource extraction renewals be shortened to fifteen days from the present thirty days. The present review period of thirty days could be retained for new mining applications.

RESOURCE EXTRACTION STANDARDS

II. RESOURCE EXTRACTION STANDARDS

A. AREA CONSTRAINTS (7:50-6.66(a)11)

1. Existing Standards

The current management plan standard for limits of clearing as follows:

Will not involve clearing adjacent to ponds in excess of 20 acres or an area necessary to complete scheduled operation; or will not involve unreclaimed clearing exceeding 100 acres or 50 percent of the area to be mined, whichever is less, for surface excavation at any time.

This regulation has been interpreted by the Commission to limit mining activities to twenty acres for the approval duration of the Certificate of Filing.

2. Proposed Amendment

The New Jersey Concrete and Aggregate Association would request that the Pinelands Commission modify the clearing limit in concert with the extension of the approval to a five year term. The acreage cap can cause economic hardships especially for operations which only mine to a shallow depth or are of the size they fall under the 50 percent rule.

Therefore, in conjunction with the earlier request to extend the two year approval to five years, the Association would request that the 20 acre limit be expanded to 50 acres. In addition, the 50 percent rule should be modified to allow greater flexibility for the smaller resource extraction operations within the Pinelands.

B. DEPTH OF EXCAVATION (7:50-6.66(a)8)

1. Issue / Existing Standard

a. Existing Depth of Excavation Standard

This standard currently restricts mining to 65 feet below ground existing prior to excavation; unless it can be demonstrated that deeper mining will not have a significant adverse impact. In practice, this standard is used to restrict mining to 65 feet in depth, rarely is mining below this arbitrary depth approved.

When the review of the original draft of the CMP occurred, members of the mining industry hired experts to provide guidance in language for the depth limitation rule. The 65 feet below water table language was proposed and was supported, but when final rule making came out the wording had been changed from water table to surface. The change was not acceptable to the mining industry and the Pinelands Commission has not satisfied the industries attempts to understand the basis for the change.

b. Loss of Reserves

There are 2000 tons per foot per acre of sand. This change in depth of mining caused mining operators to lose reserves they were actively mined prior to the CMP. At the time of adoption of the CMP there was an understanding that operators already below 65 feet would be allowed to continue mining to the pre-existing depths. However, through each two year renewal process most elements of existing rights have been challenged either by the Pinelands or the Municipality. It is the opinion of many operators that this process has resulted in a taking without compensation.

c. More Surface Impact

Mine operators must mine more surface area to get the same amount of sand. Existing operations intend to fully mine their land holdings so the main impact will be an increase in total surface area of mining for new operations in the coming years.

d. Special Approval

The rule allows a special approval process for gaining the ability to mine deeper which is good and should continue to be allowed. Approvals on extending mining depth must also be gained from the local planning board, which are not required to follow the Pinelands lead in matters such as this, placing a burden on the applicant to repeat the approval process to a board that may not have the technical training.

2. Proposed Amendment

This industry recommends that this standard be amended to permit mining to 65 feet below the water table, not 65 feet below the pre-existing surface. This amendment would reduce the total surface area necessary for mining, and would result in a more enforceable standard.

C. SLOPING RESTRICTIONS (7:50-6.67(a)6)

1. Issue/Existing Standard

This standard currently requires that any body of water created by resource extraction shall have a graded shoreline with a slope not to exceed one foot vertical to five feet horizontal.

This standard is highly ambiguous as to what defines the "shoreline". As a result past experience has demonstrated that this slope requirement can, and has been, applied to varying depths within the water above and above the water line. It should also be noted that the standard for restored areas (other than shoreline) is for a steeper one foot vertical to three feet horizontal. This standard does not make it clear where the one foot vertical to five feet horizontal begins and to what depth it should end.

2. Proposed Amendment

This industry suggests that 7:50-6.67(a)6 be amended to replace the vague reference to a "graded shoreline" with a "shoreline graded to a slope not to exceed one foot vertical to five feet horizontal to a depth of seven feet below the surface of the water within the waterbody". In this way, it is clear as to exactly how far the grading for the shoreline should extend.

The basis for this seven foot depth is that this is the depth which is deeper than wading level of child or adult swimmers. Beyond this level the slope will follow the natural angle of repose to the maximum depth permitted under the approval.

D. RECLAMATION STANDARDS (7:50-6/67)

1. Issue/Existing Standards

The vegetation required for reclamation is limited to a very restrictive listing of species which does not represent the existing natural vegetative diversity of the Pinelands. For example the standard requirement for Pitch Pines may be acceptable for some regions of the Pinelands but is not appropriate for other areas. Also, these standards do not recognize the utility of "alternative" restoration techniques.

2. Proposed Amendment

This industry recommends that the list of acceptable species be expanded to reflect the true vegetative diversity of the Pinelands. This expanded listing could be similar to the listing of native Pinelands species which appears in the Pinelands Wetlands Delineation Manual. The use of these species would be reviewed and approved by the Commission for each particular application after considering the vegetative characteristics of the mining site region.

This standard should also be amended to provide approval for alternative reclamation strategies on a case-by-case basis. Alternative reclamation techniques could include compost as a soil conditioner or use off pre-existing overburden / vegetation as growing medium and seeding stock.

This standard should also be amended so that the types of grasses required for reclamation are uniform by the Pinelands and the County Soil Conservation Districts.

3. Additional Research

The Pinelands should seek technical and historical data from the New Jersey Bureau of Forestry on this subject. The types of trees being planted in the Pinelands should be of interest to the current and future foresters in the Pinelands.

WETLANDS

III. WETLANDS

A. Wetlands and Wetlands Delineation (7:50-6.3 & 7:50-6.0-6.6)

1. Existing Standard

This standard defines wetlands as: "Those lands which are inundated or saturated by water at a magnitude, duration and frequency sufficient to support the growth of hydrophytes. Wetlands include lands with poorly drained or very poorly drained soils..."

The Pinelands Commission has jurisdiction over all freshwater wetlands within the boundaries of the state Pinelands Area, which comprises part or all of 53 municipalities in Atlantic, Burlington, Camden, Cape May, Cumberland, and Ocean Counties. The New Jersey Department of Environmental Protection and Energy (NJDEPE) has jurisdiction over all other wetlands within the state.

Pursuant to both Pinelands and NJDEPE regulations, freshwater wetlands are identified or delineated via a three parameter methodology which is based upon the presence of hydric (wetland) soils, hydrophytic (wetland) vegetation, and hydrological indicators. While the degree to which any of these parameters is considered more important than the others varies slightly between both the Pinelands and NJDEPE methodologies, they all require three parameters to be present for an area to be considered wetlands. The Pinelands Commission, however, utilizes a more restrictive definition of wetland soils, i.e, what is considered wetlands by the Pinelands Commission may not be considered wetlands by the NJDEPE.

2. Proposed Amendment

It is the Associations recommendation that the Pinelands modify their delineation procedure to be consistent with the NJDEPE and the Army Corp of Engineers by specifically referencing the delineation methodology as outlined in the Unified Federal Manual for Delineating Jurisdictional Wetlands.

B. WETLANDS TRANSITION AREAS (7:50-6.14)

1. Existing Standards

The current regulations state that no development shall occur within three hundred feet of a wetlands unless it can be demonstrated that the proposed development will have no adverse impact on the wetlands. There is a nine item criteria established to determine no adverse impact.

In addition, the Buffer Delineation Model can be used to reduce the widths of the buffers for certain land uses.

In 1983, Rutgers University, with support from the Pinelands Commission and the William Penn Foundation, prepared a study entitled: "Wetlands of the New Jersey Pinelands: Values, Functions, Impacts and a Proposed Buffer Delineation Model." The purpose of the model was to assist an applicant and the Pinelands Commission in determining minimum safe buffers required to protect the Wetlands for a particular site. Since its publication, the Pinelands Commission has used this model in determining buffer reductions from Wetlands for individual applications. The most common use of the model has been to allow individual lot owners relief to enable them to build a dwelling on the site.

The resource extraction industry, however, is prohibited from using the model under Special Case Guideline No. 2. The rationale for this exclusion is that because of the number and size of mining operations, "Environmental impacts on wetlands are undoubtedly significant." But both studies cited in support of this conclusion are general, rather than specific in nature, and neither study conducted anything approaching a long term impact evaluation Darnell, R.M. 1976. "Impacts of construction activities in wetlands of the United States," U.S.D.E.P., Office of R & D, Corvallis, OR, Ecological Research Series, EPA-600/3-76-045. And Havens, A.V. 1979. "Climate and Microclimate of the New Jersey Pine Barrens," Pine Barrens: Ecosystem and Landscape, Academic Press, Inc. NY.

In addition, this same Rutgers modelling report cites as references two further studies indicating that the required distance for septic systems from wetlands be from 325ft. to 600ft. for one study, and greater than 505ft. for the other Harlukowicz, T.J., and R.C. Ahlert. 1978. "Effects of Septic Tank Effluent on Groundwater Quality in the New Jersey Pine Barrens," Final Report to the Rockefeller Foundation, College of Engineering, Bureau of Engineering Research, Rutgers, the State University, New Brunswick, N.J. And, Walker, E.G. et al, 1973. "Nitrogen Transformations During Subsurface Disposal of Septic Tank Effluent in Sands," J. Environmental Quality. 2:521-525. In light of these studies, we are at a loss to understand how the Rutgers report supported the position allowing septic systems, with their associated nitrate discharges, to be located within 30ft. of a wetlands. The Rutgers Model is inconsistent, highly subjective and not based on any scientific or empirical studies.

The D.E.P.E. also has wetlands jurisdiction within the state. The NJDEP requires a buffer of varying width dependent upon the quality of the wetlands (known as resource value). The majority of wetlands are considered to be of intermediate resource value and require a wetlands buffer of 50 feet. Wetlands of exceptional resource value (eg., containing endangered or threatened species) require a 150 foot buffer, while wetlands of ordinary resource value (eg., manmade drainage ditches) do not require wetlands buffers. NJDEP regulations also provide several mechanisms to reduce or alter the width of a wetlands buffer in order to accomodate upland development.

These wetlands identified as having exceptional resource value are as functionally important as wetlands located within the Pinelands, yet the DEPE has determined that a one hundred fifty foot buffer is sufficient for wetlands protection.

As stated above, the DEPE regulatory system contains mechanisms for the reduction of buffers, when required. Under the Transition Area Averaging Plan, buffer reductions are granted for a specific location, with the overall buffer width average being retained. In addition, general activities which are regulated by the Army Corps of Engineers, such as road construction and maintenance, can be performed in a buffer or in a wetlands under the statewide general permit program. Finally, site specific activities are allowed within a transition zone or a wetlands when an individual permit is obtained from the DEPE.

2. Proposed Amendments

The NJCAA fully recognizes the importance and function of the wetlands, which are critical in the maintenance of environmental quality. They are valuable in flood, sediment and erosion control, provide groundwater aquifer recharging, fish and wild-life habitat, nutrient retention and removal, timber and cranberry production as well as recreation space and aesthetic values. Furthermore, the NJCAA fully supports the Pinelands Commission's stated goal of preserving and protecting the Pinelands region, of which the wetlands are an integral part. But the Commission should select the course that also has the most favorable economic impact consistent with the NJCAA's position as set forth in this paper that the existing standard requiring a three hundred foot buffer from any wetlands is arbitrary and excessive. The current standards offer no greater environmental protection than a reduced buffer would provide. The regulations allow only limited flexibility for hardships or special circumstances and does not even address buffer averaging.

Therefore, the New Jersey Concrete and Aggregate Association (NJCAA) requests that the Pinelands Commission re-examine the wetlands buffer issue as part of the Comprehensive Management Plan Review.

In addition, the Association would request that this industry not be automatically precluded from utilizing the Wetlands Buffer Model.

C. INACTIVE MINING AREAS

1. Issue / Existing Standard

One additional area concern regarding wetlands buffers is the lack of a clear policy regarding active and inactive mining areas which are determined to be located within wetlands or wetlands buffers. By the nature of this industry, often a site operator engages in "surficial" mining of an area with the full intentions of returning to that area later to engage in dredging of deeper deposits. It has been the experience of this industry that these man-made areas (legally mined as part of approved plans) are later found to have acquired wetland characteristics, or to be located within a wetlands buffer. Since substantial reserves may be found in these areas, which were counted on by the site operator, this lack of clear policy in the Pinelands Area can result in substantial hardships and violations of the CMP.

It should be noted that the current U.S. Army Corps of Engineers and NJDEPE policies regarding these inactive mining areas (regardless of their locations with respect to wetlands) are clear. As long as the mining of these areas is part of an active mining operation (i.e., not abandoned), continued mining is permitted. This policy extends to artificially created wetlands which are the result of mining of upland areas or mining within wetlands buffers.

Copies of jurisdictional guidance letters from the USACOE and NJDEPE are enclosed in the Appendix III of this Report.

2. Proposed Amendment

This industry recommends that a clear policy be established which permits mining within wetlands buffers, or areas now considered to be wetlands (pursuant to Pinelands jurisdictional determination), up to the existing limits of disturbance / inactive mining operations. This policy should particularly be applied to those cases where it is clear that the inactive mining area was formerly uplands. This amendment would provide an equitable solution to those operators who had planned on the continued mining of those reserves, and will still remain consistent with the goals of the CMP.

D. WETLANDS MITIGATION

1. Existing Standards

The CMP states that, "Development shall be prohibited in all wetlands in this part", However, the CMP does allow a limited number of uses within a wetlands area. These activities include forestry, berry agriculture, fish and wildlife management and various recreational uses.

It should be noted that the resource extraction industry is in effect engaging in wetlands creation due to its unique ability to modify the landscape which often results in the creation of wetlands as the end result of approved mining.

However, there is no current standard in the CMP which permits mitigation for any other usage of wetlands beyond those listed above such as resource extraction.

2. Proposed Amendment

Due to site specific circumstances or hardships, activities within a wetlands may be unavoidable. However, at present, there is no mechanism to allow for activities not listed above within a wetlands no matter how critical the project or how minor the wetlands. The Association would request that the Pinelands Commission revise the CMP to allow for mitigation, such as is available under existing NJDEPE and U.S. Army Corp of Engineers freshwater wetland regulations.

This Association would also note that there is precedent for wetlands mitigation within the Pinelands on the Pemberton By-Pass project. That project permitted wetlands destruction in return for wetlands creation elsewhere, ostensibly in response to U.S. Army Corp of Engineers requirements. We recommend this precedent be extended to all other applicants within the Pinelands.

3. Studies

Owens Illinois Study

The industry has already performed a number of studies on how mining may impact the environment. Referenced below are two of these studies. The first by T. Lloyd Associates deals with wetlands buffers and the second by Matrix Environmental the more general water table issue.

In 1984, as part of an agreement between the Pinelands Commission and Owens Illinois, Inc., the applicant was allowed to wet mine a two acre upland corridor between two wetland areas. Coincident with active mining on the site, a monitoring study of the surrounding area was being performed by T. Lloyd Associates of Absecon. The purpose of the study was to determine if a reduction in wetlands buffer to 100 feet would have a significant impact upon the wetlands as defined by the nine criteria listed in the Comprehensive Management Plan.

As a result, a multi year evaluation was performed on site. The study focused on the critical areas of surface and groundwater levels and vegetation/wildlife composition. Groundwater data was collected through the use of seven monitoring wells placed across the spectrum of wetlands, transition area and uplands. Surface water data was gathered through the use of a water level gauge placed in the existing dredge pond. Vegetation was monitored along two transect lines which extended from the wetlands to the upland areas. Finally, wildlife populations, especially reptiles and amphibians, were monitored through periodic site inspections.

The report by T. Lloyd Associates and submitted to the Pinelands Commission in June, 1986, and updated in December, 1986, concluded that the mining activities failed to demonstrate any significant impact upon the wetlands. There was no reduction in groundwater elevation adjacent to the wetlands and therefore no impact upon the wetlands; no change was detected on the pH of the ground or surface water. The diversity of the wetland plant and animal communities remained the same for the study period. The report goes on to state that some reptile and amphibian species may actually benefit from the open water environment created by the mining.

As a result of this study, the Pinelands Commission, in 1987, issued a no-callup letter for the 1984 municipal approval for the site.

Dun-Rite Study

The Dun-Rite Sand & Gravel Company, as a condition of its local mining permit, was required to perform a hydrologic evaluation of its Winslow Township facility; Matrix Environmental Management, Inc., of South Orange, N.J. was hired to conduct the study.

The study method included the installation of seven piezo-meters around the site to measure the groundwater during peak operating periods and non-operating periods. The consultant reported that the study showed that water pumping activities associated with the mining operation had only minimal impact on groundwater. The report went on to state that "There is no off-site impact on groundwater flow" due to the mining operation.

In addition to the studies cited above, non-published data collected by Unimin Corporation and the Morie Company from their respective facilities in commercial township support the NJCAA's position. The monitoring well data from the two sites demonstrate that mining activities have not altered groundwater elevations.

4. Additional Research

The industry, realizing that this would be a significant standard modification, is willing to join with the Commission in conducting further studies addressing this issue.

SOLID WASTE

IV. SOLID WASTE

1. Industry Participation in Solid Waste Activities

Since resource extraction industries engage in solid waste recycling activities and land reclamation, we wish to address the solid waste issue only as it relates to construction related industries, and not the broader solid waste issue in general as it pertains to landfilling, solid waste transfer stations or municipal solid waste recycling programs, etc. We further request that the Commission review and amend the CMP to allow recycling of construction debris materials. We further request that the restoration of land tracts involved in resource extraction be permitted to use sewage sludge derived compost in reclamation activities.

The concrete and aggregate industry within the State of New Jersey presently engages in activities which would fall under the CMP solid waste policies. Currently, we are not aware of any members of the New Jersey Concrete and Aggregate Association who have permits to engage in these activities in the Pinelands Area. However, the concrete and aggregate industry is uniquely suited to engage in solid waste recycling activities and land reclamation which could be of significant environmental benefit to the Pinelands.

Presently, industry recycling efforts are dominated by commercial recycling of clean broken concrete as an alternative to landfilling. As such, this activity is of considerable environmental benefit. Concrete recycling represents a new trend in concrete production. Although concrete recycling may not be presently occurring within the Pinelands, demolition of existing concrete structures (e.g., roadways, bridges, buildings) is occurring within the Pinelands. This presents clear waste disposal problems, which could be effectively addressed via amendments to the CMP.

Similarly, the concrete and aggregate industry and affiliated industries would provide additional waste recycling, including asphalt recycling and the processing of petroleum-contaminated soils for asphalt production. There is existing technology available to engage in these activities in full compliance with existing State and Federal regulations; to presently occur without environmental degradation outside of the Pinelands Area. Several recent cases involving the processing of oil-contaminated soil within the Pinelands point out not only the need for this service, but also the clear deficiencies in existing CMP policies regarding this issue.

The concrete and aggregate industry engages in resource extraction activities within the Pinelands. A characteristic of Pinelands soils is that they are of relatively poor quality and depleted in suifficial nutrients. Yet CMP policies require that this material be retained and reused as the primary growth medium for restoration of approved mining sites. Approved site restoration using the pre-existing topsoil can be enhanced by repeated applications of chemical fertilizers, which are known to have clear negative impacts on wetlands and water quality. Furthermore, there are vast tracts within the Pinelands which no longer contain pre-existing topsoil. The restoration of the large tracts of land involved in approved resource extraction operations represents an ideal beneficial use of sewage sludge derived compost.

Indeed, the resource extraction industry could comprise a major end-product user of this material, thereby promoting beneficial uses of sludge in full compliance with State and Federal policy.

2. Effectiveness of Existing CMP Solid Waste Policies

a. 7:50-6.77(a) Categories of Wastes Prohibited

This policy specifically addresses solid waste activities, forbids the storage, discharge, or disposal of hazardous, toxic, chemical or petroleum wastes, including oil-spill pollutants. This policy does not address recycling of those materials, nor was it meant to during the initial formulation of the CMP (when recycling was virtually non-existent).

This policy does not recognize the existence of these materials and/or potential for the generation of these wastes from within the Pinelands. Since this policy does not permit the discharge or disposal of waste materials within the Pinelands, it unfairly and unrealistically shifts the burden for the disposal of these wastes (generated from within the Pinelands) to those areas outside of the Pinelands. It is clear that these disposal options are becoming less viable. Furthermore, this policy does not address the role of recycling or beneficial use of waste materials as a disposal option.

This policy does not recognize that recent advances in technology related to waste recycling are available to recycle concrete and asphalt, and to decontaminate oil-spill soils. This technology is in use elsewhere in New Jersey in full compliance with State and Federal regulations, without any contravention of applicable environmental standards.

In addition, this policy does not recognize the need for additional beneficial uses of sewage sludge beyond the use of liquid or dewatered sludge for agriculture land application purposes. This policy also provides a very limited beneficial use for that sewage sludge material generated from within the Pinelands. Beneficial use (other than landfilling, incineration or ocean dumping) is the stated policy of the State of New Jersey and the Federal government. This policy restricts beneficial use in the Pinelands only to agriculture land application usage, and does not afford the same opportunity to the mining industry, the potentially largest user.

b. 7:50-6.77(b) Categories of Wastes Prohibited

This policy permits the collection and temporary storage, prior to delivery to a processing facility, of petroleum wastes provided that the storage facility is designed and operated in accord with state and federal regulation. This policy also permits the temporary storage of other wastes and by-products where generated (prior to delivery to another processing facility) provided that the storage facility is designed and operated in accord with state and federal regulations.

By the inclusion of "temporary storage" within this policy, it is unclear as to the length of time waste materials can be stored on an approved site before it would be considered as other than temporary storage.

3. Proposed Policy Amendments/Additional Research

a. Recycling Activities

i. This industry recommends that existing CMP policies be amended to specifically address recycling activities as a disposal option, and to permit beneficial recycling activities of certain types of solid wastes such as a source separate of construction debris (concrete, asphalt, rebar, brick, block, wallboard, wood, wood stumps and hazardous wastes such as oil-spill contaminated soils). This amendment is recommended on the basis that disposal options are becoming increasingly limited, and there is existing the technology to reuse or decontaminate these materials.

The following CMP policy amendments are recommended in order to recognize the need for additional recycling activities within the Pinelands, the existing presence of hazardous materials within the Pinelands Area, and existing technological advances.

7:50-6.77, Categories of Wastes Prohibited should be amended to specifically permit recycling activities and such that waste materials can be stored prior to processing/decontaminating at a facility within the Pinelands designed and operating in compliance with all State and Federal regulations.

7:50-6.77, Categories of Wastes Prohibited should be amended so that the discharge and disposal of waste materials is permitted after suitable decontamination in compliance with all State and Federal regulations. For example, this amendment could permit the suitable reuses of oil-spill contaminated soil after decontamination.

7:50-6.77, Categories of Wastes Prohibited, should be amended by deleting "temporary storage" of these materials if they were stored at an approved treatment facility in the Pinelands. Alternately, a fixed time limit could be set for "temporary storage" (e.g., 6 months), after which storage would be considered other than temporary and would be in violation of the CMP.

This industry does not advocate amending 7:50-6.77 in any way regarding nuclear wastes.

ii. In order to assess the potential impact on the Pinelands from these amendments, the following areas should be the subject of additional research:

What materials covered by 7:50-6.77 are already present within the Pinelands, and what future volume of these materials may be anticipated?

What is the current status of recycling/decontamination and disposal of those materials covered by 7:50-6.77?

What is presently happening to those materials covered by 7:50-6.77 which are generated within the Pinelands? Are the existing disposal options likely to remain at present levels in the future?

b. Beneficial Uses of Waste Derived Materials/Composting

i. This industry suggested the above mentioned amendments to CMP policies will result in the increased beneficial use of waste derived materials.

We further recommend that the beneficial uses of sewage sludge derived compost material be permitted as part of restoration plans at any approved resource extraction sites at levels based upon existing research and future Pinelands-specific research efforts.

The following CMP policy amendments are recommended:

7:50-6.77(a) Categories of Wastes Prohibited be amended so that sludge derived compost be permitted for all land application purposes, including land restoration of resource extraction sites.

7:50-6.77 Restoration standards (for resource extraction operations), be amended to state that topsoil amendments including sludge derived compost be permitted, particularly on those sites which have no existing topsoil. This policy could also be amended to permit the reduced usage of this material on those sites which have existing topsoil.

ii. Ample existing data is available regarding the affects of the use of sludge derived compost for land reclamation. The overwhelming majority of this information is based upon research conducted outside of the Pinelands area. Additional research on the affects of sludge derived compost on the Pinelands ecosystem is suggested; the research recommendations as proposed in the Memorandum of Agreement are supported.

APPENDIX I
ECONOMIC IMPACT OF PERMITS

PERMITTING COSTS IN THE PINELANDS

The permitting recommendations put forth by the resource extraction industry stem from the mounting cost involved in the municipal and Pinelands permit and permit renewal processes. Implementation of these recommendations, along with continued flexibility in the permitting process, will help control costs, support the economic viability of mining operations and ensure the continued flow of this valuable commodity to the economy.

Pinelands mining permit requirements including the surveying of topography, wetlands, and the outbounds of a site; conducting soil borings; the filing of an operational plan and a reclamation plan; and the related engineering and legal work are all done at a cost to the mining operator, not only at the initial application for the permit, but also in the subsequent permit renewal process.

Adding to these costs are requirements at the municipal level. An Environmental Impact Statement which evaluates the impact of the mining activity on air quality, hydrology, geology, soils, topography and slope, drainage, vegetation, wildlife, threatened and endangered species, noise levels, traffic volume, aesthetics, demography, culture, historical and archaeological sites, and environmental impacts is an enormous cost-generating undertaking. Reports on stormwater management, public protection measures, and surface material disposition are also often required. Municipalities have relegated mining to a conditional use, and the costs associated with this approval process as well as the required performance and maintenance guarantees can serve to locally exclude resource extraction activity.

While the majority of these studies investigate valid issues, addressing these issues at the various levels of government and in two-year increments is redundant and costly.

A survey of mining operators within the Pinelands area revealed the range of costs associated with the Pinelands permitting and permit renewal process. While these costs will vary with the size of the land area to be mined, they give an indication of the investment a mining operator must make before starting an operation and every two years thereafter.

The survey includes application and review costs, engineering costs, legal costs, and other costs associated with a new mining permit in the Pinelands and with a renewal of the permit on a two-year basis. Other costs include planning board presentation and bonding, internal preparation of application, and township application fees. Costs are estimated.

Total cost for a new mining permit ranges from a high of \$149,500 to \$25,750. The average cost for a new mining permit is \$60,150. One relatively costly permit has skewed the results somewhat; thus the median cost for a new mining permit is approximately \$32,675. As a percent of the total new permit cost, application and review fees account for 9.8%; engineering fees account for 54.0%; legal fees account for 24.9%; and other fees account for 11.2%.

Total cost for a renewal of a mining permit ranges from a high of \$57,000 to \$6,600. The average cost of a renewed mining permit is \$25,198. The median cost for a renewed mining permit is approximately \$11,600. As a percent of the total renewal cost, application and review fees account for 26.6%; engineering fees account for 43.1%; legal fees account for 17.2%; and other fees account for 13.0%.

PINELANDS PERMIT COSTS SURVEY RESULTS

LOCATION	ACRES	NEW PERMIT COSTS						RENEWED PERMIT COSTS					
		App./ Review	Engineering	Legal	Other	TOTAL	TOTAL/ ACRE	App./ Review	Engineering	Legal	Other	TOTAL	TOTAL/ ACRE
Estell Manor	200							26,000	10,000	10,000	10,000	56,000	280
Maurice River Twp	1,400							2,954	20,960	1,070		24,984	18
Upper Township	227							750	4,600	1,250		6,600	29
Winslow Township	780	9,500	75,000	45,000	20,000	149,500	192	9,500	22,500	15,000	10,000	57,000	73
Monroe & Franklin Twps		4,500	13,750	5,000	2,500	25,750		2,100	6,000	1,000	1,000	10,100	
Monroe Township	210	5,100	27,500	5,000	2,000	39,600	189	3,600	6,000	1,000	1,000	11,600	55
TOTAL		23,600	130,000	60,000	27,000	240,600		47,004	76,060	30,320	23,000	176,384	
AVG.		5,900	32,500	15,000	6,750	60,150		6,715	10,866	4,331	4,600	25,198	
MEDIAN		4,800	20,625	5,000	2,500	32,675		2,954	6,000	1,070	1,000	11,600	

SOURCE: New Jersey Concrete and Aggregate Association
John Rahenkamp Consultants, Inc.

APPENDIX II
RIGHT TO MINE

RESOURCE EXTRACTION IN THE PINELANDS

It is the position of the Resource Extraction Industry, with operations in the Pinelands, that the right to continue to engage in resource Extraction in the Pinelands was not taken away by the Pinelands Act. The basis for this position is formed on the presence of wording in the Pinelands Act that mandates recognition of existing economic activities assuring the rights of existing operations. Of equal importance is the historical significance that resource extraction in the Pinelands has made in the founding of our Nation and in the development of New Jersey and many Pinelands Communities. Finally the power to zone under the Municipal Land Use Law does not provide the right to preclude existing land uses, only to designate them non-conforming uses. The taking of private property for public use requires just compensation under the fifth amendment to the Constitution of the United States and under Article I of the Constitution of the State of New Jersey.

Existing Economic Activity

The high quality silica sands of the New Jersey coastal plain are unique and important resources to many industries in New Jersey. At the time of adoption of the Pinelands Act, there was a well developed and important resource extraction industry in the Pinelands producing construction sand and gravel, foundry sand, glass sand, filter sand, filter gravel, sand blast sand, and other important sand products. Heavy mineral sands were also being extracted for ilmenite.

The resource extraction industry in the Pinelands had its beginnings prior to the Revolutionary War and has continued to this present day. From supplying George Washington's Army with cannon balls made at Batsto from bog iron and foundry sand mined in the Pinelands, to supplying ingot mold sand to the sand mined in the Pinelands from the 1700's to the present led to the development of a major glass making industry which in turn established a basis for many other industries to locate in New Jersey including major breweries, drug manufacturers, perfume companies, and laboratory equipment producers.

This one resource, silica sand, has had a profound effect on the development of the Country and the economy of New Jersey. If the right to mine is taken away in the Pinelands the State would suffer significant economic losses.

The recognition of the right to mine in the State of New Jersey is fundamentally important to preserving the basis of economic activity in the manufacturing sector of the State.

The Right By Legislative Mandate

In Executive Order No. 71, Governor Brendan Byrne on February 8, 1979, set forth the criteria for the development of the Comprehensive Management Plan for the Pinelands. In section three, page four of this Order it says;

"recognize existing economic activities within the area and provide for the protection and enhancement of such activities as farming, forestry, proprietary recreational facilities, and thus indigenous industries and commercial and residential developments which are consistent with the findings and purpose of this section."

This same wording is found in Public Law 95-625, November 10, 1978, 95th Congress, (92 Stat. 3467), preceding the Governor's Executive Order. Again this same wording is found in New Jersey Public Law 1979, Senate No. 3091, approved June 28, 1979, following the Governor's Executive Order.

In the Final Environmental Impact Statement prepared by the U.S. Department of the Interior for the Proposed Comprehensive Management Plan for the Pinelands National Reserve, page 5.28, it says "Accurate figures on the extent of sand and gravel extraction operations in the Pinelands are not readily available, but they are known to be extensive and to be important to the regional economy."

In the section of the Final Environmental Impact Statement that reviews the alternative of adoption of the Comprehensive Management Plan, page 6.34 section h. Resource Extraction, it says;

"In this alternative, existing resource extraction operations throughout the Pinelands are permitted to continue for an indefinite period. However, if the operations are taking place in a Pinelands district designated for Regional Growth, Agricultural Production, or Preservation, its future expansion might not exceed that area authorized under its State registration certificate or a valid municipal permit. Existing operations within the Forest and Rural Development Districts are permitted to expand indefinitely."

"New extraction operations will be permitted in all areas but the Preservation Area District and the Special Agricultural Production Areas, which comprise about 161,000 acres of private land."

In the book Protecting the New Jersey Pinelands, 1988, page 200, it says "No application for resource extraction permits were denied by the commission in six years of the plan implementation. All the permitted activities were for sand and gravel mining, one of the indigenous Pinelands economic activities that by legislative mandate is to be encouraged."

The right to continue resource extraction operations was clearly mandated by the Pinelands Act not only based on it's current economic importance but also because of the historical significance of mining to the Pinelands. In the Pinelands Management Plan, Part VI-Resource Extraction, section 7.50-6.61 Purpose, it says "Sand, gravel, clay, and ilmenite are important Pinelands resources that have been mined in the past."

In a letter to resource extraction industry representatives from Robert Zampella and Michael Bolan of the Pinelands staff, dated July 1, 1980 it was stated "As expressed at this meeting, the Commission is interested in encouraging those indigenous industries which are compatible with maintaining the character of the Pinelands. The intent of the extraction industry program is not to eliminate the industry from the Pinelands."

History of Mining in the Pinelands

By the year 1776, the Pinelands had an important mining industry involved in extracting bog iron and foundry sand for the manufacturing of cast metal products. From the Batsto Furnace, located in Burlington County, came cannons and shot for the American Revolution. In Ocean County important forges were the Wright Forge and Washington Furnace and in Atlantic County was the Weymouth Furnace. Iron production occurred at a number of sites in the Pinelands and came to a close in the mid 1800's as lower cost operations opened in other sections of the country.

As iron production was slowing at Batsto, glass production was started with shipments to New York City in 1846 and continued to 1866.

The high quality silica sand found in the Pinelands was being mined for glass making for many years before Batsto entered the business and remains an important resource and industry to this day. In 1738 the first successful glass making operation in North America was started in Alloway, New Jersey in Salem County. Eagle Glass Works was started in 1700 by James Lee in the Pinelands Village of Port Elizabeth. In 1806 James Lee started to make window glass in Millville. Several glass plants were merged into one Company in 1854, and the new company was called Whithall, Tatum, and Company. In 1938 this Company was purchased by Armstrong Cork Company and is now owned and operated by Foster Forbes Glass Division of National Can Inc.

In Description of the Geology of the State of New Jersey, 1840, the importance of the glass sand deposits near Millville are described. At this time Millville had five glass-houses using the local high purity silica sands. Theodore Wheaton started in the glass business in 1899 and his descendant today continues to own and operate Wheaton Industries which employs thousands in Millville making glass products.

The shipment of pebbles from southern New Jersey to Philadelphia for roof building is described in Schevichbi and the Strand, 1876. On a map of New Jersey showing location and stratigraphic classification of sand deposits from Industrial Sands of New Jersey, 1956, construction sand mining is shown to be active in every Pinelands County and Industrial sand in every county but Monmouth.

Municipal Land Use Law

In the Municipal Land Use Law, section c. 40:55D-5 Definitions, "Nonconforming use means a use or activity which was lawful prior to the adoption, revision or amendment of a zoning ordinance, but which falls to conform to the requirements of the zoning district in which it is located by reasons of such adoption, revision or amendment."

In section C. 40:55D-68 Nonconforming structures and uses, "Any nonconforming use or structure existing at the time of the passage of an ordinance may be continued upon the lot or in the structure so occupied and any such structure may be restored or repaired in the event of partial destruction thereof."

The Municipal Land Use Law clearly states that the existing use of a property cannot be eliminated by zoning regulations. The Pinelands and the municipalities adopting Pinelands regulations cannot violate the Municipal Land Use Law.

LIST OF WORKS CONSULTED

- New Jersey Pinelands Draft Comprehensive Management Plan,
Volume I, June 1980.
- Pinelands Management Plan, Supp. 11-16-87
- Description of the Geology of the State of New Jersey, being a final report,
By Henry D. Rogers, State Geologist,
Philadelphia: C. Sherman & Co. Printers, 1840.
- State of New Jersey Executive Department Executive Order No.
71 N.J. Pine Barrens
- State of New Jersey Pinelands Commission, July 1, 1980,
"Extraction Industry Meeting Comments, June 26, 1980"
- United States Department of the Interior, December 10, 1980
Final Environmental Impact Statement on the Comprehensive
Management Plan for the Pinelands National Reserve.
- Johnson, Virgil S.. Millville Glass: The Early Days. Millville:
Delaware Trading Co., Inc., 1971.
- Martens, James H. C.. Industrial Sands of New Jersey. New
Brunswick: Rutgers University Press, 1956.
- Pierce, Arthur D.. Iron in the Pines. New Brunswick: Rutgers
University Press, 1957.
- Wheeler, Edward S.. Scheyichbi and the Strand or Early Days Along
The Delaware. Philadelphia: J. B. Lippincott & Co., 1876.
- Our Great State Papers. New York: Holt, Rinehart and Winston, Inc. 1966.
- Municipal Land Use Law Chapter 291, Laws of N.J. 1975.
New Jersey Federation of Planning Officials, 1988.
- Cunningham, John T.. This is New Jersey. New Brunswick:
Rutgers University Press, 1978.
- Cawley, James and Margaret. Exploring the Little River of New Jersey.
New Brunswick: Rutgers University Press, 1971.
- McPhee, John. The Pine Barrens. New York: Farrar, Straus and Giroux 1968.

Beck, Henry Charlton. *Forgotten Towns of Southern New Jersey.*
New Brunswick: Rutgers University Press, 1961.

Collins, Beryl Robichaud and Russell, Emily W. B.
Protecting the New Jersey Pinelands.
New Brunswick: Rutgers University Press, 1988.

Boyer, Charles. *Early Forges and Furnaces in New Jersey.*
Philadelphia: University of Pennsylvania Press, 1931.

Widmer, Kemble. *Volume 19, the New Jersey Historical Series, the
Geological and Geography of New Jersey.*
New York: D. Van Nostrand Co., Inc., 1964.

Industrial Directory of New Jersey. Newark: New Jersey State Chamber
of Commerce, 1931.

Kummel, Henry B.. *The Geology of New Jersey.*
Bayonne: Jersey Printing Company, 1940.

APPENDIX III
PRIOR CORRESPONDENCE



New Jersey Concrete and Aggregate Association

770 River Road • West Trenton • New Jersey 08628

(609) 771-0099
FAX (609) 771-1729

December 10, 1991

William J. Cleary
Executive Director

Mr. Terrence D. Moore
Executive Director
The Pinelands Commission
P.O. Box 7
New Lisbon, N.J. 08064

Dear Mr. Moore:

The NJCAA represents the ready mix concrete and surface mining interests throughout New Jersey. Many of our members maintain facilities in the Pinelands region and of course are interested in any changes you are considering in the Pinelands Comprehensive Management Plan (CMP). The CMP in the past has consistently referred to the importance of the mining industry to this region.

NJCAA, through our Pinelands Resource Extraction Advisory Committee (PREAC), has been meeting over the past year with Mr. Charles Horner and Ms. Karen Young of your staff. We appreciate their cooperation and suggestions. In addition, we would like the Commission and staff to be aware of our concerns.

The mining industry in New Jersey dates back to the Revolutionary War and has continued to this day. It is estimated that in 1988 the non-fuel mineral production for the state was \$226 million. Employment in the industry directly is around 2400 people with related industries who depend on our products averaged at about 165,000 people.

Construction sand and gravel was the State's second leading mineral commodity produced, accounting for 27% of the State's mineral value. Construction sand and gravel was produced by approximately 60 companies in 15 of the State's 21 counties. Leading counties in order of output were Ocean, Camden, Cumberland, Cape May, and Morris with a heavy concentration occurring in the pinelands region.

Major uses were for concrete aggregates, asphaltic concrete aggregates, fill, and roadbase and coverings.

Nationally, New Jersey ranked ninth in industrial sand production in 1989. Industrial sand production in New Jersey also accounted for more than two-thirds of the Northeast region's production, which included the six New England States, New York, Pennsylvania, and New Jersey. In 1989, a total of 7 companies operated 18 pits in 6 counties and produced 1.8 million short tons valued at \$26 million. Cumberland County, where most of the operations were located, was the largest source of glass, foundry, and blast sand in the Northeast region of the United States.

Members of the NJCAA extract sand, gravel and crushed stone, for use in construction and industrial products. While the overwhelming majority of "aggregates" are used for construction purposes, there are other significant uses, including those for water filtration and other means of pollution control. These minerals can only be extracted from deposits where they are found in nature. Since transportation costs double the cost of the product approximately every 20 miles from ultimate use, economic imperatives dictate excavation or mining in close proximity to the site of use. In the case of sand and gravel, which are unconsolidated rock materials, close to 50% of all commercially viable deposits are in the alluvium or floodplain, and under current definitions, are located in "wetland" areas.

Excavation of aggregate materials often leads to the creation of water bodies where none existed before, and reclamation activities can be designed to enhance and restore wetlands. Many operations are "wet process" and include excavation below the water table.

The two basic extraction methods are open pit excavation or quarrying, and dredging. Open pit excavation and processing has four major steps: (1) site clearing --- removing trees and vegetation and stripping overburden and topsoil, and transporting, redepositing, or stockpiling it at or off the site; (2) mining --- removing the material from the deposit; (3) processing --- crushing, screening, sizing, washing, blending, and stockpiling the mined material to conform to standards and specifications; and (4) reclamation of the extraction area.

Dredging usually involves mounting the equipment on boats or barges. Suction or bucket-type dredges are used most commonly to harvest sand and gravel from the bottom of a body of water. The material is processed either on board or transported to land for processing.

In terms of beneficial functions and values, wetlands areas created by mining can: (1) provide habitat for many species of fish and wildlife; (2) reduce flooding problems by temporarily storing large quantities of water, and by curbing the velocity of flood water; (3) help to maintain water quality by filtering out pollutants and sediments; (4) control erosion by trapping soil washed from nearby farmland; (5) are a source of recreation; and (6) are a source of timber and other natural products for commercial use.

The NJCAA agrees that especially important wetland resources must be preserved and its industry members are prepared to play a unique role as creators and restorers of new and degraded wetlands as part of its normal activities associated with the extraction of aggregates and subsequent land reclamation. In order to do this in a manner that protects and enhances wetland functions and values without undue economic impact devoid of environmental benefit, the NJCAA is preparing to present its views over proper wetlands activities to the Commission at its convenience.

Many of our members own and operate their facilities in Southern New Jersey and are regulated by the Pinelands Commission. With the time nearing for review of the Comprehensive Management Plan, we as an association would like to address the committee and make a full presentation on the following suggested changes to the C.M.P.;

1. General Permitting:

A. Certificate of Filing Duration

Presently our industry is required to renew its Pinelands approval every two years. Due to the expense involved, complexity of the filing, and the redundant review by municipalities, we are requesting a five-year permit.

B. No Call Up Approval

Pursuant to the above request, the renewal date should be consistent with the "No Call Up Letter Date."

C. 20 Acres Development Cells

Request that current approval of 20 acres per site of extraction be increased to up to 100 acres per site of extraction at the option of the extractor. This change is being requested due to the fact that many different types of sand may be located (and in demand) on a particular site.

D. Plan Review Period

Request that the present review response time by the Pineland's staff members be shortened to 15 days down from 30 days on renewal applications, however, 30 day review period should continue for new applications.

E. Depth Of Excavation

Present language of depth of excavation be changed from 65 feet from existing ground surface to 65 feet below the water table.

F. Sloping

New language regarding slope of excavation below the waters edge as follows. "All resource extraction facilities that remove minerals below the surface water level will be required to maintain a slope of not more than 3 feet horizontal for every 1 foot of vertical up to a depth of 7 feet below the surface of the water. Beyond that water depth the excavation will be allowed to stay in its post excavation slope."

2. Reclamation

- A. Vegetation required for reclamation is limited to a very restrictive listing of species which does not represent the existing natural

vegetative diversity of the Pinelands. We request that this list be expanded to reflect the vegetative diversity of the Pinelands by using a comprehensive listing of native Pinelands species such as appears in the Pinelands Delineation Manual.

3. Wetlands

A. Mitigation

Institute a plan for mitigation as per federal regulations.

B. Wetlands Definition

Adopt the definition of wetlands that would make the pinelands consistent with Federal and State definitions.

C. Buffer Relief

Allow buffer relief as per N.J.D.E.P.E. Freshwater Wetlands Protection Act. This will make Pinelands regulations consistent with the rest of the state.

D. Wetlands & Buffer Permit

Provide mechanism that allows permitting of development within buffers and wetlands consistent with State and Federal guidelines.

We would appreciate your review of our industry's requests, and the opportunity to make a fully documented presentation to the committee to factually support these requests.

Sincerely,

William J. Cleary

William J. Cleary, CAE
Executive Director

WJC:pvh



New Jersey Concrete and Aggregate Association

770 River Road • West Trenton • New Jersey 08628

(609) 771-0099
FAX (609) 771-1729

January 29, 1992

William J. Cleary
Executive Director

The Pinelands Commission
P.O. Box 7
New Lisbon, New Jersey 08064

Attn: Terrence D. Moore
Executive Director

RE: NJCAA Comments on PCMP Review

Dear Mr. Moore:

The New Jersey Concrete and Aggregate Association (NJCAA) would like to thank the Commission for the opportunity to elaborate on our comments recently forwarded to your attention at the Public Comment meeting held January 16, 1992 in Pemberton. I hope that the meeting provided a better understanding of the aggregate industry's goals and concerns regarding the future of the industry within the Pinelands Area.

I would like to clarify a point which was discussed during the meeting; this point was erroneously stated in our comments letter to you dated December 10, 1991. This clarification involved "Item F" of Page 4 of that letter, which deals with the sloping of excavation along shorelines. The specific standard referenced in the PCMP is NJAC 7:50-6.67(a)6, which states that "any body of water created by the resource extraction operation shall have a graded shoreline with a slope not to exceed one foot vertical to five feet horizontal. Our comment on this standard as given in my December 10, 1991 letter mentioned a slope of one foot vertical to three feet horizontal along shorelines. The one foot vertical to three feet horizontal is the required maximum slope of restored areas (as given at NJAC 7:50-6.67(a)3, not the slope along shorelines.

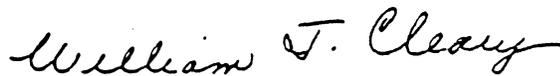
Page 2
January 29, 1992
Mr. Terrence D. Moore

This point (of error) was raised as a question by Commissioner Darlington, who was understandably confused by our comment in my letter.

What our comment should state is that we wish NJAC 7:50-6.67(a)6 be amended to replace the vague reference to a "graded shoreline" with "a shoreline graded to a slope not to exceed one foot vertical to 5 feet horizontal to a depth of 7 feet below the surface of the water within the waterbody. In this way, everyone is clear as to exactly how far the grading for the shoreline should extend. When this industry has discussed this with Charles Horner and Karen Young of your staff during our Pinelands Resource Extraction Advisory Committee meetings, they have indicated that the pending review would present a good opportunity to get this point clarified. That is what we have attempted to do.

My apologies for any confusion which may have arisen, and I hope that any confusion is now resolved. If you have any further question regarding this or any other matters, please do not hesitate to call me.

Sincerely,



William J. Cleary, CAE
Executive Director

WJC/pvh
cc: Thomas Darlington

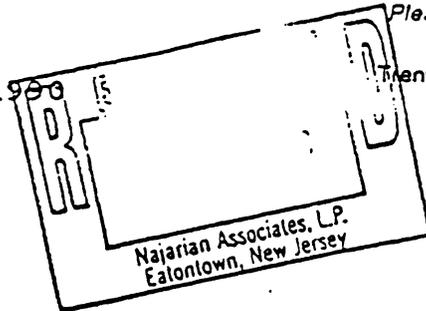


State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON

Division of Coastal Resources

November 14, 1988

Please address reply to:
CN 401
Trenton, N.J. 08625-0401



Mr. Raymond Walker
Najarian Associates, L.P.
One Industrial Way West
Eatontown, New Jersey 07724

Dear Mr. Walker:

This is in response to your request for a clarification on the jurisdiction of the Freshwater Wetlands Protection Act (the Act) on mining activities.

In the case of an upland, where wetlands or open waters have formed as a result of mining activities, mining operations which were ongoing before July 1, 1988, will be allowed to continue and will not be regulated. However, any expansion of mining operations into wetlands, State open waters or transition areas will be regulated by the Act unless the expansion was part of a subdivision or site plan approval qualifying for an exemption pursuant to N.J.A.C. 7:7A-2.7(d). Once these operations are abandoned, the State will assert jurisdiction over all wetland and water areas as Waters of the State.

In the case of a wetland area where mining activities have been legally ongoing before July 1, 1988, the Department will again allow these operations to continue in freshwater wetlands to the extent that the freshwater wetlands were converted to non-wetland areas prior to that date. Any encroachment into wetland areas existing as of July 1, 1988 will require a permit under the Act.

Please be aware that while some of these mining activities may qualify for an exemption under the Act, they may still be subject to federal jurisdiction.

If you have any additional questions regarding mining activities, please contact Robert Piel of my staff at (609) 633-2289.

Sincerely,


Robert Tudor,

Assistant Director



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
CUSTOM HOUSE—2 D & CHESTNUT STREETS
PHILADELPHIA, PENNSYLVANIA 19106-2901

DEC 05 1990

Regulatory Branch

SUBJECT: CENAP-OP-R-90-1626-1 (JD)

David Bell, Ph.D.
EcolSciences, Inc.
1 Bank Street
Rockaway, New Jersey 07866

Dear Dr. Bell:

This is in regard to your letter of July 18, 1990, on behalf of Baer Aggregates, Inc., concerning Department of the Army jurisdiction over an on-going quarry activity on a property identified as Lot 12 of Block 96 in the Township of Pohatcong, Warren County, New Jersey.

Pursuant to Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act, a Department of the Army permit is required for work or structures in navigable waters of the United States and the discharge of dredged or fill material into waters of the United States including adjacent and isolated wetlands. Any proposal to perform the above activities within the area of Federal jurisdiction will require the prior approval of this office.

Based upon the information you have provided, it has been determined that the open water areas and their adjacent wetlands which exists on the subject property within the quarry site are not waters of the United States. This determination is based upon the information which indicates that these areas have been created as the result of an on-going quarry activity.

This letter is valid for a period of five (5) years. However, this jurisdiction determination is issued in accordance with current Federal regulations based upon the existing site conditions and information provided by you in your application. This office reserves the right to reevaluate and modify the jurisdictional determination at any time should the existing site conditions or Federal regulations change, or should the information provided by you prove to be false, incomplete or inaccurate.

If you should have any further questions regarding this matter, please contact Mr. Edward Bonner at (215) 597-4722 between 1:00 p.m. and 3:30 p.m. or write to the above address.

Sincerely,

Richard A. Hassel
Assistant Chief, Regulatory Branch

Ecol Sciences
RECEIVED
DEC 7 1990
Rockaway, New Jersey
07866

Township of Barnegat

COUNTY OF OCEAN

MAY 12 1992

900 WEST BAY AVENUE
BARNEGAT, NEW JERSEY 08005
Municipal Offices: (609) 698-7832
Fax # (609) 698-8616



REFER TO: _____

FILE #: _____

February 6, 1992

Pinelands Commission
P. O. Box 7
New Lisbon, NJ 08064

Ref: Resource Extraction Pineland Areas
File No: 91-A-211

Dear Pinelands Commission:

The Township of Barnegat, Ocean County, would like to make known that the Township Planning Board has voted to provide the following input to the Resource Extraction component of the Pinelands Regulations.

The Township of Barnegat's Planning Board is OPPOSED to the following:

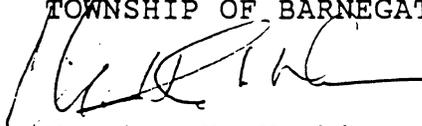
1. Extension of the certificate of filing renewal period from 2 years to 5 years.
2. The increase in maximum size of the cell being mined from 20 acres to 100 acres.
3. Increase the maximum permitted depth of excavation from 65 FT below existing ground surface to 65 FT below the water table.

We appreciate the opportunity to provide our input to this important matter.

If you should have any questions, please do not hesitate to contact me.

Very truly yours,

TOWNSHIP OF BARNEGAT


Matthew U. Watkins
Administrator

Solid Waste Management and the Pinelands

Report on Technical Panel Meeting

I. INTRODUCTION

A panel of experts (Appendix A identifies the panelists) met on May 13, 1992 to discuss this topic. In preparation for this meeting, a series of questions to be explored (Appendix B), background information (Appendix C identifies the sources) and public comments received prior to the meeting (Appendix D) were provided to each participant. Public comments received subsequent to the meeting are included in Appendix E of this report.

Mr. Stokes and Mr. Liggett served as workshop coordinators and panelists were asked to freely express their opinions as individual experts and not as representatives of an agency or organization.

II. PURPOSE OF THIS REPORT

This report is intended to summarize key discussion points and present all recommendations offered by any of the participants. A tape recording of the entire seven (7) hour session is available for review at the Commission's offices. Since different opinions were offered by panelists, the report also attempts to indicate the level of consensus reached on various discussion points and recommendations.

Recommendations are described throughout the text in **bold** and are numbered sequentially. Because this particular workshop was the fifth in a series held by the Commission, each recommendation begins with the number 5. For ease of reference, a table has also been prepared which identifies each recommendation presented by one or more panel members. The table also includes staff estimates of the resources and time needed to carry out the recommendation and other information which the Commission may wish to consider when deciding which recommendations should be pursued.

III. KEY FINDINGS AND RECOMMENDATIONS

The panel's initial discussion focused on several different roles the Commission could assume in developing and implementing solid waste policies and a variety of alternatives regarding the siting of various solid waste facilities in the Pinelands. Ultimately, the panel reached a consensus that the special nature of the Pinelands require that Pinelands specific regulations be developed and that those regulations should be designed to discourage facility siting in the less developed and least disturbed

areas of the Pinelands. There was also consensus that Pinelands policies should generally discourage facilities designed to handle waste generated elsewhere but should also allow for exceptions where a comprehensive approach clearly benefits Pinelands protection. Many of the following recommendations embrace these approaches.

A. Role of the Commission in Establishing Solid Waste Management Policies.

Several alternative roles for the Commission to consider in the management of solid waste activities were offered by the panel.

Recommendation 5.01a The Commission should enter into a partnership agreement with the New Jersey Department of Environmental Protection and Energy (DEPE) and the solid waste management districts to cooperatively create and implement Pinelands solid waste policies.

It was suggested that this approach would recognize all three government interests as equal partners and discourage the use of the Pinelands Plan to unilaterally thwart solid waste initiatives. It might also result in greater Commission involvement in decision making beyond the legislative boundaries of the Pinelands.

This alternative, along with (b) below, appeared to receive the greatest support among the panelists.

Recommendation 5.01b Establish an independent regulatory framework with affirmative Pinelands oriented goals.

In this approach, the Commission would independently establish solid waste policies for the Pinelands (as it does now), but would assume responsibility for developing affirmative and proactive programs to ensure that its policies are successfully implemented. One panelist stressed the belief that, with a strong regulatory framework on solid waste, the Commission has a responsibility to strive for workable waste management solutions. Even though it would continue to exercise independent regulatory authority, it was suggested that state and county agencies be consulted on a continuing basis. It was also suggested that this approach might establish the Commission as a stabilizing force in solid waste management in the Pinelands; however, others cautioned that the Commission ought to consider and learn from mistakes attributed to the Meadowlands.

This alternative, along with (a) above, appeared to receive the greatest support among the panelists.

Recommendation 5.01c Rely on statewide policy and seek to influence and ensure its implementation where appropriate.

This approach would recognize the state's pre-eminent role in establishing solid waste policy in New Jersey. The Commission would seek to influence state policy when it felt that the Pinelands warranted special attention but, once the policies were set, the Commission would ensure that they could be implemented, as appropriate, within the Pinelands.

Two panelists opposed this approach on the basis that the protection against importation of waste might be eliminated.

Recommendation 5.01d Play an advisory role to DEPE and the solid waste management district agencies.

This approach is similar to (c) above, but the Commission would assume less of an advocacy role and more of an advisory role relative to natural resource issues.

Two panelists opposed this approach for the reasons cited in (c) above.

B. Recommendations on Facility Siting

There was a lengthy discussion of techniques for managing solid waste, and the facilities attendant to them. Table I illustrates the range of such facilities.

After some discussion about siting facilities on the basis of type, size and Pinelands management area, the panel decided that certain types of facilities (e.g., those which are more experimental in nature) should not be permitted in the Pinelands and others should be located close to waste sources and not in areas valued for their conservation or agricultural attributes. These objectives are generally reflected in the following recommendations.

It should be noted that local collection facilities (e.g., transfer stations) and vegetative landfills were not intended by the panel to be controlled by these recommendations.

Recommendation 5.02 Prohibit mass burn incinerators in the Pinelands.

Of the many types of solid waste facilities considered by the panel, the majority of panelists believed that mass burn solid waste incinerators are inherently inappropriate to be located in the Pinelands. It was noted that exceptions for certain small scale, specialized waste streams from Pinelands sources should be permitted, e.g., incinerating medical waste from a hospital.

Table I
 Major Types of Facilities Associated
 With Various Solid Waste
 Management Activities

<u>Activity</u>	<u>Facilities</u>
Collection	Convenience Centers Container Pick-Up Facilities Transfer (only) stations
Separation	Materials Recovery Facilities (extracts recyclables) Recycling Centers (reduces volume and packages source separated waste), either general or limited duration: - Traditional - Construction debris - Other (e.g., hazardous) Intermediate Processing Facilitie (I.P.F.)
Re-use	Industry - asphalt (e.g., tires, oil contaminated soils) - concrete - other Refuse derived fuel facilities
Conversion	Composting (aerobic) - sludge derived - vegetative - mixed municipal solid waste - source separated solid waste Anaerobic digestion Sludge "packaging" (e.g., pelletization) Incineration - Mass burn facilities - Specialized waste burn facilities (e.g., medical)
Disposal/Reuse Sites	Land application sites - sludge - compost Landfills - construction debris - vegetative waste - municipal solid waste - other waste

Recommendation 5.03 Prohibit composting facilities for mixed municipal solid waste in the Pinelands.

