

XI. Stormwater Financing Alternatives

A. Objectives, Financing Policies, and Information Resources

To provide a basis for subsequent analyses and recommendations, a wide variety of issues have been discussed and reviewed with representatives of the City Manager's Office, Department of Public Works, Finance, Planning, Citizen's Stormwater Committee, and the County Assessor's Office. These discussions and Black & Veatch's experience with similar work for other clients provide the basis for the following evaluations and recommendations.

B. Stormwater Management Funding Sources

Funding stormwater management programs for the City may be achieved through various methods, some of which are applicable to funding operating costs and others to financing major capital improvements. Only a few of these have sufficient flexibility and revenue generating ability to be used as a primary source of funding.

Existing Funding Sources

At present, primary methods of funding stormwater management operating and capital improvement needs for the City include the Sewer Fund and Street Department Fund (operation and maintenance costs) and temporary notes (capital improvement projects). The outstanding temporary notes are ultimately retired by general obligation bonds which are repaid from ad valorem tax revenue. Although the City has no written policies related to utilities and financing, it complies with statutory requirements. The City generally finances the cost of improvement projects during the construction period through the issuance of temporary notes. Customarily, when the projects are completed and the notes mature or are called for redemption, the City issues general obligation bonds to provide for long term capital project financing. Generally, these bonds are issued for a standard term of 10 years. These sources are inadequate to meet increased levels of drainage related programs needed by the City.

Revenue Bonding and General Obligation Bond Financing

Revenue and general obligation bonding are funding methods used primarily for capital improvement projects and other capital outlays such as land and major equipment acquisition. It allows the City to finance large expenditures through loans which are repaid from revenues over the life of the acquired asset. When general taxes can be used

for debt service, general obligation bonding is more common because they normally receive more favorable bond ratings and thus pay a lower rate of interest than revenue bonds issued by the same agency. Although general obligation bonds are guaranteed by the full faith and credit of the City and its resources, they may also be repaid from other sources of revenue such as user or service charges through a method referred to as "double-barrel" bonding. Revenue bonds are normally used by "enterprise fund" operations, such as utilities that derive revenues primarily from user charges.

Both bond financing methods have advantages and disadvantages. General obligation bonds may benefit from favorable interest rates because they are backed by the full faith and credit of the City. Revenue bonding is sometimes a more attractive option than general obligation bonding when a source of revenue is available because it does not diminish a city's overall ability to issue general obligation bonds for other purposes. Repayment of either type of bond from user charge revenues results in improved equity to the citizens.

For stormwater programs, the most practical and easily implemented bonding option for the City of Leavenworth during the next few years may be a general obligation bond issue. A newly implemented stormwater service charge would not have a sufficient track record for revenue bonds to obtain a favorable bond rating for several years. If a stormwater service charge is adopted, debt service for a general obligation bond could be provided wholly or partially from service charge revenues, reducing the actual debt service demands on general taxes. After a user charge revenue stream has matured and is consistent, use of revenue bond financing may be more feasible as a long-term option.

The City's ability to generate money for capital improvements through bonding is directly related to the capacity of the taxes, service charges, fees or other sources of revenue pledged to service the debt. In the case of general obligation bonds, it is subject to the financing capacity of the property and other general taxing authority and all other resources and assets. For revenue bonds, the bonding capacity is a function of the charges, fees, or other resources on which the sale is based. Secondary revenue sources such as in lieu of construction fees and impact fees can also be used to repay revenue and general obligation bonds. They are not, however, stable and dependable funding sources on which to base a bond proposal, since their revenues are related to the pace of development.

The financial impact of revenue and general obligation bond financing on citizens and businesses is a function of the sources of revenue used for repayment. If revenue bonds were supported strictly by stormwater service charges, the distribution of costs

would be the same as that of the basic service charge rate structure. Use of secondary components in a rate structure could shift the distribution somewhat. General obligation bonding supported by the general revenues of the City would create a distribution proportionate to the sources of the general revenues. However, if general obligation bonds were repaid from service charge revenues, the distribution would be based on the stormwater rate methodology.

If revenue or general obligation bonds were repaid from stormwater service charges, the equity achieved through bond financing could be very good. It would be important to properly consider the use of service charges to pay for capital projects as well as operating expenses in the design of rates and use of secondary funding methods.

Stormwater User Charges

A stormwater service charge is a suitable funding mechanism for a broad range of capital improvements and operating programs. Service charges have been adopted as the primary source of revenue for stormwater programs in many states by cities, counties, and special districts. Municipal enterprise funds are established to account for programs where the intention is to finance operations and/or capital improvements through user charges, or where a periodic determination of revenues, expenses, and net income is appropriate.

Enterprise fund stormwater "utilities" are comparable in many ways to the City's water and pollution control (wastewater) utilities but differ in that they are responsible solely and specifically for stormwater management programs, improvements, and systems.

Service charges provide a stable yet flexible source of revenue. This allows long-range stormwater and flood control programs and system improvement planning on a scale previously achievable only by water, wastewater, solid waste and other municipal utilities. Under an enterprise fund approach, the City could exercise a high degree of flexibility in prioritizing its needs because stormwater service charges can be made suitable for a broad range of program and capital expenses through careful rate design.

The costs of implementing and maintaining stormwater service charge rate calculation and billing systems are high compared to other funding options. Formation of a stormwater utility could involve substantial implementation costs. A rate structure analysis would have to be performed, a preferred rate concept selected, costs of service evaluated, and a detailed rate study conducted. Once a rate methodology was agreed upon, a master account file would be designed, data for properties subject to the service

charge would be assembled, and existing utility billing systems would be modified or a new system developed. Ongoing costs would include data upkeep and delivery of the bills.

The initial revenue capacity of a stormwater service charge would be limited by the ratepayers' willingness to pay. Revenues might not be sufficient immediately to fund the annualized capital improvement and operating program needs. The potential annual revenue capacity in Leavenworth appears to be between \$165,000 and \$215,000 for each \$1 per month charged to single-family residences. Communities often commence charges at a relatively low level and phase in increases over two or three years to reduce initial rate shock. If this is done, deferral of programs or supplemental funding may be required.

The financial impact of a stormwater service charge on citizens and businesses would be direct and highly visible, especially if delivered as a separate billing, as a distinct line item on the current utility bill, or as an additional item on the property tax bill. Several other cities and counties use such existing systems at relatively low cost, but the property tax billing option often creates confusion about whether the stormwater charge is a service charge or tax.

The actual service charges to individual properties would be a function of the rate structure used. Residential property owners elsewhere have generally been billed between \$2 and \$4 per month initially. Average stormwater service charges to non-residential properties are usually between 2 and 5 times those charged to single-family residences reflecting the fact that such properties are typically larger and more intensely developed. Rate methodologies are generally consistent with accepted hydrologic engineering principles and design values used for calculating peak stormwater runoff.

Perhaps the most attractive aspect of the stormwater service charge approach is that a high degree of equity can be achieved through careful design of a rate concept. In addition, use of primary and secondary funding methods within a rate structure or separately would allow the City to distribute costs on the basis of contribution to stormwater runoff, services rendered, the cost of services and facilities, or a combination of all of these considerations. This level of flexibility is not available in other stormwater funding methods, which typically have strictly defined taxing or special assessment concepts.

According to Black & Veatch's *1995-96 Stormwater Utility Survey* of 97 stormwater utilities, 78 percent of the respondents indicated that at least 90 percent of their revenue is derived solely from stormwater fees while two percent of the respondents

relied solely on other (non-ad valorem assessment) for at least 90 percent of their revenue. The remaining 20 percent of the respondents depend on multiple revenue sources to provide a major share of total revenue.

Pay-as-you-go Funding

Pay-as-you-go funding involves allocating a portion of the annual budget for capital improvement expenditures. It does not rely on any debt financing and is limited by revenue sufficiency, reliability and priority when in competition with other needs. The major drawback of the pay-as-you-go approach is that competing demands for annual appropriations virtually rule it out as a source of funding for major capital improvements, land acquisition, and large pieces of maintenance equipment.

A major increase in funding for stormwater management capital improvements on a pay-as-you-go basis could be achieved only by reducing appropriations to other programs, increasing taxes or other revenues, or both. Even if such a shift in priorities might be made in one year, it could just as easily be reversed in the next. This lack of stability from year to year makes it difficult to plan a thoughtful and coordinated program of system improvements based on pay-as-you-go funding. The development of an effective stormwater system may be continually delayed as monies are accumulated. When projects are deferred, the eventual construction costs may rise due to the effects of inflation. Pay-as-you-go funding is most suitable for small, routine and relatively inexpensive projects.

