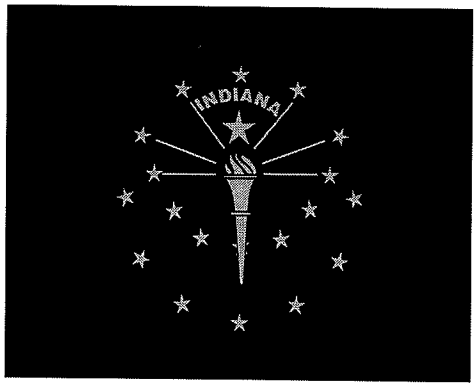

IACIR White Paper #3

Local Authority for Managing Storm Water at the Watershed Level in Indiana

by

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342 North Senate Avenue
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White Paper #3:
Local Authority for Managing Storm Water

The **Indiana Advisory Commission on Intergovernmental Relations** was established by the General Assembly in 1995 to provide a forum to work through the problems that naturally will arise as greater demands are made on state and local governments. The Indiana legislation was based upon federal and other states' enabling statutes.

The Indiana Advisory Commission on Intergovernmental Relations is launching an effort to improve intergovernmental decision making and partnerships by serving as a forum for discussion and resolution of intergovern-mental problems and concerns. The mission of the Indiana Advisory Commission on Intergovernmental Relations is to create affective communication, cooperation, and partnerships between the federal, state, and local units of government in order to improve the delivery of services to the citizens of Indiana through:

- A better understanding of the process of government and the intended and unintended outcomes of policy decisions;
- Improved communication between all levels of government and citizens;
- The promotion of long-term planning between all levels of government; and
- Applied research on policy areas in order to better understand the impacts of mandates and policy changes.

Section 12 of the statute establishing the Indiana Advisory Commission on Intergovernmental Relations names the Indiana University **Center for Urban Policy and the Environment** to administer the commission.

The mission of the Indiana University Center for Urban Policy and the Environment, as a part of the **School of Public and Environmental Affairs,** is to work with state and local governments and their associations, neighborhood and community organizations, community leaders, and business and civic organizations in Indiana to identify issues, analyze options, and develop the capacity to respond to challenges. The Center's expertise is available to provide research and analysis of policy issues, develop community consensus, offer implementation assistance, and evaluate outcomes and outputs.

Local Authority for Managing Storm Water

Introduction

Local officials in Indiana regularly are asked to ensure adequate drainage, prevent flooding, improve water quality, and guarantee prosperity for property owners, farmers, developers, and other stakeholders, and, *at the same time identify and consider all options available to them before reaching an informed conclusion*. Although groups like the Water Resources Study Committee, which serves the Indiana Legislative Services Agency, advise local officials on surface and ground water issues, their recommendations typically pertain to parcel-based activities of individual land owners. This White Paper was developed to provide broad coverage of storm water issues and present an additional options to local officials through:

State statutes offer municipalities options to offset storm water and flooding costs.

- The *watershed approach* to managing storm water; and
- An *Indiana statute* that local officials can use to manage small watersheds that extend beyond municipal boundaries.

Storm Water Runoff Problems

Heavy rainfall can create nuisances, health concerns, financial loss, disasters, and a myriad of other problems, keeping local officials busy responding to constituent complaints. Some of the more common storm water runoff problems that invite watershed planning and management in Indiana include:

Inadequate Drainage. Excessive storm water can adversely affect properties with inadequate drainage as well as properties in floodplains. Storm water that collects on undeveloped surfaces naturally drains or "percolates" through soils, which vary in their absorptive capabilities. "Poorly-drained" soils (those with high clay content) do not drain excessive storm water well, and are more likely to require the addition of various types of channels (such as ditches), tiles, and other constructed drains. These soils are more prevalent in the northern half of Indiana.

Flooding. When rainfall exceeds the capacity of channel banks, it spills over into floodplains, which store flood water temporarily. Adverse impacts from flooding typically stem from development throughout floodplains, and include soil erosion, sedimentation, property damage, human suffering and loss of life, and interruption of commerce, communication and transportation. From 1978 to 1995, Hoosiers filed almost 6,000 flood claims and paid more than $7 million in insurance premiums (IDNR, 1996). More than 80 percent of the state's urban flood damage is sustained by the Little Calumet River, Maumee River, and Upper West Fork White River basins.

