

TECHNICAL MEMORANDUM 2 – 3

Review Data Upload and Manual Entry

This memo constitutes the deliverable for Phase 2 - Task 3 of The Abrahams Group's (TAG) contract with the City of Brockton. The information documented in this memo was compiled through multiple interviews with the Department of Public Works (DPW) billing staff and reviews of both paper and digital documentation kept in the DPW's files as well as the City's MUNIS Utility Billing database.

This document describes the processes associated with the upload and entry of data into the MUNIS billing system, including managerial quality assurance/quality control (QA/QC) processes. There are a number of terms used, which are fully defined in the memo documenting our findings in Task 1 - Phase 2. Although there are descriptions of processes and procedures which are also included in other memos, the repetition is required to make each Technical Memorandum complete. In cases where a more in depth description is available in other memos, cross-references are noted.

PLAN OF SERVICE

- A. Evaluate the data upload process from reading devices, both automatic and manual entry, in the City's utility billing database (MUNIS U/B Model 7.4), with a specific focus on the following:
 - A.1 Procedures to transfer data from the water meter reads to the MUNIS software billing module. Specifically review procedures for handling commonly encountered problems with data entry inputting or importing of consumption use.
 - A.2 Creation of productivity reports on meter reading by day/week/month.
 - A.3 Billing office method for review and documentation of manually overwritten meter readings.
 - A.4 Creation and use of managerial reporting and review protocol prior to uploading for billing.
 - A.5 Creation and use of managerial reporting on exceptions, estimated reads, and personnel productivity.

AUDIT ACTIVITIES

As part of the audit, we reviewed all documentation related to data handling within the water and sewer billing office including:

- Downloading/uploading meter read files using Tel-data and MUNIS;
- Estimating reads;
- Overwriting/manually entering reads; and,
- Quality Control procedures.

Multiple interviews were conducted with billing office staff who are involved in the data upload and entry processes, including actual observation of the read data upload and completion of managerial QA/QC processes.

DOCUMENTED PROCESSES

The billing staff consists of seven (7) people, including the Head Administrative Clerk and six Clerks. The entire staff is cross trained on multiple responsibilities and roles supported by the billing office, including:

- Water and sewer billing;
- DPW and Engineering payroll;
- Meter service orders;
- Meter work orders; and,
- Final meter reads for property transfer;
- Purchase orders;
- Construction bills;
- Cash Management;
- Meetings with owners;
- Works with all offices city wide

As documented in earlier memos, all ~23,000 customers are read and billed on the same quarterly schedule. The billing process takes approximately eight weeks to complete. The billing department imports meter reads automatically using two different data systems and manually entering in the rest.

- 1) Tel-data collects autodial reads through customers' telephone lines. The Tel-data computer, Sentry 1, also creates import/export files for the meter readers to perform Logicon touchpad reads and manual meter reads. These reads are merged at Sentry 1 and then imported into the MUNIS billing software.
- 2) Itron Drive By Radio Read System collects reads via radio transmission. MUNIS is used to create the import/export files for the meter reading department to collect these reads.
- 3) Meter reads that are manually keyed into MUNIS each billing cycle include: final reads (property transfer), handwritten meter reads, owner reads, specials, accounts requested by the Superintendent of Utilities.

The documented processes have been diagrammed in a process flow chart attached in Appendix 2-3.1. For clarification, this memo corresponds to the notes numbered on the flow chart.

Tel-data (Refer to Flow Chart Note 1)

The telephone reading system has been used by the City since the early 1990s. This technology involves using the telephone line to dial into the meter for the reading. Currently, there are approximately 5,500 accounts being read with this technology.

At the beginning of each billing cycle the Tel-data system collects reads through the telephone line. These reads are sent directly to the computer terminal (Sentry 1) at City Hall. Reads are called in twice every month between the 10th and 14th and between the 24th and 28th. Any read that does not dial through the automated telephone system is exported to a file for a reading by the meter reading department. The export file contains the following information for the meter reader: route, account number, address, serial number, multiplier, district and previous read. The export file requires formatting edits each billing cycle for proper download to the Logicon guns. When the file is ready, it is posted on the L Drive for the Head Meter Reader to access and load into the Logicon System. There are three different files for each of the three districts in the City.

After the meters are read using the Logicon system, the Head Meter Reader posts the file to the L Drive, where the Head Administrative Clerk or Clerk assigned by Head Administrative Clerk uploads to the Tel-data terminal Sentry 1. This process includes fixing any errors that stop the batching process. For instance, if a meter read is

keyed into the equipment without enough digits, the system stops downloading the reads. The Head Administrative Clerk or Clerk assigned has to check the entire file to find the error and fix it before continuing.