The potential financial impact of pay-as-you-go funding is difficult to predict. The distribution of costs among various sectors of the community would depend on the make-up of the funds allocated to the projects. A substantial increase in pay-as-you-go funding for stormwater projects might necessitate a reduction in funding for other municipal programs or projects, which could have both direct and indirect financial impacts on the community. The equity of paying for capital projects through a pay-as-you-go approach is directly tied to the sources of the funds allocated through the budget process.

In Lieu of Construction Fees

In lieu of construction fees provide an alternative method of financing when regional detention facilities are developed to accommodate stormwater runoff. The purpose of these facilities is to limit the number of private onsite detention facilities built in anticipation that the number of system failures due to improper maintenance by private

owners will be reduced. Because they are City owned, regional facilities characteristically are more efficiently operated and maintained.

The City's ability to fund regional improvements in anticipation of full development is the key to selecting this type of fee. The City would have to "carry" the costs of regional development until such time as sufficient fees accumulated to pay for the facility. Unless the City can anticipate growth and install regional control facilities at lower cost prior to development, it is unlikely that detention or conveyance facilities can be retrofitted at a cost that in lieu of construction fees would support.

The cost of actually setting up an in lieu of construction fee is minimal, but a substantial amount of information gathering and system planning must be done first. A general idea would have to be developed regarding the extent of the City where regional detention and/or conveyance improvements would be appropriate. Such facilities may not be effective everywhere, and onsite detention or conveyance improvements may be needed.

The direct impact of in lieu of construction fees on the general public is very limited because the fees are charged to developers. However, the implication of using in lieu of construction fees is that regional systems would have to be improved in advance of growth to avoid the need for onsite detention or over-sized conveyance systems. The regional systems would have to be funded by other sources, such as the General Fund, service charges, or bonds supported by service charges and/or taxes. In any case, the general public would have to participate in the initial construction cost through one or more funding mechanisms. This might be interpreted as making the existing residents and businesses pay for facilities to accommodate growth, which is not politically popular.

Impact Fees

Impact fees, or system development charges, are one-time assessments charged to new or redevelopment to help offset expenditures for major facilities required as a result of new or redevelopment. Essentially, it gives owners of undeveloped land a deferral from participating in capital project costs until the time of development, at which time the deferred payments are recaptured through the impact fee.

In determining stormwater impact fees, the need for additional stormwater capital facilities that will be financed from the fees must be a result of new or redevelopment, rather than arising from existing development's stormwater requirements. In addition, the stormwater impact fees imposed on new or redevelopment must be no more than a

proportionate share of cost of those new stormwater facilities needed to serve new or redevelopment. The determination of the proper level of stormwater impact fees is not an easy matter. A standard for calculating impact fees was addressed by the Utah Supreme Court in Banberry v. South Jordan City. It is highly recommended that these considerations be included in the determination of any impact fees. The court set out seven factors to evaluate in developing proportionate share impact fees. These factors are:

- The cost of existing capital facilities.
- The methods by which the existing capital improvement were financed.
- The extent to which new developments have already contributed to the cost of the existing capital improvements.
- The extent to which new developments will pay for existing capital improvements (or non-growth related projects) in the future through user fees, debt service payments, or other payments toward the cost of existing capital improvements.
- Extent to which new developments are required to construct and/or dedicate capital improvements as requirements for construction approval.
- Extraordinary costs, if any, in serving the new development.
- The time-price differentials inherent in fair comparisons of amounts paid at different times.

If impact fees are properly determined, the equity of cost recovery is significantly high. As new development or redevelopment requires additional stormwater improvements to be constructed, impact fees can fund proportionate shares of these improvements. If impact fees are not used to offset stormwater system costs attributable to growth, existing development must pay more than a proportionate share in providing facilities with capacity that will ultimately serve new or redevelopment, not existing development.

If anticipated new development or redevelopment does not occur due to an economic downturn or other reasons, the need for additional stormwater facilities may correspondingly decline. However, if stormwater improvements have been planned and constructed with excess capacity to serve new development under the assumption that impact fees would help offset debt service costs for bonds issued to finance construction,

existing development will have to make up the funding difference during periods that the anticipated development does not materialize.

Impact fees require resources to be implemented and administered. Since impact fees have been extensively litigated, the calculation of impact fees should be researched and documented thoroughly. Once implemented, accounting and administrative procedures must be established to ensure impact fee proceeds are segregated from other general revenue sources, expended for the proper dedicated purposes, and substantially benefit contributing development within a reasonable planning period.

Despite the implementation and administrative expenses involved in establishing an impact fee program, impact fees are gaining acceptance as an equitable financing alternative to ensure that a proportionate share of costs are recovered from development that causes the costs to be incurred by local governments.

Special Assessment or Improvement Districts

Special assessment or improvement districts are normally a highly feasible secondary financing method for special applications, notably minor remedial repairs or construction for small local stormwater system repair. Citizens may request specific stormwater improvements in their area which does not represent a city wide problem and would be funded through a special assessment on that area or district.

Special assessment financing has a distinct advantage over tax-based revenue. Because assessments are levied against specific properties benefitted and a number of assessment districts can be established for various reasons, equity of cost recovery may be significantly improved. Assessments based on front footage or total land area can be calculated to reasonably reflect the cost associated with estimated stormwater runoff from different properties. In addition, because special assessment funding is not a general revenue source, but is related to the needs of specific projects, revenue capacity is not of concern. People in an assessment district area either are willing to pay assessments sufficient to fund a project or they are not.

To enhance collection efficiency, cities usually have the power to enter liens and foreclose upon delinquent properties. Frequently, cities allow assessments to be paid in installments to mitigate impacts on affected property. This may require interim financing by the city, which is then repaid with the special assessment revenues. Since the assessments themselves cannot be established until the improvements are complete and project costs are known, interim financing may be in place already.

Although special assessment districts require additional implementation and administrative costs compared to tax based or general obligation bond financing, the costs are not prohibitive.

The financial impact of a special assessment is localized. Only those properties within a district or benefit area are assessed for the improvement, with the calculation of assessments based theoretically on the parameters which reflect the direct and special benefits accruing to the subject properties. Defining appropriate limits for a special district and determining a methodology for calculating assessments are key steps in successfully promoting projects funded through this method. Because most special district projects have traditionally involved linear improvements like roads, sidewalks, water, and sewer systems, the parameters typically used to calculate assessments reflect linear characteristics. Parameters commonly used in special assessment calculations have included front footage, total property area, assessed valuation, and proximity to the project. Not all stormwater improvements will be linear, and different methods of calculating assessments may be appropriate.

Plan Review and Inspection Fees

Private developments impact the City's stormwater systems both directly and indirectly. Most commercial developments and residential subdivisions have internal stormwater systems. The City must review plans and inspect projects under construction to ensure compliance with standards, both of which result in an operating cost to the City. The purpose of plan review and inspection fees is to collect from the development sector all or a part of the cost of regulating private projects. The City's legal authority would need to be reviewed prior to implementing such fees.

The cost of setting up or modifying plan review and inspection fees is relatively minor, especially when compared to the expense of the plan review and inspection functions. It is generally advisable that fees bear a relationship to the cost of providing the plan review and inspection services, but the administrative expense of absolutely adhering to this standard causes many jurisdictions to use flat rate fees that merely approximate costs. Some communities choose to subsidize stormwater plan review and inspection through low fees to encourage development.

The financial impact of this funding method on the general public and established businesses is positive rather than negative because the fees are charged only on development projects and reduce the degree of subsidy of new development through other funding mechanisms. If fees do not cover the cost of providing plan review and

inspection services, those expenses must be made up from some other source of revenue. Most often the alternative source of funding spreads the cost community-wide.

Special Inspection Fees

Special inspection fees are imposed when the City performs special inspections to ensure that proper operation, maintenance, and regulation of the stormwater systems is being maintained. The physical condition of onsite detention, erosion and sediment control, hazardous materials containments, and other facilities would all need to be inspected regularly.

A method of funding these special services which places the expense on the clients should be devised, and the most feasible approach would be to establish a fee for special inspection services within a stormwater service charge rate methodology, basing the fee on the cost of the inspection service. The revenue capacity of a special inspection fee is usually relatively insignificant. These fees are typically structured only to recover the direct costs and related overhead expense of the inspection.

