Following communication with the City Project Manager, WCA issues a Field Work Order to its field personnel. This document will be completed on site and is used to confirm all current property data. All causes of revenue loss will be explored including: unlisted connections or meters, meter inaccuracy, service theft, unmetered fire lines, wastewater service problems, coding errors, and billing accuracy. Generally, customers appreciate seeing utility representatives in the field. This field research typically promotes confidence to the customer that the utility is properly maintaining the system.

Step 7: Field Research & Account Documentation

Field personnel conduct site visits to research the property for all information required on the Field Work Order, often including, but not limited to, the following information:

1) Date and time of research
2) Type of property
3) Classification of water service
    a. Domestic
    b. Fire
    c. Irrigation
    d. Process
4) Approximate building square footage
5) Number of dwelling units
6) Current and historical occupancy information
7) Meter location, ID #, size, manufacturer and type
8) Current meter reading
9) Preliminary evaluation of meter's operating condition
10) Individual contacted
    a. Name
    b. Title
    c. Telephone number
    d. Hours of availability
11) Impervious area, ERU calculations

Note: Additional fieldwork is frequently required subsequent to the initial contact. Follow-up research may be necessary to:

- Insure positive customer relations
- Confirm short period and off peak period use
- Gain access to specific locations previously denied

Step 8: ***DECISION POINT:*** **Potential Revenue Enhancement**

Once field account analysis and field work are complete, WCA selects specific accounts with the potential for revenue enhancement for submission to the City. Accounts not selected will be filed systematically for future reference.

TASK II – QUANTIFYING REVENUE ENHANCEMENT

Step 9: **Formal Work Order submission**

WCA will submit to the City a Formal Work Order on an account-by-account basis with complete documentation where additional revenue recovery is possible. This report provides complete and accurate documentation for use by the City to update and correct customer records. The document is a report produced by the WCA software, written specifically for the City of Gautier. Included in this standard document is the projection of incremental revenue increase. *This projection is essential to the utility, in that accurate projections must be in hand before decisions can be made as to the relative importance of problem correction and as to the cost effectiveness of the remedy.* This projection is supported by precise calculations that are based on the property analysis and the analysis of the meter or meters in question. In addition, when required and where conditions permit, WCA may provide electronic flow measurement utilizing non-pipe intrusive Transit Time Flowmeters. Measurements from the flow-meter serve to verify and document unauthorized flow through unmetered fire lines, for example, and serve to confirm the accuracy of large meters. This capability enables more accurate projections, and therefore is a substantial benefit to the utility in TASK II. The Formal Work Order typically includes the following support documentation:

1) Historical and current account data
2) Property Selection Report
3) Field Research Report
4) Notes, sketches, test results, photographic evidence
5) Discovery notes and comments
6) Recommended corrective action

All problems noted in the system are mapped by address in the mapping software to determine the frequency and location of problems in the system.

Step 10: ***DECISION POINT:***

The City will review the Formal Work Order and approve WCA's recommended changes. The City retains the ultimate unilateral right to approve each Formal Work Order submitted. WCA seeks only the opportunity to ensure that all pertinent facts are made clearly known to the City prior to final disposition of the submittal. Any Formal Work Order not initially approved will be returned to WCA for additional work and resubmission, and/or filed for future reference.

TASK III – COORDINATING THE IMPLEMENTATION AND EXECUTION OF CORRECTIVE ACTION

Step 11: **Corrective Action**

Following Formal Work Order approval, the necessary changes will be made to the account. These changes fall into two broad categories; changes in billing and changes to the physical service. WCA will assist the utility by coordinating the necessary activities and/or procedures

between the various disciplines by acting as liaison to resolve issues that might otherwise stalemate the remedy. Examples of this assistance: generating interdepartmental correspondence, preparing letters for City signature that notify customers, as well as the assimilation of signed hardcopy for archive purposes. Water Company of America takes great pride in its ability to work cooperatively with our utility partners to ensure follow-through with corrective action.

