

CITY OF STOCKTON  
MUNICIPAL UTILITIES DEPARTMENT

**BUSINESS PLAN**  
MARCH 2009

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- Appendix B – MUD Phased Staffing Plan

## I. EXECUTIVE SUMMARY

In December 2007, the Municipal Utilities Department (MUD) staff was directed by the City Council to prepare a formal business plan for MUD. This direction was initiated to document MUD's plan to operate and maintain its assets after the Service Contract with OMI/Thames terminated on March 1, 2008. The Business Plan described in this document is intended to be a general plan on how MUD will operate and maintain its assets to fulfill its mission. The Business Plan is not designed to specifically describe how to accomplish the mission. Upon approval of the Business Plan, MUD management, in concert with staff and appropriate stakeholders, will need to develop specific action items to implement the goals, strategies and tasks listed in the Business Plan to support the stated mission and governing values.

MUD engaged the services of Michael Barnes, P.E., of Whitley Burchett & Associates (WBA) to review the technical aspects of the Business Plan and Larry Bienati, Ph.D. of Consultants to Management (CTM), for his expertise in strategic planning, management consulting and strategic human resources. Both worked in collaboration to gather input from MUD staff and stakeholders employing management team meetings, focus group conversations, stakeholder sessions, site assessments and various surveys. The Director of MUD felt a unified vision, along with employee participation and appropriate alignment goals, would ensure a successful business planning process.

The Business Plan contains 10 chapters, along with two appendices. As background, the Plan includes a brief description of MUD and its facilities, and how MUD is managed by the City. After this, the key components of the Business Plan are presented in the following order:

- Development of a mission statement and governing values
- Current status of MUD and its general ability to meet its mission
- Challenges that MUD faces
- Strategic goals developed to meet its mission
- Urgent action items
- Staffing to meet the challenges

The following is a summary of these key components:

Chapters 4 and 5 present the new mission statement and governing values for MUD operations: *“To provide high quality potable water on demand; collect, treat and dispose of wastewater; and collect and dispose of stormwater, all in accordance with all applicable regulation and responsible business practices.”*

Chapter 6 presents a current status of MUD operations and is a high level general assessment of each utility's present ability to complete its major goals to

achieve the mission. In general, MUD has been successful in fulfilling its mission. However, continued success will be dependent upon overcoming the following major challenges:

- Improving the condition of the wastewater treatment and pumping assets
- Minimizing wastewater collection system overflows
- Adequately funding the Stormwater Utility
- Meeting the water demand as the area grows
- Developing a staffing succession plan

Chapter 7 identifies the current challenges facing MUD from three perspectives: Management, Employee's and the Consultants. From the Management Team's perspective, six areas of importance were identified:

1. Asset maintenance
2. Completion of CIP's;
3. Pipeline maintenance and repair
4. Sufficient utility revenue
5. Adequate water supply and
6. Workforce development in light of pending retirements, turnover and training needs for technical personnel.

From the employee perspective, focus group sessions were held within each of the MUD's divisions and the employees were requested to complete an on-line employee survey. Staff was mostly positive about the reintegration of MUD to the City and prided themselves and the management on a transparent transition without any loss of service. Staff highlighted the needs for proper tools, resources, vehicles, equipment, inventory, staffing levels, communication systems and selected HR issues to re-tool. Staff identified immediate health and safety issues that needed prioritization. From the various focus group meetings, staff identified staffing, workforce development, preventive maintenance in RWCF and pump stations, water wells, challenges with developer built facilities; master planning updates, wastewater lateral capacities, collection system repairs and updates as some of topical theme areas emerging from the discussions. Many of these issues were integrated into goals and strategies outlined in the Business Plan.

From the Consultant's perspective, several major challenges were identified that have the potential to hinder MUD's ability to meet its mission. These can be summarized as follows:

- Improve the condition of the assets as well as the planning, budgeting, and management of maintenance
- Minimize wastewater collection system overflows
- Improve the relationship with the Regional Water Quality Control Board (RWQCB)
- Improve operation and maintenance of the remote pump stations

- Develop a succession plan to proactively replace retiring staff

Suggestions were also received from the Concerned Citizens Coalition, and other external sources, and these were taken into advisement in the development of this Business Plan and incorporated into appropriate outreach and stakeholder engagement suggestions in Goal #5 of the Business Plan.

Chapter 8 identified the five strategic goals that serve as the foundational building blocks for achieving MUD's mission. These five goals are:

Goal #1: Regulatory Compliance and Customer Satisfaction

Goal #2: Reliability and Sustainability

Goal #3: Fiscally Responsible Business Practices

Goal #4: Safety and Workforce Development

Goal #5: Develop and Sustain Effective Partnerships

Key strategies to meet each of these goals were identified and potential metrics to measure and monitor success are listed in the appendices.

Chapter 9 lists urgent action items that should be completed within the first 18 months of the Business Plan implementation. Primary process improvements include:

- Develop a sufficient major maintenance budget to repair assets
- Initiate improvement to the condition of the RWCF and remote pump station assets
- Complete preventive maintenance activities on schedule
- Continue the refinement of the CMMS
- Develop a more effective structure to manage maintenance
- Complete the required new Wastewater NPDES permit tasks
- Complete the utility master plans and rate studies to determine funding needs for each utility
- Develop a strategy for outsourcing
- Develop a strategy to maximize the effective use of technology
- Develop an organizational structure and staffing plan to facilitate implementation of the strategic goals
- Develop a workforce development/succession planning strategy
- Implement a formal staff engagement strategy
- Improve internal and external communications

Chapter 10 presents specific staffing needs to implement the urgent action items. Additional staffing is recommended for RWCF and remote pump station maintenance, the CMMS and SCADA systems, and RWCF Operations. New staffing will also be needed for the start up of the Delta Water Supply Project in 2011. Finally, the MUD Phased Staffing Plan is referenced and included as Appendix B.

All considered, this business planning process was a successful effort. Through the “listen and learn” approach, collective input was gathered from many stakeholders to develop the mission, consistent with the Council objectives to improve the quality of life for MUD customers. MUD staff should be commended for achieving a seamless transfer of responsibilities from OMI/Thames, without loss of service while demonstrating an unwavering commitment and a sense of personal responsibility in developing this strategic Business Plan.

## **II. INTRODUCTION**

In December 2007, the Municipal Utilities Department (MUD) staff was directed by the City Council to prepare a business plan for MUD. The direction was initiated to document MUD's plan to operate and maintain its assets after the Service Contract with OMI/Thames terminated on March 1, 2008. The Business Plan described herein has been prepared in compliance with this direction.

### ***A. General Description of the Business Plan***

The Business Plan described herein is intended to be a general plan of how MUD will operate and maintain its assets to fulfill its mission. It is not designed to specifically describe how to accomplish the mission. Once the Business Plan is finalized, MUD will need to develop specific action items to implement the goals, strategies, and tasks listed in the Business Plan.

### ***B. Business Plan Approach***

MUD management staff, Michael Barnes, P.E. of Whitley Burchett Associates (WBA) and Larry Bienati, Ph.D., of Consultants to Management Inc. (CTM) were retained to develop a strategy to create a business plan in collaboration with MUD staff that would meet the mission of MUD. Initially, MUD management collaborated with WBA and CTM to develop a draft mission and major goals to accomplish the mission as a starting point for discussion with MUD staff. Subsequently, the consultants met with staff to discuss the mission and goals, and solicit feedback on MUD operations. The consultants also met with the Concerned Citizens Coalition of Stockton (CCCoS) and the business agent for Operating Engineers Local Union 3 to discuss the mission and goals. Finally, CTM facilitated an all staff survey to solicit further input on the business plan process and current employee relations climate. A summary of the employee survey results is provided later in this document. The consultants captured and incorporated input from all groups in this Business Plan, contained herein. The Business Plan is aligned with the MUD Mission and Major Goals discussed below. This business plan template will be further refined in the future to include specific success metrics and specific implementation plans.

The Director of MUD believed in a full employee engagement strategy for this process, which was termed "listen and learn." He wanted to ensure all stakeholder and community partners offered their weigh in on the strategic plan. At the time of this strategic plan development, MUD operations were being transitioned from OMI/Thames back to the City. The Director felt a unified vision, along with employee participation and appropriate alignment goals, would help take the organization to the next level.

