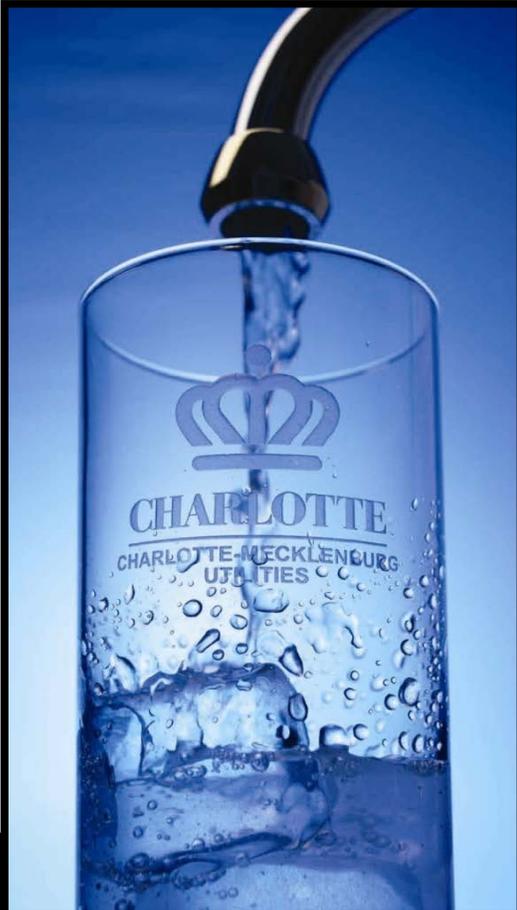


# STRATEGIC OPERATING PLAN FY2013



**CHARLOTTE-MECKLENBURG UTILITY DEPARTMENT**

*Clean Water for a Healthy Community*

Report prepared July 2012



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## Executive Summary

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### INTRODUCTION

Charlotte-Mecklenburg Utility Department (CMUD) was established in 1972 when the City of Charlotte and Mecklenburg County combined its water and sewer systems. Today CMUD is the largest public utility in the Carolinas, serving over 253,000 water service accounts and maintaining over 8,000 miles of pipe.

CMUD's core business is to provide safe drinking water and safely transport and treat wastewater for the Charlotte-Mecklenburg community. CMUD is organized into seven internal divisions that contribute to carrying out the organization's objectives. A citizen Advisory Committee comprised of seven members representing neighborhoods, civil engineers, water-sewer contractors, financial experts, real estate developers, and Mecklenburg towns is charged with reviewing: Capital Improvement Programs, proposed changes and implementation of the water and sewer rate methodology, and proposed changes in the policy for extending water and sewer service.



CMUD's plans for FY2013 contain new actions designed to further align our priorities with our vision and mission and the goals and objectives of the City.

### VISION AND MISSION

#### Vision

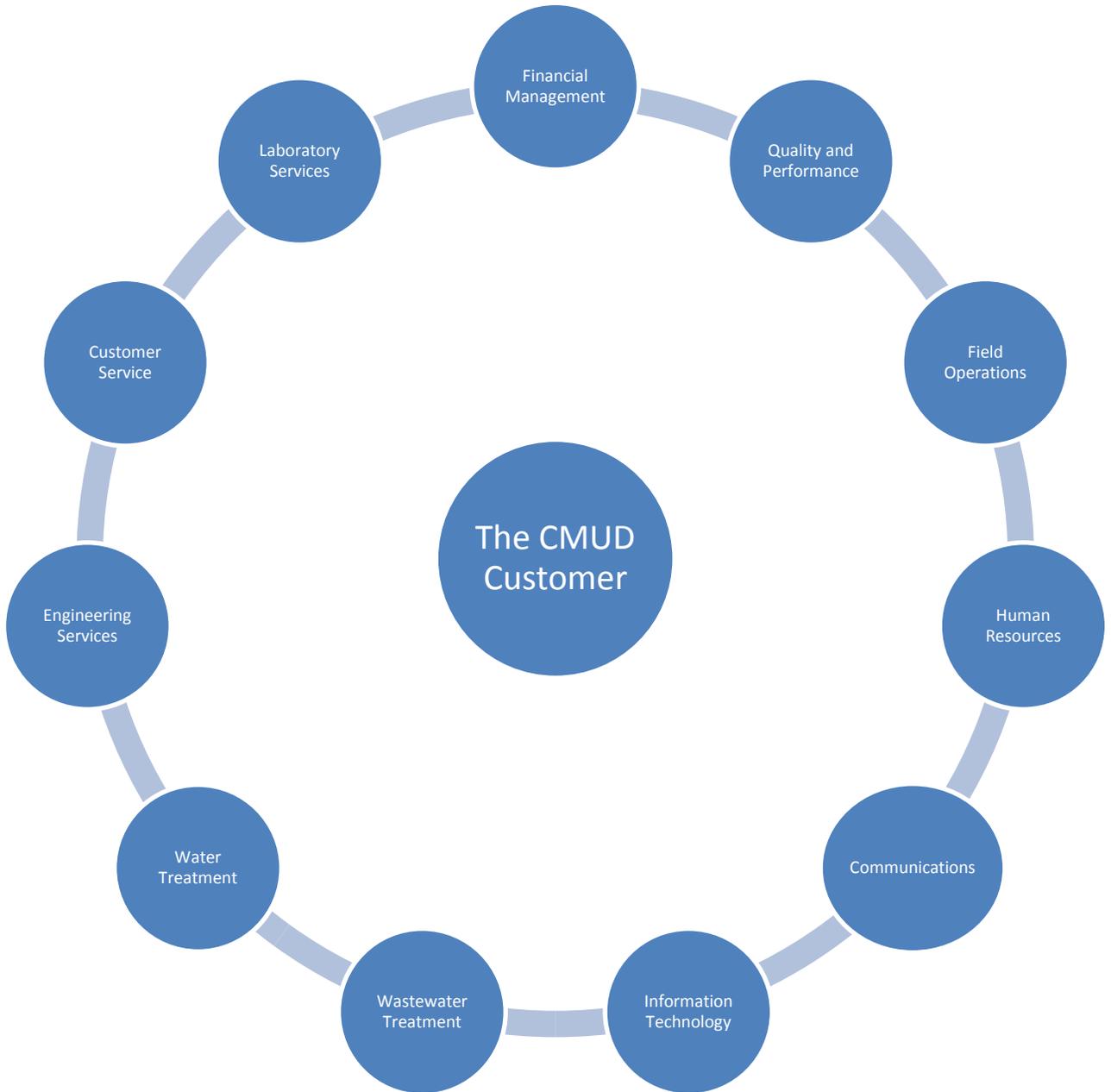
We will be the recognized leader in the region, state, and nation by contributing to the health, safety, and economic well-being of our customers; in protecting and conserving our natural resource and environment; and in providing for the growth and development of our employees.

#### Mission

We are committed to customer satisfaction and confidence by providing responsive services, reasonable rates, system capacity, and effective communication. We provide safe and sufficient drinking water by protecting, treating, and distributing drinking water. We protect the environment by collecting and treating wastewater, reusing residuals beneficially, and regulating system discharges. We accomplish our mission through well-trained employees dedicated to customer service.

**ORGANIZATION CHART**

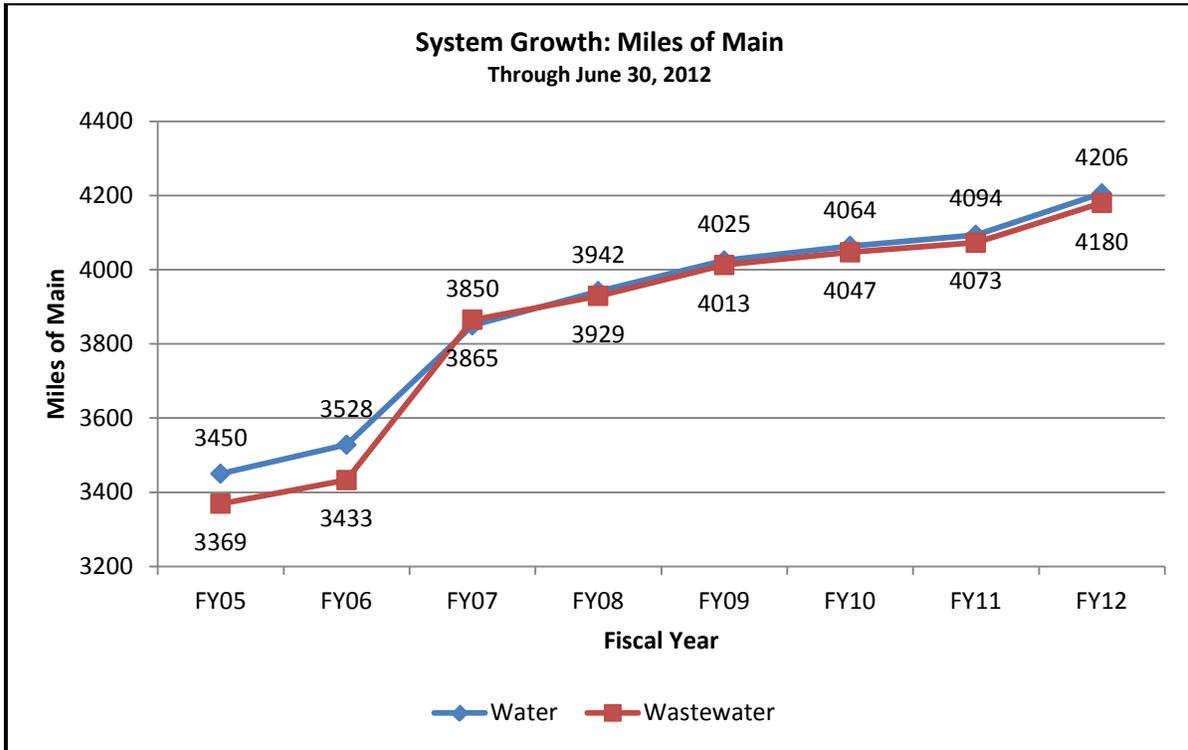
CMUD’s core business is to provide safe drinking water and safely transport and treat wastewater for the Charlotte-Mecklenburg community. CMUD is organized into seven internal divisions that contribute to carrying out the organization’s objectives. However, the divisional representation of a traditional organizational chart does not sufficiently capture the new focus on the customer. Thus, our leadership has decided to represent our organization in a new graphic manner to clearly demonstrate our path forward:



## NEEDS AND CHALLENGES

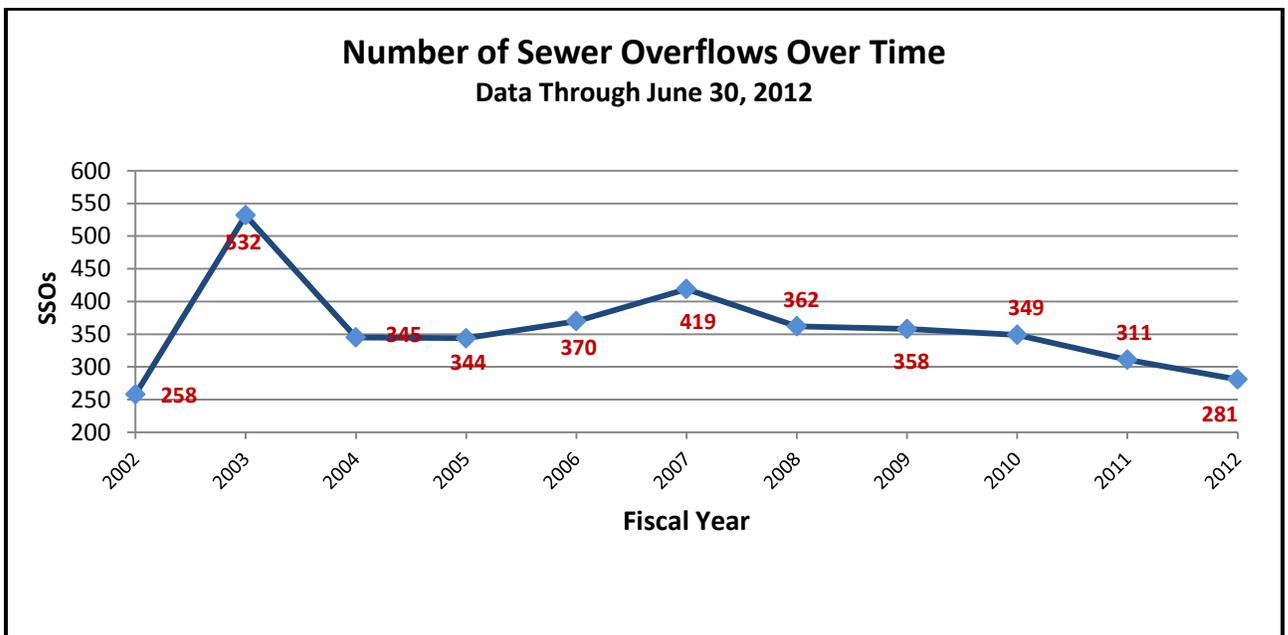
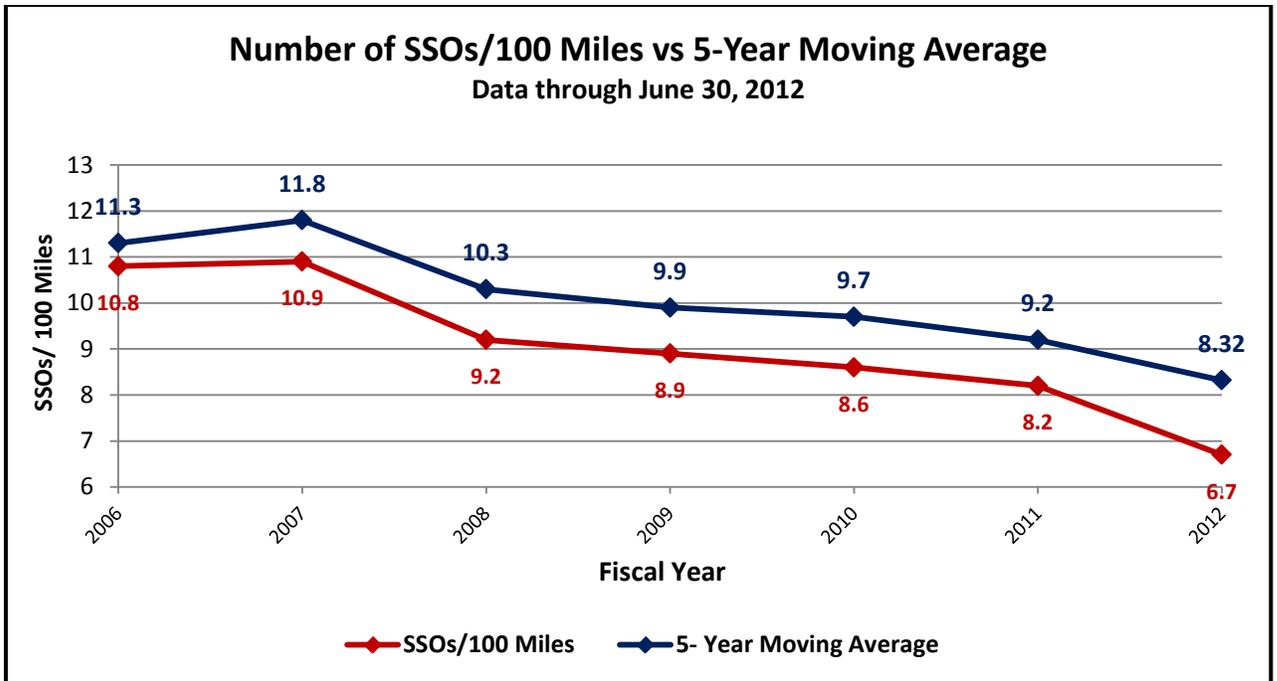
- **Regional Water Supply Management** – At the end of calendar year 2010, the South Carolina vs. North Carolina Water Rights law suit was settled. However, the management of our regional water supply will continue to be a key issue for many years to come, particularly as unusual bouts of extended drought occur. Participation in groups such as the Catawba-Wateree Water Management Group, while also responding to the state’s Water Allocation Study recommendations, will be among the necessary actions.
  
- **Operational Challenges continue to be of concern:**
  - **Contracting and procurement** efforts have greatly improved since 2009. However, current resources will be redeployed and additional resources may be required to maintain the complex contracting challenges that CMUD faces as it responds to regulatory and operational needs in a timely manner.
  - As some pickup in the economy is detected, additional survey needs begin to unfold. CMUD anticipates the need for **greater civil engineering support along with survey support** so that all capital, operations, and maintenance activities may be attended to expeditiously.
  - A **risk management** strategy to reduce incidents and better address all system risks is being developed throughout the utility. SOAR (CMUD’s Safety Organization Achieving Results team) and the Safety and Risk Managers are involved in a re-focus on risk and the true cost of incidents. As a first step in this evaluation and redevelopment process, the investigation of vehicle accidents and slips, trips, and falls was completed in each division with employee focus groups by June, 2011. Then, department wide safety training and a daily safety awareness program for all employees was implemented by November 30<sup>th</sup>, 2011. By January of 2012, an online centralized safety SharePoint was launched to better provide consistent, readily available data to the entire department. Development continues, with General Liability and Workers Comp improvement teams being added to the effort. To completely embed a more proactive approach to safety and risk, new program components will be added.
  - Reduced levels of **maintenance**, due to recent funding constraints, increases the risk of equipment failure. This results in higher risk and failure to satisfy customer service requirements. Measures have been taken to re-focus on maintenance throughout the treatment, collection, and distribution system. The CMUD system includes over 8,000 miles of

pipe, 5 wastewater treatment plants, 3 water treatment plants, and more than 70 lift stations.



Note: Miles in FY12 shows an increase in part due to the completion of a GIS survey of pipes.

- **Sanitary sewer overflows (SSOs)** remain a challenge for CMUD. Currently, CMUD is under an EPA Administrative Order to reduce sewer spills. This formal regulatory action requires the completion of a list of actions within a specified time frame. Despite completion of the majority of these concerted actions, SSOs have not sufficiently decreased, and still occur too often. In the past due to unfunded vacancies, CMUD has been challenged to perform the labor intensive work necessary to clean sewer lines from grease build-up that significantly contributes to sewer overflows. Significant efforts have been made to hire and train crews. An ongoing focus on maintaining a low level of vacancy and high productivity will be required.



- Restoration of field operations crews, along with the use of private contractors in FY2012, has begun to stabilize and reduce response time associated with water leaks. Resources normally responding to water leaks were diverted in FY2011 to respond to SSOs, which can become a public health concern, and SSO prevention.

- **Financial Challenges**

As of June 30, 2012, CMUD experienced savings from its \$288.6 million operating budget. Significant savings were the result of several assertive measures undertaken to control costs while maintaining service. In order to balance resources and demand, CMUD revised the rate methodology and rate model in FY2012, along with restructuring capital planning and debt financing. CMUD has responded to an uncertain economy and changing growth patterns in the service area. Some of these conservative measures are one-time events and should not be anticipated to necessarily reoccur in the future:

- ✓ Debt service was less than budgeted by \$5.8 million; this was anticipated early in the fiscal year due to a refinancing in July 2011.
- ✓ Although we are working diligently to fill all vacancies, and have in fact filled 167 vacancies including promotions in FY2012, \$1.7 million of savings will be a result of position vacancies still open. These vacancies persist because of some escalation in retirement and some reorganization to a more customer centric focus. This is the lowest rate of salary savings in recent history; the CMUD vacancy strategy is to now carry only positions we absolutely need immediately and to fill them as quickly as we reasonably can. As of June 30, 2012, 46 vacancies remain and we continue to aggressively seek to fill them.
- ✓ Power savings of \$1.8 million was realized due to a variety of reasons; primarily this was achieved by pumping at off-peak times and utilizing Duke Energy's Share Program which reduces the rate paid. The ability to operate in this manner is dependent on customer demand, system needs, and Duke Energy's program provision but CMUD will continue to take advantage of off-peak pumping savings when possible.
- ✓ Chemical savings were \$1.1 million. Vendors were in the last year of a three year bid cycle and did not ask for increases as expected. CMUD staff believes that the economy affected the ability of the vendors to pass through an anticipated price increase. This same year pricing will be sought again, but may not be available if the economic situation changes.
- ✓ Sludge disposal expenses were \$2 million under budget. Sludge, or by the more technically correct term "biosolids", is solid residual material remaining after the treatment process. Options for biosolids disposal include land application (more beneficial) or land fill (more costly). CMUD has had the ability to land apply more biosolids than anticipated in the last two years due to accommodating weather patterns. This disposal option is quite weather dependent; we can only land apply as long as the fields are accessible.
- ✓ Payments to our revenue recovery contractors were \$1.1 million less than anticipated.

- ✓ More capital expenses than anticipated were transferred to the capital program in the amount of \$1.9 million.
- ✓ Another \$0.8 million in savings was recognized in a variety of ways including: \$0.3 million in telecommunications, \$0.2 million in maintenance and repairs on motorized equipment, and \$0.3 million in maintenance and repairs on buildings, land and water areas. CMUD has sought to identify opportunities to control cost and to be good stewards. This year presented many more opportunities than historically have been available.

Financial statistics of note include:

- CMUD Operating Budget for FY12 is \$288,560,220 (includes debt service and PAYGO)
- The capital improvement budgets are: (1) Water CIP FY12 \$67,572,575 (2) Wastewater CIP FY12 \$50,327,000
- There are 746.25 funded FY12 Positions with 46 current vacancies.
- CMUD total revenues are projected to be \$0.4 million over expectations.
- Details by revenue categories are:
 

○ Volumetric revenues	\$0.3 million over
○ Capacity and connection revenues	\$ 2.4 million over
○ Fixed and availability fee revenues	\$ 1.1 million under
○ Misc. (investment income, IW charges, etc.)	\$1.2 million under
- Debt ratios as of 6-30-2012, the latest numbers available (unaudited) are:
 

○ Debt Service Coverage	1.96
○ Fund Balance to annual budget	64%
○ Debt service percent to total revenue	48%
○ PAYGO (of capital funding)	37%
- **Customer Service** – Beginning in November 2009, a sharp increase in customer complaints occurred. These complaints were driven largely by high water bills, unsatisfactory customer service and a variety of customer-related issues including meter reading issues and objections to recent rate increases and rate methodology. CMUD has experienced a substantial decrease in these complaints as the implementation of new quality assurance measures continues:
  - A City Manager sponsored evaluation of CMUD customer service was completed in October 2011. Implementation of the resulting 40 Point Improvement Plan began immediately. As of November 2011, over 50% of the identified items have been instituted as part of a continuous improvement process. In FY2012, the Customer Service Division completed reorganization around a new vision with an emphasis on performance management, quality assurance, and a customer centric culture.