When the meter reads are done uploading to Sentry 1, the Head Administrative Clerk or Clerk assigned merges the Tel-data autodial reads with the Logicon meter reads and creates a file to be posted on the L Drive. This file can then be imported into MUNIS for billing.

Itron Drive-by Radio Read System (Refer to Flow Chart Note 2)

The Itron system was installed in 2006/2007. The process for transferring reads from the Itron system to the MUNIS water billing system is a separate exercise from the Tel-data system.

- 1) The Head Administrative Clerk or Clerk assigned creates an export file in MUNIS for each district that defines where and how to collect radio meter reads. The file contains information including the route, account number, date, meter size and previous reading, etc.
- 2) The export file is transferred to the L Drive by the City ITC department where the Head Meter Reader can access the file to download into the Itron Radio Reading System.
- 3) When the radio reads are completed, the Head Meter Reader posts the file created by Itron to the L Drive where the billing department can access and upload to MUNIS.

Manual Reads Entered into MUNIS (Refer to Flow Chart Notes 3 through 8)

Handwritten Meter Reads (Note 3)

When the meter reader cannot obtain a reading using the Logicon System or the Itron Drive by System due to equipment failure, the Meter Reader will need to write down the read from the meter register. The hardcopy of the read is sent to the billing office to be manually keyed into MUNIS.

Owner Reads (Note 4)

Over the past year, the City of Brockton has given customers the opportunity to read their own meter and either call, fax or email the read to the DPW. If the meter reader cannot access the home/business for a read a door hanger is left for the owner to call, fax or email the reading to the DPW. The number of Owner reads averages approximately 100 per quarter. Owner reads are entered into the billing system as actual, not estimated reads. These are entered into a separate Excel spreadsheet on the shared City drive by both the billing staff and the meter readers. To distinguish between automated actual reads and owner reads, owner reads are given the designation "O" in MUNIS. The billing department manually enters these reads into MUNIS.

Prior to 2010, owner reads had not been accepted since approximately 2000, since there had been errors associated with a similar process in the past. The process was re-instated in an attempt to collect reads from long estimated accounts.

Special Reads/ Commission or Commissioner Requested Reads (Note 5)

Special reads vary each billing cycle and can include condominiums, over or under billing, inactivated accounts, new services, etc, out of town meter reads and specific reads requested by the Commission or Commissioner of Utilities. An example of a special read would be a customer that has a private well

but wants to keep his City water connection. These reads are manually keyed into MUNIS each billing cycle.

Final Reads (Note 7)

The final reading process for transferring home ownership upon final sale is initiated by the home owner. Both the DPW and Billing Office schedule final reads in an Outlook Calendar on the shared City Drive. The fee of \$50 must be paid up front. The meter reading department checks the calendar for appointments the day before and performs the final meter reads as scheduled. The meter reader will bring a final read form to be completed on site. This form can be found in the Appendix 2-3.2.

The final read is always a visual read of the meter register. The meter reader also notes any other issues with the meter and its installation (such as meter tampering). Once the form is completed with the final read, the Head Meter Reader enters the read into MUNIS using the Account Master Maintenance text screen. The form is then sent to the billing department where the actual read may be used to update an account with a previously estimated read. Also, the billing department will update the new customer name in the next open bill run when information is supplied to them. The account number stays the same. The amount owed from one party to the other for the water bill is dealt with at the closing given the final read. There is no final bill issued. The new owner will receive a water bill on the same cycle as the previous owner.

Bill Processing (Refer to Flow Chart Notes 8, 9, 10, 12, and 15)

Throughout the bill run process, the following items are done on a daily basis:

- 1) Account updates/name changes
- 2) Meter changes
- 3) Meter read verification requests via service orders

After the Tel-data reads (including Logicon reads) and Itron Radio Reads are imported into MUNIS, the billing department runs the high/low consumption feature in MUNIS. This operation averages the last eight bills and determines whether the current usage is 90% higher or lower. If so, MUNIS flags the account and the billing department reviews it. Reads flagged as high or low that come in through the autodial telephone system are generally accepted, unless it is unusually high. Then the Head Billing Clerk will call in another read through the autodial to verify. If the high/low read is performed by a meter reader and there is a note that validates the read, then the read is also accepted. An example of this is a vacant home/building with a zero consumption read. If the high/low read from the meter reader does not have a comment to validate it, the billing office will create a service order in MUNIS to have the meter reader perform another read. The read is accepted once verified and generally accepted even if the verification can not be done in time for bill processing.