The MUD mission that was developed was intentionally kept simple and straightforward to be clear to all. The major goals were developed in a similar vane, with the intent to minimize the number of goals. All MUD tasks to complete

these goals are included as tasks under each goal in the Business Plan. The mission, core governing values, goals, strategies and success measures are presented in this document.

The final draft was submitted to MUD staff for feedback, and all comments were given due consideration.

Based on feedback and perceptions of the various stakeholders, it was clear that MUD should complete a variety of tasks quickly to meet its mission. The MUD Business Plan includes a chapter that lists the urgent action items that MUD needs to complete in the next 18 months.

# **III. THE MUNICIPAL UTILITIES DEPARTMENT (MUD)**

## ***A. Description of MUD***

### **1. General**

MUD is responsible for furnishing water, wastewater, and stormwater services for residential, commercial, and industrial customers within the City of Stockton. It also furnishes wastewater services to several San Joaquin County service areas and special districts outside the city.

### **2. Functions**

MUD operates and maintains a water system that obtains raw water from wells and treated surface water and delivers this water to over 46,000 connections via a pumping and piping system. MUD disinfects the water from the wells prior to delivery.

MUD operates and maintains a wastewater system that collects wastewater from over 73,000 connections via a network of sewer pipes that flow by gravity to 23 pump stations throughout the system. The pump stations send the wastewater to a treatment plant that removes the regulated pollutants from the wastewater prior to discharge to the San Joaquin River.

MUD operates and maintains a stormwater system that consists of 77 stormwater pump stations that pump stormwater runoff away from customers to prevent flooding.

### **3. System Description**

The water system consists of 33 pump stations and wells, 7 distribution storage reservoirs, and over 400 miles of water mains ranging in size from 4 to 60 inches, and over 185 miles of service connections ranging in size from 1 to 12 inches. The Delta Water Supply Project will add a water treatment plant, pumps, and pipelines to the system by 2011.

The wastewater system consists of a 48 million gallon per day (mgd) regional wastewater treatment plant, 23 pump stations, 36 miles of force mains, and over 800 miles of sewers.

The stormwater system consists of 72 pump stations, over 410 miles of main pipes and 114 miles of lateral pipes, and over 12,600 manholes.

## ***B. City Management of MUD***

MUD is one of 14 departments within the City of Stockton. The Director of MUD reports to the Deputy City Manager-Operations, who reports to the City Manager.

The City Manager, City Attorney, and the City Clerk all report directly to a seven member City Council.

Through the City Council, there are numerous committees that guide and oversee various City activities. The Council Water Committee, comprised of three City Council members, has been active in overseeing MUD's efforts. The Council Water Committee has provided oversight that was instrumental in the successful transition of O&M responsibilities back to MUD from OMI/Thames, as well as the implementation of the Delta Water Supply Project. Overall, the Council Water Committee provides a public forum for discussing MUD activities in detail to maintain transparency for MUD.

### ***C. Organization of MUD***

MUD consists of 11 divisions containing a total of 167 approved positions as identified in MUD's currently approved budget. The following is a brief description of these divisions, and the approximate staffing level as of August 2008.

#### **1. Administration**

This division provides general management of, and support to, all of MUD's divisions. The division is managed by the Director of MUD, and consists of 10 employees, including 4 Deputy Directors and administrative support staff.

#### **2. Business Services**

This division provides budget and financial support, manages stores, buys materials, and administers the safety program. The division is managed by the Business Manager and consists of 6 employees.

#### **3. Collections**

This division operates and maintains the wastewater and stormwater collection systems. The division is managed by the Deputy Director of Water and Collections (vacant), supervised by the Collections System Supervisor, and consists of 32 employees.

#### **4. Water**

This division operates and maintains the water distribution system, water wells, and storage reservoirs. The division is managed by the Deputy Director of Water and Collections (vacant), supervised by Water Operations Supervisor, and consists of 30 employees.

#### **5. Water Resources**

This division manages water resources of MUD to ensure that MUD's water supplies are sufficient. This includes the Delta Water Supply Project, water conservation programs, non-potable water program, and general engineering

and inspection support. This division is managed by the Deputy Director of Water Resources and consists of 6 employees.

## **6. RWCF Operations**

Operates the Regional Wastewater Control Facility (RWCF), which treats all wastewater collected by MUD. The division is managed by the Deputy Director of Wastewater and consists of 27 employees.

## **7. Maintenance (RWCF and remote pump stations)**

This division maintains the RWCF and remote wastewater and stormwater pump stations. The staff also operates the remote wastewater and stormwater pump stations. The division is managed by the Deputy Director of Wastewater and consists of 26 employees.

## **8. Laboratory**

This division furnishes analytical laboratory analyses for the RWCF, stormwater, and water operations. The division is managed by the Deputy Director of Wastewater and consists of 7 employees.

## **9. Engineering**

This division provides engineering support for the water, wastewater, and stormwater divisions. That support, in part, includes managing the MUD capital improvement program, construction project management and inspection, management of projects for new development, and maintenance of engineering records. The division is managed by the Assistant Director/Engineering Services Manager and consists of 13 employees.

## **10. Stormwater**

This division furnishes technical support for tasks required by the NPDES permit for stormwater, including permit reporting, storm sampling support, system inspections, and public outreach. The division is managed by the Assistant Director/Engineering Services Manager and consists of 5 employees.

## **11. Environmental Control**

This division is responsible for protecting the wastewater treatment plant and its biological processes from interference, pass-through, and sludge contamination resulting from industrial and commercial sewer discharges. The division is managed by the Assistant Director/Engineering Services Manager and consists of 5 employees.

## **IV. MISSION STATEMENT**

### ***A. Alignment with the City***

The mission of the City of Stockton is to serve its customers by providing innovative, courteous and responsive service; promoting economic opportunity; enhancing the quality of life for its citizens; and building a better City for future generations.

MUD's mission statement is aligned with the City's mission statement in that it focuses on the basic functions of MUD, which MUD believes is the best way to support the City's mission.

### ***B. Mission Statement***

The mission that was developed to capture MUD's purpose was intentionally kept simple and straightforward so that it would be clear to all.

MUD's mission is to:

*Provide high quality potable water on demand; collect, treat, and dispose of wastewater; and collect and dispose of stormwater, all in accordance with applicable regulations and responsible business practices.*

## **V. MUD'S GOVERNING VALUES**

As an enhancement to the City's core values, MUD has developed the following values for conducting its business:

- Provide a safe and healthy environment for our employees and the community we serve
- Deliver superior service and strive to provide for the best value for our customer's dollar
- Demonstrate unwavering integrity
- Identify performance driven measures
- Care about and invest in our employees
- Treat others with respect, dignity and empathy
- Take initiative and personal responsibility for our actions
- Practice continuous quality improvement
- Strive to leave a sustainable institution for the community we serve

## **VI. CURRENT STATUS OF MUD**

### ***A. General***

Over the past ten years, MUD has experienced significant organizational transitions that have created a very challenging working environment. The major cause of this was the process to initiate and terminate the Service Contract to operate and maintain MUD's assets. This was particularly challenging for the City employees that were hired by OMI/Thames, and subsequently rehired by the City. MUD Management was concerned that the environment was still not conducive to high performance, worker safety, and community service goals. MUD Management has made it a high priority to regain public and employee trust through the organization transition. To gain a better understanding of the issues and to prepare the Business Plan, MUD management implemented the "listen and learn" approach to solicit staff input.

The listen and learn approach consisted of a multi-party engagement strategy. It offered solutions, suggestions and ideas, along with involvement of all employees and appropriate stakeholders. The goal was to develop a strategic plan of practicality, proper focus and full ownership in achieving MUD's mission. Through focus group meetings, re-engagement of all parties was initiated, and many successful suggestions and solutions were developed. There were many issues to triage in this process resulting from the four years of OMI/Thames oversight since many felt that basic infrastructure, safety and resource issues were not properly addressed.