If the remedy requires field work, the City shall determine whether it will timely accomplish the task or assign the work to WCA. If assigned, WCA will prepare a detailed line item budget identifying resource requirements including labor, material, equipment, markup and a project schedule and specific procedures for correcting the situation. All field analysis and scheduling will follow City scheduling and operating procedures and be accompanied by City staff from the respective divisions affected.

Should the Department choose, WCA could accomplish the necessary physical changes in the field. Should this prove to be an option exercised by the Department, an effective method to utilize increase revenue generated by the project can be employed to accomplish meter repair or change-out, when that is required.

Step 12: **Identified New Revenue on Accounts**
Once the change to the account is complete, the Utility will identify (flag) the account in the Utility Billing Database as one to which WCA is eligible for participation in a share of increase revenue.

Step 13: **Reports and Proposed Revenue Sharing Plan**
WCA compiles and delivers a report (Detailed Revenue Report) to the City that details the collected revenue for the period and calculates WCA compensation. This amount is based on actual account collection. The collection activity is monitored from the same monthly download of account data identified in Step 1. The revenue report is generated on an account-by-account basis, for review and approval by the Department. This eliminates the need for the utility to expend the resources necessary to write a computer program to accomplish the task, while reserving to the utility the approval authority for the disbursement of Increased Revenue. The monthly report summarizes each month's activity and typically includes the following information:

1) Account name
2) Account number
3) Service address
4) Billing period
5) Water and/or Wastewater/Drainage charges billed
6) Amount collected
7) Amount due to Contractor
8) Base consumptions
9) Current consumption

10) Comparative consumption
11) Formal Work Order approval date
12) Formal Work Order Number and counter

In addition, WCA will prepare a Status Report for the City on a frequency determined by the City and on-demand. Custom reports detail those specific pieces of information meaningful to the City related to the documentation of revenue findings. Reports are not "canned" but are tailored to the needs and desires of the City. This approach to reporting, as well as to final reporting at the contract end is possible because the full picture of an account is available from one database source; history, findings, discovery notes, type of find, type property, corrective action, problem resolution, and records of Increase Revenue collections over time. This information is available for inclusion on any requested report, either scheduled or on-demand. This flexibility has been very well received by Cities in past. This approach to the typical need for progress reporting is significantly more meaningful to the client than a "one size fits all" approach offered by others.

WCA will prepare a Final Report on the specific results of the project including an assessment of existing billing and metering practices and an estimate of annual recovery by area of deficiency.