In rare cases, clerk estimated reads, code "C," are used, primarily when there is an actual read but it is too old to use for bill calculation. In these cases, the clerk estimates the read based upon past consumption for the account. Clerk estimated reads are also used in cases where usage is being abated.

After the high/lows are checked, the next step is to estimate/calculate the bills. All accounts without a meter read are estimated by MUNIS using an average of the past eight bills.

When the bill run is open, not all meter reads will transfer. Therefore, the billing clerk needs to print out the water read file and manually enter all the readings into MUNIS. At this point, the clerk checks again for additional readings called/faxed/emailed in by owners.

Before proceeding, the following is performed for each district:

- Add new accounts
- Check compound meters for correct multiplier (fixed zeros)
- Check for correct dates
- Pull and review all zero consumptions
- Pull and review all accounts over 100,000 CF usage or \$5,000
- Check that all specials are entered correctly
- Check Tel-data for updated actual readings (late calls) that can replace any estimates and manually override in MUNIS
- Enter final property closing reads (actual) that can replace estimates and manually override in MUNIS.
- Calculate and enter condo water fees (these are calculated on a separate spreadsheet to bill each unit and then manually entered into MUNIS)
- Enter sewer only reads
- Enter owner reads

After this step, the bill run is again calculated and the condominium accounts are spot checked. Once the report contains no serious warnings, the read codes are added in MUNIS (see Appendix 2-3.3), the charges are added, accounts receivable is generated and the file goes to printing. Each district is printed through a separate file sent by the City ITC Department to the printing company, Kelly & Ryan.

Reporting

Throughout the bill run every quarter, the billing office tracks meter reads for each reading technology to create bills. However, they do not generate specific meter reading productivity reports in MUNIS on a daily/weekly/monthly basis.

The billing office generates reports to review exceptions such as high/low reads once meter reads are imported into MUNIS. However, they do not generate a report to review all the estimated reads.

Adjustments/Customer Disputes (Refer to Flow Chart Notes 13 and 14)

When the customer contacts DPW to dispute a bill, the billing clerk will schedule another meter reading at the customer's request. This is done through MUNIS using a service order, a copy of which is included in Appendix 2-3.4. The service order is sent to the meter department and the reader will re-read the meter by either using the Logicon gun or performing a visual/handwritten read. If the customer is owed any adjustment, the billing office properly employs the MUNIS UB Module adjustment tool to adjust the consumption in the event that an incorrect read is identified during the data upload and billing process. The consumption is abated in conjunction with the cost to the customer. However, once a lien on the property is issued, MUNIS does not allow the usage to be changed. If the second read validates the original read and the customer wishes to further dispute the bill, he/she can request the meter department to test the meter for \$75. If the meter is faulty, this fee is refunded to the customer and the meter replaced. The bill will be reviewed on a ninety day or seasonal basis adjusted as described previously. The customer may also hire a third party consultant to test the meter in the presence of the City. If the testing validates the meter accuracy and the customer still wishes to dispute the bill, he/she can request a meeting with the Commissioner.

Adjustments to bill value are made using the policy outlined in Appendix 2-3.6.

Work Orders (Refer to Flow Chart Note 11)

If a customer meter needs to be replaced or repaired, the meter department completes a work order form (carbon copy form) describing the work and fees. A copy of all work order forms are sent to the billing office where a manual bill is created and sent to the customer.

Copies of all work orders are maintained by both the DPW and the billing office in separate paper files.

The bill for the services covered under the work order is separate from the water usage bill. Payments are collected by both the billing office and the Tax Collector. A copy of the work order form is included in Appendix 2-3.5

Interconnections (Refer to Flow Chart Note 3)

The City of Brockton has interconnections with surrounding communities including Halifax, Pembroke, Hanson, Whitman, East Bridgewater and Avon. The Chief Water Service Inspector reads the Whitman master meter located at the town line every 15 days and resident meters are read every 90 days. He also reads some individual residences fed from Brockton mains in other towns every 15 days. The remainder of the interconnections are called in by the individual town quarterly and manually keyed into MUNIS by billing staff.