In addition to assessing the working environment for staff, MUD Management wanted to determine the existing condition of the utility groups within MUD. The following is a general assessment of each utility's present ability to complete its major goals to achieve the mission. This assessment is based on a general review of MUD's assets. A more specific review of the assets will be made during the implementation of the Business Plan, which could impact this assessment.

### ***B. Wastewater Utility***

The wastewater utility is generally fulfilling its aspect of the Department's mission; however it will face several major challenges in the near future to reliably meet the mission. One challenge includes certain RWCF assets which will need repair and/or replacement to preserve reliable treatment ability. Failure to complete this work in a timely, planned manner may result in higher repair costs when failures occur unexpectedly and/or possible NPDES permit violations if the treatment process is impacted.

The remote pump stations have generally operated satisfactorily, but staff has reported that the emergency generators need attention to continue to operate reliably.

Collection system overflows are an area that MUD may be challenged to meet its mission. This will be challenging since MUD does not have full control over customer owned laterals, and overflows caused by plugged customer laterals are considered an overflow. MUD needs to manage maintenance to minimize overflows within its control, which will be required under the Sanitary Sewer Management Program implemented by the Regional Water Quality Control Board.

### ***C. Water Utility***

The water utility has had a solid record of fulfilling its aspect of the Department's mission, and the assets appear to be in good condition to continue to do so. The assets should function reliably as long as preventive maintenance is completed on schedule.

An issue of importance for MUD management is the utility's ability to deliver a sufficient quantity of water to meet demand as the area grows. While the Business Plan did not specifically review this issue, this issue is typical of many water purveyors in California given the availability of new water supplies.

### ***D. Stormwater Utility***

The stormwater utility has generally been able to fulfill its aspect of the Department's mission, which is to prevent localized flooding. In addition, it has successfully fulfilled its role in complying with the Stormwater NPDES permit and stormwater maintenance procedures. The assets are generally in good condition, although staff has reported that preventive maintenance on the remote pump stations is affected due to limited staffing.

The stormwater utility does not have adequate funding, and this may jeopardize its ability to continue to fulfill its mission. Projected revenues next year are approximately \$5 million, while expenses are projected at approximately \$7 million. Reserves are currently at approximately \$300,000, which is too low for a utility of this size. A Proposition 218 vote is required to raise rates, and it is unknown whether a rate increase would be approved by the voters.

### ***E. Workforce Development***

A shortage of qualified staff for wastewater and water utilities is common as many workers in the field are starting to retire. In the near future, many MUD employees will be eligible to retire, and replacing the retirees will be challenging since MUD will need to compete with other public agencies for the limited pool of experienced workers. MUD will need to develop a strategic succession plan to ensure that it has sufficient staff to operate and maintain its assets. Failure to do so will jeopardize its ability to fulfill the O&M aspects of its mission.

## **VII. CHALLENGES FOR MUD**

### ***A. MUD Management Perspective***

MUD Management met on July 22, 2008 to assess the condition of MUD after four months of operating and maintaining the MUD utilities. Based on this meeting, they identified six areas of immediate importance for MUD and the factors behind their importance. These are summarized as follows:

#### **1. Maintenance Improvements**

Maintenance of MUD's assets has been impacted by various factors in the recent management transition and has been below expectations to keep the assets operating reliably. Asset maintenance is critical since MUD's facilities are aging, which means that they will need more staff attention and maintenance. The magnitude of the major maintenance needed is not known at this time since the assets have not been thoroughly assessed.

There are two basic reasons for the inadequate maintenance. First, the Maintenance Division's management has been insufficient, primarily because there has not been a permanent supervisor or manager since MUD took over in March 2008. Second, there has been insufficient maintenance staff to complete the maintenance needed.

#### **2. Completion of CIP's**

MUD has been unable to complete certain capital improvement projects in a timely manner because of a lack of staff and technical capability in the Engineering Division. MUD needs to add additional engineers and other technical staff necessary to complete the projects.

#### **3. Pipeline Maintenance and Repair**

Maintaining and repairing the collection systems will need attention to keep the aging system in good condition. Lack of staff and equipment, along with aging maintenance equipment have all contributed to this. In addition, the lack of adequate fats-oils-grease (FOG) and root control programs have contributed to sewer system clogging, resulting in an increased need for maintenance. Finally, the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems may result in an increased need for sewer system repairs.

#### **4. Utility Revenue**

Inadequate funding was noted as a barrier for each of the above items, and low rates that result in insufficient revenue are the primary cause of this. To address this, MUD needs to complete master plans for each of its utilities to describe the necessary work and resulting costs for each utility. The master plans would be used as a basis for rate studies that would indicate the rate structures required

for funding of each utility. The master plans and rate studies would be used to support the necessary rate increases.

Potential challenges for the City to approve rate increases include the economic downturn being faced by the City, financial status of the general fund, and gaining Proposition 218 approval when applicable.

## **5. Water Supply**

MUD needs to maintain water planning to meet the City's growing water demands. Attention should be given to permitting issues, cooperation by opposing parties, and legal support for water issues. City leaders should engage in appropriate conversations to take the necessary actions to ensure a safe, efficient and potable water supply system to serve the needs of the rate payers.

## **6. Workforce Development**

Like many other municipal, county and state departments, MUD is projected to face a critical shortage of qualified staff in the near future due to retirees, and a general shortage of replacement staff in the wastewater and water fields. Employees will likely start retiring in March 2009 when many employees will be eligible for the enhanced retirement package that was adopted during the transition to MUD operations.

Since other utilities in California are facing this challenge, competition for qualified staff will be fierce. To compete, the City and MUD will need to market themselves as a great place to work. They also need to begin a workforce development and succession plan as a mission critical strategic goal in this Business Plan.

Potential barriers to competing effectively for the limited number of employees include a perceived below market total compensation package, hiring restrictions imposed by the City due to budget challenges, a time-consuming hiring process, and time consuming hiring processes and procedures.

MUD will also need to train current employees so that they will be qualified to move up into vacated senior positions. To complete this, MUD will need to develop effective training programs and make sure that the professional development budgets are sufficient.

### ***B. MUD Employee Perspective***

The MUD employee perspective consists of two components. The first is based on a survey of employees conducted by CTM to generally measure staff morale and general work satisfaction. The second is based on a series of meetings with all employees to solicit their input on MUD and the business planning process. Following is the perspectives from these components.

## **1. Employee Survey**

There was a concern that morale would potentially be low based on all the changes that have occurred since the OMI/Thames contract started. To gauge this, Dr. Larry Bienati, of Consultants to Management, Inc. (CTM) developed and administered a survey of MUD staff to generally measure the staff morale, along with constructive solutions for rebuilding teamwork, trust and general work satisfaction. The results of the survey are summarized below.

## **2. Employee Survey Results**

The consultants received a 50% response rate to our employee on-line survey. The survey focused on the following questions:

- What was working well in the MUD re-integration process?
- What is not working so well in the MUD re-integration process and what can you offer to correct these challenges?
- What do you hope to gain personally from the business planning process?
- What is it about MUD that keeps you from seeking employment elsewhere? If unsure about this question, what can we do to improve your general level of employee satisfaction?
- What is your view of the management team at this time? What is working well? What is not working so well?
- If you were given the opportunity to change one or two things at MUD in the next 6 months, what would it be?
- What steps can we take to ensure a successful implementation of the MUD Business Plan?
- What steps can we take to continue to attract and retain a quality workforce?
- What can the consultants do in their role to ensure a successful development of a strategic business plan?

The consultants received over 35 pages of information to the above noted questions with over 500 collective ideas, issues, concerns and constructive recommendations. They met with the management team and distilled the issues, themes into categories and ensured proper integration of constructive solutions to the development of the strategic Business Plan.

Staff offered mostly positive comments about the re-integration and prided themselves on the transition without loss of service.

Staff emphasized the importance of acquiring the proper tools, resources, vehicles, equipment, inventory, staffing levels, communication systems, and HR issues to re-tool MUD in the areas where OMI appeared to be non-responsive. These areas of focus were infrastructure, safety, resource and maintenance needs. We received over 5 pages of issues that needed to be triaged and addressed.

