Town of Chapel Hill

Pro Forma Business Plan –
Utility-Based Stormwater Management Program

I-2 Basic Funding Feasibility

Purpose

This section presents a recognizance-level assessment of the feasibility of funding Chapel Hill's stormwater program through an enterprise fund supported primarily by service fees. Many other North Carolina municipalities including Greenville, Rocky Mount, and Gastonia have initiated similar actions within the past few years, building on the experiences of hundreds of communities nationwide that have established such programs since 1974. The feasibility of other funding methods that might be an alternative to or complement service fees is also examined.

Conclusions on Funding Feasibility

Given the basic status of Chapel Hill's current stormwater management program, the Town clearly faces a significant "program development curve" in the next few years as administrative, operational, capital investment, and regulatory elements of stormwater management are formulated and carried out. It will take five to ten years before a comprehensive program is fully attained, and perhaps twenty years or more to plan, design, and build major capital improvements.

Funding should be expected to evolve along with the program. Throughout that time frame there may be several funding methods both primary and secondary to support various aspects of the stormwater program. Full implementation of secondary funding mechanisms associated with a stormwater enterprise fund may therefore require ten years or more.

Advantages of a Service Fee.
This feasibility assessment concludes that a comprehensive stormwater management program funded primarily by service fees offers more flexible, stable, and equitable long-term stormwater management funding for Chapel Hill than any other option. It is clear that a service fee has several significant advantages over other funding options. It is highly flexible, offers the prospect of stable funding over time, allows restrictive dedication of the revenues to stormwater management only, and enables elected officials to craft an equitable distribution of costs through a service fee rate design. A service fee rate structure can allocate costs based on the demands placed on the systems instead of property value or other factors unrelated to stormwater service needs.

A stormwater service fee has sufficient revenue potential to assure consistent funding at a level that would support development of a comprehensive program. State statute provides a mechanism to the Town authority to raise revenues in this manner. However, the Town must also support numerous other municipal services that do not lend themselves to user fee funding (such as public safety, street maintenance and fire protection). Stormwater service fee funding could relieve, partially or wholly, the demands that stormwater management now

places on the General Fund. Moving the stormwater management to a different revenue arena would alleviate some of the conflicting priorities now placed upon the budget.

Stormwater management service fee revenues can be used for any activity or improvement related to stormwater management, including revenue bond service debt for major capital investments. The use of revenue bonds could enable Chapel Hill to expedite major improvements to the stormwater systems without reducing its general obligation bonding capacity for other purposes.

Priorities change over time, and the ability for funding to change in concert with needs is critically important. A service fee rate methodology can be periodically adjusted along with major transitions in programs and priorities, especially in terms of system improvements. Other funding methods differ in their suitability for capital, operating, regulatory, and other types of costs.

Disadvantages of a Service Fee.

The major disadvantages of a service fee are that it costs money to implement and new fees might be politically unpopular. The cost of implementing a service fee is expected to be $340,000 (excluding $150,000 is new photography), depending on many decisions yet to be made by the Town. To put this cost in context, this represents less than six months of service fee revenue, depending on the ultimate rate structure.

Political acceptance is more difficult to forecast than implementation costs. Public reaction to stormwater service fees elsewhere has ranged from very positive to very negative. Given the extent of local drainage problems and need for drinking water quality, one might conclude that the community would be receptive to a workable long-term solution. A program and funding strategy that offers a realistic prospect of solutions will have to be communicated convincingly to gain public support for the approach.

Issues

If the Town Council chooses to establish a stormwater service fee it will have to address both institutional and funding issues. These include whether to establish a separate stormwater organization or integrate a stormwater management service fee funding to support the existing organization structure using separate cost centers to preserve the segregation of the revenues.

The Town Council will also have to decide how to structure stormwater service fees. One or more ordinances will have to be drafted and adopted. The experiences of other cities and counties suggest that an intensive public information effort should be conducted to explain the stormwater service fee concept to the community.

Institutional Arrangements

While this business plan is for only the Town of Chapel Hill, it is possible that other communities such as Orange County or Carrboro may want to consider joining with Chapel Hill in the utility. In that eventuality, a service fee could be applied, enabling more effective management of the many drainage systems that flow into and out of the Town.

Process and Schedule

A dedicated stormwater enterprise fund could be in place (as an accounting entity) as early as January 1, 2003. However, the work required to design a suitable service fee rate methodology, prepare a master account file, and adjust the existing billing systems or develop

a new system could require at least another nine to 18 months (see *I-3 Basic Data Feasibility* section). The actual schedule would depend on many decisions yet to be made, such as the service fee rate design. Additional information concerning implementation steps and schedule are contained in the *I-4 – Approach Development* report.

While the program can be planned to be in place at the beginning of 2004 or sometime during calendar year 2004 a stormwater enterprise fund could assume some stormwater management costs beginning in fiscal year 2003. The Town would have to find other revenues to pay for costs prior to the initial service fee billing. This could possibly include General Fund appropriations or interfund loans from other funds (General Fund balance).