QA/QC procedures

The billing office has a quality control checklist that is used prior to final calculation of the bill. After the events of the February/May 2010 billing cycle, they added the following new procedures:

- The Billing Clerk runs a report identifying all accounts with bills greater than \$5,000. All accounts which are found are then looked at more closely to ensure the bill is appropriate. This QA/QC procedure was developed in 2010 to identify accounts where a large consumption value enters the bill calculation. For each of the accounts flagged by this report, the Billing Clerk verifies the read used to calculate the bill, compares it to prior billing cycles, and, as appropriate, adjusts the bill in accordance with the procedures outlined in Appendix 2-3.6. A copy of the working report used during the first bill run of 2011 is attached as Appendix 2-3.7.
- The billing department checks the multiplier for all compound meters to see if the fixed zero setting within MUNIS are correctly entered. This was identified by the billing staff as causing problems in the past.

FINDINGS

Meter Reading and Billing Software Interface

The Tel-data system is the oldest system used by the City to import meter readings. In recent years, more customers are using cable and cell phones in lieu of phone lines. As a result, there has been a marked decline in meter reads obtained through the Tel-data autodial system. There have also been issues with tampering and destruction of the telephone cable on the meter register when a cable line is installed. This means that more reads need to be done by meter readers. While the billing department uses the Tel-data system as effectively as possible to process meter readings, it creates additional work for the clerks to generate bills in MUNIS.

The Tel-data and Logicon systems both crashed during the February/May 2010 bill run. This required all readings to be done by meter readers going door to door. The meter readers acquired many actual reads on accounts that had been estimated for years. In June/July of 2010, a procedure was developed to deal with accounts that had multiple estimates. This procedure is attached as Appendix 2-3.6.

The Itron Drive by system works by interfacing directly with MUNIS. However, the Itron System is not the latest version and with a short radio transmission range, not all reads can be collected efficiently. This creates more work for both the billing office and the meter department to obtain a visual read. Also, the billing staff indicated problems with importing the reads into MUNIS. They have to run the operation several times for it to work. When they run it more than once, the filename cannot be changed and they have to overwrite the original file. When no reads come back, it's problematic because once they start the calculate/estimate process, they could potentially overwrite the accounts already estimated.

MUNIS appears to be an effective tool for generating bills. However, the staff has not received the training required to do some tasks efficiently. The only training for the billing staff by MUNIS representatives occurred when MUNIS was first launched in the 1990s. One issue mentioned is that information can only be edited when a bill run is open. However, anyone can overwrite account information at this time. With the whole City being billed at the same time each quarter, bill runs are kept open for weeks at a time. Once the bill run is closed, there is no way to edit any information.

Estimated Bills

Since the meter reading technologies are antiquated, this leads to more accounts requiring a manual/visual read. Meter readers have difficulty accessing homes/buildings to read the meter and therefore, the billing office must estimate the bill. MUNIS generates an estimated bill based on the past eight bills. If the past eight bills were actual reads, this estimate is fairly accurate. However, if the past eight bills were estimates, then the current estimated bill may not be accurate. Since 2000, the billing office has printed a request on each water bill to contact the DPW for an actual read. Bill inserts have also been included since 2000 in an effort to obtain actual reads.

Billing office staff, policies, and procedures

The billing office staff is cross trained to perform a multitude of tasks including water billing, adjustments, payroll etc. This allows for redundancy and flexibility in generating bills. In several discussions with some of the billing staff, the deficiency of MUNIS training was mentioned repeatedly. The last visit they had from a Tyler/MUNIS representative was in November/December 2010. Prior to the visit at the end of last year, there had not been a trainer or MUNIS representative to the City for a number of years. After an initial training event following the adoption of the MUNIS system in the early 1990s, the billing office staff has been forced to learn to use MUNIS on their own and has handled training of new staff internally on an as-needed basis. The processes for uploading data and completing QA/QC on the database have been handled without the assistance of outside help by developing shortcuts in MUNIS.

The Billing staff also performs many tasks that are not related to the water and sewer bills on a daily basis:

- Payroll for DPW and Engineering
- Construction Bills
- Cash Management
- Police Detail Payment
- Electric Bill Management, All outside Utilities
- Purchase Orders and Requisitions
- Training
- Water/Sewer Budgets
- Phone and Counter
- SRF Loans
- Sign in/out for Engineering Plans

- Attendance records
- Water/Sewer/Fire Applications – plans, fees, etc.
- Meter Inventory
- Filing Purchase Orders, and Personnel Records
- Coordinating with all City Offices
- Meetings with Owner
- Sewer Returns
- Finals
- Abatements
- Paying Vendor's
- W-9 Forms
- Filing

The billing staff reports spending 50% of their time working on non-billing related tasks outside of bill runs. In other communities with whom we have worked, most of these responsibilities are handled by other City Departments. The additional responsibilities, especially payroll and SRF loan administration, causes a strain on staff time and add to the challenge of getting water/sewer bills processed and responding efficiently to customers who come to the billing office.