Several panel members recommended that composting facilities for mixed municipal solid waste should be prohibited in the Pinelands because they are still experimental in nature. The quality of the waste stream is variable and may produce a compost product which creates water quality and odor problems.

In response to these objections, one panel member stated that these problems may be corrected in time via technological innovations. Another member stated that both mass burn facilities and mixed solid waste composting facilities, if properly screened and sited, could be permitted in the Pinelands.

The panel generally appeared to support this recommendation.

Recommendation 5.04 Encourage source separation of hazardous materials from municipal waste streams.

As an outgrowth of Recommendation 5.03, one panelist suggested that the Commission actively encourage source separation of hazardous materials in municipal solid waste. If successful, composting of municipal solid waste in the Pinelands would be permitted. There were no objections to this recommendation.

Recommendation 5.05 Prohibit hazardous waste processing facilities in the Pinelands.

A consensus was reached that hazardous waste processing facilities (note: processing does not include remediation sites and transfer facilities) are inherently inappropriate to be located in the Pinelands.

Recommendation 5.06 Prohibit landfills for municipal solid waste in the Pinelands.

A consensus was also reached that new landfills for municipal solid waste are inherently inappropriate to be located in the Pinelands. It should be noted that the panel did not discuss siting requirements for purely vegetative waste landfills.

Recommendation 5.07 Limit separation, reuse and conversion facilities (with the exception of mixed municipal solid waste composting and mass burn incineration; see Recommendations 5.02 and 5.03) to Pinelands Regional Growth Areas and Pinelands Towns. There was general support among the panel for this recommendation. Several panelists suggested that the Commission be flexible in permitting alternative locations if Regional Growth Area and Town Area sites are not available. The Comprehensive Management Plan's (CMP) waiver standards were then discussed and no specific recommendation regarding flexibility was offered.

It should be noted that this recommendation, while broad in its scope, was not intended by the panel to limit the siting of local transfer stations for solid or hazardous waste.

Within the framework of this recommendation, four separate alternatives addressing the source of wastes at these facilities were identified. These alternatives are:

1. **Limit waste accepted at these facilities to that which originates from Pinelands municipalities and from other municipalities within the counties of Atlantic, Burlington, Cape May and Ocean.**
2. **Limit waste to be accepted at these facilities to that which originates from any municipality within the seven Pinelands counties.**
3. **Limit waste in accordance with #1 above, but allow for exceptions if the facility will be accepting relatively small, specialized types of waste.**
4. **Limit waste in accordance with #2 above, but allow for exceptions if the facility will be accepting relatively small, specialized types of waste.**

Alternative 1 reflects current CMP policy, which limits non-Pinelands waste to those counties with 50% or more of their land mass within the Pinelands. Alternative 2 broadens that policy to include municipalities outside the Pinelands but within any of the seven Pinelands counties.

Alternatives 3 and 4 allow waste from other areas to be imported in limited cases. Although a couple of examples (medical waste and tires) were cited and two panel members suggested that the exception might be invoked upon a reasonable showing that sites outside the Pinelands were not available, the panel did not discuss other specifics as to how such an exception might be structured.

Recommendation 5.08 Consider exceptions to facility prohibitions where necessary to remediate hazardous waste sites.

One panel member recommended that the prohibition of hazardous waste processing facilities (Recommendation 5.05) not apply in cases where they are necessary for hazardous waste site remediation. In these instances, the environmental standards of the CMP would apply.

The rest of the panel appeared to support this recommendation because potentially adverse environmental impacts are generally short term and are warranted to facilitate these types of remediation proposals.

Recommendation 5.09 Consider exceptions to facility prohibitions to permit the processing of construction and demolition debris at existing industrial and mining facilities.

The processing of construction and demolition debris at existing industrial and mining facility sites was recommended to be conditionally permissible in the Pinelands. Recycling of waste debris (e.g., concrete aggregate) generated from concrete, asphalt or brick manufacturing facilities, wood recycling facilities, etc., would be permitted as an ancillary use only if compatible with the primary use and secondary in nature.

C. Regional Considerations

The panel also discussed regional approaches to solid waste management in recognition of the fact that the Pinelands includes parts, but not all, of seven solid waste management districts. In general, there was consensus among the panelists that waste management arrangements that are regional in scope are preferable to independent proposals which individually serve each solid waste district.

Recommendation 5.10 Study how to encourage regional facilities to serve multiple Pinelands municipalities and determine which types of facilities should be so encouraged.

The panel recommended that, in general, the Commission should encourage the siting of regional facilities because impacts are likely to be reduced. Such a policy would be consistent with DEPE's evolving regionalization policies and the partnership role described earlier in Section A.

The purpose of the evaluation recommended here is to determine what types of waste management activities might benefit from regionalization, how regional facilities might be handled within the Pinelands, and what steps could be taken to promote the development of appropriate regional facilities.

Recommendation 5.11 Prohibit the siting of regional or large subregional composting facilities in the Pinelands.

During its discussion, the panel recognized that some waste management facilities may be more appropriate to be developed at smaller than regional scales. Although this issue could be evaluated as part of the study recommended above, many panelists felt that composting facilities should not be designed to handle excessively large waste streams. For this reason, a recommendation was offered that regional and large subregional composting facilities of all types not be permitted in the Pinelands.

Recommendation 5.12 Permit exceptions to waste importation limitations when part of a regional approach towards solid waste management.

The panel discussed situations where it may be advantageous for the Commission to permit a waste processing facility in the Pinelands which will handle certain wastes from outside the Pinelands. This would only apply if it is part of a comprehensive regional plan which results in other Pinelands generated wastes being handled by facilities outside the Pinelands. The cooperative agreement between Atlantic and Mercer counties was cited as an example of this type of arrangement.

These types of arrangements might be implemented through memoranda of agreement between the Commission and the involved solid waste districts but should only be considered if the net result benefits Pinelands protection.

Recommendation 5.13 Create a committee of municipal and county representatives to explore regional solutions.

This recommendation was offered as a means to involve local government representatives in the evaluation of regional approaches and to promote regional solutions which are determined to be of benefit to the Pinelands and the solid waste districts.

D. Performance Standards

Much of the panel's discussion in this regard focused on composting and the application of compost in the Pinelands, the reuse of contaminated soils and the closure of landfills.

Recommendation 5.14 Require "closed" composting facilities for non-vegetative waste.

Enclosing most types of composting facilities with an impervious cover was recommended by several panel members.

Two panel members recommended prohibiting non-vegetative composting facilities without an impervious cover in the Pinelands based on potential groundwater impacts.

Recommendation 5.15 Permit the reuse of waste oil from oil-contaminated soil in manufacturing processes (e.g., for road paving asphalt).

Modification of the existing CMP standard which prohibits the disposal of oil-contaminated soil in the Pinelands was recommended by several panelists. The panel recommended that the reuse of oil into the asphalt manufacturing process for road paving purposes should be permitted for soil concentrations at varying ranges.

DEPE standards for oil-contaminated soil are as follows: 0 to less than 100 ppm is classified as "non-waste;" from 100 to less than 30,000 ppm is classified as "solid waste;" concentrations that exceed 30,000 ppm are classified as "hazardous waste."

The reuse of oil-contaminated soil in manufacturing processes was recommended for soils with concentrations that range from zero to 30,000 ppm provided that storage and processing facilities are enclosed and runoff is managed to prevent groundwater contamination.

Soil with concentrations that exceed 30,000 ppm would not be allowed to be reused in the Pinelands. This recommendation was based on a concern about DEPE's limited resources to monitor these sites.

Recommendation 5.16 Permit the direct application of oil-contaminated soils not classified as a waste by DEPE in road paving projects and other similar instances.

The direct application of fuel oil contaminated soils at concentrations up to 100 ppm in protected situations, such as road paving, was also recommended. However, concerns were raised regarding the potential for leachate contamination of the underlying groundwater. Since several panel members felt that safeguards to protect Pinelands aquifers may not be adequate, no consensus was reached on the reuse of contaminated soils in this manner.

Recommendation 5.17 Require applicants to finance independent monitoring of all sites where oil-contaminated soil is land applied.

If the Commission supports Recommendation 5.16, the panel recommended that applicants be required to establish an escrow account with the Commission so that independent monitoring may occur at all sites where oil-contaminated soil is land applied. It was pointed out that liability concerns would probably deter applicants from violating the zero to 100 ppm standard.

Recommendation 5.18 Implement the pending agreement between DEPE and the Commission on the use of sludge-derived products.

Currently, the Commission has a memorandum of agreement pending with DEPE on the use of composted sludge. The agreement proposes, among other things, to prohibit the application of sludge-derived products in the Preservation Area District and the Special Agricultural Production Area, generally limit application rates in other areas to one-half inch, establish procedures for reviewing land application proposals, and initiate an ecological monitoring program at several sites.

The panel recommended that this agreement be implemented by both the Commission and DEPE. One component of the agreement, the initiation of an ecological monitoring program, was discussed in some detail by the panel.

Specifically, the panel recommended that a pilot program be established to test the viability of using a single application of composted sludge on mined reclaimed sites in the Pinelands. Since composted sludge allows a slower release of nitrogen than commercial fertilizers, the use of sludge might be a desirable alternative for reclamation purposes. However, since the environmental effects of this alternative have not been fully documented, the pilot program should closely monitor any adverse impacts on water quality and Pinelands vegetation.

Water quality monitoring should focus on nitrate levels and on the introduction of heavy metals and other contaminants into the water supply. Changes in site vegetation composition should be monitored to identify significant growth of non-indigenous plant species introduced as seeds in the compost product.

The pilot program should require a single application of grades A and B-type composted sludge onto soil types that are essentially compatible with the sludge product. The grade of sludge recommended was based on minimizing the potential for introducing contaminants into the soil.

It was noted that the timing of the establishment of the pilot program would have a bearing on the Commission's ability to control the content of the sludge product. The product is now regulated by DEPE but is expected to enter the private market as a commodity in the near future.

Recommendation 5.19 Permit land application of compost derived from source-separated municipal solid waste with an on-site monitoring program.

For source-separated municipal solid waste compost, it was recommended that land application be permitted only in conjunction with an on-site monitoring program to trace nitrates and heavy metals and other contaminants in the underlying groundwater. Use of composted sludge mixed with source-separated municipal solid wastes should be regulated in a similar fashion.

Recommendation 5.20 Prohibit land application of mixed municipal solid waste compost except as part of a limited study and after DEPE has developed standards.

The application of mixed municipal solid waste compost was recommended to be prohibited in the Pinelands until DEPE standards are promulgated and a groundwater monitoring program is developed. Even then, it was recommended that land applications be permitted on a very limited basis until monitoring results are available.

Recommendation 5.21 Do not require impervious cover for closed vegetative and construction debris landfills.

One panel member suggested that the CMP requirement to provide impervious cover when vegetative and construction debris landfills are closed be eliminated upon a demonstration that groundwater contamination would not occur.

Other panelists did not object to the recommendation.

Recommendation 5.22 Do not require impervious cover for certain types of closed municipal landfills.

One panel member suggested that the CMP requirement to provide impervious cover for closed municipal landfills which have not received wastes in over twenty years be eliminated to reduce the financial burden on municipalities.

It was argued that the closure costs for long-standing municipal landfills are significant, and the environmental benefit of capping is questionable because many of these landfills typically contain only household solid wastes. Other panelists noted that this exception should be limited to sites where landfill wastes are known and where follow-up monitoring is guaranteed.

Recommendation 5.23 Seek amendment to existing State Resource Recovery Investment Tax Fund legislation to broaden use for landfill capping.

Modification of existing State Resource Recovery Investment Tax Fund (RRIT) legislation was also recommended by one panel member as a method to provide funding to localities. In order to qualify for RRIT assistance to cap existing landfills under the current legislation, counties (and, generally, municipalities under county solid waste plans) are required to increase their landfill tipping fees. To date, this funding option has not been widely used. One possible explanation for this may be the political infeasibility of raising fees for many localities.

No further discussion on this recommendation occurred.

Recommendation 5.24 Permit flexibility in reuse of closed landfills as a source of financing for capping.

One panel member recommended that the Commission permit greater flexibility in the reuse of closed landfills to help defray the costs of capping, i.e., permit uses not otherwise permitted. Specific land use options were not discussed at the meeting.

IV. PUBLIC COMMENTS

Due to a lack of time, there were no public comments.

Solid Waste Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Policy Framework for Pinelands Commission	5.01a	Partnership agreement with DEPE and SWMDs to create and implement Pinelands solid waste policies.	Admin.	2wm - P 2wm - DR	-	<ul style="list-style-type: none"> o Pinelands protection given equal weight to goals of other agencies o Ensures coordinated governmental policies o Consensus may be difficult to reach because of competing objectives o Question arises as to what policies exist, absent agreement
	5.01b	Establish an independent regulatory framework with affirmative Pinelands oriented goals.	Admin.	6wm - P 3wm - DR	-	<ul style="list-style-type: none"> o Pinelands protection given paramount consideration o Governmental coordination could be pursued but conflicting policies may still exist o Except for affirmative goal setting, reflects current policy framework o Affirmative goals may be difficult, if not impossible, for Commission to implement o Requires greater solid waste management expertise within the Commission
	5.01c	Rely on statewide policy and seek to influence and ensure its implementation where appropriate.	Admin.	Ongoing	-	<ul style="list-style-type: none"> o Commission would assume a "lobbying" role relative to Pinelands protection goals o Pinelands protection may be given less weight than other governmental goals
	5.01d	Play an advisory role to DEPE and SWMDs.	Admin.	Ongoing	-	<ul style="list-style-type: none"> o Commission would not play a major role in setting solid waste policy o Pinelands protection would be a secondary consideration o Pinelands requirements could not inhibit implementation of solid waste plans

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- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Solid Waste Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Facility Siting	5.02	Prohibit mass burn incinerators in the Pinelands.	CMP	-	-	<ul style="list-style-type: none"> o Exceptions for small scale, specialized facilities need to be carefully defined o Generally consistent with current state policies
	5.03	Prohibit composting facilities for mixed municipal solid waste in the Pinelands.	CMP	-	-	<ul style="list-style-type: none"> o Impacts upon several current proposals o May promote source separation
	5.04	Encourage source separation of hazardous materials from municipal waste streams.	Admin.	1wm - PP? 1wm - DR?	-	<ul style="list-style-type: none"> o Methods to "encourage" are unclear o Recommendations 5.03, 5.19 and 5.20 may provide an impetus
	5.05	Prohibit hazardous waste processing facilities in the Pinelands.	CMP	-	-	<ul style="list-style-type: none"> o Will require exportation of Pinelands source hazardous waste
	5.06	Prohibit landfills for municipal solid waste in the Pinelands.	CMP	-	-	<ul style="list-style-type: none"> o Reaffirms existing policy
	5.07	Limit separation, reuse and conversion facilities (not including mixed MSW composting and mass burn) to RGAs and Pinelands Towns. Facilities could service: <ol style="list-style-type: none"> 1. Any Pinelands municipality and Atlantic, Burlington, Cape May & Ocean Counties. 2. Any Pinelands municipality and county. 	CMP	-	-	<ul style="list-style-type: none"> o Limits impacts to "disturbed" areas of the Pinelands o Siting may be controversial due to location within population centers o Reflects current Pinelands policy relative to waste importation o Broadens current Pinelands waste importation policy to include 3 additional counties with relatively small proportions of their land mass in the Pinelands

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Solid Waste Workshop Recommendations

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				Staff(4)	\$\$\$ (5)	
Regional Considerations		3. Alternative #1 above plus exceptions for small amounts of specialized waste.				o May be difficult to define the exceptions o Recommendation 5.12 may offer an alternative
		4. Alternative #2 above plus exceptions for small amounts of specialized waste.				o May be difficult to define the exceptions o Recommendation 5.12 may offer an alternative
	5.08	Consider exceptions to facility prohibitions where necessary to remediate hazardous waste sites.	CMP	-	-	o Reaffirms current policy
	5.09	Consider exceptions to facility prohibitions to permit processing of construction and demolition debris at existing industrial and mining facilities.	CMP	-	-	o Continuation of mine sites will be encouraged o Ancillary use may be difficult to judge
	5.10	Study how to encourage regional facilities to serve multiple Pinelands municipalities and determine which types of facilities should be so encouraged.	Study	4wm - P	-	o Inter-district approaches may be difficult to implement o Commission's role may be questioned o DEPE role needs to be considered
	5.11	Prohibit the siting of regional or large subregional composting facilities in the Pinelands.	CMP	-	-	o May preclude several current proposals under study o May prejudge the results of Recommendation 5.10
	5.12	Permit exceptions to waste importation limitations when part of a regional approach toward solid waste management.	CMP	-	-	o May represent a reasonable alternative to Recommendation 5.07, #3 and 4 o May encourage regional approaches among solid waste districts o Ensuring better overall protection of the Pinelands may be difficult to determine

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Solid Waste Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Performance Standards	5.13	Create a committee of municipal and county representatives to explore regional solutions.	Admin.	1wm - DR	-	<ul style="list-style-type: none"> o Relationship to Solid Waste Advisory Committee needs to be considered o Commission convening may or may not be most constructive avenue o DEPE involvement may be helpful o Can be incorporated into Recommendation 5.10 o Consensus may be difficult to achieve
	5.14	Encourage "closed" composting facilities for non-vegetative waste.	CMP	-	-	<ul style="list-style-type: none"> o Costs to applicants may be high
	5.15	Permit the reuse of waste oil from oil-contaminated soil in manufacturing processes.	CMP	-	-	<ul style="list-style-type: none"> o Enforcement of "waste" classifications may be difficult
	5.16	Permit the direct application of oil-contaminated soils not classified as a waste by DEPE in road paving and similar projects.	CMP	-	-	<ul style="list-style-type: none"> o Enforcement of "waste" classifications may be difficult o Uncertain if adequate safeguards exist to prevent groundwater contamination
	5.17	Require applicants to finance independent monitoring of sites where oil-contaminated soil is land applied.	CMP/ Study	-	-	<ul style="list-style-type: none"> o Costs to applicants may be high o Monitoring would help to address questions on groundwater impacts
	5.18	Implement the pending agreement between DEPE and PC on the use of sludge-derived products.	Admin./ CMP	-	-	<ul style="list-style-type: none"> o Monitoring will require staff involvement o The changing standards and resulting quality make results problematic

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Solid Waste Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
	5.19	Permit land application of compost derived from source-separated municipal solid waste with an on-site monitoring program.	CMP/ Study	-	-	o Unlikely in the near future o Monitoring will require staff involvement
	5.20	Prohibit land application of mixed municipal solid waste compost except as part of a limited study and after DEPE has developed standards.	CMP	-	-	o Variable quality of waste may limit usefulness of study results o Study will require staff involvement
	5.21	Do not require impervious cover for closed vegetative and construction debris landfills.	CMP	-	-	o Difficult to know whether other wastes were landfilled at these sites
	5.22	Do not require impervious cover for certain types of closed municipal landfills.	CMP	-	-	o Difficult to judge type of wastes landfilled
	5.23	Seek amendment to existing State Resource Recovery Investment Tax Fund legislation to broaden use for landfill capping .	Admin.	1wm - DR	-	o Need to coordinate with DEPE
	5.24	Permit flexibility in reuse of closed landfills as source of financing for capping.	CMP	-	-	o Types of possible uses and their impacts need to be evaluated

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

APPENDIX A

"Solid Waste Management and the Pinelands" Meeting

List of Participants

May 13, 1992

<u>Name of Participant</u>	<u>Affiliation</u>
Sukhdev Bhalla	N.J. DEPE, Division of Solid Waste Mgmt. Bureau of Resource Recovery
Rodney Fujita*	Environmental Defense Fund
Ronald Mersky**	Widener University Department of Civil Engineering
H.L. Motto	Rutgers University, Cook College Department of Soils and Crops
Patrick Dillion	Atlantic County Health Department
Lino Pereira	N.J. Advisory Council on Solid Waste
Helen Pettit	Middlesex County Municipal Utilities Authority
Steven Pollock	Ocean County Planning Department
Mary Sheil	N.J. DEPE, Office of Policy & Planning formerly with Division of Solid Waste Management
Robert Simpkins	Burlington County Solid Waste Program
Gary Sondermeyer	N.J. DEPE, Division of Solid Waste Mgmt. Recycling & Planning Program
Judy Shaw	N.J. DEPE, Science & Technical Programs Science & Research Division
Terrence D. Moore	Pinelands Commission, Executive Director
John C. Stokes	Pinelands Commission, Assistant Director, Planning & Mgmt. Workshop Coordinator
William Harrison	Pinelands Commission, Assistant Director, Development Review
Larry Liggett	Pinelands Commission Planning & Research Office Workshop Coordinator

* Panelist attended in place of Sarah Clark, Environmental Defense Fund.

** Panelist was invited but was unable to attend meeting.

"Solid Waste Management and the Pinelands" Meeting

List of Participants (cont'd.)

May 13, 1992

<u>Name of Participant</u>	<u>Affiliation</u>
Robert Zampella	Pinelands Commission Science Office
Kathy Swigon	Pinelands Commission Development Review

APPENDIX B

Solid Waste Management and the Pinelands

Questions Explored at the Technical Panel Meeting

May 11, 1992

Overall Strategy and Policies

1. New Jersey's Solid Waste Management Act creates solid waste management districts which are responsible for devising and implementing solid waste management plans which meet certain statewide goals and policies. Within the Pinelands, constraints have been placed on the use of certain waste management practices; however, the Pinelands Commission has not assumed a primary role in establishing overall solid waste policies or approaches. Should this current practice be continued?
2. If you believe the Pinelands Commission should assume a different role in policy setting, how would you define that role? How would such a role relate to the responsibilities of Department of Environmental Protection and Energy and solid waste management districts?
3. If you believe that the Pinelands Commission's current role is appropriate, do you believe that facility siting, performance and/or other standards tailored to specifically address the Pinelands are needed? Why or why not?

Facility Siting

4. The attached table identifies various solid waste management techniques and facilities that are often attendant to them. Are there other techniques that involve facility development? Are there facilities associated with the identified techniques other than those listed?
5. Which, if any, of the facilities do you believe are inherently inappropriate to be located in the Pinelands? Why?
6. Which, if any, of the facilities do you believe should be permitted anywhere in the Pinelands provided that "routine" siting criteria are met? Why?
7. To what extent are any of the facilities inconsistent with the land use policies of the various Pinelands management areas? Why?
8. Is it appropriate for the Commission to expressly limit the number of various facilities or to require regional facilities as a means to avoid many of the same types of facilities scattered throughout the Pinelands? If so, how would you suggest this be accomplished?

9. To what extent are the direct and indirect impacts of any of the facilities inconsistent with the natural resources of specific Pinelands management areas?
10. Are there other special criteria that should be applied when considering the siting of any of these facilities in the Pinelands?
11. To what extent, if any, should the Pinelands Plan's existing siting standards for landfills and transfer stations be modified?
12. Is it likely that evolving technology may render any of the previously noted siting recommendations invalid within the next three to six years? How would you suggest the Commission address the need to continually monitor siting standards in view of complex and evolving technologies?
13. To what extent is additional analysis or research needed before specific siting standards for the Pinelands are developed? How would you suggest that these be accomplished? If additional analysis or research is needed, what, if any, interim siting conditions would you recommend?

Performance Standards

14. Are the Pinelands Plan's general standards for protecting wetlands, rare plants and animals, water resources and air quality adequate when considering the types of technologies and facilities previously discussed? Do any of these standards render certain types of facilities infeasible in the Pinelands?
15. Are there any special performance standards (e.g. air quality, water use, category of wastes accepted for processing or disposal, use of waste derived products) relative to any of the technologies or facilities which should be established for the Pinelands? If so, what specific standards would you recommend and why? What effect would these have on the feasibility of the technology or facility in the Pinelands?
16. The Pinelands Plan currently establishes limits on the geographic area from which waste may be accepted for disposal or processing. Are these limitations an appropriate means of preventing the Pinelands from becoming the location of choice for the siting of numerous, large scale facilities? Should the limitations be extended to other types of facilities? Should they be eased for certain types of facilities?
17. Should the use of sludge, composted sludge, and other types of compost be permitted in the Pinelands? Should the use of other types of waste derived products be permitted? Are

there any special conditions that should govern their use in the Pinelands? How do these conditions relate to the protection of Pinelands natural resources?

18. To what extent is additional analysis or research needed before special performance standards are established for the Pinelands? How would you suggest that these be accomplished? If additional analysis is needed, what, if any, interim steps would you recommend?

Miscellaneous

19. Are there solid waste issues (e.g. illegal dumping) that are more pronounced in the Pinelands than elsewhere? If yes, can the Pinelands Commission play a meaningful role in helping others better address these issues?
20. Do any of the previously identified recommendations raise special environmental concerns which haven't been discussed as yet? If so, what are they, are they significant in terms of Pinelands protection, and how should the Pinelands Commission deal with them?

APPENDIX C

Background Information

for

Solid Waste Management and the Pinelands Technical Panel Meeting

1. Pinelands Comprehensive Management Plan Overlay of Land Capability Map and Plate 19-Solid Waste Disposal Sites Map
2. Pinelands County Statistics
3. Excerpt from Subchapter 6, Part VII-Waste Management, of the Pinelands Comprehensive Management Plan (N.J.A.C. 7:50-6.71 to 6.78)
4. February 29, 1988 Revised Summary of Subchapter 6 of the Pinelands Comprehensive Management Plan
5. Pinelands Plan Management Areas Summary of Land Use Standards of the Comprehensive Management Plan
6. Draft Memorandum of Agreement Between the New Jersey Pinelands Commission and the New Jersey Department of Environmental Protection
7. September 30, 1991 Minutes of the Pinelands Commission Public Participation Committee Meeting on Composted Sludge in the Pinelands

APPENDIX D

Public Comments Received Prior to Technical Panel Meeting



State of New Jersey
DEPARTMENT OF TRANSPORTATION

THOMAS M. DOWNS
COMMISSIONER

1035 PARKWAY AVENUE
CN 600
TRENTON, NEW JERSEY 08625

April 16, 1992

IN REPLY PLEASE REFER TO
Key Topics for
Pinelands Commission
Review

Mr. Terrence D. Moore
Executive Director
The Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

Attention: Mr. Larry Liggett

Dear Mr. Moore:

This is in response to your memorandum of February 28, 1992 which requested assistance on the most appropriate approaches in pursuing the key topics of concern in the Pinelands Area. The New Jersey Department of Transportation has ideas on topics in the following areas:

Solid Waste

The Department is interested in participating in efforts to study the application of composted sewage sludge for highway landscaping as a "one time" soil additive to help establish roadside turf. Normal DOT specifications call for 2.75% organic material content for seeded areas. Since this inexpensive material is readily available, we would like to arrive at an agreement on the use & level of application of this material.

Also, policies and regulations should be changed to allow soil-reuse in the Pinelands when it can be proven safe and inexpensive.

A mechanism to initiate these changes is the proposed Memorandum of Agreement between the Department of Environmental Protection and Energy and the Pinelands Commission. DOT would be amenable to being designated an "interested third party" in the negotiations. DOT has experienced staff which deals with soil reuse and recycling on a regular basis.

Pinelands Permitting

DOT recommends that duplicative reviews between the Pinelands Commission and NJDEPE be reduced as much as possible especially in the overlap area of the Pinelands Preservation Area and the CAFRA Zone. Standard procedures should be developed to determine which agency takes the lead and what specifications must be followed. Conflicting statements sometimes occur at pre-application meetings for such projects.

Mr. Terrence D. Moore

April 16, 1992

Page 2

Growth Demands and Policies

NJDOT's Bureau of Statewide Planning would like to become involved in the review process for proposed changes to Growth Policies and designation of the Management Areas of the Pinelands. Also, it would benefit the Commission if it attended the annual local outreach meetings that DOT conducts to receive feedback on DOT's priority projects. DOT may have existing planning data which may be very useful in allocating Regional Growth Areas within the Pinelands.

In addition, Policy and Planning serves as the lead unit for development of the Transportation Control Measure (TCM) component of the State Implementation Plan for air quality in accordance with the 1990 Clean Air Act Amendments. Air quality issues should receive consideration in re-evaluation of growth demands in the Pinelands. It should also be noted that the Pinelands Commission officially participates in the Statewide Transportation Air Quality Planning Organization under the State Certified Organization, the policy level body for State Implementation Plan development.

Thank you for allowing DOT to comment on these topics, and please contact Andras Fekete at (609)530-2824 for further clarification of DOT's position on these topics.

Very truly yours,

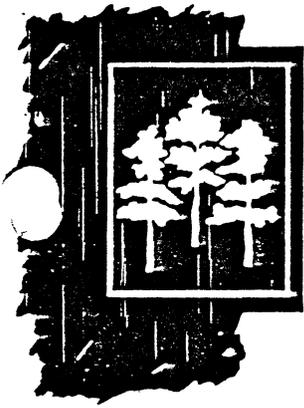


F. Howard Zahn

Director

Division of Project Development

BJH:slz



Pinelands
Preservation Alliance

120-348 Whitesbog Road • Browns Mills, NJ 08015 • (609) 893-4747

April 17, 1992

Mr. Terrence Moore
The Pinelands Commission
P. O. Box 7
New Lisbon NJ, 08064

Dear Mr. Moore;

In response to your letter of February 28, I have enclosed recommendations on approaches to five of the key topics the Pinelands Commission has selected for review.

Earlier this month, fifteen members of the Pinelands Preservation Alliance's Plan Review Committee spent a day reviewing these five topics. Individuals who attended the meeting spent the intervening time writing recommendations for the expert panels to consider.

The results are enclosed. The subjects and the authors are:

- | | |
|-----------------------------|-------------------|
| Topic 1 Solid Waste | Dr. Gerard Vriens |
| Topic 2 Forestry | Dr. Emile DeVito |
| Topic 2 Resource Extraction | William Smith |
| Topic 3 Economic Impact | Sally Price |
| Topic 5 Growth Demands | William Neil |

The pressure of the short time available and other commitments means that the submissions on the last two topics will be hand carried to you next week. Those subjects and the authors are:

- | | |
|---------------------|---------------|
| Topic 2 Agriculture | Michele Byers |
| Topic 4 Permitting | Janet Larson |

As the full PPA committee reviews the attachments and has further suggestions, they will be submitted to you or the expert panels.

The PPA appreciates this opportunity to submit recommendations to you and the expert panels and looks forward to the meetings of the panels.


Don Kirchhoffer

Coordinator,
PPA Plan Review Committee

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Arent Fox Law Firm
of Wash., DC; Former
NJ D.E.P. Commissioner

Judith Shaw Berry
Partner, Public Policy
Advisors; Former Chief
of Staff, NJ D.O.T.

Howard P. Boyd
Past Pres., American
Entomological Society;
Author, *A Field Guide to
the Pine Barrens of NJ*

Michael F. Catania
Eagleton Institute;
Former Deputy Com-
missioner, NJ D.E.P.

Buntzie Ellis Churchill
President, World Affairs
Council of Philadelphia

Sally Dudley
Executive Director,
Ass'n of NJ Environ-
mental Commissions

Michael Gallaway
Pinelands Coordinator,
Sierra Club

David F. Moore
Executive Director,
New Jersey Conser-
vation Foundation

Franklin E. Parker
Director, NJ Field Office
of Trust for Public Land

James T.B. Tripp, Esq.
General Counsel, Environ-
mental Defense Fund

Nan Hunter-Walnut
Coordinator,
Pine Barrens Coalition

Comprehensive Master Plan Review

Topic 1: Evaluate the effectiveness of existing CMP solid waste policies in light of new, emerging solid waste facilities and technologies, e.g. (1) resource recovery including composting and recycling, (2) land application of waste derived materials.

I. Summary of Existing Policies (7:50-6.71 to 6.78)

A. Landfills (6.73-6.75)

1. Except as provided landfills are not permitted in the Pinelands.
2. Existing landfills may, under certain conditions, continue to operate for no more than 10 years. (August 8, 1990)
3. No landfill shall be operated in the Preservation Area.
4. New landfills shall be permitted in the Protection Area under highly restricted conditions and must be closed by August 8, 1990.
5. Landfills designed and operated exclusively to accept vegetative wastes may be permitted.

B. Solid Waste Transfer Stations (6.76)

1. Solid waste transfer stations may be permitted in certain Areas under certain conditions.

C. Categories of Prohibited Wastes (6.77)

1. No hazardous, toxic, chemical, petroleum, septic or nuclear waste shall be stored or disposed of.
2. Sludge may only be applied on land for approved agricultural purposes.
3. Petroleum and other wastes may be temporarily stored where collected or generated under certain conditions.

- II. Subjects Which Need to be Addressed or Expanded Upon
 - A. Recycling, Source Separation and Transfer Stations
 - 1. These subjects are closely related and need to be addressed together.
 - B. Incineration
 - 1. Municipal waste
 - 2. Sludge
 - C. Composting
 - 1. Vegetative waste
 - 2. Municipal waste
 - D. Beneficial Use of Sewage Sludge
 - 1. Uncomposted--restricted agricultural use
 - 2. Composted sludge
 - a. Agriculture
 - b. Landscaping
 - c. Reclamation
 - E. Illegal Dumping
 - 1. Enforcement
 - F. Prohibited Wastes
 - 1. Add contaminated soil
 - G. General
 - 1. Standards

III. Recycling, Source Separation and Transfer Stations

The ideal solid waste handling and disposal plan must involve the maximum feasible degree of separation and recycling of its components. Whether this involves separation at source, i.e., by the home or business owner, or at a central facility is a matter of local decision. Certainly, though, the former is more economical for the municipality. As more towns in and around the Pinelands wish to set up recycling and/or separation centers, the siting of such facilities will become an issue which should be addressed in revisions to the CMP.

Current regulations regarding solid waste transfer stations read as follows (7:50-6.76):

(a) Solid waste transfer stations may be permitted provided that:

1. The facility meets all standards and requirements of the Department of Environmental Protection;
2. All waste accepted from outside the Pinelands is from Pinelands municipalities or from counties with at least 50 percent of their land area within the Pinelands; and
3. The facility is located in a Regional Growth Area, Pinelands Town, or Rural Development Area.

(b) Notwithstanding the requirements of (a)2 and 3 above, a facility may be permitted in a Pinelands Village provided that all waste accepted is from the municipality in which the facility is located; or in any other Pinelands management area if the facility is located on the site of an existing landfill which is no longer active when the transfer station is built, and all waste accepted is from the municipality in which the facility is to be located.

Recommendations

1. The siting of recycling/separation centers should be addressed by the expert panel on solid waste.
2. We recommend that such siting be no less restrictive than current regulations on solid waste transfer stations.

IV. Incineration

Incineration is a technically feasible alternative for the destruction of combustible solid waste as well as of sewage sludge (it would probably not be feasible to use the same facility for both purposes). Since nothing of value is recovered (except, perhaps, some heat) and since the capital cost is extremely high, incineration is not a preferred method for solid waste processing. Ash disposal is also a problem since the heavy metals content of the feed is concentrated in this residue. Nevertheless it may be useful in some localities on an interim basis or to handle excess waste above that which can find beneficial use. Incineration is not currently mentioned in the Waste Management section of the CMP.

Recommendations

1. Incineration should specifically not be permitted anywhere in the Pinelands on the following grounds:
 - a. Such an activity is compatible only with an industrial environment which is directly contrary to the basic purpose of the CMP;
 - b. A substantial amount of water is required for such an operation which would deplete a scarce resource; and
 - c. There is no place in the Pinelands for the disposal of used scrubber water, containing a variety of contaminants, or of the residual ash.
2. Any incineration done outside but in the vicinity of the Pinelands should use the best technology, including thorough scrubbing of exit gases to prevent air pollution.

V. Composting

Composting refers to the breaking down of organic waste materials by the combined action of heat and bacteria over a period of time to produce an earth-like product which has value as a soil conditioner and low-nutrient fertilizer. This process may be applied to municipal solid waste, from which metal, glass and plastic have been removed, or to vegetative waste. Sewage sludge composting will be discussed in a later section.

Composting is a preferred method for the disposal of organic waste as it is much less capital intensive than incineration and requires less resources (water, fuel, power) to operate.

Recommendations

1. The siting and sources of composting operations should be addressed by the expert panel on solid waste, keeping in mind the function of the CMP of protecting and preserving the Pinelands.

2. No composting should be permitted in either the Preservation or Forest Areas.

3. No sewage sludge composting should be permitted in the Pinelands.

4. Composting facilities must, at the least, meet all standards and requirements of the NJ DEPE covering such operations.

5. Closed landfills, meeting recommendation 2, may be preferred sites for composting operations.

VI. Beneficial Use of Sewage Sludge

The use of sludge from the secondary treatment of municipal sewage in agriculture as a fertilizer has been practiced to a limited extent for many years. Stabilization by anaerobic digestion, or other treatment, reduces but does not eliminate pathogenic organisms. Sludge has generally not been used on food crops owing to safety concerns involving not only pathogens but also the possible presence of heavy metals or other toxicants.

More recently, methods have been developed for the composting of sludge to produce a more generally useful product. The composting process involves mixing the sludge with a bulking agent (e.g., wood chips) and exposing the mixture to elevated temperatures while aerating until the material has been transformed into an earth-like product through bacterial action. The product is screened and the chips recycled.

Although the composting process is odorous, the finished product is less objectionable than the initial sludge. At least 99.9% of the pathogens are destroyed if the process is operated properly. The finished product may find use in agriculture, landscaping and reclamation as a soil conditioner and low-nutrient fertilizer.

The heavy metals content of the compost will vary greatly depending on the source of the initial sewage, with residential sewage having a relatively low metals content and industrial sewage being potentially much higher. The NJ DEPE has classified sludge products into three classes based on heavy metals content: Class A, which can be applied to land at agricultural rates for 40 years without exceeding limits on metals build-up, Class B, which can be applied for 20 years, and Class C, which cannot be used in agriculture.

A major study of the land application of wastewater solids in the Pinelands was carried out in 1973-1976 by the Ocean County Sewerage Authority and Cook College, Rutgers, under Grant No. S801871. The US EPA, USGS and NJ DEP also participated. The study was reported in August, 1980 (EPA-600/2-80-090). The sludge used was anaerobically digested sludge from the South Lakewood Sewer Company and the Neptune Township Sewerage Authority. Application was made to three soil types in the Colliers Mills and Webbs Mill areas. "A principal objective of the project was to determine optimum loading rates of wastewater solids that can be applied to the land contingent upon the effects of such loading on the underlying groundwater quality."

Among the observations and conclusions made in the report, the following are particularly significant with regard to the use of sludge in natural areas (non-crop use) in the Pinelands (p. 7):

"The applications of wastewater solids on natural vegetation plots caused a significant deterioration of groundwater quality beneath the plot. The naturally acid soil conditions (ca. pH 4.5) contributed to concentrations of many sludge-related constituents approaching and even exceeding the values reported for the heaviest loaded (89.6 t/ha/y) applications [cover crop use].

"These acid conditions significantly increased the mobility of many sludge constituents, particularly ammonia nitrogen, organic acids (TOC) and even heavy metals.

"From these observations it appears that the application of wastewater solids is not suitable for natural vegetation areas that are typical of the New Jersey Pine Barrens if the 44.8 t/ha/y [20 tons/acre/yr] loading rate is utilized"

of course, composted sludge may not behave exactly the same way as anaerobically digested sludge. Nevertheless, the foregoing study is the best available guide until thorough testing of the effects of composted sludge has been done, and indicates the need for extreme caution in the use of sludge to reclaim natural areas.

Recommendations

1. A thorough study should be done of the effects on groundwater quality of the application of composted sludge to typical Pinelands soils. An academically rigorous approach should be used such as the protocol in the study referred to.
2. Pending completion and evaluation of the recommended study, no further land application of sludge should be permitted in the Pinelands. An exception might be made in the case of conventional agriculture where the soil is maintained at a sufficiently high pH (neutral or above) to prevent leaching of heavy metals or nitrogen into the water table. Berry cultivation would not qualify for this exemption.
3. Reconsideration should be given to the permissible limits of heavy metals, especially lead, in composted sludge for land application in New Jersey. The NJ DEPE limits on lead are 2400 ppm in Class A sludge and 4800 ppm in Class B. The US EPA has recently proposed a limit on lead of 130 ppm (40 CFR Part 503, Federal Register February 6, 1989), while a USDA Group (Cooperative State Research Service Technical Committee W-170) has recommended a limit of 300 ppm. The NJ limits appear to be way out of line.

4. If future use is made of composted sludge for the reclamation of disturbed land in the Pinelands, under conditions which have been demonstrated not to affect adversely the groundwater quality in the recommended study, it should be kept in mind that the purpose of reclamation is to return the land as closely as possible to its original state and that of adjacent undisturbed land. Hence, only enough compost should be used to raise the organic content to the relatively low level characteristic of Pinelands soil and conducive to the growth of native species. Similarly, no attempt should be made to raise the pH of either the compost or the land.

VII. Illegal Dumping

The problem of illegal dumping, already serious, is likely to get worse as the cost of waste disposal continues to increase.

Recommendations

1. A renewed effort must be made by all agencies concerned with the Pinelands in support of an Enforcement Bill in the current session of the State Legislature.
2. Serious consideration should be given to monitoring activities in the Pinelands by means of patrols, surveillance, etc.

VIII. Prohibited Wastes

Recommendation

1. Add contaminated soil to the list of wastes expressly prohibited in the Pinelands.

IX. General

Recommendation

1. All activities permitted in the Pinelands must at least meet NJ DEPE standards for such activities carried out elsewhere in the State. Stricter standards may be imposed by the CMP where appropriate.



New Jersey Concrete and Aggregate Association

770 River Road • West Trenton • New Jersey 08628

(609) 771-0099
FAX (609) 771-1729

April 17, 1992

Mr. Terrence D. Moore
Executive Director
The Pinelands Commission
P.O. Box 7
New Lisbon, New Jersey 08064

Re: Comments on Upcoming Five Year Review of PCMP

Dear Mr. Moore:

The New Jersey Concrete and Aggregate Association (NJCAA) is pleased to present the enclosed comments regarding the five year review of the Pinelands Comprehensive Management Plan.

NJCAA is a statewide organization representing the interests of ready mix concrete and resource extraction industries. Through the association's Pinelands Resource Extraction Advisory Committee (PREAC) we welcome the opportunity to share with you our concerns.

The Association has primarily restricted our comments to Topic #2, Resource Based Industries. You will note however, that our comments also indirectly address Topics #3 (Economic Impacts) and #4 (Permitting) as they relate to this industry. We have also included a separate discussion of Topic #1 (Solid Waste) as a part of this Report; and our comments pertaining to wetlands contains several elements which would fall under the broad category of Water Quality, the recently identified sixth topic.

At our previous appearance before the Commission, two questions arose which have also been addressed. First, the right to continue mining is addressed by Appendix II and second, the confusion over sloping is addressed in a letter dated January 29, 1992, and can be found in the prior correspondence section.

Page 2
April 16, 1992
Terrence D. Moore, E.D.

We have included 20 copies of this report so that each member of the Commission will receive one. If additional information or clarification is needed, please do not hesitate to contact us. We would also gladly offer any technical assistance you may need to carry out the goals of your April workshops of technical experts.

Again, Thank you for the opportunity to participate in this process.

Sincerely,

A handwritten signature in cursive script that reads "William J. Cleary". The signature is written in black ink and is positioned above the typed name and title.

William J. Cleary, CAE
Executive Director



New Jersey Concrete and Aggregate Association

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FAX (609) 771-1729

William J. Cleary
Executive Director

PREAC COMMENTS

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SOLID WASTE

IV. SOLID WASTE

1. Industry Participation in Solid Waste Activities

Since resource extraction industries engage in solid waste recycling activities and land reclamation, we wish to address the solid waste issue only as it relates to construction related industries, and not the broader solid waste issue in general as it pertains to landfilling, solid waste transfer stations or municipal solid waste recycling programs, etc. We further request that the Commission review and amend the CMP to allow recycling of construction debris materials. We further request that the restoration of land tracts involved in resource extraction be permitted to use sewage sludge derived compost in reclamation activities.

The concrete and aggregate industry within the State of New Jersey presently engages in activities which would fall under the CMP solid waste policies. Currently, we are not aware of any members of the New Jersey Concrete and Aggregate Association who have permits to engage in these activities in the Pinelands Area. However, the concrete and aggregate industry is uniquely suited to engage in solid waste recycling activities and land reclamation which could be of significant environmental benefit to the Pinelands.

Presently, industry recycling efforts are dominated by commercial recycling of clean broken concrete as an alternative to landfilling. As such, this activity is of considerable environmental benefit. Concrete recycling represents a new trend in concrete production. Although concrete recycling may not be presently occurring within the Pinelands, demolition of existing concrete structures (e.g., roadways, bridges, buildings) is occurring within the Pinelands. This presents clear waste disposal problems, which could be effectively addressed via amendments to the CMP.

Similarly, the concrete and aggregate industry and affiliated industries would provide additional waste recycling, including asphalt recycling and the processing of petroleum-contaminated soils for asphalt production. There is existing technology available to engage in these activities in full compliance with existing State and Federal regulations; to presently occur without environmental degradation outside of the Pinelands Area. Several recent cases involving the processing of oil-contaminated soil within the Pinelands point out not only the need for this service, but also the clear deficiencies in existing CMP policies regarding this issue.

The concrete and aggregate industry engages in resource extraction activities within the Pinelands. A characteristic of Pinelands soils is that they are of relatively poor quality and depleted in suificial nutrients. Yet CMP policies require that this material be retained and reused as the primary growth medium for restoration of approved mining sites. Approved site restoration using the pre-existing topsoil can be enhanced by repeated applications of chemical fertilizers, which are known to have clear negative impacts on wetlands and water quality. Furthermore, there are vast tracts within the Pinelands which no longer contain pre-existing topsoil. The restoration of the large tracts of land involved in approved resource extraction operations represents an ideal beneficial use of sev age sludge derived compost.

Indeed, the resource extraction industry could comprise a major end-product user of this material, thereby promoting beneficial uses of sludge in full compliance with State and Federal policy.

2. Effectiveness of Existing CMP Solid Waste Policies

a. 7:50-6.77(a) Categories of Wastes Prohibited

This policy specifically addresses solid waste activities, forbids the storage, discharge, or disposal of hazardous, toxic, chemical or petroleum wastes, including oil-spill pollutants. This policy does not address recycling of those materials, nor was it meant to during the initial formulation of the CMP (when recycling was virtually non-existent).

This policy does not recognize the existence of these materials and/or potential for the generation of these wastes from within the Pinelands. Since this policy does not permit the discharge or disposal of waste materials within the Pinelands, it unfairly and unrealistically shifts the burden for the disposal of these wastes (generated from within the Pinelands) to those areas outside of the Pinelands. It is clear that these disposal options are becoming less viable. Furthermore, this policy does not address the role of recycling or beneficial use of waste materials as a disposal option.

This policy does not recognize that recent advances in technology related to waste recycling are available to recycle concrete and asphalt, and to decontaminate oil-spill soils. This technology is in use elsewhere in New Jersey in full compliance with State and Federal regulations, without any contravention of applicable environmental standards.

In addition, this policy does not recognize the need for additional beneficial uses of sewage sludge beyond the use of liquid or dewatered sludge for agriculture land application purposes. This policy also provides a very limited beneficial use for that sewage sludge material generated from within the Pinelands. Beneficial use (other than landfilling, incineration or ocean dumping) is the stated policy of the State of New Jersey and the Federal government. This policy restricts beneficial use in the Pinelands only to agriculture land application usage, and does not afford the same opportunity to the mining industry, the potentially largest user.

b. 7:50-6.77(b) Categories of Wastes Prohibited

This policy permits the collection and temporary storage, prior to delivery to a processing facility, of petroleum wastes provided that the storage facility is designed and operated in accord with state and federal regulation. This policy also permits the temporary storage of other wastes and by-products where generated (prior to delivery to another processing facility) provided that the storage facility is designed and operated in accord with state and federal regulations.

By the inclusion of "temporary storage" within this policy, it is unclear as to the length of time waste materials can be stored on an approved site before it would be considered as other than temporary storage.

3. Proposed Policy Amendments/Additional Research

a. Recycling Activities

i. This industry recommends that existing CMP policies be amended to specifically address recycling activities as a disposal option, and to permit beneficial recycling activities of certain types of solid wastes such as a source separate of construction debris (concrete, asphalt, rebar, brick, block, wallboard, wood, wood stumps and hazardous wastes such as oil-spill contaminated soils). This amendment is recommended on the basis that disposal options are becoming increasingly limited, and there is existing the technology to reuse or decontaminate these materials.

The following CMP policy amendments are recommended in order to recognize the need for additional recycling activities within the Pinelands, the existing presence of hazardous materials within the Pinelands Area, and existing technological advances.

7:50-6.77, Categories of Wastes Prohibited should be amended to specifically permit recycling activities and such that waste materials can be stored prior to processing/decontaminating at a facility within the Pinelands designed and operating in compliance with all State and Federal regulations.

7:50-6.77, Categories of Wastes Prohibited should be amended so that the discharge and disposal of waste materials is permitted after suitable decontamination in compliance with all State and Federal regulations. For example, this amendment could permit the suitable reuses of oil-spill contaminated soil after decontamination.

7:50-6.77, Categories of Wastes Prohibited, should be amended by deleting "temporary storage" of these materials if they were stored at an approved treatment facility in the Pinelands. Alternately, a fixed time limit could be set for "temporary storage" (e.g., 6 months), after which storage would be considered other than temporary and would be in violation of the CMP.

This industry does not advocate amending 7:50-6.77 in any way regarding nuclear wastes.

ii. In order to assess the potential impact on the Pinelands from these amendments, the following areas should be the subject of additional research:

What materials covered by 7:50-6.77 are already present within the Pinelands, and what future volume of these materials may be anticipated?

What is the current status of recycling/decontamination and disposal of those materials covered by 7:50-6.77?

What is presently happening to those materials covered by 7:50-6.77 which are generated within the Pinelands? Are the existing disposal options likely to remain at present levels in the future?

b. Beneficial Uses of Waste Derived Materials/Composting

i. This industry suggested the above mentioned amendments to CMP policies will result in the increased beneficial use of waste derived materials.

We further recommend that the beneficial uses of sewage sludge derived compost material be permitted as part of restoration plans at any approved resource extraction sites at levels based upon existing research and future Pinelands-specific research efforts.

The following CMP policy amendments are recommended:

7:50-6.77(a) Categories of Wastes Prohibited be amended so that sludge derived compost be permitted for all land application purposes, including land restoration of resource extraction sites.

7:50-6.77 Restoration standards (for resource extraction operations), be amended to state that topsoil amendments including sludge derived compost be permitted, particularly on those sites which have no existing topsoil. This policy could also be amended to permit the reduced usage of this material on those sites which have existing topsoil.

ii. Ample existing data is available regarding the affects of the use of sludge derived compost for land reclamation. The overwhelming majority of this information is based upon research conducted outside of the Pinelands area. Additional research on the affects of sludge derived compost on the Pinelands ecosystem is suggested; the research recommendations as proposed in the Memorandum of Agreement are supported.

APPENDIX E

Public Comments Received After Technical Panel Meeting

MAY 21 1992

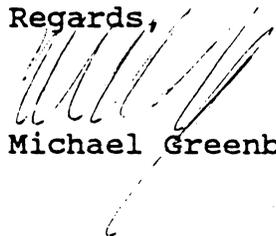
May 17, 1992

Lois Cristarella
Resource Planner
Pinelands Commission
PO Box 7
New Lisbon, NJ 08064

Dear Lois:

I read the materials yesterday. You seem to have outstanding scientific expertise and public input. My only concern is the absence of someone with expertise in systems analysis. That is, how do you plan to estimate the advantages and disadvantages of different answers to the solid waste questions? The area is so large and the options so many, that it would appear to me that you need to do some systematic studies of the options. Risk analyses and cost/benefit analyses of the technological options, and a site screening analysis of various sites would appear to be a minimum. Does this make sense?

Regards,



Michael Greenberg



Recycled paper
FILE COPY
JUL 21 1992

BROWNING-FERRIS INDUSTRIES

ATLANTIC REGION

July 20, 1992

Mr. Richard J. Sullivan, Chairman
New Jersey Pinelands Commission
P. O. Box 7, Springfield Road
New Liston, NJ 08064

Dear Chairman Sullivan:

It is my understanding that the Commission is currently considering revisions to its Comprehensive Plan and Regulations. With this in mind, I am enclosing a pilot project concept for the conversion of a BFI subsidiary landfill to a golf course.

Due to the project's utilization of a solid/dewatered sludge mix (sample enclosed), I am told that current regulations would not permit this type of use. Perhaps the issue of sludge beneficiation can be re-examined through this proposal.

Although the attached document is only conceptual in nature at this time, upon some indication from the Commission that it is potentially approvable, I would be pleased to prepare and submit all appropriate technical data.

Please call at any time questions may arise.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Kenneth Wishnick', is written over a horizontal line.

Kenneth Wishnick
Divisional Vice President

KW/vlk

Enclosures

cc: Pinelands Commission Members

**A PROPOSED LANDFILL RECLAMATION
PILOT PROJECT**



SOIL SLUDGE MIX

**A PROPOSED LANDFILL RECLAMATION
PILOT PROJECT**

**THE UTILIZATION OF A SOIL / SLUDGE MIX TO
RECLAIM A 170 ACRE LANDFILL SITE FOR
CONVERSION TO A PUBLIC GOLF COURSE.**

Submitted to:

NEW JERSEY PINELANDS COMMISSION

Submitted by:

**BROWNING-FERRIS INDUSTRIES
1302 CONCOURSE DRIVE
LINTHICUM, MD 21090**

July 20, 1992



PINELANDS PARK LANDFILL
LOOKING NORTHEAST

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- G... CORRESPONDENCE - MS. SWIGON TO MR. WISHNICK

I... BACKGROUND

The Pinelands Park Landfill is located in Egg Harbor Township and is bordered by Ocean Heights Avenue, Zion Road and South Mount Airy Avenue. The 170 acre site accepted Municipal solid waste from the early 1950's to when it closed on August 8, 1990.

BFI gained ownership of the site in February, 1983 with the acquisition of a large multi-state corporation. Legally, the site is owned by Newco Waste Systems of New Jersey, a wholly owned subsidiary of Browning-Ferris Industries.

Early sections of the landfill have no liners or leachate collection systems, some have two feet of clay as a liner and the newest cells have a double composite lining with a back-up leachate collection system under the primary liner.

The entire site is capped with a system to block rainwater from penetrating into the landfill. The cap design differs on flat and sloping areas and is shown on an attached illustration in the Appendix. Two infiltration basins collect and retain all storm water runoff. All of the landfilled area is surrounded by monitoring wells and there is an active methane collection and flaring system installed.

Leachate from the site is trucked to a state permitted treatment plant on a regular basis.

II.. PURPOSE OF THE PROPOSAL

Egg Harbor Township officials have approached Newco with an interest in having the closed landfill utilized for a public golf course. A Township Ad Hoc advisory committee on the concept was formed and a number of golf design/build firms appeared before both the Ad Hoc committee and the Township Governing Body.

Newco has conceptually agreed to grant a \$1 surface easement to the Township for this purpose with the condition that a minimum of 5 feet of fill material separate all surface activities from the landfill cap.

The concept of placing golf courses on closed landfills is not entirely new. Appendix C includes an article in a leading golf publication that reviews the concept.

All the golf course consultants in contact with the Township appeared to have a similar message --- a new course could not financially succeed if 5 feet of soil had to be trucked in. Yet technical advisors to Newco feel this requirement is essential to protect the environmental integrity of the site.

As an alternative, Newco offered to consider bringing in a one-part sludge to three-parts soil mix. The advantages of this approach are:

- 1) No cost to the Township for fill material.
- 2) A percent of revenue would be paid to the Township to help off-set the cost of construction.
- 3) An opportunity to demonstrate a sludge beneficiation project.
- 4) An opportunity to turn a barren site into an attractive community asset that could enhance property values.
- 5) An ability to demonstrate that landfills can have desirable end uses placed on them.

On April 1, 1992, a letter was sent to Pinelands Commission staff seeking an informal opinion on whether this type of project could be approvable. The response, dated June 3rd, essentially concluded that the rules do not permit it at this time (copies of both the letter and response are included in the Appendix).

It is our understanding that the Commission is currently revisiting its plan and regulations and that the time may now be appropriate to raise this issue through submission of this proposal.

III. THE PROPOSAL

Newco proposes to mix one-part dewatered sewage treatment plant sludge with three-parts of clean soil together with any required lime additives. The sludge would be pre-tested for metals and other constituents prior to acceptance, and the mixing would take place on-site. Five feet of soil/sludge material would be placed on top of the site to serve as a buffer between golfers and the landfill's cap.

All storm water runs off into two on-site basins. It is proposed that water from these basins be used to irrigate the golf course. Alternative designs to place liners in the basins could be considered. Under that approach, water could be tested prior to discharge.

The design of the golf course might include creative landscaping to minimize nutrient requirements. The utilization of organic fertilizers might also be a reasonable alternative to supplement the existing soil enrichers contained in the sludge.

The golf operation would be open to the general public and either managed by Egg Harbor Township or contracted out to a third party to build and/or operate.

Newco would continue to assume liability for all systems and materials under the cap and Egg Harbor Township would assume liability for surface activities.

A proposed agreement was submitted to Egg Harbor Township by Newco, but has not yet been approved. A provision of the agreement requires that all governmental approvals be secured before the project would be advanced by Newco.