What is a Stormwater Utility?

A stormwater utility can be seen as an umbrella under which individual communities address their own specific needs in a manner consistent with local problems, priorities and practices. With the expected needs for increased stormwater management programs, the stability, flexibility, and adequacy of a utility provides a great advantage over other financing methods.

Program Driven Structure

Stormwater utilities are comparable in many ways to more traditional municipal water supply and wastewater treatment utilities. Nearly all involve management of a complex system of natural and man-made physical structures, and demand continuing operational and regulatory programs as well as capital investment in the systems. Because of previous and recent federal and state mandates, most provide a comprehensive program that addresses water quality as well as quantity (flood) control. The programmatic needs eventually dictate the utility structure and function.

A stormwater utility can provide a vehicle for:

- consolidating or coordinating activities and responsibilities that were previously dispersed among several departments and divisions;
- generating funding that is adequate, stable and equitable, and dedicated solely to stormwater management ; and
- developing programs that are comprehensive, cohesive, and consistent year-to-year.

A stormwater utility provides an organizational focus for a comprehensive program such as that projected for Chapel Hill. The utility approach also offers a means to properly fund such a program through service fees. However, a utility service fee is not necessarily the only funding solution available to the Town. Many cities implementing stormwater utilities in recent years have discovered that it is desirable and/or necessary to use more than one funding source to generate sufficient revenue in a way that is equitable and publicly acceptable. Thus, the source or sources of funding to be used is a core issue to be resolved in assessing feasibility and formulating a strategy.

What is a Stormwater Utility?

- ***A FUNDING METHOD***
  A method or mix of methods for providing adequate, stable, and equitable funding for the comprehensive stormwater program.
- ***A PROGRAM CONCEPT***
  A comprehensive stormwater quantity and quality program with an effective balance of: capital, operational, regulatory, engineering, planning and administrative activities.
- ***AN ORGANIZATIONAL ENTITY***
  A legal entity with the authority to regulate stormwater management, operate stormwater management systems, and assess fees and charges.

A stormwater utility user fee methodology is **equitable** because the cost is borne by the user on the basis of the user's demand placed on the drainage system. A stormwater utility is **stable** because it is not as dependent on the whims of the annual budgetary process as taxes. A stormwater utility is **adequate** because a typical stormwater program can be financed with payments below what the normal customer is willing to pay.

Most communities find that their particular problems and needs demand a stormwater rate methodology that is tailored specifically to the local situation. No standard definition is adequate and no "cookbook" approach to funding stormwater utilities exists. Thus, the descriptions of stormwater utility funding concepts in this report should be viewed as general guidance only. The details of the funding strategy and the rate structure that best fits Chapel Hill's needs will require a more detailed analysis if the Town decides to proceed with implementation.

Basis for a Stormwater User Fee

Stormwater utilities typically generate most of their revenue through "user" fees. "Use" of the stormwater system is defined as the demand a property places on that system and the stormwater services and facilities provided which protect the property, downstream properties, and the receiving waters. Each property generates stormwater runoff that requires action by the community to provide services to ensure safer streets, cleaner water, etc. Demand is traditionally measured in terms of the peak flow of stormwater runoff generated by the property. The greater the flow, the greater the demand, and thus, the greater the user fee. Sometimes the volume of runoff and runoff pollution are also included in the rationale for the user fee structure.

Two major parameters that most significantly influence the demand that a property places on the stormwater system are total property area and total impervious area within a property. A shopping mall or a University campus has a larger impact than a single-family residence, and consequently, should pay a larger amount than the residence. Many stormwater user fees do not consider total area since undeveloped property may presently have no more impact than it had before the municipality was established. Others choose to include undeveloped area, reasoning that most drainage systems are designed and built with future as well as current service demands in mind.

The financing approach developed for a particular utility is called the "rate methodology". The rate methodology is divided into three modules:

1. the basic rate methodology;
2. modification factors which can be applied to any of the rate concepts to enhance equity, reduce costs, and meet other objectives; and
3. the secondary funding methods that can be adopted in concert with the service charges.

The basic rate methodology serves as the technical foundation for the user fee charge, and different approaches have advantages and disadvantages. Basically, the user fee reflects the amount of stormwater runoff discharged from a property, as influenced by the conditions on each property or class of properties. It may also reflect the "service" rendered to a property as a result of adequate control of upstream runoff and assurance of mobility and accessibility during and after storm events. Typical methods for calculating demand on the system and the associated fee typically consist of the following:

- impervious area;

- impervious area and gross area;
- impervious area and impervious percentage;
- gross area and an intensity-of-development factor; or
- gross area with modifying factors.

Secondary funding methods (discussed in the next section) and modification factors are used to enhance equity or improve ease of utility implementation and management without unduly sacrificing equity.

Typical modification factors might include:

- a flat rate single-family residential charge;
- a base rate for certain costs which are fixed per account;
- basin-specific surcharges for major capital improvements; or
- credits against the monthly service charge for properties that have on-site detention/retention systems or best management practices.