The financial impact of special inspection fees would fall only upon property owners subject to such inspections. They are likely to include properties with onsite detention facilities and erosion/sediment control systems, and those where hazardous materials are manufactured, stored, and used.

This funding method would be consistent with the City's need to verify the condition of onsite detention systems, erosion and sediment control installations, and sites where hazardous materials are present. It should be anticipated that such inspections may be mandated as a management practice under NPDES stormwater discharge permits. This type of financing method is also consistent with the basic equity objective of assigning costs to those who place demands on the systems and programs. It would shift the burden of special inspection expenses from the general public to those whose properties are being inspected.

Developer Extensions/Latecomer Fees

The pattern and timing of private development is rarely ideal in terms of the construction of water, wastewater, and stormwater systems. Development often occurs beyond the extension of adequate facilities and developers must provide the intervening portions to serve their property. Developer extension agreements are a commonly used mechanism for building water, wastewater, and other public capital improvements to proper design standards, usually through an agreement between a local municipality and

a developer. It is not unusual for a developer extension agreement to include provisions for future compensation as other properties served by the system(s) are developed and connected to the facility. Under such agreements, developers build oversized systems and subsequent developers making use of the improvements are charged a fee by the local agency. The fee is refunded back to the original developer of the water, sewer, or stormwater system, less a charge to compensate the local agency for administering the process.

The developer extension/latecomer fee would not generate a stable revenue stream. It only provides a mechanism whereby the additional cost of extending or oversizing systems installed in conjunction with developments may be recovered from other developers in the future. There is no assurance that future development will occur. The developer providing an extension or oversizing a system must be informed that no other method of compensation will be provided for the improvement by the City if other properties in the area do not develop.

If properly administered, this funding method costs the general public nothing and provides developers with partial compensation for improvements they would likely be required to install in any case. The impacts fall mainly on the initial developers who capitalize the extension or oversize the systems without firm assurance that they will receive any compensation in the future through the latecomer fee. This type of fee is consistent with projected system expansion needs. Given the moderate pace of development anticipated in and around the City for the next few years, it does not appear to be a significant element in expediting community development or system improvements.

General understanding and acceptance of developer extension and latecomer fees is excellent, both among private citizens and the development community. To promote the greatest equity in its application, an ordinance or resolution establishing the agreement and fee process should spell out methods to be used in calculating the portion of total project costs subject to the latecomer fee and a formula for determining the fees to be charged to subsequent developers served by the facility. Administrative charges to be applied to the fee should also be specified.

If this funding mechanism were to meet the needs of the City, it should not be implemented before legal authority for its implementation is reviewed by the City Attorney's Office.

Stormwater Survey Results

Results from the 1995-96 *Stormwater Utility Survey* revealed the following in response to how the respondents finance their capital improvement needs.

How is the majority of capital improvement needs financed?

69% Cash Financed

63% from user fees

1% from permits/fees

5% from other sources(e.g. sales tax, assessments)

31% Debt Financed

11% Stormwater revenue bonds

12% General Obligation backed bonds

6% Combined stormwater/other bonds

2% Other (e.g., sales or other tax)

What are your user fees designed to pay for?

17% Operation & maintenance (O&M) expenses only

2% Capital improvements only

81% Both O&M expenses and capital improvements

Are one-time impact/capital recovery fees applied to new stormwater utility customers or new development?

72% No

28% Yes

Recommended Funding Sources

A stormwater user fee is recommended as the primary source of funding the City's stormwater management program. A stormwater user fee is a flexible, reliable source of revenue, and with proper design, is an equitable method of charging for stormwater services. User fee revenues may be supplemented through the implementation of other charges such as in-lieu of construction fees, plan review and inspection fees, and special inspection fees.

To mitigate the initial impact of the stormwater user fee, the City may wish to consider continuation of the current level of funding from the Sewer Fund, Street Department, and the General Fund. These funding sources can be phased out over time as the stormwater fee gains acceptance and/or as demands of other programs increase on the Sewer Fund, Street Department, and General Fund.

C. User Fee Options

User fees, by definition, must relate to the quantity of service used by each "customer." For stormwater programs, services can be measured in terms of stormwater quantity, stormwater quality, and customer. Quantity costs are those related to the amount of stormwater or runoff generated. Quality costs would be those costs, if any, which relate to the level of pollutants in runoff from specific classes of customers. Customer costs are the costs of billing and collecting user fees. Several rate parameters may be used to recognize stormwater flow volumes and the one a utility adopts is generally dependent on available customer billing data and local conditions.

Equivalent Residential Units

A basic approach to stormwater rate structures is to use the average single family residence as a reference point for stormwater utility service requirements and charges. All single family residences are typically charged the average rate and other customers are charged using parameters which are related to the average single family residence. Rates may be stated in terms of a charge per equivalent residential unit (ERU), such as \$2.50 per ERU per month, or in terms of charge per unit area, such as \$0.10 per 100 square feet of area per month.

Following is an example of the magnitude of revenue a stormwater user fee could potentially generate assuming an ERU method of rate calculation. The number of residential and business customers has been provided by the City. Our experience indicates that each industrial or commercial customer ranges between 5 and 10 ERUs.

Assumptions:

Charge per ERU per month	=	\$1.00
Single and multi family, condos, mobile home	=	1 ERU
1 Business customer	=	5 to 10 ERUs
Residential number of customers	=	9,400
Business number of customers	=	860

Potential Range of Revenue Calculated:

	5 ERU/ Business <u>Customer</u> \$	10 ERU/ Business <u>Customer</u> \$
Residential:		
9,400 * \$1.00 * 12	112,800	112,800

Business:		
	860 * 5 * \$1.00 * 12	51,600
	860 * 10 * \$1.00 * 12	<u>103,200</u>
Total Revenue	164,400	216,000

Because of the significant differences in the ratio of impervious area to gross property area, both within and among classes of customers, the ERU method of rate calculation is recommended only for small systems where the cost of implementing and administering a more complex rate methodology would result in significant increases in the user fee.

Total Area

Total property area is the most basic parameter for estimating stormwater flows. This data is often readily available in the tax assessor's data base and it may be reasonable to equate stormwater flow characteristics with area in some situations. Such situations would include utilities where the overall expenditures are relatively small and where a more complex billing system would significantly increase overall utility expenses. Other utilities may be sufficiently homogeneous in their density of development so that all properties could reasonably be treated as having the same runoff characteristics.

Survey results indicated that 16 percent of the respondents utilize the gross area with runoff or intensity of development factor as the basis for their user fees.

Total Impervious Area

Total impervious area of a property is frequently used as the measure of the quantity of stormwater flow. Usually, tax assessor's data bases contain information which can be used to indicate impervious area, however, this data is not always readily retrievable by computer searches and considerable effort may be needed to construct the impervious data records manually. Effort to construct impervious area to supplement tax records may involve takeoffs from maps or aerial photographs and onsite visits, all of which may be both time consuming and costly.

Using impervious area as a billing system parameter at least implicitly assumes that either there is very little runoff from the pervious area or that the property is not responsible for runoff from pervious areas since it would have occurred regardless of the property's development. In the design of stormwater billing rates, it must be recognized

that there are many factors which determine the relative runoff rates from pervious areas including rainfall intensity and duration, soil type, and depth to groundwater. For example, we know that for rainfalls with high intensity and duration that the rate of runoff from pervious areas will approach the rate of runoff from impervious areas. If the stormwater utility's expenditures are predominantly for facilities sized to handle rainfalls with high intensity and duration, it may not be appropriate to charge only for impervious surfaces. In such instances, it may be appropriate to charge one rate for impervious areas and a lower rate for pervious areas.

Results from the *1995-96 Stormwater Utility Survey* revealed that 57% percent of the respondents utilize the impervious area as the basis for their user fees, while 20% use both impervious and gross areas, and 7% use other bases (e.g., number of rooms, water use, flat fee).

Class Average Area

A simplified residential user fee system is to group like properties into classes instead of requiring assembly of data for each individual property. One uniform flat-rate charge could be applied to all single-family residential properties, or two or more classes of single-family residential properties might be defined which would each have flat rate charges. The composition of the residential housing stock in Leavenworth must be considered in determining the appropriate number and definition of classes. Any simplification of the rate methodology by assigning residences to groups or classes should recognize and reflect the differences in terms of demands placed on the stormwater system by each class of customer and the cost of providing services and facilities.