At this point, this proposal is intended to only be conceptual in nature. If the general project approach is viewed with interest by the Commission, Newco will prepare and submit all required formal applications and technical documentation.

IV.. CONCLUSION

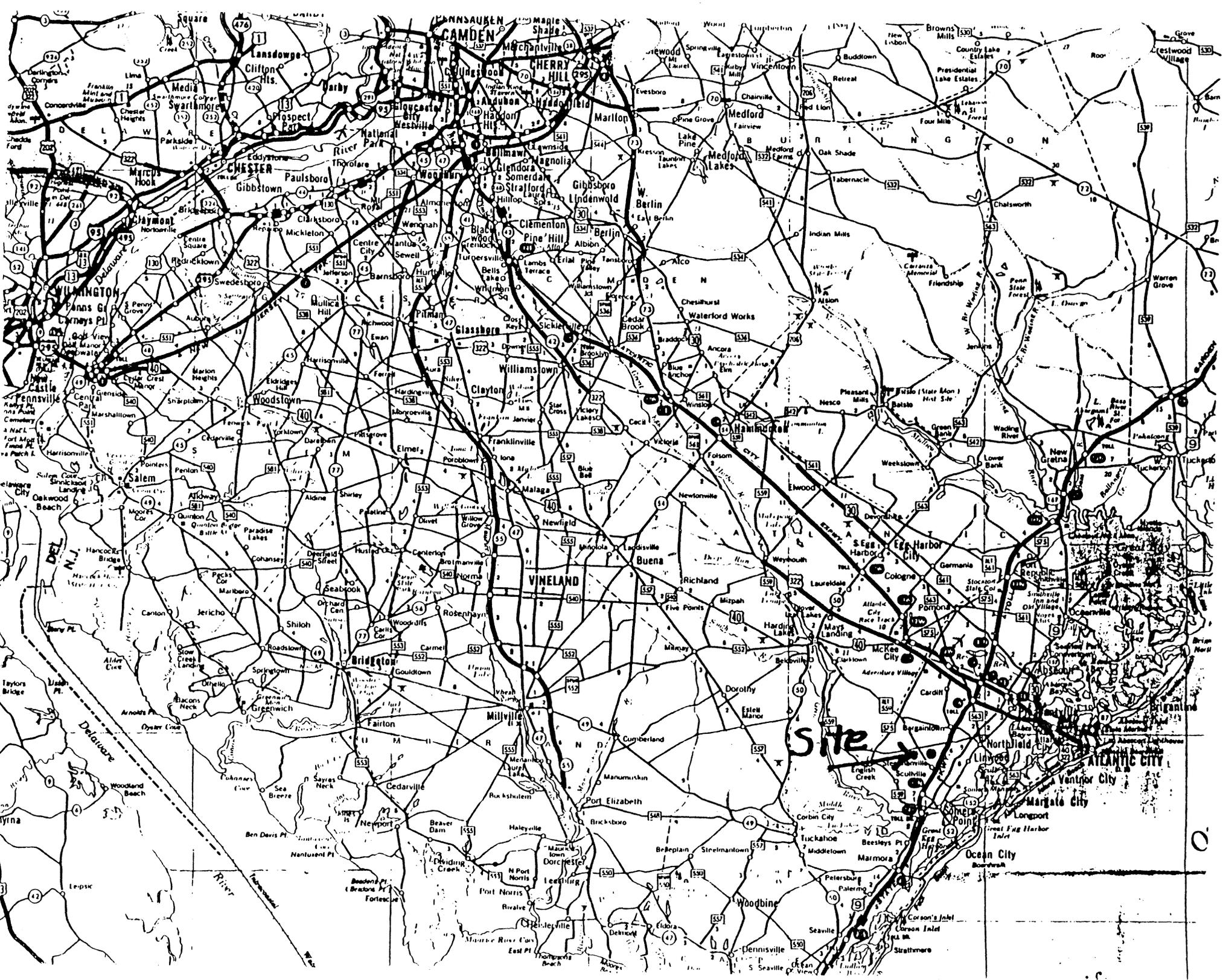
This appears to be one of those unique situations where all parties seem to benefit. The site neighbors get a community enhancement project; the Township gets a revenue producing, desirable asset; and BFI gets a demonstration facility to show-off to future landfill host community residents in other areas of the country.

The project also offers a great opportunity to demonstrate a sludge beneficiation project at a site that already has significant environmental controls and also offers design flexibility for additional safeguards in managing storm water run-off.

The reality is that this is not an ideal site for a landfill, and BFI had sought to sell the site immediately after it was acquired (as part of a larger acquisition). But since it's there, and inasmuch as it has an enormous level of groundwater monitoring and other environmental controls built-in, doesn't it make sense to make the best of the circumstances and allow for this enhancement project?

BFI, through its Newco subsidiary, is willing to be flexible in advancing this project and we ask the same of the Pinelands Commission.

A P P E N D I X



EHT plans to swap landfill for fairways

Citizens panel suggests golf

by ELAINE FINN
Staff Writer

EGG HARBOR TOWNSHIP — The steep slopes of the Pineands Park landfill apparently won't hinder any golfer's drive off the tee.

Although township officials

once feared the slope at the now-closed landfill would be too steep for golfers, the municipality is now lining up golf course developers to turn the former Ocean Heights Avenue dump into public greens, Mayor James J. "Sonny" McCullough said.

The mayor's citizens committee on the landfill has recommended a golf course as the best use for the site and is now interviewing potential builders, according to the mayor.

The most recent presentation was from a Denver firm, but the four-member committee is also traveling to Maryland to view a golf course built on a landfill.

The mayor said he took local golf course consultant James Frazier, whose family owns Atlantic City Country Club, on a tour of the site about five days after it closed in August.

"I drove him to the very top of the mound (the 55-foot high peak of the landfill). He said, 'I think it

would make a great golf course.'"

Before the dump closed, township officials had protested a height extension granted by the state Department of Environmental Protection, saying at the time they feared the slope would complicate plans for a recreational facility there.

The landfill took most of Atlantic County's trash before shutting its gates last summer. The state Pinelands Commission had or-

dered landfills within its jurisdiction closed to protect the pine forests unique to southern New Jersey.

"That (a golf course) was my recommendation to the committee," McCullough said. "I've asked them to pursue it and continue on."

McCullough said the township committee will conduct public hearings and do its own research before contracting with the de-

□ See Park, Page C4

Park: EHT seeks builder for golf course

(Continued from Page C1)

veloper recommended by the citizen's committee.

"Before signing anything, we will probably go out and hire a company to do an evaluation to see if there's actually a need for a public golf course," he said. "The county has done one or two. It's my recommendation we do a private one so we're sure there's a use for it."

Jeff Curtin, director of Atlantic County's Division of Parks and Recreation, said results of the county's 1984 study are still valid.

"There was a need then and there is a need now," Curtin said.

"We base that on the fact that in 1984, there were 40,000 rounds going out of Atlantic County to

find a course to play on," he said. "A course may turn 40,000 rounds (of golf) in a year."

Since the 1984 study, some formerly public courses have become semi-private, no new golf courses have been built and the county's population has increased, Curtin said.

While Curtin acknowledged courses have received preliminary approval in some municipalities, he contends the need for even more still exists.

"We are confident our study, even though it is quite dated, is still valid," he said.

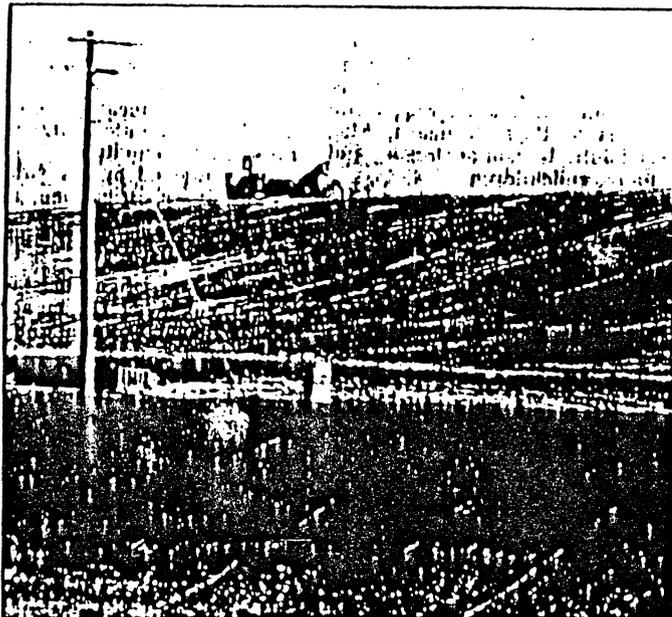
The township is now negotiating with Browning Ferris Industries, which operated the landfill, for rights to the surface of the property.

BFI must approve any plans for development of the site, said Ken Wishnick, a company vice president.

Development must not disturb the landfill below a roughly one-foot deep cap and several feet of topsoil, Wishnick said.

This includes building foundations and shrubbery with roots that could penetrate the covering, he said.

"BFI would retain responsibil-



Staff photo by Dan Drake

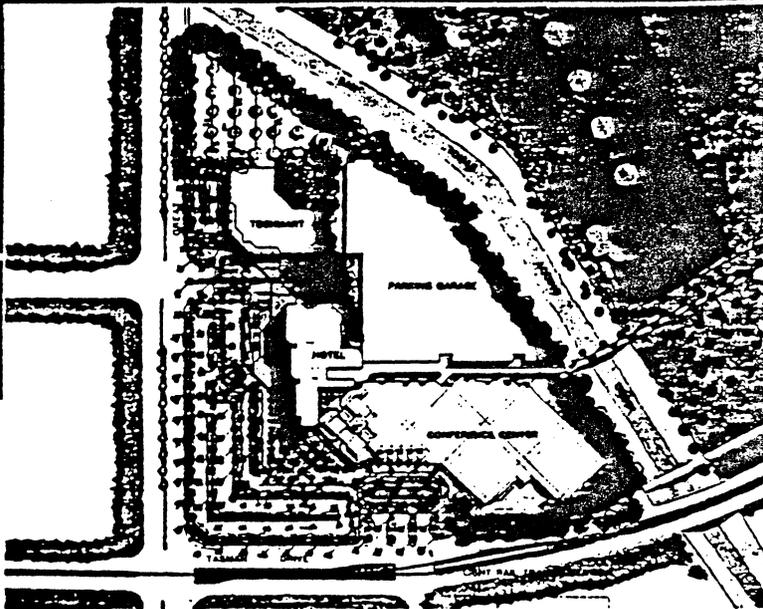
An EHT citizens committee on the landfill has recommended a golf course as best use for the site

ity for everything that's below the landfill cap and Egg Harbor Township would have any liability for surface activities," he said.

The committee expects to an-

nounce its decision at the end of this month, committee member Steve Parker said.

Parker declined to discuss any details of committee findings.



Trash into treasures. Once an unsightly and malodorous landfill, Santa Clara (California) Golf and Tennis Club has attracted other projects, including a new hotel and convention center.

GARBAGE TO GOLF

Too much trash? Too little golf? There's a solution underfoot that may surprise you with its efficacy — and its environmental good sense.

by EDWARD SCHMIDT, JR.

GOLF COURSES have been built on all sorts of ground. Ask any golfer to name favorite golf courses, and most times he'll return with a cross section of different terrains. In recent times, sites for courses have become quite exotic. Tom Fazio designed a course in Florida that weaves through an abandoned limestone rock quarry, the Arnold Palmer organization fashioned a layout in Alabama from a flat-as-a-pancake

former turf farm, and a course in Hawaii is built on volcanic ash.

Yet no type of land, no matter how exotic or striking, seems to turn heads as much as a sanitary landfill — a dump. Maybe it's because uninitiated golfers let their imaginations run wild with visions of unplayable lies, not to mention unplayable smells, and golf shots around tires, diapers, bottles, and other familiar household items they would rather see in their trashcan than on their golf course. But golfers everywhere clamor for more daily-fee courses, and politicians and city land planners who can't begin to find financing for land that

ED SCHMIDT is an Orlando-based freelance writer. This is his first contribution to GOLF JOURNAL.

sells for up to \$1 million an acre are turning to sanitary landfills. It's the ultimate form of recycling.

The Golf Course Superintendents Association of America, in Lawrence, Kansas, estimates more than two dozen golf courses have been built on sanitary landfills in the United States. Several communities are currently preparing routing plans for golf courses on yet-undisclosed landfills, and internationally, land-poor Japan has been a leader in the construction of sanitary landfill golf courses.

What do Charlotte, North Carolina, Hampton, Virginia, St. Petersburg, Florida, and Santa Clara, California, have in common? They're among the growing number of cities with municipal sanitary landfill golf courses. Pressured by golfing residents seeking more publicly owned golf facilities, these communities responded with a common solution, made easier by the knowledge that golf courses are one of the few things federal and state laws allow to be built on a sanitary landfill.

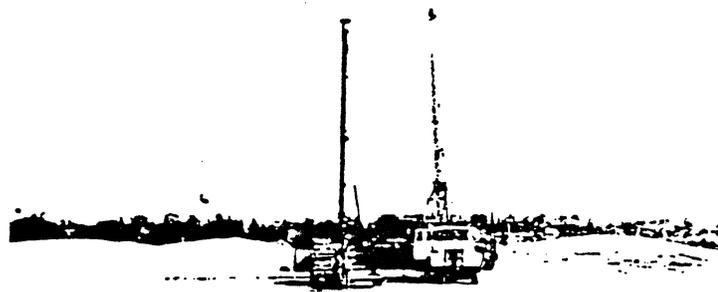
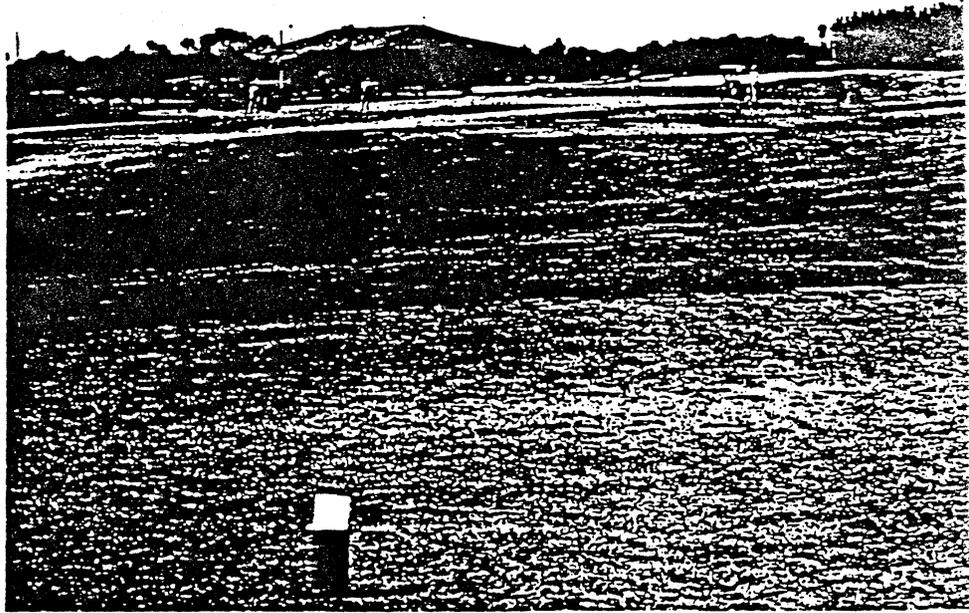
"Landfill golf courses are feasible for cities because of the economic benefits inherent with the land parcel," says Gary Stewart, a partner with Woolpert Consultants, an engineering and architectural firm based in Dayton, Ohio. The firm provided planning and feasibility expertise for the Charlotte and Hampton projects. "The community already owns the land. For example, the 350-acre Renaissance Park (Charlotte) site would've cost approximately \$350,000 an acre, based upon its location."

Built in 1986, Renaissance Park is a \$15-million recreation complex with an 18-hole golf course, tennis courts, softball fields, exercise trails, and other facilities situated on a 260-acre landfill and 200 acres of dense forest off the Billy Graham Parkway, adjacent to the Charlotte Coliseum.

MORE THAN six million tons of trash had been deposited at the Charlotte site over 18 years. The result was a layer of rubbish ranging from 35 to 80 feet deep. All refuse had been compacted like a roadbed. When construction started, trucks were still hauling garbage to the site.

The contours of the landfill dictated the look of the golf course at Renaissance Park. The first 10 holes of the 7,180-yard layout are links-like, while the remaining eight holes are carved from a hilly Piedmont forest of oak, pine, hickory, maple, poplar, and dogwood trees.

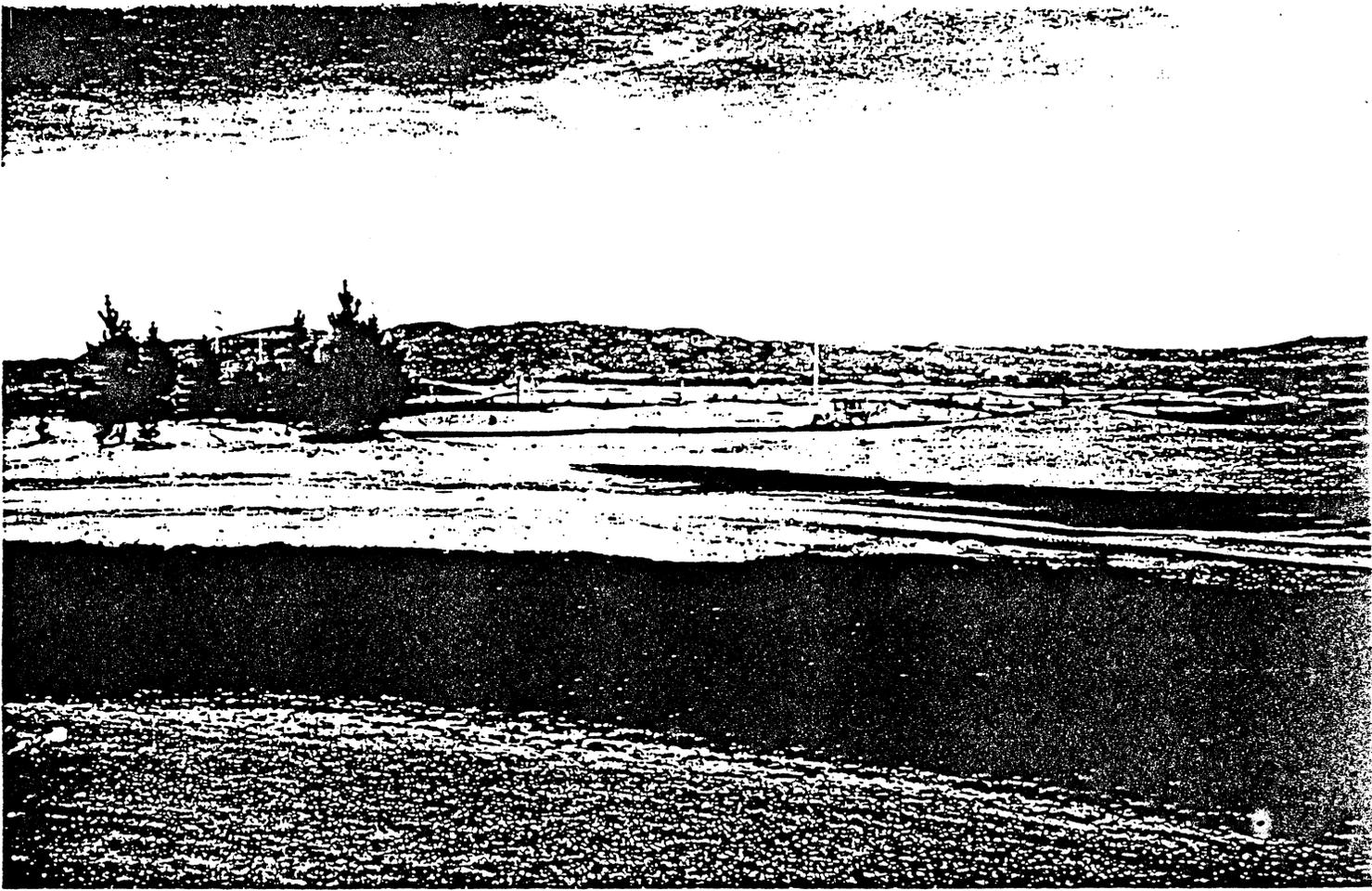
Mike Hurdzan, a Columbus, Ohio, golf course architect who designed Renaissance Park and a 27-hole course in Hampton, is a recognized expert in the field.



(Top) Landfill courses like Charlotte, North Carolina's Renaissance Park, can have few trees, since root systems must have room to grow downward.

(Above) During construction, the garbage is well covered, with impermeable barriers and tons of sand and topsoil. Sometimes vents must be installed to remove methane generated by decomposition.

(Opposite page) After most of the final grading is completed, it's hard to tell a landfill site from any other piece of land being prepared for a golf course.



Hurdzan claims landfills are more expensive to build on than traditional land parcels, but, like Stewart, he believes the saving on land offsets the higher construction and long-term maintenance costs. Renaissance Park cost \$2.4 million to build. Hurdzan estimates that if it had been situated on traditional North Carolina terrain, the same course would have cost \$500,000 less.

Stewart says, "Besides increased construction costs, course builders need to estimate long-term maintenance costs, which is not an easy thing to do. Maintenance costs can increase through the years because of the unpredictability of the site. For instance, irrigation lines eventually tend to crack because of settlement."

According to Hurdzan, the extra costs in building on a sanitary landfill result from battling four major problems: methane gas, leachate, settling, and drainage.

When organic material decomposes, the natural by-product is methane. It can kill golf course grasses, and can even explode. So the methane must be managed by special vent pipes in the fairways and rough. Some landfill golf courses use a methane-recovery system, in which a series of wells and pipelines transport gas to a recovery facility.

Certain parts of a landfill are more active than others, and high concentrations of methane are dealt with through many methods, some of them a bit comical. For instance, a sanitary landfill course in Japan with exceptionally high amounts of methane has "No Smoking" signs posted in key spots. Suffice it to say that

lighting up at the wrong time could certainly give new meaning to "booming one off the tee."

LEACHATE, a liquid produced when organic acids decompose, and settling, the slight movement of land as waste settles, are other problems an architect must take into consideration designing a sanitary landfill golf course. Hurdzan explains that to protect greens and tees at Renaissance Park against settling and methane, geotextile was laid over the refuse and covered with six inches of clean fill dirt. "Then we laid a heavy plastic membrane over the dirt to prevent damage by methane gas escaping from the decomposing refuse," he says. Drain tile was placed on top of the membrane before the appropriate soil mix was brought in.

Each tee and green cost between \$15,000 and \$20,000 for the liner protection; the liner costs \$1.50 per square foot, and there is a total of 210,000 square feet of bentgrass putting surface on the course. "These precautionary measures and other necessary design and construction techniques drive up the building costs," Hurdzan adds.

Two lakes built over the landfill were lined with thick polyethylene. Water from these lakes is not used for irrigation. Instead, an irrigation reservoir was constructed off the landfill site.

Hurdzan says that one of the most difficult aspects of designing and building a golf course on a sanitary landfill is the inability to cut and shape land. "Because

you don't want to cut into any garbage, you can't cut any ridges," he explains. "Consequently, you don't have any fill dirt, and it all has to be hauled in. That adds to the cost, too."

Builders had to truck in more than 300,000 cubic yards of dirt to produce Renaissance Park. A foot of topsoil was laid over the landfill in the location of the fairways, roughs, and practice range.

At a 27-hole golf course partially built on a landfill in Hampton, Virginia, architects moved more than 700,000 cubic yards of dirt to close the landfill and contour the golf course. The course cost more than \$3 million to build.

Robert Muir Graves, another course designer, brought in almost a million cubic yards of fill at a cost of more than \$6 million when he built the Santa Clara Golf and Tennis Club's course, in Santa Clara, California. Damian Pascuzzo, senior design associate, says the firm used several innovative techniques to give the course character. "Essentially, we rebuilt the landfill," Pascuzzo says. "A work crew went in with bulldozers and excavated refuse from certain areas to create swales and pile the excess on top of other refuse to create ridges."

Opened in 1986, the 6,853-yard Santa Clara landfill course has been a huge success, averaging more than 100,000 rounds per year. Pascuzzo insists the superintendent is a key component to the success of any landfill course. He must be experienced in dealing with the problems specific to landfill courses. "Santa Clara has a good one, and he deserves a lot of credit for the popularity of the course."

SO FAR AS we know, sanitary landfill golf courses first appeared in the late 1960s, but it wasn't till the mid-1970s, following stronger environmental regulations, that the concept really took hold. One of the oldest landfill courses, Mangrove Bay, a 6,800-yard layout in St. Petersburg, Florida, has been a hit since it opened, in 1978. Bill Amick, of Daytona Beach, Florida, the architect, smiles when he reflects on the Mangrove project today.

"While we were digging some ponds so we could line them with soil, we had all sorts of bottles floating to the surface. It was a very old landfill that had been completely filled for more than 25 years, so some of the bottles were very old. The word got out, and the next thing you know the place was crawling with bottle collectors who wanted to check out the mother lode."

Finding a bottle or a tire during construction is one thing, but mashing a club into one or the other after the course has opened is another matter. Butch Trammell, president of Majette Dunes Golf Course, a privately owned 18-hole layout in Panama City, Florida, admits that golfers on his landfill course will occasionally experience a "trashy" lie. "It's a very isolated situ-

ation," Trammell says. "but this year we've had some very heavy rains, and in places where there was an inconsistent amount of topsoil cover, a tire or bottle has occasionally surfaced in a fairway or rough. We just dig it up and put in some fill dirt."

Most designers agree that finding debris on a sanitary landfill course is an isolated problem because of the level of coverage. Most courses have a 3- to 3'-foot clay cap, and from six inches to several feet of topsoil.

Like most landfill golf courses, the Mangrove and Majette Dunes courses have few trees. Amick explains that, generally speaking, architects have to use shallow-rooted vegetation, because the success rate for deep-rooted plants and trees is not good. Santa Clara is an exception. Graves planted more than 1,200 trees on "tree mounds" that had up to six feet of topsoil over the landfill cap.

One of the nation's most intriguing landfill courses is a two-year-old, nine-hole layout named Settler's Hill, in Batavia, Illinois. Owned and operated by the Kane County Forest Preserve District, the course is adjacent to an active landfill. "When you tell golfers the course sits next to an active landfill, you get all kinds of crazy looks," says Dale Hoekstra, general manager of the 397-acre facility operated by Waste Management of Illinois, Inc. "Our company uses a variety of state-of-the-art techniques to minimize any unpleasantness. The course has been extremely well received." So well, indeed, that Settler's Hill is currently adding nine more holes, with plans for a total of 27 holes.

How can you tell if you're playing on a landfill golf course? The lack of large trees is generally the most immediate visual tip-off. Hurdzan says, "Very few courses have all 18 holes on a landfill space. Most times you'll have a combination. The landfill section will appear more links-style, with few trees, and the remainder will be native to the area."

"There are other less obvious clues. Sometimes the contours are a bit forced because designers can't do any cutting. Occasionally, there can be a slight odor, and sometimes you'll see methane vent pipes or manhole covers over wells alongside the fairways and rough. However, most courses do a superb job of camouflaging by surrounding the obstructions with shrubs."

Pascuzzo echoes the thoughts of other landfill course designers when he analyzes their popularity. "Golfers get over the fact the course is built on a former landfill rather quickly," Pascuzzo says. "Like any course, they're more concerned with appearance, maintenance, and playability."

Is this the wave of the future? Well, the next time you drive by the local trash dump, don't turn your head in disgust. You may be hitting a 5-iron from the same spot that offends you.

Reclaiming Lands with Wastewater Sludge

Paul J. Joseph



Paul Joseph

The disposal of wastewater sludge has become a financial problem for communities in Mahoning and Trumbull counties, Ohio (as is the case for the whole country). With an already overburdened federal budget and shrinking funding for wastewater treatment projects, facilities have been forced to become resourceful in ways to dispose of wastewater sludge.

In 1989 there were 9219 tons of dry sludge produced in these counties. Of this total, 77.7% was incinerated,

18.4% was used for the Pittsburgh Plate and Glass (PPG) land reclamation projects in Barberton, Ohio, and 3% was land applied.¹

Ohio EPA has endorsed land application of wastewater sludge where it is feasible for the land, and when metals and other pollutant concentrations in the sludge are low enough that they won't harm the environment. Land application of wastewater sludge at reclamation sites is one possible beneficial use of wastewater sludge.

The harsh aftermath of strip-mining operations in Carroll County, Ohio.

Benefits of Wastewater Sludge

The benefits of using wastewater sludge as a fertilizer and soil amendment has been proven by many researchers.² Other researchers recommend using wastewater sludge as a mulch and organic additive on mine spoils. Why purchase and apply fertilizer, or plant

and plough under a cover crop, when sludge can be obtained for free and applied as a useful fertilizer and soil conditioner?

The city of Seattle started using sludge beneficially in the 1970s. They used it to improve soil at several area parks, reclaim land disturbed during strip mining, restore a gravel pit used for a highway construction project, and enhance grass at the airport. By the mid-1980s, Seattle branched out into other areas such as applying sludge to soil at a Christmas tree farm and establishing a wildlife habitat on reclaimed farmland.

The city of Seattle reduced their cost of sludge handling and processing to 15% of the total operating cost and debt service costs in 1987 (national average is 50%). Now the city applies sludge to its 4000 acres of forest land.

Planting trees that would later be cut for lumber is another beneficial use of reclamation land in conjunction with wastewater sludge. This land would bring in income after about 40 years. The initial cost of tree planting, and other costs that might be incurred, would need to be investigated thoroughly before such a project was undertaken.

Reclamation Options

Land reclamation is an ongoing process throughout the U.S. Most of these sites are areas that have been strip-mined for surface coal. After the land is mined it has been striped of its topsoil, nutrients, and vegetation. How the land is reclaimed is dependent on who owns the land, how much money they have, public opinion, and government regulations.

The most common uses of exhaust-

ed sand pits and quarries include land preparation for commercial or residential building, construction of recreational facilities, or land conditioning to provide a home and breeding ground for wildlife.³ However, depending on the community, local zoning laws, and public input greatly influence what the ultimate use of the land will be.

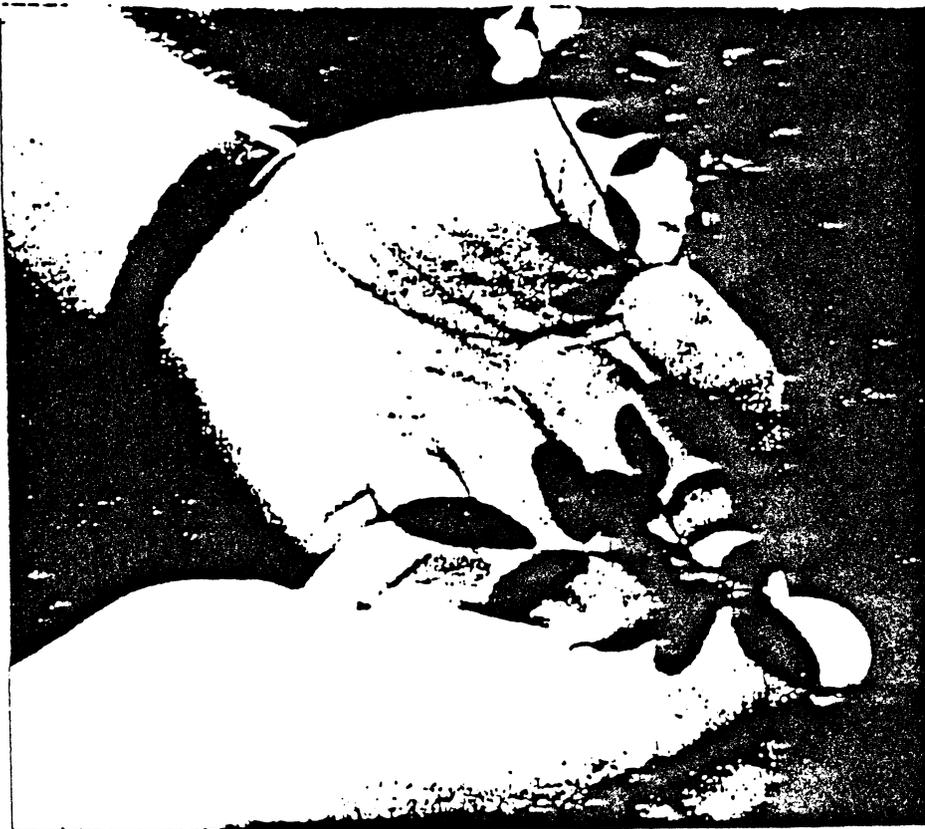
Reclamation should actually begin with the start of the strip-mining process. If the quarry owner knows ahead of time what type of reclamation is planned for the site, mining can be conducted in a way that will make reclamation easier and less expensive.

Reclaiming land for wildlife requires the smallest initial investment. This is basically accomplished by resloping and reseeding the land at an estimated cost of \$5000/ac.³ Reclaiming land as wildlife habitat is also a very environmentally conscience act which could be very positive in the eyes of the community, politicians, and environmentalists.

When reclaiming land for wildlife use, plant and animal relationships must be considered so that the best plan can be established for revegetation.⁴ This stems from the idea that certain species of plants and animals cohabitate best with each other. The Surface Mining and Reclamation Act of 1977 (PL 95-87) and its regulations require that certain revegetation performance standards be met by a reclamation project to ensure that the land will support vegetative cover. Strip-mined land is usually in need of some type of fertilizer or soil conditioner to help the seeded area

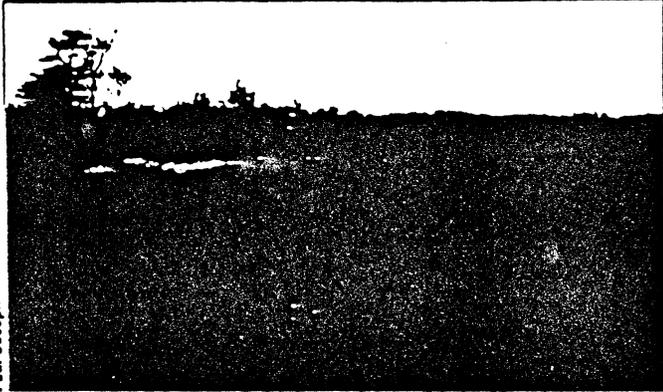
Bird's-foot trefoil, a legume, is commonly planted on sludge-reclaimed sites. Because of the legume's nitrogen-fixing ability, many sites are turned under to yield an even richer soil.

.....



Paul Joseph

Paul Joseph



Before reclamation with wastewater sludge, this lush grass-land in Mahoning County, Ohio, served as a garbage landfill.

grow well because topsoil and organic matter are stripped away, and steep slopes are left behind.⁴ When steep slopes are present, it may be more effective to use dewatered instead of liquid sludge to minimize sludge loss from gravity and erosion.

Additional topsoil is usually not needed, but will undoubtedly accelerate vegetation growth. This is not to say that growth media is not needed, just that it need not be topsoil.

Land may also be prepared by planting a cover crop each year and then plowing it under to add nutrients to the soil. This crop may be a legume that is planted for 3 to 4 years to enrich soil with nitrogen before seeding.

It was recommended⁵ that EPA divide nonagricultural land into two categories: those sites that have a high potential for conversion to another land use, and those sites that have a low potential for conversion to another land use. This indicates that different regulations for sludge loading could be observed for each category. These authors make other recommendations that enable the beneficial use of sludge easier to accomplish for publicly owned treatment works.

panies are being paid to receive a soil conditioner and fertilizer for their project.

Water quality monitoring is also a vital part of a reclamation project that uses wastewater sludge. A sampling schedule should be implemented at representative points at the reclamation site where leachate run-off can be sampled. Then, a scan for priority pollutants in the water should be taken. Researchers⁶ found that no adverse water quality impacts were found for the reclamation projects they studied in Fulton County and Ottawa, Illinois. They also found that comparison of commercial methods of reclaiming and versus using wastewater sludge showed that commercial methods may be short-lived because of a tendency for underlying acids to migrate upward to the root zone and affect the growing plants.

The use of wastewater sludge for land reclamation is possible, and has

If there are approximately 7 mil. tons of dry sludge being generated in the U.S. per year, a lot of potential free fertilizer is being wasted. Because of the lack of market demand for wastewater sludge in northeast Ohio, some municipalities are paying to have their sludge hauled away and used in reclamation projects. This means that com-

been done. One might start by contacting their local state reclamation department or mining company to find out what current mining or reclamation projects are currently being undertaken or being planned.

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3. Constantino, Darren, "A Place for Nature, When the Reserves are gone." *Pit and Quarry*, Part 4, 82, 48 (1989).
4. Rafail, B., and Vogel, W., "A Guide for Vegetating Surface-mined Lands for Wildlife in Eastern Kentucky and West Virginia." 89 (1978).
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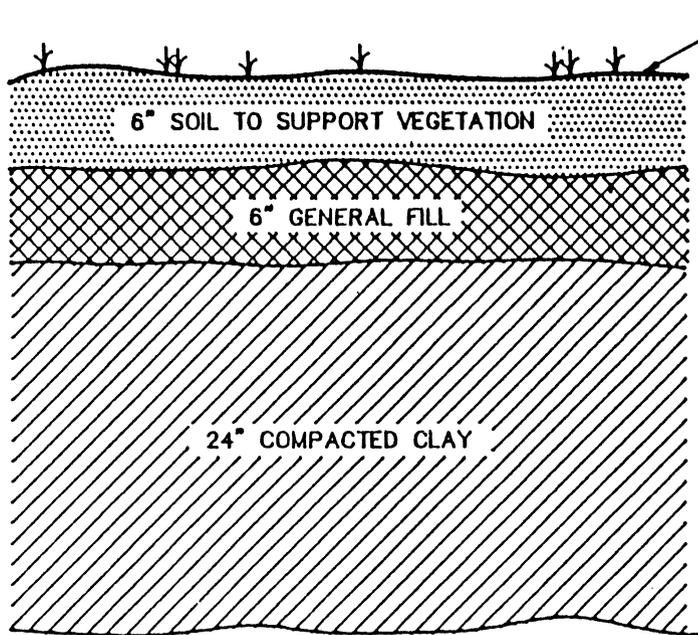
The leveled, but not yet reclaimed wheatly strip-mining site in Carroll County, Ohio.

257 and 503, 85 (1989).

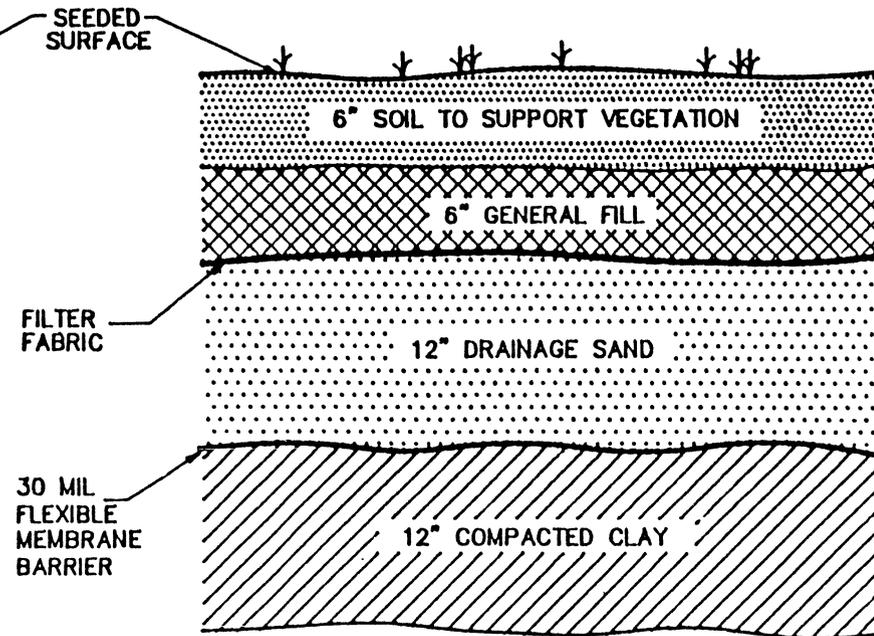
6. Robinson, A., and Weinberger, L.W., "Sewage Sludge Versus Commercial Methods for Reclaiming Strip-Mine Soils." Municipal Environmental Research Laboratory, Cincinnati, Ohio, 3 (1984).

PINELANDS PARK LANDFILL CAP DESIGN

SIDE SLOPE AREA DESIGN



ALL REMAINING AREAS



SEEDED
SURFACE

FILTER
FABRIC

30 MIL
FLEXIBLE
MEMBRANE
BARRIER



BROWNING-FERRIS INDUSTRIES

ATLANTIC REGION

April 1, 1992

Ms. Kathy Swigon
New Jersey Pinelands Commission
P.O. Box 7
Springfield Road
New Lisbon, New Jersey 08064

Dear Ms. Swigon:

By this letter, I am requesting a meeting with you to discuss the Commission's procedures and regulations pertaining to the potential application of a soil/sludge mix on top of Newco's closed Pinelands Park Landfill in Egg Harbor Township.

As you're aware, the facility stopped accepting waste in 1990 and is nearing completion of all state required capping requirements.

The Egg Harbor Township Committee has since approached our company to explore the possibility of placing a public golf course on the closed facility. Our company engineering standards require a 5 foot separation between any public surface activities and the landfill cap. Due to the substantial cost of fill needed to place this cover over our 170 acre site, the Township Committee asked that we seek a Pineland's Commission permit to apply a cost effective alternative consisting of a 3 to 1 soil/dewatered sludge mix.

The Pinelands Landfill is bordered by Ocean Heights Avenue, Zion Road and South Mt. Airy Avenue. Lot and block number identifiers are as follows:

Block Number - E0055.E - Lot Number 2

Block Number - E0056.E - Lot Number 1

Block Number - E0056.E - Lot Number 2

Block Number - E0056.E - Lot Number 3

Block Number - E0056.E - Lot Number 26

Block Number - E0058.E - Lot Number 5

Ms. Kathy Swigon

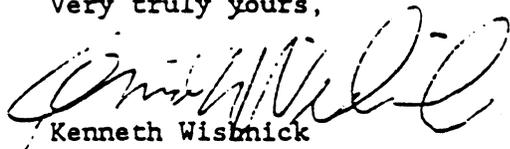
Page 2

April 1, 1992

My preference date for a meeting is April 16th, late morning or early afternoon is best.

Please call to confirm a specific time.

Very truly yours,



Kenneth Wisniewski
Divisional Vice President

KW/vlk

cc: Peter Miller, Egg Harbor Township Administrator

bcc: Dave White
Frank Camilli
Gary J. Van Rooyan



The Pinelands Commission

P.O. Box 7, New Lisbon, N. J. 08064 (609) 894-9342

June 3, 1992

JUN - 3 1992

Kenneth Wishnik
Browning-Ferris Industries
Gateway International Building
1302 Concourse Drive, Suite 400
Linthicum, MD 21090

Please Always Refer To
This Application Number

RE: App. No. 84-0314.07
Pinelands Park Landfill
Egg Harbor Township

Dear Mr. Wishnik:

This letter is written in response to your recent letter regarding the proposed use of a soil and dewatered sludge mixture over the final cap at the Pinelands Park Landfill.

Such a proposal would require the completion of an application with the Commission. The requirements of the Pinelands Comprehensive Management Plan (CMP) would prohibit such a use of dewatered sludge within the Pinelands Area.

Therefore, it does not appear that the proposed as described could be approved by the Pinelands Commission.

Please note that this prohibition relates to the land application of sludge. The land application of sludge derived products within the Pinelands Area could be permitted if it were demonstrated that the quantity and quality of the materials to be used would be such that the quality of groundwater and surface water would not be degraded. Based upon recent determinations reached by the Commission, it is unlikely that a sludge derived product could be used in a quantity that would approach the five foot cover depth proposed.

If you would like to discuss this matter further, please contact me.

Sincerely,

A handwritten signature in cursive script that reads "Kathleen Swigon". The signature is written in black ink and is positioned above the printed name.

Kathleen Swigon
Environmental Engineer

KS/bs
WS

Agriculture in the Pinelands
Report on Technical Panel Meeting

I. INTRODUCTION

A panel of experts (Appendix A identifies the panelists) met on May 28, 1992 to discuss this topic. In preparation for this meeting, a series of questions to be explored (Appendix B), background information (Appendix C identifies the sources) and public comments received prior to the meeting (Appendix D) were provided to each participant. Public comments received subsequent to the meeting are included in Appendix E of this report.

Mr. Stokes served as workshop coordinator and panelists were asked to freely express their opinions as individual experts and not as representatives of an agency or organization.

II. PURPOSE OF THIS REPORT

This report is intended to summarize key discussion points and present all recommendations offered by any of the participants. A tape recording of the entire seven (7) hour session is available for review at the Commission's offices. Since different opinions were offered by panelists, the report also attempts to indicate the level of consensus reached on various discussion points and recommendations.

Recommendations are described throughout the text in **bold** and are numbered sequentially. Because this particular workshop was the sixth in a series held by the Commission, each recommendation begins with the number 6. For ease of reference, a table has also been prepared which identifies each recommendation presented by one or more panel members. The table also includes staff estimates of the resources needed to carry out the recommendation and other information which the Commission may wish to consider when deciding which recommendations should be pursued.

III. KEY FINDINGS AND RECOMMENDATIONS

A. Health of Agricultural Industry

Panelists' opinions on the health of the agricultural industry varied but there was a consensus that the Pinelands Plan itself is resulting in little, if any, negative effects. Those panel

members who expressed an opinion that the agricultural industry is not prospering felt that factors above and beyond the Pinelands Plan, such as safety and wage requirements, are of greatest consequence. Some panelists did express the opinion that the Pinelands Plan did have disruptive effects when it was first adopted, but that those effects were temporary in nature.

Several panel members suggested that the industry as a whole may be changing, and that what are viewed by some as negative trends may be more indicative of adjustments within the industry. One panelist indicated, for example, that the level of farm bankruptcies is lower than in other industries, but may be increasing because it's becoming more business-oriented, rather than family and lifestyle-oriented.

In terms of analyzing agricultural trends in the Pinelands, there was consensus that Pinelands Plan impacts, whether they be positive or negative in nature, could be determined only by a comparison to like trends outside the Pinelands.

A number of possible ways to conduct such analyses were discussed by the panel with varying degrees of consensus. Those which led to specific recommendations are discussed within the context of the recommendations. Others which were discussed but not recommended are:

- trends in the number of farms - This was not recommended by the panel because increases or decreases may be a function of many factors totally unrelated to Pinelands policies.
- trends in farm employment levels - This indicator was only briefly mentioned and not discussed in any depth.
- trends in types of agriculture - This indicator was only briefly mentioned and not discussed in any depth.

Recommendation 6.01 Coordinate with the Department of Agriculture to categorize its data into Pinelands and non-Pinelands areas.

One panel member suggested that Commission staff coordinate with the State Agriculture Department to categorize as much of its existing industry statistics into Pinelands versus non-Pinelands regions. If data is to be disaggregated for Pinelands and non-Pinelands portions of "split" municipalities, use of a geographically based information system (GIS) would likely be necessary.

A second panel member stated that the Department is currently updating its database on characteristics of existing farms in the state. This panel member encouraged the Commission to request state funding so that Pinelands versus non-Pinelands data may be extracted.

There was general consensus that this recommendation would result in worthwhile data for analytical purposes, but there was not much discussion as to the specific types of data which would be available.

Recommendation 6.02 Do regional share trend analyses of changes in net farm income and land and equipment purchases within and outside the Pinelands.

An exploration of changes in net farm income since the adoption of the Comprehensive Management Plan (CMP) for communities both inside and outside the Pinelands was recommended by three panel members. Net farm income was felt by several panelists to be on the decline throughout the state and an analysis would clearly illustrate the industry's economic stress.

Although there was general consensus that such an analysis would be worthwhile, even if it may not disclose Pinelands Plan-related effects, many panelists questioned whether reliable data on net incomes would be available.

The second part of the trend analysis, that related to land and equipment purchases, was recommended by one panelist. It was also recommended that such an analysis should control for state and federal farm investment subsidies, such as for soil and water conservation practices, which would artificially inflate the level of privately financed farm investments. In fact, one panelist stated that more than one-half of the statewide funding disbursed for soil and water conservation projects has gone into the Pinelands.

A variety of possible data sources for land and equipment purchases were identified and included appraisal data from the State Agriculture Development Committee, farm credit bureaus, and building permits. However, problems with the reliability of each of these data sources resulted in relatively little support among the panel for this portion of the recommendation.

Recommendation 6.03 Study Pinelands farmers' perceptions and attitudes toward the future of the industry within and outside the Pinelands.

One panelist specifically recommended that farmers' perceptions about the future of the agricultural industry within and outside

the Pinelands may be as informative as an analysis of industry trends.

Although this recommendation was not specifically supported by other panelists, expectations of the farming community were discussed several times during the meeting. For example, a conclusion of the impact assessment of the Interim State Development and Redevelopment Plan was that potential development values of farmland over a twenty year period may be less under the state plan than if current trends continue. This was discussed during the meeting as an expectation of potential value that may be lost. A panelist expressed the opinion that a similar phenomenon probably occurred in the Pinelands when the CMP was adopted, but it is less meaningful today. It was also suggested that the expectation of appreciated values might be less in the Pinelands than outside, even though actual land values in the Pinelands may be increasing at a faster rate.

There appeared to be little consensus that a survey should focus on expectations of land value appreciation and, as previously stated, there was little support for or opposition to the general recommendation.

Recommendation 6.04 Do regional share trend analyses of farm size and crop production acres within and outside the Pinelands. Examining changes in the sizes of farms and the levels of crop production both inside and outside the Pinelands over time was recommended by several panel members.

The panel agreed that finding a substantial decline in farm production acreage within the Pinelands and a corresponding increase in acreage outside the Pinelands would be a meaningful trend, although they did not expect this to be the case.

It was also suggested that this study, coupled with that presented in Recommendation 6.02, could explore the relationship between net farm income and farm size. It was suggested that the nature of New Jersey farms is evolving into small parcels that do not support full-time employment, either by choice or by necessity.

The recommendation was not widely supported by the panel. One panel member suggested that other factors, such as intensive management practices, influence both product levels and the total acreage devoted to farming. Farm size is also driven by many factors, such as crop selection and tenure patterns. Finally, one panelist suggested that a lack of a trend or one that increases over time would not necessarily lend itself to a conclu-

sion that the industry is thriving. In addition, examining changes in production without regard to the quality of the farm soil and product would not be meaningful. Therefore, a consensus was not reached on the utility of either farm size or farm production acreage as an indicator.

Recommendation 6.05 Do regional share trend analyses of changes in agricultural land values within and outside the Pinelands. Three panelists supported this recommendation, but most panel members felt that such a study would not be worthwhile.

Proponents of the recommendation asserted that declining land values have an adverse impact on a farmer's ability to secure credit, particularly when other capital reserves are low and cash flow is reduced due to crop failures. Increasing land values were also described as important to the industry because farmers consider returns on investments and they are an incentive to prospective buyers of farm land who seek property which will appreciate over time.

Ways to measure land values were not specifically recommended but proponents of the recommendation did suggest that the impacts of changing values on the industry could be measured by comparing them to farm indebtedness. This could be done by surveying agricultural lending institutions, or possibly through other secondary data. A review of secured versus unsecured loans was also recommended by one panelist to illustrate that land value is an important lending criterion.

Panelists who did not support the recommendation expressed opinions that studies have consistently shown that Pinelands land values are increasing, and that farm lending is not driven by land values. Relative to farm lending, two 1984 studies (The Effects of Agricultural Zoning on the Ability of Farmers to Borrow Money, and A Comparative Analysis of the Economic Characteristics of Grain, Tree Fruit and Vegetative Farms Located Inside and Outside of the New Jersey Pinelands Comprehensive Management Plan Areas) were discussed, neither of which apparently concluded that land values would adversely affect borrowing capacity or the industry's viability. One panelist also observed that agricultural lending practices have not been adversely affected after agricultural easements are placed on properties elsewhere in New Jersey and in many other parts of the country.

Other panelists observed that land values inflated by development potential discourage purchases for continued agricultural use, increase debt levels and are important from an individual's, not industry, perspective. Another concern about the use of land

values as a measure of the industry's health was that the benefits of growth management controls on the long-term viability of agriculture would not be considered; however, the observation was qualified with a reminder that short term disruptions in real estate markets can have significant impacts on individuals.

B. CMP Standards

Much of the panel's discussion about CMP requirements focused upon encouraging farm-related development and discouraging non-farm development in agricultural areas. One panelist suggested that tree farming may not be appropriate in agricultural areas, particularly if it is proposed as a principal agricultural use to permit residential development on 10 acre tracts. A specific recommendation in this regard was not offered, possibly because the panel made broader recommendations regarding farm housing.

Composting was also discussed but, although a recommendation was made to permit composting facilities for vegetative waste, the panel did not offer a recommendation regarding the application of sludge-derived compost. The absence of a recommendation in this regard may be due to: the panel's view that land application of compost is more of a waste management issue than an agricultural issue; the Commission's pending agreement with the Department of Environmental Protection and Energy (DEPE); and this panel's knowledge that the matter was discussed during the solid waste session.

Recommendation 6.06a Prohibit farm subdivisions in both agricultural production areas.

This, and the alternative recommendation discussed below, were outgrowths of the panel's discussion of farm subdivision and development patterns and a concern that smaller and smaller tracts of farmland may allow farming to continue, but do not necessarily promote the long-term viability of the industry.

One panelist initially suggested that a mandatory clustering provision relative to farm housing be added to the CMP, but later withdrew it because of a concern that it might actually promote more non-farm housing than is currently permitted in agricultural areas.

Alternatively, a recommendation to prohibit further farm subdivisions was offered. An exception could be incorporated to permit subdivisions, if consistent with long-term maintenance of viable farmland. This recommendation would effectively dis-

courage subdivision of farmland and the development of residences for " avocational" farmers.

Most panelists either supported the recommendation or did not express an opinion; however, one panel member indicated that such a prohibition may be counter to the current trend towards smaller farms operated by people who supplement farm income with non-farm employment.

Recommendation 6.06b Re-examine the 10 acre farm subdivision requirement in the Agricultural Production Area, and develop CMP standards which prevent subdivision and development contrary to the long-term maintenance of a viable agricultural land base.

Although no other techniques were discussed, one panelist recommended that the Commission might wish to explore the subdivision prohibition and other ways in which land use controls might be improved to prevent further fragmentation of agricultural lands.

It should be noted that this alternative focuses on the Agricultural Production Area only. The panel did not discuss whether a similar re-examination should be undertaken with respect to the 40 acre farm subdivision requirement in Special Agricultural Production Areas.

Recommendation 6.07a Reduce the maximum permitted floor area of agricultural commercial establishments.

One panel member recommended that the existing 5,000 square foot maximum floor area for agricultural commercial establishments be reduced in agricultural zones. The recommendation was based on the observation that traditional farm stands are typically much smaller in size than 5,000 square feet and that larger stores are incompatible in Agricultural Production Areas.

No specific size was proposed and no consensus was reached on this recommendation.

Recommendation 6.07b Tie the maximum permitted floor area of agricultural commercial establishments to location and traffic impacts.

A panel member who disagreed with the above recommendation offered this recommendation as a way to permit 5,000 square feet establishments along higher-order roadways.

Again, no specifics were discussed, and no consensus on the recommendation was reached.

Recommendation 6.08a Permit exceptions to certain CMP development standards for farm labor housing.

Farm labor housing was described by two panelists as a necessity to the agricultural industry but one which faces numerous regulatory hurdles. Because of the CMP's objective to promote agriculture, the seasonal use of this type of housing and the relatively large tracts of land on which the housing is built, it was recommended that certain development standards be applied flexibly. The following specific recommendations were offered.

1. Permit exceptions to seasonal high water table standard for farm labor housing.

Currently, septic disposal fields in the Pinelands must be located in areas with at least five feet to the seasonal high water table, although DEPE requirements permit them to be located in areas with seasonal high water tables of two or more feet. The Pinelands requirement makes it much more difficult for farmers to find suitable locations and, in the case of berry farms, it may be virtually impossible.

The panelist offering the recommendation suggested that some type of gradual lessening of the requirement from five feet to two feet might be based upon the amount of land devoted to the agricultural use. For example, it was suggested that the water table requirement could be reduced by one-half foot for every 50 acres of farmland.

Most panelists did not offer an opinion for or against this recommendation; however, one expressed concern that the legal implications of establishing such a standard for one specific land use should be reviewed.

2. Permit exceptions to wetland buffer standards for farm labor housing.

It was recommended by one panel member that the current minimum wetlands buffer requirement of 300 feet be reduced in 50 foot increments for each 50 acres of farmland, down to a minimum 50 foot buffer. This requirement would allow greater flexibility to site employee housing near active fields.

It was noted that wetlands which serve as berry or other agricultural fields are a disturbed land use and should not be treated in the same fashion as undisturbed wetlands. Consequently, it was suggested that this proposal be restricted to existing fields rather than newly developed berry fields.

No objections were raised by the panel on this recommendation.

3. Establish less restrictive nitrate/nitrogen standards for farm labor housing.

One panel member recommended that the current 2 milligrams per liter (mg/l) nitrate/nitrogen standard be reduced for septic systems serving farm labor housing. Unlike the prior two items, no specific problems were discussed, nor were any limits recommended. In fact, the panelist recommended against a maximum concentration because no farmer would propose housing at a density high enough for nitrate-nitrogen to be a problem.