Feasibility Assessment of Funding Options

Eleven funding mechanisms were examined during the assessment that might partially or wholly fund stormwater management in Chapel Hill. The first two, the stormwater service fee and the Town's General Fund are recommended as ways that offer revenue generation capability to support the projected program needs. Other "secondary" funding sources considered in this analysis are not recommended as funding methods. These include special assessments, special service fees, bonding, in-lieu-of-construction fees, system development charges, impact fee, and federal and state grants and loans. Although some of these might offer suitable and sufficient funding for specific elements of the stormwater program (e.g., bonding for capital projects), none has the capability of being the primary funding source for the long-term program. Thus, this report focuses on the stormwater service fee and General Fund options.

1. General Fund Appropriations

The stormwater management program in Chapel Hill has been funded from Town's General Fund, with capital construction support from Powell Bill resources. The General Fund clearly has sufficient revenue to support an increase in stormwater management funding either through a reallocation of current resources or tax increases, though neither option is likely to be popular.

The greatest inequity in using General Fund appropriations for stormwater management in Chapel Hill is that many properties that place demands on the stormwater systems are exempt from general taxes. For example, the University, government agencies, churches, and others do not generate property tax revenue. As a result they do not participate in funding stormwater management through the General Fund. Even some private properties, for example parking lots and storage warehouses that have large expanses of impervious coverage, do not pay taxes commensurate with the demands they impose on the stormwater systems. Conversely, some properties have little impact on stormwater runoff but pay substantial property taxes. They are paying proportionately more for stormwater management through the General Fund than they would through funding methods based on the demands placed on the stormwater program and systems.

General Fund appropriations are uncertain from year to year. Revenues within the General Fund are not dedicated to any specific purpose, and allocations shift with perceived priorities. Stormwater management needs are likely to receive better treatment in the budget in a year following severe storms and drainage problems than in a year following a drought. This makes it difficult to plan and consistently carry out a long-term program plan that depends on reliable funding year after year.

2. Stormwater Service Fees

Under North Carolina General Statutes Chapter 160-A municipalities are enabled to conduct stormwater management as a utility function. Specific methods of funding stormwater management are not mandated. Stormwater service fees are within Chapel Hill's authority, and could distribute the cost of stormwater management across the community as deemed appropriate by the Town Council.

The Town Council has broad latitude to structure the institutional arrangement underlying a stormwater service fee as it sees fit. It would appear that a service fee could be established either independently under a stormwater utility or within OWASA's existing utility structure. If stormwater were incorporated into the OWASA operation it would be appropriate to have a separate fee based on a stormwater rate methodology supporting a separate cost center. It is almost certain that the covenants associated with OWASA's operation presently in force would dictate that an "arm's length relationship" be established and maintained between stormwater and their services. The other North Carolina cities that have established stormwater utilities have kept them separate from other entities.

Simplified residential rates are common, with many stormwater service fee methodologies having a flat-rate charge for all single-family residential properties. Service fee charges to non-residential properties are normally higher than residential charges, reflecting the greater runoff they typically generate. An "equivalent unit" approach is often used to equate service fees on non-residential properties to the rate applied to residences. Monthly residential rates typically range between $2.50 and $4.50, although a few very advanced programs charge more than $15.00.

The revenue generated by a stormwater service fee is a function of the design of the rate structure and the make-up of the community. Based on the experiences of comparable communities, a typical rate structure might be expected to generate between $20 and $40 per gross acre annually for each $1 per month billed to residential properties.

A stormwater service fee established under a stormwater utility could be coordinated with other funding methods. Revenue from service fees and other types of fees examined in this report (and even allocations of General Fund resources) can be melded to tailor the distribution of costs as the Town Council sees fit. North Carolina law does require, however, that the rate methodology be applied to all properties within the Town, so it is not possible to selectively use the utility approach in a limited area. In other words, all properties of a type must be treated equally.

Equity of funding can be enhanced through the service fee rate design process. For example, stormwater service fees may be applied to non-taxable (public) as well as privately owned properties. Taxable (private) properties are thus relieved of a portion of the cost of stormwater management. Credits can be given against stormwater service fees to encourage and reward

responsible stormwater management such on-site detention of runoff, and to compensate for activities performed by the property owners, which are beneficial to the stormwater management program.

The stability of revenue from a stormwater service fee ensures that long-range scheduling of capital improvements and operations can be done with reasonable assurance that funding will be available. This would overcome one major problem that currently exists. Dedicated funding that cannot be diverted to other uses also encourages stewardship of the resources.

Another advantage of a stormwater service fee would be to free up General Fund resources for other purposes. Shifting financial responsibility for stormwater management to a stormwater utility and instituting a stormwater service fee to fund all or a portion of the stormwater management costs would make more General Fund resources available for other needs.