- One objective of the 40 Point Plan was to build a knowledge base around potential new water metering solutions. The first step in building a firmer knowledge base was to conduct pilot studies beginning in 2011. A request for information (RFI) concerning metering services was issued in May 2012 and 7 responses were received by the end of June 2012. This RFI process will be utilized as a potential basis for the development of a Water Meter Upgrade Program Request for Proposal (RFP). The RFP will guide the CMUD metering solution of the future. Based on pilot data and additional research, and the results of the RFI process, CMUD intends to issue the RFP for the future metering solution by August 2013.



Pilot plant consumption testing

- A backlog of large meter maintenance service orders needs to be addressed. These large meters represent a significant challenge to revenue collection if they are not regularly serviced and calibrated.
- Another suggested project was to explore a customer assistance program. This will require the aid of a consultant who specializes in social services and understands utilities.
- Additionally, optimizing our customer billing cycles was recommended and the planning phases have begun.

A reevaluation of the continuous improvement implementation will occur by the end of FY2013.



## STRATEGY AND PLANNING

Over the past several years, CMUD has experienced several challenges and transitions. Responding to these challenges and transitions has required deliberate evaluation and planning. Effective planning requires that we know not only what we want to accomplish, but also what resources we have and how best to use them. Successful planning identifies the obstacles we face and determines what change is needed to succeed. The strategic planning process defines major projects and initiatives, and anticipates significant needs, challenges and risks. Strategic planning is a continuous process. In many ways, the thought process utilizing Leadership Team collaboration is as valuable as the final plan itself. The planning must be completed with our core principles in mind:

- Providing safe drinking water and efficient sewer service to our community year after year.
- Maintaining exemplary financial management.
- Providing excellent customer service.

### Long Range Strategic Plan

To assist in periodically refreshing the department’s long range strategy, a SWOT (strengths, weaknesses, opportunities, and threats) analysis is deployed by the CMUD Leadership Team. This analysis in FY2012 resulted in the identification of strengths, weaknesses, opportunities and threats shown below.

	<b>Helpful to achieving the objective(s)</b>	<b>Harmful to achieving the objective(s)</b>
	<b>Strengths</b>	<b>Weaknesses</b>
<b>Internal Origin (attributes of the organization)</b>	<ul style="list-style-type: none"> <li>• Quality people – diverse, flexible, nimble, creative/knowledge, well-trained, team ethic, dedication</li> </ul>	<ul style="list-style-type: none"> <li>• Adequate Staff Resources going forward – more cross training for redundancy is needed, more procedures, more use of technology; Knowledge retention</li> </ul>
	<ul style="list-style-type: none"> <li>• Strong Financial Positions - AAA bond rating, competitive rates, adequate funding</li> </ul>	<ul style="list-style-type: none"> <li>• Manage financial factors – mitigate large annual rate increases, mitigate variable revenue stream, cut debt without loss in maintenance</li> </ul>
	<ul style="list-style-type: none"> <li>• Good utility capacity – reliability, compliance with Safe Drinking Water Act, compliance with Clean Water Act, Biosolids handling, sufficient lines to support growth</li> </ul>	<ul style="list-style-type: none"> <li>• Manage Customer relations and service access/delivery – develop brand/image, improve performance to maintain customer support, increase satisfaction</li> </ul>
	<ul style="list-style-type: none"> <li>• Leadership focus on continuous improvement, sustainability, innovation, communication, engagement with City and industry</li> </ul>	<ul style="list-style-type: none"> <li>• Agility – be more preventive with our actions and less reactive, do more root cause analysis, measurement and control of the right things</li> </ul>
	<ul style="list-style-type: none"> <li>• Community Support and Awareness – public education, environmental awareness, improving customer service relationship, stakeholder interest and support</li> </ul>	<ul style="list-style-type: none"> <li>• Silo (work) mentality has to be removed               <ul style="list-style-type: none"> <li>– City; Division to division; Individual</li> </ul> </li> </ul>

<b>External Origin (attributes of the environment)</b>	<b>Helpful to achieving the objective(s)</b>	<b>Harmful to achieving the objective(s)</b>
	<b>Opportunities</b>	<b>Threats</b>
	<ul style="list-style-type: none"> <li>• Financial Viability - Develop alternative revenue sources</li> </ul>	<ul style="list-style-type: none"> <li>• Threats to infrastructure and Operational resiliency</li> </ul>
	<ul style="list-style-type: none"> <li>• Operational Resiliency - Develop/implement all hazard emergency preparedness plan</li> </ul>	<ul style="list-style-type: none"> <li>• Challenges to water supply – water resource adequacy, IBT, product quality</li> </ul>
	<ul style="list-style-type: none"> <li>• Customer Satisfaction – continue to enhance customer service</li> </ul>	<ul style="list-style-type: none"> <li>• Instability in economy, politics, regulations, etc – challenge to planning and financial viability</li> </ul>
	<ul style="list-style-type: none"> <li>• Stakeholder Understanding and Support - Implement comprehensive communications plan for internal and external</li> </ul>	<ul style="list-style-type: none"> <li>• Potential loss of partnerships – Duke Energy, Counties like Union, York, and Cabarrus, other water users, etc</li> </ul>
	<ul style="list-style-type: none"> <li>• Community Sustainability and Water Supply Adequacy - Expand and strengthen regional partnerships</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying and maintaining needed resources – need stakeholder understanding and support ; need strong leadership, qualified staff, technical resources, security, tools</li> </ul>

The results of a SWOT analysis and discussion are then used to develop the key list of long term objectives (shown below). These objectives will be reflected in the Balanced Scorecard as Initiatives and Measures.

<b>OBJECTIVES FOR STRENGTHS AND WEAKNESSES (INTERNAL FOCUS)</b>
<b>PRODUCT QUALITY</b>
Meet all requirements of the Safe Drinking Water Act and Clean Water Act.
<b>CUSTOMER SATISFACTION</b>
Manage Customer Relations & service access/delivery.
<b>EMPLOYEE &amp; LEADERSHIP DEVELOPMENT</b>
Promote employee and leadership development.
<b>EMPLOYEE &amp; LEADERSHIP DEVELOPMENT</b>
Encourage Wellness.
<b>OPERATIONAL OPTIMIZATION</b>
Define and prioritize staff resources to optimize operations.
<b>FINANCIAL VIABILITY</b>
Maintain stability in financial management by maintaining fund balance ratio of 50% of operating fund budget, debt-to-PAYGO capital funding mix of 60-40 and debt coverage ratio greater than 1.8.
<b>OPERATIONAL RESILIENCY</b>
Foster culture of agility and adaptability.
<b>COMMUNITY SUSTAINABILITY</b>
Engage in Citywide efforts for change management and continuous improvement.
<b>INFRASTRUCTURE STABILITY</b>
Reduce risk management exposure

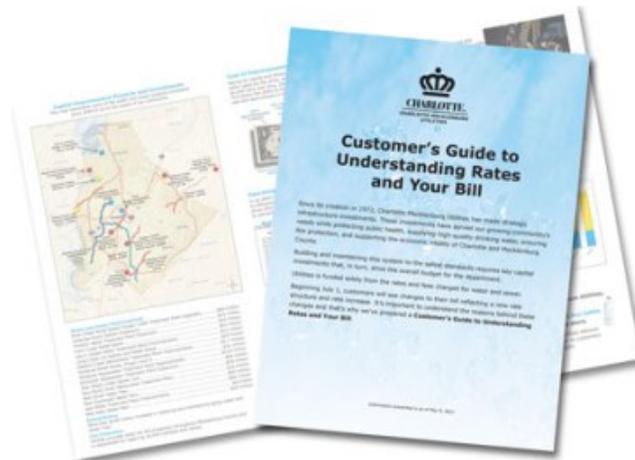
<b>OBJECTIVES FOR OPPORTUNITIES AND THREATS (EXTERNAL FOCUS)</b>
<b>OPERATIONAL RESILIENCY</b>
Complete development and implementation of the All Hazards Emergency Preparedness plan.
<b>COMMUNITY SUSTAINABILITY AND WATER RESOURCE ADEQUACY</b>
Continue a leadership role in regional water resources planning and ensure long term availability of water supply
<b>STAKEHOLDER UNDERSTANDING AND SUPPORT</b>
Develop and Implement a Comprehensive External Communication Plan.
<b>STAKEHOLDER UNDERSTANDING AND SUPPORT</b>
Expand and Strengthen external partnerships
<b>OPERATIONAL RESILIENCY</b>
Develop agility in response to risks.
<b>FINANCIAL VIABILITY</b>
Expand alternative revenue sources.
<b>CUSTOMER SATISFACTION</b>
Enhance Customer Service

CMUD's long range strategic plan includes a multipronged approach to several core Utility topics which are detailed here:

Core Topic: Financial Management

Strategy:

CMUD will continue to offer competitive rates. CMUD's AAA bond ratings have saved ratepayers millions of dollars as a result of securing low interest rates. Rates and fees will be set to recover the full cost of operating, financing, maintaining, replacing, and expanding the Utility as needed. Rates and fees are based on equitable distribution of the costs to provide service. Effort will be made to maintain a fund balance ratio of 50% of operating fund budget, debt to PayGo capital funding mix of 60/40, and debt coverage ratio of 1.8.



To re-focus on equitable distribution of costs and recovering full operational costs, a comprehensive rate methodology study was completed in FY2011. The rate methodology study involved citizen input and is expected to help address public concerns about *how* customers are charged for water and sewer service. It defines the next evolution in the rate structure by addressing public concerns about rate equity, environmental and economic sustainability, water conservation, and affordability. CMUD's competitive rates result from effective management, strategic use of technology, and managed competition efforts. Over the years, CMUD has maintained some of the lowest rates in the region.

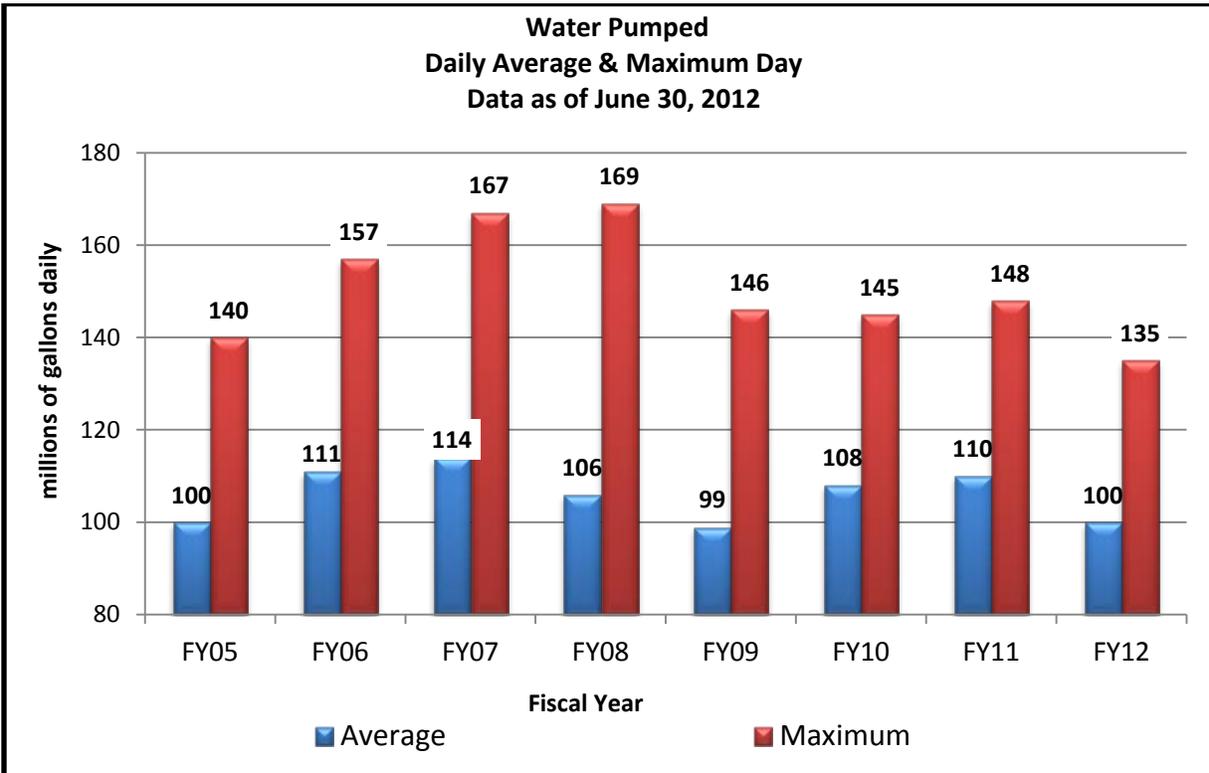
Core Topic: Drinking water quality

Strategy:

Provide water treatment and distribution to reliably, consistently, and efficiently produce and distribute drinking water that meets or surpasses all regulatory requirements and that is aesthetically pleasing to customers. This will be accomplished through a multi-barrier approach by protecting and utilizing the highest quality supply source(s), operating and maintaining modern treatment facilities to high standards,

protection from contamination caused by backflow and/or distribution system deficiencies, and monitoring and measuring water quality throughout the system.