This recommendation was not supported by several panelists because of environmental considerations. Concerns were expressed that septic systems are but one source of nitrate-nitrogen and that the septic system dilution model does not account for cumulative impacts from septic systems, fertilizer application, etc. A United States Geological Survey study of 36 water supply wells in the Kirkwood-Cohansey aquifer was referenced which found a median nitrate-nitrogen concentration of 7mg/l, and over one-third of the wells had nitrate-nitrogen levels exceeding 10mg/l.

Recommendation 6.08b. Treat farm labor housing as a "presumptive" hardship when considering waivers of strict compliance.

As an alternative to different standards for farm labor housing, one panelist recommended that it be classified as a "presumptive" hardship in the Commission's waiver regulations. Such a classification would treat farm labor housing similar to single-family dwellings and cultural housing, and could allow for relief from CMP wetlands, wetlands buffer, water table and nitrate-nitrogen standards provided that the thresholds for determining substantial impairment of Pinelands resources are not exceeded.

This recommendation appeared to receive more support, but many panelists did not express an opinion, possibly because they were not familiar with the new waiver regulations. One concern which was raised dealt with the fact that farm labor housing must be constructed to accommodate year-round use, and that too many scattered residential uses might be permitted through a presumptive waiver policy. A condition was suggested to grant these waivers if located in proximity to other development, but some panelists felt that such a policy might be contrary to general agricultural practices.

Recommendation 6.09a Permit vegetative compost facilities in Agricultural Production Areas.

One panelist recommended that the Commission's interpretation that vegetative composting facilities are permitted in Agricultural Production Areas be incorporated into the CMP.

Although there was general consensus that vegetative composting facilities were appropriate in these areas, a concern was raised regarding the environmental and land use implications of large-scale facilities.

Recommendation 6.09b Permit small-scale vegetative compost facilities in Agricultural Production Areas.

As an alternative to (a) above, one panelist recommended that composting facilities be limited to those which are ancillary to active agricultural operations and handle vegetative wastes from a more localized area.

No specific objections to this alternative were raised, and the panel did not attempt to further define "small-scale".

Recommendation 6.10 Actively promote vegetative composting through public educational efforts.

This recommendation was presented by one panel member as an outgrowth of Recommendation 6.09. An opinion was expressed that the current under-utilization or inappropriate use of composting by farmers inhibits the long-term development of quality topsoil for croplands located in the Pinelands.

There was little discussion of this recommendation.

C. Permitting Procedures

CMP Permitting procedures were not discussed at any length; however, there was some discussion of the procedural variations that occur between municipalities and what the application exemption means.

Recommendation 6.11 Promote uniformity of municipal permitting procedures relative to agricultural development.

During the discussion of CMP standards, one panelist mentioned that regulatory uncertainty prevents some farmers from seeking approvals for farm-related development. In some cases this may be due to a misunderstanding of the regulations, the expense involved in preparing applications and extremely variable permitting procedures in municipalities.

This latter problem was perceived by some panelists to result from municipalities' lack of familiarity with Pinelands application exemptions. One panelist also suggested that the problem may sometimes result from much more stringent municipal review requirements. This recommendation was offered as a means for the Commission to clarify its exemption relative to agricultural permits and to encourage municipalities to institute more uniform, and perhaps less onerous, local permitting procedures.

Other panelists did not oppose the recommendation.

D. PDC Program

Since the Pinelands Development Credit (PDC) program specifically applies to the two types of agricultural areas in the Pinelands, the panel discussed the program.

Recommendation 6.12 Examine ways to increase monetary benefits of the PDC program to farmers.

One panel member stated that the PDC program created an economic hardship on sending area landowners in its early years. This panelist further stated that some form of short-term compensation should be created to assist landowners in the agricultural management areas who have permanently protected their land through the program.

Possible sources of economic hardship include: delays between the time PDCs are severed and the receipt of cash reimbursement; monetary reimbursement related to the market value of PDC, which in the early years of the program was low; and the fact that the full development potential of the property (as based on market value) is not reflected in the PDC allocation or sales price, as it is in the state agricultural easement program.

No specific recommendations to increase monetary benefits were offered, and there was little discussion on the merits of this recommendation.

Recommendation 6.13 Allocate PDCs to active agricultural lands outside of the Preservation Area and the two agricultural production areas.

One panel member recommended that agricultural uses might be maintained and possibly enhanced throughout the Pinelands if all farms received a PDC allocation. Concerns were expressed that patchwork protection of isolated farm lands in Pinelands Villages, Towns, Rural Development Areas and Regional Growth Areas

might result in poorly-conceived land use patterns. Consequently, two choices were presented, as follows:

1. **Limit the additional allocation to active farm land in the Forest Area.**
2. **Limit the additional allocation to areas, which meet state planning criteria for agricultural areas in rural planning areas.**

Many panelists did not express an opinion on the recommendation, possibly because they were not in a position to evaluate what, if any, impacts an increased allocation of PDCs might have on the PDC program.

Recommendation 6.14 Study changes in PDC value as compared with changes in growth area land values, within and outside the Pinelands.

A study to examine how the market value of PDCs is faring in relation to land value in the PDC receiving areas, and other developing areas outside the Pinelands, was recommended by two panel members who questioned the demand for PDC use under the current program.

These panelists cited a reluctance of receiving area municipalities to approve development applications that are based on PDC bonus densities. It was stated that many municipalities do not want higher densities and adopt design regulations which favor base density projects. It was suggested that this situation may cause development opportunities in PDC receiving areas to flow to areas outside the Pinelands.

Another panelist stated that PDC levels show significant increases in redemption activity in recent years. The panelist also noted that the PDC program was not intended to be a compensatory program for sending area landowners, but rather to distribute the costs and benefits of zoning in a more equitable fashion.

There was no discussion about the details of such a study or how the results might be used. Other panelists did not express opinions on this recommendation.

Recommendation 6.15 Provide all eligible property owners with estimates of PDC entitlements.

During a discussion in which several concerns were raised about information available to PDC program participants, a suggestion was initially made that the Commission issue formal PDC alloca-

tions to all property owners in the Preservation Area District and the two agricultural areas.

Several panelists expressed the opinion that such a recommendation is not possible to implement because the Commission can only obtain detailed property ownership and acreage information from property owners. The suggestion was then withdrawn in favor of a recommendation that the Commission provide estimates of PDC entitlements to property owners based upon available tax information.

No objections to this recommendation were noted.

Recommendation 6.16 Study the economic rationale for the Transfer of Development Rights concept.

One panelist stated that the transfer of development rights concept is questioned by many economists as a growth management tool, and perhaps the concept should be examined within the context of the PDC program's goals and objectives.

Another panelist expressed concern about the use of limited resources to do purely theoretical research, and that the program's operation was studied in 1988.

E. Natural Resources

Much of the discussion focused upon agriculture's impact on ground and surface waters. One panelist reviewed the results of a limited United States Geological Survey project which found that water quality was significantly impacted by agricultural activities. Well contamination from nitrate-nitrogen was found to be particularly high, but pesticide contamination was not found to be a significant problem. Another panelist observed that agricultural uses are particularly water consumptive since a high percentage of irrigation water is lost through evaporation. The following recommendations reflect these concerns.

Recommendation 6.17a Tailor best management practices based on appropriateness to the unique and special characteristics of the Pinelands.

It was recommended that the Commission tailor best management practices, which are developed for general agricultural use, to the special conditions of the Pinelands, identifying those which are most appropriate for the Pinelands. This may, for example, result in the identification of crops that are compatible with Pinelands water quality, soil types, and hydrology patterns.

Turf farming was mentioned as one form of agriculture that may more significantly impact water resources than most other types of agriculture.

It was also suggested that Pinelands-specific best management practices may be promoted if coupled with economic incentives to encourage their use.

Few details of the types of management practices or the economic incentives were discussed; however, the panel generally appeared to support the recommendation.

Recommendation 6.17b Study groundwater quality criteria to determine best management practices.

As an alternative to the above recommendation, one panelist offered that the environmental criteria for recommending specific types of best management practices in the Pinelands Area be studied first. This would address a research gap that currently exists due to funding cutbacks in the Agricultural Extension Service.

One possible aspect of the study would be to assess the mobility of radon in groundwater. Increased radon levels may result from the use of ammonia rather than nitrates in fertilizers.

Another possibility is to study pesticide levels in Pinelands groundwater. Although pesticide levels in groundwater are reported to be low in the Pinelands, the U.S. Environmental Protection Agency has recently lowered their Public Health Advisory concentrations. Therefore, the Commission may choose to monitor levels in the future.

Recommendation 6.18 Support the Department of Agriculture's best management practices program through public education efforts.

As an outgrowth of Recommendation 6.17, it was recommended by one panel member that the Commission promote the Department of Agriculture's cost-sharing program to encourage widespread use of best management practices and the state's farmland easement program.

Discussion of ways in which the Commission could work with other agencies to promote these programs was not explored at the meeting.

Recommendation 6.19 Discourage agricultural uses in Pinelands headwaters.

Because farm operations can significantly impair water quality, and their location in upper reaches of streams magnify those im-

pacts, one panel member recommended that the Commission create mechanisms to discourage farms in or near the headwaters of the major Pinelands tributaries. One possible way suggested to accomplish this goal includes a land exchange program between landowners in upstream and downstream areas.

Although several panelists supported this recommendation, most panelists did not offer an opinion.

F. Miscellaneous

Although a specific recommendation was not offered by the panel, one participant stated an opinion that the development restrictions imposed by the CMP in agricultural management areas has adversely impacted farmers' participation in the State's agricultural easement program.

In particular, the development restrictions in Pinelands management areas were identified by one panel member to be a contributing factor to the low percentage (approximately 1%) of total State permanent agriculture easements in the Pinelands. Conversely, a much higher percentage of all farms enrolled in the "eight-year" program are located within Pinelands municipalities.

Since payments for permanent easements are based on fair market value, it was argued that there is less economic incentive for Pinelands farmers to participate with the permanent easement component of the state program. However, another panelist felt agricultural easement values in areas of the state with high property values were being unfairly compared with Pinelands values and that easement prices in more rural areas are not dissimilar to the Pinelands.

Still another panel member stated that, because the Commission is recognized nationally as a leader in agricultural preservation, it should take a lead role in influencing state farm policy. The potential for the Commission to influence agriculture-related policies of the DEPE, the Department of Labor, the Department of Community Affairs, the Department of Agriculture, and the state legislature was mentioned.

Recommendation 6.20 Play a more prominent role in educating farmers about state and national requirements.

An educational process was recommended to assist farmers to adjust their agriculture practices to evolving state and federal regulations without adding unexpected costs. Information on

changes in regulations related to farm labor, underground oil tank storage, tax legislation, etc. should be widely disseminated to the industry and realistic compliance timetables should be pursued by policy makers.

This recommendation was offered by one panelist. Discussion of the specific role the Commission might assume was not explored at the meeting.

Recommendation 6.21 Seek reform of state farmland assessment legislation to benefit actual farmers.

Concerns were expressed by several panelists that state farmland assessment policies are not benefiting farmers to the extent they could. Income requirements, acreage requirements, and ownership patterns were mentioned as particular areas of concern.

One panelist then recommended that the Commission should seek reforms in state farmland assessment legislation. Specific changes were not discussed.

This recommendation did not receive any objections from the rest of the panel.

IV. PUBLIC COMMENTS

One member of the public suggested that further analysis of the impacts of agriculture should be undertaken because the diversity of agricultural activities make it difficult to generalize about impacts. Policies in this area should not be made from inadequate databases.

Another individual expressed a concern over the panel's advocacy of best management practices because economic interests might prevail over environmental considerations.

Agriculture Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Health of the Industry	6.01	Coordinate with Dep't. of Agriculture to categorize its data into Pinelands and non-Pinelands areas.	Study	1wm - P	-	<ul style="list-style-type: none"> o Would complement other economic monitoring programs (see Recommendation 2.01) o Uncertain as to what specific data might be available o State may not have the resources to easily accomplish o Full GIS may be necessary
	6.02	Do regional share trend analyses of changes in net farm income and land and equipment purchases within and outside the Pinelands.	Study	-	\$30,000	<ul style="list-style-type: none"> o Net farm income data may not be readily available o Land purchase data may be unreliable o Equipment purchase data may not be readily available o Uncertain if results will be informative
	6.03	Study farmers' perceptions and attitudes toward future of industry within and outside the Pinelands.	Study	-	\$20,000	<ul style="list-style-type: none"> o Statistical survey would be required o External factors may cloud any CMP-related conclusions o Business attitudes can change quickly
	6.04	Do regional share trend analyses of farm size and crop production acres within and outside the Pinelands.	Study	6wm - P	-	<ul style="list-style-type: none"> o Could be coupled with Recommendation 6.02 o Unlikely that CMP-related conclusions would be reached o Full GIS may be necessary
	6.05	Do regional share trend analyses of changes in agricultural land values within and outside the Pinelands.	Study	-	\$30,000	<ul style="list-style-type: none"> o Independent land value studies already undertaken o Land values may not be indicative of industry's health

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Agriculture Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
CMP Standards	6.06a	Prohibit farm subdivisions in both agricultural production areas.	CMP	-	-	<ul style="list-style-type: none"> o In use elsewhere o Exceptions would need to be carefully structured
	6.06b	Re-examine 10 acre farm subdivision requirement in the Agricultural Production Area, and develop CMP standards to prevent subdivision and development contrary to the long-term maintenance of a viable agricultural land base.	Study/ CMP	2wm - P	-	<ul style="list-style-type: none"> o Provisions strengthened during last CMP review o Other than prohibition on subdivision or larger area requirements, uncertain what other improvements may be possible
	6.07a	Reduce the maximum permitted floor area of agricultural commercial establishments.	CMP	-	-	<ul style="list-style-type: none"> o Uncertain if a real problem exists o Involves policy decision as to whether individual farm stands, or larger establishments which may serve several farms, are appropriate o May limit marketing opportunities
	6.07b	Tie the maximum permitted floor area of agricultural commercial establishments to location and traffic impacts.	CMP	-	-	<ul style="list-style-type: none"> o Rationale exists for variable sizes but it may be difficult to implement
	6.08a	Permit exceptions to certain site development standards for farm labor housing: <ol style="list-style-type: none"> 1. seasonal high water table 2. wetland buffers 	-	-	-	<ul style="list-style-type: none"> o May set precedent for exceptions relative to other land uses o Legal basis needs to be explored o A two foot limit is generally consistent with DEPE requirements o Could be limited to already disturbed areas o Buffer requirements are already variable except for septic disposal fields o May be of limited benefit to berry operations

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Agriculture Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Permitting Procedures		3. nitrate/nitrogen standards.				<ul style="list-style-type: none"> o Uncertain if many farm tracts are smaller than required for septic dilution o Would further contribute to nitrate-nitrogen levels in groundwater
	6.08b	Treat farm labor housing as a "presumptive" hardship when considering waivers of strict compliance.	CMP	-	-	<ul style="list-style-type: none"> o Ties into an existing CMP mechanism for relief o May not fully address all problems
	6.09a	Permit vegetative compost facilities in Agricultural Production Areas.	CMP	-	-	<ul style="list-style-type: none"> o Incorporates interpretation into CMP o Source of vegetative waste and relationship to primary farm use should be addressed o See Solid Waste Recommendations 5.03 and 5.21 relative to composting
	6.09b	Permit small-scale vegetative compost facilities in Agricultural Production Areas.	CMP	-	-	<ul style="list-style-type: none"> o Incorporates interpretation into CMP o Source of vegetative waste should be addressed o Relationship to primary farm use less of a concern
	6.10	Actively promote vegetative composting through public educational efforts.	Admin.	Ongoing	-	<ul style="list-style-type: none"> o Dep't. of Agriculture or Cook College initiative may be better received in farming community
	6.11	Promote uniformity of municipal permitting procedures relative to agricultural development.	Admin.	Ongoing	-	<ul style="list-style-type: none"> o May be incorporated within Development Review Recommendation 7.03 o Will require frequent briefings due to turnover o May be viewed as an infringement upon municipal prerogatives

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Agriculture Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
PDC Program	6.12	Examine ways to increase monetary benefits of the PDC program to farmers.	Study	4wm - P	-	o PDC study completed in 1988 o PDC Bank is currently undertaking a project relative to receiving areas
	6.13	Allocate PDCs to active farm land outside the Preservation Area, APA and SAPA; choices include: 1. Limit allocation to farm land in Forest Areas; or 2. Limit allocation to concentrated areas of agriculture.	CMP	-	-	o Impact upon total PDC allocations and opportunities for their use needs to be considered o Reduces impact on total PDC allocations o May impact upon Forest Area density transfer program o Uncertain if state plan or county agricultural development areas should be the focus o May impact upon density transfer programs in Forest and Rural Development Areas
	6.14	Study changes in PDC value as compared with changes in growth area land values, within and outside the Pinelands.	Study	-	\$40,000	o Uncertain how results will relate to decision-making
	6.15	Provide all eligible property owners with estimates of PDC entitlements.	Admin.	36wm - P?	-	o PDC Bank is contacting property owners, although estimated allocations are not provided o Estimates will not be reliable and may lead to later problems o Resources may be better targeted to interested property owners
	6.16	Study the economic rationale for the TDR concept.	Study	-	\$20,000	o TDR rationale is well established o Benefits of such a study are unclear

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Agriculture Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Natural Resources	6.17a	Tailor best management practices based on appropriateness to the unique and special characteristics of the Pinelands.	Study	6wm - S	-	<ul style="list-style-type: none"> o May constrain current agricultural practices o May require outside expertise re: agriculture o Likely to be very complicated unless limited to known impacts o Recommendations may be controversial, absent more detailed research on some issues
	6.17b	Study groundwater quality criteria to determine best management practices.	Study	-	\$40,000	<ul style="list-style-type: none"> o Likely to involve extensive, long-term monitoring o May not significantly increase data on parameters of primary concern
	6.18	Support Dep't. of Agriculture's best management practices program through public education efforts.	Admin.	Ongoing	-	<ul style="list-style-type: none"> o Dep't. of Agriculture efforts may be better received in farming community o Practices may not reflect special attributes of, and concerns in, the Pinelands
	6.19	Discourage agricultural uses in Pinelands headwaters.	Study	4wm - P	-	<ul style="list-style-type: none"> o Uncertain if land exchanges or other techniques are feasible o Extensive agricultural areas are already located in headwaters
Miscellaneous	6.20	Play a more prominent role in educating farmers about state and national requirements.	Admin.	1wm - DR	-	<ul style="list-style-type: none"> o Other agencies and organizations may be better suited for this role
	6.21	Seek reform of state farmland assessment legislation to benefit actual farmers.	Admin.	1wm - P	-	<ul style="list-style-type: none"> o Specific changes would need to be evaluated o Should involve coordination with the Dep't. of Agriculture

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
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APPENDIX A

"Agriculture and the Pinelands Plan" Meeting

List of Participants

May 28, 1992

Name of Participant	Affiliation
Donald Applegate	State Agricultural Development Commission
Robert Battaglia	N.J. Department of Agriculture N.J. Agricultural Statistics Service
Thomas Budd*	Pinelands farmer
Robert Coughlin	Coughlin, Keene & Associates architecture/planning consultant
Adesoji Adelaja	Rutgers University, Cook College Dep't. of Agricultural Economics & Marketing
Joan Ehrenfeld*	Rutgers Univeristy, Cook College Institute for Marine & Coastal Sciences
Daniel Galletta	Aqua Terra Assoc., N.J. planning consultant & Pinelands farmer
Samuel Garrison	N.J. Department of Agriculture
Samuel Hamill, Jr.*	Samuel Hamill, Jr., Assoc. planning consultant
Walter Katona	Pinelands farmer
Mark Morgan	Rutgers University, Camden Campus Biology Department
David Rizzotte	Atlantic County Agricultural Development Board & Pinelands farmer
Eric Vowinkel	U.S. Geological Survey
Ed Fox	Pinelands Commission, Planning & Research
William Harrison	Pinelands Commission, Assistant Director Development Review
John C. Stokes	Pinelands Commission, Assistant Director Planning & Management Workshop Coordinator
Karen Young	Pinelands Commission, Development Review
Robert Zampella	Pinelands Commission, Science Office

* Panelist was invited but was unable to attend meeting.

APPENDIX B

Agriculture in the Pinelands

Questions Explored at the Technical Panel Meeting

May 28, 1992

Industry-Oriented

1. Are the following factors relevant in judging the "health" of agriculture as an industry?

- o Farm income
- o Acreage in production
- o Production estimates by crop

What other factors are useful in measuring the health of the industry?

2. What data exists relative to these indicators? Can these data be dis-aggregated for the Pinelands?
3. As a means of judging Pinelands impacts, is it appropriate to compare these factors in the Pinelands relative to those in the larger seven Pinelands county region and to the state as a whole?
4. Do you have data available any on these factors? If so, what trends are evident when comparing pre-Pinelands conditions (1980 and earlier) with conditions since adoption of the Pinelands Plan? What trends relative to the seven county Pinelands region and the state as a whole are evident? Do you have reason to believe these trends may or may not continue? If so, why?
5. If trends in important indices are evident, what conclusions can be drawn? To what extent might these be attributed to the Pinelands Plan?
6. On the basis of your own knowledge, do you have an opinion as to whether the Pinelands Plan has positively or negatively affected the viability of agriculture in the Pinelands?

- overall?
- specific segments or types?

In addition to those already discussed, what other analyses should be done to test these working hypotheses?

7. If negative trends are evident, what steps can state government in general or the Pinelands Commission in particular take to reverse them?

8. To what extent do Pinelands land use standards affect the viability of agriculture in the Pinelands? What, if any, specific changes in the Pinelands land use standards might enhance the industry's viability in the Pinelands?
9. Are the Pinelands Plan's agricultural standards effective in maintaining the industry's viability? What specific changes in these standards might enhance the industry's viability?
10. Do any of the Plan's other management standards (e.g. wetlands, water quality) negatively affect agricultural operations? To what extent do these negative impacts occur? Do these have industry-wide significance? What, if any, specific changes in these standards might enhance farming's viability?
11. What, if any, types of development essential to agricultural operations must receive Pinelands permits? Should these developments be exempted from the Pinelands permitting process? How would these permit exemptions enhance agriculture's viability?
12. The original CMP made recommendations and requirements based upon existing best agricultural management practices at the time (1980). To what extent have best management practices and other marketing, distribution, mechanization/labor, etc. assumptions changed, and how do Pinelands agricultural regulations differ from or compare to current state farming regulations? Are changes in Pinelands regulations warranted? Are there Federal or other state policies which might be appropriate to consider in New Jersey or in the Pinelands?
13. Is additional research or analysis needed before any of the recommendations previously discussed are considered? If so, what should be its focus?

Environment-Oriented

14. What types of positive and negative environmental impacts are generally associated with agricultural activities? Are they short or long term in nature?
15. Do you have any data available on these impacts in the Pinelands? If so, to what extent are the impacts evident?
16. Does this data suggest that trends are evident? Are these positive or negative in nature? To what extent might these be attributed to the Pinelands Plan? Do you have reason to believe these trends may or may not continue? If so, why?

17. On the basis of your own knowledge, do you have an opinion as to whether agricultural activities have positively or negatively affected the long-term maintenance of the Pinelands ecosystem and its natural resources? What analyses should be done to test these working hypotheses?
18. If negative impacts are evident, what steps can state government in general or the Pinelands Commission in particular take to reverse them?
19. To what extent do Pinelands land use standards relative to agriculture help maintain the essential character of the Pinelands environment? What, if any, specific changes in land use standards might better protect or enhance natural resource values?
20. Are the Pinelands Plan's agricultural standards effective in maintaining natural resource values or limiting significant negative impacts? What, if any, specific changes in these standards might be warranted?
21. To what extent do the Plan's other management standards (e.g. wetlands, water quality) promote natural resource protection in agricultural areas? What, if any, specific changes might you suggest relative to farming activities?
22. To what extent do any of the recommendations previously identified to enhance the agriculture industry have environmental implications? Are they positive or negative? Are they significant from a regional perspective?
23. To what extent have New Jersey legislation and/or regulations relative to farming and its environmental impacts changed since 1980 when the Pinelands Plan was formulated? Do any of these changes warrant revisions to the Pinelands Plan?
24. Are there other Federal or state regulations relative to agriculture and its environmental impacts which might be appropriate for consideration in the Pinelands? If so, how do they compare with current Pinelands requirements? What natural resource values might be better addressed if these other standards are considered?
25. Are there types of agricultural activities which do not currently require applications to the Pinelands Commission that should be required to do so to avoid potential adverse environmental impacts? If required, how would these procedures impact upon the industry's viability?

26. Is additional research or analysis needed before any of these recommendations previously discussed are considered? If so, what should be its focus?

APPENDIX C

Background Information

for

Agriculture and the Pinelands Plan Technical Panel Meeting

1. Pinelands Management Area Standards - Subchapter 5 of the Pinelands Comprehensive Management Plan (CMP): 7:50-5.11 to 5.13 (Management Areas), 7:50-5.24 (Agricultural Production Areas), and 7:50-5.25 (Special Agricultural Production Areas).
2. Pinelands Management Program Standards - Subchapter 6 of the CMP, Part I - Wetlands (7:50-6.1 to 6.14), Part II - Vegetation (7:50-6.21 to 6.24), and Part V - Agriculture (7:50-6.51 to 6.54).
3. Pinelands Development Standards - Subchapter 6 of the Pinelands Comprehensive Management Plan, revised 2/29/88, summary.
4. Pinelands Agriculture Application Requirements
5. Beaton, W. Patrick. "The Impact of Regional Land-Use Controls on Property Values: The Case of the New Jersey Pinelands." Land Economics. May 1991.
6. Classification of New Jersey Farmland 1980 to 1990.
7. Crop Summary Trends.
8. The Effects of Agricultural Zoning on the Value of Farmland, Resource Management Consultants, February 1991.

APPENDIX D

Public Comments Received Prior to Technical Panel Meeting

CITY OF ESTELL MANOR
OFFICE OF:

PLANNING BOARD
P.O. BOX 102
ESTELL MANOR, NJ 08319

April 1, 1992

The Pinelands Commission
P.O. Box 102
New Lisbon, NJ 08064

Att: Terrence D. Moore
Executive Director

Dear Mr. Moore:

Enclosed please find our response to your letter dated February 28, 1992 regarding key topics for Pinelands Commission review.

Topic One: We have no problem with solid waste.

Topic Two: Resource Based Industries: The problem is that they cannot be the only industries in the municipality.

Topic Three: Economic Impacts: The economic impact is very severe. The Pinelands is not taking into consideration the economic impact on the municipality that they are regulating. The Pinelands regulations are making it difficult to collect the school taxes, which our constitution requires to be imposed, in order to meet the constitutional needs of a thorough and efficient education. The Pinelands Commission must recognize that the municipalities have other concerns beyond those within the egos of the Pinelands, such as the financing of public schools, the financing of other municipal improvements, the provision for health and safety of the residents, and without a proper tax base, no municipality can operate the way we are expected to operate under Pinelands regulations.

Topic Four: Pinelands Permitting: We feel that the Pinelands is operated too strictly, that they follow some untried textbook theories, which we simply do not feel are working in practice.

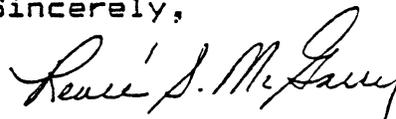
Topic Five: Growth Demands and Policies: This is best left to the municipality and not to the Pinelands Commission, particularly in a municipality such as Estell Manor, where the philosophy for limited but orderly growth, which is consistent with the overall philosophy of the Pinelands. The problem is we feel the local officials are far better able to determine the

APR 06 1992

specific needs of the community and the specific details as to how the community should be regulated better than the Pinelands Commission, which does not consist of any local residents in the case of Estell Manor, which is geographically removed a distance of approximately fifty miles.

If you should have any questions regarding the above comments, please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Renee S. McGarry".

Renee S. McGarry
Secretary



J. H. CRESSON
FORTY EAST SECOND STREET
MOORESTOWN N. J. 08057

December 11, 1991

N.J. Pinelands Commission
P.O. Box 7
New Lisbon, N.J. 08064

Maureen, please bring this to the attention of the Commissioners ASAP
re: Issues facing future Pinelands research in archaeological
sampling and collection in buffer areas

An issue of serious concern is the management, protection and scientific use of cultural resources in buffer, deed restricted and set-aside parcels after Pinelands approval. This circumstance serves to greatly impede historical and scientific research. Since little regulation and no protection or retrieval mechanisms exists for archaeological data inquiry after sub-division and individual property ownership an improved program needs to be implemented to both safeguard and sample these resources in the planning and application stages as well as after construction and individual property ownership.

My recommendation is first, to provide some legal and enforcement mechanisms with 'teeth' to prevent individual property owners from knowingly or unknowingly destroying cultural resources in these designated zones; second, to sample all sites of cultural use and resource found within these zones in stage I & II archaeological surveys and third, to establish a separate repository for Pinelands cultural resources for ongoing and future scientific research so a more uniform singular body of documents and artifacts are in one place.

An enormous potential exists for gleaning more direct, pristine and unfettered knowledge of Pinelands history and prehistory in these zones since most of the already known resources occur within 'wetland' buffers. As concerned and serious researchers we are overlooking a large body of data and research potential under the guise of 'protection' that in effect, to this day, denies purposeful, necessary scientific research from these neglected areas.

In essence, we are only getting a minute flicker of reflection through the window of the past in Pinelands history and land-use.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "John H. Cresson".

John H. Cresson



April 10, 1992

New Jersey Pinelands Commission
P.O.Box 7
New Lisbon, N.J. 08064

To: Executive Director, Terrence Moore and Commissioners
re: Key Topics for Pinelands Commission Review-"The management, protection and scientific use of cultural resources in the New Jersey Pinelands

In regard to Topic 2: Resource Based Industries, ie. berry farming, the construction and maintainence of berms, dikes and road systems has destroyed irreplaceable archaeological resources and continues to impact and threaten these resources as berry farming practices employ borrow pitting tactics extracting undisturbed soils (sand and gravel) from adjacent or nearby upland pristine locations. Each time this is conducted whole or parts of New Jersey and Pinelands history and prehistory are destroyed.

Policies in the past have either ignored or grandfathered the activity since it has been a long held Pinelands agricultural practice; or treated this as a trade-off situation choosing not to regulate at all since other newer land use practices were easier and less controversial to bring into compliance. The problem is, the very environments that these berry farms occupy-former cedar swamps and adjacent environs-comprise a narrow range of micro environmental niches that are totally unstudied and unknown from the standpoint of early human land use. eg. headwater drainage divide basin of the Rancocas and Mullica systems.

Assessment should be conducted on berry farming practices within the Pinelands and especially in these critical areas to both evaluate the extent of damage (past and ongoing) as well as propose and initiate a selective archaeological program of sampling and retrieval in order to preserve and interpret the past cultural behavior before its totally destroyed.

In regard to activities related to forest management, a topic in and of itself usually of low impact to cultural resources unless new roads and staging areas are being cut or established in locales adjacent to wetlands, ie. present day cedar logging,

or situated on upland dune ridges and terraces. Certain specific landforms with affinities to earlier human associations need to be recognized, mapped and studied as potential sources of historic and prehistoric data.

Also other forest management practices that employ fire prevention techniques using ditches, breaks and fire roads need to be more fully assessed. If possible when these impact areas are predetermined by forest management schemes consideration should be taken to avoid the potential occurrence or mitigate the archaeological resources in these areas.

Under Topic 4, Pinelands Permitting, although I am not adverse to the streamlining of Pineland review and permitting practices but as expressed in a previous letter regarding this topic (see enclosed) serious shortfalls in the protection, management and scientific investigation of cultural resources are still unresolved. (See my letter of Dec. 11, 1991 for specific concerns and recommendations). All archaeological resources need to be proportionally sampled for site specific data regardless of their positions within or outside of the buffers.

Respectfully submitted,



John H. Cresson

JHC/cmc

cc Dr. Barry Brady, N.J. Pinelands Commission

Dr. Anthony Ranere, Temple University, Archaeological Consultant

Joseph Arsenault, Environmental Consultant

APPENDIX E

Public Comments Received After Technical Panel Meeting

APPENDIX E

ASSOCIATION OF MUNICIPAL ASSESSORS
OF BURLINGTON COUNTY

June 5, 1992

Pinelands Commission
Attn.: Richard Sullivan, Chairman
P. O. Box 7
15 Springfield Road
New Lisbon, NJ 08064

RE: NON-APPURTENANT WOODLAND-FORESTRY OPERATION, FARMLAND
ASSESSMENT

Dear Mr. Sullivan:

I Carol A. Kerr, President and Sharon R. Austin, Co-Chairman Pineland/Farmland Committee, both represent the Burlington County Assessors Association would like comment on a viable established forestry review system that works and is used throughout the entire State of New Jersey to implement the Farmland Assessment Act. This Act establishes a system to review, inspect, administer and promote professional forestry within the Woodlands in the State of New Jersey.

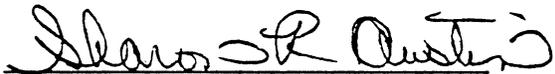
The Legislation develops a cooperative partnership between the Division of Taxation, Local Tax Assessors and the Bureau of Forest Management. Woodland owners that meet all the regulations are classified as agricultural and subsequently taxes are based on Farmland rates. Forestry activities are just one of many forms of Agricultural uses addressed under our Farmland Assessment program. Forestry should be actively promoted to ensure the mutual benefits we all enjoy from healthy diverse woodlands.

We have personally worked with the staff of the Bureau of Forest Management and have found their sincere interest and professionalism to be of the highest standard and their goal have always been to optimize the forest resources for all.

Very truly yours,



Carol A. Kerr, President
Burlington County Assessor's Assoc.



Sharon R. Austin, Co-Chairman
Burlington County Assoc. Pinelands Committee

SRA-CAK/DB

cc: Donald Kosul, Chairman
AMANJ Pinelands Commission

John Benton
Region B, State Forestry Services

An affiliate of the Association of Municipal Assessors of NJ

July 21, 1992

Mr. Richard J. Sullivan, President
NJ First Incorporated
The Pennington Office Park
114 Titus Mill Road
Pennington, NJ 08534-4305

Dear Mr. Sullivan:

I am a Landscape Architect who has submitted development applications to the Pinelands Commission on several occasions. Based upon my experiences, as well as those expressed to me by developers, landowners, and municipalities, it is apparent that the Commission is failing to achieve its mandate of protecting the Pinelands. They have been extremely effective in preventing development, but unfortunately preventing development does not necessarily protect and certainly does not enhance the Pinelands.

Long before the Pinelands Commission was established to "Protect" the Pinelands, there were farmers, boatbuilders, ironworks, etc., as well as the villages they supported. During formulation of the Comprehensive Management Plan (CMP), these same industries and villages were lauded as part of the Pinelands Heritage. Had they not existed before the Commission, however, the Commission would not allow them to exist today. Furthermore, by developing an expensive and cumbersome permit process in which everything is a major development, the Commission is slowly and systematically eliminating what "heritage" is left. Its impact upon two traditional and supposedly "desired" activities, i.e., farming and forestry, is especially disturbing. Both have suffered immensely since adoption of the CMP and while forestry has not recently been a major industry, it would seem to be perfectly suited to not only protect and enhance the Pinelands, but also provide economic benefit through intelligent management as a renewable natural resource.

The Commission's myopic approach to "protecting" the Pinelands is nothing more than a feeble maintenance of the Status Quo. By their adherence to the belief that all land use is inherently bad, they have dismissed out of hand many opportunities to correct past habitat destruction and thereby enhance the Pinelands.

Mr. Richard J. Sullivan

July 21, 1992

Page Two

This misguided belief underlines the Commission's fundamental misunderstanding of the social and economic aspects of the Pinelands and their interrelationship and inevitable impacts upon its ecology. The Commission has never failed to exhort the bad effects that poor land use and development has had upon the Pinelands. Unfortunately, it has failed miserably to acknowledge, perhaps even grasp the possibilities for enhancement that sensitive land use can, in fact, bring.

- Why can't endangered species be re-introduced?
- Why can't critical habitat be created?
- Why can't foresters be permitted to utilize and manage some of its renewable resources in a manner that will insure its long term health and vigor?
- Why can't thoughtful developers be allowed to provide housing and business opportunities in designated areas to those whose vested interest it would be to protect and enhance the Pinelands?
- Why can't the Pinelands be restored?

Because the Commission has not and will not permit it.

Furthermore, through its unmitigated contempt of landowners who would utilize the Pinelands natural resources and its arrogant disregard of those with the experience and expertise to manage them, the Commission is alienating, and in some cases, destroying its most important constituency. Through its presumed omnipotence, the Commission's staff or inexperienced environmental scientists and experienced lawyers are insuring the Pinelands' slow, but certain, deterioration.

Until the Commission is made answerable for its actions and non-actions, it is inevitable that the "Pinelands" will one day exist only as an image that they dispel upon a naive and uninformed public.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy Kaluhiokalani". The signature is fluid and cursive, with a long horizontal stroke at the end.

Timothy Kaluhiokalani, ASLA
Landscape Architect

FILED JUN 6 1992

Coughlin Keene & Associates

Planning and Policy Analysis

May 29, 1992

John C. Stokes
Assistant Director
The Pinelands Commission
P.O. Box 7
New Lisbon, N.J. 08064

Dear John,

I found yesterday's workshop very stimulating and look forward to receiving the summaries of it and the other workshops. Thanks for inviting me.

It seems to me that the 10-acre provision for farm-related dwellings may be a loop hole that will soon lead to the breakup of the agricultural land resource, and therefore prevent the continuation of commercial agriculture in the Pinelands, despite all the good work of the Commission. The idea of not allowing subdivision for farm-related dwellings is probably a good one. I would suggest you analyze it along with the idea of requiring such dwellings to be placed on one-acre lots and decide which is best. Based on yesterday's discussion, either would be better than the present provision.

To follow up on my suggestion that you also consider imposing a limitation on division of farmland tracts, I enclose a brief description of such a provision from Guiding Growth. Clarke County, Virginia, has adopted a similar provision, as have other counties in the West. Such a limitation is also recommended in AA's 1989 policy Implementation Principle, What Should APA's Position be on Planning and Zoning for Farmland Protection?

Incidentally, you may find Guiding Growth to be of some value to your program, even though it was written specifically with the laws and programs of Pennsylvania in mind. I enclose an order blank.

Yours sincerely,


Robert E. Coughlin



8. LIMITS ON AGRICULTURAL LAND DIVISION

WHAT IT DOES: Protects the agricultural land base by preventing the division of land into small or medium size parcels that are too small to comprise economically viable farms.

HOW IT WORKS: As agricultural land is broken up from large parcels into medium size parcels, the resulting parcels are less well-suited to agricultural use and are more attractive to non-farmers who can afford to pay higher per-acre prices than would be economically supportable by agricultural production. As a result, they may outbid farmers for land. Thus, the availability of smaller parcels can accelerate the transformation of the land market from a rural one into an urban or exurban one.

Some municipalities have adopted provisions in their subdivision or zoning ordinances that limit the division of agricultural land into parcels that are smaller than desirable for agriculture.

Hopewell Township, York County, stipulates that land in its Agricultural Zone may be subdivided into two or more "farms" only if after transfer each will contain at least 100 acres. If the original parcel contains fewer than 100 acres, land from it may be transferred to another parcel so long as the second parcel, after transfer, is at least as large as the original parcel was prior to transfer. In addition, the Hopewell ordinance requires that any new division line being created between two farms shall be agriculturally reasonable and shall not render the agricultural use of the tracts less efficient; e.g. under normal circumstances, fields and contour strips shall not be divided.

Hopewell's 100-acre cutoff is based on an analysis of all farm cores in the township. The farm core consists of the contiguous tracts that typically include the farmstead, barns, equipment sheds, and other agricultural facilities. In Hopewell, three-quarters of all farm cores were larger than 100 acres. Hopewell's 100-acre minimum does not preclude the creation of 1-acre lots under its sliding scale agricultural zoning provisions.

COMPLEMENTARY PROGRAMS: Agricultural Zoning (Cat. No. 21), Agricultural Security Areas (Cat. No. 31), Differential Assessment (Cat. No. 32), Purchase of Agricultural Conservation Easements (Cat. No. 38).

WHERE IT HAS BEEN USED: Hopewell Township, York County (discussed above). Shrewsbury and Peach Bottom Townships, also in York County, have similar provisions.

FOR MORE INFORMATION: Gilbert G. Malone, Esq., 29 Duke Street, York, PA 17401. Tel.: (717) 843-8001.

Pennsylvania Environmental Council Presents:

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ABOUT THE AUTHORS

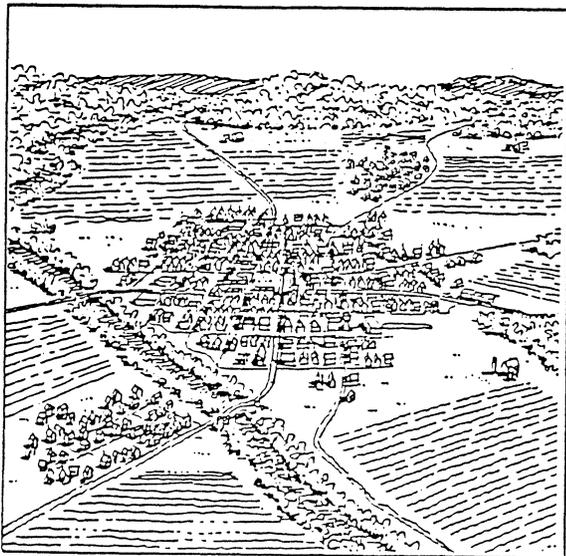
Robert E. Coughlin, AICP, is a partner in the firm of Coughlin, Keene and Associates and is Senior Fellow in the Department of City and Regional Planning, University of Pennsylvania.

Joanne R. Denworth, Esq., is President of the Pennsylvania Environmental Council. She has previous experience in environmental and municipal law, housing and urban development, and has served as a member of Pennsylvania's Environmental Hearing Board.

John C. Keene, Esq., AICP, is a Professor and Chairman of the Department of City and Regional Planning, University of Pennsylvania and a partner in the firm of Coughlin, Keene and Associates.

John W. Rogers, is an environmental planner and Vice President of CH2M Hill. He is Chair of the Pennsylvania Environmental Council's Growth Strategies Task Force.

Robert F. Brown, Jr., FAIA, illustrator, is a partner in the architectural and planning firm of Geddes, Brecher, Qualls and Cunningham.



A MUST FOR:

- Municipal Officials
- Citizens
- Planning Commission Members
- Environmental Organizations
- Environmental Consultants
- Businesses
- Developers
- Lawyers

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- Chapter 6:** How Every Community Can Implement Its Plan More Effectively
- Chapter 7:** Special Implementation Topics - Agriculture Protection, Village Protection, Affordable Housing, Stream/Valley Protection, Groundwater Protection
- Chapter 8:** Enforcing Planning And Growth Management Regulations
- Chapter 9:** How Citizens' Groups Can Make a Difference
- Appendix A:** A Catalog Of Techniques And Programs
- Appendix B:** Where To Get More Help

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AUG 4 1992
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DANIEL J. GALLETTA
8 MOSS VIEW LANE
HAMMONTON, N.J. 08037

August 3, 1992

The Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

ATTENTION: John C. Stokes, Assistant Director

REF: Pinelands Plan Review Agricultural Workshop

Dear John:

It has been some time since the agricultural workshop which I attended. However, I would still like to thank you and your staff for the invitation. It was an informative and worthwhile session. It was a great pleasure to participate.

I do not know the status of any recommendations which may be made as a result of this meeting. As a follow-up, I thought that I would highlight some issues if it is not too late. I shall keep these comments brief, in outline for further consideration.

1. Part II - Definitions

2.11 Definitions - "Agricultural Employer Housing"
include: Year-round employer housing.

"Development Minor" means all development other than major development, agricultural employer housing provided that the applicant has not constructed more than five units within the past two years or an agricultural processing facility.

"Agricultural Products Processing Facility"
include: including the storage of materials for packaging said products.

Add: "Farm Management Plan" means a plan developed in cooperation with the County agricultural and resource management agent which demonstrates that the property will be farmed as a unit unto itself or as part of another farm operation in the area.

Add: "Vegetative Waste Composting Facility" means a solid waste facility which is designed, developed and operated for the purpose of composting leaves, grass, brush, food processing waste, farm waste or any other vegetative waste as identified under NJAC 7:26-2.13(g)1 iv No. 23 Vegetative Waste.

August 3, 1992
The Pinelands Commission

Page 2

Part III - Minimum Standards for Land Use Distribution and Inventories

Agricultural employee housing and agricultural processing facilities should be a "permitted" use not an optional permitted use in all districts where agriculture is permitted.

Subchapter 6. Management Programs and Minimum Standards

Amendments to: Part I - Wetlands, 6.14 Wetlands Transition Area and Part VIII - Water Quality, 6.84(a)4iv Depth to Seasonal High Water Table

Agricultural employee housing units and agricultural processing facilities allowing exception to the standards contained in NJAC 7:50-6.84(a)4iv and NJAC 7:50-6.14 provided that:

1. The dwelling or housing units meet the standards of NJAC 7:50-5.24(a)2; and
2. The parcel is at least 10 but less than 50 acres or consist of contiguous land under common ownership of at least 10 to but not less than 50 acres, then the standard of NJAC 7:50-6.84(a)4iv may be reduced by 0.5 feet and the standard of NJAC 7:50-6.14 may be reduced by 50 feet; or
3. The parcels are at least 50 acres but less than 100 acres or consist of contiguous land under common ownership of at least 50 acres but less than 100 acres then the standards of NJAC 7:50-6.84(a)4iv may be reduced by 1.0 feet and the standard of NJAC 7:50-6.14 may be reduced by 100 feet to the reduction allowed by NJAC 7:50-5.24(e)2 above; and
4. The parcels in excess of 100 acres the standard of NJAC 7:50-6.84(a)4iv may be reduced by an additional 0.5 feet to the reduction allowed by 3 above for each additional 50 acres in area but in no case more than 2.0 feet total and the standard of NJAC 7:50-6.14 may be reduced by an additional 50 feet to the reduction allowed by 5.24(e)3 above for each additional 50 acres in area but in no case more than 150 feet total.

August 3, 1992
The Pinelands Commission

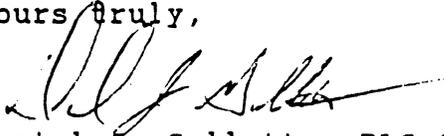
Page 3

In all cases, the reduction of standards only apply when the wetlands is cleared and farmed as part of an active agricultural operation.

I hope that you will consider these comments as constructive and incorporate them into your recommendations.

Thank you for your attention in this matter.

Yours truly,



Daniel J. Galletta, PLS & PP

DJG/dlm

cc: William F. Harrison, Esq.
Karen Young
Robert Zampella
David Rizzotte
Al Galletta
Fran Brooks

Cape May County Board of Agriculture

FILE COPY

(Affiliated with New Jersey and
American Farm Bureau Federation)

Board of Directors meets
each First Wednesday at
8:00 P.M. in the
Cape May County Extension
and Educational Center



JUN 25 1992

Return Address:
% Cape May County Extension Service
Dennisville Road, Route 657
Cape May Court House, N. J. 08210

June 16, 1992

To the Pinelands Commissioners:

We the members of the Cape May County Board of Agriculture are collectively requesting a clarification in writing of the legal parameters and specific laws that apply to all Agriculture and Horticultural activities and uses within the Pinelands.

At present any reading of the Pinelands Comprehensive Management Plan (CMP) does not provide a clearly consistent wording, phrasing, or understanding of exactly what is accepted under the classification of Agricultural or Horticultural activities and uses.

Specifically, we have a problem with the CMP's operational definition of Development and Major Development. Please refer to Part II - Definitions 7:50-2.11, page 50-17 where Agricultural and Horticultural uses are not excluded as aspects of Major Development. We find the phrasing here to be inconsistent with and/or in direct conflict with "The Pinelands Protection Act of 1979, 13:18A-3G Definitions", within which agricultural or horticultural purposes are excluded under the definition of major development. Also, in the CMP's definition of agricultural or horticultural purpose or use on page 50-15, it states that the harvesting of trees and forest products is a part of agriculture, which there again is inconsistent with the definition of development. Also, in the CMP Part V - Agriculture, 7:50-6.53A on page 50-143, it states that as long as we use recommended management practices established by the N.J. Department of Agriculture, the Soil Conservation Service and the N.J. Agricultural Experimental Station at Rutgers University; this is how agricultural activities and uses are to be carried out; with the assistance of professionals in these fields, and not by the Pinelands Commission. This, again, is inconsistent with the definition of development and development major on page 50-17.

The predicament we find ourselves in is not tolerable and can not be allowed to continue. The effects of the current legal confusion and the enforcement of such by Pinelands officials who are lacking field experience or training in the field by professionals in agriculture, horticulture, wildlife management, or forestry, has created numerous cases of needless hardship for farmers within the Pinelands. Examples of some of the hardships for farmers are: senseless requests to file applications to the Pinelands or local municipalities for Agriculture or Horticulture activities and uses, expenses of hiring lawyers and professional planners, and protracted

correspondence which wastes many months of precious time and potential revenue. These hardships, which have many farmers in the Pinelands area that would participate in forestry management so disgusted by applications and permits to and from the Pinelands and municipalities, that it is too costly to get involved. This results in more agricultural land lost in the Pinelands area.

We think the CMP should be ammended to state that Agriculture, Horticulture, Wildlife Management and Forestry should all come under the definition of Agriculture and follow regulations of the N.J. Dept. of Agriculture, the Bureau of Forest Management and the Div. of Fish, Game and Wildlife.

We are not the first to come across these problems with interpretations of the CMP. You already have copies of "Comments Regarding the Pinelands Commission Review Concerning an Assessment of How Current CMP Standards Effect the Viability of Forest Management Within the Region," submitted by the South Jersey Forest Resource Council, and also a copy of the "Preliminary Review of CMP with Regard to Forestry and Forest Management."

Your prompt attention to this matter is greatly appreciated. We anxiously await your reply.

Sincerely,



W. Scott Mauger, President
Cape May County Board of Agriculture

cc: All Pinelands Commissioners
Governor Jim Florio
Senator Jim Cafiero
Congressman Bill Hughes
Art Brown, N.J. Secretary of Agriculture
Pete Furey, N.J. Farm Bureau
All County Boards of Agriculture in N.J.

FILE COPY

The Pinelands Commission

P.O. Box 7, New Lisbon, N. J. 08064 (609) 894-9342

July 13, 1992



W. Scott Mauger, President
Cape May County Board of
Agriculture
c/o Cape May County Extension
Service
Dennisville Rd., Route 657
Cape May Court House, NJ 08210

Dear Mr. Mauger:

Thank you for your June 16 letter which requested clarification of agricultural and horticultural activities relative to several operational definitions of the Pinelands Comprehensive Management Plan (CMP). The fundamental question which I believe you're raising is the extent to which agricultural and horticultural uses are governed by the land use, environmental and permitting procedures of the CMP. I agree that this issue is confusing and hope that I can be of some help in clarifying the matter for you.

The Pinelands Protection Act (Act) does not define the term "development" but does direct the Commission to formulate zoning, development and use standards to meet a variety of objectives, including agricultural, forestry and a host of natural resource objectives. Moreover, the Act requires that all state approvals, certificates, licenses, consents, permits or financial assistance for the construction of any structure or the disturbance of any land conform to the standards of the Pinelands Comprehensive Management Plan (CMP). Consequently, the CMP defines "development" in a very broad manner-agricultural and horticultural activities would be considered development pursuant to the CMP definition-to ensure that Pinelands zoning, development and use standards apply to all development activities, even though some of those activities are not subject to Pinelands permit review procedures.

Relative to permit review procedures, the CMP defines "agricultural or horticultural purposes" and "application for development" in a manner consistent with the Act. For example, neither the Act nor the CMP defines the improvement, expansion, construction or reconstruction of any structure used exclusively for agricultural or horticultural purposes as an application for development. Consequently, any structure (such as a barn) which is used exclusively in the production of various plants or

animals is exempt from Pinelands permit review procedures. Of course, this exemption does not obviate the need for state and local permits which are not subject to Pinelands Commission review. The CMP definition also exempts other activities from Pinelands permit review because the Commission has determined that they represent relatively insignificant activities which can be permitted locally without Commission oversight.

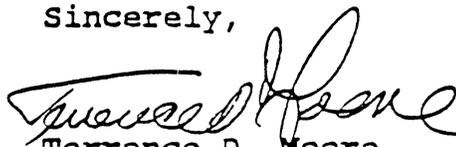
With regard to "major development," the Act's definition applies only to the development review procedures which were in effect while the CMP was being prepared. Since it does not apply to the CMP, the CMP's definition is not identical to that of the Act. I might also add that the CMP's definition merely triggers different application requirements than is the case for minor development and does not, in any way, affect whether or not Pinelands permits are needed.

As to fish and wildlife management activities, the Attorney General's office determined in 1982 that land clearing or land disturbance associated with such uses required an application to the Commission.

To summarize, the CMP establishes zoning, development and use standards which apply to all development activities in the Pinelands. However, permits for certain of those activities are not subject to Pinelands Commission review. These permit exemptions cover structures used exclusively for agricultural or horticultural purposes and other agricultural and horticultural activities with the exception of forestry.

In closing, the Commission is aware that application procedures relative to woodcutting proposals, markets where farm products are sold, and farm housing are thought by some to be counterproductive. These are topics which have been selected for evaluation during the current review of the CMP and the Commission will be seeking to streamline the procedures insofar as health and environmental standards are not compromised.

Sincerely,



Terrence D. Moore
Executive Director

Streamlining the Development Review Process

Report on Technical Panel Meeting

I. INTRODUCTION

A panel of experts (Appendix A identifies the panelists) met on June 1, 1992 to discuss this topic. In preparation for the meeting, a series of questions to be explored (Appendix B), background information (Appendix C identifies the sources) and public comments received (Appendix D) were provided to each participant. Public comments received after the meeting was held are attached as Appendix E.

Mr. Moore served as the workshop coordinator and panelists were asked to freely express their opinions as individual experts and not as representatives of an agency or organization.

II. PURPOSE OF THIS REPORT

This report is intended to summarize key discussion points and present all recommendations offered by any of the participants. A taped recording of the entire six hour session is available for review at the Commission's office. Since different opinions were offered by panelists, the report also attempts to indicate the level of consensus reached on various discussion points and recommendations.

Recommendations are described throughout the text in **bold** and are numbered sequentially. Because this particular workshop was the seventh in a series held by the Commission, each recommendation begins with the number 7. For ease of reference, a table has also been prepared which identifies each recommendation presented by one or more panel members. The table also includes staff estimates of the resources and time needed to carry out the recommendation and other information which the Commission may wish to consider when deciding which recommendations should be pursued.

III. KEY DISCUSSION POINTS AND RECOMMENDATIONS

Overall, the panelists agreed that the Commission's development review system works reasonably well, and some suggested much better than those of other agencies and departments. Major changes to the process were deemed unnecessary. Discussion focused on

five major topics: Application Forms; Applicant Information; General Permits and Exemptions; Certificates of Filing; and Intergovernmental Coordination.

A. Application Forms

In general, the consensus of the panel was that the Commission's application forms are clear and fairly simple to complete, particularly when compared to those of other state agencies and departments. Panelists did agree, however, that there is room for some relatively minor improvements to the Commission's application forms. The following recommendations were made:

Recommendation 7.01 Clarify the basic types of information required to be submitted for different types of development. Several panel members suggested that it might be helpful if the basic types of information required to be submitted for different types of development were clarified on the Commission's application form. This would alert applicants to the Commission's basic application requirements early on in the application process.

Recommendation 7.02 Develop and distribute a handbook on the application process to applicants and other state agencies.

A number of panelists suggested that a handbook targeted to applicants and other state agencies might be a good educational tool. In particular, applicants for single family dwellings who are not represented by engineers or lawyers would benefit from such a handbook. One panel member cautioned that handbooks quickly become outdated as procedures and policies are revised and that perhaps the Commission's efforts would be better focused on more direct contact with various participants in the application process.

Recommendation 7.03 Hold an annual one-day workshop on the application process to educate new local officials and to discuss revised procedures.

There was general consensus on the importance of training and continuing education of municipal officials and professional staff. One panel member suggested that workshops should not be limited to municipal officials but that other state agencies would also benefit from participation.

Recommendation 7.04 Improve coordination with Department of Environmental Protection and Energy (DEPE) by ensuring that the Commission receives copies of relevant "CP1" forms.

The panelists discussed the fact that DEPE's general CP1 forms for development in the Pinelands Area are rarely forwarded to the Commission and that this lack of coordination often causes confusion for applicants. One panel member recommended that CP1 forms be revised to indicate clearly that copies must be filed with the Commission. Another panel member suggested that the Commission may not actually want to receive copies of all CP1 forms and that better coordination between agency staffs would produce a better result.

Recommendation 7.05 Expand the Commission's application form to include a notice that stream encroachment permits, etc. may also be required.

The purpose would be to alert applicants to the fact that other approvals may be necessary. This recommendation was offered by one panel member. Other members of the panel did not express support for this recommendation; one felt that other state agencies should assume responsibility for such coordination.

B. Applicant Information

Although there was some difference of opinion as to how this could be accomplished, discussion focused on the importance of providing as much information and preliminary analysis as possible to applicants in order to simplify and expedite the review process. The panelists were particularly concerned with providing information to applicants of very small projects (those typically applying for one single-family dwelling who are not familiar with the Commission's review process). The following recommendations were made:

Recommendation 7.06 Prepare and distribute a "Living in the Pinelands" document to explain the reasons for submitting various pieces of information.