The biggest potential disadvantages of a stormwater service fee are its high visibility and the cost of development and implementation. Regardless of technical distinctions between "taxes", "extractions", "assessments", and "service charges", any form of government funding will be viewed by a majority of citizens and property owners as a "tax" and will thus be potentially unpopular. In Chapel Hill's case, because of the work that's already been done with public groups on stormwater issues, the higher degree of visibility associated with a separate fee might actually be a plus. The community already sees stormwater as an issue and this is a serious effort to fix long-standing flooding problems and reduce stormwater pollution.

3. Special Assessments

For many decades capital improvements to stormwater drainage systems were commonly funded through special assessments upon benefited properties. This approach evolved from historic English ditch law concepts originally conceived to pay for drainage of farmlands. The assessment concept was predicated on allocating drainage costs to the farmers in proportion to the direct and special benefits they individually derived in the form of increased crop yields and grazing use. This led to methodologies that were associated with the value of the enhanced use of the land rather than the demands placed on the drainage systems. The ditch law assessment concept was transferred to the United States from England along with many other local government-funding practices. In time it was translated into "special assessment district" funding, and was eventually applied to many other capital improvements needs in addition to drainage.

The inherent shortcomings of special assessment funding as applied to stormwater drainage systems in an urban setting have become increasing evident in recent years. The chief drawback of the traditional special assessment methodology is that the distribution of costs must be proportionate with the direct and special benefit accruing to each property being assessed. The benefit must be definable, measurable in some economic manner, and available to the property being assessed within a practical timeframe. General benefits accruing to all properties as a result of a stormwater improvement cannot be used to justify a special assessment, for example better traffic movement along roads that are not frequently flooded.

The courts have established substantially different standards for service fees versus special assessments. Great latitude is given to local elected officials in setting service fee rates, but

special assessments must comply with more restrictive technical standards based on individual benefit. Fully complying with the standards the courts have set for special assessments requires more precise and costly data than is needed to support a service fee, which must simply be fair and reasonable in its general application.

As a result special assessments for drainage are most workable in a very localized application. For example, improving a ditch or channel that directly serves a few properties or a relatively small area is an appropriate project for special assessment funding. A special assessment is less suitable for capital projects that serve a wide area, and wholly unsuited to facilities providing a general service (or benefit) to the community at large as compared to specific individual properties. Because so much of what must be done to effectively manage stormwater quantity and quality in Chapel Hill is not directly and specially beneficial to individual properties, assessments are not workable as the prime source of funding for the stormwater management program strategies described in this report.

The pressure to identify new funding methods has increased as assessments have become less and less suitable for stormwater management programs and projects in recent years. The emerging "watershed" orientation of stormwater master planning and improvements accentuates the limitations associated with special assessments. Advent of an increasing local government role in stormwater quality management has further eroded the usefulness of special assessment funding, since it is extremely difficult to demonstrate the direct and special benefit of stormwater quality management to individual properties.

Under a utility a special service fee can be used instead of a special assessment to isolate certain costs to a limited number of properties or persons served by a specific capital improvement or program activity. A special service fee is much more flexible than an assessment, can be applied to large areas as well as small, and does not have to meet the more rigorous tests applicable to direct and special benefit allocations. Instead, a special service fee adopted under the umbrella of general ratemaking practices must adhere to the standards generally applied to service fees. The rate methodology for a special service fee must be fair and reasonable, and the resulting fees to individual persons or properties must bear a substantial relationship to the cost of the facilities or services, but it need not consider direct and special benefit.

When employing special service fees in situations where special assessments might have been used in the past, it is vitally important that a consistent approach be applied. A level of service provided to one portion of the service area and funded through the normal service fee should not be subject to a special service fee in another portion of the service area unless the long-term cost for that comparable level of service is clearly so different that a special fee can be justified. Just as wastewater utilities do not charge customers located farther from a wastewater treatment plant a premium over those located nearby, special service fees are rare except in cases when significant differences in the cost of providing a comparable level of service exist. The other circumstance in which special fees are sometimes used is when a capital improvement is expedited apart from normal priorities or is designed and built to a higher level of service than normal. The departure from normal priorities or service level can be translated into a special service fee. The drawback to such practices is that the public may perceive it as an elitist policy enabling more affluent customers to "buy their way up" the priority list or obtain more service regardless of what objective program priorities may be.

4. Bonding for Capital Improvements

The North Carolina General Statutes authorize the use of bonding for capital improvements to local infrastructure, including stormwater systems. A State commission vigorously oversees municipal bonding in North Carolina, ensuring that proper diligence is exercised. Bonds are not a revenue source, but simply a method of borrowing, dependent for debt service on other revenue sources. They are most commonly used to pay for major capital improvements and acquisition of other costly capital assets such as land and major equipment. Capital improvements can be funded through annual budget appropriations, but annual revenues are sometimes insufficient to pay for major capital investments.