Performance levels will be improved, sustained, and monitored through active participation in the Partnership for Safe Water and through audited compliance with other industry standards.



Core Topic: Interbasin Transfer (IBT)

Strategy:

The existing IBT Authorization Certificate issued by N.C. regulators allows for up to 33 mgd of IBT from the Catawba River basin to the Rocky River Basin on any single day each year. CMUD will extend indefinitely the ability to comply with this Authorization by timely and accurate monitoring of actual and committed IBT amounts and by planning for and developing infrastructure that controls future IBT amounts.

The existing Authorization excludes service to the Goose Creek Basin of Mecklenburg County. CMUD will provide service to its entire service area, including Goose Creek basin, by obtaining authorization from NCDENR to include the basin within the IBT area.

Core Topic: Water Metering

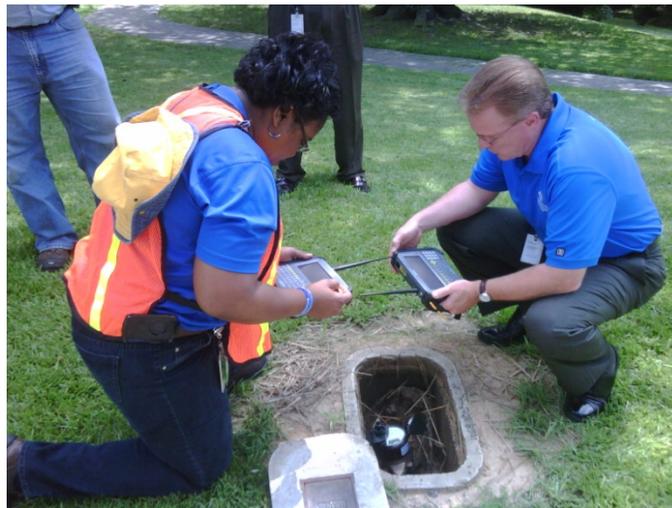
Strategy:

Meter all water usage to provide accurate, timely data that is used for:

- Customer billing
- Detection of leaks downstream of meters
- Resolution of billing complaints
- Customer account management
- Evaluation of system performance

Water metering will be accomplished through a reliable, consistent, cost effective process utilizing one or more service providers that minimizes risk, provides for ongoing technology and process updates, instills customer confidence, and that complies with industry standards.

AWWA standards will be followed to estimate the ratio of revenue (metered) to non-revenue water. Metering accuracy within AWWA standards will be maintained through the proper maintenance, replacement, and/or calibration of metering equipment and through an established metering and billing audit program.



Comparison visits to other Utilities for Meter Strategy

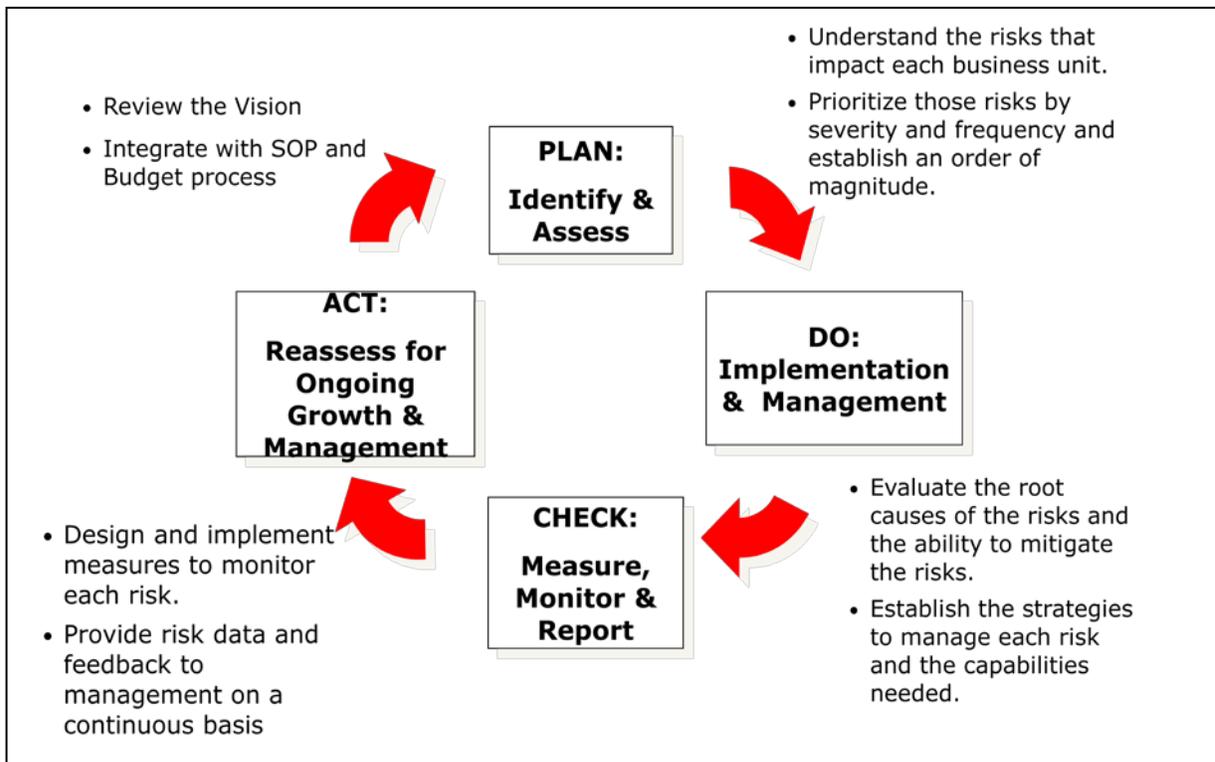
Core Topic: Risk Management

Strategy:

Improve the reliability, safety, and cost control capabilities of the operation, management, financing, and expansion of the utility system by developing enhanced risk management practices. Identification and mitigation of risks will be an integral part and consideration of each significant action by CMUD. The types of risk to be considered include risks to the public, risks to employees, risk to the environment, risk

to the economies of the service area, financial risks to the utility, risk of reduced service levels, and risk to the good reputation of the City and CMUD.

Significant actions include development of study recommendations and implementation of study results, design and construction of infrastructure, large maintenance and/or rehabilitation projects, development of capital investment plans, recommendation of capital and operating budgets, recommendation of changes to rates and fees and/or rate and fee methodology, and the purchase of major equipment. In each case, deliberate decisions will be made and communicated about acceptable risk and mitigation levels. Risk Management will be coordinated at the Department level, but is the responsibility of each CMUD employee.



RISK PROFILE IMPROVEMENT PLAN

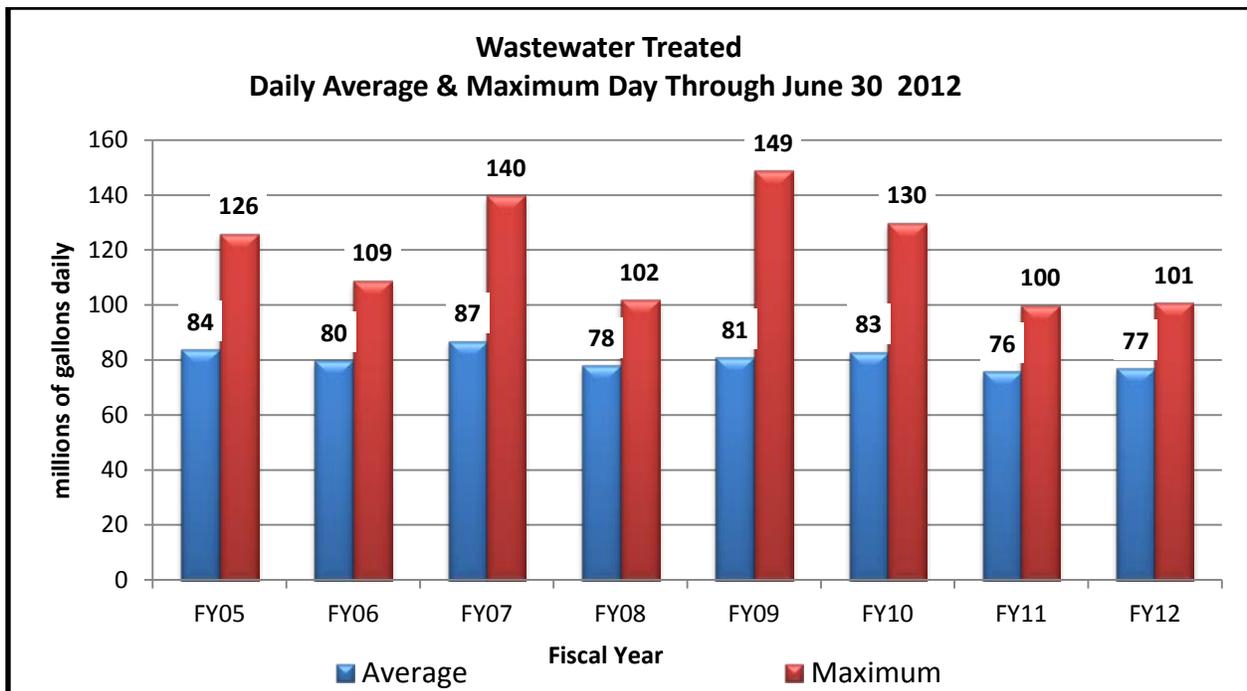
Core Topic: Wastewater Treatment  
 Strategy:

Wastewater produced by CMUD’S customers will be treated reliably, consistently, and efficiently to produce effluent that meets or surpasses all regulatory requirements, protects the environment and is aesthetically pleasing to customers. This will be accomplished through management of discharges into the wastewater collection

system, operating and maintaining modern treatment facilities to high standards, and monitoring and measuring water quality throughout the system. Effluent will be discharged in accordance with existing and future NPDES Discharge Permits. CMUD will develop programs and options to reduce wastewater production and to reduce the volume and pollutant loading discharged to surface waters.

Wastewater flows will be managed between various treatment plants operated by CMUD or by CMUD’s partners. Regional wastewater management plans will be developed and implemented in a way that maximizes regulatory compliance and environmental protection and minimizes costs and risks for CMUD’s customers and for the region.