Directly Connected Impervious Area (DCIA)

Directly connected impervious area is an additional parameter which is sometimes recognized for stormwater flow related charges. The DCIA is the impervious area that drains directly to a gutter or drainage channel. For example, a roof drain that discharges onto a lawn would not be considered to be directly connected, but a driveway would be considered to be directly connected. Typically, a single family residence may have a DCIA that is only about 30 to 40 percent of its total impervious area, whereas commercial and industrial properties normally have a much higher percentage of property classified as directly connected.

The use of DCIA as a flow related parameter assumes that the pervious area is capable of absorbing the drainage from the impervious area. However, since the

capability for the pervious area to absorb stormwater flows is directly associated with soil conditions, rainfall intensity, drainage patterns, and comparative areas, the use of DCIA may not be appropriate for Leavenworth.

It is obvious that the stormwater flows from streets is a major component of total stormwater flow. However, it is not as obvious how the costs of providing stormwater services to streets should be factored into the stormwater rates. The governmental body that is responsible for the streets may be unwilling or unable to accept stormwater charges for such public use areas, so many systems have simply allocated these costs to the ratepayers in proportion to their other charges. A community might also want to consider the reasonableness of making a property responsible for the stormwater flows from the streets which directly serve that property.

Class Intensity of Development

Class intensity of development factors are indicators of the relative runoff potential from various classes of development, i.e., residential, commercial, and industrial properties. Class intensity of development factors customarily are determined to represent the percentage of gross property area that is impervious. These factors can vary from one City to another, and may vary by location within the City. For example, suburban residential properties may have a lower ratio of impervious to gross area than urban residential properties.

Class intensity of development factors may be used in conjunction with a charge system based on gross property area to enhance the equity of the user fees. If the user fee is relatively low, the intensity of development factors may be estimated or based on a small sample of properties to minimize the cost of implementation and administration. As the user fee increases, it becomes increasingly important to establish a defensible basis for the development factors.

Runoff Coefficients

Runoff coefficients are similar to the intensity of development factors, in that they both reflect the potential for runoff, e.g., relative impervious area. Runoff coefficients, however, recognize additional parameters, and are based on empirical studies.

In undeveloped natural drainage areas, the volume and rate of stormwater runoff from a particular rainfall event is primarily determined by the natural detention and infiltration characteristics of the pervious area, and is related to topography, soil types, and vegetative cover. In an urban area, an additional dominating factor is impervious

cover. Typical urban impervious cover consists of smooth or compacted surfaces, such as rooftops and driveways, which allow little or no detention or infiltration of stormwater.

Runoff coefficients are commonly used to express the percentage of rainfall that appears as runoff. The relationship between watershed imperviousness and the runoff coefficients was developed for 44 watersheds monitored throughout the nation during the Nationwide Urban Runoff Program (NURP) conducted by the U.S. Environmental Protection Agency in December 1983. The results demonstrated that watersheds consisting entirely of natural ground cover or no impervious surfaces exhibit stormwater runoff, and that stormwater runoff increases with increasing impervious area.

The assignment of runoff coefficients to various land uses is based on generalizations of conditions. Although the land use assignment and associated numerical value may not be absolutely accurate in each specific case, assigned values should reflect the differences among various classes of customers. Assignment of runoff coefficients to both pervious areas and impervious areas may enhance the equity of the user charge system, but increases user charge development and administrative costs.

Public Property and Streets

State and federal facilities do not pay local property taxes. Charging these properties a stormwater user fee becomes a new source of revenue for the City and broadens the rate base. A case can be made to exempt local government properties which are not subject to property taxes from the stormwater fee because the source of the funds, the local community, is the same in any case. However, "taxpayer" and "ratepayer" are not equivalent terms. The owner of an individual parcel of property will pay one amount in support of stormwater management based on parameters such as area, impervious area, etc.; and another amount in taxes based on value of the property. For example, the owner of a skyscraper would pay a much higher amount under a tax based system than under a user fee based system. If a policy decision is made to charge all state and federal government facilities for stormwater runoff, then local publicly owned property should also be charged.

Most municipalities exempt streets and roads from stormwater user fees. Streets are often viewed as an extension of the stormwater collection system, which are improved, operated, and maintained by other public agencies in support of the stormwater management program. In this sense, they should be exempt from the stormwater charge. Furthermore, because the stormwater charge is a user fee, and not

a tax, the owners of the City's land area that is tax exempt should pay their fair, equitable share for stormwater management. Moving the stormwater charge for streets to the City's General Fund tax base would have the effect of diluting the user fee nature of stormwater charges, and would also redistribute a significant amount of costs from tax exempt to taxable property. Finally, the ability of the City's General Fund to support a major portion of the stormwater revenue burden without a negative impact on other City services must be considered. If City streets are exempted from the stormwater user fee, private streets similarly situated, i.e., freely available for public use and improved, operated, and maintained by the owner in support of the stormwater management program, should also be exempted.

Detention/Retention Credits

Credits are often granted to improve equity, provide incentives to implement or carry out an overall community stormwater management plan, or advance some other social or environmental objective. The provision of on-site detention or retention systems theoretically reduces the cost of service to the City by reducing flooding related costs and maintenance efforts. Capital costs are lower because smaller conveyance system sizes can be used downstream from the property and because older systems may not require replacement. Maintenance costs are lower because the peak or volume of flow is presumably reduced and the velocity/volume impacts on structures and natural beds and banks are also reduced.

The basic principal in developing and granting stormwater credits is that credits should be given for approved private investments or actions which reduce public cost, or for those which result in a stormwater related public benefit that is ongoing. Depending on the type of detention or retention structure, the contribution to the City's stormwater system may be reduced or eliminated and certain pollutants may be filtered better than others, which results in varying impacts on the cost to serve that customer. If credits are to be given, the methodology for calculation of the credit must be determined. Credits can be based on reduction of impact or reduction of cost of service.

Reduction of impact is related to lower peaks, lower velocities, lower total volume, lower levels of pollution, and lower erosion and/or sediment. To the extent owners make their property respond as if it is less impervious, it is appropriate to allow a credit. For example, if a property owner makes the hydrologic response from four acres of impervious area respond like it is two acres of impervious area, the owner might

get a 50 percent fee reduction. It must be recognized, however, that reduction of impact is subjective, rather than a strict engineering calculation.

Reduced cost of service is also difficult to determine, and rules-of-thumb are often used. For example, if the City spends a certain amount per acre on major and minor system maintenance, an estimate can be made of the reduction in cost of service based on the number of acres removed from public responsibility.

It must be recognized that each property given a credit on their bill results in the other users picking up the cost difference in order for the City to achieve budgeted revenue goals.

Location of Property Credits

It can be argued that properties located adjacent to receiving waters do not make use of the City's stormwater system in the same way as properties located elsewhere in the system. Such an argument taken to its logical conclusion would result in differing charges based on differing locations throughout the system, which is clearly impractical. Furthermore, properties adjacent to receiving waters are the primary beneficiaries of all systems and activities designed to reduce flooding. It can be seen that properties further from the watershed outfall make more use of the system, while those closer to the outfall enjoy more benefits from a properly working system.

Recommended User Fee

A user fee based on total impervious area is recommended. The use of impervious area as a billing basis is easily understood, and provides a good balance between equity of the charge system and cost of establishing a billing basis. It is further recommended that the initial charge to residential customers be based on average impervious area for all residential customers, and the charge to nonresidential customers be based on measured impervious area for each individual customer. Consideration should be given to moving to an individually measured basis for residential customers as the magnitude of the charge increases, which will enhance the equity of the charge system.

It is recommended that the user fee be assessed to all public and private properties, including local, state, and federal facilities, but excluding streets and roads. Credits should be granted for approved on-site private detention or retention facilities.

D. Billing System and Database Options

In general, there are three basic options regarding implementing a billing and collection system. These options include: establishing a separate billing and collection operation; billing stormwater charges as a part of the property tax collection system; or including the stormwater bill with other utility bills. Each method has its own set of advantages and disadvantages which must be considered prior to establishing a billing system.

Separate billing and collection system advantages include the independence of the stormwater billing operation and the creation of an identity as a separate utility. An independent billing system allows the stormwater utility greater freedom in establishing billing methods and frequency. It will also help the utility establish its own identity with its customers through receipt of single purpose bills and through contacts with stormwater billing representatives.

Disadvantages to a separate billing and collection system include issues of cost and enforceability. Incremental costs are likely to be several times higher compared to a billing and collection system associated with an existing system. Enforcement mechanisms available to the utility may be limited with the use of an independent system. A separate billing system will require acquisition of billing software and establishment of new functions for collections and customer service.

