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**Testimony of  
Robert E. Moore  
before the  
House Environmental and Energy Committee**

**August 26, 1997**

Good morning. I am Robert E. Moore, Executive Director of the Bucks County Planning Commission. I am honored to have this opportunity to address you on the matter of stormwater management. In the county that is almost synonymous with the term 'rapid suburban development,' the management of stormwater is a vital, though often invisible, aspect of the development process.

Someone once said, "If we could control a flood, it would not be a flood." Aphorisms aside, our most successful attempts at 'flood control' are really the successful regulation of the development process in order that the floodplain remains open and unobstructed. That is why I believe it is important to focus on stormwater management. As someone else once said, "A good offense is the best defense." Therefore, the first line of defense against floods is the aggressive and comprehensive application of stormwater management controls and practices. In this regard Act 167 has proved to be an important step in the right direction. However, it is not a panacea, and lacks some important elements in order to be truly a comprehensive approach to the problems of stormwater. We should not lose sight of the fact that floods will happen no matter what we do to try to control them.

As witnessed here in Bucks County in June 1996, in Montgomery County in September 1996 and just last week in Atlantic City, freak storms do occur with devastating results. Coping with the aftermath of these weather extremes is about all that can be realistically expected. Designing and constructing facilities to manage the stormwater associated with these three events – all of which were classified as 1000 year storms – is neither environmentally nor economically realistic. Therefore, it is important to have well trained and equipped emergency services agencies as we have in Bucks County, as well as the state and national disaster relief protocols now in place.

As you all know, Act 167 is a forward looking piece of legislation designed to avoid the errors of the past by preparing for the stormwater expected in a watershed as land use changes. It provides the means to view the "Big Picture" by looking beyond individual site plans and municipal boundaries and broadening the scope of investigation to an entire watershed. In doing so it reinforces the role of counties by empowering them to prepare stormwater management plans with the cooperation and assistance of local municipalities. This allows everyone involved in the process to gain a better understanding of how suburban development and related infrastructure issues must be dealt with on a cooperative basis irrespective of political boundaries. That the state is a partner in this process and provides a portion of the financial and technical resources for this approach is an added plus.

Additional benefits accrue from the implementation of Act 167 as evident in three areas. One benefit is in the area of water quality. The planning required can result in implementation methods and infrastructure that are more effective in the collection of non-point source pollutants. Thus, many water-borne pollutants are prevented from reaching and contaminating streams and aquifers. Secondly, the planning provides opportunities to encourage policies and practices aimed at recharging groundwater. Neither of these opportunities would exist absent the provisions of Act 167. Lastly, the database generated by the planning process provides a wealth of information useful in the design and construction of new or improved facilities.

As with all legislation, there are some things that the Act does not do.

Act 167 does not require that stormwater plans address the relationship and impacts of what has happened in the past and what might happen in the future. However, while Act 167 does not directly address existing flooding conditions, it does force the study of those conditions. It is vitally important that provisions be made for the study and correction of existing conditions brought about by earlier development. In the majority of cases, this development took place when there was little or no meaningful regulations in place. Particularly hard hit are those areas located downstream of current development activity. Communities located at the confluence of streams, at elevations close to sea level or with a high water table are vulnerable to flooding due to their geographic location, as well as older design standards for stormwater collection and control. Many of these older standards were based on a 10 year storm frequency as opposed to the contemporary 100 year storm standard.

Additionally, the regional focus of an Act 167 plan tends to blur, if not erase, existing conditions that contribute to partial success in stormwater management. As an example, the small borough of Ivyland, Bucks County receives a significant amount of stormwater runoff from Northampton, Warrington and Warwick townships. This runoff causes localized flooding in Ivyland, yet the plan indicates that overall, the watershed has fairly good drainage. Thus, the hydrologic controls developed for the watershed do not adequately address the problems caused by undersized facilities in Ivyland.

Three other areas require consideration. The first area is the costs of implementation and maintenance compared to long-term effectiveness. By way of example, during the 1980's the State of Maryland pursued the extensive use of infiltration basins for stormwater control and aquifer recharge. Today, they are recording close to a 100 percent failure rate due to inadequate maintenance caused by expense, and poor environmental factors (i.e., permitting the use of this particular Best Management Practice without regard to soil conditions). It is important to understand the costs, benefits and limitations associated with the various Best Management Practices recommended by Pa DEP. Wherever possible, the use of BMP's should not be a learning experience for local municipalities responsible for the implementation of Act 167 plans.

Second is the area of responsibility for the various components of the stormwater infrastructure. Probably the best examples of this lack of assigned responsibility are the ditches, culverts and associated piping that attempt to carry stormwater away from and under highways. In many instances, the infrastructure under our highways was designed long ago to handle small storm events. In Bucks County, as throughout the Commonwealth, most state highways are little more than former farm-to-market, horse-and-wagon roads with inadequate ballast and drainage systems. They are being pounded and eroded back to their former dirt and cinder past by the travel demands of our mobile society. Today, with increased development bringing more impervious surface, the runoff from a small storm often results in the flooding of the roadway, erosion of the surface and edges, undermining of the roadway and eventual collapse. The need for an identifiable agency responsible for maintenance and upgrading of stormwater facilities is desperately needed.

Lastly, the Act's requirement for an update of the plan every five years should be revisited. Presently, the updating process is designed to focus on a review of the model used to assess the hydrologic release rates and controls in the watershed. While this is important, I suggest that it does not go far enough. Of equal importance is a performance review of the facilities in place prior to the development of the plan, as well as those constructed as a result of the plan. Such a performance review is critical in assessing the effectiveness of the stormwater infrastructure in protecting the health, safety and welfare of the watershed's residents. Also, it would help identify components of the stormwater management system needing improvement or better maintenance.

In closing, I wish to thank you once again for the opportunity to bring my perspective on stormwater management to your attention. While I am no fan of increasing the costs of government operation, I still hold to that old adage that 'An ounce of prevention is worth a pound of cure.' I don't think a couple more ounces will hurt.