Performance levels will be improved, sustained, and monitored through audited conformance to continuous improvement via ISO 14001 Environmental Management System standards and other appropriate industry standards.



Core Topic: Treatment Capacity

Strategy:

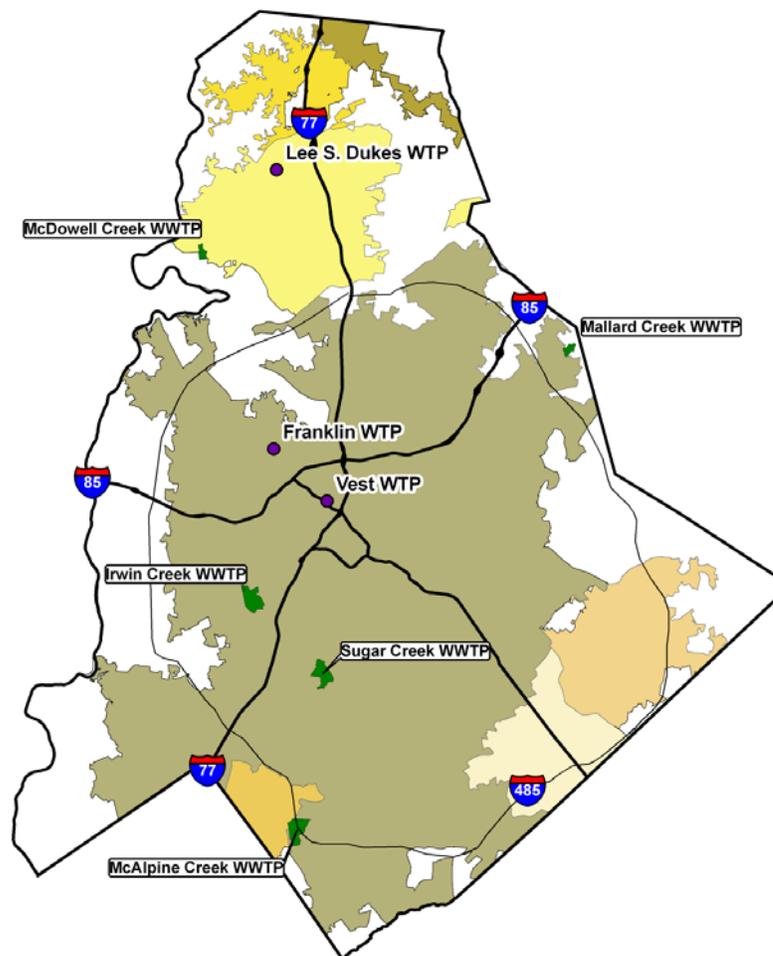
CMUD will maintain reserve capacity for water and wastewater treatment that is at least 20% above the average daily demand as measured over the course of each calendar year. Before reserve capacity falls below 20%, studies will be completed to determine how to restore and maintain the reserve capacity goals.

Reserve capacity needed to meet peak demands will be maintained at 30% above the average of the highest peak demand experienced over the previous three calendar year period.

Effective treatment capacity, (average and peak), will be increased as needed through reliable reduction in demands, regional partnerships, increased utilization of existing facilities, expansion of existing facilities, and/or construction of new facilities.

Available treatment capacity will be determined based on reliable plant capabilities, NPDES Permits, and other appropriate factors. The amount of capacity used will be monitored and communicated.

Planning and Engineering will be further embedded into operations and maintenance to provide design and contract administration and support for construction, operations, and maintenance of capital facilities to ensure system infrastructure stability and capacity.



Core Topic: Collection and Distribution System Capacity System Capacity  
Strategy:

CMUD will provide maintenance of infrastructure to effectively deliver treated water and collect wastewater through over 8,000 miles of water and sewer mains. Focus will continue on the reduction of sanitary sewer overflows (SSOs) in the collection system and maintaining a high level of leak repair response in the distribution system.

Less frequent equipment maintenance, due to funding constraints, increases the risk of repeated and unexpected equipment failure. This results in higher repair and replacement costs due to deferred maintenance. Measures will be taken to re-focus on maintenance throughout the treatment, collection, and distribution system and will need to be monitored and measured for results.



Core Topic: Continuous Improvement / Competitiveness  
Strategy:

CMUD will increase performance levels using continuous improvement processes and techniques coordinated at the Department level and implemented at the Division level. Continuous improvement program will be used to achieve and maintain operational and economic competitiveness and will be coordinated with the Balanced Scorecard/Business Planning process.

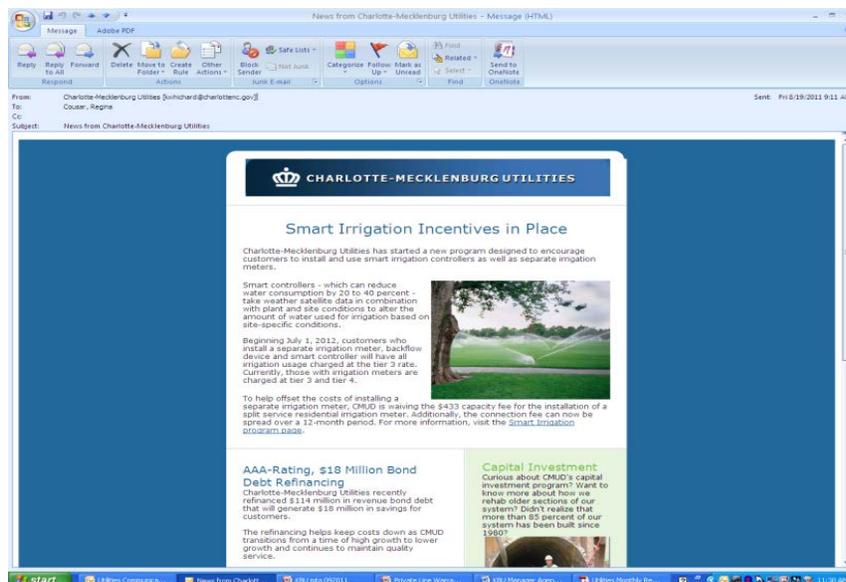
Continuous improvement processes will encourage and support operations and management of the Utility in accordance with recognized best practice standards such as ISO, AWWA, NELAP, and other as appropriate. Compliance with those standards will

be measured and confirmed by the establishment and implementation of periodic and recurring audit procedures.

Core Topic: Communication

Strategy:

CMUD will use communication with customers, elected officials, employees, regulators, and stakeholders to assure that operation and management of the Utility is transparent, well understood, and meeting the needs of each group. Communication will be coordinated with City Corporate Communications and generally delivered by CMUD Communication Team. A new communications plan will be developed and updated periodically that prioritizes issues and delivery methods.



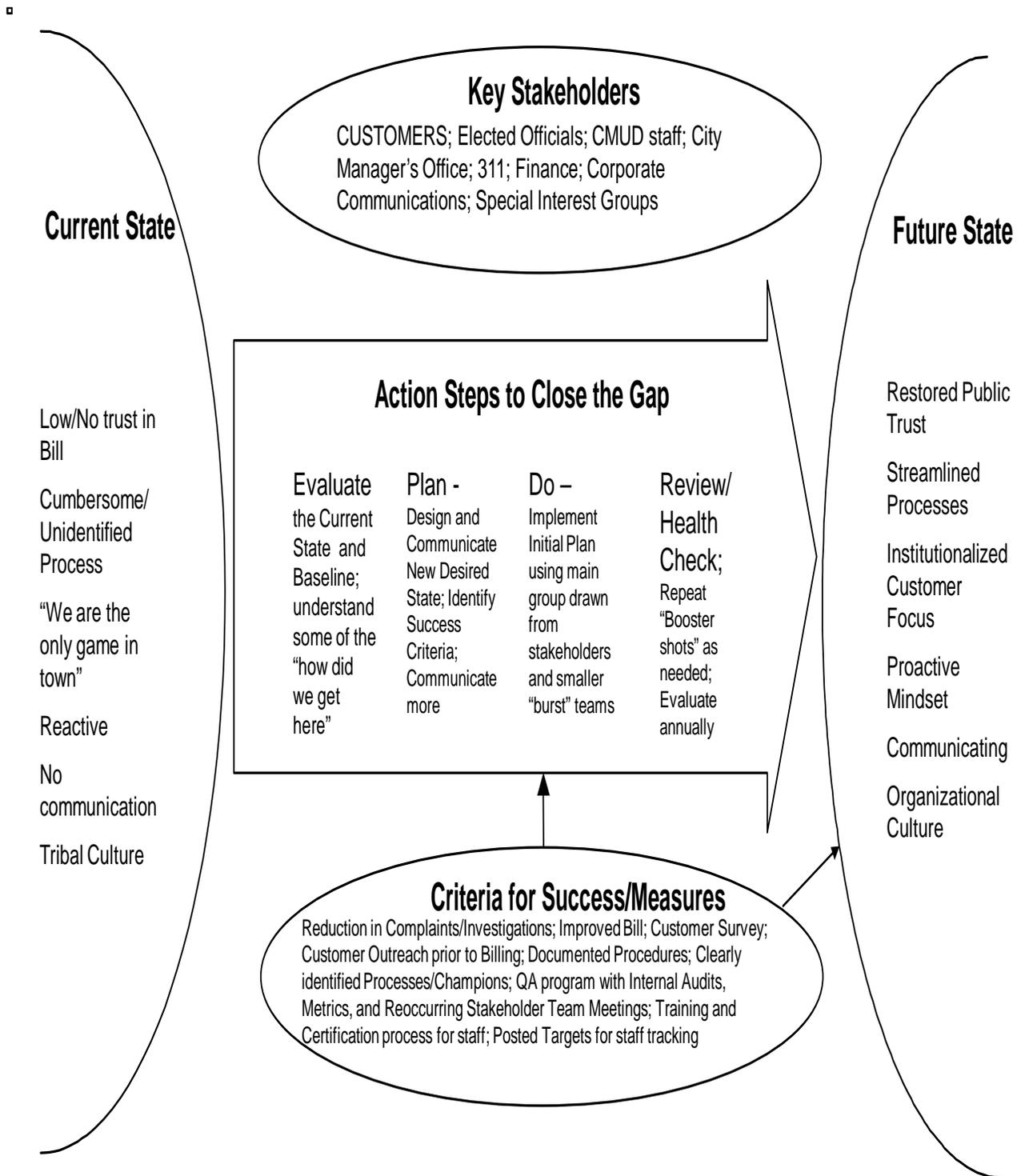
e-News from the Charlotte-Mecklenburg Utility Department

Core Topic: Customer Service

Strategy:

CMUD will implement the strategic actions identified in the 40 Point plan and obtain certification to a best practice standard for ongoing performance management.

An Evaluation Project initiated by the City Manager was completed in September 2010. The evaluation has led to a valuable reset in the strategic plan for customer service. A field audit of 9,000 meters was completed in the summer of 2010 as part of the evaluation and has led to an ongoing internal operational audit of meter reading equipment. A benchmark study was completed to evaluate current policies related to delinquency, payment arrangements, account holder requirements and leak adjustment practices. The benchmark study highlighted areas where CMUD led other water service organizations and where CMUD could improve.



**BLUEPRINT FOR 40 POINT IMPROVEMENT PLAN**

Core Topic: Biosolids Management

Strategy:

Biosolids are the nutrient-rich organic materials resulting from the treatment of domestic sewage at a wastewater treatment facility. Through biosolids management, solid residue from wastewater treatment is processed to reduce or eliminate pathogens and minimize odors, forming a safe, beneficial agricultural product. Farmers and gardeners have been recycling biosolids for ages. Biosolids can be applied as fertilizer to improve and maintain productive soils and stimulate plant growth. They also are used to fertilize gardens and parks and reclaim mining sites. Biosolids are carefully monitored and must be used in accordance with regulatory requirements.