Staff felt that the strategic Business Plan could have a positive effect in achieving focus, direction and clear expectations of the MUD mission going forward. Staff saw this exercise topical in re-uniting the workforce towards a common vision and direction.

Staff appreciated the benefits offered by the City, passion for their work and contribution, relationships and general feeling that they can make a difference. They seemed pleased to return to the City after less than positive employee relations practices by certain members of the OMI management team.

Staff felt they understood what was expected of them but comments were mixed here. Staff also felt that MUD could improve the employee input and engagement level of staff where possible. Staff emphasized the importance of training, tools, equipment, professional development and ensuring staffing levels were kept to appropriate levels given the pending retirements, loss of institutional knowledge and need for succession planning. Staff expressed a need for documenting policies, practices and procedures and ensuring proper maintenance of the plant, equipment, pump stations were given a high priority given that some areas were not properly attended to in the last 4 years.

Staff expressed positive comments about the management team. They felt management was trying to do the right things and was made up of quality people with right intentions. Staff was looking for direction, positive change, suggested structure, organizational changes, continued employee input on decisions (participative management) and improved, consistent, and timely communication systems from the Director and the Management Team.

Other issues emerged in the survey related to the role of human resources support for hiring needs, compensation studies, improved benefits and the main theme was ensuring appropriate staffing levels at MUD. Many ideas offered by staff were considered, as appropriate, in the framing of the strategic Business Plan with defined goals and strategies identified.

### **3. Feedback from Business Plan Meetings**

WBA and CTM facilitated meetings with all staff at MUD to get their input on MUD and the Business Plan. While the intent of these meetings was not to generate an assessment of MUD, enough information was gathered to present a brief summary of how staff perceives MUD. The main feedback is as follows:

- *Staffing.* The O&M groups were concerned that staffing levels were below needed levels to properly operate and maintain the facilities.
- *Retiring employees.* Many senior employees will be retiring in the near future which present two challenges. First, this will intensify the staffing shortage. Second, MUD needs to develop a strategy to capture the knowledge of these employees so it is not lost through a formal mentoring,

training process of high potential employees interested in technical as well as managerial advancement.

- *Preventive maintenance (PM).* PM tasks are not being adequately completed for the RWCF and remote pump stations. Additional staff or outside services are needed to allow staff to catch up.
- *Remote pump stations.* Additional maintenance is needed at selected pump stations.
- *Water wells.* Rehabilitation is needed at selected water wells.
- *Problems with developer built facilities.* MUD O&M staff state that they do not always have a chance to review the design of the facilities, nor do they inspect the facilities during construction. There are some inconsistent standards for the remote pump stations, and consequently, the quality of certain pump stations could be improved.
- *Master plans.* There are no long range master plan of the stormwater and wastewater collection systems
- *6-inch wastewater lateral capacity.* It was expressed that some have inadequate capacity.
- *Collection system repairs.* Approximately 200 sections of the wastewater collection system need to be repaired. These are high maintenance sections that are susceptible to overflows
- *Collections system equipment.* The equipment to maintain the collection system is aging, and needs to be replaced. Also, quantity of equipment is insufficient.
- *Collection system staffing.* Insufficient to complete preventive maintenance.
- *Stormwater system needs.* The Stormwater Utility has many regulatory and maintenance needs that are sometimes overlooked compared to the needs of the wastewater and water utilities. MUD needs to make sure that these needs are met.
- *Training.* Effective training programs are needed to train employees on the latest and newest technology, not just computers, but equipment as well.

### ***C. Consultant Perspective***

Both CTM and WBA have been working with MUD on a variety of projects, and based on this work, have identified a number of challenges that MUD needs to meet to successfully complete its mission. Below is a summary of these challenges:

#### **1. Condition of the RWCF Assets**

The overall condition of the assets at the RWCF is fair based on the results of the Triennial Review. Several assets may be in poor condition and may be in danger of failing without major maintenance work and/or replacement. Failure of some of these key assets may cause increased costs and/or NPDES permit violations.

In addition, the protective coating on many of the assets is in poor condition, which results in two major problems. First, inadequate protective coatings may increase the probability of premature asset failure due to corrosion, thus increasing repair costs. Second, failing protective coating systems may detract from the asset's appearance, and give the impression that the assets are not well cared for. Consequently, reviewing agencies, such as the RWQCB, are more likely to believe that MUD is not properly maintaining its assets, which could lead to increased regulatory requirements. Overall, a multi-year program should be instituted to reapply protective coatings to many of the assets.

## **2. Maintenance of Assets**

Some of the maintenance of MUD assets is reactive and unplanned. This approach is inefficient, and is risky since equipment can fail unexpectedly, which increases the possibility of violating regulatory permit conditions. As maintenance becomes more proactive and planned, there is a decreased risk that equipment failure will cause permit violations. Maintenance staff reports that preventive maintenance (PM) tasks are not adequately being performed because of the need to perform corrective maintenance (CM).

## **3. Computerized Maintenance Management System (CMMS)**

Use of a CMMS is critical to completing maintenance in a proactive and planned manner for a facility the size of MUD. MUD has made significant progress since it took over operations, with the use of an outside consultant to correct deficiencies and refine the system operation. MUD has used clerical staff to enter data into the system, and is now starting to use it to manage maintenance at the RWCF, in addition to the collection and water systems. However, the CMMS is still not being used to plan and document remote pump station maintenance, and will not be able to do so until equipment data is gathered and fully entered into the system. MUD plans to enter this data into the system shortly so by the end 2008, MUD should be using the CMMS to plan and complete maintenance for all utilities. Full implementation of the CMMS is a critical step for MUD to improve with planned maintenance.

## **4. RWCF Major Maintenance Implementation**

MUD has many major maintenance projects to complete to improve the condition of the assets at the RWCF. A preliminary list of identified projects will cost \$3 to \$5 million per year for several years for major maintenance. It will be challenging for MUD to plan and implement these projects because of the number of projects, limited staffing and the expertise needed for the projects.

## **5. Relationship with the Regional Water Quality Control Board (RWQCB)**

MUD should continue to cooperate with the RWQCB staff, and demonstrate that MUD is taking all reasonable actions to ensure that it complies with its NPDES permit. If the RWQCB staff is confident that MUD is taking this approach, then they are less likely to respond harshly should there be a permit violation by the

RWCF operations. It should be noted that since MUD has resumed O&M of its assets, it has worked on improving relations with the RWQCB, and staff have reported improvements in the relationship.

## **6. Wastewater Overflows**

MUD has had, and continues to have, wastewater overflows in the collection system. To date, the RWQCB has not issued significant fines for these. However, this could change since the EPA has indicated that they will focus on forcing agencies to take more aggressive actions to reduce overflows. The recent Findings of Violation and Order for Compliance issued to several Marin County agencies is an indication of the regulatory response to overflows.

## **7. Remote Pump Station Operation and Maintenance**

The operation and maintenance of the remote wastewater and stormwater pump stations has been reported as a concern to MUD management. Based on discussions with MUD maintenance staff, the current level of staffing is inadequate to properly operate and maintain the 95 active pump stations. MUD has a SCADA system to monitor the pump stations, but the system has suffered from communication errors caused by line-of-sight interferences with the radio signals. Because of this, the system has not reliably transmitted data, and staff is reluctant to trust it for remote monitoring of the pump stations. Consequently, MUD has not been able to reduce the operations monitoring effort as much as it could. Finally, staff has reported that certain pump stations have not been adequately maintained for many years. These conditions increase the probability of an unplanned failure of a pump station. Failure of a wastewater pump station could cause a wastewater overflow, which would likely result in fines and compliance orders from the RWQCB. A stormwater pump station failure could result in localized flooding, leading to public complaints, and/or claims for property damage.

## **8. Replacement of Retiring Staff**

Many staff at MUD will be eligible for retirement in the next 2 to 5 years, and will need to be replaced if they retire. Certain examples include:

- RWCF Grade III Operators: 50% eligible for retirement in 2 years
- RWCF and PS Maintenance: 20% eligible for retirement in 2 years; 40% eligible in 5 years
- Water System Operators: 30% eligible for retirement in 2 years; 60% eligible in 5 years

Replacing wastewater O&M staff will be particularly challenging due to the limited pool of workers in this field. Many Bay Area wastewater agencies have reported difficulties in hiring experienced staff, and have had chronic staff vacancies as a result. Moreover, MUD needs to be vigilant to an improved employee retention strategy to ensure current employees stay in the operation to ensure a “bench of potentials” for succession planning.