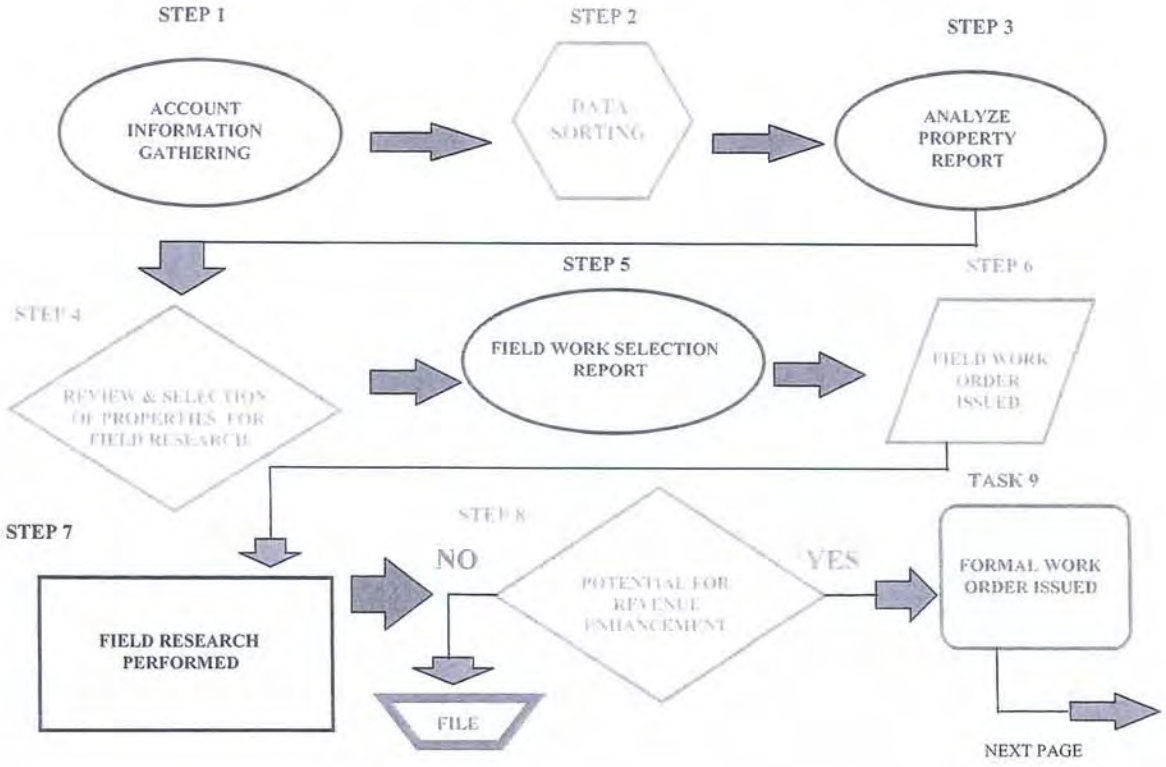
The methodology of the Proposed Revenue Sharing Plan is as follows;

1) Any and all fees due to WCA under this Contract shall be payable solely from the funds collected pursuant to this Agreement. WCA acknowledges and agrees that the City's liability for any and all payments hereunder shall be limited by this provision. No other funds are available nor will they be appropriated for the purpose of this Study.
2) If any Work performed by WCA to an Account results in Increased Revenues to the City, WCA shall be entitled to a WCA Share for such Work equal to the agreed percentage and period of time as determined in final contract negotiation.
3) Definitions:
    a. **"Account"** is defined as a particular Water, Wastewater and/or Stormwater service of the City. This definition includes all unauthorized taps or connections discovered by WCA that previously had not been given an Account number by the City.
    b. **"Base Revenue"** is defined as the average monthly billings on an Account for up to the twelve month period immediately preceding WCA Documenting the Find.
    c. **"WCA Share"** is defined as the fee to be paid by the City to the WCA for performance of duties under this Contract, computed in accordance with "Payment" below.
    d. **"Documenting the Find"** is defined as the notation by WCA on the Research report to the City or the approval of a submitted Formal Work Order.
    e. **"Formal Work Order"** shall be defined to mean that certain standard document that defines relevant information about a City Account that WCA has affected.