Soil Erosion and Sediment Deposition. While soil erosion naturally occurs throughout the state as part of the weathering process, the potential for severe erosion varies by soil type. As storm water transports eroded soils, sediments are deposited in streams, lakes, and other bodies of water, degrading water quality and harming aquatic life, a problem throughout the state. The Fish Creek Watershed in northeast Indiana, for example, has been impaired by sedimentation, causing watershed managers there to focus planning efforts on this threat to water quality and biodiversity.

Water Pollution. Rainfall that mixes with oils and other pollutants on developed surfaces or with effluents in combined sewer systems is typically treated and released, but excessive rainfall can exceed sewer and treatment plant capacities, polluting waterways. When storm water collects on agricultural land, it mixes with pesticides and fertilizers and is carried to rivers and lakes. Storm water can also degrade water quality by depositing sediments from eroded soils. In 1989, the Indiana Department of Environmental Management identified more than 11,000 acres of lakes and reservoirs and more than 2,000 miles of rivers, creeks, ditches, and other waterways that are adversely affected by nonpoint source pollution in Indiana.

Because storm water runoff can produce far-reaching impacts on individuals and communities, its management and control typically influence commerce, recreation, and all other activities that define the quality of life in cities and towns. As a result, decisions made by local officials to deal with or prevent runoff problems can shape the collective sense of welfare and trust in Indiana communities.

Municipal Storm Water Management

Most Indiana cities and towns manage storm water only within their municipal boundaries, employing existing public works departments or separate storm water management departments. While it is possible for two or more municipalities to form interlocal agreements within this traditional approach, evidence suggests that most Indiana cities and towns choose not to do so. Many of the recurring problems that stem from jurisdictional management of storm water can be solved with a comprehensive, multi-jurisdictional watershed approach.

The Watershed Approach

Storm water management consists of programs that prevent flooding, reduce erosion, improve drainage, abate water pollution, and more. Effective management entails a consideration of all system elements (rainfall, soils, flora and fauna, etc.) and their interdependent links. *Municipalities that manage only a part of small watersheds*—such as those that manage only within their corporate boundaries—*ignore these links, and, as a result, do not devise long-term solutions*. For this reason, many public works officials advocate managing storm water at the watershed level to effectively deal with or prevent storm water runoff problems.

More specifically, the watershed approach allows managers, planners, and scientists to address downstream *cumulative* impacts and to differentiate between the benefits received and the costs borne by upstream vs. downstream land owners. Such efforts are not always possible with municipal storm water management. Consider, for example, the owners of downstream properties in a separate jurisdiction that are not able to identify or prevent all upstream land-use activities that impair water quality or cause flooding. The watershed approach considers the effects of upstream development on downstream properties by promoting cross-jurisdictional planning and focusing on all watershed systems.

A Watershed is an area of land that drains into a lake or river. All rainwater and melted snow within a watershed ultimately drain into the same body of water. Watersheds vary widely in areal size, as small watersheds are "nested" within larger ones.

The critical barrier to *realizing* the watershed approach lies in identifying stakeholders to make decisions and determining the extent of their authority. Given this approach, watersheds can be managed by either:

- A single entity (e.g., a municipality; nonprofit environmental group) with authority to make decisions that may affect everyone within a watershed; or
- A multi-organizational entity (e.g., a group comprised of representatives from cities, counties, nonprofit environmental groups, state and federal environmental agencies, etc.) that makes decisions consensually.

The Municipal Sewage Works statute may be applied in either of these forms. While primarily used by municipalities to extend the scale of their storm water management authority, the statute also facilitates intergovernmental and interorganizational collaboration. While other approaches—such as the statute that allows municipalities to created departments of storm water management [IC 8-1.5-5-1, et seq.]—are available, they do not assist local officials in establishing watershed-based storm water management efforts.

The Municipal Sewage Works Statute

The Municipal Sewage Works (MSW) statute [IC 36-9-23-1, et seq.] provides municipalities with legal authority to impose charges upon property owners within ten miles of corporate boundaries by including storm water management within the scope of existing municipal sewage works services. Capital improvements and operational expenses can be financed with user charges or fees based on the amount of runoff contributed to collection and conveyance structures. **The MSW statute presents municipalities with an opportunity to develop effective, financially feasible solutions to runoff problems in small watersheds**. By facilitating watershed management of storm water, the MSW statute also encourages intergovernmental agreements.