Several panel members felt that such a document would promote a better understanding of the importance of the Commission's application requirements, thereby encouraging applicants to submit the necessary pieces of information. This would be particularly helpful for single-family dwelling applicants. Another panel member suggested that the real problem was that many people simply do not agree with the Commission's regulations; a "Living in the Pinelands" document would do nothing to change the situation. It should be noted that this recommendation differs from

Recommendation 7.02 in that the handbook recommended in #7.02 is intended to be a procedural guide whereas the document recommended herein is intended to promote a better appreciation of the reasons for Pinelands requirements.

Recommendation 7.07 Identify all the information that may ultimately be required at the beginning of the application process as a way of minimizing the potential for delays.

The majority of panelists agreed that this might prevent surprises for applicants later on in the application process. The panelists did recognize, however, that this could lead to unnecessary expenditures on the part of some applicants. Another panel member suggested that, especially for single family residential applications, the Commission should simply list the usually required documents and give the applicant the choice of submitting the information at the beginning of the process or waiting until the staff completes its preliminary review.

Recommendation 7.08 Inform applicants early in the application process of the likelihood of approvals or denials.

Several panel members expressed the opinion that applicants are sometimes inadvertently misled into pursuing applications when the likely outcome (a denial) is a known probability. One other panel member disagreed and cited the Commission's new waiver letters as an example of the staff's efforts to inform applicants of preliminary determinations. It was the general consensus of the panelists that the Commission should attempt to provide applicants with "early readings" of their situations in order to avoid prolonging the application process for those likely to be denied. The panelists did recognize that this would, in many cases, be very difficult for the staff to do in a manner that protected the applicant's rights to pursue an application.

Recommendation 7.09 Draft and make available to applicants a list of precedents (previous Commission actions) relevant to their applications.

This would help applicants to determine the likelihood of an approval and to decide whether or not to pursue the application process. This recommendation was offered by one panel member who suggested that this would be particularly helpful to the large number of applicants for single family dwellings who are not represented by attorneys or consultants. Detailed discussion of this recommendation did not occur; however, no opposition was expressed.

Recommendation 7.10 Establish a "regulator of the day" procedure as a means of improving responses to telephone inquiries which involve substantive issues.

This recommendation was offered by one panelist. Other members of the panel did not express support for this recommendation. The panelists did discuss the Commission's current system of routing application related inquiries through the applicant liaison office, rather than through specific development review staff members. In general, the panelists indicated that the applicant liaison system works fairly well in terms of handling general questions and issues and less well with respect to substantive, specific questions. Several panel members indicated that they had not experienced significant difficulty in contacting specific staff reviewers and obtaining answers to substantive questions.

Recommendation 7.11 Distribute estimates of expenses normally incurred during the application process (a range of likely costs) for various professional services.

There was general consensus that distributing information on the range of necessary expenses would be helpful. Once in possession of this information, applicants would be able to make more informed decisions on whether or not to proceed with applications. Panelists felt this would be particularly helpful to applicants for single-family dwellings.

C. General Permits/Exemptions

In general, discussion of this topic focused on the choice between increasing the number of exemptions from CMP application requirements or instituting new review procedures for certain types of development. Consensus was not reached on this issue, although the panelists did agree that increased use of the CMP's municipal administrative officer procedures would be beneficial. The following recommendations were made:

Recommendation 7.12 Improve the efficiency of the application process by establishing new staff review procedures for certain types of development applications.

Several panelists recommended that special permitting procedures that would allow more "cursory" review of minor development applications be established as a means of expediting the review process. This recommendation was presented, in part, as an alternative to expanding the list of activities that are formally exempted from CMP application requirements. The panelists discussed the fact that the Commission would be better able to maintain data on applications that could be used later for enforce-

ment purposes, if necessary, by establishing expedited review procedures rather than exempting additional activities. Details on suggested procedures were not discussed. Consensus was not reached on this recommendation as some panelists believed the development review system would benefit more from expanding the list of exempted activities.

Recommendation 7.13 Expand the list of activities that are exempted from CMP application requirements.

The panelists discussed the following as possible exemptions:

1. transmission and fiber optic utility lines;
2. bicycle paths and sidewalks that are adjacent to existing roads;
3. fences;
4. the replacement of underground storage tanks;
5. single family dwellings in seweried Regional Growth Areas where no wetlands are present;
6. small uses (e.g., propane filling tanks) on existing impermeable surfaces;
7. small concrete slabs; and
8. migrant/farm labor housing.

With the exception of farm labor housing, there was little discussion on any of these potential exemptions. With regard to farm labor housing, one panel member stated that in order to provide as much assistance to farmers as possible, this type of housing should be exempt from both CMP application requirements and environmental standards, as well as from various provisions (e.g., setbacks) of local land use ordinances. Other panelists disagreed, stating that because farm labor housing can easily be converted to more conventional dwellings, it should not be exempted but treated in the same manner as applications for other types of housing. Several panelists suggested that the basic issue is environmental impact; no distinction can be made between the impacts of farm labor housing and affordable housing, for example, on the environment. Therefore, farm labor housing should not be treated differently. Another panelist stated that farm labor housing was not critical to the viability of agriculture in the Pinelands and that an exemption was not justified for that reason.

Consensus was not reached on any of the above listed exemptions, nor was consensus reached on the need to expand the list of exemptions at all. A number of panelists indicated that the current list of exemptions should be expanded and that Commission staff would be in the best position to identify those activities to be exempted. The primary criterion to be used in determining

which activities to exempt should be potential for causing environmental harm. However, several other panel members indicated their discomfort with increasing the number and types of exemptions. These panelists suggested that the Commission should instead focus on instituting an expedited review system for certain types of development, as is indicated in Recommendation 7.12.

Recommendation 7.14 Establish a general permit procedure for certain types of public development (e.g., road widenings). Recognizing that the Commission does not directly issue permits for private development, the panelists agreed that any "general permit" procedure could only be applied to public development. The manner in which such a permit procedure could be implemented by the Commission was not discussed. This recommendation was offered by one panel member.

Other panel members expressed neither support nor opposition to this recommendation. Note that a "general permit" procedure is one where no specific permit is required as long as one meets certain standards and stipulations. General permits are, for example, used by the Army Corps of Engineers.

Recommendation 7.15 Require the use of administrative officers in certain cases (e.g., sewerred lots with no wetlands) Panel members indicated general support for this recommendation, with the understanding that the Commission staff would provide the necessary training of municipal officials at the outset. One panel member suggested that administrative officers could also be made responsible for reviewing septic permits and building permits associated with major subdivisions that have already received approvals from the Commission.

Recommendation 7.16 Require the use of administrative officers on a "trial" basis in certain municipalities (e.g. Hamilton, Pemberton and Winslow) where existing staffing levels are sufficient to support such a system. Although there was some concern expressed with the amount of initial training that would be required, it was the general consensus of the panel that requiring the use of administrative officers on a trial basis would be beneficial. One panel member indicated that instituting such a system could significantly reduce application processing time for the Commission staff, particularly as the municipalities likely to be involved account for 75 per cent of the single family residential applications received by the Commission.

D. Certificates of Filing

The panelists generally agreed that the Commission's current certificates of filing are fairly clear and easy to understand. There was some disagreement on the role that certificates of filing should play in the review process: some panelists argued for more detailed certificates of filing while others preferred that certificates of filing only be used to indicate whether or not applications are complete. Discussion of the delegation of Commission review responsibilities to municipalities was also extensive. The following recommendations were made:

Recommendation 7.17 Make obtaining a certificate of filing before proceeding to the municipal level an option for applicants, not a prerequisite.

One panel member expressed the opinion that certificates of filing are "counter-productive" and that applicants should only be required to file applications with the Commission at the same time they are filed with the municipality. Simultaneous review would then occur. Obtaining a certificate of filing should be left to the option of the individual applicant. Other members of the panel did not express support for this recommendation.

Recommendation 7.18a Do not address an application's consistency with CMP standards in Certificates of Filing.

Several panelists recommended that certificates of filing not be used as opportunities for the staff to review applications for consistency with the CMP. Major review should occur at the municipal level; detailed certificates of filing interfere with the municipal approval process. It should be the responsibility of the municipality to determine the completeness and consistency of applications. Other members of the panel generally disagreed with this recommendation and suggested the following alternative.

Recommendation 7.18b Make certificates of filing more informative and specific in terms of identifying potential issues and possible solutions early on in the application process.

The majority of panel members suggested that it would be helpful if certificates of filing contained as much information as possible. One panel member stated that it was in an applicant's best interest to know whether a "call-up" was likely to result and a certificate of filing should provide this information. Potential inconsistencies should be explained in greater detail and certificates of filing should also offer specific solutions (e.g., an acceptable wetlands buffer or native species) to problems.

Recommendation 7.19 The Commission should continue to provide guidance on applications to applicants and municipalities with the ultimate goal of turning day-to-day responsibilities over to municipalities.

The panelists agreed that delegation of responsibilities to municipalities is a long term goal that the Commission should continue to work toward gradually. Specific means to accomplish this goal were not suggested although the importance of education on the local level was recognized.

Recommendation 7.20 Improve education of municipal officials (engineers/planners) re: CMP standards and encourage municipalities to have expert staff available (on retainer) for use by applicants in addressing routine CMP issues (e.g. cultural resources and wetlands buffer analysis).

One panelist suggested that the review process could be expedited if applicants were able to obtain better guidance at the local level. If environmental experts were hired by municipalities to work with applicants in determining wetlands buffer requirements, for example, the Commission might be more comfortable in delegating certain responsibilities to municipalities. Although several panelists indicated that applicants would be willing to pay for such services in return for a more efficient review process, others expressed doubt that this recommendation would actually result in expedited reviews.

Recommendation 7.21 Encourage/expand the cooperative review process (i.e., Hamilton's system) between the Commission and select municipalities and give applicants the option of pursuing concurrent review.

The panelists discussed the system currently in place in Hamilton Township whereby Commission staff participate in Township-run planning "workshops" on development applications. Commission staff are thus able to provide comments on applications in the preliminary stages of the process and concurrent review is facilitated. Because all municipalities operate somewhat differently, the need to tailor such a system to individual municipalities was recognized. Several panelists suggested that the Commission initially concentrate on encouraging a small number of municipalities (e.g. 6-7) to implement a cooperative review system. Most importantly, the Commission should explain the benefits of such a system to these municipalities and encourage them to invite Commission staff participation. Although there was general consensus on this recommendation, one panelist also stated that jointly attended workshops may not be the best forum for resolving problems with development applications. No other solutions were offered.

Recommendation 7.22 Inconsistent certificates of filing should specifically indicate that a "call-up" will result if issues are not resolved.

This is similar to Recommendation 7.18b, although it does not include a suggestion to specify possible solutions to application problems. The panelists agreed that the Commission's certificates of filing are fairly easy to understand, except when the issue of inconsistency with CMP standards is involved. One panelist suggested that this problem might be alleviated if it were clearly stated that a call-up hearing would ultimately be required if the application remained inconsistent with CMP standards. No opposition to this recommendation was expressed by other panelists.

E. Intergovernmental Coordination

The panelists generally agreed that intergovernmental coordination would benefit from some combination of the following: (1) the execution of additional Memoranda of Agreement; (2) joint meetings between the staffs of the Commission and other agencies on development applications; and (3) DEPE's delegation of certain permitting responsibilities to the Commission. The following more specific recommendations were made:

Recommendation 7.23 DEPE Coastal Area policies should adopt CMP standards to reduce confusion.

The panelists discussed the problems caused by the differences in Coastal Area Facilities Review Act and CMP standards when they are applied to the area of the Pinelands National Reserve also under CAFRA's jurisdiction. It was the general consensus that DEPE should revise its coastal area standards to be consistent with those of the CMP, thereby eliminating confusion with regard to wetlands buffers and land use designations in particular. Essentially, it was agreed that DEPE should issue permits in the Pinelands National Reserve area in the same manner and in accordance with the same standards that the Commission would use if it had day-to-day responsibility for that area. The panelists also agreed that Commission staff should coordinate with DEPE staff to work out the details in terms of the standards that DEPE would need to incorporate.

Recommendation 7.24 DEPE should delegate the authority to issue stream encroachment and sewer extension permits to the Commission.

Several panelists suggested that such delegation would eliminate confusion for applicants and help to expedite the review process. One panelist indicated that this recommendation would not be difficult to implement, although the potential need for additional Commission staff was noted. General consensus on the benefits of delegation by DEPE was reached, although one panelist suggested that the same benefits might be achieved through different means (e.g., a Memorandum of Agreement).

Recommendation 7.25 For major applications, pre-application meetings should be held jointly with Commission and DEPE staff. The panelists indicated general agreement that such pre-application meetings could be helpful. One panelist reminded the other panel members that DEPE currently conducts such meetings and that, in this panelist's opinion, the meetings have not been particularly beneficial. Another panelist recommended that Commission and DEPE staff members with some degree of supervisory responsibility should be assigned to participate in pre-application meetings so that applicants will have some confidence in decisions made at such meetings.

Recommendation 7.26 DEPE should assign certain reviewers to Pinelands Area and CAFRA applications and they should work in coordination with Commission staff.

One panel member suggested that this strategy would help to expedite the review process for certain applications. No opposition was expressed by the other panelists.

Recommendation 7.27 Execute Memoranda of Agreement with state agencies (e.g. Soil Conservation Service) in order to eliminate duplicative review and resolve any regulatory conflicts.

One panelist indicated that conflicts remain because other agencies are still reluctant to recognize that CMP standards supersede their own. Memoranda of Agreement could help to formalize relationships between the Commission and other agencies. Another panelist stated the view that the current structure of DEPE makes it difficult for policy decisions to filter down to various staff members; consequently, MOA's are not always properly implemented. Despite this fact, however, there was general agreement that additional MOA's would be helpful. Specific conflicts to be resolved through MOA's were not discussed.

F. Miscellaneous

At the conclusion of the meeting, various other items were recommended by the panel members. Time constraints prevented detailed discussion. The following recommendations were made:

Recommendation 7.28 The Commission should hold periodic meetings with people involved in the application process to facilitate an exchange of viewpoints and communicate new or revised procedures. The panelists generally agreed that this workshop format was beneficial and that additional educational sessions should be held.

Recommendation 7.29 Applicants should be provided with access to the Commission's data (i.e., wetlands, endangered species). One panelist suggested that this could help applicants to have a clearer understanding of the information used by the Commission to evaluate applications.

Recommendation 7.30 The Commission should work toward providing applicants with the ability to link up with the LAN to review the status of applications. The potential benefits of such a system were not discussed.

Recommendation 7.31 Analyze alternative appeal processes (e.g., dispute resolution). The panelists briefly discussed the Office of Administrative Law appeals process. One panelist stated that the process works well; another stated that other processes should be considered and that, at minimum, the Commission should consider ways to shorten the current OAL process and reduce costs for applicants. Another panelist indicated that OAL is in the process of establishing an environmental section and that this may help the appeals process to function more smoothly. One panelist recommended that the Commission consider using judicial review with alternate dispute resolution as an option; other panelists disagreed on the basis that consistent fact-finding would be impossible under such a system. No consensus was reached on the specific alternative appeals processes that should be implemented, nor was consensus reached on the need to change the current appeals process or the need to evaluate alternatives.

Recommendation 7.32 Require meetings with applicants after a second incomplete letter is sent in an effort to shorten the "incompleteness" process.

In addition to meetings on incomplete applications, one panelist also indicated that meetings between Commission staff and applicants should be encouraged in general. Such meetings could serve as an alternative to numerous letters citing N.J.A.C. section numbers to explain potential inconsistencies with CMP standards.

Recommendation 7.33 Require that applicants be present at all meetings between Commission staff and consultants.

There was general consensus that this practice would be beneficial to both applicants and the Commission provided that the applicant lives in the area.

Recommendation 7.34 Increase the number of Commission staff and provide for greater continuity of review, particularly in terms of staff assigned to municipalities and major development applications.

Several panelists stated that additional Commission staff would help to expedite the review process. One panelist stated that reducing staff turnover in terms of assignments to municipalities and major development applications would also be helpful.

IV. PUBLIC COMMENT

Several members of the public offered comments at the conclusion of the meeting. One person suggested that the Commission institute mandatory continuing education on the application process and CMP standards for municipal officials. It was also suggested that the Commission's appeal process be revised to provide a greater avenue for third party participation. Another person recommended that handbooks provided to applicants clearly indicate that the likelihood of approval varies greatly by management area. Finally, it was recommended that those municipalities with limited resources in terms of personnel delegate their permitting authority to the Commission, and also provide the Commission with adequate funds to compensate for this increased responsibility.

Development Review Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Application Forms	7.01	Clarify the basic types of information required to be submitted for different types of development.	Admin.	4wm - DR	-	o Could reduce incomplete applications
	7.02	Develop and distribute a handbook on the application process to applicants and other state agencies.	Admin.	2wm - DR 2wm - PP	-	o Handbooks can become too complex for easy use o Each state agency may need a separate handbook o Could have cost implications depending on design and production arrangements
	7.03	Hold an annual one-day workshop on the application process to educate new local officials and to discuss revised procedures.	Admin.	1wm - DR	-	o May help identify problem areas earlier o Attendance may be uneven
	7.04	Improve coordination with DEPE by ensuring that the Commission receives copies of relevant "CP1" forms.	Admin.	-	-	o May not be easy to accomplish or sustain o Screening for relevancy may be difficult o System to track and cross-reference CP1 forms with Pinelands applications may be cumbersome
	7.05	Expand application form to include notice that stream encroachment permits, etc., may also be required.	Admin.	-	-	o Difficult to list every conceivable permit
Applicant Information	7.06	Prepare and distribute a "Living in the Pinelands" document to explain the reasons for submitting various pieces of information.	Admin.	2wm - PP	-	o Other formats (e.g., video) should be considered o Might be more valuable if geared to a broader audience o Could have cost implications depending on design and production arrangements

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
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- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
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- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Development Review Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Applicant Information (continued)	7.07	Identify all the information that may ultimately be required at the beginning of the application process as a way of minimizing the potential for delays.	Admin.	2wm - DR	-	o May encourage applicants to spend money unnecessarily
	7.08	Inform applicants early in the application process of the likelihood of approvals or denials.	CMP/ Admin.	-	-	o May be viewed as an attempt to circumvent "due process" o May not always be possible
	7.09	Draft and make available to applicants a list of precedents (previous Commission actions) relevant to their applications.	Admin.	4wm - DR	-	o Individuality of applications may make categorizing difficult o Interpreting "precedents" may not be easy for single family applications
	7.10	Establish a "regulator of the day" procedure as a means of improving responses to telephone inquiries which involve substantive issues.	Admin.	-	-	o Applicants may still prefer to speak with "their" reviewer o May not be most productive use of a "regulator's" time
	7.11	Distribute estimates of expenses normally incurred during the application process (a range of likely costs) for various professional services.	Study/ Admin.	2wm - DR	-	o Range of expenses likely to vary widely from application to application o "Professionals" may argue that quality of services also varies
Exemptions/ General Permits	7.12	Improve the efficiency of the application process by establishing new staff review procedures for certain types of development applications.	Admin. or CMP	2wm - DR	-	o May result in slower review of other types of applications if a solution involves staff shifts o May result in less rigorous review of some types of applications but more staff time for other reviews

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				Staff(4)	\$\$\$ (5)	
Exemptions/ General Permits (continued)	7.13	Expand the list of activities that are exempted from CMP application requirements: 1. Transmission and fiber optic utility lines 2. Bicycle paths and sidewalks that are adjacent to existing roads 3. Fences 4. Replacement of underground storage tanks 5. Single family dwellings in sewered RGAs with no wetland issues 6. Small uses (e.g., propane tanks) on existing impermeable surfaces 7. Small concrete slabs 8. Migrant/farm labor housing	Study/ CMP CMP CMP CMP CMP CMP	2wm - P	-	<ul style="list-style-type: none"> o May be difficult to arrive at consensus on list o Reduces staff time spent on very minor applications o May require more enforcement efforts o Places greater responsibility on municipalities o Cultural resources and endangered and threatened species occasionally found along linear developments o Cultural resources and endangered and threatened species occasionally found along linear developments o Occasionally, this results in clearing of more vegetation beyond the paths o Contaminated soil and its disposal may become an issue o Recommendation 7.15 is an alternative o May raise questions when PDC use is required o Delineation of "small" may be debatable o Recommendations 6.08a and 6.08b are alternatives o May be difficult to maintain water quality o Difficult to differentiate from other, non-exempted activities

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				Staff(4)	\$\$\$ (5)	
Exemptions/ General Permits (continued)	7.14	Establish a general permit procedure for certain types of public development (e.g., road widenings).	Study/ CMP	2wm - P 1wm - DR	-	o Puts greater emphasis on education o MOAs are currently being used for this purpose
	7.15	Require the use of administrative officers in certain cases (i.e., sewerred lots with no wetlands).	CMP	-	-	o Recommendation 7.13 (#5) is an alternative o Training of local officials may be difficult due to turnover and part-time employment o Requirement may not be well received, as no one has "volunteered" to use existing provision
	7.16	Require the use of administrative officers on a "trial" basis in certain municipalities (e.g., Hamilton, Pemberton and Winslow) where existing staffing levels are sufficient to support such a system.	CMP	-	-	o Requirement may not well be received, as no one has "volunteered" to use existing provision o Recommendation 7.13 (#5) is an alternative
Certificates of Filing	7.17	Make obtaining a certificate of filing before proceeding to the municipal level an option for applicants, not a prerequisite.	CMP	-	-	o Will result in more "call-ups" o May not result in any discernible improvements to the process o Municipalities may object to such a decision resting solely with applicants
	7.18a	Do not address an application's consistency with CMP standards in Certificates of Filing.	Admin.	-	-	o May result in smoother municipal processing o Will result in more "call-ups" o May not result in any discernible improvements to the process
	7.18b	Make certificates of filing more informative and specific in terms of identifying potential issues and possible solutions early on in the application process.	Admin.	-	-	o May result in fewer "call-ups" o May be viewed as disrupting further municipal prerogatives

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Development Review Workshop Recommendations

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				Staff(4)	\$\$\$ (5)	
Certificates of Filing (Continued)	7.19	The Commission should continue to provide guidance on applications to applicants and municipalities with the ultimate goal of turning day-to-day functions over to municipalities.	Admin.	-	-	o Very dependent upon changing municipal staff capabilities o Type and level of guidance to be continued may be viewed differently by different parties
	7.20	Improve education of municipal officials (engineers/planners) re: CMP standards and encourage municipalities to have expert staff available (on retainer) for use by applicants in addressing routine CMP issues (e.g., cultural resources and wetlands buffer analysis).	Admin.	1wm - PP 1wm - DR	-	o May expedite completion of applications o Financing costs of municipal experts may be controversial o Varying degrees of expertise may result in problems
	7.21	Encourage/expand the cooperative review process (i.e., Hamilton's system) between the Commission and select municipalities and give applicants the option of pursuing concurrent review.	Admin.	1wm - DR	-	o May expedite completion of applications
	7.22	Inconsistent certificates of filing should specifically indicate that a "call-up" will result if issues are not resolved.	Admin.		-	o May be perceived as a threat to municipal authority
Intergovernmental Coordination	7.23	DEPE Coastal Area policies should adopt CMP standards to reduce confusion.	Admin.	1wm - DR	-	o DEPE may be reluctant to make changes in CAFRA regulations o CAFRA may have different objectives that should be included

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Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Intergovernmental Coordination (continued)	7.24	DEPE should delegate the authority to issue stream encroachment and sewer extension permits to the Commission.	Admin./CMP	1wm - DR	-	o Perhaps wetlands and other programs should be included as well o Can be pursued only if funding to support additional staff resources is made available
	7.25	For major applications, pre-application meetings should be held jointly with Commission and DEPE staff.	Admin.	-	-	o Availability of all parties may inadvertently lengthen the process o Deciding when to include DEPE may not always be obvious
	7.26	DEPE should assign certain reviewers to Pinelands Area and CAFRA applications and they should work in coordination with Commission staff.	Admin.	-	-	o DEPE staffing levels, other demands, and turnover may make this difficult
	7.27	Execute Memoranda of Agreement with state agencies (e.g., SCS) in order to eliminate duplicative review and resolve any regulatory conflicts.	Admin.	2wm - DR	-	o Initial step may be to set priorities o Negotiation with state agencies may be time consuming o Time estimates are uncertain as number of MOAs is unknown
Miscellaneous	7.28	The Commission should hold periodic meetings with people involved in the application process to facilitate an exchange of view-points and communicate new/revised procedures.	Admin.	1wm - DR	-	
	7.29	Applicants should be provided with access to the Commission's data (e.g., wetlands; endangered species).	Admin.	-	-	o Some data (e.g., endangered and threatened species, cultural resources) is withheld to protect the resources from "collectors" o Uncertain how an efficient system can be established considering space and financial limitations

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Development Review Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Miscellaneous (continued)	7.30	The Commission should work toward providing applicants with the ability to link up with the LAN to review the status of applications.	Admin.	-	\$3,000	o May require dedicated telephone line or computer equipment o Cost dependent on extent of information made available
	7.31	Analyze alternative appeal processes (e.g., dispute resolution).	Study	2wm - P 1wm - DR	-	o Expedited review procedures may result in a less adequate record being available for appeals
	7.32	Require meetings with applicants after a second incomplete letter is sent in an effort to shorten the "incompleteness" process.	CMP or Admin.	-	-	o May actually lengthen the process due to schedule conflicts o Mandatory requirement may not be well received
	7.33	Require that applicants be present at all meetings between Commission staff and consultants.	CMP or Admin.	-	-	o May actually lengthen the process due to schedule conflicts o Mandatory requirement may not be well received
	7.34	Increase the number of Commission staff and provide for greater continuity of review, particularly in terms of staff assigned to municipalities and major development applications.	Admin.	-	\$90,000	o Estimated costs reflect two positions which increase current permitting/enforcement staff to authorized levels o Additional financing would be needed at a time when state budgets are declining

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
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APPENDIX A

"Streamlining the Development Review Process" Meeting

List of Participants

June 1, 1992

Name of Participant	Affiliation
Michael Catania	Nature Conservancy (former Assistant Commissioner, DEPE)
David Fisher	Applicant Representative Ernst, Ernst and Lissenden
Mary Lou "Sam" Fonte	Applicant Consultant Fonte Associates
Michael Gross	Attorney New Jersey Builders Association
Rocco Guerrieri	Division of Economic Development New Jersey Department of Commerce
Richard Hassel	U.S. Army Corps of Engineers
Edward McGlinchey	Winslow Township Zoning Officer
Timothy Prime	Attorney/Applicant Representative
Nancy Rainbow	Hamilton Township Planning Board Secretary
Steven Whitney	Environmental Regulation N.J. DEPE
William Harrison	Pinelands Commission, Assistant Director Development Review
Charles Horner	Pinelands Commission Development Review
Donna McBride	Pinelands Commission Development Review
Terrence D. Moore	Pinelands Commission, Executive Director Workshop Coordinator

APPENDIX B

Streamlining the Development Review Process

Questions Explored at the Technical Panel Meeting

June 1, 1992

Application Requirements

1. Is it clear what types of activities require application to the Pinelands Commission? If not, how can this be made clearer?
2. Are those types of development activities which are not subject to (exempt from) Pinelands permitting requirements appropriate? Should these exemptions be broadened or narrowed for certain types of development? What effect, if any, might these changes have on Pinelands land use or environmental policies?
3. Are there opportunities for the Pinelands Commission to issue "general permits" for certain types of development in lieu of granting outright permit exemptions? If so, what specific activities would be appropriate for general permits and what, if any, conditions should be established?
4. Is it clear what information must be submitted for various types of development applications? If not, how can this be made clearer?
5. Is there more or less information which should be required for various types of development applications?
6. In 1987, the Commission adopted provisions which gave municipalities the option of assuming primary responsibility for reviewing and approving applications for the development of single family homes. Do you believe that the implementation of such provisions could help to streamline the permitting process? What affirmative measures might the Commission take to encourage municipalities to assume such responsibilities? Should the Commission require municipalities meeting certain criteria to assume such responsibilities?
7. Pinelands Plan application requirements can be tailored for specific types of development through memoranda of agreement between the Pinelands Commission and other government agencies. Can application procedures be streamlined or better coordinated in this manner? If so, what specific arrangements would you suggest? Should the Commission issue certain approvals on behalf of DEPE to eliminate duplicate application reviews? If so, which approvals?

8. To what extent are Pinelands application information requirements consistent with municipal, county or state requirements? Are there specific information requirements which can be modified to be more consistent?

Completeness Documents

9. What purposes can be best served by the Pinelands Commission's issuance of completeness documents (e.g. certificates of filing)? Should they address a project's consistency with the Pinelands Plan, merely cite that an application has been filed, etc.?
10. Are the completeness documents issued by the Pinelands Commission clear? If not, how can they be made clearer?
11. Are completeness documents generally issued by the Pinelands Commission in a timely manner? If not, do you have an opinion as to the reasons for delays? What specific steps might be taken to speed up the process?
12. Do Pinelands completeness documents positively or negatively affect municipal, county or state review processes? Are negative effects due to the Pinelands process or due to more stringent land use/development standards in the Pinelands?

Review of Local Permits

13. Are Commission notices "affirming" local approvals issued in a timely manner? If not, do you have an opinion as to the reasons for delays? What specific steps might be taken to speed up the process?
14. Are Commission notices that local approvals are "called up" for Commission review clear as to what issues exist? If not, how can they be made clearer?
15. Are Commission notices that local approvals are "called up" for Commission review issued in a timely manner? If not, do you have an opinion as to the reasons for delays? What specific steps might be taken to speed up the process?

Administrative Hearings

16. When local permits are "called up" for Commission review, hearings are either conducted by the Executive Director or by the Office of Administrative Law. Are these arrangements

effective and efficient? If not, what specific changes would you recommend? To what extent do these protect the rights of affected parties?

17. Commission staff recommendations on other permit matters (e.g. waivers of strict compliance) may be referred to the Office of Administrative Law for a hearing before a final decision is reached. Are these arrangements effective and efficient? If not, what specific changes would you recommend? To what extent do these protect the rights of affected parties?

Coordinated Permitting

18. Are there certain types of state permits which are well or poorly coordinated with Pinelands permits? Are there specific steps which might be taken to improve coordination?

Miscellaneous

19. To what extent has the Commission's applicant liaison office improved the accuracy and speed with which inquiries about the permitting process or specific applications are handled? What, if any, changes would you suggest to improve this office?
20. Are there any other facets of the Pinelands permitting process which could be improved? For example:
- o communication/contact with applicants?
 - o explanatory information?
 - o others?

If so, what specific suggestions would you offer?

21. Are you aware of permitting procedures utilized by other regulatory agencies which might warrant consideration by the Commission? What specific procedures would you suggest and how might these be made applicable to the Commission?
22. To what extent are the previously discussed recommendations to improve the Pinelands permitting process feasible to accomplish? Does the Commission have the capability to implement them or would their implementation require action on the part of others?

23. To what extent, if any, do the recommendations to improve the Pinelands permitting process affect the implementation of Pinelands land use and environmental policies? If negative effects will occur, what steps can be taken to minimize any unintended effects?
24. Is additional analysis needed before any of the recommendations previously discussed are considered further? If so, what should be the focus of the analysis?

APPENDIX C

Background Information

for

Streamlining the Development Review Process

Technical Panel Meeting

1. Excerpts from New Jersey Pinelands Comprehensive Management Plan, The Second Progress Report on Plan Implementation - New Jersey Pinelands Commission, Chapter II, Development Review, and Chapter VII, Intergovernmental Coordination.
2. Flow Chart of the Private Development Application Process.
3. The Pinelands Development Application Process: A Handbook for Municipal Employees and Planning Officials in the Pinelands Area, New Jersey Pinelands Commission, May 1991.
4. February 28, 1992 Memorandum to Commission staff from Charles Horner, Manager, on Development Related Inquiries Processed by the Applicant Liaison Office in 1991.
5. August 30, 1991 Memorandum to Members of the Commission from Donna Graham, Project Coordinator, on Development Review Activity during Fiscal Year 1991.
6. New Jersey Pinelands Commission Application Form.
7. "What is a Certificate of Filing" description
8. Notices To Landowners, Realtors and Potential Buyers of Land in the Pinelands Area
9. Memorandum of Agreement Between the New Jersey Expressway Authority and the New Jersey Pinelands Commission
10. Memorandum of Agreement Between the NJ Pinelands Commission and the Burlington County Board of Chosen Freeholders

APPENDIX D

Public Comments Received Prior to Technical Panel Meeting

FILE COPY



State of New Jersey
DEPARTMENT OF TRANSPORTATION

THOMAS M. DOWNS
COMMISSIONER

1035 PARKWAY AVENUE
CN 600
TRENTON, NEW JERSEY 08625

April 16, 1992

IN REPLY PLEASE REFER TO
Key Topics for
Pinelands Commission
Review

Mr. Terrence D. Moore
Executive Director
The Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

Attention: Mr. Larry Liggett

Dear Mr. Moore:

This is in response to your memorandum of February 28, 1992 which requested assistance on the most appropriate approaches in pursuing the key topics of concern in the Pinelands Area. The New Jersey Department of Transportation has ideas on topics in the following areas:

Solid Waste

The Department is interested in participating in efforts to study the application of composted sewage sludge for highway landscaping as a "one time" soil additive to help establish roadside turf. Normal DOT specifications call for 2.75% organic material content for seeded areas. Since this inexpensive material is readily available, we would like to arrive at an agreement on the use & level of application of this material.

Also, policies and regulations should be changed to allow soil-reuse in the Pinelands when it can be proven safe and inexpensive.

A mechanism to initiate these changes is the proposed Memorandum of Agreement between the Department of Environmental Protection and Energy and the Pinelands Commission. DOT would be amenable to being designated an "interested third party" in the negotiations. DOT has experienced staff which deals with soil reuse and recycling on a regular basis.

Pinelands Permitting

DOT recommends that duplicative reviews between the Pinelands Commission and NJDEPE be reduced as much as possible especially in the overlap area of the Pinelands Preservation Area and the CAFRA Zone. Standard procedures should be developed to determine which agency takes the lead and what specifications must be followed. Conflicting statements sometimes occur at pre-application meetings for such projects.

Mr. Terrence D. Moore

April 16, 1992

Page 2

Growth Demands and Policies

NJDOT's Bureau of Statewide Planning would like to become involved in the review process for proposed changes to Growth Policies and designation of the Management Areas of the Pinelands. Also, it would benefit the Commission if it attended the annual local outreach meetings that DOT conducts to receive feedback on DOT's priority projects. DOT may have existing planning data which may be very useful in allocating Regional Growth Areas within the Pinelands.

In addition, Policy and Planning serves as the lead unit for development of the Transportation Control Measure (TCM) component of the State Implementation Plan for air quality in accordance with the 1990 Clean Air Act Amendments. Air quality issues should receive consideration in re-evaluation of growth demands in the Pinelands. It should also be noted that the Pinelands Commission officially participates in the Statewide Transportation Air Quality Planning Organization under the State Certified Organization, the policy level body for State Implementation Plan development.

Thank you for allowing DOT to comment on these topics, and please contact Andras Fekete at (609)530-2824 for further clarification of DOT's position on these topics.

Very truly yours,



F. Howard Zahn
Director

Division of Project Development

BJH:slz

TO: Larry Ligget

APR 22 1992

FR: Pinelands Preservation Alliance

DATE: April 18, 1992

SUBJECT: Key Topics for CMP Review
Response to Terry Moore's 2/28/92 Memo

TOPIC 4: PINELANDS PERMITTING

A review of this topic should first and foremost have the purpose of consistently applying and vigorously enforcing the Pinelands Protection Act and its standards in a fair, timely and predictable manner. Furthermore, the standards, decisions, and other related activities must be based on "sound science," and the persons administering the Act must adhere to the highest standards of personal and professional conduct. They should not let the current urgent challenge to find new ways of simultaneously achieving a healthy environment and a healthy economy destroy the Pinelands. At the same time a holistic approach to the regulations is needed to eliminate duplication and overlap. This improvement process should seek to establish clearly articulated standards that break down the complexity of the Comprehensive Management Plan.

The Pineland Development Application Process: A Handbook for Municipal Employees and Planning Officials in the Pinelands Area and the flow chart for Typical Private Development Application in a Certified Municipality are a great help to persons trying to understand the Pinelands Commission permitting process. An analysis should be done, however, to determine if applications do in fact follow the outlined procedures and if so, determine if there is a need for a similar flow chart for typical public development applications. An expansion of the "applicant aides" to include a list of existing precedents might also help applicants. It would be good to have a "paperwork systems" consultant analyze the permitting process. The consultant should identify bottle necks and determine if it is a staffing problem or an inherent CMP problem and then recommend solutions. It sometimes seems as if every application is reviewed in an independent way, perhaps because the regulations are not well drafted. It is felt the permitting process could vastly benefit by better public participation in the process and/or some public review during the decision process and that there is a need for a greater role for third party appeals. Furthermore applicants need to be educated as to how to coordinate all permitting levels: Municipal, NJDEPE, Soil Conservation District, Pinelands Commission, Federal, etc.

It is recommended that the current CMP review be used to strengthen permitting regulations in order to sustain the Pinelands environment until such time in the future when zero human activity growth is reached. Contrary to the notion of "relaxing standards," some areas deserving immediate attention are discussed below.

Permitting lays the foundation for preservation. We must defend ecological values by limiting permitting of economic activities to reflect environmental impacts. This is reflective of a good management plan which has worthy goals. How this is done effects these long range goals. This is especially true in the area of forestry where application of the CMP appears to be contradictory. Permitting of forestry activity seems to be driven by applied economics rather than ecological values. Permitting must be utilized to prevent fragmentation of the Pinelands, especially in the forest area. With regards to resource extraction, the permitting process must be strengthened to better insure reclamation enforcement. The Pinelands Commission should use regulatory powers to facilitate rather than threaten compliance. Restoration of originally mined areas should be required before mining operations can expand. The permitting process might require performance bonds and signed agreements with specific plans for achieving compliance to insure this long term goal. Increasing permit fees is a generally accepted method of covering enforcement costs and this should be considered as a tool. Water quality and quantity is a critical permitting concern in the context of sustaining Pinelands environment. A permitting system should be developed addressing agriculture's use of chemicals to insure that only Best Management Practices are employed. Standards are also needed relative to agricultural clearing. A study of the overall environmental impacts of agriculture might also guide the permitting process. Relevant to the emerging solid waste concerns, the Pinelands Commission must only permit the highest standards in conservation methods. Any steps to streamline the process should not undermine Pinelands protection policies. Furthermore it is time to aggressively develop ways to reduce grandfathering. Perhaps the CMP review process should recommend an amendment to address this matter. It is 1992 and sufficient time has elapsed for property owners to have initiated plans. The permitting process must be revised to effect better communication with and education of the applicants. Permit decisions should delineate how that application fits into the "whole picture." This concept should promote pollution prevention and consideration of cumulative impacts from activities throughout the entire Pinelands National Reserve.

Improving the efficiency and effectiveness of the permit review process and coordination of the various permits required without compromising Pinelands Protection Act values, is a lofty goal. The Pinelands Commission might improve their data management system to provide up-to-date information on individual permit applications as well as data on trends in permits and decisions. Additionally the staff or a consultant must identify ways to shorten the permit review process and eliminate procedures and requirements that do not lead to greater environmental protection. It has been suggested that there is a need for an applicant master permit information application. We would further suggest that this application indicate all levels of government permits needed before an applicant initiates a project. This would be especially beneficial for the individual land owner who does not have the resources of the developer wanting to build subdivisions.

"In our every deliberation, we must consider the impact of our decisions on the next seven generations."

From the Great Law of the Hau de no saunee



New Jersey Concrete and Aggregate Association

770 River Road • West Trenton • New Jersey 08628

(609) 771-0099

FAX (609) 771-1729

April 17, 1992

William J. Cleary
Executive Director

Mr. Terrence D. Moore
Executive Director
The Pinelands Commission
P.O. Box 7
New Lisbon, New Jersey 08064

Re: Comments on Upcoming Five Year Review of PCMP

Dear Mr. Moore:

The New Jersey Concrete and Aggregate Association (NJCAA) is pleased to present the enclosed comments regarding the five year review of the Pinelands Comprehensive Management Plan.

NJCAA is a statewide organization representing the interests of ready mix concrete and resource extraction industries. Through the association's Pinelands Resource Extraction Advisory Committee (PREAC) we welcome the opportunity to share with you our concerns.

The Association has primarily restricted our comments to Topic #2, Resource Based Industries. You will note however, that our comments also indirectly address Topics #3 (Economic Impacts) and #4 (Permitting) as they relate to this industry. We have also included a separate discussion of Topic #1 (Solid Waste) as a part of this Report; and our comments pertaining to wetlands contains several elements which would fall under the broad category of Water Quality, the recently identified sixth topic.

At our previous appearance before the Commission, two questions arose which have also been addressed. First, the right to continue mining is addressed by Appendix II and second, the confusion over sloping is addressed in a letter dated January 29, 1992, and can be found in the prior correspondence section.

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April 16, 1992
Terrence D. Moore, E.D.

We have included 20 copies of this report so that each member of the Commission will receive one. If additional information or clarification is needed, please do not hesitate to contact us. We would also gladly offer any technical assistance you may need to carry out the goals of your April workshops of technical experts.

Again, Thank you for the opportunity to participate in this process.

Sincerely,

A handwritten signature in cursive script that reads "William J. Cleary". The signature is written in dark ink and is positioned above the typed name.

William J. Cleary, CAE
Executive Director



New Jersey Concrete and Aggregate Association

770 River Road • West Trenton • New Jersey 08628

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William J. Cleary
Executive Director

PREAC COMMENTS

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The New Jersey Concrete and Aggregate Association appreciates the opportunity to address the key topics chosen for the Pinelands Commission review of the Comprehensive Management Plan. Many of our members maintain facilities in the Pinelands region and have a vested interest in any changes under consideration for the plan.

The Resource Extraction Industry in the Pinelands Region of New Jersey is an important economic and environmentally sensitive member of this community. We often represent a "best use" for land in the Pinelands and in many cases can create wetlands, improve vegetation and wildlife habitat.

The industry has recognized a number of problems which prevents them from operating in the most efficient and productive manner and ask you to consider them in a factual light.

I. RESOURCE EXTRACTION PERMITTING

A. Duration of Resource Extraction Permits

Action: 1) Change from a two year permit cycle to a five year permit; 2) allow municipalities to extend the duration of their permits.

B. Certificate of Filing: Redundancy of Review

Action: Amend the CMP to specifically state that receipt of a Certificate of Filing be predicated upon providing all information necessary for a local agency to determine compliance with their certified local ordinances, not based upon a lengthy determination that the proposed development is in full compliance with all CMP standards.

C. Date of Final Pineland Review

Action: This industry recommends that this standard be changed to specify that the two year approval period commence with the date of the no-callup. This would provide two years of uninterrupted operations, during which the operator would be responsible for obtaining all approvals for the next two year period.

D. Application Review Period

Action: This industry recommends that the review period for resource extraction renewals be shortened to fifteen days from the present thirty days. The present review period of thirty days could be retained for new mining applications.

II. RESOURCE EXTRACTION STANDARDS

A. Area Constraints

Action: The New Jersey Concrete and Aggregate Association would request that the Pinelands Commission modify the clearing limit in concert with the extension of the approval to a five year term.

B. Depth of Excavation

Action: Recommends that standard be amended to sixty-five feet below the water table.

C. Sloping of Ponds

Action: Amend to "a shoreline graded to a slope not to exceed one foot vertical to five feet horizontal to a depth of seven feet below the surface of the water within the waterbody.

D. Reclamation Standards

Action: 1) Expand the list of acceptable species to reflect true vegetative diversity of the Pinelands; 2) amend standard to provide approval for alternative reclamation strategies; 3) the Commission should seek technical and historical data from the New Jersey Bureau of Forestry on this subject.

III. WETLANDS

A. Wetlands Delineation

Action: It is the Associations recommendation that the Pinelands modify their delineation procedure to be consistent with the NJDEPE and the Army Corps of Engineers, by specifically referencing the delineation methodology as outlined in the Unified Federal Manual for Delineating Jurisdictional Wetlands.

B. Wetlands Transition Area Standards

Action: Re-examine the Wetland buffer issue as part of the CMP review.

C. Inactive Mining Areas

Action: This industry recommends that a clear policy be established which permits mining wetlands buffers, or areas now considered to be wetlands (pursuant to Pinelands jurisdictional determination), up to the existing limits of disturbance/inactive mining operations. This policy should particularly be applied to those cases where it is clear that the inactive mining area was formerly uplands. This amendment would provide an equitable solution to those operators who had planned on the continued mining of those reserves, and will still remain consistent with the goals of the CMP.

D. Wetlands Mitigation

Action: Request that the Commission revise the CMP to allow for mitigation.

E. Impact of Mining on Water Quality

Action: Joint industry/Commission study to determine impacts on water quality including effects on vegetation and wildlife.

IV. SOLID WASTE ISSUES

A. Recycling

Action: Request that the revised PCMP allows for the transportation, storage, recycling, use and sale of source separated construction debris to include concrete, rebar, asphalt, brick, block, wallboard and wood.

B. Uses of Waste Derived Materials/Composting

Action: Request the use of certain soils and sludge derived compost material be permitted as part of restoration plans at any approved resource extraction sites at levels based upon existing research and future Pinelands specific research efforts.

RESOURCE EXTRACTION PERMITTING

I. RESOURCE EXTRACTION PERMITTING

A. DURATION OF RESOURCE EXTRACTION PERMITS

1. Existing Standard (7:50-6.64)

Presently, the resource extraction industry is required to renew its permit every two years. This process is a) highly expensive (See Economic Impact Report in Appendix I; b) time consuming due to the permitting process on both the local and Pinelands level; and, c) redundant due to the existing municipal review required.

The economic impact associated with this biannual review are severe. As detailed in the Economic Impact Analysis in Appendix I, the costs involved with keeping all required approvals valid is exorbitant to the point of affecting the economic vitality of this industry.

Similarly, the time frames included with the two-year permitting process are so lengthy as to occupy a substantial portion of the two year approval period. In effect, the resource extraction industry needs to engage in nearly full-time permit preparation.

This permit duration dilemma can be illustrated by evaluating the typical permit approval process for the mining operator in the Pinelands Area as follows:

Step 1 - Prior to the expiration of the two year Pinelands approval, a new application must be filed with the Pinelands Commission for renewal of a resource extraction approval. According to the CMP, this process should be a relatively short one - i.e., submit a complete application and after 30 days review time they will issue a Certificate of Filing (or Certificate of Compliance in an uncertified municipality.)

In reality, this process usually takes months, since one does not often submit a complete application which addresses all applicable and relevant PCMP standards on the first attempt, due to the ever changing nature of information now being requested. It is more realistic to expect to submit what you believe to be a complete application, only to receive a response from the Pinelands Commission after thirty days requesting additional information; after receipt of which they then have an additional thirty days to review and to respond.

Depending upon the complexity of the application, this can occupy numerous thirty day cycles, extending your application period over a number of months. Submittal of complete applications is highly unlikely, even if prepared by a consultant familiar with the resource extraction standards in the PCMP.

Step 2 - After receipt of your Pinelands Certificate of Filing (or Compliance), an application must be filed with the municipality and County Soil Conservation District to renew your local mining permit for approval. The length of time involved in obtaining your local approval is highly variable and depends upon the requirements of each municipality. In practical terms, this process usually averages one to six months.

Step 3 - After receipt of local approvals, the Pinelands Commission reviews the local approvals and, if no objections are noted, issues a final "approval", known as a No-callup letter, within fifteen days. If the Pinelands Commission has objections to your local approval, you will be issued a Callup letter which will involve considerably more time until receipt of your Pinelands approval.

It is important to note that the final Pinelands "approval" is the No-callup letter, which is valid for a two year period from the date of your local approval. The time which lapses between the date of your municipal approval and the date of the No-callup letter is time lost from the two year approval. In effect, a two year approval is valid for less than two years.

In an ideal situation, this process should not take longer than two to three months - thirty days for the submittal of a complete application and the issuance of a Certificate of Filing by the Pinelands Commission, assume another month for receipt of local approval, and then fifteen days for receipt of the No-callup letter from the Pinelands.

In reality, this process typically occupies eight to eighteen months, meaning that the resource extraction industry, by virtue of a two year permit, must engage in almost continued permitting. This situation has imposed a severe economic hardship on the vitality and ultimate existence of this industry in the Pinelands Area.

2. Proposed Amendment

This industry recommends that 7:50-6.64 be amended to extend the permit duration from a two to five year period. This would alleviate the extreme financial burden of almost constant permitting, while still permitting resource extraction to occur in compliance with the goals and standards of the CMP. This industry recommends that this option formally be included as an amendment to this policy.

Finally, an alternative proposed amendment would be to permit any municipalities, at their discretion (with Pinelands approval), to extend the duration of the two year mining approval. This extension, could be made contingent upon annual compliance certification by either the Pinelands Commission or by municipal inspectors. It is noted that this option is being pursued with the consent and approval of the Pinelands Commission in Maurice River Township, where a three year approval is being considered.

B. Certificate of Filing: Redundancy of Review

1. Issue / Existing Standard

The Certificate of Filing (as described in Part III of the CMP) is purported to represent a certification that sufficient information has been provided in an application such that a certified local agency can now proceed to review that application. As such, the Certificate is not supposed to represent an "approval", but rather a document by which the Pinelands Commission serves as an "oversight" commission for local agencies.

In practical terms, the Certificate of Filing, and receipt thereof, has become the predominant step in securing a mining approval. The review on the local level has become of less importance, which does not appear to be consistent with the goals of the CMP. The overwhelmingly time-consuming and costly part of obtaining a two year approval is now spent on obtaining a Certificate of Filing, after which obtaining local approvals is less difficult. The primary review is now being conducted by the Pinelands Commission, not by the local agency. Not only is this unnecessary and highly redundant, but inconsistent with the goals of the CMP.

2. Proposed Amendment

This industry recommends that this redundancy be eliminated by amending the CMP to specifically state that receipt of a Certificate of Filing be predicated upon providing all information necessary for a local agency to determine compliance with their certified local ordinances, not based upon a lengthy determination that the proposed development is in full compliance with all CMP standards. This should be inherent in the granting of a local approval in a certified municipality. This amendment would shorten the review time considerably, while still ensuring that proposed development was consistent with the CMP (via certified municipal ordinances).

It should be recognized that this amendment would not remove any of the "oversight" capacity of the Pinelands Commission to ensure that local approvals were in conformance with the CMP standards, since the Final Review mechanism would remain unaffected. If for whatever reason a local agency issued an approval in contravention of CMP standards, the Commission could still "call up" the approval, thereby ensuring compliance with the goals and standards of the CMP.

C. EFFECTIVE DATE OF FINAL PINELANDS REVIEW

1. Issue/Existing Standard

As previously described, a two year approval is shortened due to the requirement of receipt of a Final Review "approval" after receipt of any local approval (the no-callup process, as described at 7:50-4.40). The time spent by the Commission on reviewing the local approval (15 days) and writing the no-callup, followed by delays in receiving the no-callup through the mail, results in time lost from the two year approval, since the two year approval period commences on the date of the local approval, not on the date of the no-callup.

2. Proposed Amendment

This industry recommends that this standard be changed to specify that the two year approval period commence with the date of the no-callup. This would provide two years of uninterrupted operations, during which the operator would be responsible for obtaining all approvals for the next two year period.

D. APPLICATION REVIEW PERIOD

1. Issue/Existing Standard

The resource extraction industry is required to submit plans for review every two years. Typically, conditions change little between each successive two year period. Given this constraint, a thirty day period for the review of information submitted to the Commission for mining permit renewals is too long.

2. Proposed Amendment

This industry recommends that the review period for resource extraction renewals be shortened to fifteen days from the present thirty days. The present review period of thirty days could be retained for new mining applications.

APPENDIX I
ECONOMIC IMPACT OF PERMITS

PERMITTING COSTS IN THE PINELANDS

The permitting recommendations put forth by the resource extraction industry stem from the mounting cost involved in the municipal and Pinelands permit and permit renewal processes. Implementation of these recommendations, along with continued flexibility in the permitting process, will help control costs, support the economic viability of mining operations and ensure the continued flow of this valuable commodity to the economy.

Pinelands mining permit requirements including the surveying of topography, wetlands, and the outbounds of a site; conducting soil borings; the filing of an operational plan and a reclamation plan; and the related engineering and legal work are all done at a cost to the mining operator, not only at the initial application for the permit, but also in the subsequent permit renewal process.

Adding to these costs are requirements at the municipal level. An Environmental Impact Statement which evaluates the impact of the mining activity on air quality, hydrology, geology, soils, topography and slope, drainage, vegetation, wildlife, threatened and endangered species, noise levels, traffic volume, aesthetics, demography, culture, historical and archaeological sites, and environmental impacts is an enormous cost-generating undertaking. Reports on stormwater management, public protection measures, and surface material disposition are also often required. Municipalities have relegated mining to a conditional use, and the costs associated with this approval process as well as the required performance and maintenance guarantees can serve to locally exclude resource extraction activity.

While the majority of these studies investigate valid issues, addressing these issues at the various levels of government and in two-year increments is redundant and costly.

A survey of mining operators within the Pinelands area revealed the range of costs associated with the Pinelands permitting and permit renewal process. While these costs will vary with the size of the land area to be mined, they give an indication of the investment a mining operator must make before starting an operation and every two years thereafter.

The survey includes application and review costs, engineering costs, legal costs, and other costs associated with a new mining permit in the Pinelands and with a renewal of the permit on a two-year basis. Other costs include planning board presentation and bonding, internal preparation of application, and township application fees. Costs are estimated.

Total cost for a new mining permit ranges from a high of \$149,500 to \$25,750. The average cost for a new mining permit is \$60,150. One relatively costly permit has skewed the results somewhat; thus the median cost for a new mining permit is approximately \$32,675. As a percent of the total new permit cost, application and review fees account for 9.8%; engineering fees account for 54.0%; legal fees account for 24.9%; and other fees account for 11.2%.

Total cost for a renewal of a mining permit ranges from a high of \$57,000 to \$6,600. The average cost of a renewed mining permit is \$25,198. The median cost for a renewed mining permit is approximately \$11,600. As a percent of the total renewal cost, application and review fees account for 26.6%; engineering fees account for 43.1%; legal fees account for 17.2%; and other fees account for 13.0%.

PINELANDS PERMIT COSTS SURVEY RESULTS

LOCATION	ACRES	NEW PERMIT COSTS						RENEWED PERMIT COSTS					
		App./ Review	Engineering	Legal	Other	TOTAL	TOTAL/ ACRE	App./ Review	Engineering	Legal	Other	TOTAL	TOTAL/ ACRE
Estell Manor	200							26,000	10,000	10,000	10,000	56,000	280
Maurice River Twp	1,400							2,954	20,960	1,070		24,984	18
Upper Township	227							750	4,600	1,250		6,600	29
Winslow Township	780	9,500	75,000	45,000	20,000	149,500	192	9,500	22,500	15,000	10,000	57,000	73
Monroe & Franklin Twps		4,500	13,750	5,000	2,500	25,750		2,100	6,000	1,000	1,000	10,100	
Monroe Township	210	5,100	27,500	5,000	2,000	39,600	189	3,600	6,000	1,000	1,000	11,600	55
TOTAL		23,600	130,000	60,000	27,000	240,600		47,004	76,060	30,320	23,000	176,384	
AVG.		5,900	32,500	15,000	6,750	60,150		6,715	10,866	4,331	4,600	25,198	
MEDIAN		4,800	20,625	5,000	2,500	32,675		2,954	6,000	1,070	1,000	11,600	

SOURCE: New Jersey Concrete and Aggregate Association
John Rahenkamp Consultants, Inc.

FILE COPY
APR 06 1992

CITY OF ESTELL MANOR
OFFICE OF:

PLANNING BOARD
P.O. BOX 102
ESTELL MANOR, NJ 08319

April 1, 1992

The Pinelands Commission
P.O. Box 102
New Lisbon, NJ 08064

Att: Terrence D. Moore
Executive Director

Dear Mr. Moore:

Enclosed please find our response to your letter dated February 28, 1992 regarding key topics for Pinelands Commission review.

Topic One: We have no problem with solid waste.

Topic Two: Resource Based Industries: The problem is that they cannot be the only industries in the municipality.

Topic Three: Economic Impacts: The economic impact is very severe. The Pinelands is not taking into consideration the economic impact on the municipality that they are regulating. The Pinelands regulations are making it difficult to collect the school taxes, which our constitution requires to be imposed, in order to meet the constitutional needs of a thorough and efficient education. The Pinelands Commission must recognize that the municipalities have other concerns beyond those within the egos of the Pinelands, such as the financing of public schools, the financing of other municipal improvements, the provision for health and safety of the residents, and without a proper tax base, no municipality can operate the way we are expected to operate under Pinelands regulations.

Topic Four: Pinelands Permitting: We feel that the Pinelands is operated too strictly, that they follow some untried textbook theories, which we simply do not feel are working in practice.

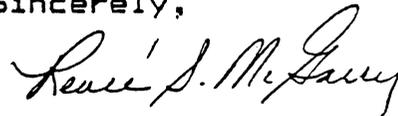
Topic Five: Growth Demands and Policies: This is best left to the municipality and not to the Pinelands Commission, particularly in a municipality such as Estell Manor, where the philosophy for limited but orderly growth, which is consistent with the overall philosophy of the Pinelands. The problem is we feel the local officials are far better able to determine the

APR 06 1992

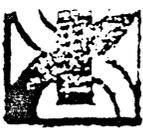
specific needs of the community and the specific details as to how the community should be regulated better than the Pinelands Commission, which does not consist of any local residents in the case of Estell Manor, which is geographically removed a distance of approximately fifty miles.