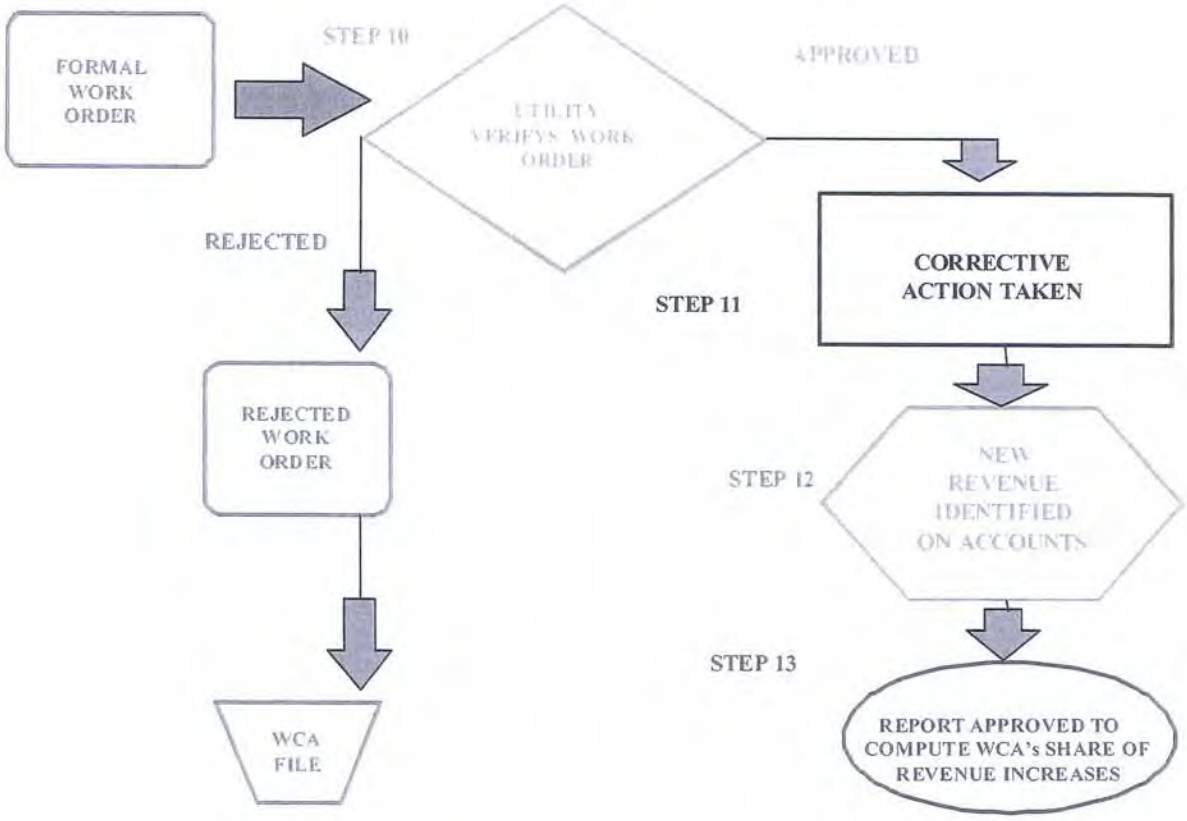
f. **"Increased Revenue"** is defined as the amount of monthly income received by the City on an Account, over and above the Base Revenue, subsequent to Documenting the Find and to corrective action being taken on that Account, including both incomes derived from ongoing usage, as well as retroactive billing.
g. **"Water, Wastewater or Stormwater Service"** is defined as the physical location of a City consumer, both known and unknown to City, which utilizes utility services provided by the City.
h. **"Work"** is defined as WCA efforts towards making changes or modifications to an Account in order for the specific utility service to be properly and accurately billed.

The above 13 tasks are illustrated in the following flow diagram charts:

PROGRAM TASK PROCESS - RESPONSIBILITIES OF WCA



PROGRAM TASK PROCESS - RESPONSIBILITIES OF THE UTILITY



The WCA program utilizes technical work methods conducted in an efficient manner and designed to optimize revenue impact without disruption to normal operating procedures of the Utility. All WCA field operations will be conducted in a manner consistent with requirements imposed by the Utility on its own personnel. Some of the basic WCA rules of operational conduct are listed below.

- WCA will advise the Utility of all fieldwork performed.
- WCA will conduct all operations to comply with applicable Department procedures.
- WCA employees will adhere to all applicable safety requirements of City and the WCA.
- WCA will insure that property conditions affected by field research activity will be returned to original or better than original condition.
- WCA vehicles will be clean and clearly marked with the Company Logo.
- WCA employees will be uniformed.
- WCA employees will display identification badges affixed to the employee's uniform.
- WCA employees will at all times maintain a neat and clean appearance that represents the professionalism of the Utility and WCA.
- WCA employees will exhibit a courteous and polite manner when dealing with any customer of the Utility.
- Attend any administrative hearing as required for testimony regarding work performed pursuant to this agreement.