## **9. Update Utility Documentation**

According to staff, O&M manuals are not current for some facilities, in particular for the RWCF. It has also been reported that the record drawings for the RWCF are not current. These documents will be important to train the numerous new employees that will need to be hired in the next 5 years. On the positive side, Unit Process Control Plans for the entire RWCF have recently been completed, which will be helpful to the operators and for training of new staff.

### ***D. Perspective by Others***

The Concerned Citizens Coalition of Stockton (CCCoS) has completed several annual reports in which they have presented their assessment of the condition of MUD. All of the reports were completed while OMI/Thames (OMI) was still operating and maintaining the MUD facilities, with the last one presented in March 2007. While those reports are dated, and are focused on the performance of OMI, it was felt that they should be acknowledged and included as general assessments of MUD. The following is a summary of what was presented in the most recent report. While these perceptions apply to OMI's management of the assets, it is assumed that these concerns remain.

- Unaccounted for water needs to be managed to keep it as low as possible.
- The computerized maintenance management system (CMMS) needs to be functional and produce accurate reports.
- Sanitary sewer overflows (SSO's) from wastewater collection system need to be minimized.
- The Independent Evaluator Report indicated that the RWCF is in need of significant maintenance.
- The managed assets need to be properly maintained.

## **VIII. STRATEGIC GOALS**

To fulfill its mission, MUD developed five strategic goals. For each of these strategic goals, there are primary strategies to accomplish the goal. In addition, there are key success measures to describe MUD's progress in accomplishing the goals. (The key success measures for these strategies are included in Appendix A, Section 5.)

Following is a brief summary of each of the strategic goals.

### ***A. Regulatory Compliance and Customer Satisfaction***

This goal describes MUD's need to operate its assets in compliance with all regulations, and to satisfy its customers. Consequently, the key strategies are:

- Comply with major regulatory permits
- Customer satisfaction for the applicable utility services
- Successful water operations
- Successful wastewater treatment, pumping, collections, and disposal operations
- Successful stormwater operations

The key success measures for these strategies are summarized in Appendix A, Section 1.

### ***B. Reliability and Asset Management***

This goal describes MUD's need to manage its assets to preserve the long term, reliable operation of the assets so that MUD can meet all regulatory and customer satisfaction goals. The key strategies are:

- Major maintenance/CIP development and implementation for each utility
- Successful implementation of the CMMS to plan, record, and optimize maintenance
- Successful water system maintenance
- Successful wastewater treatment, pumping, collection, and disposal system maintenance
- Successful stormwater system maintenance
- Plan for system growth
- Sustain knowledge of utilities

The key success measures for these strategies are included in Appendix A, Section 2.

### ***C. Fiscally Responsible Business Practices***

This goal describes MUD's need to manage its assets cost-effectively in the long term, and to ensure that each utility is properly funded. The key strategies are:

- Ensure that the utilities are properly funded
- Manage assets so that rate increases are planned and predictable and are competitive with other utilities in the Central Valley
- Operate assets in a cost-effective manner
- Ensure that administrative and engineering functions properly support MUD's operations

The key success measures for these strategies are included in Appendix A, Section 3.

#### ***D. Safety and Workforce Development***

This goal describes MUD's commitment to all employees that they will work in a safe environment, and that they will be trained to properly complete the work. The key strategies are:

- Successful safety performance
- Succession planning
- Workforce Development

The key success measures for these strategies are included in Appendix A, Section 4.

#### ***E. Develop and Sustain Effective Partnerships***

This goal describes the need for MUD to develop and sustain effective partnerships with agencies outside MUD that influence MUD's ability to fulfill its mission. This includes partnerships with the following:

- Regulatory Agencies
- Other Applicable Agencies
- Community Stakeholders
- Community Educators and the Media

## **IX. INITIAL ACTION ITEMS**

Meeting of the above challenges is critical for MUD to continue to fulfill its mission. Since many of the challenges are interrelated, it is important that a systematic approach be followed to ensure the successful achievement of the Business Plan goals. The following is a preliminary list of initial action items based on the perspectives of the four groups above that are needed to meet these challenges. These items should be addressed within the next 12 months. The items are categorized to match the five strategic goals listed in this Business Plan.

### ***A. Regulatory Compliance and Customer Satisfaction***

#### **1. Technology Development**

A strategy should be developed to maximize the effective use of technology to accomplish the mission. Monitoring, operating, and controlling the facilities via the SCADA system, tracking maintenance using the CMMS, and using predictive maintenance techniques are all examples of how technology will be integral to completing the mission.

#### **2. New Wastewater and Stormwater NPDES Permits**

MUD recently received its renewed Wastewater and Stormwater NPDES permits. These permits contain numerous tasks for MUD to complete to comply with the permits. Many of these actions need to be completed within the next year, and MUD needs to be diligent to complete this on schedule.

#### **3. Water Supply**

It is imperative that MUD continue its efforts to further develop and manage its high quality potable water supplies to meet existing and future water demands. Significant progress has been made to develop a new supplemental surface water source under Stockton's first ever water rights permit. The Delta Water Supply Project will deliver a drought resistant surface water source to supplement wholesale water purchase from the Stockton East Water District and existing groundwater supplies. MUD also needs to enhance its water conservation program as a tool to help manage its water supply.

### ***B. Reliability and Asset Management***

#### **1. Maintenance Budget**

A maintenance budget should be developed that is sufficient to fund the necessary major maintenance of all utilities. Without sufficient funding, the probability for unplanned equipment failure increases, thus increasing the risk of costly consequences such as fines due to permit violations. The expense to address a violation could exceed the cost to make the repairs in the first place.

## **2. RWCF and Remote Pump Station Asset Repairs**

MUD should develop and implement a plan to repair/replace identified RWCF assets, to improve the overall condition of the RWCF assets to a rating of “good”. This plan should also address repairs needed at the remote pump stations. Progress on this item will help improve morale as the MUD staff sees improvements in this area.

## **3. Preventive Maintenance (PM)**

Preventative Maintenance should be a key priority, especially for the RWCF and the remote pump stations. This may require either outsourcing, or forming a separate group to insure that the staff performing the PM's is not redirected to completing CM's or other “fire fighting” tasks. This will be a vital step in transitioning from reactive to proactive maintenance.

## **4. Continue to Develop and Implement the CMMS**

MUD has been developing and correcting deficiencies in the CMMS, and while further refinement is ongoing, MUD is now able to use the CMMS to manage maintenance at the RWCF. The major remaining deficiency is inputting data for the remote pump stations. Once this is completed, MUD can begin planning maintenance of the remote pump stations using the CMMS.

## **5. Maintenance Management**

Since maintenance of MUD assets is critical to completing the wastewater mission, the maintenance staff needs to be managed and organized to facilitate the effective completion of maintenance. Immediate challenges include planning, designing, and scheduling the major maintenance work, reducing the backlog of preventive maintenance tasks and completing them on schedule, and getting the CMMS fully operational. Chapter X of the Business Plan identifies the recommended maintenance staffing improvements needed to manage maintenance.

## ***C. Fiscally Responsible Business Practices***

### **1. Funding**

Document the funding needs for MUD by completing master plans and rate studies for each utility.

### **2. Outsourcing Strategy**

MUD will need to complete many tasks in a tight time frame in the next few years, which will exceed the capacity and/or technical expertise of the MUD staff. The use of outsourcing will be needed to increase capacity and/or technical expertise to complete these tasks on schedule. Consequently, MUD needs to develop an outsourcing strategy to address the key issues to determine when outsourcing is appropriate.

## ***D. Safety and Workforce Development***

### **1. Staffing Plan**

Develop an organizational structure and staffing plan that will be suitable to complete the action items discussed herein. (Staffing is specifically discussed in Chapter X of the Business Plan.)