The use of a property tax billing system to collect stormwater charges has the advantage of being fairly cost effective and enforceable. Because tax bills and stormwater bills are related to particular parcels of property, the responsible party is generally readily identified, and changes to properties are routinely recorded. If unpaid charges become a lien on the property, collection rates should be high although prompt payment is not always assured.

The primary disadvantage of combining stormwater utility charges with tax billings is that the charges may still be regarded by the public as a tax. Because many stormwater utilities are being created to take stormwater services off the tax bill, billing through the tax system may tend to offset some of the intended advantages of a self-sustaining stormwater utility. Potential problems are also introduced where fees are to be collected from tax exempt properties. Some modification to the property tax billing software would be required to accommodate a second basis of billing and some customer inquiries would have to be referred to the City. In addition, billing frequency may not meet City requirements.

Billing systems that combine bills for more than one utility service are generally cost effective and can be readily enforced. For most users the process simply involves adding a fixed amount to another utility bill. If full payment is not made for all services rendered, it may be possible to discontinue any water or electric service included in the bill. The capability of discontinuing a utility service will usually result in a high rate of collections. If the other utility services are billed frequently, the bill for stormwater service will usually be a fairly small portion of the total bill.

Problems are encountered in combined utility billings where the customer base is not the same, i.e., where there are multiple water accounts on a single property, or there is no water service to the property. For example, a shopping center may have several individual customers that receive water service but have only one owner that is responsible for stormwater charges, or a parking lot which has no water service. Significant effort is usually required to link water accounts to property records, and new stormwater-only accounts would be needed. A mechanism would be required to advise the water billing system of changes to property boundaries, and modification of the water billing software may be required to accommodate a second "measured" service. Customers could contact the water company regarding accounting issues but would have to be referred to the City for questions about the billing basis. In addition, since customers tend to regard a bill that includes water, wastewater, and stormwater charges as being the "water bill," the water utility may resist a change that will appear to increase utility charges to their customers.

Sanitary sewer bills in Leavenworth are currently included on the water bill. The Water Company was contacted to assess the potential for adding stormwater charges to the water and sewer bill. Water Company personnel indicated that water service is provided to all residential and commercial properties within the City limits. The billing software utilized by the Water Company is old and the software vender is no longer in business. Customer service personnel had no knowledge of whether the software could accommodate another "measured" service. It was thought that, at best, it would require extensive effort to modify the software to include stormwater charges for current water and sewer customers, and major changes would be required to include stormwater charges for properties with no metered water service or to incorporate billings to property owners rather than occupants.

Enforcement of payment of water and sewer bills is through shut-off of water service. If the initial bill is not paid within 30 days, a second notice is sent informing the customer of a time for a hearing at which time a new date may be set for payment.

If the bill is not paid by the extended date, water service is discontinued. The Water Company does not recognize partial payment. If the full water and sewer charge is not paid, the bill is deemed delinquent because the full bill is considered to be a water bill.

The City is nearing completion of its geographic information systems (GIS) project to map the City's water and sewer systems. Intergraph software is used to plot topography and infrastructure. The GIS covers the entire City and includes all structures and house numbers. Some, but not all, driveways and parking lots are included. M.J. Harden is under contract to provide regular updates of these maps. Maps are accurate to within one foot. This data is ideal for computing impervious area. However, GIS utilities would be required to compute areas and pass that information to a billing system. Such utilities are readily available.

A second source of GIS information is to be found in the County's digitized tax maps. These maps, automated using ESRI's MapInfo/AutoCAD software, provide County-wide property lines. Parcel ID numbers are used to link graphic information to the Assessor's non-graphic database containing owner information, land usage codes, lot descriptions, and details on all improvements.

In addition to the above, the City maintains numerous small (desktop PC) databases that could be useful in identifying stormwater customers. Key sources include a database of sewer connections and a database of refuse customers. The refuse database, in particular, may be valuable as it includes all residences and most commercial properties.

Should the City elect to implement a stormwater usage charge based on area, the ideal methodology for developing the customer billing base would be to overlay the County's parcel information onto the City's GIS maps. This would provide an immediate relationship between properties and impervious areas. Utilities would be required to compute areas from the graphic information. It will also be necessary to review data maintenance procedures to insure stormwater billing information is obtained and entered in a timely fashion.

Recommended Billing System

Given that sanitary sewer service and solid waste collection are currently included on the water bill, it would be logical to also include the stormwater user fee on the water bill. However, it does not appear that the current water billing system is adequate to accommodate a stormwater fee in view of the number of non-conforming accounts that are likely to be encountered. If the City desires to utilize the water bill as a billing

vehicle, it is recommended that negotiations be entered into with the Water Company for upgrading the billing system. If a satisfactory agreement cannot be reached with the Water Company, it is recommended that stormwater bills be included on property tax bills. Property tax bills are directed to property owners, a mechanism is in place for billing and collection, changes to properties are routinely incorporated into the data base, properties not receiving utility service are in the data base, and this option is cost effective and enforceable. The major drawbacks are the lack of an even revenue stream throughout the year, and the perception that the fee is a tax.

Should the City decide to establish a separate stormwater billing system, consideration should be given to including sanitary sewer and solid waste charges on the bill, which would bring these City provided services under control of the City and eliminate the fees paid to the Water Company for billing services.

E. Organization/Administration

Stormwater management operations are administered under a variety of organizational structures. The most common is a separate stormwater utility operated as an enterprise fund, with the majority of revenues derived from user fees. A separate stormwater utility allows development of an identity with the public and provides greater autonomy and control over policy and financing. A separate utility does, however, require more effort to implement and administer.

Other management structures include combining the stormwater operations with Public Works or the Wastewater Utility. Currently, stormwater management in the City of Leavenworth is funded primarily from the Sewer Fund, and the Public Works Department performs such functions as ditching and installing and cleaning culverts.

Results from the *1995-96 Stormwater Utility Survey* revealed that separate stormwater utilities have been formed by 49 percent of the respondents, while 32 percent of stormwater operations are combined with Public Works, 16 percent are combined with the Wastewater Utility, and 3 percent of the respondents reported other arrangements.

Recommended Organization

It is recommended that the City establish a separate stormwater utility operated as an enterprise fund. The stormwater utility can be a separate division under the direction of Public Works, Streets, or other existing City function. Because stormwater related activities are expected to increase as Master Plan projects are initiated and as a

billing mechanism is implemented, it is recommended that a Stormwater Engineer position be created and staffed to oversee stormwater management activities.

F. Financing Plan

A financing plan has been developed to meet anticipated revenue requirements of the stormwater management program. The plan presented in this section of the report assumes current levels of funding from the Sewer Fund, Street Department and General Fund will be discontinued. This assumption is consistent with the concept of an Enterprise Fund operation. Other assumptions related to developing the plan are described in the following material.

Revenue Requirements

Historical and projected stormwater revenue requirements are shown in Table XI-1. Expenses which have historically been paid from the Sewer Fund are shown on Lines 1 through 5. General Overheads (Line 5) applicable to stormwater management are estimated by proration of the total overhead transfer from the Sewer Fund to the General Fund between sanitary sewer and stormwater management based on relative operation and maintenance expenses.

The cost of stormwater related activities performed by the Street Department are shown on Line 7, and represent the total of the following task descriptions as shown on the Work Order Costs Report:

Task 501	Drainage: Ditching/Grader
Task 502	Drainage: Ditching/Hand
Task 503	Drainage: Install Culvert
Task 504	Drainage: Install Culvert/Residential
Task 505	Drainage: Clean/Replace Tubes

Other Operating Expenses (Line 8) represent an allowance for expenses which will be incurred assuming stormwater charges are implemented January 1, 1998, and that organizational changes are made to establish a separate stormwater management utility. The allowance includes addition of an Engineer to oversee stormwater activities, a part-time secretary/clerk, and a share of billing costs assuming stormwater bills are combined with tax or another utility billing.

Debt service associated with that portion of the 1996C General Obligation bond issue related to stormwater is shown on Line 10. This debt service is currently paid from the General Fund, but should be paid from stormwater funds.

An allowance for implementation of projects identified by the Stormwater Master Plan is shown on Line 11. The Master Plan identified approximately \$20 million in capital needs, of which about half will be the responsibility of the City. The \$10 million in capital projects to be financed by the City is assumed to be spread over 20 years at an average of \$500,000 per year. The allowance has been escalated at 5 percent per year to recognize inflationary increases. Total annual revenue requirements are shown on Line 13.