SCOPE OF WORK

The accurate measurement of water is the means by which water utilities generate revenue to offset expense, determine equitable fees among users, promote conservation and minimize wastewater treatment loads. WCA will assist the Department in identifying causes of, and suggesting remedies for system inaccuracies and deficiencies with respect to water metering, and associated water, wastewater and stormwater billings. System inaccuracies arise from many situations. Some of these situations are: meters out of calibration, unlisted meters, unauthorized connections and taps, unauthorized fireline usage, meter bypass abuse, inaccurate submeter credits, and other conditions that are routinely encountered. These inaccuracies can be identified and corrective action taken to insure compensation for services rendered.

In general, the above situations can be grouped into the four major categories. These are not listed in any particular order. The frequency of each type varies from project to project.

- Meter Inaccuracy and Malfunction
- Service Theft
- Unmetered Fire lines
- Other Unbilled or Misbilled Usage

These categories are addressed in the text that follows.

A. METER INACCURACY

It is critical for any Utility to be able to identify those meters within the utility system that perform below accepted levels of efficiency. Three typical contributing factors are:

- Failure of Meters and Other Mechanical Devices
- Lack of System Capabilities
- Budgetary Limitations

Problem # 1: Failure of Meters and Other Mechanical Devices

Problem Explanation: A meter's propensity for accuracy loss and potential failure is due to the very nature of a mechanical device with moving parts. This accuracy loss is random among meters and often cannot be predicted. When vandalism and other meter damage issues are added to the equation, the problem of inaccuracy becomes even more unpredictable.

Solution # 1: WCA has developed systems to detect abnormal trends that may indicate mechanical failures in a timely manner. The analysis of these trends, coupled with field investigations, will detect meter failures. Field investigations will determine if there is a potential for loss of revenue. Based upon the field work performed, WCA will recommend the appropriate course of corrective action. As a result of these actions, the potential for revenue increases will be greatly enhanced.

Problem # 2: *Lack of System Capabilities*

Problem Explanation: An example of the lack of system capabilities is as follows. A meter read is taken on a meter that is not performing to standard and registering low reads. This situation has occurred over an extended period of time. The meter reader has no concept of prior consumption for the given property. The meter reader has no data to correlate with property characteristics such as property size, activity of occupant and occupancy rate. Therefore, an inaccurate meter with a history of low reads would not show a consumption pattern that would be indicative of a problem.

Solution # 2: WCA utilizes a system that compares like properties and isolates consumption differences, not just the prior month, six months or year. Consumption differences of this nature are selected for field review. The field review process confirms or denies consumption patterns with property characteristics.

Problem # 3: Budgetary Limitations

Problem Explanation: Budgetary limitations may restrict Department personnel from performing efficiently in isolating meter inaccuracies. Meter repair programs are usually limited to replacing known malfunctioning meters. Department personnel may be diverted from looking for meter inaccuracies to work on other distribution problems. Several operational factors impacted by this limitation are:

- Allocation of existing manpower
- Staffing capability
- Acquisition of testing equipment
- Acquisition of fleet and facility support

Solution # 3: WCA's program will provide a system for identifying meter inaccuracies at no cost to the Department during the term of the contract. All meter testing performed by the WCA shall recognize American Water Works Association (AWWA) standards, as utilized by the Department.

B. SERVICE THEFT

Service theft is the act of receiving water and/or wastewater service without proper remuneration. There are many factors that contribute to this problem, and the discovery of each factor must be approached systematically. Service theft can be divided into two broad categories, intentional and unintentional. These categories are discussed separately below.

1. INTENTIONAL SERVICE THEFT

Intentional service theft is the deliberate act on the part of a consumer of receiving service without proper remuneration to the utility. In general, intentional service theft is achieved from the following situations:

- Incorrect Piping Arrangements
- Usage on "Inactive" Accounts
- Emergency Meter Bypass Abuse
- Fire Hydrant Abuse

Problem # 1: Incorrect Piping Arrangements.