### **2. Develop a Workforce Development/Succession Plan**

Develop a workforce development/succession plan that contains the following key components:

- An appropriate hiring plan to replace anticipated retiring staff. The Succession Plan should recommend hiring staff in advance of those retiring so the new staff can learn (hands-on) from those retiring, and learn how to operate and maintain the facilities before the others retire. For example, for new RWCF operations staff, this would allow time to attain a higher level of certification so that they could hopefully replace the retiring Grade III and above operators.
- Training/mentoring plan for new staff
- Plan to document the unwritten knowledge (institutional) of retiring staff
- Plan to update SOPs, O&M manuals, and record drawings so that they can be used to train new staff
- Formal acceleration pools of candidates to begin cross training with incumbent mentors

### **3. Staff Engagement**

A plan should be developed to monitor staff morale, and identify actions MUD can take to create a positive environment. MUD management intends to use “Best Places to Work Criteria” to create a culture to attract, retain and engage a successful work team environment consistent with the core values of MUD. Other potential actions include formal job descriptions, proper orientation systems, improved coaching and career development processes, continued employee involvement in process improvement, regular communication, along with improved management and employee engagement systems. 360-degree reviews are recommended to coach and mentor management personnel, along with continued focus groups, organizational surveys to track progress in promoting Quality of Work Life in all efforts.

### **4. Organizational Communications**

A communications plan should be developed to keep MUD staff informed of progress. During the consultant discussions with O&M staff, many were not aware of the efforts of MUD to make improvements. Consequently, some staff said they believed that MUD was not responding to their needs although some areas of concern were in the process of correction. This communication plan would link to some of the goals identified in staff engagement above. It appears

efforts are already underway to improve management to employee communication. This Business Plan will serve as a basis for establishing the plan and its outcomes.

## ***E. Items Related to All Strategic Goals***

### **1. Performance Measurement**

A series of realistic performance metrics should be developed, collaboratively with MUD staff, to track and monitor MUD's performance. Many of the performance metrics developed in the Service Contract can be used as a starting point to develop the measurement systems. In addition, the consultants offered a summary of best practice benchmarks to start respective conversations to ensure proper achievement and measurement of strategies in outlined goals for the Business Plan. A preliminary list of potential performance metrics are included in Appendix A.

### **2. Schedule**

Develop a general overall schedule of tasks that need to be completed in the next five years to allow MUD to continue to accomplish its mission. The above action items are some examples of tasks that would be included in the schedule.

## **X. STAFFING TO MEET CHALLENGES**

MUD faces several immediate challenges that it needs to overcome to continue to fulfill the mission for each of its utilities as described in the previous section. To meet these challenges, MUD needs the appropriate organizational structure and staffing. Following is a discussion of the some of the organizational structure and staffing changes that are needed immediately.

### **A. RWCF and Remote Pump Station Maintenance**

Following is a summary of the critical issues facing the maintenance department:

- Transition from reactive to planned maintenance
- Complete all preventive maintenance (PM) on schedule
- Effective use of the CMMS
- Management and implementation of necessary CIP (major maintenance) of the assets
- Operation of the remote pump stations

The Maintenance Division, with its current organization and staffing, requires supplemental staffing to maintain reliable, cost-effective operation of the wastewater assets. It is recommended that MUD implement the following staffing and organization changes to resolve the above issues.

1. *Add a Senior Plant Maintenance Supervisor.* This position would provide leadership to the maintenance staff, manage the CIP (major maintenance), and make sure that the CMMS is used effectively.
2. *Add a Plant Maintenance Supervisor for the Remote Pump Stations.* This position will be responsible for the proper operation and maintenance of the remote pump stations, and will ensure that one person focuses attention on these assets. An individual from the existing maintenance staff would likely be assigned to this position
3. The existing *Plant Maintenance Supervisor* position, which currently oversees Remote Pump Station operation and maintenance, would be revised to oversee only RWCF maintenance
4. *Hire 3 to 4 new maintenance staff* to form a preventive maintenance team that would focus on completing the backlog of PM's. One member of the team would be dedicated to electrical/instrumentation PM's. As they complete the backlog of PM's, overall maintenance needs should start to transition from reactive to planned, which should reduce maintenance workload. As this occurs the PM staff members would be available to fill other maintenance positions vacated by retiring staff.

### **B. CMMS and SCADA**

MUD has improved the CMMS since it took over operations, and is now using it for the RWCF maintenance, in addition to previous usage for the collections and

water systems. However, it is still not being used for the remote pump stations, although MUD plans to enter the necessary equipment information in 2008 so it can start to plan and document pump station maintenance. An outside consultant is currently assisting with correcting system deficiencies, refining the system, and generally helping with its use.

The SCADA system for the remote pump station operations has suffered from communications errors due to line of sight interferences with the radio system signals. The SCADA communications system should be improved to allow reliable remote monitoring and control of the pump stations, and this will reduce staff needed to manually operate these stations. With 23 wastewater pump stations and 72 active stormwater pump stations, a reliable SCADA system will more efficiently operate these stations. In addition, the SCADA system is widely used to manage the water system and RWCF operations. Overall, the SCADA systems are critical to the efficient operation of MUD's utilities. An outside firm is currently refining, programming, and maintaining the SCADA system for MUD.

Based on the above needs, , the following positions should be added to MUD to ensure that the SCADA and CMMS systems are fully functional and meet MUD's needs.

- SCADA/CMMS Manager
- CMMS Technician

### ***C. RWCF Operations***

The RWCF operation staff of 27 is primary managed by the Senior Plant Operations Supervisor, with oversight by the Deputy Director of Wastewater. The 27 direct reports are too many for one person, and therefore additional supervisors should be hired to split up supervision duties. It is recommended that MUD divide the supervisory responsibilities of the plant between the Main Plant and the Tertiary Plant. Adding these supervisors would also help handle plant operations when MUD has a shortage of Grade III operators, which may be a problem after March 2009 when the 2.6% PARS becomes effective. (2 of 8 Grade III positions are currently vacant, and others will likely retire after March 2009.)

The addition of these supervisors will also help MUD's succession planning challenges. For MUD to be competitive in recruiting operators, a review and possible adjustment to salaries may be required. It is recommended that refining the organization structure and adding supervisor positions be as follows:

1. Add a Plant Operations Supervisor to supervise the Main Plant operations.
2. Add a Plant Operations Supervisor to supervise the Tertiary Plant operations.

3. These two new positions would report to the Senior Plant Operations Supervisor.

#### ***D. MUD Phased Staffing Plan***

MUD Management has proposed a multi-phased plan to address MUD staffing needs through 2010, and presented this plan to the City Council in December 2007. The plan includes appropriate levels of staffing to address many of the short term needs discussed in Business Plan. The summary of the phased staffing levels are included in Appendix B for reference.

#### ***E. The Delta Water Supply Project***

The Delta Water Supply Project is projected to start up in 2011, and MUD will need to add staff to operate, maintain, and manage this project. The staffing needed for this project was not reviewed as part of this Business Plan.

## APPENDIX A

### STRATEGIC GOALS - BUSINESS PLAN Preliminary List of Metrics March 2009

Following is a preliminary list of potential metrics for each strategic goal as an example of what MUD could measure to monitor its success. The final list would be developed collaboratively with MUD staff.

#### 1.0 REGULATORY COMPLIANCE AND CUSTOMER SATISFACTION

##### 1.1 Comply with major regulatory permits

- a. No violation of conventional pollutants for the RWCF.
- b. No violation of non-conventional pollutants for the RWCF.
- c. Significant Industrial User (SIU) inspections per year. Complete one annual inspection at each SIU per year.
- d. Complete all wastewater compliance reports on time. (MUD list and OMI list)
- e. Complete all water compliance reports on time.
- f. Complete all required stormwater sampling for storm events
- g. Complete all stormwater compliance reports on time.
- h. Comply with all requirements of air quality permit
- i. Comply with the 2006 Statewide General Waste Discharge Requirements for sanitary sewer systems.

##### 1.2 Customer Satisfaction

- a. Less than \_\_\_ water quality complaints per year.
- b. Less than \_\_\_ water system pressure complaints per year.
- c. Less than \_\_\_ odor complaints per year.
- d. Less than \_\_\_ street flooding complaints per year
- e. Less than \_\_\_ wastewater overflow complaints per year.