The chief advantage of bonding is that it allows construction of major improvements to be expedited in advance of what could be funded from annual budget resources. This is accomplished by spreading the costs over time; much like home mortgage or automobile loan enables a buyer to acquire assets they could not buy for cash. In the case of stormwater management, expediting a capital project by several years through bonding may result in significant public and private savings if flooding, other damaging impacts, and inflation of land acquisition and construction costs are avoided. The major disadvantage of bonding is that it is essentially a loan that incurs an interest expense, which increases the cost of capital projects, land acquisition, etc.

Two types of bonding are typically available to cities and counties in North Carolina, revenue bonding and general obligation bonding. General obligation bonding incurs a debt that has first standing with regard to public assets and is backed by the "full faith and credit" of the issuing agency. All revenues, including various taxes, may be used to service a general obligation debt. Revenue bonding is supported and ensured only by revenues such as service fees. Creation of a separate source of revenue that is earmarked specifically for stormwater management (e.g., a stormwater service fee) would allow the Town to sell revenue bonds to pay for stormwater capital improvements if feasibility is determined. However, revenue bonding issued by Chapel Hill would not be backed by the full faith and credit of the Town, and would likely incur a slightly higher interest rate in the bond market.

It is also possible to issue general obligation debt that is backed by the full faith and credit of the issuer but has debt service funded from a designate revenue source like service fees. This is commonly referred to as “double-barreling” of bonds. It typically attains the same bond rating and interest rate as general obligation debt without requiring a general tax increase, although the fallback position for the bondholders is a covenant by the issuer that its full faith and credit is ultimately behind the bond.

It is not intended that bonds be used as a funding mechanism for day-to-day operations, but some costs can be viewed either as a capital or operating expense. The lack of a clear distinction between remedial repairs and new construction projects can result in bonding being used for major repairs, which might also be considered an operating expense. Given the stormwater priorities facing Chapel Hill, the most appropriate use of revenue bonding would be for capital construction and acquisition of land and easements for maintenance access to creeks and ditches. The deteriorated condition of many local creeks, ditches, storm sewers and structures suggests bonding might be justified for stopgap remedial work, even if it technically is not a capital improvement to the system.

5. In-lieu-of-Construction Fees

In-lieu-of-construction fees are not specifically authorized by the North Carolina General Statutes, but could conceivably be adopted as one element of a comprehensive stormwater service fee rate methodology. In-lieu-of-construction fees are sometime confused with impact fees. However, in-lieu-of-construction fees are usually a substitute for requiring on-site solutions even though an on-site system would work. Impact fees are generally used to pay for off-site measures to compensate for the service-demand effects of development that are not solvable on-site.

The need for in-lieu-of-construction fees stems from problems associated with requiring on-site detention systems on numerous residential subdivisions and commercial properties. Detention systems store stormwater runoff during the peak of a storm event and slowly release it afterward, and have been shown to reduce the discharge of pollutants by allowing some settling to take place. However, on-site detention requirements result in small and relatively inefficient systems on private properties, which often are not properly maintained, tend to deteriorate rather quickly, and can be easily modified or even eliminated. A proliferation of small detention facilities quickly creates an inspection and enforcement problem for local government. Fewer large systems serving many properties would be more reliable and efficient, but on-site detention involves a private developer paying for the facility while the general public usually pays for regional systems. An in-lieu-of-construction fee may offer a practical option that would be preferable to both developers and the Town of Chapel Hill if widespread use of on-site detention systems becomes an element of the long-term stormwater management plan. Developers would simply pay a fee in-lieu of building an on-site system if off-site impacts on properties immediately downstream could be avoided.

The major advantage of in-lieu-of-construction fees is that the Town of Chapel Hill (and thus the taxpayers or ratepayers) would not solely bear the capital expense for regional detention and other systems to mitigate the runoff impact created by private development projects. Developers would be required to financially participate in solutions to the impact of their projects, and the long-term regulatory problems of numerous on-site detention systems would be avoided.

The most important disadvantage of in-lieu-of-construction fees is that they rarely generate sufficient revenue to fund construction of regional detention facilities or to enlarge conveyance systems. This dictates that other revenues be used to supplement the fees in order to build regional facilities, so the taxpayers or ratepayers are burdened with the up-front cost. It is also necessary that well-refined capital improvement plans be available from which the cost of the necessary regional improvements can be determined as the basis for setting in-lieu-of-construction fees. The Town is several years away from having complete and adopted master plans.

Immediate implementation of an in-lieu-of-construction fee is not practical. Further consideration of an in-lieu-of-construction fee should be deferred until a capital improvement strategy has been adopted based on planning studies that identify opportunities for substituting regional facilities for on-site detention requirements and detail their anticipated cost.

6. Credits and Offsets against Service Fees

There is no specific legislative authority for credits and offsets as an element of a stormwater service fee rate methodology. The authority to adopt credits and offsets is generally encompassed by the basic ratemaking powers provided to locally elected officials. That authority includes the latitude to establish a variety of stormwater utility service fees and appurtenant rate modifiers such as credits and offsets to achieve what they believe is an equitable allocation of costs.