Problem Explanation: Theft of service can result from incorrect piping arrangements. Tampering is generally involved in these situations. Some examples of these situations are as follows:

- Straight connects or an illegal cut across
- Installing a jumper after a meter was pulled, subject to the limitations below.
- Removing a lock after a lock-out procedure, subject to the limitations below.
- Removing a blind gasket after service termination

Solution # 1: WCA will identify these situations by way of account review and on-site inspection of suspect locations. A comprehensive field analysis of known problem areas will often reveal cases that cannot be traced via Departmental data. When multiple problems occur in a specific area, a saturation survey of the entire area is conducted to verify that all connections are proper.

Problem #2: Usage on "Inactive" Accounts

Problem Explanation: An account could be classified within the Department's system as "inactive". However, the meter serving this account could be in use.

Solution #2: Subject to the provisions below, WCA typically will make a field inspection on accounts classified as "inactive". Inactive accounts utilizing service will be identified and appropriate documentation submitted to the Department to initiate a change in account status. However, WCA will not receive compensation on Accounts in which the Department has terminated service due to non-payment of bills, also known as "cut off for nonpayment" or "CONP". These "known" (to the City) cases may often result in meter removal by the Department, which in turn may result in the illegal installation of a jumper by the customer. The Department has in place a process to field check all such accounts as part its routine procedures and therefore, for the sixty day period following a CONP, findings of jumpers or other illegal connections on such accounts are not subject to payment by the Department to WCA under the terms of this Agreement. WCA will investigate and submit findings only after the stipulated time period established by the City has been exceeded on the account.

Problem # 3: Emergency Meter Bypasses

Problem Explanation: The abuse of large meter emergency bypasses contributes to the theft of service problem. Open meter bypasses are especially difficult to identify when it represents only a portion of total usage. For example, a bypass could be partially opened thus allowing unmetered service and yet not prompting action since an account billing is being generated.

Solution # 3: WCA will identify all bypassed meters within the Department's system. Resolution of the bypassed meter problem is based upon a focused investigation of all meter installations with meter bypasses. WCA will physically inspect all bypassed meters on a regularly scheduled basis to determine if unmetered service is being provided. Only if a situation is found that is unknown to the City, and for which no active City Service Work Order is in effect, and has existed for a period of sixty days or longer, will WCA submit the item as a "find".

Problem # 4: Fire Hydrant Abuse

Problem Explanation: Service theft is compounded by the use of fire hydrants supplying water for purposes other than extinguishing fires. The Department controls the majority of these situations by way of policy and procedure in their rules and regulations

Solution # 4: WCA will review the existing policies and procedures as they relate to fire hydrants. If there appears to be any revenue enhancement potential that can be acted upon, recommendations will be made to the Department. These recommendations will include a benefit to cost analysis of any suggested solutions.

2. UNINTENTIONAL SERVICE THEFT

Unintentional service use is defined as the receipt of water and/or wastewater service for which the customer has no knowledge. In general the following situations are the cause of this type of service theft:

- o Incorrect Piping Arrangements
- o Incorrect Account Data

Problem # 1: Incorrect Piping Arrangements

Problem Explanation: The unintentional incorrect piping arrangement is a common contributor to the unbilled revenue problem. Accurate site utility plats are not always available during construction. These plats indicate which tap serves a particular location. If a tap is not identified correctly with the property receiving the service, errors occur. For example, if an adjacent location's tap is incorrectly identified, the property could ultimately receive water through a meter not associated with that property.

Solution # 1: WCA will locate incorrectly identified property by conducting comprehensive on-site inspections of selected properties, customer account research and comparisons to other adjacent properties. By performing these inspections, many instances of this kind will be discovered and the appropriate remedy will be submitted to the Department for corrective action. However, if the taps are being billed, no additional revenue will result. Therefore, WCA will not receive compensation on such Accounts.