### 1.3 Water Operations

- a. Disinfection. No bacteriological violations.
- b. Backflow preventer testing. Complete all required testing each year
- c. Iron and manganese control. Minimize complaints
- d. Provide adequate water supply to meet system demand
- e. No more than \_\_\_ customer service requests due to circumstances “controllable” by MUD. (Will need to define what is within MUD’s control.)
- f. No more \_\_\_\_than customer billing complaints per month.

### 1.4 Wastewater Operations

- a. No security breaches
- b. Maintain minimum certification levels of RWTF Operations staff. (For example, number of Grade III operators)
- c. Standard Operating Procedures (SOPs). Determine and monitor updating frequency. Ideally, they should be updated annually.
- d. O&M manuals. Determine and monitor updating frequency.
- e. Record Drawings. Update upon the completion of each major construction project. Also update annually based on non-major construction project related changes.
- f. Rolling Stock. Maintain per the manufacturer’s recommended maintenance schedule.
- g. Operational checks. Complete 100% of operational checks. (Need to define an operational check.)
- h. No wastewater overflows caused by pump station operations
- i. Number of pump station outages No more than \_\_\_\_\_ wastewater overflows per year caused by collection system maintenance. (Will need to work with collections staff to further refine this.)
- j. No more than \_\_\_\_ blockages resulting from circumstances “controllable” by MUD. (Will need to define what is within MUD’s control.)

- k. SCADA. Install SCADA view node so that collections staff can observe operation of the remote wastewater pump stations by \_\_\_\_\_.

#### 1.5 Stormwater Operations

- a. Operational checks. Complete 100% of operational checks for pump stations. (Need to define an operational check.)
- b. No stormwater overflows caused by pump station operations
- c. Number of pump station outages
- d. SCADA. Install SCADA view node so that collections staff can observe operation of the remote stormwater pump stations by \_\_\_\_\_.
- e. Meet requirements of the stormwater maintenance management plan (SWMMP).

## 2.0 RELIABILITY AND ASSET MANAGEMENT

### 2.1 Major maintenance/CIP Development and Implementation

- a. Develop major maintenance CIP by January 2009 for all utilities.
- b. Complete critical major maintenance work listed in the MUD CIP as scheduled. Develop a method to prioritize the CIP projects.
- c. Complete repairs that cause excessive maintenance or can cause overflows as scheduled in the CIP.
- d. Review the potential for water well conversion from gas to electric with standby generation capability
- e. Develop ongoing list of CIP

### 2.2 CMMS Implementation

- a. Data Entry. Enter all ongoing data into the CMMS within 7 days of when the data is available.
- b. Monthly backlog report
- c. Schedule versus unscheduled hours
- d. Overtime by trade
- e. Work order title summary
- f. Work order task – significant repair/replace

### 2.3 Water System Maintenance

- a. System flushing. Flush the entire system annually
- b. Valve exercising. Develop a valve exercising program to insure that every valve is exercised every 5 years.
- c. Achieve the capability of having all distribution system operators certified for backflow testing.
- d. Instrumentation calibration. Calibrate all instruments as scheduled to ensure accuracy.
- e. Pump maintenance. Complete all scheduled maintenance on time.
- f. Engine maintenance. Complete all scheduled maintenance on time.
- g. Cathodic Protection. Complete all scheduled maintenance on time.

- h. Storage tanks. Complete all inspections and cleaning per the AWWA (every 5 years)
- i. Line breaks. Less than \_\_\_ per year.
- j. Meter replacement. Replace \_\_\_ meters per year.
- k. O&M cost per meter.
- l. Miles of pipe per operator
- m. Meters per operator
- n. Complete repairs that cause excessive maintenance. (For example, for piping systems that has a history of failing; consider replacing this piping in a planned fashion before it fails rather than an unplanned fashion after it fails. If attempted, monitor the costs of unplanned replacements versus planned replacements to determine which is more cost effective.)
- o. Air relief valves. Test all every \_\_\_ years.
- p. Air relief valves. Flush all every \_\_\_ years.

#### 2.4 Wastewater System Maintenance

- a. Preventive maintenance. Complete all PM's on time. Reach this goal by \_\_\_\_\_ and then continually meet it.
- b. Predictive maintenance. Initiate a predictive maintenance program by \_\_\_\_\_.
- c. Corrective maintenance. Measure the current number of unplanned corrective maintenance work orders, and continually monitor the reduction of unplanned corrective maintenance as preventive maintenance work orders are completed on time.
- d. Purchasing. Develop a flow chart to identify the purchasing process. If it appears that process needs improvement, develop a metric to measure performance.
- e. Develop critical equipment list.
- f. Develop critical spare parts list.
- g. Flushing. Flush \_\_\_\_\_ lf of sewers per year which is a frequency of approximately \_\_\_\_\_ years to flush the entire system. Developing the goal will involve a cost-effectiveness analysis of investment in maintenance labor and equipment versus reducing the number of overflows, to the extent increased frequency of flushing would translate into reduced overflows.
- h. Hot Spots. Clean \_\_\_\_\_ lineal feet of hot spots per year. Monitor the number of hot spots per year. Goal is to reduce the number of hot spots.

- i. Lateral Program.
- j. Rodding. Complete \_\_\_\_ lineal feet of rodding per year. The target should consider the effectiveness of the rodding in preventing overflows.
- k. Root control. Complete \_\_\_\_ lineal feet of root control per year. The target should consider the effectiveness of the root control in preventing overflows.
- l. Television Inspection. Complete TV inspection of \_\_\_\_ lineal feet of sewers per year, which is a frequency of \_\_\_\_ years to TV inspect the entire system.
- m. Rolling stock maintenance. Complete all scheduled maintenance of rolling stock on time.
- n. System Defects. Goal is to cost effectively eliminate system defects that cause overflows. Complete a cost effectiveness analysis to compare the cost of correcting a defect that causes overflows versus the cost of the extra maintenance that the defect causes.
- o. Clay pipe replacement. Many clay pipes are reaching the end of their useful lives and are starting to fail. Goal is to reduce the costs of clay pipe failures and extra maintenance that they cause, and reduce overflows to the extent that clay pipe failures contribute to this problem. Complete a cost-effectiveness analysis that compares replacing clay pipes that will likely fail on a planned basis, instead of replacing them in an unplanned fashion after they fail.

## 2.5 Stormwater System Maintenance

- a. Complete maintenance of all pumps to ensure that the design capacity is available by October 1 each year.
- b. Complete maintenance of all engines to ensure that the engines are fully operable by October 1 each year.
- c. Television Inspection. Complete TV inspection of \_\_\_\_ lineal feet of storm drains per year, which is a frequency of \_\_\_\_ years to TV inspect the entire system.
- d. System defects. Goal is to cost effectively eliminate system defects that cause flooding. Complete a cost effectiveness analysis to compare the cost of correcting a defect that causes flooding versus the cost of the extra maintenance that the defect causes.

## 2.6 Plan for System Growth

- a. Complete master plans for all utilities based on Stockton's General Plan by \_\_\_\_\_.

## 2.7 Sustain Knowledge of Utilities

- a. Capture knowledge of future retirees. See 4.2
- b. Standard Maintenance Procedures. Determine and monitor updating frequency. Ideally, they should be updated annually.
- c. O&M Manuals. See 1.4 above.
- d. Record Drawings. See 1.4 above.

### 3.0 FISCALLY RESPONSIBLE BUSINESS PRACTICES

#### 3.1 Ensure that the utilities are properly funded

- a. Complete rate studies for each utility.
- b. Update rate studies at every 5 years to ensure that MUD's rates are sufficient to fund the utilities
- c. Investigate whether MUD could get loans for non-point source work, and apply if applicable.