Credits are frequently included as part of a stormwater service fee rate methodology. Offsets are not. The courts have generally given great deference to locally elected officials in deciding what is appropriate for their communities. Courts in several states have also cited the existence of credits as a characteristic of service charges (as distinguished from taxes) in cases where a county or city stormwater service fee has been challenged.

Credits against stormwater service charges are designed to account for the mitigation of on-site controls and activities, and are usually predicated on a property owner's continuing compliance with an approved design and operating standards established by the stormwater management agency. Credits may also be given for activities or functions performed by individual property owners that reduce the demands borne by the public entity. Credits usually continue as long as the applicable standards are met or the activities are provided.

In comparison, offsets are one-time, dollar-for-dollar allowances for extraordinary expenses that produce a public benefit. For example, if a developer has installed a stormwater detention system that provides storage capacity in excess of that normally required (and thereby reduces the cost of upstream regional detention or downstream public stormwater conveyance systems), a one-time offset against a service fee might be granted for the additional incremental capital expense of providing excess capacity. Another, perhaps simpler way to accomplish the same objective is for the local government to buy excess detention capacity from developers by the cubic foot. Once on-site detention is required and a given amount of detention must be built for a given site, the incremental cost of each additional cubic foot of capacity is often relatively low.

Offsets should be a matter of consistent policy and not special case. They are not normally conditional or based on continuing compliance with operating standards. As stated above, however, stormwater service fee rate methodologies rarely provide for offsets.

Credits are commonly provided in stormwater service fee rate methodologies to appropriately recognize on-site measures that reduce peak stormwater runoff, total volume, and pollutant loadings. In that sense, they are like industrial pre-treatment credits for industrial wastewater dischargers. The courts also view credits as evidence that a stormwater service fee is a properly designed service fee and not a tax in disguise, making them a good policy even when their practical use is minimal.

7. System Development Charges

System development charges are also known as capital recovery charges, capital facilities fees, utility expansion charges, and by other titles. They are not specifically provided for by authorizing legislation in the North Carolina General Statutes, but are frequently be incorporated into stormwater and other utility service fee rate structures.

These capitalization charges differ from impact fees. They are usually designed to recover a fair share of the previous public investment in excess infrastructure capacity from a developer who makes use of the additional system capacity. In most cases that excess capacity has been provided in anticipation of development projects subject to the capitalization charge. This is usually a more economical and prudent long-term system development policy than attempting to increase service capacity to meet the demands of growth on a case-by-case basis as it occurs.

There are several ways of structuring and calculating capitalization charges, including the growth-related cost allocation method, the system buy-in approach, the marginal incremental cost approach, and the value of service methodology. They differ from in-lieu-of-construction fees and impact fees primarily in terms of: 1) the fundamental purpose of the charges; 2) their relationship to the point in time when improvements are made versus when the charges are collected; and 3) their relationship to specific facilities which are funded through service charges. In most cases, system development charges are related solely to capital costs, as opposed to operating expenses. However, some justification may exist in certain circumstances for incorporating long-term operating expense associated with system capacity into a capitalization charge.

System development charges basically provide a mechanism whereby developers participate in paying for excess capacity that was previously built into a public system in anticipation of their needs. In effect, a system development charge allows a deferral of participation in the capital cost of a facility until a property is developed and makes use of the provisional capacity. The use of such fees for stormwater management capital costs is clearly appropriate since most drainage systems are consciously designed to provide excess capacity to accommodate future development in an economical manner.

The need for a stormwater capitalization charge is related to basic rate methodology employed. Most stormwater service fees are based on impervious area. The obvious result is that only developed properties are charged a service fee. Undeveloped properties do have impervious area and therefore are not charged. However, capital facilities being funded by the service fee will normally be designed with future conditions in mind, including the impact of growth. This results in excess capacity being incorporated into the system and being paid for solely by currently developed properties under an impervious area methodology. A capitalization charge may therefore be adopted as a recapture mechanism to ensure a fair and reasonable allocation of the capital costs among all properties using the facilities over time. The calculation of a capitalization charge may also include a system depreciation factor so that a development built near the end of the useful life of a facility pays only for the portion of the life cycle when it is using the capacity provided.

Some communities have adopted service fee rate methodologies which bill undeveloped as well as developed properties. This is most common when extensive major capital improvements to the systems are being funded and built and it is desirable to spread the cost as widely as possible to keep rates low. If designed to properly allocate capital costs this type of rate methodology can obviate the need for a capitalization charge to recapture deferred financial participation. However, this approach also poses a potential inequity. It is based on speculation that all undeveloped properties will be developed to the design condition within the life cycle of the facilities and make use of them, which may or may not be reasonable in different settings.

8. Plan Review, Development Inspection, and Special Inspection Fees

Chapel Hill has been reviewing stormwater plans in conjunction with development approvals for several years. Although there is no specific statutory authority for special service fees for stormwater management plan review and inspections, they could reasonably be included under the scope of a stormwater service fee rate methodology since they are clearly fees for special services.

