Five Phases in Developing and Implementing a Stormwater Utility

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Abstract

This paper describes five phases that a city, county, or regional agency should anticipate in the development and implementation of a stormwater utility. The information and conclusions are drawn from the experiences of more than one hundred communities that have undertaken this significant change, some successfully and others with less stellar results.

Overview

Each and every community is different. It is not possible to specify precisely what steps must be taken to conceptualize, develop, and irnplement a stormwater utility, or what order they should take. The experiences of hundreds of communities over the past twenty years suggest, however, that a fairly consistent process involving at least five phases occurs from the initial investigation and conceptual discussions through implementation of a stormwater utility, its service (user) charge, and achievement of an effective stormwater management program. This paper is therefore strategic in tone and content rather than tactical, and conveys the full scope of the development and implementation effort and how the process typically occurs.

The Challenge of Devloping! a Stormwater utility

Establishing, a *utility* to address stormwater management needs demands that a workable strategy be defined. There needs to be a well-articulated reason for establishing a utility. Unfortunately, many local governments enter into the process with no strategy in mind, and even proceed through the phases of developing and implementing a utility without knowing where they are going.

One of the greatest strengths of the utility approach to stormwater management and funding is the extraordinary flexibility it offer . Stormwater utilities have emphasized various priorities, ranging from remedial repairs to deteriorating systems, to capital improvements, to stormwater quality. They have used many different rate methodologies to distribute the costs of services and facilities among ratepayers. However, there is no "cookbook" solution. Under the umbrella of a utility, each city, county or regional district can design its rate structure differently and selectively integrate other funding methods with a schedule of service charges. Similarly, there is no specific set of tasks that fit every situation. The diverse experiences of many cities and

counties confirm that no single approach to a stormwater utility and stormwater service charge fits every situation equally well.

Summary of the Five Phases

The five phases of developing and implementing a stormwater utility are described in this paper as **Preparatory, Concept Development, Detailed Analysis, Data Assembly and Systems Implementation, and Public Information/Education.** The **Preparatory and Public Information/Education** phases are primarily political. The **Concept Development, Detailed Analysis, and Data Assembly and Systems Implementation** phases are mostly technical, but include numerous political steps as well.

The five phases are not necessarily sequential. For example, elements of the **Public Information/Education** phase typically run parallel with all of the other phases. The phases are often linked at critical points. Technical and political steps must be undertaken throughout the process of conceiving, developing, implementing, and (ultimately) operating a stonnwater utility. The political steps primarily involve elected officials, administrators, key stakeholders, and the general public. The technical steps primarily involve staff and consultants.

Preparatory activities focus on presenting the basic idea that a change is needed in the way stormwater is managed and funded. It is the initial support building step in which sponsorship is sought for assessing the shortcomings of the current situation and searching for alternatives. Fundamentally, this phase involves establishing that there is a reason for the local government to be involved in stormwater management (usually problems such as flooding and erosion), that the existing approach is not meeting the needs, and that other approaches (both program and funding) ought to be examined.

Transition to the next phase, **Concept Development,** is attained when the elected officials and administrators accept the premise that a change is needed. Decision makers must first understand the basic need for a change before a concept for solving the problem is presented. It is possible to proceed to the **Concept Development** phase without fully gaining the level of understanding and support of elected officials and administrators that is needed when conceptual solutions are presented. The danger is that the elected officials or an administrator might push staff proponents of a utility back to the **Preparatory** phase if either wonders "why are we doing this" when the products of the **Concept Development** phase are presented.

The **Concept Development** phase involves assembling, information needed to evaluate the basic feasibility of various options and select preferred concepts. In most cases, much of the necessary information to conduct the **Concept Development** phase is assembled in one form or another by local staff and/or consultants during the **Preparatory** phase. An *Action Plan* can provide a basic exposition of the utility concept, but first there should be broad acceptance of the fundamental notion that stormwater problems exist and solving them is a valid priority.

The **Detailed Analysis** activities focus on the policy, program, and financial analyses required to establish a stormwater utility, assuming that the **Concept Development** phase has resulted in the production of sufficient technical information and documentation and that political concurrence has been attained that the utility approach is desirable. Some key policies will typically have been developed as the concept was explored, and may even have been agreed to formally. Others might addressed in the **Detailed Analysis** phase.

For example, a conceptual Rate Structure Analysis will often be prepared in the **Concept Development** phase to reassure elected officials that utility rates would be of a type and level that the community can accept. Such an analysis identifies a preferred rate methodology from among several alternatives. It may examine specific rate modifications and secondary funding methods that may be needed to meet local circumstances, but does not constitute a detailed Rate Study. A preferred conceptual approach identified through a Rate Structure Analysis would typically be subjected to a more detailed Cost of Service, Rate Base, and Revenue/expenditure Analysis, culminating in a Rate Study Paper and recommended Rate Ordinance during the **Detailed Analysis** phase.