RECOMMENDATIONS

After reviewing the bill procedures and processes, the following recommendations should be considered:

1. The City is in the process of bidding a new meter reading technology and replacing all new meters. This will improve time management greatly for both the billing staff and meter readers. The City should carefully consider qualifications of all contractors and make sure that adequate training time is built into the contract for all employees, including billing office staff.
2. The City should develop and implement a training program for billing office staff on the full use of the MUNIS system. The MUNIS Utility Billing module has many tools and capabilities which are not fully used and completion of this training should greatly increase the billing clerk's efficiency and ability to respond to customer information requests.
3. Prior to starting the meter replacement project, the billing office staff should receive comprehensive training on the use of the new meter reading system, it's software, and its interface with the MUNIS utility billing module.
4. The billing office should develop an automated tool to allow for the quick and accurate pro-ration of bills for accounts which have had an extended series of estimated reads.
5. The City should consider developing a policy to incentivize customers to allow access for the efficient replacement of meters.
6. The City and/or DPW should consider re-tasking some of the current billing office functions to other City offices where similar work is performed. This would allow the billing office to remain focused on its primary function.
7. The City and/or DPW should consider returning to a cascading billing cycle where consumption and bills to approximately 1/3 of the customers are run monthly. This would even out the work level associated with issuing bills and servicing clients, giving the billing office more time to complete QA/QC on each bill issuance cycle.
8. The City should develop a more advanced series of QA/QC reports using the Crystal Report module attached to its MUNIS software. These reports would be more effective and efficient management tools for efficiently identifying and dealing with unusual reads and consumption values which enter the MUNIS database.

APPENDICES

- Appendix 2-3.1: Work Flow Schematic for Data Handling/Upload**
- Appendix 2-3.2: Final Read Form**
- Appendix 2-3.3: Data Handling/Upload Policies and Procedures and Read Codes**
- Appendix 2-3.4: Service Order Form from MUNIS**
- Appendix 2-3.5: Work Order form**
- Appendix 2-3.6: Procedure for Adjusting Consumption/Bills**
- Appendix 2-3.7: Working Copy of Billing Report on Bills greater than \$5,000**

APPENDIX 2-3.1: WORK FLOW SCHEMATIC FOR DATA HANDLING / UPLOAD

APPENDIX 2-3.2: FINAL READ FORM

****PLEASE BE AWARE THAT THIS FORM IS NOT A BILL****



FOR OFFICE USE ONLY

Account #: _____ FINAL FEE PD (DATE) _____

Address: _____

Appointment Date: _____

DEPARTMENT OF PUBLIC WORKS
OFFICE OF THE COMMISSIONER

Requested by: _____

Phone #: _____

1. Final fee of \$50.00 must be paid prior to appointment scheduled.
2. For any outstanding amounts owed contact the Tax Office at (508) 580-7130 and press 5.
3. In order for future utility bills to be mailed to the new owner, please complete the form below and fax or mail to this office as indicated.
4. Owner(s) of property are responsible for all unpaid utility bills.
5. At closing, the final amount quoted on this form should be credited to the new owner. The new owner is responsible to make payments to the Tax Office on the next utility bill mailed: _____ . Do not submit payment with this form. This form is not a bill.

(date)

FINAL AMOUNT QUOTED

READ: _____ DATE: _____ ENCODER #: _____

WATER: _____ SEWER: _____ REFUSE: _____

TOTAL: _____

DATE FINAL COVERS FROM: _____ TO: _____

LAST BILL ISSUED DATE: _____

QUOTED TO: _____ DATE: _____

FAX TO NAME/NUMBER: _____

The DPW Utilities Division must be contacted with the following information after the sale/passing in order to update the Utility records.

New Owner's Name: _____

Bill to Name (if different from owner): _____

Bill to Address (if different than above) (Street, City/Town, State, Zip): _____

Old Owner's Name: _____

Form Submitted by: _____

**RETURN BY FAX TO: 508-580-7169 or BY MAIL TO:
BROCKTON DEPARTMENT OF PUBLIC WORKS 45 SCHOOL STREET, BROCKTON, MA 02301**

DPW RECEIVED (date): _____

INFO UPDATED BY: _____

APPENDIX 2-3.3: DATA HANDLING / UPLOAD POLICIES AND PROCEDURES AND READ CODES

UTILITY BILLING PROCEDURES - SEPTEMBER 1, 2010

The City of Brockton has approximately 22,000+ accounts divided into three districts. We also have accounts in the Towns of Hanson, Whitman, Pembroke, Easton, Avon and Stoughton.