CMUD will continue to manage its biosolids program with a best practice EMS which is ISO 14001:2004 certified (or equivalent) by an external audit process. The Environmental Management Systems (EMS) emphasizes commitment to continuous improvement and pollution prevention. A Biosolids Master Plan will be created to review past practices for return on investment, sustainability, and to project the best path forward.



Biosolids are land applied to farm land in the region.

Core Topic: Information Management

Strategy:

CMUD will increase our use of technology in the field to provide better service to our customers. Additional emphasis will be on the deployment of technology to assist with metrics for monitoring and measurement, and the use of technology for conformance to best practice standards. Technology will be a tool that assists in the improvement in business processes as part of the continuous improvement effort.

Core Topic: Employee Training and Development

Strategy:

CMUD will hire and maintain a skilled diverse workforce. Due to higher requirements for entry-level positions in the utility field, CMUD has at times in the past experienced some difficulty in finding qualified applicants. The strategy will be to remove any barriers in the hiring and onboarding process to insure a timely hiring schedule. Once hired, training and skills development process will focus on internal training opportunities supplemented by external development courses as needed to maintain a known level of technical and professional expertise.



Crews use robotic cameras to check wastewater pipes

## ACCOMPLISHMENTS

Over the past several years, CMUD has achieved numerous accomplishments. The most significant include:

- **Providing safe drinking water and efficient sewer service to our community year after year.** CMUD consistently meets Environmental Protection Agency's *Safe Drinking Water Act* and *Clean Water Act* requirements.
- **Maintaining exemplary financial management.** CMUD AAA bond ratings have saved ratepayers millions of dollars as a result of securing low interest rates.

**Several Awards were recently earned** for our environmental stewardship and operational efficiency, along with other significant accomplishments:

- All five wastewater treatment plants received 2011 **Peak Performance Awards** from the National Association of Clean Water Agencies. These awards are for compliance year 2010. Awards are given in the year following compliance performance. Mallard and McDowell wastewater treatment plants are ranked Platinum for over five years of 100% compliance. All of the plants were submitted again for consideration in the award process for compliance year 2011 by June 2012.
- CMUD Performance & Conservation Manager received the *Friend of the Green Industry* Award from the N.C. Green Industry Council (GIC) on January 18, 2012. A Senior Lab Analyst was awarded the NC Waterworks Operations Association (NCWOA) Laboratory Analyst of the Year in September 2011.
- **WAM (Azteca Cityworks)** was deployed for work and asset management in the Field Operations Division in January 2012.
- **NELAP external audit** was completed for 2 sections of Laboratory Services. The audit had a positive outcome with indications that final certification will be achieved soon in 2012.
- **ISO 14001 certification** external audit was completed successfully in early February 2012. Extension as a corporate certificate to cover Mallard, McDowell, and Biosolids will continue.
- **Vacancy Strategy teamwork** was emphasized throughout the year. CMUD established nine teams of employees from all levels of the organization. These teams created more than seven job aids to ensure consistent approaches in each step of the vacancy-filling process, allowing for the successful filling of 167 vacancies and the establishment of more work crews, without a significant increase in safety incidents.
- **Customer Service Division implementation of the 40 Point Plan** is proceeding. At approximately 50% completion, quality assurance measures are being institutionalized as part of standard operating procedure. The improvement plan has already demonstrated measurable quality enhancements. For example, as of January 2012, high bill inspections were down 26% and missed mobile meter reads were down 18%. This is directly attributed to more complete equipment audits by technicians, which leads to the earlier identification of equipment issues, and the installations of more new model transmitters. Further, reorganizing and automating work processes among field personnel has reduced an overtime average of 887 hours per month down to two, thanks to automation and work process enhancements.
- Continued efforts in **safety and risk** have yielded some improvement. In 2012, CMUD won 20 safety gold location awards presented by the N.C. Department of Labor and the Safety and Health Council of N.C.
- As of June 2012, CMUD has a formalized stand-alone **Continuity of Operations Plan (COOP)** and participated in the citywide COOP exercise led by the Department of Homeland Security (DHS) on June 26, 2012 in preparation for the Democratic National Convention coming to the community in September 2012. All of CMUD's Leadership Team has completed FEMA NIMS Incident Command System 100, 200,

700, and 800 training, and many members hold additional certifications. The CMUD Emergency Management team, composed of 15 other operational staff members, has completed at least two FEMA NIMS ICS courses each. CMUD employs the Incident Command System for crisis communication and has a specific communications plan contained in the Comprehensive Emergency Management Plan (CEMP).

- **Sustainability** efforts have also been on the CMUD radar. CMUD has worked to identify energy-efficient equipment and opportunities for reducing electrical usage. During the past year, lighting has been replaced at one treatment plant that reduced energy lighting costs by 50%. Incentives by the power company for replacement of equipment with more energy-efficient equipment totals about \$75,000. Power offset programs have saved more than \$500,000 per year at our treatment plants. CMUD now has six hybrid vehicles, one electric vehicle and an electric vehicle charging station at the Environmental Services Facility.
- CMUD began publishing and distributing a citizen's 'Guide to Understanding Rates & Your Bill' in 2011. This **customer communications effort** continued in 2012, with an expansion of the publication to focus on a guide to billed city services approach. Additionally, a new CMUD customer e-newsletter is 2,200 subscribers strong, and growing.
- **Bond Rating** – CMUD was reviewed by the major bond agencies and **rated AAA** by all three agencies. This is the highest possible 'credit rating' our system can achieve, and only a handful of utilities throughout the U.S. have earned this distinction. We continue to focus on effective financial management so that this rating may be maintained.

## LINKS TO CORPORATE STRATEGY

CMUD has reviewed and updated its Balanced Scorecard initiatives to maintain alignment with the goals of City Council and the mission and vision of our organization.

Serve the  
Customer

### The Customer Perspective

CMUD is committed to customer satisfaction and confidence by safeguarding the environment and providing responsive services, reasonable rates, system capacity, and effective communication.

Run the  
Business

### The Internal Process Perspective

CMUD continues to leverage technology and collaborate with other business units in efforts to optimize business processes with the ultimate goal of enhancing customer service.

Manage  
Resources

### The Financial Perspective

Sound financial management is a responsibility CMUD takes seriously, as we owe it to our ratepayers who support our operation. Effective management and a comprehensive Capital Investment Program contribute to our excellent bond ratings.

Develop  
Employees

### The Learning and Growth Perspective

Hiring and retaining competent staff is vital to our success. Employee training and development continues to be a high priority for CMUD.

## STRATEGIC INITIATIVES

The table below identifies a few of the initiatives CMUD will undertake and how they align with the City’s corporate objectives and/or focus areas. The CMUD FY2013 Balanced Scorecard can be found in Appendix of this report.

	<i>Department Initiative</i>	<i>Linkage to Corporate Strategy</i>
Serve the Customer	<b>Environmental Stewardship:</b> <ul style="list-style-type: none"> <li>• Reduce sanitary sewer overflows</li> <li>• Meet or exceed all requirements of the Safe Drinking Water Act and Clean Water Act.</li> <li>• Define and prioritize staff resources to optimize operations for reduction in overflows and leaks</li> </ul>	<b>Corporate Objective:</b> Safeguard the Environment  <b>Focus Area:</b> Environment
Run the Business	<b>Enhance Customer Service:</b> <ul style="list-style-type: none"> <li>• Define and prioritize staff resources to maximize operations by completing customer service optimizations</li> <li>• Develop and Implement a Comprehensive External Communication Plan.</li> </ul>	<b>Corporate Objective:</b> Enhance Customer Service
Manage Resources	<b>Prepare for the Future:</b> <ul style="list-style-type: none"> <li>• Incorporate continuous improvement and performance measures into business practices</li> </ul>	<b>Corporate Objective:</b> Invest in Infrastructure
Develop Employees	<b>Provide Growth for the Future:</b> <ul style="list-style-type: none"> <li>• Promote employee and leadership development by optimizing recruiting and retention methods and further streamlining the vacancy filling process.</li> <li>• Promote employee and leadership development by the expansion of internal certification process.</li> </ul>	<b>Corporate Objective:</b> Promote Learning and Growth

## Service Delivery

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### SERVICES

CMUD is organized around seven service areas. These areas and the services they provide are described briefly below.

**Administration:** Provides departmental level functions such as key business decisions, human resources, budget, financial management, rate setting, technology, communications, training, revenue recovery, safety, security, and competitiveness via continuous improvement.

**Customer Service:** Oversees new connections, service availability and customer account management including bill inquiries, meter reading, leak investigation, and backflow prevention.

**Engineering:** Provides design and construction of CMUD facilities, water and sewer main rehabilitation and extensions, donated projects, and surveying.

**Environmental Management:** Manages the treatment of wastewater before it is discharged back into the environment and protects our system by regulating industrial/commercial wastewater discharges, and oil and grease reduction.

**Field Operations:** Maintains more than 8,000 miles of water and sewer pipe and more than 253,000 service connections.

**Laboratory Services:** Provides testing of water, wastewater, and industrial users for compliance and manages water quality issues relating to taste, color, and odor.

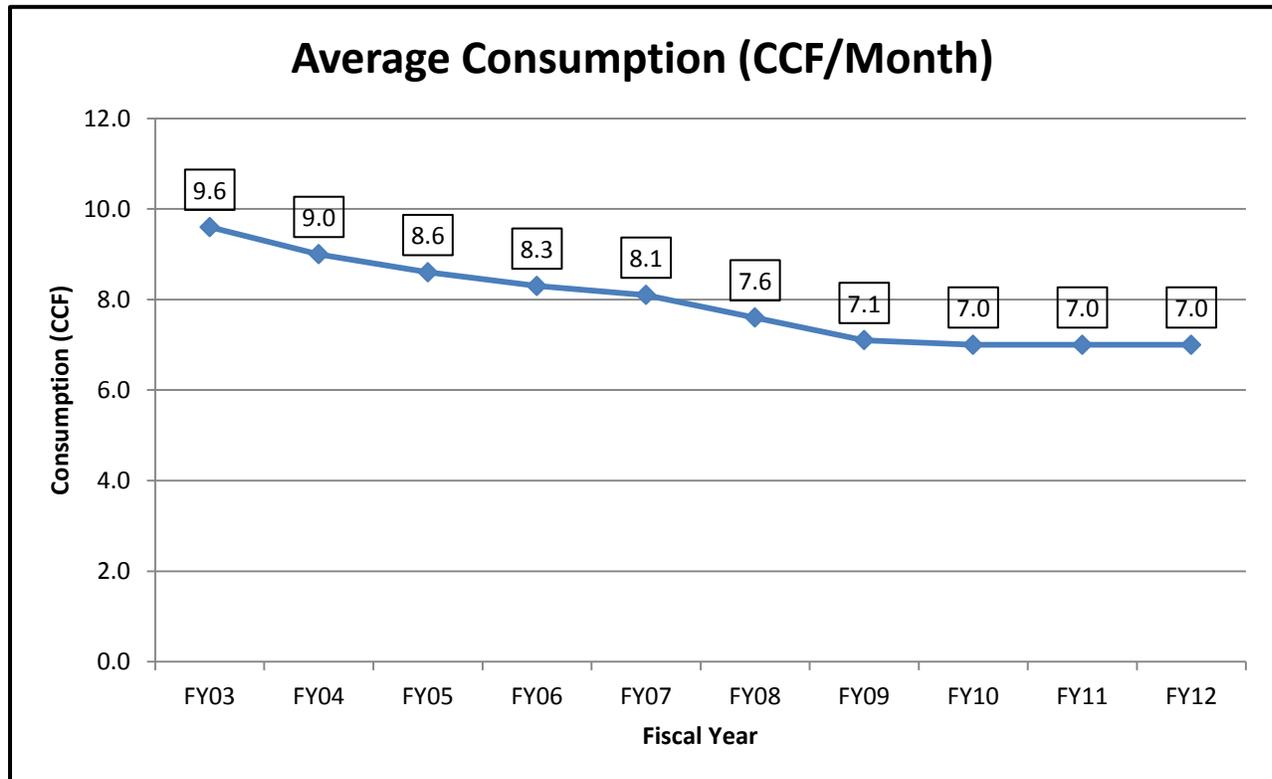
**Water Treatment:** Provides treatment and pumping of water to distribute drinking water to customers.