The **Data Assembly and Systems Implementation** phase is driven by the technical and political conclusions and direction gained through the **Preparatory, Concept Development, Detailed Analysis, and Public Information/Education** phases. The **Data Assembly and Systems Implementation** steps include but are not limited to the development of a master account file and the capability to bill service charges, receive and process payments, and properly account for the utility's revenues. Preparations must also be made to answer customer's questions about the utility approach to stormwater management and funding, which bridges into the **Public Information/Education** phase.

The **Public Information/Education phase** is absolutely essential in successfully implementing this type of program. Many techniques, tools, and types of media have been used to inform and educate the various "publics" about stormwater utilities. An advisory committee is often the primary focus of efforts to formulate policy decisions in an inclusive "public" forum, but additional efforts need to be made to identify and involve all key stakeholders and the general public. An on-going information/education program involving elected officials in the issue will also pay dividends when support is needed at critical decision points.

Detailed Analysis of the Five Phases

Preparatory Phase

Three activities are typical in the **Preparatory** phase, information gathering, idea structuring, and political acceptance testing. The first two are largely technical, the third is political. It night also be described as the first step in the **Public Information/Education** phase.

Information gathering involves assembling data on the character and magnitude of stonnwater problems, the present management approach, and options that may be available. This

information is useful in the third activity, testing of political acceptance. In the **Preparatory** phase a local government should assemble an inventory of stormwater problems and impacts, even if only in the form of a fist of citizen/property owner complaints. The existing program should be documented, and any inadequacies identified. The level of performance of the program might be benchmarked (in the most basic sense) against others to demonstrate where it is on the spectrum. Basic legal authority should be investigated to ensure that further efforts to establish a utility are worthwhile. If the authority does not exist, it can often be addressed while **Concept Development** activities are underway.

Once the necessary information is assembled, idea structuring can move ahead. There is a great deal of information available from trade organizations, consultants, and other local governments that can contribute to idea structuring and guide the development of an approach suitable for a local situation, but care must be exercised because transferability from one community to another is often limited. Questions like "What do we really need?" and "What can work here?" need to be asked and answered as ideas are considered. The product of this step is a kernel from which political acceptance can be tested and steps begun to develop the concept fully.

Political acceptance testing reveals the practicality of pursuing the utility approach. If an administration or elected officials simply do not think there is a problem either with stormwater control itself or the present management and funding approach, have no time for it on their agenda, or are unalterably opposed to any form of new funding, a severe obstacle is posed. The Information assembled documenting present problems may convince appointed and elected officials that a change should at least be considered, especially if a possible solution has been identified.

Concept Development Phase

The following activities are typically done in developing a concept and gaining concurrence on it.

A stormwater program mission and priorities statement is prepared to describe the stormwater problems, define a program, and guide its implementation.

Key policy issues associated with developing and implementing a stormwater utility are identified and a process defined for resolving them. Those issues that must be resolved to reach agreement on the moving ahead are expedited.

The feasibility of a menu of funding methods for stormwater management is assessed. A full range of funding options is often considered, including alternatives to a utility, to ensure that it is the best approach. Alternative rate methodologies, modifying factors which can be applied to rate methodologies, and secondary funding methods such as developer fees and system development charges are often examined. This feasibility assessment step weeds out unrealistic approaches and concentrates subsequent work on options which are practical in the local setting.

A utility implementation strategy is formulated specifying how the utility itself can be implemented.

A program implementation strategy is often formulated. Organizational, management, and operational options might be identified (such as interim or long-term contracting with other agencies and private sector vendors for some services).

The experiences of other counties, cities. and special districts in similar situations are often compiled and papered.

Alternative approaches to public information/education regarding the stormwater utility are usually examined as part of the **Concept Development** phase and a recommended program presented.

The **Concept Development** phase may include more detailed examination of specific issues and needs that bridge into the **Detailed Analysis** phase. The work required to assemble a master account file consistent with rate and funding policy decisions may have to be determined to reassure appointed or elected officials that a utility is practical and achievable. Alternative means of assembling the file may be evaluated, and an efficient approach identified. Possible consultant roles in developing a master account file might be assessed. Means of billing, collecting, and properly accounting for stormwater service charges and providing customer service might be evaluated. The cost of service might have to be translated to a budget format if the utility implementation is to be incorporated into the budget process. A scope of work and budget may even be prepared for detailed stonnwater capital improvement master planning.