Stormwater User Fee Revenues

For purposes of this analysis, it is assumed that revenues generated by stormwater user fees will be sufficient to meet the total revenue requirements shown in Table XI-1. This will eliminate the need for funding of stormwater related activities by the Sewer Fund and Street Department. If stormwater services are provided by the Sewer Fund or Street Department, the cost of those services will be paid by the Stormwater Fund through inter-fund transfers. Because Sewer Fund revenues will no longer be used for stormwater activities, those funds can be used for other sanitary sewer expenses, or the City may wish to consider a reduction in the sanitary sewer rates.

Projections of stormwater user fee revenues are based on assumed average charges by customer class, because a user charge system has not yet been selected. Projected annual stormwater user fee revenues are shown in Table XI-2.

The estimated number of customers, Lines 1 through 4, is based on the actual count of customers by class in mid-year 1996, with increases based on the number of building permits issued by the City in recent years. Assumed annual increases in customer numbers are: residential, 75; commercial, 15; and industrial, zero.

Monthly average stormwater user fees, Lines 5 through 7, are established at the level required to generate sufficient annual revenues to meet the total revenue requirements shown in Table XI-1. Based on experience with other municipalities, it is assumed that user fees to commercial customers will average five times the residential fee, and user fees to industrial customers will average ten times the residential fee. User fees are assumed to increase four percent per year. The four percent annual increase in user fees, combined with the growth in customer numbers, will offset assumed inflationary impacts on expenditures.

Table X1-1

**City of Leavenworth
Historical and Projected Stormwater Revenue Requirements**

Line No.		Historical		Estimated 1996	Budget 1997	1998	Projected (a)		2001
		1994	1995				1999	2000	
		\$	\$	\$	\$	\$	\$	\$	\$
	Operating Expenses								
	Sewer Fund								
1	Personal Services (b)	37,675	42,421	45,140	49,340	88,600	93,000	97,700	102,600
2	Contractual Services (c)	8,151	20,854	29,150	70,010	35,700	37,500	39,400	41,400
3	Commodities (d)	6,107	6,034	7,550	7,550	12,900	13,500	14,200	14,900
4	Capital Outlay (d)	3,549	0	0	9,750	15,200	16,000	16,800	17,600
5	General Overheads (e)	14,000	14,700	15,400	16,200	17,000	17,900	18,800	19,700
6	Subtotal Sewer Fund	<u>69,482</u>	<u>84,009</u>	<u>97,240</u>	<u>152,850</u>	<u>169,400</u>	<u>177,900</u>	<u>186,900</u>	<u>196,200</u>
	Other Funds								
7	Street Department Fund (f)	16,134	25,453	26,700	28,000	39,900	41,900	44,000	46,200
8	Other Operating Expenses (g)	NA	NA	NA	NA	105,000	110,300	115,800	121,600
9	Total Operating Expenses	<u>85,616</u>	<u>109,462</u>	<u>123,940</u>	<u>180,850</u>	<u>314,300</u>	<u>330,100</u>	<u>346,700</u>	<u>364,000</u>
	Capital Cost								
10	Debt Service on 1996C G.O. Bonds	0	0	3,900	9,800	9,100	8,700	8,500	8,200
11	Master Plan Projects	0	0	0	0	525,000	551,300	578,900	607,800
12	Subtotal Capital Cost	<u>0</u>	<u>0</u>	<u>3,900</u>	<u>9,800</u>	<u>534,100</u>	<u>560,000</u>	<u>587,400</u>	<u>616,000</u>
13	Total Revenue Requirements	<u>85,616</u>	<u>109,462</u>	<u>127,840</u>	<u>190,650</u>	<u>848,400</u>	<u>890,100</u>	<u>934,100</u>	<u>980,000</u>

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(a) Increased 5 percent per year from 1997.

(b) Assumes addition of a Foreman in 1998.

(c) Budget for 1997 includes a one-time cost of \$36,000 for mapping.

(d) Includes an additional allowance of \$5,000 beginning in 1998 to carry out the proposed Master Plan projects.

(e) 1994 - 97 are estimated.

(f) 1996 and 1997 are estimated. An allowance of \$10,000 for additional work is included beginning in 1998.

(g) Allowance for Engineer to oversee stormwater program, part time secretary/clerk, and a share of billing costs beginning in 1998.

Estimated annual revenues from the indicated user fees are shown on Lines 8 through 11 of Table XI-2. It is assumed that the stormwater user charge will become effective January 1, 1998.

Revenue Sufficiency/Deficiency

The adequacy of projected revenues to meet projected revenue requirements is illustrated in Table XI-3. Estimated revenues from stormwater user fees, as calculated in Table XI-2, are shown on Line 1. Current funding sources are shown on Line 2 through Line 4. Uses of funds, Lines 6 through 8, are as developed in Table XI-1.

Impact of Current Funding Sources and Level of User Fee

The initial monthly user fee of \$5.05 for a residential customer shown in Table XI-2 represents full funding of the projected Stormwater Fund revenue requirements. A fee of this magnitude would place the City of Leavenworth in the upper quartile of cities which responded to our 1995-96 *Stormwater Utility Survey*. In the event the City desires a lower initial stormwater user fee, available alternatives include continuation of the current level of funding from the Sewer Fund, Street Department Fund and General Fund; debt financing of Master Plan projects; or deferral of Master Plan projects. Table XI-4 shows the amount of capital funds available at various user fee levels, with and without continuation of current levels of funding from the Sewer Fund, Street Department Fund and General Fund.

As shown in Table XI-4, if current funding sources for stormwater management are continued, an initial residential user fee of \$1.00 per month will generate a very limited amount of revenue for Master Plan projects. These funds could be leveraged through debt financing. Assuming 10 year bonds at an average interest rate of 6.5 percent, \$1,000 will support approximately \$7,000 debt. Debt financing would need to be in the form of General Obligation bonds until sufficient revenue history is available to obtain a good rating on revenue bonds.

If current funding sources are discontinued, an initial residential user fee of \$2.00 per month is required to generate any funds for Master Plan projects.

Table XI-2

City of Leavenworth
 Estimated Stormwater Customers, User Fees and Revenues

	1997	1998	1999	2000	2001
Estimated Customers					
1 Residential	9,502	9,577	9,652	9,727	9,802
2 Commercial	875	890	905	920	935
3 Industrial	8	8	8	8	8
4 Total Customers	<u>10,385</u>	<u>10,475</u>	<u>10,565</u>	<u>10,655</u>	<u>10,745</u>
Monthly User Fee					
5 Residential - \$	NA	5.05	5.25	5.46	5.68
6 Commercial - \$ (a)	NA	25.25	26.26	27.31	28.40
7 Industrial - \$ (b)	NA	50.50	52.52	54.62	56.81
Estimated Annual Revenue (c)					
8 Residential - \$	NA	580,400	608,300	637,600	668,200
9 Commercial - \$	NA	269,700	285,200	301,500	318,700
10 Industrial - \$	NA	<u>4,800</u>	<u>5,000</u>	<u>5,200</u>	<u>5,500</u>
11 Total Revenue - \$	NA	854,900	898,500	944,300	992,400

(a) Commercial fee assumed to average 5 times residential fee.

(b) Industrial fee assumed to average 10 times residential fee.

(c) User fee assumed to become effective January 1, 1998.

Table XI-3

City of Leavenworth
 Projected Stormwater Revenue Sufficiency (Deficiency)

Line No.		1997 \$	1998 \$	1999 \$	2000 \$	2001 \$
	Revenue Sources					
1	Stormwater User Fee (a)	0	854,900	898,500	944,300	992,400
2	Sewer Fund (b)	152,850	0	0	0	0
3	Street Department Fund (b)	28,000	0	0	0	0
4	General Fund (b)	9,800	0	0	0	0
5	Total Sources	<u>190,650</u>	<u>854,900</u>	<u>898,500</u>	<u>944,300</u>	<u>992,400</u>
	Uses of Funds					
6	Operation and Maintenance	180,850	314,300	330,100	346,700	364,000
7	Debt Service	9,800	9,100	8,700	8,500	8,200
8	Master Plan Projects	0	525,000	551,300	578,900	607,800
9	Total Uses	<u>190,650</u>	<u>848,400</u>	<u>890,100</u>	<u>934,100</u>	<u>980,000</u>
10	Annual Surplus (Deficit)	0	6,500	8,400	10,200	12,400
11	Cumulative Surplus (Deficit)	0	6,500	14,900	25,100	37,500

(a) Stormwater user fee effective January 1, 1998.