If you should have any questions regarding the above comments, please do not hesitate to contact us.

Sincerely,

A handwritten signature in cursive script that reads "Renee S. McGarry".

Renee S. McGarry
Secretary



J. N. CRESSON
FORTY EAST SECOND STREET
MOORESTOWN, N. J. 08057

FILE 10 1992

April 10, 1992

New Jersey Pinelands Commission
P.O.Box 7
New Lisbon, N.J. 08064

To: Executive Director, Terrence Moore and Commissioners
re: Key Topics for Pinelands Commission Review-"The management,
protection and scientific use of cultural resources in the
New Jersey Pinelands

In regard to Topic 2: Resource Based Industries, ie. berry farming, the construction and maintenance of berms, dikes and road systems has destroyed irreplaceable archaeological resources and continues to impact and threaten these resources as berry farming practices employ borrow pitting tactics extracting undisturbed soils (sand and gravel) from adjacent or nearby upland pristine locations. Each time this is conducted whole or parts of New Jersey and Pinelands history and prehistory are destroyed.

Policies in the past have either ignored or grandfathered the activity since it has been a long held Pinelands agricultural practice; or treated this as a trade-off situation choosing not to regulate at all since other newer land use practices were easier and less controversial to bring into compliance. The problem is, the very environments that these berry farms occupy-former cedar swamps and adjacent environs-comprise a narrow range of micro environmental niches that are totally unstudied and unknown from the standpoint of early human land use. eg. headwater drainage divide basin of the Rancocas and Mullica systems.

Assessment should be conducted on berry farming practices within the Pinelands and especially in these critical areas to both evaluate the extent of damage (past and ongoing) as well as propose and initiate a selective archaeological program of sampling and retrieval in order to preserve and interpret the past cultural behavior before its totally destroyed.

In regard to activities related to forest management, a topic in and of itself usually of low impact to cultural resources unless new roads and staging areas are being cut or established in locales adjacent to wetlands, ie. present day cedar logging,

or situated on upland dune ridges and terraces. Certain specific landforms with affinities to earlier human associations need to be recognized, mapped and studied as potential sources of historic and prehistoric data.

Also other forest management practices that employ fire prevention techniques using ditches, breaks and fire roads need to be more fully assessed. If possible when these impact areas are predetermined by forest management schemes consideration should be taken to avoid the potential occurrence or mitigate the archaeological resources in these areas.

Under Topic 4, Pinelands Permitting, although I am not adverse to the streamlining of Pineland review and permitting practices but as expressed in a previous letter regarding this topic (see enclosed) serious shortfalls in the protection, management and scientific investigation of cultural resources are still unresolved. (See my letter of Dec. 11, 1991 for specific concerns and recommendations). All archaeological resources need to be proportionally sampled for site specific data regardless of their positions within or outside of the buffers.

Respectfully submitted,



John H. Cresson

JHC/cmc

cc Dr. Barry Brady, N.J. Pinelands Commission

Dr. Anthony Ranere, Temple University, Archaeological Consultant

Joseph Arsenault, Environmental Consultant



J. H. CRESSON
FORTY EAST SECOND STREET
MOORESTOWN N. J. 08057

December 11, 1991

N.J. Pinelands Commission
P.O. Box 7
New Lisbon, N.J. 08064

Maureen, please bring this to the attention of the Commissioners ASAP
re: Issues facing future Pinelands research in archaeological
sampling and collection in buffer areas

An issue of serious concern is the management, protection and scientific use of cultural resources in buffer, deed restricted and set-aside parcels after Pinelands approval. This circumstance serves to greatly impede historical and scientific research. Since little regulation and no protection or retrieval mechanisms exists for archaeological data inquiry after sub-division and individual property ownership an improved program needs to be implemented to both safeguard and sample these resources in the planning and application stages as well as after construction and individual property ownership.

My recommendation is first, to provide some legal and enforcement mechanisms with 'teeth' to prevent individual property owners from knowingly or unknowingly destroying cultural resources in these designated zones; second, to sample all sites of cultural use and resource found within these zones in stage I & II archaeological surveys and third, to establish a separate repository for Pinelands cultural resources for ongoing and future scientific research so a more uniform singular body of documents and artifacts are in one place.

An enormous potential exists for gleaning more direct, pristine and unfettered knowledge of Pinelands history and prehistory in these zones since most of the already known resources occur within 'wetland' buffers. As concerned and serious researchers we are overlooking a large body of data and research potential under the guise of 'protection' that in effect, to this day, denies purposeful, necessary scientific research from these neglected areas.

In essence, we are only getting a minute flicker of reflection through the window of the past in Pinelands history and land-use.

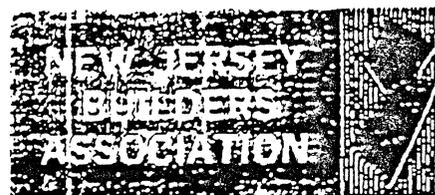
Respectfully submitted,

John H. Cresson

101 MORGAN LANE, PLAINSBORO, NEW JERSEY 08536 • (609) 275-8888 • FAX (609) 275-4411

April 16, 1992

Mr. Terrence D. Moore
Executive Director
Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064



Re: Review of the Pinelands Comprehensive Management Plan

Dear Mr. Moore:

In response to your memo of February 28, 1992, the New Jersey Builders Association has reviewed the key topics for Pinelands Commission review.

The NJBA is commenting on three of the five topics listed. These are Economic Impacts, Permitting, and Growth Demands Policies. In addition, we have just learned that the Pinelands Commission has added a sixth topic of Water Quality. The NJBA is reserving its rights to submit comments on the Water Quality topic. We ask that you provide us with a copy of the Pinelands Commission material on the Water Quality topic.

ECONOMIC IMPACTS

The NJBA makes several recommendations for areas of study to evaluate the economic impact of the Pinelands plan.

Housing Affordability

The NJBA is of the opinion that the Pinelands Comprehensive Management Plan (CMP) has had an adverse impact on housing affordability in the Pinelands. Factors which have had impacts on the affordability of housing in the Pinelands include the following:

- 1) The supply of developable land is constrained, leading to increased prices for developable parcels;
- 2) The Pinelands development application process is extremely costly;
- 3) The Pinelands development regulations cause expensive site layouts and on-site improvements; and
- 4) There has been a loss of competition due to a decrease in the number of builders active in the Pinelands. The loss of competition is due to extensive capital requirements required for applicants to withstand long delays in the development application process and the costs associated with understanding the complex regulatory process.

The problem of housing affordability raises an issue of social equity. Although the CMP speaks to the need to provide housing for average workers who will be employed in the Pinelands, it is apparent that a number of Pinelands policies limit development potential to such an extent that many areas of the Pinelands may become a reserve for the elite. While we believe that this is contrary to the goals of the CMP, it is clearly a result of the details of the CMP and its implementations. The issue should be reviewed in detail.

Expiration of Waivers and Prior Approvals

As of January 14, 1991, Pinelands waivers previously approved under the prior municipal

1991 STATE OFFICERS

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• National Association of Home Builders • Atlantic Builders Association of New Jersey • Home Builders Association of Cape May County • Central Jersey Builders Association • Builders Association of Metropolitan New Jersey • Builders Association of Northern New Jersey • Home Builders Association of Northwest New Jersey

Mr. Terrence D. Moore
Review of Pinelands CMP
4/16/92 - Page 2

development approval standard and approvals issued by the Pinelands Development Review Board and by the Commission under the Interim Rules and Regulations expired unless all municipal development approvals were in place. Rules provide that there can be no extensions of those approvals or permits. It is the suggestion of the NJBA that the economic impact of this decision be fully evaluated.

Given these provisions, a number of developers have been unable to acquire financing and performance guarantees to construct fully approved developments. If these approvals and waivers expire, these sites will lose value. This will have to be then reflected in reduced property assessments and declining property tax revenue for these sites. This lost tax revenue will have to be made up by other property owners. In addition, if developers are unable to complete development of the site, it is likely that the property will be acquired by the financing institution through default on outstanding loan obligations. These properties will then become non-performing assets of the financing institution. Development companies, financial institutions and local governments will all be adversely impacted. What is to become of the vacant lots and future unfinished sections? After having forced the developers and banks to absorb high losses, will the Pinelands Commission consider future waiver requests for these sites acquired by others at bargain prices?

In addition, the proposed economic analysis should evaluate economic impacts on partially completed developments. If approvals expire on a development which is partially built out, such a development generally has an unfinished appearance which is reflected in reduced value. Vacant lots become neighborhood problems. When the development is to be built in sections, through streets may end in stubs to future sections. Such conditions adversely affect property values of the previously developed lots.

It is the opinion of the NJBA that the considerable economic impacts of the expiration provisions be thoroughly evaluated.

PERMITTING

The Pinelands Commission is misusing the Certificate of Filing as an independent approvals process. The use of the Certificate of Filing extends far beyond the exercise of oversight of state, county and municipal permitting decisions. When municipalities and counties are in compliance with the Comprehensive Management Plan, development applications should be processed through the municipalities in the manner contemplated when the CMP regulations were written. The Pinelands Certificate of Filing process should be offered as a pre-application option available to the applicant.

When an application is filed with a municipality, a copy of the application should be filed with the Pinelands Commission along with a notice of any public hearing. The Pinelands Commission should then have the opportunity to file written comments with the municipality for municipal consideration in review of the application. In addition, the Pinelands staff should take the opportunity to attend and offer comments at any public hearings on the application. If a municipality or county makes a decision on an application that is inconsistent with the Comprehensive Management Plan, the Pinelands Commission has the authority to call up the application for review. This is sufficient review power.

The Pinelands Commission should not review each application for issuance of a building permit in developments which have been subject to subdivision and/or site plan review. This is an example of unnecessary and redundant regulation which is increasing the cost of

Mr. Terrence D. Moore
Review of Pinelands CMP
4/16/92 - Page 3

housing and development. This building permit review should be limited for use on scattered lots which have not been subject to planning board or zoning board review and Pinelands oversight.

The Pinelands Commission should discontinue its review of county planning board and county soil conservation district applications which are also the subject of local planning board and zoning board review. These continuous Pinelands Commission reviews of the same application are unnecessary and costly.

The Pinelands Commission should discontinue its requirements for municipal issuance of a Certificate of Appropriateness under the cultural resource requirements. The process has proven to be confusing to the municipality and unnecessary.

In reviewing local approvals of development applications, the Pinelands should provide for an intermediate step for the correction of minor violations rather than the formal call up and hearing process. Often the problems are of a very minor nature such as specifying the incorrect species on a landscaping plan. The applicant and affected parties should be given notice of the discrepancy and provided the opportunity to correct the problem before a full call up notice is issued.

GROWTH DEMANDS AND POLICIES

When the carrying capacity analysis of the Pinelands was completed, it included those developments which had been approved under the early waivers, exemptions and approvals issued by the Pinelands Development Review Board and under the Interim Rules and Regulations. The density of many of these developments was subsequently reduced and many units were never built. There should be an analysis of the number of dwelling units actually built in each designated area. The current development potential of each area should be determined and compared to the projections which were prepared when the CMP was adopted. Some growth areas have experienced significant down zoning where certain land areas have been removed from density calculations although these areas were initially included in the development potentials of the area. It appears that growth areas have been developing significantly below design potential. To accommodate the required amount of growth, it may be necessary to increase densities in developable portions of the regional growth area increase the size of some regional growth areas and increase development potential of rural development areas. Increased densities of regional growth areas may lead to more efficient provision of infrastructure. It is clearly inefficient and a waste of sewer planning areas to construct sewer infrastructure at some of the very low densities established for some regional growth areas.

It is important that the regional growth areas accommodate their fair share of growth. This is an implicit requirement of any regional plan that seeks to set aside large land areas in preserved and protected status. The growth areas must be able to accommodate small lot single family detached development at affordable prices. This housing style is the clear market preference today. Failure to accommodate the market demands and needs brings us once again to the point of discussion where the Pinelands can only accommodate exclusive housing, thus becoming a reserve for the elite.

The Pinelands Development Credit (PDC) program is not working. The PDC program is not a viable program to increase densities in the growth area. The bonus density received when using PDCs is far too low to act as an incentive to purchase PDCs. Further the

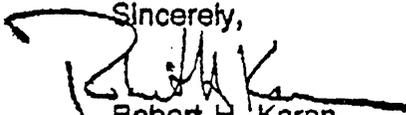
Mr. Terrence D. Moore
Review of Pinelands CMP
4/16/92 - Page 4

allocation of PDCs to sending sites has been so restrictive that there has been no financial incentive to landowners to sell their rights and permanently restrict the use of their land. In addition, most housing in the Pinelands cannot absorb increased costs of PDCs at a dollar value needed to sustain such a program. While the transfer of development rights is an interesting theory, it does not work in practice and is only effective when mandated by the CMP. The PDC program should not be relied upon in the CMP as a cornerstone of its growth policy.

It is our understanding that these topics will be reviewed by technical committees established to assist the Pinelands Commission and staff in the review of these topics. We at NJBA hope that you will give full consideration to the comments offered for your consideration. We hope that you will accept them in the cooperative spirit in which they are presented. We at NJBA take our role as the market provider of housing in environmentally sensitive communities most seriously. To adequately house our citizens in environmentally sensitive communities which are affordable to the residents of New Jersey, changes in Pinelands procedure and policy are warranted.

We look forward to working with you as the review of the CMP continues. Please direct any questions on these comments to Joanne Harkins, NJBA Director of Land Use and Planning.

Sincerely,



Robert H. Karen
President



FILE COPY
MAY 6 1992

State of New Jersey
Department of Environmental Protection and Energy
Site Remediation Program
CN 028
Trenton, NJ 08625-0028
Tel. # 609-292-1250
Fax. # 609-633-2360

Scott A. Weiner
Commissioner

Lance R. Miller
Assistant Commissioner

M E M O R A N D U M

MAY 05 1992

TO: Terrence D. Moore, Executive Director
The Pinelands Commission

FROM: Lance R. Miller, Assistant Commissioner
Site Remediation Program

SUBJECT: Key Topics for Pinelands Commission Review

In response to your February 28, 1992 memorandum concerning the above subject, I would like to provide the following suggestions:

1. Topic #1: Solid Waste - The land application of waste derived materials should also include the issue of contaminated soils that are present at sites within the Pinelands. Specifically, guidance is necessary on when contaminated soils can be reused within the Pinelands and what would be necessary after treatment of contaminated soils (e.g., can they be returned to the site from where they were derived).

2. Topic #4: Pinelands Permitting - We are currently finalizing a Memorandum of Agreement between our two agencies that addresses the permitting issue at contaminated sites that are being remediated within the Pinelands. During our discussions it has become evident that the Executive Director should have the ability to waive permit requirements for publicly funded cleanups conducted by this Department. The coordination between our agencies is such that the need to require the administrative processes of obtaining a permit is unnecessary and may result in delays in the implementation of much needed remediation at contaminated sites.

If you have any questions regarding these suggestions, please feel free to contact me at your convenience. I apologize for not meeting your deadline for this submittal.

c: Rick Engel
Tony Farro
Karl Delaney

APPENDIX E

Public Comments Received After Technical Panel Meeting

Township of Hamilton

County of Atlantic

FILED COPY

Mayor

JOHN J. PERCY, III, CTA, CMFO
PHONE: 965-3500

Deputy Mayor

CHARLES PRITCHARD
PHONE: 625-9212

Township Committee Members

LORRAINE GRANESE
PHONE: 625-0807

FRANK GRIECO, SR.

PHONE: 625-0524

BRUCE STRIGH

PHONE: 625-0060



21 Cantillon Boulevard, Room 104
Mays Landing, New Jersey 08330

Township Clerk

JOAN I. ANDERSON, RMC
PHONE: 625-1511

Township Administrator

RAYMOND A. TOWNSEND
PHONE: 625-4762

Township Solicitor

ROBERT SANDMAN, ESQ.
PHONE: 344-5161

Township Engineers

JOHN R. WALKER
JAMES N. HOLMES

July 2, 1992

The Pinelands Commission
Mr. Terrence Moore, Executive Director
P.O. Box 7
New Lisbon, NJ 08064

Re: Pinelands Master Plan Review

Dear Terry,

I have enclosed an original and several copies of a report written by our Municipal Engineer, James Holmes, in reference to municipal road projects within the Pinelands.

Please accept this as additional input for your review process.

If the Commission, you or your staff, have any specific questions, please feel free to contact Mr. Holmes (609-399-1927) or myself.

Sincerely,

Raymond A. Townsend
Raymond A. Townsend
Township Administrator

RATmal

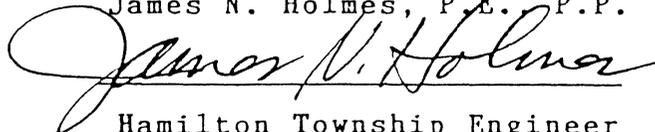
enc.

RECOMMENDATIONS FOR REVISIONS
TO
THE PINELANDS COMPREHENSIVE MANAGEMENT PLAN
FOR
RECONSTRUCTION & MAINTENANCE
OF
MUNICIPAL ROADS
PROJECT NO. 6907.8

PREPARED BY

WALKER, PREVITI, HOLMES, & ASSOCIATES
801 Asbury Avenue
Ocean City, New Jersey
08226

James N. Holmes, P.E., P.P.



Hamilton Township Engineer
N.J. License No. 24,823

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- II - GROWTH DEMANDS
AND POLICIES
- III - ECONOMIC IMPACTS
- IV - STORM WATER MANAGEMENT
- V - SUMMARY

PROPOSED PINELANDS CMP REVISIONS

I INTRODUCTION

The Township of Hamilton was one of the first municipalities in the Pinelands National Reserve to begin the Pinelands Certification process of the Township Developmental Ordinance. After Certification the Township has developed a history of full cooperation with the Pinelands Commission in implementation and enforcement of the Pinelands Comprehensive Management Plan.

As an example of close cooperation, Township Planning Officials have met on a monthly basis with applicants and developers for the past ten years. These meetings, in many instances, are held with applicants prior to a formal application being submitted to the Pinelands Commission or the Township Planning Board. In addition to Township Planning Officials, for a number of years a representative of the Pinelands Commission staff has also attended the meetings.

This cooperative effort has resulted in reduced development review costs for applicants. As two review agencies are involved, a clear understanding of requirements on the part of the applicant in certain matters of concern to both the Pinelands Commission and the Township, and a shortened length of the review process for applicants has resulted.

In the design of storm water management systems, a critical element is the depth to seasonal high groundwater. The Township Engineer's Office and the Pinelands staff have shared this responsibility of witnessing borings to verify

this data, based on work load and availability of the Pinelands Commission staff.

The Township Engineer's Office has also cooperated closely with the Cape-Atlantic Soil Conservation District during the construction of development projects, to insure soil erosion measures are followed. The Township Engineer has given standing orders to his Inspection staff to notify him, or the Cape-Atlantic Soil Conservation District, in the event soil erosion procedures are not followed. In essence, this procedure also aids in the Pinelands Certification process, as the Soil Erosion and Sedimentation Plans are an important element of the Pinelands review and approval.

Through the Planning Board Planner's Office, strict compliance with the Pinelands approved landscaping plan is required prior to the issuance of a Certificate of Occupancy by the Township Construction Code Official. Approval and sign off is also required by the Township Engineer for the Storm Water Management Plan, and any other aspects of the Pinelands approved and certified plans.

The Planning and Zoning Office, through the diligent work of the Planning Board Administrator, also has a history of compliance with, and enforcement of, all aspects of the Pinelands Comprehensive Management Plan.

The above examples demonstrate the Township of Hamilton has a history of cooperation with, and above all, enforcement of the goals of the Pinelands Commission.

The Pinelands Commission is presently reviewing the Comprehensive Management Plan (CMP), and soliciting recommendations from the public, government officials, and organizations during the review process. The Township, based on its excellent history of cooperation and enforcement of Pinelands goals and aims, respectfully submits these recommendations for consideration by the Pinelands Commission.

Of the six topics chosen by the Commission for review of the CMP, this report will primarily focus on the following topics as they relate to and impact upon reconstruction and maintenance of Township Roads.

- 1) Growth Demands and Policies
- 2) Economic Impacts
- 3) Storm Water Management

Although this report is based on Hamilton Township's experience, other Pinelands area municipal engineers have indicated concurrence with the opinions formulated herein.

II GROWTH DEMANDS & POLICIES

Due to the Pinelands mandated growth within the Township, the population has rapidly expanded within the past ten years. This growth has placed an economic burden on the Township in the form of expanded services and new facilities. The Township presently maintains over 400 miles of improved municipal roads. In the context of this report, "improved" means gravel, bituminous surface treatment, or asphalt roads.

July 21, 1992

Mr. Richard J. Sullivan, President
NJ First Incorporated
The Pennington Office Park
114 Titus Mill Road
Pennington, NJ 08534-4305

Dear Mr. Sullivan:

I am a Landscape Architect who has submitted development applications to the Pinelands Commission on several occasions. Based upon my experiences, as well as those expressed to me by developers, landowners, and municipalities, it is apparent that the Commission is failing to achieve its mandate of protecting the Pinelands. They have been extremely effective in preventing development, but unfortunately preventing development does not necessarily protect and certainly does not enhance the Pinelands.

Long before the Pinelands Commission was established to "Protect" the Pinelands, there were farmers, boatbuilders, ironworks, etc., as well as the villages they supported. During formulation of the Comprehensive Management Plan (CMP), these same industries and villages were lauded as part of the Pinelands Heritage. Had they not existed before the Commission, however, the Commission would not allow them to exist today. Furthermore, by developing an expensive and cumbersome permit process in which everything is a major development, the Commission is slowly and systematically eliminating what "heritage" is left. Its impact upon two traditional and supposedly "desired" activities, i.e., farming and forestry, is especially disturbing. Both have suffered immensely since adoption of the CMP and while forestry has not recently been a major industry, it would seem to be perfectly suited to not only protect and enhance the Pinelands, but also provide economic benefit through intelligent management as a renewable natural resource.

The Commission's myopic approach to "protecting" the Pinelands is nothing more than a feeble maintenance of the Status Quo. By their adherence to the belief that all land use is inherently bad, they have dismissed out of hand many opportunities to correct past habitat destruction and thereby enhance the Pinelands.

Mr. Richard J. Sullivan
July 21, 1992
Page Two

This misguided belief underlines the Commission's fundamental misunderstanding of the social and economic aspects of the Pinelands and their interrelationship and inevitable impacts upon its ecology. The Commission has never failed to exhort the bad effects that poor land use and development has had upon the Pinelands. Unfortunately, it has failed miserably to acknowledge, perhaps even grasp the possibilities for enhancement that sensitive land use can, in fact, bring.

- Why can't endangered species be re-introduced?
- Why can't critical habitat be created?
- Why can't foresters be permitted to utilize and manage some of its renewable resources in a manner that will insure its long term health and vigor?
- Why can't thoughtful developers be allowed to provide housing and business opportunities in designated areas to those whose vested interest it would be to protect and enhance the Pinelands?
- Why can't the Pinelands be restored?

Because the Commission has not and will not permit it.

Furthermore, through its unmitigated contempt of landowners who would utilize the Pinelands natural resources and its arrogant disregard of those with the experience and expertise to manage them, the Commission is alienating, and in some cases, destroying its most important constituency. Through its presumed omnipotence, the Commission's staff or inexperienced environmental scientists and experienced lawyers are insuring the Pinelands' slow, but certain, deterioration.

Until the Commission is made answerable for its actions and non-actions, it is inevitable that the "Pinelands" will one day exist only as an image that they dispel upon a naive and uninformed public.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy Kaluhioalani". The signature is fluid and cursive, with a long horizontal stroke at the end.

Timothy Kaluhioalani, ASLA
Landscape Architect

RECEIVED JUL 30 1992
AUG 3 1992
FILE COPY

July 29, 1992

Mr. Richard J. Sullivan, President
NJ First Incorporated
The Pennington Office Park
113 Titus Mill Road
Pennington, NJ 08534-4305

Dear Mr. Sullivan:

I am writing this letter to express some of my views and opinions on the Pinelands Commission's intent to preserve and protect the Pinelands. I am an environmental scientist with broad knowledge and understanding of various environmental issues including the unique character of the Pinebarrens gained through my education at Stockton State College, numerous short courses, seminars and certifications, as well as years of experience working as an environmental professional.

Through my experience dealing with Pinelands on development applications, it is my impression that the Commission is anti-development. Their stated mandate is to protect, preserve and enhance the natural resources while promoting agricultural, recreational, residential and commercial uses in the Pinelands. In truth, they do all within their significant power to prevent all land use. I strongly believe that the Commission's strategy to achieve its goal of "preserve and protect" the Pinelands is a "Lets Leave It Alone" policy. Their methodology includes an expensive, cumbersome application procedure generally impossible for a landowner to afford. The endless requests for additional and often irrelevant information, the long delays in their review, the costs imposed on the applicant are all designed to make him just "go away".

For example, rare sighting of endangered or threatened species dating back from 1930s should not constitute a reason for a landowner to give up his or her rights to develop the land. If the landowners wish to dispute the Pinelands, then they are required to hire a professional consultant to perform an extensive detailed study to dispute the Pinelands and as a result, the landowner will most likely "go away" because of the exorbitant cost and lengthy application process.

Mr. Richard Sullivan
July 29, 1992
Page Two

The bias and subjectivity of review staff imposing restrictions on what is developable land is also evident. I have submitted over 200 wetland permit applications to Army Corps of Engineers and New Jersey Department of Environmental Protection and Energy and obtained approvals from both agencies with very little difficulty. However, I have yet to obtain a wetlands approval from the Pinelands without significantly altering the wetlands line, which is based on united methods accepted by EPA, US Fish and Wildlife Service and US Department of Agriculture, because of the inconsistencies in the review staff. To date, I do not know why the Pinelands do not follow the united method of delineating wetlands. In fact, they have no clear definition of what constitutes a wetland which allows them to be extremely capricious.

The Comprehensive Management Plan, (CMP) states that the wetlands serve a number of functions including natural drainage system, removal of excess inorganic nutrient from surface and groundwater, habitat for wildlife, etc., which are excellent reasons to preserve their integrity. Therefore, I do agree with importance of preserving wetlands and other critical areas, however, the Pinelands imposing a 300 feet buffer around an isolated wetland in a cleared field surrounded by major development only indicates the Commission's anti-development policy.

The Pinelands Comprehensive Management Plan (CMP) also addresses the importance of pinelands forest in terms of cultural, ecological, scenic and economic resources and the need for its maintenance and economic return from timber harvest, thus providing opportunities for the continuous uses for the regions renewable resources. In addition, the CMP specifically states "Failure to clearcut Atlantic White Cedar and control competing hardwood reduces the chances of the re-establishment of this economically valuable species". In practice, however, the Pinelands discourages any clearcutting of Atlantic White Cedar. Typically they mention sighting of some endangered or threatened species on the property or cite some other issue requiring costly reports prohibitive to forestry operations in order to discourage any cutting and to ensure "Just Leave It Alone" policy.

Furthermore, if the Commission's forestry program is intended to meet the objectives as stated in CMP by providing opportunities for continuous uses of forest products, and to encourage small scale logging operations, then the Forestry permit application should not be reviewed as a major development application. The requirements of the application is cost prohibitive with cumbersome and sometimes almost impossible for a landowner or small logger to comply, not to mention the fact that most of the requirements are irrelevant when applied to forestry as a land use. A simple means to permit sound forestry and facilitate the CMP's stated goals would be to hire a professional forester with expertise and knowledge of Pinelands ecosystem to encourage and ensure that the forestry practices are in the best interest of the Pinelands, as well as for the landowners. Currently there are none on staff.

Mr. Richard Sullivan
July 29, 1992
Page Three

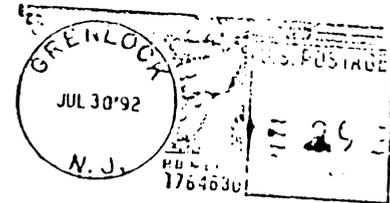
Overall, I applaud Pinelands Commission's accomplishments for protecting one of New Jersey's greatest resources, but there should be a stable balance from just "preserve and protect" to the sound management of these resources to provide maximum benefits to both man and environment.

Sincerely,

A handwritten signature in black ink, appearing to read 'Yong Kong', with a long, sweeping horizontal line extending to the right.

Yong Kong
Environmental Scientist

Yong Kong
222 Mattix Run
Absecon, NJ 08201



Mr. Richard J. Sullivan, President
NJ First Incorporated
The Pennington Office Park
113 Titus Mill Road
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FILE JUN 30 1992

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June 24, 1992

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FILE NO.

1753/045

OF COUNSEL:
S. THOMAS GAGLIANO
DONALD M. SCARRY

JOHN C. GIORDANO
(1921-1989)

John Stokes
Pinelands Commission
15 Springfield Road
New Lisbon, New Jersey 08064

Re: Pinelands Commission Plan Review Workshop

Dear Mr. Stokes:

Thank you for your memorandum of June 8, 1992 with respect to the above-referenced matter and specifically with respect to the workshop I attended.

First, I would like to compliment the Pinelands Commission staff in the manner in which it conducted the workshop. I thought that the questions were probing and the panel included representatives of different interests in the development review process.

There is one additional comment that I thought of after the workshop and that relates to processing of third party appeals. The Pinelands Commission has an extremely liberal policy towards processing of third party appeals, which is sometimes very unfair to applicants. We all agree that the Pinelands Commission development review process is a rigorous one and once the staff has determined that an approval of one form or another should be issued, third parties should not be automatically granted that right to appeal from that determination. Often, those same third parties have submitted information to the staff in the course of the development review process and the staff decision takes into consideration those comments. Since there is no statutory or

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ATTORNEYS AT LAW

John Stokes
June 24, 1992
Page 2

constitutional right to a third party appeal in these circumstances, we would prefer to see some type of screening of third party appeals to reject those that are clearly not meritorious or raise issues that have already been considered by the staff.

Thank you for your attention to this additional point.

Very truly yours,



MICHAEL J. GROSS

MJG/ew

cc: Terry Moore

Stormwater Management in the Pinelands

Report on Technical Panel Meeting

I. INTRODUCTION

A panel of experts (Appendix A identifies the panelists) met on June 30, 1992 to discuss this topic. In preparation for the meeting, a series of questions to be explored (Appendix B), background information (Appendix C identifies the sources) and public comments received (Appendix D) were provided to each participant. Public comments received after the meeting was held are attached as Appendix E.

Mr. Liggett served as the workshop coordinator and panelists were asked to freely express their opinions as individual experts and not as representatives of an agency or organization.

II. PURPOSE OF THIS REPORT

This report is intended to summarize key discussion points and present all recommendations offered by any of the participants. A taped recording of the entire seven (7) hour session is available for review at the Commission's office. Since different opinions were offered by panelists, the report also attempts to indicate the level of consensus reached on various discussion points and recommendations.

Recommendations are described throughout the text in **bold** and are numbered sequentially. Because this particular workshop was the eighth in a series held by the Commission, each recommendation begins with the number 8. For ease of reference, a table has also been prepared which identifies each recommendation presented by one or more panel members. The table also includes staff estimates of the resources and time needed to carry out the recommendation and other information which the Commission may wish to consider when deciding which recommendations should be pursued.

III. KEY DISCUSSION POINTS AND RECOMMENDATIONS

A major question explored at the meeting was whether Comprehensive Management Plan (CMP) stormwater standards should continue to maintain maximum flexibility by being very general or whether they should be made more specific. Most panelists felt flexible standards are best, but also that there was a need to expand on

the very basic stormwater regulations contained in the CMP. A need to be more specific about balancing the CMP's water quality and recharge standards was identified. The interrelationship between stormwater and other CMP standards was also stressed. A great deal of time was also spent on the issue of facility maintenance; to some degree, all of the recommendations made by the panel members recognize that stormwater management systems are maintenance-dependent. Discussion focused on five major topics: design year storms; CMP water quality standards; other CMP standards; maintenance and enforcement; and education.

A. Design Year Storm

Consideration of the interrelationships between infiltration, stormwater cleanliness, and the demands of flood control provided much discussion and the focus for several recommendations. The following recommendations were made:

Recommendation 8.01 Adopt stormwater standards which prevent municipalities from requiring 100 year storm design for flood control purposes (i.e., do not allow stricter municipal standards).

One panelist stated that most municipalities and counties require that stormwater management be based on a 100 year storm for flood control reasons. In other words, in this panelist's view, municipalities are using more restrictive (and excessive) standards for stormwater management than required by the CMP and this creates problems (e.g., a requirement for basins of excessive size) for applicants in designing appropriate systems. The panelists agreed that it would be better to have one standard applied by all state agencies that is also accepted by municipalities. It was also agreed that perhaps the best way to accomplish this goal would be for the Commission to adopt an amendment to the CMP that prevents Pinelands municipalities from implementing more restrictive stormwater management standards than those in the CMP, at least in terms of utilizing a 100 year storm requirement. Other panelists commented that if such an amendment were made in the context of balancing water quality, water quantity and stormwater management goals, it could be appropriate. Concern was expressed by several panelists that municipalities would resist such a requirement, in part due to flood control concerns.

Recommendation 8.02 Allow developers to take credit for "exfiltration," (i.e., conveyance from the basin to groundwater during storm events).

It was the general consensus of the panel that this practice should be implemented by the Commission. The benefits would be smaller retention basins. One panelist indicated that although the Commission would need to determine what rates to apply, this should not be a difficult undertaking. Another panelist stated that the Commission has traditionally not given credit for "exfiltration" because of the lack of control over stormwater system maintenance. If maintenance were assured (e.g., if Recommendation 8.21 is implemented), the Commission might be more comfortable in implementing this recommendation.

Recommendation 8.03a Revise CMP standards to require recharge for all impervious surfaces up to a 10-year storm (a storm of this significance would be expected to occur once every ten years) and the use of 2-, 10- and 100-year storms to control rate.

In general, several panelists suggested that the Commission consider using variable storms for different elements of a stormwater system. The specific recommendation cited above would allow detention requirements to be consistent with those of other agencies while still providing for infiltration, a primary interest of the Commission. The Commission's past storm frequency study was cited, specifically to indicate that most volume from storms would indeed be handled by retention of the 10 year storm. One panelist did caution the panel to remember that a 10-year storm infiltration requirement might involve pollutants that will require careful management. It was also suggested that the infiltration requirement not be limited to just the increase in runoff caused by development (as the CMP currently requires) but be expanded to include total runoff volume. This would ultimately result in the creation of less impervious surface as developers seek to limit the amount of runoff that must be recharged. Consensus on the latter suggestion was not reached. On the overall recommendation, no opposition was expressed.

Recommendation 8.03b Develop a two-part stormwater management strategy: infiltration for first-flush stormwater and detention for larger storm events.

Several panelists suggested that such a strategy would enable the Commission to address both ground and streamwater water quality and recharge concerns under current design parameters. This recommendation, while similar to that of 8.03a, would allow the Commission to retain its current design storm but permit a blend of retention and detention facilities.

Recommendation 8.04 Further define and clarify the term "impervious surface" (e.g., to include gravel parking lots). One panelist suggested that such a revision would be necessary, particularly if Recommendation 8.03a was to be implemented. Another panelist stated that the Commission could consider clarifying the intent of the definition as opposed to including specific examples. Other panel members expressed neither support nor opposition to this recommendation.

Recommendation 8.05 The Commission and Soil Conservation Service (SCS) should establish consistent guidelines on the use of TR-55. It was generally agreed by the panelists that consistency regarding the application of TR-55 (the basis for determining the amount of stormwater runoff caused by the development per the CMP) would be beneficial. One panelist briefly explained some of the ways in which SCS's application of TR-55 differs from that of the Commission (SCS accounts for ponding factors and also allows compositing or averaging of runoff curve numbers as opposed to separate hydrographic curves, thereby resulting in lower peaks). Specific means of achieving consistency were not discussed, nor were the exact guidelines that would need to be established.

B. Stormwater: Water Quality

The panelists spent a great deal of time discussing the relationship between the Commission's stormwater and water quality standards. Essentially, there was a general concern that impacts on water quality be recognized and considered when making changes to stormwater standards and policies. The following recommendations were made:

Recommendation 8.06 Study the "net renovating potential" of soils to determine whether the CMP standard discouraging recharge in excessively drained soils should be eliminated or revised. One panelist suggested that, to some degree, the success of recharge is a function of soil types. Different soils interact with pollutants in different ways, e.g., some remove pollutants and thus "renovate" the stormwater. Therefore, soil type should be a factor, but not necessarily the primary reason to prohibit or discourage infiltration. It was generally agreed by the panelists that Pinelands soils should be studied in terms of their renovating potential to determine whether a CMP amendment would be warranted.

Recommendation 8.07 Eliminate CMP standard discouraging infiltration in deep aquifer recharge areas.

Several panelists noted that this standard has rarely been raised as an issue in the past in terms of development applications. When raised, it was viewed as a standard that should be applied "to the extent possible." If the water that is infiltrated is controlled (e.g., through Recommendations 8.03a, 8.03b or 8.08b), or if recharge is only attempted where the soil can renovate the stormwater (e.g., Recommendation 8.06), this standard may no longer be necessary. No opposition to the recommendation was expressed by other panel members.

Recommendation 8.08a Revise CMP stormwater standards to clarify that both water quality (non-degradation standards) and stormwater retention requirements (infiltration from all impervious surfaces) must be met.

In general, the panelists agreed that a more specific relationship between water quality and stormwater standards needs to be established in the CMP. Language should be added to ensure that applicants understand that both requirements (non-degradation and infiltration) must be met. Although there was agreement on this basic concept, a number of panelists felt that this recommendation would not sufficiently address the important issue of whether or not it is appropriate to allow relief from CMP stormwater recharge regulations or water quality standards in certain circumstances. Recommendation 8.08b below reflects this alternative.

Recommendation 8.08b Revise CMP stormwater standards to permit relief from either water quality or retention requirements, when necessary, based on such factors as soil type and land use type.

A number of panel members stated that although the overall infiltration strategy of the CMP is appropriate, flexibility in applying requirements needs to be increased. Infiltration requirements should vary in their application on a site by site basis, taking into consideration soil conditions, vegetative cover and other similar factors. One panel member presented the other panelists with a draft table (attached as Appendix F) illustrating the suitability of various soils for recharge and wet ponding. Other panelists agreed that, with some refinement for specific Pinelands soils, the table was a useful guide in determining whether or not recharge for a certain site was appropriate.

Another panelist offered the example of a gas station to illustrate that there may be cases where the quality of the runoff generated becomes more important than achieving 100 per cent infiltration. In these cases, recharge requirements may need to

become less of an absolute in order to ensure that water quality standards are met. The following specific strategies for increasing flexibility were offered by various panel members:

1. Limit infiltration requirements to relatively clean sources (e.g., rooftops) instead of requiring infiltration from all impervious surfaces;
2. Require "pre-treatment" of stormwater to control and manage stormwater runoff from roads and parking lots;
3. Require "pre-treatment" of stormwater before it reaches infiltration basins, particularly for commercial uses, thereby allowing for easier maintenance and the downsizing of retention basins; and
4. Develop alternative strategies to deal with situations where recharge is not possible or where solubles are a problem (e.g., use of wet ponding and wet basins as well as non-structural alternatives like wet meadows).

There was general consensus on the benefits and need for the pre-treatment requirements set forth in numbers 2 and 3 above. With respect to the recommendation in number 4 above, several panelists expressed some concern with the soil excavation and necessary harvesting to "remove" nutrients required for wet basins. Also, one panel member noted that although wet ponding and wet basins do accomplish some degree of pollutant removal, they are not optimal. Another panel member stated that constructing a wetlands system with the correct vegetative mixture could be problematic and noted a concern with the potential impacts of new wetlands on existing undisturbed wetlands. It was noted that the strategies discussed in number 4 would result in the creation of "non-Pinelands" types of wetlands, although they would still have some value. However, it was also noted that they may be necessary in some limited circumstances and could create valuable habitat.

Recommendation 8.09 Amend the CMP to require a minimum separation of basins from the water table that varies by soil type. One panel member stated that the Commission's current practice is to require a minimum separation of two feet. This requirement is dictated by the state and is not based on the Commission's requirements for the location of septic systems. Another panelist noted that any CMP standard that is added should allow for some margin of error. It was the general consensus of the panel members that a minimum separation requirement would need to vary by soil type.

Recommendation 8.10 Prohibit certain vegetative maintenance practices (e.g., commercial fertilization and herbicide/pesticide services).

One panelist suggested that such a requirement for vegetation used for all types of developments would represent an important means of source control. However, it was noted by other panelists that this would not eliminate the use of pesticides, etc., by individual homeowners and therefore the problem would remain. Questions as to how such a requirement would be successfully enforced were also raised. The panel reached no consensus concerning this recommendation.

Recommendation 8.11 Undertake hydrologic studies to determine the ultimate impacts of headwaters in the Pinelands on coastal systems.

One panel member indicated that the Department of Environmental Protection and Energy (DEPE) would be very interested in the results of such a study and suggested the best approach would be one that varies by watershed and the types of land uses involved. This would recognize that pollutants will be different for different land uses. The potential for partial DEPE funding was also noted. Several panelists noted their concern that although agriculture is a major pollutant generator, the CMP does not consider agriculture to be development. One panel member stated that the impacts of agriculture on coastal waters are significant. No opposition to this recommendation was expressed.

Recommendation 8.12 Study the effects of retention and detention on water quality.

It was noted that no comprehensive data exists on the real impacts on water quality of either retention (i.e., recharge or permanent ponds) or detention (i.e., temporary ponds or swales). While many of the other recommendations seem to have merit based upon existing information, a full evaluation is still needed.

C. Other CMP Standards

It was the general consensus of the panel members that changes to CMP standards other than those for stormwater management could also be important in terms of their impact on stormwater management. It was noted that the CMP already includes many requirements which serve to limit stormwater impacts. The following recommendations were made:

Recommendation 8.13 Determine what incentives could be provided to developers who use best management practices.

The types of incentives and best management practices that might be involved were not discussed. A method of determining which developments were entitled to what incentives was not suggested. However, panelists expressed no opposition to this recommendation.

Recommendation 8.14 Establish specific standards on clearing to limit the amount that is permitted based on the type of development involved.

The panelists discussed the Commission's current landscaping and clearing standards and their effect on stormwater management. There was some disagreement on the extent of excessive clearing, especially post-development, that is occurring throughout the Pinelands; one panelist indicated that the problem is fairly widespread while others noted they did not believe this was a common practice. A recommendation was made that the Commission strengthen its clearing standards to lessen the later use of landscaping inappropriate to stormwater goals. One panelist stated that it would be unrealistic to assume that stricter clearing standards would necessarily have a beneficial effect; homeowners would continue to clear additional lands after obtaining their approvals. Another panelist disagreed and suggested that stricter clearing standards might create a pattern that new homeowners would be likely to follow in the future. In the long term, more limited clearing could make quite a difference in terms of stormwater management. Consensus was not reached on the value of this recommendation.

Recommendation 8.15 Examine the possibility of the Commission's adopting "dimensional criteria" (e.g., road width requirements, sidewalks and curbs, flexible setback standards) to improve stormwater management design and lessen the amount of runoff that must be managed.

Several panel members stated that applicants frequently encounter "cross-jurisdictional problems" when attempting to obtain municipal approval of stormwater management designs that are acceptable to the Commission. For example, although a road 20 feet in width with roadside swales would represent an excellent infiltration system, municipalities tend to insist on roads that are at least 36 feet wide. The same problem arises with municipal sidewalk requirements. There was general consensus that this dichotomy presents a problem in terms of achieving optimal stormwater management. It was also recognized that because municipal requirements are often implemented for safety purposes, it would be difficult to convince municipalities to change their practices absent a CMP requirement to do so. One panel member

did note that the currently proposed Uniform Site Improvements Bill would provide statewide standards, some of which (e.g., road widths) might apply in the Pinelands. Passage of this bill, in the panelist's view, might provide at least a partial solution to the problem and eliminate the necessity of the Commission's adopting its own "dimensional" standards. Absent passage of such a bill, however, there was a general consensus that the on-site impacts of CMP stormwater requirements on the layout of roads, etc., should be examined with the goal of adopting flexible "dimensional" standards to promote efficient stormwater design. As an example, one panel member suggested that setback requirements could be relaxed in return for less vegetation disturbance.

Recommendation 8.16 Establish maximum impervious surface ratios.

One panel member suggested that such a standard be implemented in addition to the Commission's density requirements for Regional Growth Areas. A certain amount of impervious surface per acre of land or per lot would be permitted. Flexibility should also be provided. For example, the Commission could establish a maximum impervious cover ratio for an entire site and give the developer the freedom to choose a site design that fits within the general parameters, similar to the current application of CMP density requirements. One panel member noted that implementation of this recommendation might negate the need to incorporate specific road width requirements in the CMP (see Recommendation 8.15 above). Specific ratios and the means by which they should be determined were not suggested. Panel members indicated neither support nor opposition to this recommendation.

Recommendation 8.17 Other CMP standards should be examined to determine what, if any, impact on stormwater management exists. Although the panelists generally agreed that the relationship of stormwater standards to various other CMP standards (e.g., vegetation) was important, there was no discussion of which CMP standards should be examined nor how such a study could be accomplished.

Recommendation 8.18 Require a certain percentage of landscaping be done with native species or low maintenance plants when open fields are developed.

One panel member suggested that the Commission require 50 per cent of such sites to be landscaped with native or low maintenance plants, in an attempt to "re-establish" the forest and minimize runoff. Other panelists expressed the concern that such

a requirement would have little effect on stormwater management and suggested that the Commission's efforts would be better focused elsewhere.

D. Maintenance/Enforcement

In general, the panelists agreed that ensuring proper maintenance of stormwater systems was critical to the long-term success of stormwater management policies. The problem of system failure was discussed at length, and the role played by maintenance in preventing failure was emphasized. The following recommendations were made:

Recommendation 8.19 Determine the frequency of infiltration system failure, the reasons for failure and the nature of the problems caused by failure.

The panelists engaged in a somewhat extensive discussion on the failure of infiltration systems, in terms of the number of failures occurring, the causes of failure and the various problems that result from failure. Although there was some disagreement as to the prevalence of failure, it was the general consensus of the panel that a field study on the failure rates of infiltration systems was critical. In addition, the panelists generally agreed that existing data is insufficient for drawing any firm conclusions as to the reasons for failure. Various opinions were offered, including sedimentation at the bottom of basins, "resuspension of pollutants" and the build-up of leaves in basins. One panel member noted that a Memorandum of Understanding between the Commission and the SCS was currently being drafted for the purpose of identifying the factors leading to failure, with the ultimate goal of establishing new construction standards. There was also some disagreement as to the extent of the problems caused by failure of infiltration systems; one panel member indicated that failure leads to significant erosion and the washing of sedimentation into wetlands buffer areas while another panelist suggested that erosion should not always be a major concern. Despite these areas of disagreement, it was the consensus of the panel members that a study on infiltration system failure would produce valuable information.

Recommendation 8.20 Develop consistency between CMP and SCS stormwater management guidelines; resolve conflict between CMP standard of no disturbance in wetlands and SCS desire to allow minimal wetland disturbance as a means of preventing erosion. One panel member stated that since the Commission does not permit the construction of emergency spillways through wetlands, erosion

is occurring when infiltration systems fail because there is no means of "safe conveyance." The suggestion was made that the Commission's strict adherence to wetlands protection standards does not provide sufficient flexibility in allowing developers to plan for system failure. One panelist suggested that the Commission needs to consider whether the absolute preservation of wetlands at the expense of erosion is always an appropriate policy. It was recommended that the Commission revise the CMP to allow pipes to cross buffers and wetlands in certain cases to cut down on soil erosion. Another panel member suggested that wet meadows would suffice, given the lack of erosion-causing topography in the Pinelands. Although there was general agreement that consistent stormwater management guidelines would be beneficial, the panelists reached no consensus on the second part of the recommendation.

Recommendation 8.21 The Commission should require developers to submit stormwater maintenance plans which would be enforced through maintenance bonding.

It was the consensus of the panelists that this recommendation should be implemented. The panelists agreed that in order for stormwater management systems to work properly and continue to work in the future, someone must be actively (i.e., financially) interested in ensuring that this occurs. One panelist indicated that although municipalities currently require fencing and mosquito control measures with regard to retention basins, additional maintenance requirements are necessary. The basic issue is that someone, specifically municipalities or counties, must be required to assume financial responsibility for maintenance. It was noted that both infiltration and detention systems are dependent on maintenance for long-term success.

Recommendation 8.22 Require the use of multiple infiltration devices to minimize the problems caused by the failure of any one device.

In addition to the use of multiple types of infiltration systems, it was also the general consensus of the panelists that the Commission should require developers to discontinue reliance on one large retention basin. This would also preclude any possibility of a single stormwater facility serving more than one site. One panelist suggested that the central infiltration basin concept seems to be resulting in an increase in infiltration problems. Therefore, the Commission should require the use of a combination of techniques, particularly systems that distribute stormwater infiltration facilities throughout sites.

Recommendation 8.23 Enter into a cooperative agreement with the Soil Conservation Service whereby the Soil Conservation Service is given the power to enforce CMP clearing standards.

This recommendation was made after an extensive discussion on the prevalence of excessive clearing in the Pinelands. One panelist indicated that Commission staff is limited in its ability to verify and enforce violations of clearing limits by individual homeowners. Another panelist suggested that because SCS staff members appeared to be in a better position to notice cases of excessive clearing, delegation of the Commission's enforcement power to SCS might produce better results. No opposition was offered to this recommendation.

E. Education

The panelists also discussed the importance of educational efforts related to stormwater management. For the most part, increased communication with various participants in the application process was stressed. The following recommendations were made:

Recommendation 8.24 Hold an annual one-day workshop on stormwater management for municipal officials (using model ordinances and BMP manual).

Several panelists suggested that, based on their favorable impression of the current meeting, additional workshops should be held, using the new DEPE model ordinance and BMP manual. This would encourage communication between Commission staff and municipal officials and lead to a better understanding of stormwater goals and facilities. No opposition to this recommendation was expressed by other panel members.

Recommendation 8.25 Encourage developers to educate homeowners on the use and benefits of stormwater management techniques (e.g., maintenance of existing cover, etc.).

One panel member offered the opinion that developers (and realtors) currently do not adequately promote the benefits provided by CMP infiltration requirements. Another panelist agreed that although there is no real need for roads that are 36 feet wide with sidewalks, this has become the suburban ideal. Another panel member noted that the current movement in planning practices is toward a reduction in "land-consuming, pavement-generating" types of development. This involves narrowing roads, moving homes closer to streets and minimizing driveways. The Commission's stormwater management standards naturally coincide with this type of development and developers should be encourag-

ing homeowners to take advantage of the environmental amenities which result (e.g., retained vegetation, open space, wetlands, etc.). Discussion of how this recommendation could be implemented did not occur and no consensus was reached.

Recommendation 8.26 Draft and distribute a document on stormwater management to homeowners and local officials to emphasize the value of water quality.

Several panel members suggested that the Commission should make more of an attempt to convince people of the benefits of CMP stormwater management requirements to the environment. The effects of such activities as cutting down trees, clearing vegetation and paving driveways on water quality should be explained to homeowners through guidance documents. It was the general consensus of the panelists that such documents would be helpful.

Recommendation 8.27 DEPE and the Commission should develop a site design manual, using various sites as examples, to show how landscaping, stormwater and other standards can be successfully implemented.

Although not discussed in great detail, it was the general consensus of the panel members that such a manual could be valuable.

IV. PUBLIC COMMENT

One member of the public offered general comments on the meeting and stressed the importance of maintenance. No substantive recommendations were offered.

Stormwater Management Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Design Year Storm	8.01	Adopt stormwater standards which prevent municipalities from requiring 100 year storm design for flood control purposes (i.e., not allow stricter municipal standards).	CMP	-	-	o May increase flood hazards o An approach that seeks to serve a variety of objectives (Recommendation 8.03a or 8.03b) may result in a better balance o Some municipalities would resist
	8.02	Allow developers to take credit for "exfiltration," i.e., conveyance from the basin to groundwater during storm events.	CMP or Admin.	1wm - DR	-	o Establishing the "amount" to be credited will require evaluation
	8.03a	Revise CMP standards to require recharge for all impervious surfaces up to a 10-year storm and the use of 2-, 10- and 100-year storms to control rate.	CMP	-	-	o Would provide almost equivalent infiltration, equivalent groundwater quality and flood control o Some portion of larger, infrequent storms would not be recharged
	8.03b	Develop a two-part stormwater management strategy: first-flush storms/infiltration and larger storm events/detention.	CMP	-	-	o May increase applicant expenses o Is not specific as to how this would be done
	8.04	Further define and clarify the term "impervious surface" (e.g., to include gravel parking lots).	CMP	-	-	o Implements current practice in part
	8.05	The Commission and SCS should establish consistent guidelines on the use of TR-55.	Admin.	2wm - DR	-	o Would assist applicants and prevent improper use of guidelines

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(3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.

(4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.

(5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.

(6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Stormwater Management Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Stormwater: Water Quality	8.06	Study the "net renovating potential" of soils to determine whether the CMP standard discouraging recharge in excessively drained soils should be eliminated or revised.	Study	12wm - S	-	o Similar in part to Recommendations 8.08 and 8.12 o Variations in soil types and horizons may make results difficult to apply
	8.07	Eliminate CMP standard discouraging infiltration in deep aquifer recharge areas.	CMP	-	-	o Removes a seldom used standard and, when applicable, difficult to implement
	8.08a	Revise CMP stormwater standards to clarify that both water quality (non-degradation standards) and stormwater retention requirements (infiltration from all impervious surfaces) must be met.	CMP	-	-	o Removes the mistaken tendency to focus only upon the infiltration aspect of water management o Does not recognize the need for flexibility in applying the standards
	8.08b	Revise CMP stormwater standards to permit relief from either water quality or retention requirements when necessary, based on such factors as soil type and land use type.	Study/ CMP	12wm - S 2wm - DR	-	o Study portion similar to Recommendation 8.06 o Would result in no infiltration in some cases to protect water quality o Implements current practice to some extent
		1. Limit infiltration requirements to relatively clean sources (e.g., rooftops)	CMP			o May result in a variety of stormwater structures, perhaps at more expense
	2. Require "pre-treatment" of stormwater to control/manage stormwater run-off from roads and parking lots	CMP			o May require more land	

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Stormwater Management Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
		3. Require "pre-treatment" of stormwater before it reaches infiltration basins, particularly for commercial uses	CMP			o May require more land o Implements and specifies current practice of requiring renovation in some cases
		4. Develop alternative strategies to deal with situations where recharge is not possible or where solubles are a problem (e.g., use of wet ponding and wet basins as well as non-structural alternatives like wet meadows)	Study/ CMP	3wm - DR		o Given wetland standards, such cases would be few o Creates new habitat o May partly address Recommendation 8.20 if erosion of wet meadows not an issue
	8.09	Amend the CMP to require a minimum separation of basins from the water table that varies by soil type.	CMP	-	-	o Determining the "variation" would require evaluation
	8.10	Prohibit certain vegetative maintenance practices (e.g., commercial fertilization and herbicide/pesticide services).	CMP	-	-	o Will not eliminate individual homeowner use o Difficult to enforce o Relationship to agricultural practices may cause difficulties
	8.11	Undertake hydrologic studies to determine the ultimate impacts of headwaters in the Pinelands on coastal systems.	Study	-	\$100,000	o DEPE may be able to fund some aspects of this o Differentiating STP from agricultural impacts from non-point source development in RGAs may be difficult
	8.12	Study effects of retention and detention on water quality.	Study	12wm - S	-	o Study component similar to Recommendations 8.06 and 8.08 o Would provide answers to a research area lacking in analysis

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Stormwater Management Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Other CMP Standards	8.13	Determine what incentives could be provided to developers who use best management practices.	Study/ CMP	2wm - P	-	o Density bonuses may be one possibility if increases in impervious surfaces can be controlled o Implications for other uses that use BMP's
	8.14	Establish specific standards on clearing to limit the amount that is permitted based on the type of development involved.	Study/ CMP	2wm - P	-	o Not clear how this is different from the current "minimum clearing necessary" standard o If limits are below what is "necessary," will preclude, or make more costly, certain types of development
	8.15	Examine the possibility of adopting "dimensional criteria" to improve stormwater management design and lessen the amount of runoff that must be managed.	Study/ CMP	2wm - P	-	o Will remove several municipal community character prerogatives o Balancing against other public goals may be difficult to achieve o May be better to provide incentive to do, e.g., see Recommendation 8.13
	8.16	Establish maximum impervious surface ratios.	Study/ CMP	2wm - DR	-	o May conflict with municipal parking requirements and preclude some development if very strict
	8.17	Other CMP standards should be examined to determine what, if any, impact on stormwater management exists.	Study/ CMP	1wm - DR 1wm - P	-	o Methodology on which to base analysis does not exist; review by a technical committee may represent best approach
	8.18	Require a certain percentage of landscaping be done with native species or low maintenance plants when open fields are developed.	CMP	-	-	o Costs of landscaping may be high o Likely to be resistance from developers and property owners o Native species may be harder to establish in such circumstances o Uncertain as to the regional benefits

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Stormwater Management Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Maintenance/ Enforcement	8.19	Determine the frequency of infiltration system failure, the reasons for failure and the nature of the problems caused by failure.	Study	4wm - DR	-	o Data may not be sufficient to draw conclusions o Relationship to maintenance may be difficult to establish
	8.20	Develop consistency between CMP and SCS stormwater management guidelines; resolve conflict between CMP standard of no disturbance in wetlands and SCS desire to allow minimal wetland disturbance as a means of preventing erosion.	CMP	-	-	o Results of Recommendation 8.19 may have an impact on this recommendation o May result in discharge directly to a wetland in certain, infrequent cases o Recommendation 8.08, #4 may represent an alternative approach
	8.21	The Commission should require developers to submit stormwater maintenance plans which would be enforced through maintenance bonding.	CMP	-	-	o Bonds would be in place permanently to ensure maintenance o Added cost to development o Municipalities or counties would assume responsibility
	8.22	Require the use of multiple infiltration devices to minimize problems caused by the failure of any one device.	CMP	-	-	o May increase development costs o May increase maintenance costs o More expertise may be required
	8.23	Enter into a cooperative agreement with SCS whereby SCS is given the power to enforce CMP clearing standards.	Admin.	-	-	o Legal authority needs to be explored
Education	8.24	Hold an annual one-day workshop on stormwater management for municipal officials (using DEPE model ordinances and BMP manual).	Admin.	-	-	o Relates to other proposals for workshops

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Stormwater Management Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
	8.25	Encourage developers to educate homeowners on the use and benefits of stormwater management techniques (e.g., maintenance of existing cover, etc.).	Admin.	-	-	o How this might be accomplished effectively is unclear
	8.26	Draft and distribute a document on stormwater management to homeowners and local officials to emphasize the value of water quality.	Admin.	2wm - PP	-	o Also see Recommendation 7.06 that suggests a similar document
	8.27	The Commission and DEPE should develop a site design manual, using various sites as examples, to show how landscaping, stormwater and other standards can be successfully implemented.	Admin.	-	\$40,000	o Would provide examples beyond the lengthy BMP guidelines currently available

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APPENDIX A

"Pinelands Stormwater Management" Meeting

List of Participants

June 30, 1992

Name of Participant	Affiliation
Martin Bierbaum*	Environmental Regulation N.J. DEPE
Susan Bowman	Burlington County Soil Conservation District
Thomas Cahill**	Cahill Associates
Paul Evans	Environmental Regulation N.J. DEPE
Michael Kaminsky***	N.J. Department of Transportation
Michael Ingram	Atlantic County Engineer
Brian McClendon	Environmental Regulation N.J. DEPE
Samuel Race	State Soil Conservation Committee Department of Agriculture
Robert Romano	Applicant Representative Ernst, Ernst and Lissenden
Robert Schopp	U.S. Geological Survey
William Harrison	Pinelands Commission, Assistant Director Development Review
Larry Liggett	Pinelands Commission Workshop Coordinator
Kathleen Swigon	Pinelands Commission, Development Review
Robert Zampella	Pinelands Commission, Science Office

* Panelist was invited but was unable to attend meeting.