#### 3.2 Manage assets to control rate increases so that they are predictable in the long term

#### 3.3 Operate assets in a cost-effective manner

- a. Wastewater. RWCF and Pump Stations
  - i. Total cost per 1000 gal/wastewater treated
  - ii. Total labor cost per 1000 gal/wastewater treated
  - iii. Total energy cost per 1000 gal/wastewater treated
  - iv. Chemical cost per 1000 gal/wastewater treated
  - v. Electricity. The SCADA system at the RWCF includes monitoring of energy consumption for some processes. This information may be accurate enough to use track and optimize energy management at the RWCF.
  - vi. Demand charges. Monitor the monthly demand charges and operate equipment to minimize these monthly charges to the extent possible.
  - vii. Energy production. Monitor energy produced by cogeneration
  - viii. Natural gas usage. Monitor natural gas pricing and the cost to produce electricity using natural gas compared to the cost of simply purchasing electricity.
  - ix. Cost per kW of energy produced or purchased.
  - x. Alum or other DAF conditioning chemical (polymer). Cost per million gallon
  - xi. Chlorine and Sulfur Dioxide. Cost per million gallon
- b. Water. Monitor annual volume and/or costs of the following:

- i. Maximize imported surface water to effectively manage the groundwater basin
  - ii. Monitor consumption to the extent needed to monitor success of MUD water conservation program.
  - iii. Maintain unaccounted for water at less than 4.8 %.
  - iv. Cost per AF or 100/CF
  - v. Electricity.
  - vi. Natural Gas.
  - vii. Chlorine.
  - viii. Polyorthrophosphate
  - ix. Labor costs per unit of water delivered
  - x. OT cost as a percentage of total labor costs
  - xi. Meter readings. Complete 100% of customer readings per month.
- c. Wastewater Collection.
- i. Total labor costs
  - ii. OT costs as a percentage of total labor costs for all utilities
  - iii. Chemical costs per year
  - iv. Maintenance costs per mile of sewer
  - v. TV costs per mile of sewer inspected
  - vi. Cost of customer service
  - vii. Cost of FOG
  - viii. Cost of root control
- d. Stormwater System.
- i. Effective management of budgets for the stormwater districts
  - ii. Maintenance costs per mile of storm drain

3.4 Develop administrative functions/processes to support above (these can be benchmarked against comparable utilities in the Central Valley or Northern California)

- a. Accounting/finance costs as a percent of total MUD costs
- b. Human resource costs as a percent of total MUD costs

- c. IT costs as a percent of total MUD costs
- d. Administration costs as a percent of total MUD costs
- e. Administrative staff ratios to operations personnel
- f. Overtime utilization is 10% less than previous year
- g. Employee turnover is \_\_\_% less than median agencies
- h. Engineering costs as a percentage of total MUD costs

### 3.5 Track Comparable Utility Rates

- a. Track all utility rates against comparable rates for other utilities in the Central Valley or Northern California.

## 4.0 SAFETY AND WORKFORCE DEVELOPMENT

### 4.1 Successful Safety Performance

- a. No lost time accidents
- b. Number of days without a lost time accident
- c. No OSHA violations

### 4.2 Succession Planning.

- a. Staff hired per year
- b. Staff retired per year
- c. O&M Manuals and SOPs. Percent updated per year
- d. Knowledge of Retiring Staff. Capture knowledge of future retirees. Monitor the number of potential retirees that are actively transferring their knowledge to MUD.

### 4.3 Workforce Development

- a. Technical Training
  - i. Training hours per employee
  - ii. Tailgate training. Number of training sessions completed per year
  - iii. Consider working with colleges and universities in the Stockton area to train the workforce.
- b. Acceleration Pools and Staff Development
  - i. At least 80% of the employee's rate MUD as a good place to work as measured by a yearly survey on staff retention and employee engagement.
  - ii. Ensure at least one cross-trained person for every position within the MUD organization by \_\_\_\_\_
  - iii. Identify at risk positions for turnover, retirements and future growth needs and ensure a bench of ready potentials is identified, trained and mentored appropriately to future staffing needs. Accomplish this by establishing acceleration pools of candidates capable of assuming targeted positions and vacancies
  - iv. Ensure every MUD employee receives a performance appraisal each year and participates in a career development conversation. Track all

employees and ensure training and development initiatives are given a top priority via a formal mentoring and coaching program.

- v. Ensure each Division within MUD presents and discusses a formal mentoring program for staff.

4.4 Outsourcing. MUD needs to revisit design outsourcing efforts and additional engineers and other technical staff as needed to complete projects in the most efficient manner.

## 5.0 DEVELOP AND SUSTAIN EFFECTIVE PARTNERSHIPS

### 5.1 Build positive relationships with regulatory agencies

- a. Regional Water Quality Control Board. No compliance notices
- b. California Department of Public Health Services. No compliance notices
- c. Cal/OSHA. No accidents

### 5.2 Build positive relationships with Community Stakeholders

- a. Encourage and support community participation by staff in community activities to enhance the mission of MUD.
- b. Maintain regular dialogues with representatives of local agencies by meeting at least \_\_\_annually
- c. Conduct two facilitated quality of life forums each year where the Director of MUD will meet with various community stakeholders, organizations and other partners to share successes, seek input, involvement in the mission of MUD. (Mark, I want to do this with as I have done successfully for the City of Antioch, Larry)

### 5.3 Community Education and Media Engagement

- a. Respond in 12 hours or less to appropriate media inquiries
- b. Publish at least 4 stories in the Stockton Record sharing successes of the MUD operation and the improvement of quality of life
- c. Provide outreach, workshops, and brochures on the critical nature of MUD's facilities in the community.
- d. Hold leadership positions, publish articles in various water, wastewater and stormwater associations, other business, professional associations in the local area in a continuing effort to educate and promote "best practices" water, wastewater and stormwater delivery.
- e. Place 90% of ROP graduates in jobs the water and wastewater industry
- f. Train at least 10% of local teachers annually and host on-site tours for students?
- g. Track all legislation affecting MUD's interests in concert with regional and statewide agencies and association, legislative changes that will affect the success of the strategic plan
- h. Stormwater outreach

- i. FOG outreach
- j. Customer service outreach

## MUD PHASE STAFFING PLAN - Appendix B

### PHASE II (FY 2009-2010) (18 POSITIONS)

| <u>Division</u>              | <u>Position</u>  |
|------------------------------|--|
| <b>Business Services</b>     | Materials Specials (1)   |
| <b>Engineering</b>           | Associate Civil Engineer (Engineering - Construction) (1)<br>Public Works Inspector (Engineering - Construction) (1)   |
| <b>Environmental Control</b> | Environmental Control Officer (2)  |
| <b>RWCF Operations</b>       | Plant Operations Supervisor (2)  |
| <b>Maintenance</b>           | CMMS/SCADA Systems Manager (1)<br>Painters (2)<br>Plant Maintenance Worker (2)<br>Senior Plant Maintenance Mechanic (1)<br>Plant Maintenance Mechanic (2)<br>Plant Maintenance Supervisor (2)<br>Senior Plant Maintenance Supervisor (1) |

### PHASE III (FY 2010-2011) (21 POSITIONS)

| <u>Division</u>        | <u>Position</u>  |
|------------------------|--|
| <b>Engineering</b>     | Associate Civil Engineer (Engineering - Construction)<br>Junior Civil Engineer (Engineering - CIP)   |
| <b>Water Resources</b> | Senior Civil Engineer  |
| <b>Stormwater</b>      | Environmental Control Officer<br>Program Manager III (Non-Potable Water)   |
| <b>Laboratory</b>      | Laboratory Technician  |
| <b>Maintenance</b>     | Plant Maintenance Worker<br>Landscapers (2)  |
| <b>Collections</b>     | Collections System Operator II (Foaming Team)<br>Collections System Operator I (Foaming Team)<br>Collections System Operator I (Lateral Preventive Maintenance)<br>Senior Collections System Operator (Stormwater Construction)<br>Senior Collections System Operator (TV Team)<br>Collections System Operator I (TV Team)<br>Heavy Equipment Operator (Stormwater Construction)<br>Collection Systems Operator I (Stormwater Construction)<br>Senior Collections System Operator (Large Line Cleaning)<br>Collections System Operator II (Large Line Cleaning)<br>Collections System Operator I (Large Line Cleaning)<br>Collection Systems Supervisor (Stormwater) |