(b) Current level of funding discontinued when user fee becomes effective.

Table XI-4

City of Leavenworth
 Revenue Available for Master Plan Projects
 At Various User Charge Levels

	1997	1998	1999	2000	2001
	\$	\$	\$	\$	\$
With Current Sewer Fund, Street Department and General Fund Funding Levels					
Average Monthly Residential User Charge - 1998 (a)					
\$1.00	NA	44.900	47.200	49.700	52.300
\$2.00	NA	214.200	225.200	236.700	248.800
\$3.00	NA	383.500	403.100	423.700	495.300
\$4.00	NA	552.700	581.000	610.700	641.800
\$5.00	NA	722.000	758.900	797.700	838.300
Without Current Sewer Fund, Street Department and General Fund Funding Levels					
\$1.00 (b)	NA	(154.100)	(160.900)	(168.200)	(175.700)
\$2.00	NA	15.200	17.100	18.800	20.800
\$3.00	NA	184.500	195.000	205.800	217.300
\$4.00	NA	363.700	372.900	392.800	413.800
\$5.00	NA	523.000	550.800	579.800	610.300

(a) Average Commercial charge assumed to be five times the average residential charge. Average Industrial charge assumed to be ten times the average residential charge. All charges assumed to increase five percent per year. Charges assumed to become effective January 1, 1998.

(b) Negative values indicate that this user charge level will not even meet the current level of funding for stormwater activities.

Impact of Debt Financing

The impact of leveraging a portion of the funds generated by the stormwater user fee is illustrated in Table XI-5. Assuming an initial monthly residential user fee of \$3.00, Master Plan projects of approximately \$500,000 per year can be financed through a combination of cash (Line 9) and debt (Line 10) financing. A monthly residential fee of \$3.00 would place the City of Leavenworth at the median of the charges reported in our *1995-96 Stormwater Utility Survey*.

G. Public Information/Education Program Needs

A major challenge in any utility financing project is to inform the public regarding the resources needed and the fairness of the revenue program. The proposed public information/education program is designed to establish and maintain effective two-way communications between the City and its customers. It is intended that City staff will serve as spokespersons for the project, chair the meetings, lead discussions and make the presentations. Black & Veatch will be available upon request by the City to assist in the preparation of materials, participate in presentations, and provide other services as appropriate.

The goal of the information/education program is to obtain public acceptance of the financing plan to permit the City to generate the funds necessary for the stormwater management program. Attainment of this goal requires public recognition and understanding of the need for stormwater related expenditures and dedicated revenues, and alternatives available and the characteristics of each. A four-step process consisting of research, planning, implementation, and evaluation is therefore recommended.

Research

Systematic research should be conducted to identify key issues and audiences, and to gain an understanding of attitudes and opinions. The primary research tools are mail surveys, telephone interviews, and focus groups.

Extremely reliable information can be obtained through a mail survey of a representative sample of customers. However, the potential exists for customers not included in the sample to discount the survey results because "You only sent questionnaires to the Table XI-4 Revenue Available for Master Plan Projects people who would agree with you." To protect against such unfounded accusations, it is recommended that a questionnaire be mailed to all customers within the City limits.

Table XI-5

City of Leavenworth
Projected Cash Flow Assuming Debt Financing

	1997	1998	1999	2000	2001	
	\$	\$	\$	\$	\$	
Line No.	Monthly Residential Fee (a)	NA	3.00	3.18	3.37	3.57
	Operations					
1	Stormwater User Fee Revenue	NA	507.900	540.700	575.700	612.800
2	Operation & Maintenance Expense	NA	314.300	330.100	346.700	364.000
3	Existing Debt Service	NA	9.100	8.700	8.500	8.200
4	Proposed Debt Service (b)	NA	59.100	128.700	209.400	294.200
5	Transfer to Master Plan Projects	NA	100.000	55.000	0	0
6	Net Operating Balance	NA	25.400	18.200	11.100	(53.600)
7	Cumulative Operating Balance	NA	25.400	43.600	54.700	1.100
	Capital Financing					
8	Master Plan Projects	NA	525.000	551.300	578.900	607.800
9	Transfer from Operations	NA	100.000	55.000	0	0
10	Bond Proceeds	NA	425.000	500.000	580.000	610.000
11	Net Capital Balance	NA	0	3.700	1.100	2.200
12	Cumulative Capital Balance	NA	0	3.700	4.800	7.000

(a) Assumes an annual increase of 6 percent beginning in 1999.

(b) Assumes bonds are issued for 10 years at an average interest rate of 6.5 percent.

As an alternative to sending questionnaires to all customers, a questionnaire could be mailed to a selected percentage of customers. An insert would be included in utility bills to all customers explaining the mail survey, and offering the opportunity for all customers to participate by requesting a questionnaire. A questionnaire could also be published in the local newspaper.

Based on the level of response to the questionnaire, a selected number of telephone interviews may also be desirable. The telephone interviews would utilize the same questionnaire as the mail survey, with customers selected at random.

Following the preliminary evaluation of the mail and telephone survey results, a series of Focus Group discussions should be conducted with a representative cross section of customers. The Focus Group discussions would address issues and concerns identified by the survey.

Planning

Based on the information gained in the research, the planning portion of the information/education program is designed to identify the messages to be delivered, the media for delivery, and the schedule. Potential messages include: background and current situation, the need for stormwater related expenditures and dedicated revenues, how stormwater revenues will be used, alternatives being considered, advantages and disadvantages of each, and the recommended alternative.

Potential media for delivery of the message include the Citizen's Stormwater Committee, neighborhood organizations and business groups, billing inserts, newsletters, public access television, general news media, and public meetings.

Implementation

Preparation and distribution of materials will be accomplished during the implementation stage. The Citizen's Stormwater Committee is an ideal forum for dissemination of the message. The Committee represents a cross section of interests in the community, and periodic meetings are already scheduled. Committee members should be encouraged to pass information to, and elicit comments and concerns from, friends and constituents.

Meetings should be scheduled with neighborhood organizations and business or special interest groups. The meetings can be planned to take advantage of regular meetings at which participants gather. More than one meeting with these groups may be required to deliver all the messages and to respond to questions. It is anticipated that

participants at these meetings will have specific questions regarding impacts on them as individuals, neighborhoods, or business groups.

Brochures about the stormwater management program can be inserted into utility billings. The same information used as a handout at the group presentations can be used for the billing insert brochures. The billing inserts can also be used to disseminate information regarding meetings that the general public might attend.

Specific organizations may also assist in the information/education program by publishing articles in their newsletters, especially if the organization is willing to publicly endorse the proposed stormwater management program.

Public access television is often an extremely important communications medium. The type of program, and its timing and frequency of airing must be determined. It is recommended that the City engage professional assistance in writing, taping, and editing the presentation because it is important that the programs be of high quality.

The general news media, consisting of local television, radio, and newspapers, will probably reach the most people in the shortest period of time. Nationally, the majority of residents get most of their news from television. Periodic news releases to the local media can be effective. If appropriate, courtesy copies of Citizen's Stormwater Committee summaries may be provided to reporters. Meetings with reporters from each medium should be conducted in advance to explain the stormwater management program, and determine the types of information reporters would like to receive and the time and/or frequency of delivery.

Public meetings can be either regular City Council meetings or special public information meetings. Of all public information/education activities, these are generally the least attended before controversy develops. This is due to the fact that residents and customers have many demands on their time and unless they have a complaint, they tend to follow other pursuits rather than attend meetings. Because every effort should be made to keep controversy to a minimum, all meetings should be rather small. It is important to schedule public meetings, however, to assure that all residents have the opportunity to express their opinions.

Evaluation

Evaluation of the public information/education program should be continuous throughout the program. Material furnished to the media and presented at meetings should be reviewed for timeliness and to ensure that public concerns are being addressed. Monitoring of questions asked, comments made, and other feedback from the public will

provide clues as to the effectiveness of the information/education program, and will help identify areas of concentration for future information releases. Monitoring of feedback is the most effective tool in assuring that support is maintained throughout the project.

H. Basic Authority and Responsibility

Legal considerations are key factors in the basic feasibility of implementing an effective adequately funded stormwater management program. For this study, a brief review (not intended to formulate a legal opinion) of the State Statutes of the Kansas Constitution was made in order to understand legal constraints. Prior to implementation of a stormwater enterprise utility, a more thorough legal review will be required by the City's attorney. Focus was primarily given to a review of the Kansas Water Pollution Act (WPA) which defines and references "sewer or sewer system."