The **Municipal Sewage Works** statute, adopted in 1981, integrates storm water planning within existing public works departments and allows municipalities to impose user fees or charges upon property owners *within ten miles of corporate boundaries*, but does not permit special district property tax levies. Two municipalities—Fort Wayne and Marion—have enacted storm water service ordinances under this statute, creating *storm water utilities* that impose user charges to finance capital improvements and

operational expenses. Other municipalities, such as Vincennes, are establishing or considering user-charge systems.

Interlocal Agreements. Portions of many smaller watersheds (such as those associated with a creek or ditch) may extend beyond municipal boundaries (and their ten-mile buffers) into other cities and towns, unincorporated areas, or both. These spatial differences can hinder the efforts of municipalities operating alone; but can also provide municipalities with incentives to form interlocal agreements. *That is, where small watersheds overlap the ten-mile buffers of two or more municipalities, and these municipalities accept that storm water is more effectively managed on a watershed basis, interlocal agreements are sensible and feasible.* The MSW statute allows municipalities to impose charges on property owners in other incorporated areas, as long as these property owners are not charged twice for the same service.

The MSW statute facilitates the management of small watersheds *across jurisdictional lines* by allowing municipalities to charge owners of property located within a buffer that extends ten miles from corporate boundaries.

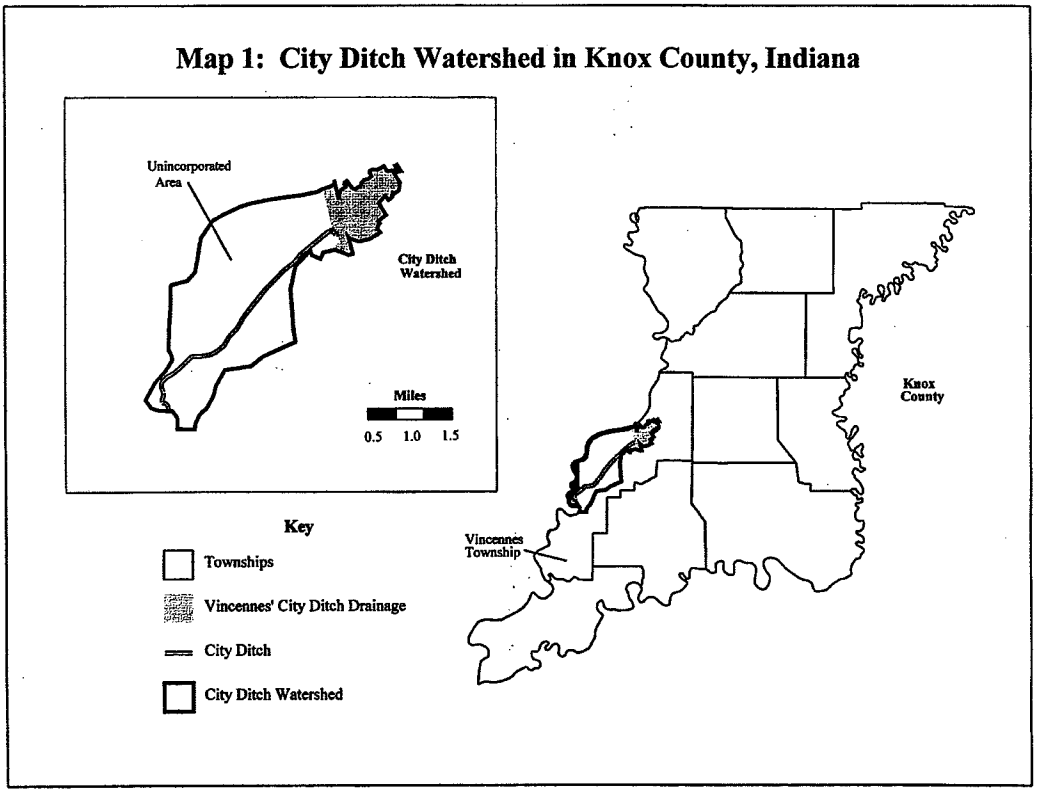
Financing Options. Under the MSW statute, municipalities can make use of two mechanisms to manage storm water:

- *Revenue bonds*. Municipalities may issue these to pay the costs of acquiring, constructing, and improving storm water works and associated properties.