After the prior billing is run, rate tables and accounts are updated as needed, such as sewer flat rates.

Before the billing process is initiated DPW and Tax Office agree on billing dates. Eight weeks prior to the due date the billing process begins.

The insert and message that is to appear on the bill is created, approved and forwarded to the Printer.

On the Teldata System using Brockton Billing System Icon: (clerks)

Export to Syscon File – fill in screen (call in periods are 4th -10th and the 24th – 28th)

This will create a file containing the accounts in this database that did not call in with a reading. The file created is on the L: Drive under Helens downloads. After running this process you edit the file to correct errors, i.e. empty lines, and columns that are out of alignment. The Head Meter Reader is informed the file is ready and on the L: drive. He will pick up the file and transfer the information into his (Syscon/Logicon System).

This process is done on each of the three districts by one of the billing clerks.

Name changes, meter changes and all updates are done in the MUNIS Utility Master File. These are held daily to be checked and generated into the bill run.

Using MUNIS Bill Run Process, you CREATE a Bill Run and Generate Charges on your current district.

After generating the charges you run, EXPORT HANDHELD METER FILE downloading the radio read meters. Information Technology is called for them to transfer the reads to the Itron File on the L:Drive. The Head Meter Reader picks up the file to load into the Radio Reading System.

When the radio reads are completed the IMPORT HANDHELD METER FILE program is run, creating a report which list the readings imported and also notes the ERRORS (i.e. high/low reads). The ERRORS are researched and corrected. ~~(SEE ERROR LISTING)~~

When the TELDATA NO READ file is completed, it is then downloaded to HELENS UPLOADS. Using the BROCKTON BILLING SYSTEM located on the Teldata computer the file is IMPORTED FROM THE SYSCON FILE. This step merges the Teldata Phone reads and the Meter Readers Readings in the database. Using TELDATA BROCKTON BILLING SYSTEM the CREATE BILLING FILE is processed. This file is done by specifying the date range (start date and end date) and the account numbers (start 1-0001 end 1-9999 i.e. for district 1). The file is named and transferred to the L: drive. The syscon/meter reader readings are downloaded by Brian on an excel spreadsheet. Readings are checked against the estimates in the bill run.

Throughout the bill run verifies are requested via service orders. They are sent to the Meter Read Department and upon completions back to the billing office. These are done dailey.

Using MUNIS BILL PROCESSING the run is activated and the IMPORT THIRD PARTY FILE is started. This brings in all the reads except the radio reading. When the reads come into the run a report is created containing the reads and the accounts with errors. The errors are researched and corrected. (~~SEE REPORT~~)

Proceeding to MUNIS CHARGES MAINTENANCE:

Find all reads and estimate/calculate process.

Find all reads with read code of "E". Print out the DPW water read file and enter all readings that did not pull into the bill run. Re-check for additional readings called in by owners and e-mailed.

The following is done for each district before you proceed:

- New Accounts were added
- Compound meters are checked
- Dates are correct
- Pull all zero consumptions (only fire services should appear, all others are researched)
- Accounts over 100,000 usages or \$5,000
- Specials are checked & completed
- Late Calls
- Finals are entered
- Condos are calculated and entered
- Sewer Only reads are entered
- Call in reads by owners are entered

When the CHARGE MAINTENANCE is completed with no errors you run another calculate and spot check condo accounts. A report is produced and if it contains no serious warnings you may proceed.

Using CHARGE MAINTENANCE - Find Read Codes

- A - Actual Readings
- E - Estimated Readings
- T - Minimum Read
- C - Manual Estimate
- O - Other/Call in Read
- P - Stopped/ Frozen Meter - Manual Estimate
- Sewer Flats
- Metered Sewer
- Fire Services

This # of account information of listed on L: drive; Helen/Rene Quarterly water account percentages.

SPOOL CHARGES PROOF/REGISTER detail and final (around 1300 pages)
GENERATE ACCOUNTS RECEIVABLE – compare totals to charge Proof register final report
before posting.

Proceed to BILL PRINT to spool file to Informational Technology Department.

Post warrant onto the L: drive.