The Kansas Water Pollution Act Summarized

The WPA defines "sewer or sewer system" to mean sanitary and storm sewer, ... and disposing of water carried wastes or storm or surface waters, and all appurtenances necessary in the maintenance and operation of the same. Powers of the WPA have to be enacted by resolution by the municipality and secretary of health and environment. The resolution must state that the sewer system is inadequate to meet standards of health and environment and that a sewer system is necessary in the interest of public health and welfare of residents of the state.

Through the WPA the municipality is granted the power to charge sewer system charges based on per unit volume of water used and strength and volume contributed. Revenue from these charges may be used for design, construction, operation and maintenance costs. The municipality has the power to issue revenue bonds and use the proceeds from sewer charges to pay for principle and interest cost on the bonds. In addition, it can make contracts with federal, state governments or private individuals for the sewer system; make contracts to treat sewage from outside city limits; operate the sewer system outside boundaries of the City, have eminent domain in order to acquire right of ways for the sewer system; and borrow money, apply for grants, accept financial assistance for purposes of the WPA.

The City may issue revenue bonds for the sewer system by ordinance or resolution. These bonds must be authorized by a majority of the vote of the electors of the municipality. Principle and interest on the bonds is paid from revenue proceeds derived from the sewer system charges. The issued bonds will not constitute an

indebtedness within the meaning of any constitutional or statutory debt limitation or restriction. Further, the bonds may be secured by grants, loans or contributions from the federal government.

The municipality has the authority to bill, collect, set charges and operate the system as required by ordinance or resolution. Cities of the first class may issue and collect bills through a public utilities board which may also discontinue service for non payment of sewer charges.

Court Case

The case discussed is the case of *Wichita v. Kansas Taxpayers Network, Inc., and Karl Peterjohn*, Supreme Court of Kansas, May 27, 1994. The City of Wichita enacted Charter Ordinance 147 under its home rule powers which exempted the City from the provisions of the Kansas Water Pollution Act, K.S.A. 12-3101 et seq. Based on this new ordinance (147), the City adopted Ordinance 41-948, which established a storm water utility system for the City. Kansas Taxpayers Network, Inc. and Karl Peterjohn through initiative and referendum authority of K.S.A. 12-3013 attempted to repeal Ordinance 41-948. The Supreme Court ruled, (1) Ordinance 41-948 was administrative in nature and therefore outside the scope of the initiative process of K.S.A. 12-3013 and (2) the enactment of Charter Ordinance 147 was a proper exercise of the City's home rule powers.

Charter Ordinance 147 became effective March 1, 1993. The Charter Ordinance modified and supplemented the provisions of the Kansas Water Pollution Act in several respects: (1) it exempted the City of Wichita from the provisions of the Water Pollution Act, and provided substitute and additional provisions relating to the establishment, operation and maintenance of sewer systems and to the issuance of bonds for the purpose of paying for the grounds and improvements necessary for the operation thereof. Charter Ordinance 147 expanded the definition of sewer and sewer system; it set out the authority to establish sewer service charges; it exempted the City from the requirement that the issuance of bonds be subject to a vote of the electors, and it authorized the issuance of general obligation bonds of the City to finance all or any portion of the sewer system improvements. It also authorized the City to combine its water, sanitary sewer, and storm water utilities and to initiate a consolidated billing system for all its utilities.

On February 23, 1993, the City adopted Ordinance 41-948 which created the stormwater utility as specifically created under the authority of the Kansas Water Pollution Act as modified by Charter Ordinance 147. Under Ordinance 41-948, the City

began charging each parcel of land within the City a drainage fee related to the contribution to runoff of each parcel.

Legal Issues. The taxpayers contended that the City of Wichita exceeded its home rule authority in enacting the Charter Ordinance and that both the Charter Ordinance and Ordinance 41-948 were invalid and further that the Ordinance was legislative and not administrative in nature. The taxpayers contention that the ordinances were invalid involves three reasons.

The first reason is that the Kansas Water Pollution Act is uniformly applicable to all cities, and home rule statutes do not permit the City to exempt itself from the WPA's provisions. The City responded that the WPA is not uniformly applicable to all cities because one provision of K.S.A. 12-3105 applies only to certain cities of the first class.

The second contention is that because this case concerns a fee, the Kansas constitution limits the City's home rule authority. The constitution provides that home rule authority is subject to legislative enactments applicable uniformly to all cities of the same class limiting or prohibiting the levying of any tax, excise, fee, charge or other exaction. The specific language of 12-3105 referring to certain cities of the first class, however does not bring the provision mentioned within the home rule limitation for two reasons:

1. The act does not apply uniformly to all cities of the first class, only to those now owning or acquiring a municipal water plant and a municipal light plant, which plants are now or hereafter operated, managed and controlled by a board of public utilities.
2. Second, the specific reference does not really limit or prohibit the levying of any tax or fee, but rather, it extends some additional authority to the cities to which it applies. Specifically, it allows them to bill and collect sewer service charges through the board of public utilities and authorizes the board to discontinue service to nonpaying customers.

The third contention by the Taxpayers was that the Charter Ordinance exceeded the City's home rule authority because the constitution does not allow a city to modify legislative provisions that prescribe limits of indebtedness regardless of whether they are uniformly applicable to all cities. The WPA specifically provides that any bonds issued under it shall not constitute an indebtedness within the meaning of any constitutional or

statutory debt limitation or restriction and shall not be subject to the provisions of any other law relating to the authorization, issuance or sale of bonds. The only restriction on the bonds is that they be authorized by a majority vote.

There are three basic guidelines that can be applied in determining whether the ordinance was administrative or legislative. All parties agreed that the guidelines for determining the issue were set forth in *City of Lawrence v. McArdle*. The guidelines are:

1. An ordinance that makes new law is legislative, while an ordinance that executes an existing law is administrative.
2. Acts that declare public purpose and provide ways and means to accomplish that purpose generally may be classified as legislative. Acts that deal with a small segment of an overall policy question generally are administrative.
3. Decisions which require specialized training and experience in municipal government and intimate knowledge of the fiscal and other affairs of a city in order to make a rational choice may properly be characterized as administrative, even though they may also be said to involve the establishment of a policy.

Court Ruling. The court ruled that the ordinance was administrative in character and outside of the scope of the initiative statute. The Ordinance does not make new law but executes an existing law. In addition, the Charter Ordinance gives the City all the powers necessary to develop and maintain a sewer system, which is defined to include storm sewers. The powers include power to adopt ordinances and impose service charges. Ordinance 41-948 also expressly recites that it was adopted in response to state and federal storm water management requirements. Finally, the operation, management, and financing of a city-wide storm water management system reasonably fits within the context of decisions that require specialized knowledge and experience with respect to city management.

Conclusions

It appears that the City would have the basic authority to establish a stormwater utility and issue and collect stormwater bills and fees from its applicable customers. Based on the above review and analysis, the City might apply one of two options to its present stormwater situation: (1) if it was not concerned with elector protest, the City could adopt a resolution implementing the Kansas Water Pollution Act; (2) if the City

thought that it would face elector protest, they could avoid the participation of the electors (needing a majority vote to approve revenue bonds) by taking a similar approach as Wichita. Before choosing any option, the City Attorney's Office should initiate a thorough legal review and analysis to determine the optimal solution.

For the first option, the resolution would state that the sewer system of Leavenworth is inadequate to meet the standards of the secretary of health and environment and that the construction, reconstruction, development, or redevelopment of the system is necessary in the interest of public health and welfare of the residents of the state. From this, all the powers delegated to a city by the Water Pollution Act would become effective and allow the City to set charges and fees, issue revenue bonds (requiring a majority vote) and other things as necessary to operate the utility.

The second option would follow the logic taken by the City of Wichita. The City of Leavenworth instead of issuing revenue bonds under the Kansas Water Pollution Act, which requires a majority vote of the electors, would exempt itself from that provision (Charter Ordinance 147, Wichita) but would keep the section in the act that states "bonds issued under this section shall not constitute an indebtedness within the meaning of any constitutional or statutory debt limitation or restriction of any other law relating to the authorization, issuance or sale of bonds." The act also uses the word "bonds", not specifically "revenue" bonds. The Charter Ordinance adopted by Wichita allowed them to issue bonds without approval, and they issued general obligation bonds to fund the storm water utility.