### HISTORY and TRENDS

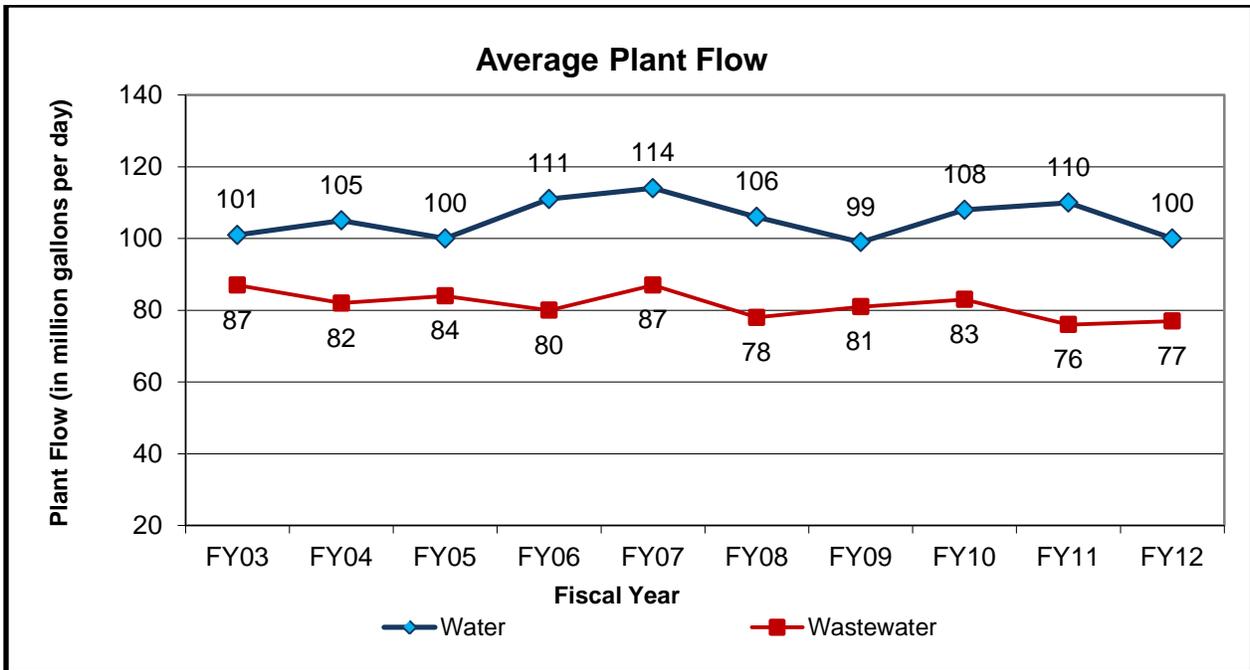
Our customer base and water and wastewater system continued to grow through 2012, although the growth rate has noticeably slowed. The FY2012 statistics show an increase in miles of pipe that is largely due to the completion of a GIS survey project, while the accounts increased due to annexation.

	<i>As of June</i>					
	2007	2008	2009	2010	2011	2012
Water Accounts	237,930	241,637	242,631	245,854	248,257	253,557
Wastewater Accounts	219,154	222,887	223,855	226,978	229,002	235,157
Water Mains (miles)	3,850	3,929	4,025	4,064	4,094	4,206
Wastewater Mains (miles)	3,865	3,942	4,028	4,047	4,073	4,180

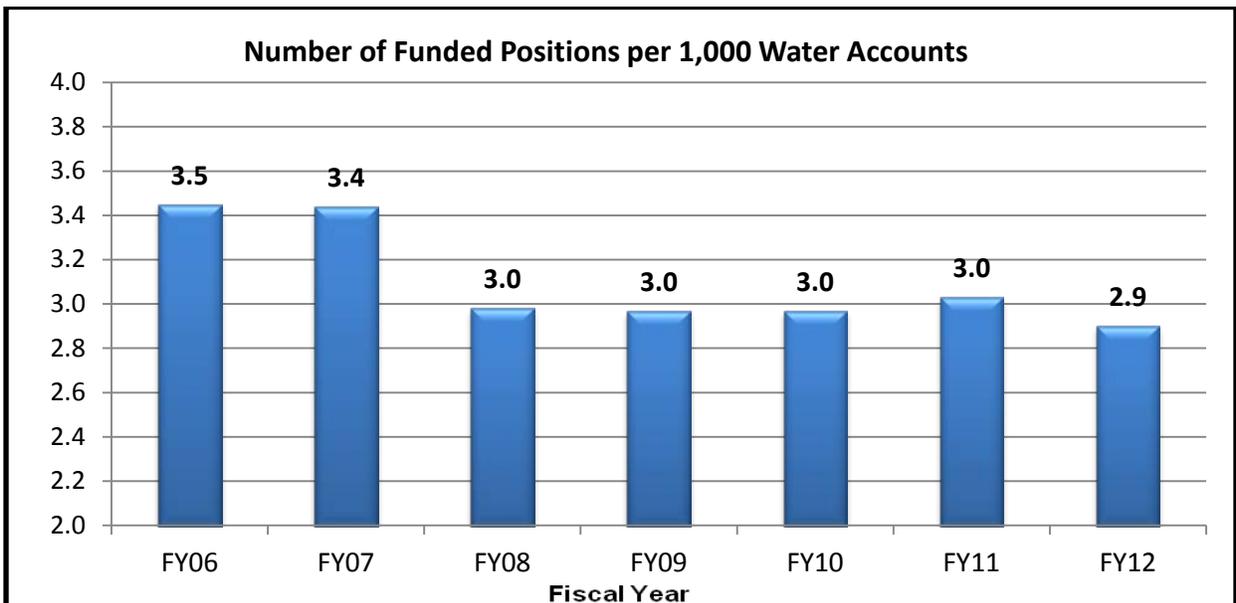
From FY2003 to FY2009, CMUD had seen a decrease in the average consumption per residential account for consecutive years. Average consumption has been nearly flat since FY09 and continued at approximately 7 CCF for FY2012. Following the drought restrictions during FY2008-09, when average consumption declined notably, residential customers have continued to use less water. Evidence indicates that customers have adopted and maintained conservation habits, such as low flow shower heads.



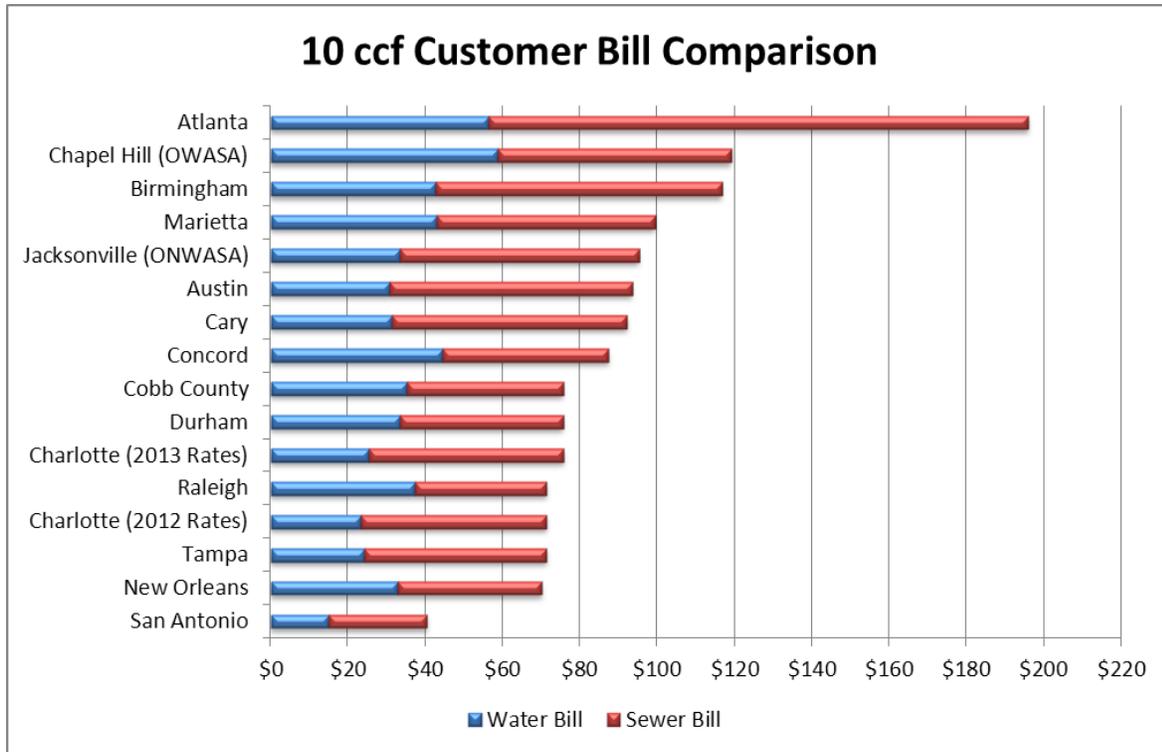
As can be seen in the Average Plant Flow graph below, during the first half of FY2011, with all restrictions lifted and only a mild persistent dryness, the water treatment plants saw a 14% increase in average daily pump rates while the wastewater treatment plants flow remained largely unchanged. By FY2012, average water treatment plant flows had decreased by about 10% as compared to the year prior, with wastewater treatment plant flows holding fairly steady. The gap between the water plant flows and the wastewater plant flows has been consistent and somewhat reflective of weather patterns. This gap is indicative of water being used but not returned to the system, e.g. lawn irrigation and the use of water for the testing and flushing of the distribution system.



Despite an increasing customer base, CMUD has successfully managed resources to minimize operating costs. Optimization, including continuous improvement, competition, and benchmarking help CMUD provide efficient, quality services while minimizing rate increases.



CMUD consistently ranks among the lowest rates for average residential customers in regional and national surveys. This is a result of efficient service delivery and capital financing strategies. The following graph shows 2012 data unless otherwise noted.



## Resource Allocation Summary

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	FY2009 Budget	FY2010 Budget	FY2011 Budget	FY2012 Budget	FY2013 Budget
Budget	\$246,702,894	\$ 251,427,753	\$268,734, 053	\$288,860,220	\$291,085,960
Authorized Positions	813.5	816.5*	791.5	746.25	746.25
Water CIP	\$63,076,050	\$111,066,000	\$29,084,000	\$67,572,575	\$28,375,000
Wastewater CIP	\$169,720,000	\$275,470,000	\$83,262,600	\$50,327,000	\$52,983,400

\*To reduce expenses, 97 positions were authorized but not funded in FY2010, while there were 87 such positions in FY2011. For FY2012 and FY2013, positions have been eliminated for additional savings.