The rationale for including such fees in a rate methodology is based on the "origin of demand for service" concept, in which costs are apportioned only among those whose needs require the service. Not all "service" provided by a stormwater management program is uniform throughout a community. Some services, such as plan reviews and inspections, are provided only to a specific clientele. Instead of distributing the cost of such services among all service fee ratepayers, special service fees can be adopted which apply only to the parties who are served.

Fees of this type are often incidental to the performance of specific regulatory activities by the local jurisdiction that are intended to protect the public health, safety, and welfare. Some of the regulatory activities may be mandated by federal and/or state requirements. In other cases they are simply intended as a cost recovery mechanism that assigns the expense to a specific clientele that is served. For example, experience has demonstrated that on-site detention systems tend to deteriorate rapidly after about five years. Maintenance is sometimes deferred, or alterations may be intentionally or unintentionally made to the facilities that compromise their functionality. Annual or biannual inspections may be required to ensure that on-site systems are properly cared for and not altered from their approved design. It would seem appropriate that the cost of such inspections be assigned to the specific property owners through special inspection fees, thus relieving the general service fee ratepayers of that cost of service.

In the case of Chapel Hill, separate fees for stormwater system plan review and inspection would provide only a small additional amount of revenue, but would enhance the equity of the cost distribution by removing the costs from service charge ratepayers and isolating them to those who require these services <u>if</u> such costs were borne by stormwater service fee rates. Adoption of special fees to recover the costs of such functions would also require that other Town fees associated with the same reviews or inspections be evaluated to ensure that the developer is not being charged twice for the same services. This could require adjustments in other fee schedules, and accounting changes to ensure that the special fees for stormwater plan review, inspections, etc. are allocated to a stormwater enterprise or special revenue fund if one exists.

9. Impact Fees

Impact fees have been associated with a variety of public infrastructure components across the United States. They are often popular with existing residents who wish to see developers pay the entire cost of new capital facilities. Naturally, they are just as often highly unpopular with developers. Specific applications of this type of funding method have been the subject of a great deal of litigation nationally. An unusual aspect of impact fees is that state courts around the country have been notably inconsistent in their definition of them and decisions on their application.

Standards have evolved for adopting and applying such fees and been institutionalized in legislation in several states, though not yet as general legislation in North Carolina. In North Carolina the limited instances of impact fees are the subject of exclusive legislation that typically applies only to a single jurisdiction. Lacking any general legislation, the Town of Chapel Hill would most likely have to seek exclusive legislation to authorize it to use impact fees for stormwater management. Development sector interests, particularly home builders, have taken the offensive and gained adoption of impact fee laws in several states that impose so many administrative burdens and limitations on use of impact fees that they are essentially impractical as a funding source for stormwater system improvements.

Impact fees are typically limited to situations in which the impact of new development on existing infrastructure systems is: 1) measurable and certain; 2) of definable geographic or systemic extent; and 3) quantifiable in terms of the incremental capital investment that will be required to maintain (not attain) an adequate service level. The final point is critically important in terms of stormwater management systems. Impact fees cannot be used to bring an inadequate existing system up to an adequate service level, and thus are not useful in correcting the many problems that currently exist in the stormwater systems in Chapel Hill. Impact fee revenues must also be earmarked for specific projects or uses, must be expended relatively quickly, and, if not spent for the stated purpose, must be returned to the developer, often with interest.

All of this makes impact fees impractical for stormwater management in most situations and almost certainly so in Chapel Hill. The crux of the problem is that few of the local stormwater systems that have problems could be described as providing an adequate level of service at the present time. It is likely that the Town would have to bring a system up to an adequate level of service before applying an impact fee to a development or spending impact fee revenues on a project that would maintain adequacy in the face of growth.

Even though there is a good deal of new development and redevelopment taking place in Chapel Hill, most of it cannot be reliably shown to demand additional service capacity exceeding what would be provided by an adequate system (if one was in place). The Town of Chapel Hill simply does not have the engineering analyses and master plans to support such a position. An impact fee would therefore generate little revenue and place burdensome administrative demands on Chapel Hill to manage and track the use of the funds. A stormwater service fee rate structure offers better opportunities to ensure that new development participates fairly in the cost of facilities through system development charges, which differ from impact fees in several important ways (see System Development Charges, above).

10. Developer Extension/Latecomer Fees

Developer extension/latecomer fees are not specifically provided for funding extensions of stormwater systems, but might be within the authority contained in Chapter 160A of the N.C.G.S. if adopted as part of a comprehensive stormwater service fee rate structure. They are not a revenue mechanism, but rather a means of properly distributing capital investment costs among several properties when one developer builds a facility with excess capacity to accommodate adjacent or nearby properties that are to be developed subsequently. The most common use of this type of fee around the country is for water and sanitary sewer system extensions.