Evaluating stormwater funding and rate options, developing a program and policies, and implementing a new financing method or methods is exacting work that must be done in a procedurally correct manner. The approach and products need to be consistent with the standards that courts in several states have applied in determining that the decision process involved in forming a utility and setting rates was objective and procedurally correct. Flexibility also needs to be emphasized. The activities required to develop and implement adequate, stable, and equitable stonnwater funding should be oriented to each local government's decision-making process, budget, and other timing considerations.

Defining the problems and needs is a basic starting point in determining what mix of financing will be most appropriate, and what considerations should be accounted for in rate parameters. The type, geographical extent, and severity of drainage problems, including but not limited to flooding, erosion and sedimentation, restrictions on land-use, impacts on public safety, damage to roads and other infrastructure, and water quality are often inventoried. Records of flooding and other drainage complaints might be reviewed, conditions in the field examined, and land-use and growth management policies researched. A summary statement of problems and needs will be prepared, Much of this information should have been assembled in the **Preparatory** phase to define the magnitude of the problem clearly.

Local stormwater management goals should be a major consideration in determining the feasibility of stormwater funding options. Local problems and needs will dictate the priorities and "functional requirements' of the stormwater program, which in turn will drive the design of a funding strategy and rates. A concise statement of the program mission and priorities may be needed to define the utility concept in terms that laypersons can understand.

The resources presently and potentially available for stormwater management and possible constraints on the use of those resources should be inventoried. Resources are an important consideration in estimating an agency's ability to fulfill the functional requirements of the program. They play a large role in determining the pace of change that can be realistically expected. The conceptual level of investigation should identify and qualitatively assess resources such as manpower and skills, equipment, materials, and information management capabilities and constraints. It should consider outside as well as in-house resources, including those of the private sector, local and neighboring jurisdictions, and state and federal agencies.

Controversial issues in the community that may directly or indirectly influence stormwater financing decisions should be identified. Experiences across the country indicate that unrelated issues have the potential to interfere with the development and implementation of a stormwater utility and/or its associated service charge, especially when a regional or county-wide program is being considered.

The functional requirements of the stormwater program are a key consideration in assessing the feasibility of various funding and rate options. The functional requirements of a comprehensive stormwater management program typically include a mix of administrative activities, engineering, operations, regulatory functions, and capital improvements.

Key policy issues associated with developing and implementing a utility should be identified and a process defined for resolving them. Some need to be resolved immediately. Others can be addressed as part of the **Data Assembly and Systems Implementation** phase. Policy Papers examining specific issues can be developed, leading to recommended Policy Statements which would be adopted by elected officials as the guiding principles of the stormwater program.

The basic feasibility of a menu of funding and rate methods is usually assessed in **Concept Development** phase. This is normally done in the context of the problems, needs, issues, resources, goals, and functional requirements and helps to eliminate unrealistic approaches and concentrate subsequent work on the options which are most practical. A preferred rate methodology is also typically identified, setting the stage for adoption and implementation. The feasibility of a utility service charge as a source of stonnwater funding is somewhat independent of the specific details of a rate methodology, modifying factors, and secondary funding methods that might ultimately be selected through a detailed Rate Structure Analysis. The basics can be properly addressed in the **Concept Development** phase, with the final details of the rate methodology being determined in **Data Assembly and Systems Implementation** phase

A projected cost of service should be developed as part of the utility concept, considering operating, capital, and non-operating expenses consistent with the program strategy. The cost of service information provides a revenue objective against which funding/rate options can be gauged. Organizational, management, and operational implications of various program, funding, and rate options should also be estimated as the concept is formulated. Means of optimizing available resources need to be considered, such as interim or long-term contracting with other agencies and private vendors for some services. Possible use of interlocal agreements among the local cities and counties having a role in stormwater management should be examined.

Alternative means of billing for, collecting, and properly accounting for stormwater service charges should be investigated as part of **Concept Development.** Data processing requirements, customer service opportunities, and accounting paper capabilities are important considerations. This is a bridge to the **Data Assembly and Systems Implementation** phase.

Alternative approaches to providing effective public information and education regarding the stonnwater utility should be examined even as the concept is being investigated. This is a linkage to the **Public Involvement/Education** phase. A variety of mechanisms have been used elsewhere for involving key stakeholders and the general public in the process of developing a stormwater program and funding. Their experiences might be investigated, and examples of brochures, audio and visual presentations, media kits, and other tools assembled.