## Conclusion

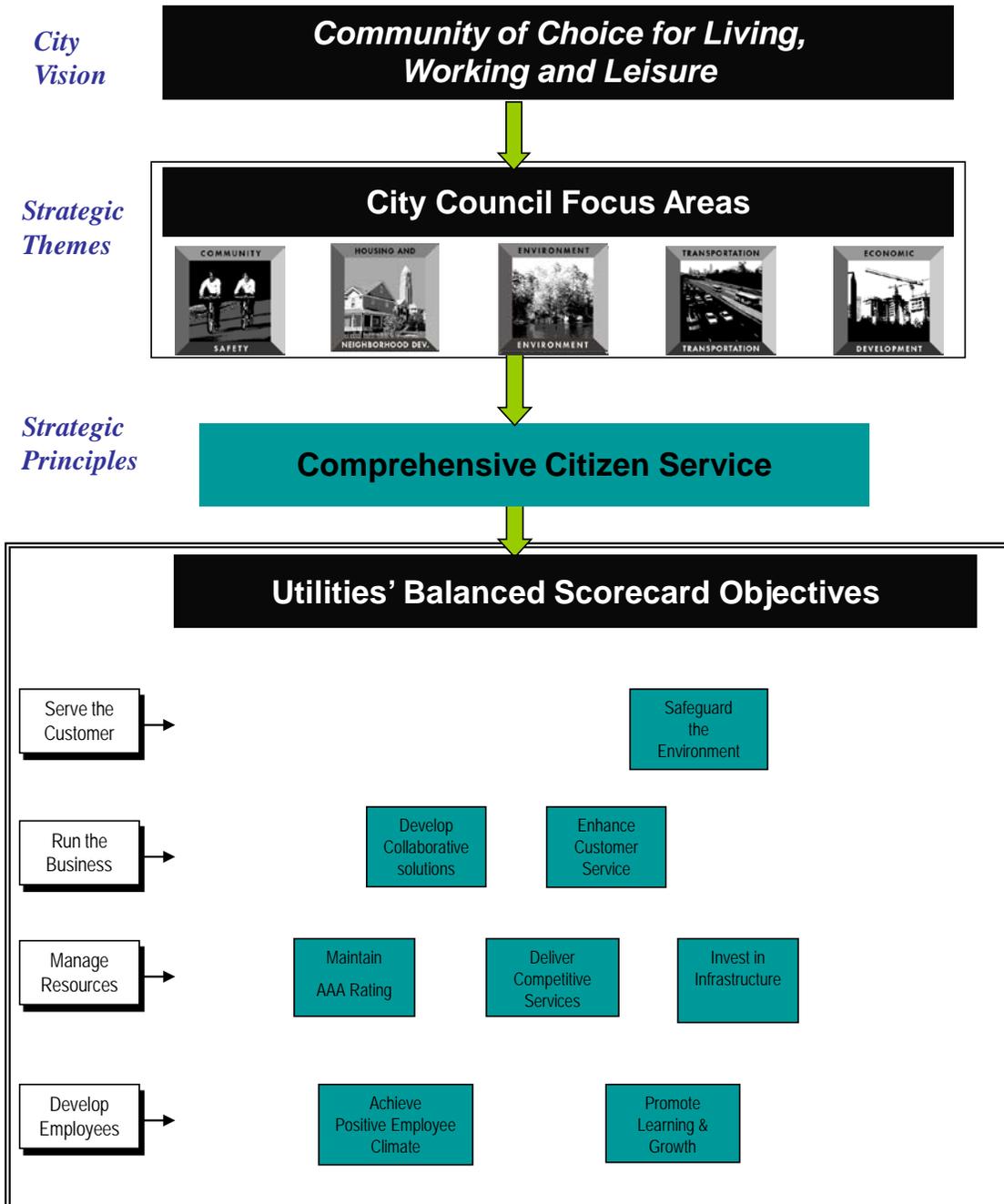
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CMUD remains committed to the City's corporate strategy and to providing high-quality, low-cost services to our customers. One primary lesson learned in FY2011 and continued in FY2012 has been the need to shift our focus from a high growth oriented utility to a utility focused on sustaining operations and customer service. This is due to the dramatic slowing of growth that has occurred over the recent years. This lesson learned will impact how we reposition to best respond to customer needs and maintain efficient operations in the future. This strategic operating plan promotes the achievement of organizational goals and objectives as well as continuing CMUD commitment to providing vital basic services to our customers.

# Appendix A: Department Link to Corporate Scorecard



## Charlotte-Mecklenburg Utilities Strategy FY 2012 – FY2013



## Appendix B: FY2013 BALANCED SCORECARD

City Strategy Vision Component	City Corporate Objective	Utilities Initiative	Measure:	Target:	Leadership Team Sponsors (or other significant responsible party)	Measurement Validation (Specific Actions to complete during the fiscal year)
Serve the Customer	Safeguard the Environment	COMMUNITY SUSTAINABILITY AND WATER RESOURCE ADEQUACY	Continue a leadership role in regional water resources planning and ensure long term availability of water supply <b>(FY2013 FOCUS AREA PLAN – ENVIRONMENT)</b>	Ensure long term availability of water supply	Barry Gullet	Work with Catawba-Wateree Water Management Group to complete Phase 2 of Basin-wide Water Plan
Serve the Customer	Safeguard the Environment	PRODUCT QUALITY	Meet all applicable requirements of the Safe Drinking Water Act and Clean Water Act.	Ensure public health, safety, and the environment by achieving 100% compliance with NPDES permit and MCL requirements	John Huber/Jackie Jarrell	Report quarterly to insure permit compliance, institute any needed corrective action, and identify preparations needed for future compliance requirements
Serve the Customer	Safeguard the Environment	OPERATIONAL OPTIMIZATION	Define and prioritize staff resources to optimize operations.	Ensure public health, safety, and the environment by maintaining collection system integrity	Angela Lee/Barry Shearin	Reduce Sanitary Sewer Overflows to below 6.5 per 100 miles of pipe
Serve the Customer	Safeguard the Environment	OPERATIONAL OPTIMIZATION	Define and prioritize staff resources to optimize operations.	Conserve water and maintain system integrity by repairing water leaks in a timely manner	Angela Lee/Barry Shearin	Complete 100% of leak repairs within 8 calendar weeks

<b>Run the Business</b>	Enhance Customer Service	CUSTOMER SATISFACTION	Manage Customer Relations & service access/delivery.	Improve business and financial services	Kim Eagle/Mickey Hicks	Complete implementation of procurement process efficiencies, contract administration process improvements, and new RCA review process. Complete evaluation after implementation . Reduce number of direct pays from prior year actual by 25% with no direct pay over \$10,000.
<b>Run the Business</b>	Optimize Business Processes	CUSTOMER SATISFACTION	Enhance Customer Service	Improve long term customer service by developing a metering strategy to provide more information and services to external customers	Regina Cousar/Steve Miller/Barry Gullet/Doug Groce	(S)Develop new metering strategy based on RFI results, complete scope of services for an RFP, and begin evaluations for a new metering system contract.
<b>Run the Business</b>	Enhance Customer Service	OPERATIONAL OPTIMIZATION	Define and prioritize staff resources to optimize operations.	Optimize technology investment by developing a multiyear plan that addresses departmental needs	Doug Groce	Develop and formally state the initial phase of a 5 year Technology Road Map that addresses resource needs and scheduling of new technologies such as ERP, WAM, and GIS along with aging technologies and end of life issues for current systems.

<b>Run the Business</b>	Enhance Customer Service	OPERATIONAL OPTIMIZATION	Define and prioritize staff resources to optimize operations.	Improve customer service by planning process and resource needs that will meet or exceed best practice standards	Steve Miller	Develop and implement an improved inventory control process for Customer Service resources. Transition pre-billing high usage check read service orders (WANS) to pre-billing high bill inspection with communication to customer (WAHI). 1st Q - 10%; 2nd Q - 40%; 3rd Q - 80%; complete by June 30.
<b>Run the Business</b>	Optimize Business Processes	INFRASTRUCTURE STABILITY	Reduce Risk Management exposure	Enhance the departmental safety and risk management profile by optimizing the structure and delivery of safety and risk management services	Regina Cousar/ Mickey Hicks/Bab Westall	Fully establish a Safety and Risk management group with the intent of reducing overall liability costs. Document a service level agreement with written processes and expectations. Identify a scope of services for a Supervisors Safety program.
<b>Run the Business</b>	Optimize Business Processes	OPERATIONAL OPTIMIZATION	Define and prioritize staff resources to optimize operations.	Provide excellent water quality.	Angela Lee/John Huber/Steve Miller/Myra Zabec	Scope and begin implementation of phase 1 of Partnership for Safe Water Distribution, including a comprehensive water main flushing program.

<b>Run the Business</b>	Optimize Business Processes	<b>CUSTOMER SATISFACTION</b>	Manage Customer Relations & service access/delivery.	Provide more information to Internal Customers by use of dashboards, metrics, and internal teams	Doug Groce/Regina Cousar/Vic Simpson	Provide more information to Internal Customers by completing Pipeline content migration to SharePoint, implementing some metric dashboards, particularly financial and continuous improvement, and completing the governance structure.
<b>Manage Resources</b>	Invest in Infrastructure	<b>COMMUNITY SUSTAINABILITY</b>	Engage in Citywide efforts for change management and continuous improvement.	Continue implementing best practice standards	Regina Cousar/Myra Zabec/Jackie Jarrell/Angela Lee/John Huber/Barry Shearin	Continue with the implementation of best practice standards such as ISO, NELAP, and Partnership for Safe Water. Complete the implementation of 3 more lab sections to NELAP, complete the gap analysis and final planning for Sugar Creek ISO 14000, and complete initial Reliability Centered Maintenance for collections.
<b>Manage Resources</b>	Maintain AAA Rating	<b>FINANCIAL VIABILITY</b>	Maintain stability in financial management by maintaining fund balance ratio of 50% of operating fund budget, debt-to-PAYGO capital funding mix of 60-40 and debt coverage ratio of 1.8.	Prepare for next capital investment debt issuance	Kim Eagle/Mickey Hicks/Doug Groce	Achieve financial metrics presented to rating agencies at last rating review.

<b>Develop Employees</b>	Achieve Positive Employee Climate	EMPLOYEE & LEADERSHIP DEVELOPMENT	Encourage Wellness.	Encourage Wellness: Of employees that enroll, take actions to ensure that at least 70% elect the wellness medical plan	Wellness Team/Carolyn Ross	(\$) Conduct at least 2 Wellness Sessions encouraging participation prior to open enrollment. Provide at least 6 monthly reminders on Wellness during FY 2012.
<b>Develop Employees</b>	Promote Learning and Growth	EMPLOYEE & LEADERSHIP DEVELOPMENT	Promote employee and leadership development.	Maintain strength of workforce by meeting targets for filling vacancies and continuing development of an ongoing vacancy strategy.	Bab Westall	(\$) Implement defined procedures for a streamlined vacancy filling process, offer internal CEU and PDH opportunities, and establish minimum standard training hours for positions.
<b>Develop Employees</b>	Promote Learning and Growth	EMPLOYEE & LEADERSHIP DEVELOPMENT	Promote employee and leadership development.	Improve organizational performance by use of KPIs, change management, and Continuous Improvement training.	Regina Cousar	(\$) Develop methods to cross train employees and reduce silo mentality in work functions while implementing continuous improvement initiatives, including more process documentation, quarterly best practice training, and reviewing operations by internal audit.