Problem # 2: Incorrect Account Data

Problem Explanation: The tap or meter that is not correctly identified with the appropriate property is often unbilled. Sometimes a location is served by more than one tap. One meter can

be generating legitimate billings while another is not. Confusion of service address with meter location can be a problem leading to incorrect account data. For example, a secondary meter might be physically located on a side street away from the primary or known meter. The second meter carries a different street address and normal search procedures by the Department result in fruitless efforts to locate, read or maintain the account. This occurs frequently in developed areas that were annexed by the Department and where installation records and "as built" drawings were not equivalent to those required by the Department today.

Solution # 2: WCA will compare like properties with similar usage characteristics to identify those consumers with lower than anticipated consumption. Ultimately, the correct association of multiple connections to a single property can only be ascertained by comprehensive field inspection and testing.

C. UNMETERED FIRELINES

The Department has established policies designed to minimize the abuse of unmetered fire lines. Regulations specifically restrict unmetered fire line use. The Department's policy regarding Detection Check Meters provides further safeguards against abuse. WCA will, by way of physical property research, make appropriate reports to the Department should any customer be found to be out of compliance with the Rules and Regulations.

Problem # 1: Unauthorized taps on Unmetered Fire lines

Problem Explanation: The existence of connections made to unmetered fire lines for use other than intended represents a loss of revenue faced by all utilities. The problem can be categorized into three basic areas:

- Deliberate, illegal taps into fire systems
- Control measures on identified fire lines, such as detector check meters that are inoperative or are not checked routinely
- Unmetered fire lines that have no control devices to indicate usage

Solution # 1: WCA will isolate unmetered fire line abuses by researching properties with known service as well as searching for connections that are unknown to the Department. A few of the methodologies employed are:

- Focus research on recently annexed areas and within areas of the system built during periods of rapid growth.
- Research a random sample of that portion of the account population with known fire lines.
- Site inspections of a property always include an inspection of the fire protection system components.
- In the case of large-scale installations with pressure alarms, a non-intrusive portable flow meter will be utilized to verify unauthorized flow.
- Other relevant databases of information such as State or Local fire insurance records can be compared to Departmental data regarding fire line billings.

- The piping arrangement present in any location is traced and identified to the greatest extent possible.

D. OTHER SYSTEM DEFICIENCIES AND UNBILLED SERVICES

A multitude of factors impact the ability of the Department to bill correctly for its services. Other than those areas previously discussed, the following problems have been encountered in other utility systems. Other unbilled or misbilled usage can be the result of the following situations:

- Unbilled Stormwater usage
- Incorrect Account Data
- Abuse of Submeter Allowances
- Unknown (unlisted) Accounts

Problem # 1: Unbilled Stormwater Usage

Problem Explanation: An example of this type of problem is as follows. A commercial property is listed as having 5 ERU of impervious are. However, the customer added paved parking area at some point in time since the property review was performed that calculated 5 ERU and that information was never communicated to the Department. Therefore, the Department may be losing revenue because of incorrect account data.

Solution # 1: WCA will search for these exceptions, compare account data in the client data with the size, scope and area in the field; sketch the location, include wheel measurements, compare to available tax appraisal records and submit inconsistencies to the City by way of a Formal Work Order.

Problem # 2: Incorrect Account Data

Problem Explanation: An example of this type of problem is as follows. A building is served by an unmetered fire line. However, the Customer Information System has no record of this data. Therefore, the Department may be losing revenue because of incorrect account data.

Solution # 2: Standard operating procedure utilized by WCA via its field research techniques is to verify all existing account data against actual property configurations. In that all account data is verified with the physical property configurations, discrepancies are noted and communicated to the Department by way of a Formal Work Order.

Problem # 3: Abuse of Submeter Allowances, also referred to as "Private Meters".

Problem Explanation: Submeters allow credits for wastewater charges due to non-returned water to the sanitary system. Submeters for such uses as irrigation, processes and coolant towers provide reasonable usage credits to end users. However, if they are not properly installed, configured and monitored they can be abused. The net result of such situations is that