A developer extension/latecomer fee works in the following way. Developer "A" proposes a project that requires a stormwater (or water, or sewer) system with "x" capacity. Practical design considerations indicate that a larger system should be installed to properly serve other nearby properties that are currently undeveloped but likely to use the system when they are developed in the future. Developer "A" therefore is required to build a larger system than necessary simply to serve his or her property, and incurs an additional cost. Property owners subsequently tapping into the improved system when their development occurs are charged a one-time fee by the administering agency for connecting to it, and the fee is then transferred to Developer "A".

This type of fee is supposed to be structured so that Developer "A" and all other property owners ultimately bear a fair proportion of the additional capital cost when all properties are finally built out. The administering agency typically receives no revenue from the fee, although some do charge administrative expenses on top of the capital cost that is being distributed by this funding mechanism. This type of fee appears to be practical and feasible for Chapel Hill, but only in the future when the capital improvement needs have been fully defined for local areas and development standards are adopted requiring provision of excess service capacity as a condition of development approvals.

11. Federal and State Funding

Chapel Hill has all necessary authority to make use of Federal and State government grants and loans that might be available to help support its stormwater management program. The only action needed is for the Town Council to apply for and accept various grants and loans. However, with the exception of the funding that might possibly be available in the future from Clean Water Management Trust Funds or the State of North Carolina's revolving loan fund, there are few federal and state funding mechanisms for local stormwater management programs. Federal involvement in stormwater management (other than regulatory programs) is typically limited to advisory assistance, cooperative programs like those provided by the United States Geological Survey and the United States Army Corps of Engineers, and emergency response following devastating floods.

Conclusions

This assessment concludes that a stormwater service fee offers more flexible, stable, and equitable long-term stormwater management funding for Chapel Hill than any other option. While most cities and counties establishing stormwater service fees have done so through a "stormwater utility", it must be stressed that service fee funding does not necessarily dictate that a stormwater utility organization be established. A wastewater or water supply utility or authority in North Carolina may be able to establish stormwater service fees subject to the same limitations as a city or county. In fact the South Brunswick Water and Sewer Authority (Southport, North Carolina) has adopted stormwater service fees as part of its funding package.

Regardless of the institutional mechanism employed, only a service fee approach appears to be capable of generating sufficient revenue to meet the program needs identified in Chapel Hill. However, whether a service fee is feasible involves other considerations. This assessment concludes that a stormwater service fee will be feasible in Chapel Hill only if it: 1) results in a technically equitable allocation of costs that is understandable to the general

public; 2) ensures that the revenue is dedicated solely and specifically to stormwater management; and, 3) is packaged and presented in a way that makes sense.

It is clear that a service fee has several significant advantages over other funding options. It is highly flexible, offers the prospect of stable funding over time, allows restrictive dedication of the revenues to stormwater management only, and enables elected officials to craft an equitable distribution of costs through a service fee rate design. A service fee rate structure can allocate costs based on the demands placed on the systems instead of property value or other factors unrelated to stormwater service needs.

Needs change, and the ability for funding to change with needs is critically important. A service fee rate methodology can be periodically adjusted in concert with major transitions in programs and priorities, especially in terms of system improvements. Other funding methods can be integrated with a service fee, either as part of a rate structure or independently. Funding methods differ in their suitability for capital, operating, regulatory, and other types of costs. At this time, stormwater service fees appear to be viably only for operating and capital expenses associated with "systems". The revenue stream created by a service fee may also allow revenue bonding for major capital investments, enabling Chapel Hill to expedite major improvements to the stormwater systems without limiting its general obligation bonding capacity for other purposes.

A stormwater service fee has sufficient revenue potential to assure consistent funding at a level that would support an aggressive program. The Town's General Fund, with revenue generated by a variety of taxes and other mechanisms, has sufficient total revenue capacity. However, it must also support numerous other municipal services that do not lend themselves to utility funding (such as police and fire services and street maintenance). Stormwater service fee funding could relieve, partially or wholly, the demands stormwater management now places on the General Fund.

Under an enterprise or special revenue fund, a service fee also allows earmarking of revenues strictly for stormwater management, thus improving accountability. Money not spent in one fiscal year carries over into the following year and cannot be diverted to other uses. This encourages stewardship of the financial resources.

The major disadvantages of a service fee are that it costs money to implement and new fees might be politically unpopular. Political acceptance is more difficult to forecast. Public reaction to stormwater service fees elsewhere has ranged from very positive to very negative. Given the extent of local drainage problems and the amount of work that has been done with citizen groups, it is probable that the community would be receptive to a workable long-term solution. In fact the various stormwater advisory and technical groups have said this was an appropriate alternative and that it was time to get on with it. The program and funding strategy that offers a realistic prospect of solutions will still have to be communicated convincingly to gain public support.

If the Town Council chooses to establish a stormwater service fee it will have to address both institutional and funding issues. One or more ordinances will have to be drafted and adopted. The experiences of other cities and counties suggest that an intensive public information effort should be conducted to explain a stormwater service fee concept to the community.