Detailed Analysis Phase

The priority of specific issues will determine how the **Detailed Analysis** phase is approached. Experience suggests that all of the issues that need to be addressed cannot be identified during the earlier phases of this process. Full closure of some of the issues is likely to require more time, since they are closely related to and sometimes dependent upon other work that is underway.

The policy resolution process identified in the **Concept Development** phase should continue into the **Detailed Analysis** phase. Some policies need only an approval at the administrative level. Others should to go to an advisory committee assuming one exists. Some issues will have to be addressed by elected officials. To facilitate the review at various levels, a structured and disciplined process should be followed. It should provide two vitally important products: 1) full documentation of the policy resolution process; and 2) a written paper consolidating the policies in a single document that the public can easily grasp.

Based on the program strategy defined in the **Concept Development** phase and the preliminary operating and capital costs of stonnwater services and facilities, a detailed cost of service is often projected as part of the **Detailed Analysis** phase for a period of three to five years to provide a basis for final determination of the level of service charge and need for other funding methods. An integrated computer spreadsheet Rate Model is sometimes developed to evaluate the details of rate design. This modeling should combine cost of service, rate base, and cash flow information and perform analyses of possible adjustments in any of those input items.

A detailed Rate Study report documenting the application of the preferred rate methodology to the costs of service should be prepared at the conclusion of the **Detailed Analysis** phase.

Data Assembly and System Implementation Phase

A stormwater utility service charge rate methodology must be applied to individual properties and bills generated and delivered to each customer. The first step requires a master account file. This task has sometimes been done by a consultant, sometimes by staff Existing databases such as property tax roles and water/wastewater files are typically used as the foundation for a stormwater utility service charge master account file. Regardless of the database employed, there will be account additions and exceptions identified in the development of the billing database that will have to be resolved. The type of additions and exceptions to be resolved typically include: wrong addresses, wrong classifications, public properties not subject to property taxes or other utility service charges, property aggregations, property disaggregations, properties not included in the database for various reasons, and second party billings.

If a stonnwater service charge is to be implemented, a means of billing, collecting, and accounting for service charge revenues must be identified and instituted. Experience has been that the requirements of a stormwater utility service charge billing often challenge the capacity of existing systems and can pose a potential major obstacle to timely implementation.

Most stonnwater utility rate methodologies include credits for on-site systems and activities that mitigate the peak flow, total volume, and/or pollutant loading impacts of stormwater runoff from individual properties. Several activities must be performed to develop and implement a service charge crediting mechanism, ranging from policy resolution to preparation of application forms.

A rate resolution or ordinance must be developed for implementation of a stormwater utility and service charge. This may be done in-house or through a consultant or special counsel such as bonding experts.

Public Information/Education Phase

A process needs to be developed for involving the public in decisions about stormwater financing. It should initially: (1) evaluate the current status of community's understanding of and potential support for a stonnwater program and utility service charge financing and (2) determine what methods would be most effective in improving this understanding and support. The public information, education, and involvement methods which have previously proven successful in local area should be given greatest consideration to maintain continuity with the normal practices in the community. A variety of public information and education approaches and materials have been used, ranging From advisory committees to media kits, audio/visual shows, brochures, booths at street fairs, and local radio/television interviews. A public relations specialist or consultant is sometimes hired to coordinate the public information and education program

Experiences nationwide suggest been that an initial stormwater service charge billing generates an enormous number of calls to a local government customer service staff, mostly of a general nature. A customer service staff, perhaps including a team of specially-trained temporary employees, needs to be prepared for the type of questions that might be asked. Such preparation can result in a high degree of customer satisfaction and acceptance of a utility service charge.

Some activities in the **Public Information/Education** phase have a close linkage with **Data Assembly and Systems Implementation** phase tasks, especially with regard to the assembly of service charge data for major ratepayers and processing of service charge credits for on-site stormwater systems and activities. It is especially important that ratepayers who will have high stormwater service charges not be "surprised" one day when their stonnwater bill arrives. One of the most important and effective public information activities involves meeting with each of these "big ticket holders" before the first billing. Such meetings are opportunities to explain face-to-face why the local government is making changes in its stormwater program and instituting a service charge, how the charge is calculated, what crediting opportunities that exist, and what the service charge will be for their property. This requires careful coordination with the master account file data as it is being developed to identify the properties involved, verify the data, and schedule meetings.

Local government employees are an often overlooked "public" that should be fully educated about the utility approach to stormwater management throughout the long process of development and implementation. Knowledgeable employees are one of the most effective public relations channels that local government can foster. Their friends and neighbors often ask them questions about what their local government is doing and why. Many have regular contacts with the general public through their work. Rarely, however, are they fully informed and utilized.