** Panelist attended with Wes Horner who also participated.

*** Panelist attended in place of Andras Fekete, N.J. Dep't of Transportation.

APPENDIX B

Stormwater Management in the Pinelands

Questions Explored at the Technical Panel Meeting

June 30, 1992

1. What environmental concerns do you believe should be addressed by Pinelands stormwater policies? For example, should on-site recharge and the containment of pollutants be considered as important factors?
2. Are Pinelands stormwater standards effective in maintaining natural resource values or limiting significant negative impacts of development? If not, what impacts need to be addressed?
3. What engineering or other concerns do you believe should be addressed by Pinelands stormwater policies?
4. What are the advantages and disadvantages of promoting detention measures over infiltration measures?
5. What are the advantages and disadvantages of promoting regional over on-site management options?
6. How well do you believe the Commission's current stormwater management program addresses the concerns identified above? Is there a need for additional standards and/or changes in the current standards?
7. Are there additional strengths of the Commission's current stormwater management program? How would you suggest these strengths be reinforced?
8. Are there other weaknesses of the Commission's current stormwater management standards? How would you suggest these weaknesses be addressed? What would be the impact on Pinelands resources?
9. Is the Pinelands Plan's design storm (50 year, 24 hour) appropriate in terms of hydrologic and water quality concerns? Should the Commission consider different or additional design storms or additional methodologies for estimating runoff? If changes are warranted, what would be their implications?

10. Are there other design alternatives that, if implemented within the context of the current Pinelands stormwater management program, would afford a greater level of protection to Pinelands surface and ground waters? What specific alternatives would you suggest the Commission consider?
11. Should specific design and performance standards be added to the Commission's stormwater management standards (i.e., maintenance requirements, minimum separation of infiltrative structure and water table, etc.)?
12. Are there other design alternatives which could be utilized to better accommodate or facilitate development in those areas targeted by the Commission for growth? What specific alternatives would you suggest the Commission consider? What would be the impact of such alternatives on the hydrology and quality of Pinelands surface and ground waters?
13. Are there special issues dealing with maintenance and failure of stormwater management facilities that deserve additional consideration? What specific maintenance procedures should be imposed on stormwater facilities? Who should be responsible for such maintenance?
14. Are you aware of stormwater management programs utilized by other regional or state regulatory agencies which might warrant consideration by the Commission? What specific standards or programs would you suggest and how might these be made applicable to the Pinelands?
15. To what extent are Pinelands stormwater management standards consistent with those of other state and federal programs? Are there specific requirements which can be modified to be more consistent? If so, what would be the impact on Pinelands resources? Should the Commission recommend that other programs modify their requirements to be consistent with those in the Pinelands Comprehensive Management Plan?
16. Are the Commission's current standards discouraging recharge in excessively drained soils and in areas with great depths to water table appropriate?
17. Is additional research or analysis needed before any of the recommendations previously discussed are considered further? If so, what should be the focus of such research or analysis?

effective and efficient? If not, what specific changes would you recommend? To what extent do these protect the rights of affected parties?

17. Commission staff recommendations on other permit matters (e.g. waivers of strict compliance) may be referred to the Office of Administrative Law for a hearing before a final decision is reached. Are these arrangements effective and efficient? If not, what specific changes would you recommend? To what extent do these protect the rights of affected parties?

Coordinated Permitting

18. Are there certain types of state permits which are well or poorly coordinated with Pinelands permits? Are there specific steps which might be taken to improve coordination?

Miscellaneous

19. To what extent has the Commission's applicant liaison office improved the accuracy and speed with which inquiries about the permitting process or specific applications are handled? What, if any, changes would you suggest to improve this office?
20. Are there any other facets of the Pinelands permitting process which could be improved? For example:
- o communication/contact with applicants?
 - o explanatory information?
 - o others?

If so, what specific suggestions would you offer?

21. Are you aware of permitting procedures utilized by other regulatory agencies which might warrant consideration by the Commission? What specific procedures would you suggest and how might these be made applicable to the Commission?
22. To what extent are the previously discussed recommendations to improve the Pinelands permitting process feasible to accomplish? Does the Commission have the capability to implement them or would their implementation require action on the part of others?

23. To what extent, if any, do the recommendations to improve the Pinelands permitting process affect the implementation of Pinelands land use and environmental policies? If negative effects will occur, what steps can be taken to minimize any unintended effects?
24. Is additional analysis needed before any of the recommendations previously discussed are considered further? If so, what should be the focus of the analysis?

APPENDIX C

Background Information

for

Stormwater Management Technical Panel Meeting

1. Excerpt from the Pinelands Comprehensive Management Plan - Sections 7:50-6.81 through 6.84 (Water Quality).
2. Precipitation and Runoff Patterns in Atlantic County, New Jersey: 1945-1986, New Jersey Pinelands Commission, June 1987.
3. Tables entitled "Comparative Pollutant Removal of Urban BMP Designs," "Comparative Stormwater Benefits Provided by Urban BMP's," "Environmental and Community Amenities Provided by BMP's," and "Other Common Restrictions on BMP's" from Controlling Urban Runoff: A Practical Manual for Planning and Designing Urban BMP's, Department of Environmental Programs, Metropolitan Washington Council of Governments, July 1987.

APPENDIX D

Public Comments Received Prior to Technical Panel Meeting

New Jersey Expressway Authority



"FARLEY SERVICE PLAZA"
P.O. BOX 351 - HAMMONTON, NJ 08037
PHONE 609-965-6060 • 609-348-3174 • FAX #609-965-7315

COMMISSIONERS
WILLIAM L. DALTON
CHAIRMAN
CHARLES E. PESSAGNO
VICE CHAIRMAN
RITA HOFFMAN LEWIS
TREASURER
DR. KENNETH HARRISON
SECRETARY
CHRIS C. SEHER
COMMISSIONER
THOMAS M. DOWNS
N.J.D.O.T

April 28, 1992

VINCENT L. LEONETTI
EXECUTIVE DIRECTOR

Mr. Terrence Moore, Executive Director
THE PINELANDS COMMISSION
P.O. Box 7
New Lisbon, N.J. 08064

REF: Additional topics for Pinelands Commission Review detailed in
memo of April 29, 1992

Dear Mr. Moore:

The New Jersey Expressway Authority is in the process of being assimilated into the South Jersey Transportation Authority. In addition, our limited staff cannot at this time, respond in detail to your request referred above. However, we offer the following for consideration by your office:

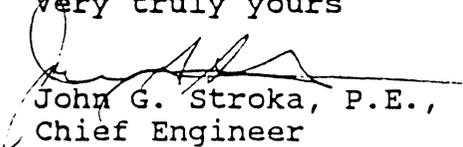
STORM WATER MANAGEMENT: The streams in South Jersey provide for a substantial portion of the recharge into ground water aquifers. During periods of high flows, the aquifers are recharged substantially and during periods of low flow, these aquifers near the surface maintain or contribute to stream flow.

Reports prepared by U.S.G.S. and N.J.D.E.P. and its predecessors document the relationship between stream flows and recharged aquifers.

Consideration should be given to modifying the retention facilities policy and thereby permitting a greater volume of runoff to the streams. The basins lose a great deal of water to trans-evaporation process and thereby by reducing the surface area and permitting more discharge to the stream, the rate and volume of recharge is increased.

It is unfortunate that we do not have the staff and funds available to study this suggestion further. However, the study should result in increasing the rate and volume of groundwater recharge.

Very truly yours


John G. Stroka, P.E.,
Chief Engineer
JGS:mai
cc: V. Leonetti



JUN 5 1992

FILE COPY

State of New Jersey
Department of Environmental Protection and Energy
Municipal Wastewater Assistance
CN 029

Trenton, NJ 08625-0029
Tel. # 609-292-8961
Fax. # 609-633-8165

Scott A. Weiner
Commissioner

Nicholas G. Binder, P.E., P.P.
Administrator

M E M O R A N D U M

JUN 04 1992

TO: Terrence D. Moore, Executive Director
Pinelands Commission

FROM: Nicholas G. Binder, P.E., P.P., Administrator
Municipal Wastewater Assistance

SUBJECT: Additional Topic for Pinelands Commission Review

We were pleased to learn of the addition of the sixth topic for the Pinelands Commission Review. It is requested that the effects of wastewater management decisions (e.g., construction of or addition to regional treatment facilities which bypass local streams in favor of ocean discharge or interbasin transfer prior to discharge) be considered under the water supply policy component, as such decisions have a similar effect to direct water supply diversion. With regard to the stormwater management components, some ideas you may wish to consider incorporating in design standards for Pinelands development include 1) use of porous pavement for driveways 2) avoiding curbing and sidewalks in favor of grassed waterways 3) directing rain gutters to on-site drywells. The merits of these suggestions would have to be technically evaluated in the workshop phase.

Thank you for the opportunity to provide input to the Pinelands Commission Review process. If we can be of further assistance during the technical workshop discussion or subsequent phases, please do not hesitate to contact me at (609) 292-8961 or Barbara Hirst, Section Chief, Technical Services Section at (609) 633-1170.

BH:rrd

FILED MAY 13 1992



New Jersey Concrete and Aggregate Association

770 River Road • West Trenton • New Jersey 08628

(609) 771-0099
FAX (609) 771-1729

May 12, 1992

William J. Cleary
Executive Director

The Pinelands Commission
P.O. Box 7
New Lisbon, N.J. 08064

Attn: Terrence D. Moore, Executive Director

Re: Water Quality Management Topic for Pinelands
Commission Review

Dear Mr. Moore:

The New Jersey Concrete and Aggregate Association would like to supplement our prior comments regarding the second review of the Pinelands Comprehensive Management Plan by addressing the recently added sixth topic, water quality management.

1. This Association supports an amendment to NJAC 7:50-6.84(a)5 which would standardize stormwater management requirements throughout the State of New Jersey, specifically those being utilized by the NJDEPE, county Soil Conservation Districts, and municipal ordinances. Currently, projects within the Pinelands Area must comply with the discharge standard for runoff volume and rate from the 50-year, 24-hour storm, while often simultaneously being required to show compliance with different discharge standards of local, county or State agencies. Not only is this process redundant, but the design of a stormwater management system is made more difficult by the need to comply with the diverse standards of the various regulatory agencies involved.

It should be noted that this industry is currently subject to 7:50-6.66(a)7, which requires that surface runoff be maintained onsite in a manner that provides for onsite recharge to groundwater; consequently this amendment does not directly impact the resource extraction industry.

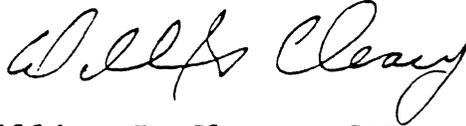
2. Regarding the usage of additional water quality parameters as indicators of overall water quality, this Association questions the documented need for additional indicators. Given that new development has been required to demonstrate compliance with existing CMP water quality standards, what evidence has emerged since 1980 that regulated development has produced an adverse impact on overall water quality or contravened the existing standard? If no such evidence has been documented, the need for additional standards seems unwarranted.

The use of additional water quality parameters would also require the use of additional dilution models in order to demonstrate compliance. The need for additional parameters must be evaluated in light of existing models, their application to the additional parameters, and their application given the unique hydrological characteristics of the Pinelands. The use of additional parameters, and models to evaluate these parameters, should be balanced by the clear documented need for additional indicators of water quality.

This Association would also recommend that the Commission assume a more active stance in resolving the discrepancies of NJDEPE-mandated water quality standards which may not be representative of the Pinelands Area. For example, the (relatively) high range of pH values required by NJPDES permits is not reflective of the natural low pH waters of the Pinelands. This has resulted in problems for members of this industry who operate within the Pinelands Area. It is requested that any future water quality parameters used for regulatory purposes in the Pinelands Area be consistent with the usage of those parameters by other State agencies; or alternatively, that the Commission become more active in working with the NJDEPE (and/or USEPA) to promulgate water quality standards within the Pinelands Area which are indicative of the unique hydrological characteristics of the region.

If you should have any questions regarding the information contained herein, please do not hesitate to call.

Sincerely,

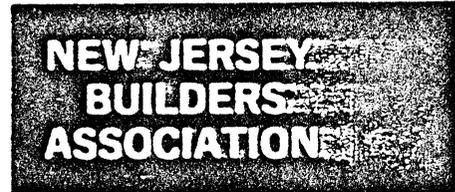
A handwritten signature in cursive script, reading "William J. Cleary". The signature is written in black ink and is positioned above the typed name.

William J. Cleary, CAE
Executive Director

JUN 10 1992
FILE COPY

666 PLAINSBORO ROAD, BUILDING 200, SUITE 2C, PLAINSBORO, NJ 08536

(609) 275-8888 FAX (609) 275-4411



June 10, 1992

Mr. Terrence D. Moore
Executive Director
The Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

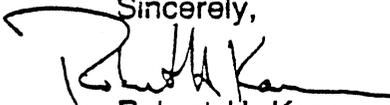
Re: CMP Review, Water Resources Management

Dear Mr. Moore:

The NJBA is filing the enclosed comments on the Water Resources topic, a sixth topic added to the initial five topics. Our comments are directed to the Stormwater Management area. The NJBA was assisted in the preparation of these comments by Hugh Dougherty, P.E. of Pennoni Associates.

We appreciate the opportunity to comment on these important issues. We believe that changes in Pinelands policies are warranted. We must be able to provide New Jersey citizens with housing in developments which are both environmentally sensitive and affordable to most of the residents of the Pinelands region.

Sincerely,



Robert H. Karen
President

cc: Hugh Dougherty, P.E.

ltr129

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AFFILIATES

• National Association of Home Builders • Atlantic Builders Association of New Jersey • Home Builders Association of Cape May County • Central Jersey Builders Association • Builders Association of Metropolitan New Jersey • Builders Association of Northern New Jersey • Home Builders Association of Northwest New Jersey • New Jersey Shore Builders Association • Builders Association of Somerset & Morris • Builders League of South Jersey • Builders Political Action Committee of New Jersey • Home Owners Warranty Corporation of New Jersey • Insurance Trust of the New Jersey Builders Assoc. • Institute of Multi-Family Housing

POLICIES AND REGULATIONS

A. GENERAL

The Pineland Commission's current regulations regarding stormwater management have run contrary to local and State (NJDEPE and N.J.S.C.S.) technology for both stormwater management and water quality. A consistent stormwater management policy for all review agencies would provide the most effective means of calculating, controlling and monitoring stormwater management/water quality (SWM/WQ) systems.

B. ADDITIONAL RESEARCH

The NJDEPE, formerly the NJDEP, Division of Water Resources and Division of Coastal Resources, independently produced two publications (see list below) and promulgated the New Jersey Stormwater regulations to assist Planners and Designers in the preparation of SWM/WQ systems. These publications and regulations provide a comprehensive study of stormwater management techniques and approaches. The Pinelands Commission should, at a minimum, incorporate these references into the Comprehensive Management Plan or review them prior to undertaking any new studies.

The Commission should also review the existing policies in the State of Maryland which exhibits similar topographic and geologic features to the Pinelands. The Pinelands Commission should review the following publications:

1. A Guide to Stormwater Management Practices in New Jersey, Division of Water Resources, Department of Environmental Protection, Trenton, New Jersey, March 1986.
2. Stormwater Management in the New Jersey Coastal Zone, A report prepared for Division of Coastal Resources, New Jersey Department of Environmental Protection, Trenton, New Jersey by Cahill Associates, Environmental Consultants, West Chester, Pennsylvania, April 1989.
3. Controlling Urban Runoff: A practical Manual for Planning and Designing Urban BMP's, Department of Environmental Programs, Metropolitan Washington Council of Governments, July 1987.
4. Minimum Water Quality Objectives and Planning Guidelines for Infiltration Practices, Maryland Department of National Resources, Water Resources Admin., Sediment and Stormwater Division, Annapolis, MD 21401, April 1986.

In addition to an investigative analysis of the references and existing data to date, the following questions need to be studied relative to the existing policies of the Commission:

1. Do the current infiltration basins, which are capable of storing the 50 year storm, substantially add to the quantity and quality of ground water recharge, or would a lesser storm event (namely the 1 or 2 year storm which represents 70-95% of total pollutants washoff and 70-90% of the total annual runoff) provide similar water quality/quantity benefits? (See Reference 2). Current studies show that capturing only the first inch of rainfall during every rainfall represents a significant portion of the total annual rainfall. By contrast, sizing a basin to retain the 50 year storm is excessive. The 50 year storm represents an extreme rainfall event which only has a 2% chance of occurring in any year.
2. Has the current requirement for storage of the 50 year storm provided measurable results? In order to answer this question, we recommend placing monitoring wells in and outside existing basins. Past experience shows that retention basins often fail without proper maintenance.
3. What is the failure rate of "infiltration" basins; why do they fail and what steps, if any, can be taken to maintain the basins? Further, what is the effect of a "failed" basin on the hydrology of the downstream areas? To answer this question hydrologic studies of watershed areas should be undertaken to verify/predict the effectiveness of the current policy.
4. Should the Pinelands consider regional stormwater management systems which encompass large watershed areas? Overall watershed management has been studied by the S.C.S. in several areas throughout the State. The Pinelands Commission should address this method of controlling storm runoff.

The following policies can be adopted immediately:

1. Provide infiltration storage for 1" runoff and meter flow through a conventional basin to achieve a predeveloped 2-10 year flow rate. This policy would accomplish the same task as the current policy with a more effective and efficient use of resources. Basins would be more readily maintainable and less likely to fail.
2. If the 50 year infiltration basin policy remains in place, the Commission can provide a low flow "emergency drain/cleanout" to facilitate easy maintenance. Regulate the use of the "cleanout" by a condition of approval. Better maintenance of the basins will ensure their proper function.

3. The Commission can perform periodic testing of existing/approved stormwater management facilities to ensure their proper function. The Commission should develop a data base which can be drawn upon to make future changes to the policy.

C. OTHER APPROACHES

The Pinelands Commission must reach an accord with the S.C.S. and NJDEPE regarding the following issues:

1. Water Quality: The previous publications by the NJDEPE and the soon to be implemented NPDES permits for stormwater discharges (the proposed process will allow for General Permits to be issued by NJDEPE provided the applicant has complied with the S.C.S.) must be coordinated for a single uniform rainfall event for a water quality storm
2. Stormwater Management: A single uniform rainfall event for stormwater management should be adopted by all agencies throughout the State.



JUN 5 1992
FILE COPY

State of New Jersey
Department of Environmental Protection and Energy
Division of Science and Research
New Jersey Geological Survey
CN-029

Scott A. Weiner
Commissioner

Trenton, NJ 08625
Tel. # 609-292-1185
Fax. #609-633-1004

Haig F. Kasabach
State Geologist

M E M O R A N D U M

June 3, 1992

TO: Terrence Moore, Executive Director
FROM: Haig F. Kasabach, State Geologist 
SUBJECT: Topics for Pinelands Commission Review

Thank you for the opportunity to comment on Water Resources Management in the Pinelands. Michael Serfes and Emmanuel Charles from the Bureau of Ground Water Resources Evaluation have reviewed your April 20 request and I have enclosed their comments. The New Jersey Geological Survey would be happy to participate in future workshops.

enclosures

cc: Robert Tucker
Leslie McGeorge
Gail Carter
Robert Canace
Michael Serfes
Emmanuel Charles

JUN 03 1992



State of New Jersey
Department of Environmental Protection and Energy
Division of Science and Research
New Jersey Geological Survey
CN-029

Trenton, NJ 08625
Tel. # 609-292-1185
Fax. #609-633-1004

Scott A. Weiner
Commissioner

Haig F. Kasabach
State Geologist

M E M O R A N D U M

June 2, 1992

TO: Haig Kasabach, State Geologist

THROUGH: Gail Carter, Acting Bureau Chief *GAC*
Robert Canace, Acting Section Chief *GAC for RC*

FROM: Manny Charles, Principal Geologist
Mike Serfes, Supervising Geologist *MS*

SUBJECT: Response to Pinelands Commission request for approaches
in dealing with Water Resource Management issues

We are pleased to respond to the Pinelands Commission's request (Attachment 1) for possible approaches to three water resource management issues in the Pinelands.

Issue 1: Stormwater Management

The Pinelands Commission should be as precise as possible in defining their objectives for a change in the stormwater management policy. These objectives could be defined in part by citing a specific case or specific goals of the Commission. The relative level of priority of stormwater management affects; namely ground-water recharge, streamflow changes, ground-water quality, and surface-water quality should be reassessed by the Commission before any changes in policy. Any change in stormwater management policy should be based on some level of a sound technical basis.

From the brief description given in the Commission's request letter, it appears that the efficacy of the 50-year/24-hour retention requirement is being questioned. Results of both the study done by Nicholson and Zampella (1987, Precipitation and runoff patterns in Atlantic County, New Jersey, 1945-1986, New Jersey Pinelands Commission, Lisbon, NJ 23 p.) and the draft NJGS ground-water recharge methodology suggest that designing for such large storm events to enhance ground-water recharge may be inefficient. However, a change in the stormwater policy would require a more focused technical study. An appropriate study could use existing data and techniques from both of the works cited above.

Issue 2. Water supply policy for the Kirkwood-Cohansey aquifer

Any new water supply policy should be technically defensible. The six million dollar cost of the proposed study has been raised as a limiting factor for establishing a technical basis for a water supply policy. It seems reasonable that a lower cost technical basis may be possible by extending the results of "shallow aquifer studies" such as the Mullica River and Maurice River basin studies. In extending the results of such shallow aquifer studies to other parts of the Coastal Plain, care should be taken to account for regional differences in climate (precipitation, evaporation) and water use.

3. Water quality parameters: ammonia, phosphorous, pH

The background concentration distributions of ammonia, phosphorus and pH in the Kirkwood-Cohansey aquifer system, underlying the Pine Barrens, can be evaluated with existing data. Once the distributions are established they can be used to determine appropriate ground-water quality standards and assess pollution impacts. This approach can also be used for other parameters of concern.

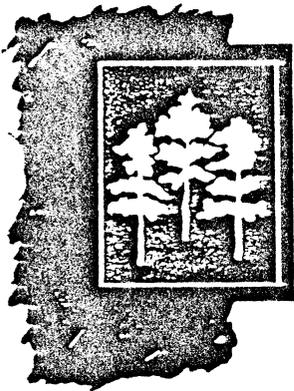
Selecting "master parameters" appropriate for assessing anthropogenic impacts on water quality depends on the natural background chemistry and the chemistry of the discharges of concern. These parameters are usually selected on the basis of ubiquitous land-use activities that impact water quality. If septic and agricultural activities are of concern then the three parameters above, along with nitrite plus nitrate, will be indicative. In addition, chloride may be a useful parameter for assessing the impact of septic on ground water.

By developing a geographically accurate water quality database most of the items in question 3 can be answered. The next step would be to establish criteria to identify the source (from example; septic versus agricultural) of the pollution. Location specific water-quality standards can be established as the volume of data in the database increases.

In summary, the "workshop" of technical experts held by the Commission should focus on; 1) priority issues within each of the above issues, 2) the amount of money and resources available to develop a technical basis for each of the issues.

It would be quite risky and perhaps ultimately more costly to implement changes in any of the above water resources management issues without sound technical basis. We suggest that the Commission determine the highest cost that could be invested in the technical basis of each of the issues.

c: Jeff Hoffman



FILE COPY

Pinelands
Preservation Alliance

120-348 Whitesbog Road • Browns Mills, NJ 08015 • (609) 893-4747

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Howard P. Boyd
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*A Field Guide to
The Pine Barrens of NJ*

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Michael Gallaway
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Franklin E. Parker
Director, NJ Field Office of
Trust for Public Land

James T.B. Tripp, Esq.
General Counsel,
Environmental Defense Fund

Gerard Vriens, Ph.D.
Retired Chemical Engineer

June 19, 1992

Mr. Terrence Moore
The Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

Dear Mr. Moore:

In response to your letter of April 20, 1992, the Plan Review Committee of the Pinelands Preservation Alliance has the following suggestions to make to the expert panel on Stormwater Management.

Stormwater has become a more significant pollution source since the original standards for point and non-point source discharges were written into the Plan. These standards, however, are concerned only with the quantity of non-point discharge. We urge the panel to address the quality of the stormwater. The management of polluted runoff should be managed differently from non-polluted. This is particularly important as people in new developments over fertilize their lawns in their often failed efforts to have Cherry Hill type lawns in the Pinelands.

DEPE has a "working draft" of a new manual on stormwater management. The panel is urged to examine this document for incorporating its "Best Management Practices" into the CMP. BMP may not be rigorous enough for the CMP. There must be standards.

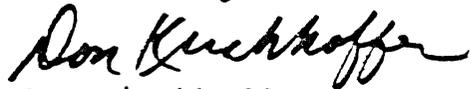
The maintenance of existing and future stormwater basins is a must for this panel. Eventually, most basins will fail. How the CMP can manage the failure of such basins is complex and costly, which is no reason not to address the problem.

In examining both the design and maintenance of stormwater basins, the panel should determine if different standards should be set for the unique soils of the Pinelands.

DEPE's efforts to manage the pollution portion of stormwater management is directed almost exclusively to the elimination of the pollution at the source. The CMP attempts to control source pollution through its Vegetation Standards (6.20-6.24). These standards are probably violated more than any other standard of the Plan. We urge the panel to examine this standard to see if it is still appropriate and reasonable and to examine ways to enforce its provisions. The PPA is deeply concerned about the amount of unnecessary clearing and excessive lawns and plantings requiring excessive use of fertilizers that occurs during construction of developments. How can this be contained and regulated?

The PPA recommends that the panel attempt to define some research priorities. Can existing successful and failed basins be evaluated to determine what works? Should some sort of long range monitoring system be devised for basins?

Sincerely,



Don Kirchhoffer
Coordinator
Plan Review Committee



FILE COPY

State of New Jersey
Department of Environmental Protection and Energy
Site Remediation Program
CN 028
Trenton, NJ 08625-0028
Tel. # 609-292-1250
Fax. # 609-633-2360

Scott A. Weiner
Commissioner

Lance R. Miller
Assistant Commissioner

JUN 17 1992

Terrence D. Moore, Executive Director
The Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

Subject: Response to Your Memorandum of April 20 Regarding
Stormwater Management

Dear Executive Director Moore:

The purpose of this letter is to respond to your memorandum of April 20 regarding stormwater management. In your letter, you sought input to determine if changes are warranted to better protect water quality, maintain hydrologic balances and reflect current technologies. This letter responds to your request as it applies to sites within the Site Remediation Program (SRP). In addition, this letter will describe the SRP's response to the November 16, 1990 Federal Register (40CFR Parts 122, 123, and 124) requirement that certain solid and hazardous waste facilities obtain permits for stormwater discharges.

The prevention of contaminant migration through all environmental media, including stormwater, is central to final remedy selection. For example, landfill caps are used to isolate stormwater from contaminated materials. If the stormwater discharge presents an immediate risk to human health or the environment, NJDEPE has the option of performing an interim remedial measure (IRM) prior to final remedial action. For example, an IRM was performed at the GEMS Landfill in Gloucester Township, Camden County to provide surface water and stormwater control. Contaminated stormwaters had been flooding a residential area. NJDEPE responded with an IRM which consisted of soil berms, piping and regrading. This IRM considerably reduced the potential that residents would be exposed to hazardous substances. This combination of IRMs and final remedial actions "reflects current technologies" referenced in your memorandum.

In regard to the runoff and recharge requirements, SRP understands the need to maintain hydrologic balance and ground water levels. However, SRP finds the requirement that "run-off generated by development activities be retained on site and recharged" may conflict with other environmental goals/laws. For example, the construction of a retention/infiltration basin may not be possible due to the presence of wetlands or significant habitats. Therefore, SRP requests that on-site recharge not be a requirement, but a discretionary goal.

General Stormwater Permit

The November 16, 1990 Federal Register (40 CFR Parts 122, 123 and 124) requires that certain solid and hazardous waste facilities obtain permits for stormwater discharges. Either individual or general permits are available. SRP intends to obtain a general permit in the near future for hazardous waste sites where we are the lead agency. The permit approval will be subject to the usual public hearing process.

The general permit will authorize stormwater discharges whenever the state acts or arranges for the remediation of hazardous substances pursuant to N.J.S.A.58:10-23.11f, from sites where a hazardous substance discharge has occurred. The effluent limitations governing the stormwater discharge would not be based on pollutant concentrations. Instead, NJDEPE shall assure that there shall be no contact between stormwater and contaminated materials upon completion of the remedial action.

Site remediation projects in which responsible parties have agreed to undertake the cleanup themselves will not be included in the general permit. Responsible parties may be required to obtain site specific permits. These permits have substantial monitoring and reporting requirements. SRP's stormwater management strategy is in conformance with NJ Department of Agriculture's Soil Erosion and Sediment Control Plan Certification Program.

Your memorandum also requested that our response address the topic of "additional research", "policies and regulations" and "other approaches". The following text responds to those topics on a bullet by bullet basis. For your convenience, the questions posed in your memorandum are reprinted in upper case.

ADDITIONAL RESEARCH

WHAT QUESTIONS NEED TO BE STUDIED BEFORE THE COMMISSION DECIDES WHETHER TO CHANGE EXISTING POLICIES/REGULATIONS OR ADOPT NEW ONES?

- The feasibility of IRMs for stormwater control. Considering the need for IRMs on a site specific basis is already a component of the site remediation process. However, stormwater control may not be practical at most sites until the final remedy is constructed.

- The benefit/cost of a site specific permit containing numerical standards and monitoring requirements. It is SRP's position that numerical standards and monitoring requirements for stormwater would consume resources out of proportion to the benefit that the data would provide. The magnitude of stormwater discharge problem is already assessed through the Remedial Investigation (RI) process. The site team may elect to sample stormwater if it is considered a problem. Visual site inspections and sampling of other environmental media provide further assessment of a potential stormwater problem. These evaluations are used to consider whether an IRM is warranted.

WHAT STEPS MIGHT BE TAKEN TO GET THESE QUESTIONS ANSWERED:

- Discussed above.

POLICIES AND REGULATIONS

WHAT SPECIFIC POLICIES/REGULATIONS CAN BE ADOPTED BY THE COMMISSION WITHOUT THE NEED FOR FURTHER STUDY?

- The Commission can adopt the pending general stormwater permit language for publicly funded sites.

WHAT WOULD EACH OF THESE POLICIES/REGULATIONS ACCOMPLISH?

- The general permit would relieve NJDEPE of the substantial monitoring and reporting requirements of site specific permits. NJDEPE finds a greater benefit in expending its limited resources on developing and implementing final site cleanups.

HOW DOES EACH OF THESE RELATE TO THE GOALS OF THE PINELANDS PROTECTION ACT AND THE FEDERAL PINELANDS LEGISLATION?

- SRP's use of the general permit will allow resources to be expended on site cleanups instead of the substantial administrative requirements of site specific permits. That will result in faster site cleanups, consistent with Pineland's goals.

WHAT IS THE FACTUAL BASIS (E.G.) DATA, COMPLETED RESEARCH FOR EACH OF THESE POLICIES/REGULATIONS?

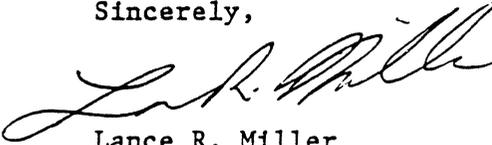
- Previous experience with field sampling events, procurement of analytical services, data validation and report generation indicates that a site specific monitoring program would cost tens of thousands of dollars annually per site. Multiplying the cost of an individual site by the number of sites in New Jersey would result in a multi-million dollar program. Currently, stormwater problems are evaluated through Remedial Investigations and controlled through the Soil Erosion and Sediment Control Plan compliance mentioned earlier. The incremental benefit of the additional monitoring data cannot be justified when compared with the cost of obtaining the data.

OTHER APPROACHES

NJDEPE has no comment on this portion of your memorandum.

Thank you for the opportunity to comment on the review of the Pinelands Comprehensive Management Plan. If the Pinelands Commission staff has any questions on this letter, please refer them to Edward Putnam of the SRP staff.

Sincerely,

A handwritten signature in cursive script, appearing to read "Lance R. Miller".

Lance R. Miller
Assistant Commissioner

APPENDIX E

Public Comments Received After Technical Panel Meeting

Township of Hamilton

County of Atlantic

FILE COPY

Mayor
JOHN J. PERCY, III, CTA, CMFO
PHONE: 965-3500

Deputy Mayor
CHARLES PRITCHARD
PHONE: 625-9212

Township Committee Members
LORRAINE GRANESE
PHONE: 625-0807

FRANK GRIECO, SR.
PHONE: 625-0524

BRUCE STRIGH
PHONE: 625-0080



21 Cantillon Boulevard, Room 104
Mays Landing, New Jersey 08330

Township Clerk
JOAN I. ANDERSON, RMC
PHONE: 625-1511

Township Administrator
RAYMOND A. TOWNSEND
PHONE: 625-4782

Township Solicitor
ROBERT SANDMAN, ESQ.
PHONE: 344-5161

Township Engineers
JOHN R. WALKER
JAMES N. HOLMES

July 2, 1992

The Pinelands Commission
Mr. Terrence Moore, Executive Director
P.O. Box 7
New Lisbon, NJ 08064

Re: Pinelands Master Plan Review

Dear Terry,

I have enclosed an original and several copies of a report written by our Municipal Engineer, James Holmes, in reference to municipal road projects within the Pinelands.

Please accept this as additional input for your review process.

If the Commission, you or your staff, have any specific questions, please feel free to contact Mr. Holmes (609-399-1927) or myself.

Sincerely,

Raymond A. Townsend
Raymond A. Townsend
Township Administrator

RATmal

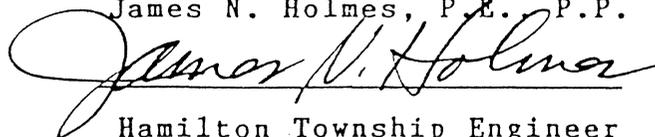
enc.

RECOMMENDATIONS FOR REVISIONS
TO
THE PINELANDS COMPREHENSIVE MANAGEMENT PLAN
FOR
RECONSTRUCTION & MAINTENANCE
OF
MUNICIPAL ROADS
PROJECT NO. 6907.8

PREPARED BY

WALKER, PREVITI, HOLMES, & ASSOCIATES
801 Asbury Avenue
Ocean City, New Jersey
08226

James N. Holmes, P.E., P.P.



Hamilton Township Engineer
N.J. License No. 24,823

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- I - INTRODUCTION
- II - GROWTH DEMANDS
AND POLICIES
- III - ECONOMIC IMPACTS
- IV - STORM WATER MANAGEMENT
- V - SUMMARY

PROPOSED PINELANDS CMP REVISIONS

I INTRODUCTION

The Township of Hamilton was one of the first municipalities in the Pinelands National Reserve to begin the Pinelands Certification process of the Township Developmental Ordinance. After Certification the Township has developed a history of full cooperation with the Pinelands Commission in implementation and enforcement of the Pinelands Comprehensive Management Plan.

As an example of close cooperation, Township Planning Officials have met on a monthly basis with applicants and developers for the past ten years. These meetings, in many instances, are held with applicants prior to a formal application being submitted to the Pinelands Commission or the Township Planning Board. In addition to Township Planning Officials, for a number of years a representative of the Pinelands Commission staff has also attended the meetings.

This cooperative effort has resulted in reduced development review costs for applicants. As two review agencies are involved, a clear understanding of requirements on the part of the applicant in certain matters of concern to both the Pinelands Commission and the Township, and a shortened length of the review process for applicants has resulted.

In the design of storm water management systems, a critical element is the depth to seasonal high groundwater. The Township Engineer's Office and the Pinelands staff have shared this responsibility of witnessing borings to verify

this data, based on work load and availability of the Pinelands Commission staff.

The Township Engineer's Office has also cooperated closely with the Cape-Atlantic Soil Conservation District during the construction of development projects, to insure soil erosion measures are followed. The Township Engineer has given standing orders to his Inspection staff to notify him, or the Cape-Atlantic Soil Conservation District, in the event soil erosion procedures are not followed. In essence, this procedure also aids in the Pinelands Certification process, as the Soil Erosion and Sedimentation Plans are an important element of the Pinelands review and approval.

Through the Planning Board Planner's Office, strict compliance with the Pinelands approved landscaping plan is required prior to the issuance of a Certificate of Occupancy by the Township Construction Code Official. Approval and sign off is also required by the Township Engineer for the Storm Water Management Plan, and any other aspects of the Pinelands approved and certified plans.

The Planning and Zoning Office, through the diligent work of the Planning Board Administrator, also has a history of compliance with, and enforcement of, all aspects of the Pinelands Comprehensive Management Plan.

The above examples demonstrate the Township of Hamilton has a history of cooperation with, and above all, enforcement of the goals of the Pinelands Commission.

The Pinelands Commission is presently reviewing the Comprehensive Management Plan (CMP), and soliciting recommendations from the public, government officials, and organizations during the review process. The Township, based on its excellent history of cooperation and enforcement of Pinelands goals and aims, respectfully submits these recommendations for consideration by the Pinelands Commission.

Of the six topics chosen by the Commission for review of the CMP, this report will primarily focus on the following topics as they relate to and impact upon reconstruction and maintenance of Township Roads.

- 1) Growth Demands and Policies
- 2) Economic Impacts
- 3) Storm Water Management

Although this report is based on Hamilton Township's experience, other Pinelands area municipal engineers have indicated concurrence with the opinions formulated herein.

II GROWTH DEMANDS & POLICIES

Due to the Pinelands mandated growth within the Township, the population has rapidly expanded within the past ten years. This growth has placed an economic burden on the Township in the form of expanded services and new facilities. The Township presently maintains over 400 miles of improved municipal roads. In the context of this report, "improved" means gravel, bituminous surface treatment, or asphalt roads.

IV STORM WATER MANAGEMENT

The present CMP standards, as related to new development, are deemed as necessary. The Township has implemented these standards in all new Township construction and road projects with full acceptance and compliance.

The CMP standards for storm water management as related to local road programs is inflexible, and as previously stated, in some cases may not be necessary. Storm water re-charge naturally takes place along the roadway edge, in adjacent wooded areas, lawns and similar areas within a minimal distance from the road.

It is therefore recommended the CMP be revised as follows:

1. No storm water retention be required for road projects meeting the following criteria:
 - a. It can be demonstrated the average width of road will not be increased based on the total length of road to be re-constructed.
 - b. Cartway widths are minimally increased to meet traffic safety standards, and safeguard life, health, property and promote the public welfare.

Standards to be applied are contained in Table V-8 of AASHTO - Geometric Design of Highways and Streets - 1990 Edition, as shown on next page.

AASHTO—Geometric Design of Highways and Streets

Design Speed (mph)	Width (ft) for Design Volume					
	Current ADT Less than 250	Current ADT 250-400	Current ADT Over 400	DHV 100-200	DHV 200-400	DHV 400 and Over
	Width of Traveled Way					
20	18	20	20	20	22	24
30	18	20	20	20	22	24
40	20	20	22	22	22	24
50	20	20	22	22	24	24
60	20	22	22	22	24	24
	Width of Graded Shoulder (Each Side)					
All Speeds	2	2	4	6	8	8

Table V-8. Minimum width of traveled way and graded shoulder.

Verification of traffic counts must be submitted to the Commission as part of the approval process.

- c. The increase in storm water runoff for the pavement widening does not exceed 1.5 c.f/L,F. for each side of the road using the present CMP requirement for a 50 YEAR STORM, and the TR-55 method. This calculation is to be based on the roadway improvement (cartway shoulder areas and side slopes, if required) and should not include clearing for construction of swales or retention areas.
- d. The increase in storm water runoff does not enter an existing storm water collection system and directly discharge into wetlands,

streams or natural water bodies.

- e. In projects where the existing road traverses wetlands areas, and it is obvious there is no alternative without expending needed funds for alternate route studies or construction, a statement from the Township Engineer should suffice to fulfill this CMP requirement as part of the application process.

In the event road widening is proposed in wetlands areas and the widening meets the criteria in "b" above, wetlands must be field located. Unless proven to be totally impractical by the Township Engineer, limited storm water retention can be mandated in wetland areas. This retention should be limited to containment of the difference between pre and post runoff of the "first flush" type storm (i.e. - 2 year storm event), using the basic TR-55 criteria. These retention areas may be located within 200 feet of the point where the wetlands intersect or is adjacent to the roadway, or if practical, along the roadway shoulder in the wetland area depending on soil conditions.

- f. Projects meeting the above criteria should be reviewed in an accelerated manner by the Pinelands Commission staff, and be approved administratively by the Executive Director. No. public notice should be required. In the event the staff finds the criteria is not met, a full application to the Pinelands Commission will be required.

V CONCLUSION

The major points contained in this report can be summarized as follows:

1. Pinelands mandated growth policies have resulted in increased population in Hamilton Township. This growth has resulted in an increased impact on the existing roadway infrastructure system.
2. In spite of yearly Township funding of \$500,000.00 for the road program, and \$100,000.00 from the N.J.D.O.T. in the form of municipal aid, the maintenance of the existing roadway system has not kept up with the need, due to increased traffic on the roads.
3. The Pinelands storm water management criteria has resulted in 25% to 30% of roadway improvement funding being expended for compliance with the CMP standards. This percentage proves the CMP has

had a definite economic impact on the municipality.

4. Revisions of the CMP in the form of revised storm water management standards is imperative in order for the Township to maintain and upgrade the present road system to modern traffic safety standards. In essence, every dollar funded for roadway improvements should primarily be expended for this purpose.

APPENDIX F

Soil Suitability							
Series Name	Symbol	Permiability <0.2"/hr.	SHWT <12"	SHWT 18"-48"	CEC (meq/100qm)	Recharge Suitability	Wet Pond Suitability
Adelphia	Ad, Ae			*	10 - 15	3	2
Adelphia-Urban	AL			*		3	2
Alluvial	Ap		*		5 - 20	4	1
Atsion	Ac, At, Au, Av, Aw		*		0 - 5	4	1
Aura	Am, Ar, Av, Ax				5 - 10	1	4
Aura-Downer	At, Av					2	4
Berryland	Bf, Bp, BS, Bt, Bu	*	*		0 - 5	4	1
Clay Pits	Ca						
Coastal-Urban	CJ						
Collington	Cn, Co				10 - 15	1	4
Collington-Urban	CR						
Colts Neck	Ct			*	5 - 10	3	2
Downer	Dn, Do, Dp, Dr, Ds, Dt, Dx				0 - 5	2	4
Downer-Urban	DJ						
Elkton	En	*	*		10 - 15	4	1
Evesboro	Ev, Ew, Ey				0 - 5	2	4
Evesboro-Urban	EW						
Fallsington	Fa, Fb, Fc, Fd		*		5 - 10	4	1
Fill Land	FL, FM			*	0 - 5	3	2
Fort Mott	Fr				0 - 5	2	4
Freenoid	Fn, Fr, Fs				5 - 10	1	4
Freenoid-Urban	FU						
Fripp	Ft					2	4
Hammonton	Ha, Hb, Hc, Hm, Hn			*	0 - 5	3	2
Hammonton-Urban	HL			*			
Holmdel	Hh		*		5 - 10	4	1
Holmdel-Urban	HJ		*				
Hooksan	Hw					2	4
Hooksan-Variant	Hx		*			4	1
Humaqueots	HV					2	4
Keyport	Ke			*	10 - 15	3	2
Keyport-Urban	KG			*			
Klepj	Kl, Km, Kn, Ko	*	*	*	0 - 5	3	2
Klepj-Urban	KJ			*			
Kresson	Kr, Kv	*			15-20	3	2
Lakenurst	La, Lh, Ll, Lm, Ln, Lo, Ls	*	*	*	0 - 5	3	2
Lakenurst-Lakewood	Lb		*	*	0 - 5	3	2
Lakeland	Lc, Ld, Le		*	*	0 - 5	3	2
Lakewood	Le, Lf, Lg, Lh, Lt, Lu, Lv, Lw, Ly				0 - 5	2	4
Leon	Lo, Ls				0 - 5	2	4
Madeland	Ma			*		3	2
Manahawkin	Ma			*		3	2
Marlton	Mb, MI			*	15-20	3	2
Matawan	Mm, Mn, Mt	*	*	*	5 - 10	3	2
Muck	MJ				15 - 20	4	1
Mullica	Mr, Mu		*			4	1
Pasquotank	Pa		*		0 - 5	4	1
Pemberton	Pe			*	5 - 10	3	2
Phalanx	Ph				0 - 5	2	4
Pits	Pm, PT					4	4
Pits, Sand, and Gravel	Pt	*				4	3
Pits, Clay, and Marl	Pu					4	4
Pocomoke	Po, Pv, Ps, Ha, Hb, Wm		*		10 - 15	4	1
Psammments	PN, PO, PW					2	4
St. Johns	Sa, Sc		*		0 - 5	4	1
Sandy Alluvial Land	Sv		*			4	1
Sandy Land	Se				0 - 5	2	4
Sassafras	Sa, Sb, Sf, Sg, Sl				5 - 10	1	4
Shrewsbury	Sh, Sn		*		10 - 15	4	1
Sulfaquents, Sulphemist	SS					2	4
Tidal Marsh	TD, TM, TS					4	
Tinton	Tn, To				5 - 10	1	4
Tinton-Urban	TU			*			
Udorthents	UA			*		3	2
Udorthents-Urban	UD			*			
Urban Sandy	Ug, UL, UP						
Weeksville	Wd		*		0 - 5	4	1
West Phalia	Wa, Wf, Wh				0 - 5	2	4
West Phalia-Nixonton	Wr			*		3	2
Woodmansie	We, Wo			*	0 - 5	3	2
Woodstown	Wc, Wn, Wo			*	5 - 10	3	2
Woodstown + Dragston	Ws			*		3	2
Woodstown + Klej	Wt			*		3	2

Table 22. Soil Series Suitability for BMP Application within ACD

Water Supply Policy in the Pinelands

Report on Technical Panel Meeting

I. INTRODUCTION

A panel of experts (Appendix A identifies the panelists) met on July 1, 1992 to discuss this topic. In preparation for this meeting, a series of questions to be explored (Appendix B), background information (Appendix C identifies the sources) and public comments received prior to the meeting (Appendix D) were provided to each participant.

Mr. Moore served as workshop coordinator and panelists were asked to freely express their opinions as individual experts and not as representatives of an agency or organization.

II. PURPOSE OF THIS REPORT

This report is intended to summarize key discussion points and present all recommendations offered by any of the participants. A taped recording of the entire seven hour (7) session is available for review at the Commission's offices. Since different opinions were offered by panelists, the report also attempts to indicate the level of consensus reached on various discussion points and recommendations.

Recommendations are described throughout the text in **bold** and are numbered sequentially. For ease of reference, a table has also been prepared which identifies each recommendation presented by one or more panel members. The table also includes staff estimates of the resources needed to carry out the recommendation and other information which the Commission may wish to consider when deciding which recommendations should be pursued.

III. KEY FINDINGS AND RECOMMENDATIONS

The panel spent a great deal of time discussing the current status of many water supply planning and project initiatives. Possibly the single most important point raised throughout the meeting was the benefit of better coordination among those public agencies and private entities which have a stake in water supply planning. Virtually all of the panel members expressed appreciation to the Commission for hosting this type of meeting and recommended a number of steps which might foster better communication and coordination in the future.

A. State Water Supply Policy

The panel discussed the current status of the Department of Environmental Protection and Energy (DEPE) "critical area" program, the state's water supply master plan and other ongoing planning and research initiatives.

Recommendation 9.01 Support legislation to authorize DEPE to implement critical area water supply measures.

Discussion of the critical area program highlighted the problem DEPE faces in effectively managing the Potomac-Raritan-Magothy (PRM) aquifer in the Camden metropolitan area. This area was proposed as Critical Area #2 after extensive studies were completed. Such a designation would have required that use of the PRM be curtailed in favor of alternative water supplies, primarily a regional water supply and distribution system which draws from the Delaware River. However, a court ruling found its legislative authorities to be lacking and has prevented DEPE from requiring that use of the PRM be curtailed. As a result, the aquifer continues to be stressed and the regional system has been scaled down by the New Jersey American Water Company because of reduced demand for the alternative water source. Without a regional system in place to accommodate future demands, the Kirkwood-Cohansey aquifer becomes the most likely water supply source because other formations (Englishtown, Mt Laurel, Wenonah) are nearing capacity.

The panel also discussed the status of the Atlantic County and Cape May County water supply studies. Although no significant short-term problems are anticipated in Atlantic County, problems in Cape May County may be acute because of salt water intrusion. One panelist indicated that all of Cape May City's wells may go saline by the turn of the century and that upgradient wells in other parts of Cape May County and Atlantic County may be exacerbating the movement of this salt line. Alternative water supply sources currently being discussed include desalination, Kirkwood-Cohansey wells and conjunctive use of surface and ground water supplies. At this time, DEPE is apparently uncertain whether these types of solutions will be adequate.

This discussion led one panelist to recommend that the Commission support legislation to clearly authorize DEPE to implement water supply and management measures when "critical areas" are found to exist. The panel was advised that DEPE is in the process of drafting legislation which would authorize it to replicate the type of process which was successfully used in Critical Area #1 but which had been overturned by a court ruling for Critical Area #2. There appeared to be consensus among the panelists in support of this recommendation.

Recommendation 9.02 The Commission should work with DEPE to ensure that water supply planning and wastewater planning are coordinated.

One panelist stated that, because of concerns for interbasin and subbasin transfer of Pinelands waters, water supply planning should be done in concert with wastewater planning. One panelist mentioned the Commission's Mullica River Basin study as an example and indicated that comprehensive water supply planning by the Camden County Municipal Utilities Authority has not progressed as quickly as wastewater planning.

Another panel member concurred and stated that DEPE has a similar interest which will be reflected in the state's water supply master plan. There was general support among the panel for this recommendation, although specifics as to how this might be accomplished were not discussed.

Recommendation 9.03 Coordinate water supply research projects among the Commission, DEPE and the United States Geological Survey (USGS) by holding periodic meetings.

During the panel's discussion of current research projects, several DEPE initiatives relative to estuary, base flow and wetlands studies were discussed. DEPE creates technical committees for these types of studies and it was mentioned that Pinelands Commission participation may be appropriate. Other Commission and USGS research initiatives, as well as the proposed Kirkwood-Cohansey study, were discussed.

The panel also discussed additional research needs. A number of panelists acknowledged the complexity of hydrological and ecological studies and the added difficulties researchers face when attempting to deal with the ecological impacts caused by changes in hydrology.

One panel member then recommended that periodic meetings be held so that work scopes, status and conclusions from ongoing research projects may be exchanged among the Commission, DEPE and USGS. Such a forum might enable study designs to be improved, increase the transferability of data and conclusions among researchers, and result in specific research questions reflected in the Kirkwood-Cohansey study proposal to be incorporated into other research initiatives.

Another panelist volunteered that the Water Resources Institute based in Cook College might be able to serve as the coordinating body for this effort.

The panel fully supported this recommendation.

Recommendation 9.04 Encourage DEPE to identify "preferred" alternatives in the state water supply master plan.

One panelist reported that the state water supply master plan is progressing toward completion. The state is being classified into twenty-three planning areas on the basis of hydrological considerations and estimates of recharge and depletive water uses will be included. A range of water supply alternatives will be discussed but no specific alternatives will be selected.

One panelist recommended that the state's water supply plan should present preferred alternatives based upon an assessment of environmental, institutional and financial implications. Several other panel members supported this recommendation.

Recommendation 9.05 The Commission should encourage DEPE to reflect the cooperative DEPE/Commission water supply policy in the state water supply master plan.

One panel member recommended that the existing water supply policy for the Pinelands be articulated in the state water supply plan. If the general policy is identified in the plan, it can serve as a framework for water resource management in specific planning areas and make all parties aware of the need to exhaust alternatives before use of the Kirkwood-Cohansey aquifer is considered.

While there was little detailed discussion of this recommendation, no one opposed it.

B. Conservation

Recommendation 9.06 Encourage DEPE to adopt a statewide water conservation policy.

One panelist suggested that the state should have a specific policy on water conservation, similar to that which exists for recycling. It was mentioned by another panelist that the unique qualities of the Pinelands might necessitate a policy that is more restrictive than the state's. In response to this comment, the panelist who offered this recommendation noted that a statewide policy should allow the Commission and localities to adopt more stringent policies, if they are warranted.

During the discussion, it was mentioned that specific conservation goals and practices might vary from place to place. For example, conservation within a relatively closed system (e.g., treated wastewater that is returned to the same stream which provides the supply) would have a different orientation than a situation which involves depletive uses.

One panelist added that the Commission should be an advocate for a state policy, but recommended that it be tailored to the unique demands of each community.

Recommendation 9.07 Require municipal land development ordinances to incorporate water conservation requirements.

One panel member suggested that modest savings in water use may be attained by requiring conservation measures in local subdivision and site plan ordinances. Such measures might include low maintenance landscaping, limiting or regulating the types of lawn sprinklers, and requiring the installation of low water irrigation systems for golf courses.

One panel member stated that this recommendation should not be implemented until additional information has been collected on the costs and values of these measures. It was also suggested that these need to be "sold" to the public.

Another panelist expressed support for the recommendation but advised that a determination of economic hardships associated with these measures be conducted with great thoughtfulness and care.

Recommendation 9.08a Require water purveyors and municipalities that will be serviced to address water conservation when water supply system developments are proposed.

This recommendation would require both purveyors and local governments to address water conservation when water supply applications are submitted to the Commission. Purveyors would be required to discuss "supply side" conservation measures such as plans for metering, leak protection and repairs, and facility maintenance. One panelist noted that these measures are sound business investments and purveyors already provide this type of information to DEPE.

Local governments which will be served by the project would be required to address "demand side" conservation measures. Although specific requirements would not have to be imposed, municipalities would be required to at least consider the issue.

In summarizing, the panelist offering the recommendation indicated that the purpose would be to stimulate serious thought about water conservation, that it could be implemented so as to avoid unnecessary duplication of DEPE requirements, and that it could be applied to areas outside the Pinelands if they are to be served by a well located within the Pinelands.

This recommendation was generally supported by the panel.

Recommendation 9.08b Revise the short-term water supply policy to require that conservation measures be addressed by purveyors and municipalities that will be serviced.

This recommendation differs from Recommendation 9.08a in that it expands the geographic area of the requirement but does not institute it through formal regulatory policies.

This recommendation would be applicable to projects proposing water supply wells located outside the Pinelands Area but within the areas of concern specified in the Pinelands short-term water supply policy.

There was little discussion of this specific alternative.

Recommendation 9.09 Become more active in educating the public on the benefits of water conservation.

As an outgrowth of the discussion on Recommendation 9.07, one panelist reaffirmed the need to focus on the public's perceptions and attitudes about water consumption. It was suggested that the Commission should become more active in educating the public about the need to conserve water and the steps citizens can take.

Two panelists also pointed out that such an effort could be targeted to the unique characteristics of each community. For example, communities with large seasonal populations need to address conservation in ways different from those with fairly stable, year-round populations.