- *User fees or charges*. According to the statute, municipalities may impose "fees required to maintain the sewage [and storm water] works in the sound physical and financial condition necessary to render adequate and sufficient service." All property owners within city boundaries and the ten-mile buffer that *use or are served by municipal storm water structures and services* (including tax-exempt organizations such as churches and governmental institutions) may be charged.

Implementing the MSW Statute. Municipalities are required to enact an ordinance detailing their storm water management services, funding mechanisms, regulatory oversight, etc. Legal counsel is crucial in this regard, especially where interlocal agreements exist. In addition, *successful* storm water works departments typically have (1) the support of mayors and local representatives; (2) qualified staff to solve problems and plan future opera-

Map 1: City Ditch Watershed in Knox County, Indiana



tions; (3) organized, accurate, and current local databases; and (4) public processes that discuss the implications of the statute with local property owners.

Several state and federal agencies provide technical and managerial assistance to municipalities attempting to implement watershed management plans. At the federal level, the USEPA, Army Corps of Engineers, Bureau of Reclamation, and other agencies involve localities in watershed planning through workshops, informal discussions, and other programs. Similarly, the Indiana Departments of Environmental Management and Natural Resources serve as information clearinghouses and offer advice on how to operationalize watershed-based management programs. Finally, a nonprofit, public/private partnership based in West Lafayette called Know Your Watershed provides guides for watershed partnerships (two of its reports are titled *Putting Together a Watershed Management Plan* and *Managing Conflict*). Know Your Watershed can be reached by phone at (317) 494-9555.

An Example of Watershed Management: Vincennes, Indiana. The city of Vincennes has utilized MSW provisions to establish a user-charge system that extends beyond city boundaries. Since 1928, Vincennes has assumed financial responsibility for managing storm water throughout a largely agricultural area within a shared watershed outside its corporate boundaries. In 1994, Vincennes' officials realized that the MSW statute allowed Vincennes to charge non-city property owners for the benefits they receive from the collection and disposal of storm water because all pertinent properties lie within ten miles of city boundaries. **Map 1** illustrates the City Ditch watershed in relation to Knox County and Vincennes, focusing on the unincorporated area that will share Vincennes' storm water management plan. As of June 1996, Vincennes has enacted an ordinance and resolved most technical issues. City officials expect to implement the user charge system soon.

An Additional Option

The MSW statute is not the only mechanism that facilitates watershed-based management of storm water. The Indiana Conservancy Act [IC 14-33], according to the IDNR, "provides a vehicle [a conservancy district] by which landowners can organize a special taxing district to solve problems related to water resources management." Upon successful petitioning by land owners (the number of required signatures varies by municipality size), districts are approved by county circuit courts.

Similar in approach to managing storm water across jurisdictional lines, conservancy districts empower landowners while limiting local government authority. Because forming *interdistrict* agreements may be more difficult than forming *intergovernmental* agreements, districts not organized around watersheds initially may not address runoff concerns as effectively. Finally, conservancy districts, unlike storm water works departments under the MSW statute, are financed with property tax revenues. As a result, a majority of property owners may oppose conservancy districts—though only a minority of property owners may be needed to establish them.

Conclusion

Runoff from heavy rainfall causes a variety of problems: flooding, poor drainage, soil erosion and sedimentation, water pollution, and more. Such problems can jeopardize health, destroy property, hinder commerce, communication, and transportation, degrade water quality, and generally diminish the quality of life. Although some communities tend to be more adversely affected, all communities have experienced, and will experience, storm water runoff problems of this nature at some point. As a result, local officials will continue to respond to demands from numerous stakeholders with conflicting notions of how storm water should be managed.

Storm water runoff problems can be reduced or prevented by municipalities managing storm water on a watershed basis, where the interdependent links that comprise hydrologic systems (rainfall, soils, flora, fauna, etc.) are comprehensively considered. Yet nearly all Indiana municipalities currently manage storm water within corporate boundaries. The Municipal Sewage Works statute, facilitates small watershed management by allowing municipalities to impose dedicated user fees on property owners within ten miles of corporate boundaries.

Interlocal agreements may also be formed by contiguous municipalities wanting to manage storm water on a watershed basis. As demands increase while resources diminish, local public officials are looking at the 15-year old MSW statute from a new perspective, recognizing its potential to effectively address recurring storm water runoff problems at lower costs.

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