Panelists appeared to support the general idea of an expanded educational effort. However, questions were raised as to whether this might be better coordinated through a statewide committee which could be better equipped to deal with a variety of different conservation and education strategies.

Recommendation 9.10 Reaffirm Comprehensive Management Plan (CMP) requirements to treat water from hazardous water remediation processes to CMP water quality standards and to recharge it.

Because of the significant amounts of water treated in many remediations of hazardous waste sites, one panel member recommended that the CMP reaffirm its water recharge requirements for this use.

Although recharge is a site specific issue and feasibility and design analyses should be done for each site, the recommendation was prompted by a concern by two panelists that the Environmental Protection Agency's approach often seems to overlook the benefits of recharge.

Concern was also expressed that the Environmental Protection Agency does not feel obligated to follow "narrative" water quality standards, such as the non-degradation policy in the Pinelands. One panelist expressed the opinion that treated water which is recharged through deep well injection needs to be held to higher water quality standards than potable water.

There appeared to be a general consensus among the panelists in support of this recommendation.

Recommendation 9.11 Reaffirm CMP requirements to recharge treated wastewater.

As an outgrowth of the discussion about remediation of hazardous waste sites, it was recommended that the Commission also reaffirm the CMP's general requirement that treated wastewater from domestic and other sources be recharged as well.

There appeared to be general consensus among the panelists in support of this recommendation.

C. Pinelands Commission/DEPE Short-Term Water Supply Policy

Recommendation 9.12 More aggressively coordinate water supply policies with affected parties.

As mentioned earlier, many panelists felt that meetings such as this were crucial in coordinating water supply policies. One panelist, who was unaware of any special water supply policies for the Pinelands prior to this workshop, recommended that the Commission assume an active role in informing local governments about its policies. Other panelists pointed out that periodic meetings will not only keep local officials better informed, they should lead to an exchange of ideas and better planning.

Although periodic meetings seemed to be the preferred approach of the panel, there was some discussion of other techniques - such as mailings and informal networking - which might warrant consideration.

Recommendation 9.13 Revise the short-term water supply policy to identify what specific water supply alternatives should be considered.

The existing short-term water supply policy identifies several alternative water supplies which were available at the time of its drafting. Since its inception, other alternatives (e.g., desalination) have emerged and some of the alternatives previously identified may not be as feasible as originally thought. As a result, a recommendation was made to update the policy document to more particularly describe alternatives to the Kirkwood-Cohansey. When doing so, several panelists suggested that DEPE be consulted and that alternatives which apply to specific areas be identified as such.

The panel appeared to support this proposal overall.

Recommendation 9.14 Revise the short-term water supply policy to reference well siting criteria if the Kirkwood-Cohansey is to be used.

During the discussion of the draft well siting guidelines for the Pinelands, it was stated that municipalities and other water purveyors do not routinely consider the types of recommendations included in the well siting guidelines. Consequently, it was

recommended that the Pinelands well siting guidelines be referenced in the Pinelands water supply policy so that, if the Kirkwood-Cohansey is to be considered as a water supply source, planning for such use can take the well siting guidelines into account.

There appeared to be general support among the panel for this recommendation.

Recommendation 9.15 Revise the well siting guidelines to specify approval and disapproval criteria.

Several panelists recommended that the well siting guidelines could be improved by identifying criteria that must be met in order for a site to be approved. It was also suggested that conditions which would prevent approval also be identified.

Examples of possible approval criteria included proposed use (e.g., domestic well, hazardous site remediation), well depth (deep wells are preferred because they do not impact surficial aquifers), and degree of well confinement (confined wells are preferred). Examples of disapproval criteria may include location (e.g., next to streams that discharge to public lands or the Preservation Area), resource value of land, and the number of adjacent wells in the proposed area.

The panel appeared to be generally supportive of this recommendation. One panel member strongly supported it because it would result in cost savings to purveyors by taking some of the guesswork out of getting approvals on proposed wells.

Another panelist recommended that the guidelines be presented in a narrative format to as great an extent as possible. The guidelines should state the purpose behind the requirements to increase applicant understanding and compliance with them. In response to this suggestion, one panelist stated that a full narrative format must be used with care to avoid over-generalizations.

Also discussed was the utility of mathematical modeling during the pre-test application phase. Four panel members discouraged reliance on modeling because siting factors are often site specific, such as the location of clay lenses. Therefore, they argued, siting should be tied to detailed local knowledge of the area rather than to the use of a model. In response to these comments, another panelist stated that the models are still a useful tool as long as their limitations are understood.

There appeared to be general support among the panel for this recommendation.

Recommendation 9.16 Incorporate Commission well siting guidelines into DEPE guidelines.

One panelist offered this recommendation as a way to minimize regulatory duplication and to achieve consistency between the existing well siting guidelines of DEPE and the Commission. This recommendation may require both guidelines to be modified, as appropriate, to conform with each other.

The recommendation was supported by the panel.

Recommendation 9.17 Revise the short-term water supply policy to require that water supply proposals consider regional service needs.

This recommendation was offered as a means to encourage municipalities to coordinate water supply planning so that specific proposals are consistent with sound, areawide approaches. These types of approaches may include, for example, one central supply source to service several municipalities rather than individual wells in each municipality. The Mullica River Basin planning undertaken by the Commission was cited as an example where a preferred location for water supply wells was identified which would serve three municipalities in Camden County.

One panel member supported this recommendation by stating that the regional perspective on costs are often ignored by local policymakers. Furthermore, regional wells can be more readily sited on the basis of environmental criteria, rather than primarily on proximity to a locality.

There appeared to be general support for this recommendation among the panelists.

IV. PUBLIC COMMENTS

One member of the public expressed concern that protection of the Pinelands is being chipped away by pressures to accommodate burgeoning population. This person reminded the panel that the purpose of the Pinelands legislation is to protect ecological systems, and therefore, our attitudes toward managing growth need to change to reflect this purpose.

A second individual stated that the primary way to conserve water resources is to limit development. This person also expressed concern that DEPE lacks a comprehensive water policy despite the fact that groundwater levels are dropping throughout much of South Jersey.

Water Supply Policy Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
State Water Supply Policy	9.01	Support legislation to authorize DEPE to implement critical area water supply measures.	Admin.	-	-	<ul style="list-style-type: none"> o Provides framework for comprehensive solutions to critical water supply problems o DEPE could direct more use of the Kirkwood-Cohansey under certain conditions
	9.02	Work with DEPE to ensure that water supply planning and wastewater planning are coordinated.	Admin.	2wm/yr-P	-	<ul style="list-style-type: none"> o DEPE is already moving in this direction o Difficult to do, absent a more regionalized perspective in terms of water supply service
	9.03	Coordinate water supply research projects among Commission, DEPE and USGS by holding periodic meetings.	Admin.	-	-	<ul style="list-style-type: none"> o Water Resources Institute might be asked to serve as coordinating body o Commission involvement in other studies will be promoted o Should not be viewed as a substitute for Commission participation in technical study committees o In some cases, coordination with other government agencies and private utilities may be productive
	9.04	Encourage DEPE to identify "preferred" alternatives in the state water supply master plan.	Admin.	-	-	<ul style="list-style-type: none"> o Environmental policies may be better reflected o May focus attention on other than the most expedient alternatives
	9.05	Encourage DEPE to reflect the cooperative DEPE/Commission water supply policy in the state water supply master plan.	Admin.	-	-	<ul style="list-style-type: none"> o Increases awareness of the policy
Conservation	9.06	Encourage DEPE to adopt a statewide water conservation policy.	Admin.	-	-	<ul style="list-style-type: none"> o Provides a statewide policy framework

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Water Supply Policy Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
	9.07	Require municipal land development ordinances to incorporate water conservation requirements.	Study/ CMP	2wm - P	-	<ul style="list-style-type: none"> o Specific standards will need to be developed o Consultation with DEPE would be helpful o Costs and benefits of standards may not be clear o Orientation to new development may result in limited benefits o Standards may prove to be controversial and difficult for the Commission to enforce
	9.08a	Require purveyors and municipalities that will be serviced to address water conservation when water supply system developments are proposed.	CMP	-	-	<ul style="list-style-type: none"> o Stops short of requiring specific conservation measures o Should prompt more thought about conservation, although few affirmative steps may be taken o Can be coordinated with DEPE to avoid duplication relative to "supply" side requirements o Private utilities may have difficulty getting cooperation from municipalities, particularly if they aren't located in the Pinelands
	9.08b	Revise short-term water supply policy to require that conservation measures be addressed by purveyors and municipalities that will be serviced.	Admin.	-	-	<ul style="list-style-type: none"> o Stops short of requiring specific conservation measures o Should prompt more thought about conservation, although few affirmative steps may be taken o Can be coordinated with DEPE to avoid duplication relative to "supply" side requirements o Private utilities may have difficulty getting cooperation from municipalities, particularly if they aren't located in the Pinelands

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- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Water Supply Policy Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Pinelands Commission/DEPE Short-Term Water Supply Policy	9.09	Become more active in educating the public on the benefits of water conservation.	Admin.	2wm - PP	-	<ul style="list-style-type: none"> o Although it applies to a larger geographical area than Recommendation 9.08a, DEPE may be reluctant to implement it for wells located outside the Pinelands Area o Enforcing the requirement may be difficult, absent formal regulations o An effective program is likely to be very time consuming o Statewide approach may be more effective
	9.10	Reaffirm CMP requirements to treat water from hazardous waste remediation processes to CMP water quality standards and to recharge it.	CMP	-	-	<ul style="list-style-type: none"> o Reflects current policies o Policy does not elaborate on types of recharge o Waivers are the means of getting relief when recharge or non-degradation is not practical or desirable
	9.11	Reaffirm CMP requirements to recharge treated wastewater.	CMP	-	-	<ul style="list-style-type: none"> o Reflects current policies o Policy does not elaborate on types of recharge or siting criteria o Waivers are the primary means of getting relief when recharge is not practical or desirable
	9.12	More aggressively coordinate water supply policies with affected parties.	Admin.	-	-	<ul style="list-style-type: none"> o Periodic meetings seem to be the preferred approach
	9.13	Revise short-term water supply policy to identify what specific water supply alternatives should be considered.	Admin.	1wm - S	-	<ul style="list-style-type: none"> o Would provide clearer guidance o Alternatives geared to specific areas and/or conditions may be difficult to briefly describe

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

Water Supply Policy Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
	9.14	Revise short-term water supply policy to reference well siting criteria if the Kirkwood-Cohansey is to be used.	Admin.	-	-	o Places purveyors on notice
	9.15	Revise well siting guidelines to specify approval and disapproval criteria.	Admin.	3wm - S	\$15,000	o Broadens orientation from application requirements to substantive standards o May lead to CMP amendments o Absolute approval/disapproval criteria will be difficult, if not impossible, to specify o Will provide more guidance to purveyors o Hydrology expertise is needed to supplement staff resources
	9.16	Incorporate Commission well siting guidelines into DEPE guidelines.	Admin.	1w - DR	-	o Consolidation will improve their usefulness to applicants o DEPE would embrace and help implement the guidelines o Will require inconsistencies to be resolved
	9.17	Revise short-term water supply policy to require that water supply proposals consider regional service needs.	Admin.	-	-	o Encourages a more regionalized perspective o May not result in regionalized approaches, absent direct Commission planning and intervention

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

APPENDIX A

"Water Supply Policy in the Pinelands" Meeting

List of Participants

July 1, 1992

<u>Name of Participant</u>	<u>Affiliation</u>
Steven Nieswand*	N.J. DEPE, Water Supply Element
Richard Kropp	N.J. DEPE, Bureau of Water Allocation
Robert Kecskes	N.J. DEPE Bureau of Water Supply Planning
Herbert Buxton	U.S. Geological Survey Division of Water Resources
Timothy Rutala	Atlantic County Utilities Authority
Pasquale LaRosa	Cape May County Water Policy Advisory Committee
Grover Webber	Cape May County Planning Board
Howard Woods	N.J. American Water Company Western Division
Timothy O'Brian	N.J. American Water Company Southern Division
Carlos Mastropaolo**	Adams, Rehmann & Heggan, Associates
Claude Epstein	Stockton State College Natural Sciences & Math Department
Joan Ehrenfeld	Rutgers University Institute for Marine & Coastal Sciences
Terrence D. Moore	Pinelands Commission, Executive Director Workshop Coordinator
John C. Stokes	Pinelands Commission, Assistant Director Planning & Management
Robert Zampella	Pinelands Commission Science Office
Kathy Swigon	Pinelands Commission Development Review
Larry Liggett	Pinelands Commission Planning & Research

* Panelist was invited but was unable to attend meeting.

** Panelist attended in place of Joseph Pantalone with Adams, Rehmann & Heggan, Associates.

APPENDIX B

Water Supply in the Pinelands

Questions Explored at the Technical Panel Meeting

July 1, 1992

1. In what ways do you believe the existing water supply policy for the Kirkwood-Cohansey has been successful or unsuccessful as a short-term strategy to protect the aquifer? Is there data or documentation available to support this belief?
2. Are there any steps which should be taken to improve the existing policy agreement to ensure that its original intent is met?
3. Since the adoption of the Kirkwood-Cohansey policy, has any additional environmental information become available to suggest that the policy should be changed?
4. Would you recommend any changes in the areas delineated as critical areas under this policy? If so, what is the rationale?
5. Do you believe that any of the water supply demand assumptions used in the creation of the policy need to be re-examined? If so, is there data available? What implications might this have on the policy?
6. At the time of adoption of the short-term policy, other water supply sources, including the Delaware River, the Mount Laurel-Wenonah and the Kirkwood 800 foot sand were identified as viable alternative sources to the Kirkwood-Cohansey. To what degree do these other sources remain "viable alternatives"?
7. Are water purveyors adequately informed about the policy? Has there been resistance to it? If so, is this resistance based upon institutional, economic, environmental or other reasons? How do these concerns impact the present policy?
8. What impact has the continuing evolution of the Department of Environmental Protection and Energy's "critical area" policy had on this policy? Are changes in the policy likely in the short term?
9. How does this policy relate to the state's water supply master plan? How, if at all, should this be reflected in the water supply master plan as it is being updated?

10. Within the context of this policy, are there other, more specific guidelines relative to the siting of water supply wells which should be considered? If so, would you recommend that the draft siting guidelines included in the background material are appropriate? If not, what guidelines do you suggest be used?
11. Should the Pinelands regulations be amended to reflect the policy or any of the other recommendations previously suggested?
12. If the Kirkwood-Cohansey study is not completed within the next 5-8 years, will there still be a lack of more detailed information upon which to base a long term, ecologically based water supply policy? If so, are there any steps which can be taken now to secure needed data?

APPENDIX C

Background Information for Technical Panel Meeting

Background Information

for

Water Supply Policy in the Pinelands Technical Panel Meeting

1. Pinelands Commission Resolution to Endorse a Short Term Policy Regarding the Kirkwood-Cohansey Aquifer as a Water Supply Source.
2. Pinelands Commission's Water Supply Policy Committee Recommendations, June 13, 1989 with map enclosure.
3. January 1990 correspondance from Richard Kropp, N.J. Department of Environmental Protection to Robert Zampella, Pinelands Commission regarding Short Term Water Supply Policy, Kirwood-Cohansey Aquifer System.
4. Pinelands Commission brochure Southern New Jersey: Water Supply and the Environment, A Research Proposal for an Ecological Approach to Water Supply Planning.
5. Pinelands Commission's Procedures and Guidelines for Siting Water Supply Wells in the Kirkwood-Cohansey Aquifer Within the New Jersey Pinelands, June 30, 1989.
6. List of Reference Material Available Related to Water Supply in the Pinelands.

Reference List for Pinelands Water Supply

Gillespie, B.D. and R.D. Schopp. 1982. Low-flow characteristics and flow duration of New Jersey streams. U.S. Geological Survey Open-File Report 81-1110, Trenton, NJ. 164 pp.

Pinelands Commission. 1984. The Ecological Implications of Exporting Water from the Cohansey Aquifer: Proceedings of a Technical Advisory Committee Meeting on the Issue of Pumping Cohansey Water to Meet Water Supply Needs of the Metropolitan Camden Area, May 30, 1984. R.A. Zampella (ed). Pinelands Commission, New Lisbon, N.J.

Pinelands Commission. 1988. An Assessment of Sewer and Water Supply Alternatives for Pinelands Growth Areas in the Mullica River Basin, Camden County. Pinelands Commission, New Lisbon, N.J.

Pinelands Commission. 1990. An Assessment of the Hydrologic Impact Resulting from Development in Regional Growth Areas in Hamilton Township, Atlantic County. Pinelands Commission, New Lisbon, N.J.

URS Consultants for New Jersey Department of Environmental Protection. 1991. Atlantic County Water Supply Study, Report on Recommended Plan of Action, Working Document. New Jersey Department of Environmental Protection and Energy, Trenton, N.J.

APPENDIX D

Public Comments Received Prior to Technical Panel Meeting



JUN 5 1992
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State of New Jersey
Department of Environmental Protection and Energy
Division of Science and Research
New Jersey Geological Survey
CN-029

Scott A. Weiner
Commissioner

Trenton, NJ 08625
Tel. # 609-292-1185
Fax. #609-633-1004

Haig F. Kasabach
State Geologist

M E M O R A N D U M

June 3, 1992

TO: Terrence Moore, Executive Director
FROM: Haig F. Kasabach, State Geologist 
SUBJECT: Topics for Pinelands Commission Review

Thank you for the opportunity to comment on Water Resources Management in the Pinelands. Michael Serfes and Emmanuel Charles from the Bureau of Ground Water Resources Evaluation have reviewed your April 20 request and I have enclosed their comments. The New Jersey Geological Survey would be happy to participate in future workshops.

enclosures

cc: Robert Tucker
Leslie McGeorge
Gail Carter
Robert Canace
Michael Serfes
Emmanuel Charles

JUN 03 1992



State of New Jersey
Department of Environmental Protection and Energy
Division of Science and Research
New Jersey Geological Survey
CN-029

Scott A. Weiner
Commissioner

Trenton, NJ 08625
Tel. # 609-292-1185
Fax. #609-633-1004

Haig F. Kasabach
State Geologist

M E M O R A N D U M

June 2, 1992

TO: Haig Kasabach, State Geologist

THROUGH: Gail Carter, Acting Bureau Chief *gbc*
Robert Canace, Acting Section Chief *gbc for RC*

FROM: Manny Charles, Principal Geologist
ms Mike Serfes, Supervising Geologist

SUBJECT: Response to Pinelands Commission request for approaches
in dealing with Water Resource Management issues

We are pleased to respond to the Pinelands Commission's request (Attachment 1) for possible approaches to three water resource management issues in the Pinelands.

Issue 1: Stormwater Management

The Pinelands Commission should be as precise as possible in defining their objectives for a change in the stormwater management policy. These objectives could be defined in part by citing a specific case or specific goals of the Commission. The relative level of priority of stormwater management affects; namely ground-water recharge, streamflow changes, ground-water quality, and surface-water quality should be reassessed by the Commission before any changes in policy. Any change in stormwater management policy should be based on some level of a sound technical basis.

From the brief description given in the Commission's request letter, it appears that the efficacy of the 50-year/24-hour retention requirement is being questioned. Results of both the study done by Nicholson and Zampella (1987, Precipitation and runoff patterns in Atlantic County, New Jersey, 1945-1986, New Jersey Pinelands Commission, Lisbon, NJ 23 p.) and the draft NJGS ground-water recharge methodology suggest that designing for such large storm events to enhance ground-water recharge may be inefficient. However, a change in the stormwater policy would require a more focused technical study. An appropriate study could use existing data and techniques from both of the works cited above.

Issue 2. Water supply policy for the Kirkwood-Cohansey aquifer

Any new water supply policy should be technically defensible. The six million dollar cost of the proposed study has been raised as a limiting factor for establishing a technical basis for a water supply policy. It seems reasonable that a lower cost technical basis may be possible by extending the results of "shallow aquifer studies" such as the Mullica River and Maurice River basin studies. In extending the results of such shallow aquifer studies to other parts of the Coastal Plain, care should be taken to account for regional differences in climate (precipitation, evaporation) and water use.

3. Water quality parameters: ammonia, phosphorous, pH

The background concentration distributions of ammonia, phosphorus and pH in the Kirkwood-Cohansey aquifer system, underlying the Pine Barrens, can be evaluated with existing data. Once the distributions are established they can be used to determine appropriate ground-water quality standards and assess pollution impacts. This approach can also be used for other parameters of concern.

Selecting "master parameters" appropriate for assessing anthropogenic impacts on water quality depends on the natural background chemistry and the chemistry of the discharges of concern. These parameters are usually selected on the basis of ubiquitous land-use activities that impact water quality. If septics and agricultural activities are of concern then the three parameters above, along with nitrite plus nitrate, will be indicative. In addition, chloride may be a useful parameter for assessing the impact of septics on ground water.

By developing a geographically accurate water quality database most of the items in question 3 can be answered. The next step would be to establish criteria to identify the source (from example; septic versus agricultural) of the pollution. Location specific water-quality standards can be established as the volume of data in the database increases.

In summary, the "workshop" of technical experts held by the Commission should focus on; 1) priority issues within each of the above issues, 2) the amount of money and resources available to develop a technical basis for each of the issues.

It would be quite risky and perhaps ultimately more costly to implement changes in any of the above water resources management issues without sound technical basis. We suggest that the Commission determine the highest cost that could be invested in the technical basis of each of the issues.

c: Jeff Hoffman

JUN
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Environmental Commission

Township of Jackson



MUNICIPAL BUILDING
R. D. 4, BOX 52 10 00
JACKSON, NEW JERSEY 08527
(201) 928-1200

June 3, 1992

Terrence D. Moore, Executive Director
The Pinelands Commission
P.O. Box 7
New Lisbon, New Jersey 08064

Re: Additional Topic for Pinelands Commission Review
Water Resources Management

Dear Mr. Moore:

I am writing on behalf of the Jackson Township Environmental Commission with regards to the sixth topic that was recently added for discussion during review of the Comprehensive Management Plan. My comments address item 2 of your correspondence of April 20, 1992.

Item No. 2: WATER SUPPLY POLICY. The Commission wishes to re-examine the cooperative NJDEPE and Pinelands policy governing water supply use of the Kirkwood-Cohansey aquifer to determine if changes are warranted before the results of the proposed comprehensive aquifer study are available.

Response: The Jackson Township Environmental Commission is strongly opposed to any changes in the 1989 water supply policy agreement between the Pinelands Commission and the NJDEPE. That agreement established a policy which discourages the use of the Kirkwood-Cohansey aquifer for new water supply projects until a comprehensive study of the ecological effects of groundwater withdrawal is completed.

The Kirkwood-Cohansey aquifer system is present over a significant part of the New Jersey coastal plain. This aquifer is primarily a water table aquifer and is typically shallow in depth. This aquifer therefore exerts a tremendous influence on the existence of the ecosystems of the Pinelands.

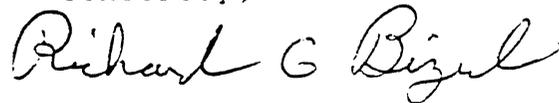
Terrence Moore
Page 2 of 2
June 3, 1992

Wetland areas consisting of cedar swamps, bogs and streams are particularly vulnerable to groundwater withdrawal from the Kirkwood-Cohansey aquifer. A vast majority of the streams in the Pinelands are influent streams, meaning that their base-flow levels are the result of discharge from the shallow aquifer system. If groundwater pumpage is increased enough, diminished streamflow will result. The consequences of this condition are twofold. The first is that base-flow will be reduced directly impacting the fragile Pineland ecosystem. The second consequence of reduced stream flow would be the degradation of water quality since the ability of the stream to dilute development related contamination would be reduced.

It is imperative that the proposed study be completed prior to initiating any new water supply projects. One of the greatest concerns is the affects of induced streamflow infiltration as a result of pumping from the shallow Kirkwood-Cohansey aquifer. In order to asses the ecological impacts of proposed water related projects, quantitative studies must be performed on a regional basis to determine the effects of induced streamflow infiltration. Data obtained from recent water supply studies undertaken in Atlantic and Cape May counties are specific to those areas, and should not be extrapolated to other parts of the Pinelands as this is not a technically sound approach.

If you have any questions or if I can provide assistance on this issue, please feel free to contact me at (609) 482-5553.

Sincerely,



Richard G. Bizub
Chairman

Certified Professional Geologist
Arkansas #709
Indiana #1101
Tennessee #1224



JUN 5 4 40 1992

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State of New Jersey
Department of Environmental Protection and Energy
Municipal Wastewater Assistance
CN 029

Trenton, NJ 08625-0029
Tel. # 609-292-8961
Fax. # 609-633-8165

Scott A. Weiner
Commissioner

Nicholas G. Binder, P.E., P.P.
Administrator

M E M O R A N D U M

JUN 04 1992

TO: Terrence D. Moore, Executive Director
Pinelands Commission

FROM: Nicholas G. Binder, P.E., P.P., Administrator
Municipal Wastewater Assistance

SUBJECT: Additional Topic for Pinelands Commission Review

We were pleased to learn of the addition of the sixth topic for the Pinelands Commission Review. It is requested that the effects of wastewater management decisions (e.g., construction of or addition to regional treatment facilities which bypass local streams in favor of ocean discharge or interbasin transfer prior to discharge) be considered under the water supply policy component, as such decisions have a similar effect to direct water supply diversion. With regard to the stormwater management components, some ideas you may wish to consider incorporating in design standards for Pinelands development include 1) use of porous pavement for driveways 2) avoiding curbing and sidewalks in favor of grassed waterways 3) directing rain gutters to on-site drywells. The merits of these suggestions would have to be technically evaluated in the workshop phase.

Thank you for the opportunity to provide input to the Pinelands Commission Review process. If we can be of further assistance during the technical workshop discussion or subsequent phases, please do not hesitate to contact me at (609) 292-8961 or Barbara Hirst, Section Chief, Technical Services Section at (609) 633-1170.

BH:rrd

JUN 22 1992
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Pinelands
Preservation Alliance

120-34B Whitesbog Road · Browns Mills, NJ 08015 · (609) 893-4747

June 19, 1992

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*A Field Guide to
The Pine Barrens of NJ*

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Franklin E. Parker
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Trust for Public Land

James T.B. Tripp, Esq.
General Counsel,
Environmental Defense Fund

Gerard Vriens, Ph.D.
Retired Chemical Engineer

Mr. Terrence Moore
The Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

Dear Mr. Moore:

In response to your letter of April 20, 1992, the Plan Review Committee of the Pinelands Preservation Alliance has the following suggestions to make to the expert panel on Water Supply.

The preservation of the Pinelands is dependent on water quality and quantity. The panel of experts on Growth Patterns stated that water was an order of magnitude more important than all other environmental constraints in governing the amount of growth that the Pinelands ecosystem can carry. Yet, there is little significant research being conducted on water supply problems.

Two large scale research proposals have been proposed and are conceptually ready for funding; the Kirkwood-Cohansey aquifer study and the Ecological monitoring system developed by Dr. Zampella. If the panel sees no feasible alternative to this research proposal, we urge the panel to recommend completion of these studies.

The lack of data makes it impossible to relate intensity of development with water supply. We urge the panel to explore this area. Two of the most intensely developed areas in the Pinelands, Medford and Hammonton, have reached the limits of the capacity of their waste water treatment facilities and new development is severely restricted. Should there be a similar restriction because of water supply? Must we wait until there is a crisis before we restrain development because of lack of water?

It is our opinion that the present studies, proposals, and hearings, now in progress in Critical Area 2 and in Cape May County are proceeding acceptably and it is unnecessary for the Commission to initiate a new study on water supply. Data from these studies are relevant to the Pinelands and the findings should be taken into consideration in any revision of the CMP.

We do recommend that the panel and the Commission explore ways for the Commission to be more effective in promoting water use conservation. Are there standards or requirements that should be imposed for new building in the Pinelands that are stricter than the state standards that are to become effective this summer?

We thank you for this opportunity to give suggestions to the expert panel. We wish you and the panel new creativity in attempting to solve this complex problem.

Sincerely,



Don Kirchhoffer
Coordinator
Plan Review Committee

Water Quality in the Pinelands
Report on Technical Panel Meeting

I. INTRODUCTION

A panel of experts (Appendix A identifies the panelists) met on July 22, 1992 to discuss this topic. In preparation for the meeting, a series of questions to be explored (Appendix B), background information (Appendix C identifies the sources) and public comments received (Appendix D) were provided to each participant.

Mr. Stokes served as the workshop coordinator and panelists were asked to freely express their opinions as individual experts and not as representatives of an agency or organization.

II. PURPOSE OF THIS REPORT

This report is intended to summarize key discussion points and present all recommendations offered by any of the participants. A taped recording of the entire six and one-half hour session is available for review at the Commission's office. Since different opinions were offered by panelists, the report also attempts to indicate the level of consensus reached on various discussion points and recommendations.

Recommendations are described throughout the text in **bold type** and are numbered sequentially. Because this particular workshop was the tenth in a series held by the Commission, each recommendation begins with the number 10. For ease of reference, a table has also been prepared which identifies each recommendation presented by one or more panel members. The table also includes staff estimates of the resources and time needed to carry out the recommendation and other information which the Commission may wish to consider when deciding which recommendations should be pursued.

III. KEY DISCUSSION POINTS AND RECOMMENDATIONS

A. Characteristics of Pinelands Waters

Discussion initially focused upon the various parameters that could be used to describe the distinctive nature of surface and ground water in the Pinelands. The panel decided to group these into primary versus secondary characteristics; however, the interrelationship of the parameters was noted as a potential problem in deciding which ones could be viewed as primary and

which ones could be considered as secondary. It was also noted that further research could result in changes to the panel's preliminary classification.

Primary Parameters of Pinelands Waters

1. pH

Pinelands waters are more acidic than other undisturbed surface or ground waters. This parameter is highly interrelated with others. For example, changes in pH control the level of metals dissolved in the waters and, in turn, pH can be affected by nutrients - a change of 2.0 pH units has been observed in one day due to photosynthesis. While affected by buffering capacity (the ability of the water to resist changes in pH), the relationship between "disturbance" and pH is usually straightforward since the buffering capacity of Pinelands waters is usually low.

Undisturbed Pinelands streams vary in pH - McDonald's branch at 4.2 and the Westecunk Creek at 4.9 were cited as examples. However, use of a specific range throughout the Pinelands was not recommended because it would not recognize the naturally occurring variations amongst streams and it would not account for slightly higher pH levels which may be found in coastal streams. It was also noted that pH in undisturbed streams varies little by season while disturbed streams do vary seasonally - summer is usually the highest.

Because of these factors, it was suggested that pH between 4.2 and 4.5 should generally be viewed as characteristic, but that pH outside that range may be characteristic if data exists to show that it's a natural level. Such evidence for many streams may be lacking as reliable water quality data is available for only a few streams.

Groundwater pH was cited as being similar to that of surface waters, except that pH increases below a depth of 75 feet. However, the panel did note that differences in water budgets between some watersheds might result in slight variations.

2. Nitrate as Nitrogen - the amount of nitrogen contained in nitrate.

Its presence in the Pinelands is low compared to other undisturbed surface or ground waters. It is less than 0.05 mg/l (milligram per liter) in undisturbed streams, and, if greater than 0.10 mg/l, is indicative of disturbance. Rainfall is currently at 2.00 mg/l - in some part due to acid rain - yet Pinelands waters remain much lower because forests are efficient in removing nitrates. There is

seasonal variation in both disturbed and undisturbed waters; however, the range is greater in disturbed areas. Groundwater is generally similar to surface water in terms of concentration.

3. Ammonia as Nitrogen - the amount of nitrogen contained in ammonia.

Its presence in the Pinelands is low compared to other undisturbed surface or ground waters. Overall it is less than 0.10 mg/l. However, it is very labile (unstable), dropping and rising very quickly, and its concentration is not always a good indicator of disturbance. The presence of more than 0.10 mg/l is indicative of disturbance.

4. Total Phosphorus - total phosphorus contained in dissolved and suspended, organic and inorganic forms.

Its presence in the Pinelands is comparable to undisturbed waters elsewhere. Several panelists observed that phosphorus may be temporarily retained in soils and sediments; thus, relatively low concentrations may be found in disturbed streams. Another panelist agreed and noted that sampling beneath newly installed septic disposal fields has shown relatively low concentrations. It was generally concluded that concentrations could increase when the retention capacity of soils and sediments are reached.

The panel generally concluded that total phosphorus in undisturbed Pinelands streams is probably less than 0.01 mg/l, yet state standards are 0.10 mg/l in streams and 0.05 in lakes.

Secondary Parameters of Pinelands Waters

Although there were differences of opinion, the panel concluded that, at the present time, the following parameters could be considered as secondary indicators. It was acknowledged, however, that such a distinction might change if future research shows one or more are indeed critical indicators which are effectively independent of the primary parameters.

5. Conductivity - a measure of the electrical conducting capacity of the water.

Conductivity in Pinelands waters is low compared to other undisturbed surface or ground waters. It is also affected by acidic/alkaline buffering capacity and thus is difficult to separate from several of the other parameters. The presence of some of the other secondary parameters, such as calcium and magnesium, can also affect conductivity.

Several panelists observed that conductivity can greatly affect water chemistry and might warrant special consideration in certain situations.

6. Calcium and Magnesium - the amount of calcium and magnesium in the water, usually as dissolved metallic salts.

Calcium and magnesium levels in Pinelands water are very low compared to other undisturbed surface waters. Ground water contains higher levels as the depth increases. Both are related to conductivity and are clear indicators of disturbance, but little is known of their exact ecological impacts.

7. Potassium

Its presence is low compared to other undisturbed waters.

8. Iron

Its presence is high compared to other undisturbed surface waters. The concentration in ground water becomes higher as depth increases.

9. Aluminum

Its presence is relatively high compared to other undisturbed waters. The concentration in ground water becomes higher as depth increases.

10. Dissolved organic carbon (DOC) - the amount of carbon present in dissolved organic sources.

Its presence is high compared to other undisturbed surface waters. DOC generally originates from seasonal decay of wetlands vegetation and becomes lower in ground water as depth increases. Neither DOC nor turbidity, which is affected by DOC, seems to be affected significantly by disturbance. DOC is typically 4 -5 mg/l, but may go up to 30 -33 mg/l in a storm.

11. Alkalinity - measure of the acid neutralization capacity of the water.

The presence of compounds that collectively shift the pH to the alkaline side of neutrality is low. Due to analytical methods, it can be negative in disturbed waters, suggesting its limited value in assessing undisturbed streams. It is also governed by complex equilibrium reactions and may be too interrelated with other parameters to be an independent indicator.

12. Macroinvertebrate community - primarily aquatic insects.

Undisturbed Pinelands surface waters have a characteristic macroinvertebrate community which is less diverse than undisturbed surface waters elsewhere. This is due to the low pH and the absence of streams with stony bottoms. There are also plant and fish communities which are characteristic of Pinelands surface waters. The panel agreed that differences between these communities in undisturbed and disturbed Pinelands streams can be observed, although the variation within undisturbed streams is difficult to quantify.

13. Bacterial levels

Pinelands streams have low bacterial levels and are similar to other undisturbed surface waters. This is more a general indicator of disturbance than a characteristic of Pinelands waters. It was also stated that the low pH of Pinelands waters will suppress bacterial growth and may mask some disturbance.

14. Sulfate

Sulfate concentrations in Pinelands surface water are higher than in undisturbed surface water elsewhere. Several panelists stated that this may be due to acid rain because even higher concentrations have been observed in rainwater. As a further indication of the influence of acid rain, one panelist stated that Pinelands waters have been found to contain a relatively high level of mineral acidity (in the form of sulfuric acid) as distinguished from organic acidity which would be indicative of naturally occurring conditions. Nevertheless, concentrations in undisturbed Pinelands surface waters are lower (2 to 3 mg/l) than in disturbed waters.

After discussing these characteristics, the panel offered the following two recommendations.

Recommendation 10.01 Determine the natural levels of phosphorus present in Pinelands streams.

Phosphorus is almost undetectable in Pinelands streams. One panelist noted that total phosphorus levels may be present in the 2 - 5 parts per billion (0.002 to 0.005 mg/l) range but that the normal level of practical detection is around 20 ppb. Since this level would indicate disturbance in the Pinelands, there was consensus that further evaluation is warranted to establish a more reliable concentration for undisturbed Pinelands waters.

Recommendation 10.02 Develop chemically based characterizations of Pinelands streams.

Several panelists recommended that Pinelands streams be characterized according to the primary parameters previously identified. This information would be valuable in establishing standards, whether those standards are based upon ambient levels, a non-degradation policy, or a variable policy which accounts for basin characteristics and Pinelands land use designations. One panelist was concerned that the costs to applicants may be significant if they are expected to provide data where gaps now exist.

There appeared to be general consensus that, as a first step, characterizations be done on the basis of existing data.

B. Implications of These Water Quality Characteristics

Recommendation 10.03 Examine the land use implications of non-point pollution sources upon water quality on a watershed basis.

The panel discussed the types of land uses which are likely to affect one or more of the primary characteristics of undisturbed Pinelands waters. Among those which the panel concluded would have an effect are: discharges from septic systems, most notable at the point where the wastewater plume reaches surface water; stormwater run-off; agricultural uses, most notably turf and vegetable farms but "organic," berry, tree and other farming to a lesser extent; various land uses that involve maintained turf areas such as golf courses, athletic fields and lawns; sewer collection systems which are likely to leak over time; land application of treated wastewater; and various point discharges.

The panel concluded that virtually every land use will degrade water quality to some extent but that little is known about the cumulative effects of multiple land uses within entire watersheds or sub-basins.

Recommendation 10.04 Determine the ecological impacts of gradual changes in the primary characteristics of Pinelands waters as disturbance increases.

The panel then discussed what effect changes in water quality may have on other elements of the natural system, particularly characteristic plant and animal communities. Although it was generally agreed that significant changes in these water quality characteristics will have an effect, little is known about the ecological impacts of more subtle changes in water quality.

For long term planning purposes, the panel concluded that additional study is needed to more precisely determine how subtle and gradual changes in water quality may affect Pinelands ecology.

C. Pinelands Water Quality Policy

Recommendation 10.05 Develop an approach to water quality management based upon Pinelands management areas and sub-basin characteristics.

In spite of the need for additional research, there was general consensus that Pinelands water quality policies can be improved. This recommendation evolved from an extensive discussion of existing Pinelands standards, DEPE standards and new approaches to water quality management.

In discussing DEPE water quality standards, one panelist stated that surface water standards for the Pinelands are based upon the federal Clean Water Act's outstanding natural resource waters classification and call for protection against any measurable changes. Another panelist advised that DEPE groundwater standards are being revised and consideration is being given to standards which would rely on natural levels in the Preservation Area and ambient levels in the Protection Area. The possible implications of these standards were discussed, including: what might be viewed as a change in water quality; whether change automatically constitutes degradation; whether exceptions should be permitted; how natural levels will be determined given the panel's earlier discussion about variability and limited data; how these surface and groundwater standards relate to each other; and how they may relate to existing and future Pinelands standards.

A number of possible approaches which the Pinelands Commission might consider were then discussed. These ranged from uniform, region-wide standards (similar to the current DEPE approach) to an approach which establishes a total pollutant loading level and allows loading to be increased in some areas if decreased in others.

Ultimately, the panel conceptualized an approach which would establish variable standards on the basis of Pinelands management areas and sub-basin characteristics. Such an approach would recognize that water quality goals should not be the same in areas designated for development as they would be in conservation oriented areas within the Pinelands. Recognizing that hydrologic units don't mirror management area boundaries, the panel also recommended that consideration of sub-basin characteristics would permit this approach to be refined where necessary to recognize differences between sub-basins and downgradient impacts in other management areas. For example, standards for an already disturbed sub-basin in a Regional Growth Area should be different than those for a sub-basin which is upgradient from the Preservation Area.

It was suggested that Pinelands management areas be initially grouped into four categories - "conservation" which would include the Preservation Area District, Special Agricultural Production Area and Forest Area; "agricultural" which would include the Agricultural Production Area; "transition" which would include the Rural Development Area; and "development" which would include Regional Growth Areas, Towns, Villages, and Military/Federal Installation Areas. Overall goals would be set for each of these categories and more precise standards would then be established in consideration of sub-basin characteristics and potential downstream impacts.

The panel concluded that such an approach could be developed in a manner which recognizes DEPE standards but that it would require a great deal of additional work. Thus, the panel also recommended that the Commission establish a technical working group to develop goals and to outline a scope of work which would lead to the identification of specific standards. It was felt that the panel assembled for this meeting, with the addition of a geographer, could constitute the working group and that approximately six months might be needed to more fully develop the methodology.

IV. PUBLIC COMMENT

One member of the public noted satisfaction with the work of this panel and indicated that knowledge of the negative impacts of agriculture and the Commission's lack of methods to address these impacts were now much clearer.

Water Quality Workshop Recommendations

Topical Area	Rec. #	Recommendations Made by One or More Panel Members(1)	Comm. Action(2)	Estimate of Resources(3)		Notes(6)
				Staff(4)	\$\$\$ (5)	
Water Quality Policy	10.05	Develop an approach to water quality management based upon Comprehensive Management Plan management areas and sub-basin characteristics.	Study/ CMP	2wm - P 2wm - S	?	<ul style="list-style-type: none"> o Approach recognizes differences between management areas and sub-basins o Technical panel would serve as working group to develop methodology and scope of work o Approximately six months would be needed to develop a scope of work o Uncertain at this time how much time or money might be needed to proceed with the work plan

- (1) Recommendations offered by one or more panel members are listed whether or not they were discussed in detail or whether or not they were supported by other panelists.
- (2) Three types of Commission actions are noted: "CMP" denotes a CMP amendment; "Study" denotes more than a nominal amount of time for analysis; and "Admin." denotes action without an amendment or study.
- (3) The "Estimate of Resources" is an approximation of staff or monetary resources that would be needed. Estimates are not presented for CMP amendments.
- (4) Staff resources are shown in work months (wm) (the approximate amount of staff time necessary to complete the task) by office. Offices are indicated as follows: P - Planning; S - Science; DR - Development Review; and PP - Public Programs. No entries are presented for less than 1 work month.
- (5) Monetary entries are very preliminary estimates of costs associated with a consulting contract or with the hiring of additional staff. No entries are given if costs are expected to be less than \$1,000.
- (6) Notes represent staff comments which may be relevant to the Commission's evaluation of the recommendations.

APPENDIX A

Pinelands "Water Quality Parameters" Meeting

List of Participants

July 22, 1992

<u>Name of Participant</u>	<u>Affiliation</u>
Bonnie Zimmer	N.J. DEPE, Bureau of Municipal Discharge Permits
Steven Lubow	N.J. DEPE, Bureau of Water Quality Standards & Systems Analysis
Daniel Van Abs	N.J. DEPE, Ground Water Quality Planning
Douglas Clarke	N.J. DEPE, Bureau of Water Monitoring N.J. Geological Survey
Zoltan Szabo	U.S. Geological Survey Geohydrological Studies Program
Keith Robinson	U.S. Geological Survey Information Management Program
Mark Morgan	Rutgers University, Biology Dep't.
Joseph Hunter	Rutgers University, Environmental Sciences Department
Christopher Rehmann	Adams, Rehmann, & Heggan, Associates
Timothy Ruga	Adams, Rehmann, & Heggan, Associates
Jeffrey Lauria	Malcolm Pirnie, Inc.
John C. Stokes	Pinelands Commission, Assistant Director Planning & Management Workshop Coordinator
William Harrison	Pinelands Commission, Assistant Director Development Review
Robert Zampella	Pinelands Commission Science Office
Kathy Swigon	Pinelands Commission Development Review

APPENDIX B

Water Quality Parameters in the Pinelands

Questions Explored at the Technical Panel Meeting

July 22, 1992

1. What characteristics, in addition to nitrate-nitrogen, are most indicative of undisturbed Pinelands ground and surface waters? Are pH, total phosphorous and ammonia among these characteristics?
2. What levels or concentrations of these parameters indicate undisturbed and disturbed waters in the Pinelands? Are there differences between ground and surface waters?
3. Do these levels or concentrations reflect "long term" conditions, seasonal conditions and/or minimum or maximum discharge loads?
4. If levels or concentrations of these parameters in Pinelands waters were to change over time, what effects to Pinelands natural resources would occur? Would these significantly alter characteristic Pinelands environments?
5. What data exists to substantiate these levels? Is the data adequate to support regulatory standards? If not, what additional research would be needed to assemble an adequate database?
6. Should additional standards be based on a non-degradation policy or another policy? Why or why not?
7. What types of land uses or other activities contribute to changes in these parameters? To what extent?
8. Is it appropriate to consider different standards according to the land use designations (e.g. Preservation, Agricultural, Forest, Growth) of the Pinelands Plan? If so, what distinctions should be made?
9. How feasible is it to apply a regulatory standard for these parameters? Is it possible to model or project specific levels or concentrations attributable to various types and intensities of land uses?
10. Can and should the standards be applied to point and non-point sources of pollution?
11. Where should the standards be applied? At the point of discharge? At a receiving point in a surface water body? On an area-wide basis, such as an entire property?
12. Would establishment of these standards conflict with or duplicate other existing state or federal standards?

13. To what extent should other factors (e.g. cultural impacts, technological limitations) be considered in determining whether these additional regulatory standards should be adopted? Are there ways in which these other factors can be considered without undermining water quality objectives?
14. Are alternative means (e.g. education, land use controls) available to protect Pinelands water resources relative to these parameters? If so, what steps must be taken and how effective would they be?
15. What, if any, specific research remains to be done before any of the recommendations previously discussed are implemented?

APPENDIX C

Background Information for Technical Panel Meeting

Background Information

for

Pinelands Water Quality Parameters Technical Panel Meeting

1. Excerpt from the Pinelands Comprehensive Management Plan, Sections 7:50-6.81 through 6.87, Water Quality
2. List of Reference Material Available Related to Water Quality Parameters in the Pinelands.

Reference List for Pinelands Water Quality Parameters

Crerar, D.A., J.L. Means, R.F. Yuretich, M.P. Borcsik, J.L. Amster, D.W. Hastings, G.W. Knox, K.E. Lyon, and R.F. Quiett. 1981. "Hydrogeochemistry of the New Jersey Coastal Plain: 2. Transport and decomposition of iron, aluminum, dissolved organic matter and selected trace elements in stream, ground- and estuary water." Chemical Geology 33:23-44.

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Morgan, M.D., R.W. Hastings, G.W. Wolfe, and K.R. Philipp. 1983. A comparison of aquatic species composition and diversity in disturbed and undisturbed Pinelands waters. Center for Coastal and Environmental Studies, Rutgers, the State University of New Jersey, New Brunswick, NJ.

Morgan, M.D. 1983. Impact of changing acidity on the trophic dynamics of Pine Barrens plankton communities. Center for Coastal and Environmental Studies, Rutgers, the State University of New Jersey, New Brunswick, NJ.

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Yuretich, R.F., D.A. Crerar, D.J. Kinsman, J.L. Means and M.P. Borcsik. 1981. "Hydrogeochemistry of the New Jersey Coastal Plain: 1. Major-element cycles in precipitation and river water." Chemical Geology 33:1-21.

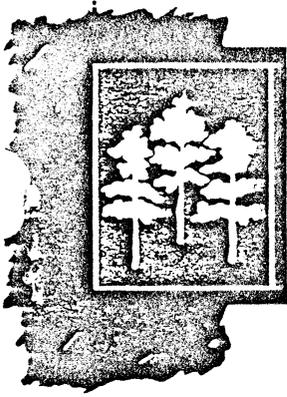
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APPENDIX D

Public Comments Received Prior to Technical Panel Meeting



Pinelands
Preservation Alliance

120-34B Whitesbog Road · Browns Mills, NJ 08015 · (609) 893-4747

JUN 22 1992
FILE COPY

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Howard P. Boyd
Past Pres. American
Entomological Society; Author,
*A Field Guide to
The Pine Barrens of NJ*

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Michael Gallaway
Pinelands Coordinator,
Sierra Club

Nan Hunter-Walnut
Coordinator,
Pine Barrens Coalition

David F. Moore
Executive Director,
NJ Conservation Foundation

Paul B. Mott, Jr.
Executive Director,
F. M. Kirby Foundation, Inc.

Franklin E. Parker
Director, NJ Field Office of
Trust for Public Land

James T.B. Tripp, Esq.
General Counsel,
Environmental Defense Fund

Gerard Vriens, Ph.D.
Retired Chemical Engineer

June 19, 1992

Mr. Terrence Moore
The Pinelands Commission
P.O. Box 7
New Lisbon, NJ 08064

Dear Mr. Moore:

In response to your letter of April 20, 1992, the Plan Review Committee of the Pinelands Preservation Alliance has the following suggestions to make to the expert panel on Water Quality Parameters.

Since the installation of the CMP over 10 years ago, there have been changes in the standards for safe drinking water.

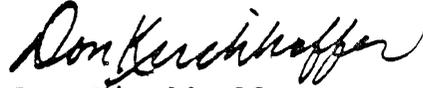
Hardly a week goes by without there being an article in a Pinelands newspaper on polluted wells in some residential area. Is this happening because the only requirement the Commission places on septic systems is the nitrogen standard? This issue is also related to the point we raised to the Stormwater panel on the quality of non-point pollution. Hydrocarbons and floatables are the most common pollutants in water runoff from commercial and industrial sites. Phosphates also are common as a non-point pollutant.

The concept of using nitrate/nitrogen as the measurement of water quality is that it is an indicator of pollution and easily measured and also injurious to human health. Yet, there is nothing in the CMP that requires a higher level of analysis of the water if the nitrate/nitrogen standard is exceeded. An example is the waivers granted by the Commission in the Medford Pines area. The nitrate/nitrogen levels of the water at the property line of the total development were well above the 2 ppm standard of the CMP.

The panel should explore the efficacy of them requiring the development to meet quality standards that measure other pollutants in order to determine the cumulative impact of all the pollutants, not just an indicator one.

The PPA appreciates this opportunity to express its views to the expert panel.

Sincerely,

A handwritten signature in cursive script that reads "Don Kirchhoffer".

Don Kirchhoffer
Coordinator
Plan Review Committee



JUN 5 1992
FILE COPY

State of New Jersey
Department of Environmental Protection and Energy
Division of Science and Research
New Jersey Geological Survey
CN-029

Trenton, NJ 08625
Tel. # 609-292-1185
Fax. #609-633-1004

Haig F. Kasabach
State Geologist

Scott A. Weiner
Commissioner

M E M O R A N D U M

June 3, 1992

TO: Terrence Moore, Executive Director
FROM: Haig F. Kasabach, State Geologist 
SUBJECT: Topics for Pinelands Commission Review

Thank you for the opportunity to comment on Water Resources Management in the Pinelands. Michael Serfes and Emmanuel Charles from the Bureau of Ground Water Resources Evaluation have reviewed your April 20 request and I have enclosed their comments. The New Jersey Geological Survey would be happy to participate in future workshops.

enclosures

cc: Robert Tucker
Leslie McGeorge
Gail Carter
Robert Canace
Michael Serfes
Emmanuel Charles



JUN 0 3 1992

State of New Jersey
Department of Environmental Protection and Energy
Division of Science and Research
New Jersey Geological Survey
CN-029

Scott A. Weiner
Commissioner

Trenton, NJ 08625
Tel. # 609-292-1185
Fax. #609-633-1004

Haig F. Kasabach
State Geologist

M E M O R A N D U M

June 2, 1992

TO: Haig Kasabach, State Geologist

THROUGH: Gail Carter, Acting Bureau Chief
Robert Canace, Acting Section Chief *GBC for RC*

FROM: Manny Charles, Principal Geologist
MS Mike Serfes, Supervising Geologist

SUBJECT: Response to Pinelands Commission request for approaches
in dealing with Water Resource Management issues

We are pleased to respond to the Pinelands Commission's request (Attachment 1) for possible approaches to three water resource management issues in the Pinelands.

Issue 1: Stormwater Management

The Pinelands Commission should be as precise as possible in defining their objectives for a change in the stormwater management policy. These objectives could be defined in part by citing a specific case or specific goals of the Commission. The relative level of priority of stormwater management affects; namely ground-water recharge, streamflow changes, ground-water quality, and surface-water quality should be reassessed by the Commission before any changes in policy. Any change in stormwater management policy should be based on some level of a sound technical basis.

From the brief description given in the Commission's request letter, it appears that the efficacy of the 50-year/24-hour retention requirement is being questioned. Results of both the study done by Nicholson and Zampella (1987, Precipitation and runoff patterns in Atlantic County, New Jersey, 1945-1986, New Jersey Pinelands Commission, Lisbon, NJ 23 p.) and the draft NJGS ground-water recharge methodology suggest that designing for such large storm events to enhance ground-water recharge may be inefficient. However, a change in the stormwater policy would require a more focused technical study. An appropriate study could use existing data and techniques from both of the works cited above.

Issue 2. Water supply policy for the Kirkwood-Cohansey aquifer

Any new water supply policy should be technically defensible. The six million dollar cost of the proposed study has been raised as a limiting factor for establishing a technical basis for a water supply policy. It seems reasonable that a lower cost technical basis may be possible by extending the results of "shallow aquifer studies" such as the Mullica River and Maurice River basin studies. In extending the results of such shallow aquifer studies to other parts of the Coastal Plain, care should be taken to account for regional differences in climate (precipitation, evaporation) and water use.

3. Water quality parameters: ammonia, phosphorous, pH

The background concentration distributions of ammonia, phosphorus and pH in the Kirkwood-Cohansey aquifer system, underlying the Pine Barrens, can be evaluated with existing data. Once the distributions are established they can be used to determine appropriate ground-water quality standards and assess pollution impacts. This approach can also be used for other parameters of concern.

Selecting "master parameters" appropriate for assessing anthropogenic impacts on water quality depends on the natural background chemistry and the chemistry of the discharges of concern. These parameters are usually selected on the basis of ubiquitous land-use activities that impact water quality. If septic and agricultural activities are of concern then the three parameters above, along with nitrite plus nitrate, will be indicative. In addition, chloride may be a useful parameter for assessing the impact of septic on ground water.

By developing a geographically accurate water quality database most of the items in question 3 can be answered. The next step would be to establish criteria to identify the source (from example; septic versus agricultural) of the pollution. Location specific water-quality standards can be established as the volume of data in the database increases.

In summary, the "workshop" of technical experts held by the Commission should focus on; 1) priority issues within each of the above issues, 2) the amount of money and resources available to develop a technical basis for each of the issues.

It would be quite risky and perhaps ultimately more costly to implement changes in any of the above water resources management issues without sound technical basis. We suggest that the Commission determine the highest cost that could be invested in the technical basis of each of the issues.

c: Jeff Hoffman

FIL MAY 13 1992
FILL 307



New Jersey Concrete and Aggregate Association

770 River Road • West Trenton • New Jersey 08628

(609) 771-0099
FAX (609) 771-1729

May 12, 1992

William J. Cleary
Executive Director

The Pinelands Commission
P.O. Box 7
New Lisbon, N.J. 08064

Attn: Terrence D. Moore, Executive Director

Re: Water Quality Management Topic for Pinelands
Commission Review

Dear Mr. Moore:

The New Jersey Concrete and Aggregate Association would like to supplement our prior comments regarding the second review of the Pinelands Comprehensive Management Plan by addressing the recently added sixth topic, water quality management.

1. This Association supports an amendment to NJAC 7:50-6.84(a)5 which would standardize stormwater management requirements throughout the State of New Jersey, specifically those being utilized by the NJDEPE, county Soil Conservation Districts, and municipal ordinances. Currently, projects within the Pinelands Area must comply with the discharge standard for runoff volume and rate from the 50-year, 24-hour storm, while often simultaneously being required to show compliance with different discharge standards of local, county or State agencies. Not only is this process redundant, but the design of a stormwater management system is made more difficult by the need to comply with the diverse standards of the various regulatory agencies involved.

It should be noted that this industry is currently subject to 7:50-6.66(a)7, which requires that surface runoff be maintained onsite in a manner that provides for onsite recharge to groundwater; consequently this amendment does not directly impact the resource extraction industry.

2. Regarding the usage of additional water quality parameters as indicators of overall water quality, this Association questions the documented need for additional indicators. Given that new development has been required to demonstrate compliance with existing CMP water quality standards, what evidence has emerged since 1980 that regulated development has produced an adverse impact on overall water quality or contravened the existing standard? If no such evidence has been documented, the need for additional standards seems unwarranted.

The use of additional water quality parameters would also require the use of additional dilution models in order to demonstrate compliance. The need for additional parameters must be evaluated in light of existing models, their application to the additional parameters, and their application given the unique hydrological characteristics of the Pinelands. The use of additional parameters, and models to evaluate these parameters, should be balanced by the clear documented need for additional indicators of water quality.

This Association would also recommend that the Commission assume a more active stance in resolving the discrepancies of NJDEPE-mandated water quality standards which may not be representative of the Pinelands Area. For example, the (relatively) high range of pH values required by NJPDES permits is not reflective of the natural low pH waters of the Pinelands. This has resulted in problems for members of this industry who operate within the Pinelands Area. It is requested that any future water quality parameters used for regulatory purposes in the Pinelands Area be consistent with the usage of those parameters by other State agencies; or alternatively, that the Commission become more active in working with the NJDEPE (and/or USEPA) to promulgate water quality standards within the Pinelands Area which are indicative of the unique hydrological characteristics of the region.

Page 3 - May 12, 1992
Terrence D. Moore

If you should have any questions regarding the information contained herein, please do not hesitate to call.

Sincerely,

A handwritten signature in cursive script that reads "William J. Cleary". The signature is fluid and somewhat stylized, with the first and last names being the most prominent.

William J. Cleary, CAE
Executive Director