Read Code	Description	FY 06	%	FY 07	%	FY 08	%	FY 09	%	FY 10	%	FY 11	%
A	ACTUAL READ	69488	79%	71840	81%	70271	79%	70147	79%	67027	75%	38135	85%
C	MANUAL ESTIMATED READ	2252	3%	1636	2%	2049	2%	2220	2%	3694	4%	655	1%
D	THIRD PARTY MULTI READ (not used)	0	0%	1	0%	0	0%	0	0%	0	0%	0	0%
E	ESTIMATED READ	15773	18%	13939	16%	15306	17%	15042	17%	17384	19%	5263	12%
M	MANUAL READ (not used)	17	0%	26	0%	2	0%	0	0%	0	0%	1	0%
O	OTHER/CALL IN READ	1	0%	0	0%	1	0%	0	0%	83	0%	220	0%
P	STOPPED FROZEN - MANUAL READ	873	1%	761	1%	1043	1%	1387	2%	1292	1%	617	1%
S	SWAPPED METER (not used)	2	0%	1	0%	2	0%	0	0%	0	0%	0	0%
T	MINIMUM CHARGE READ	88	0%	802	1%	728	1%	559	1%	148	0%	38	0%
U	UPDATED BILL (not used)	0	0%	1	0%	0	0%	0	0%	0	0%	0	0%
W	WATER COMPANY ESTIMATE (not used)	0	0%	2	0%	2	0%	1	0%	0	0%	0	0%
X	NO READING (USED AT START OF BILLING)	1	0%	0	0%	0	0%	0	0%	1	0%	0	0%
		<u>88495</u>		<u>89009</u>		<u>89404</u>		<u>89356</u>		<u>89629</u>		<u>44929</u>	

APPENDIX 2-3.4: SERVICE ORDER FORM FROM MUNIS

01/06/2011 08:54 |LIVE DB CITY OF BROCKTON
cwagrn |UB Service Order

Date Entered: 01/05/2011 District: BR Type: CM
Entered By: cwagrn
Reference: 32770
Account #: 12054
ROUTE: 0260
Read Seq: PO BOX 1520
VERADALE, WA 99037

Location: 1149 -1151 MAIN ST

Subdiv:
Lot:

Service : 1WTR58-001 WATER MIN. CHG Parcel: 083067

Meter Info. Manuf/Serial Other Meter Manuf/Serial
Read Meter SENS 03774774
Installed Date 01/31/2001
of Dials 6

Last Reading Info.		Usage	Year/Mo	R	Reading	Usage
2010/10	A	2,600	2009/4	A	397,200	5,300
2010/7	A	3,500	2009/1	A	391,900	9,800
2010/4	A	4,000	2008/10	A	382,100	7,700
2010/1	A	6,600	2008/7	A	374,400	8,000
2009/10	A	9,600	2008/4	A	366,400	5,600
2009/7	A	7,400	2008/1	A	360,800	8,000

Reason Code: VERI VERIFY READING
Sery Order Type: READ REREAD/CHECK HIGH-LOW READ
Assigned To:
Date Scheduled: 01/05/2011 Time Scheduled:

Comments: LOW Read date: 12/10/2010 Current reading: 431400

Service Comment:

Add'l Info:

Work Completed By: _____ Date Completed: _____
Completed Reason: _____

APPENDIX 2-3.5: WORK ORDER FORM



Special
3/08

WORK ORDER

CITY OF BROCKTON
DEPARTMENT OF PUBLIC WORKS
UTILITIES DIVISION

TEL AKF TAG
MS MU
TX BD
AM

Name: _____

Account No. 31499

Address: 220 N. MAIN ST

Phone No. _____

Appointment Time: _____

Start Time: _____

Finish Time: _____

Installation Date: 2/27/08

Installed By: V-10

METER REMOVED:

Make: Kent Size: 5/8

Serial Number: 95554272

Reading: Inside: 742866

Outside: 2000204862

METER INSTALLED:

Make: Kent ECR/Sensus Size: _____

Serial Number: Jumper

Reading Number: _____

Touch Pad ID #: _____

MIU Installed: YES NO

PLUMBING CONDITIONS:

Size of Service: _____ 1/2" _____ 3/4" 1" _____ 1.5" _____ 2" _____ Other _____"

RECEPTACLE INFORMATION:

Location: _____ L/S _____ R/S _____ F _____ R

Next To: Electric Meter _____ Walkway _____ Driveway _____

PLUMBING CONDITIONS:

Bad Plumbing: _____ Before Meter
_____ After Meter

Electrical Ground: _____ Yes _____ No

Sump Pump? Y _____ N _____ LOCATION: L _____ R _____

Type of Service: _____ Copper Iron _____ Lead _____ Brass _____ Plastic

BAD PIPING: (Describe) _____

INSTALLATION TYPE: _____ Standard _____ Non-Standard _____ Finished Basement

Comments: PULLED METER FOR TESTING

4/11/08 - installed radio ✓

Reschedule Appointment, Reason: _____

REC'D FEB 28 2007

Resident Signature: _____

Installer Signature: _____

Gm, SC

**APPENDIX 2-3.6: PROCEDURE FOR ADJUSTING CONSUMPTION /
BILLS**

Department of Public Works (DPW) - Utilities Division
Multiple Estimated Water Billing Policy

- **Class code 101- Single family (same ownership) that have been billed multiple estimated bills.**
 - **This policy will be in effect upon water commission's approval for any and all class code 101 utility bills mailed on or after 1/1/10.**
1. **Subsequent to a homeowner contacting the DPW office with a multiple estimated bill, a service order will be created. The DPW will then contact the homeowner within 10 days arranging an appointment and the DPW will further inform homeowner that as a condition to the procedure, full access to the meter in the location must be granted.**
 2. **The homeowner or authorized person must sign a completed work order provided by the DPW. The work order will contain the meter serial number and meter reading. Upon the DPW signing the work order, a copy will be provided to the homeowner and furthermore, the DPW will take photos of meter in location during its removal or replacement.**
 3. **The work order will be transmitted to the Utilities Division at Montauk Road and to the billing office at City Hall for review. The City of Brockton reserves the right to test the meter.**
 4. **Subsequent to review of the billing and determination that any adjustment is warranted the bill will be block adjusted. Said adjustment will be determined by using an actual reading to actual reading and will be recalculated and charged at the rate the bill was issued. The adjustment will be processed on the last actual bill issued.**
 5. **If the estimated bills exceed more than five (5) years, only the earlier years, beyond the most current (5) five years, will be recalculated at the lowest block rate at the period of the estimated reading. The remaining most current five (5) years of estimates will be recalculated and charged as indicated in item #4.**
 6. **A letter will be forwarded to the property owner, via certified and regular mail, with an explanation and/or breakdown of adjustments.**
 7. **If the property owner does not accept the proposed adjustment, said owner may request the water meter tested, upon receipt of required city fee. A meter test must be requested prior to arranging a meeting. If the test results exhibit the meter is not within five (5) percent of being accurate, the fee will be returned to property owner. If the meter is accurate, the city shall retain the fee. The city will be required to hold the meter for six (6) months only then the meter will be disposed of.**

If the property owner further contests the results of the test, they may seek an independent certified meter testing company to perform the meter test at the property owner's expense. As a condition of the city reviewing any independent testing, an employee of the Utilities Division must be present at the time of said independent testing. The City of Brockton will thereafter reserve its right to retest the meter at its own expense after the independent exam.
 8. **A property owner may thereafter request a meeting with the DPW Commissioner. Said meeting may also include the Superintendent of Utilities, and Treasurer/Collector.**
 9. **The Treasurer/Collector will entertain acceptable arrangements for a payment plan by a property owner. A payment plan cannot extend for more than a three (3) year period due to Massachusetts state law.**

Department of Public Works (DPW) - Utilities Division
Multiple Estimated Water Billing Policy

- **Class codes other than 101- multi family, (same ownership), commercial, and industrial locations that have been billed multiple estimated bills.**
 - **This policy will be in effect upon water commission's approval for any and all class code other than 101 utility bills mailed on or after 1/1/10.**
1. **Subsequent to a property owner contacting the DPW office with a multiple estimated bill, a service order will be created. The DPW will then contact the property owner within 10 days arranging an appointment and the DPW will further inform the property owner that as a condition to the procedure, full access to the meter in the location must be granted.**
 2. **The property owner or authorized person must sign a completed work order provided by the DPW. The work order will contain the meter serial number and the meter reading. Upon the DPW signing the work order, a copy will be provided to the owner and furthermore, the DPW will take photos of meter in location during its removal and replacement.**
 3. **The work order will be transmitted to the Utilities Division at Montauk Road and then to the billing office at City Hall for review. The City of Brockton reserves the right to test the meter.**
 4. **Subsequent to review of the billing and determination that any adjustment is warranted the bill will be block adjusted. Said adjustment will be determined by using an actual reading to actual reading and will be recalculated and charged at the rate the bill was issued. The adjustment will be processed on the last actual bill issued.**
 5. **The property owner will be sent a letter, both by certified and regular mail, with an explanation and /or breakdown of adjustments.**
 6. **If the property owner does not accept the proposed adjustment, said owner may request the water meter be tested, upon receipt of required city fee. A meter test must be requested prior to arranging a meeting. If the test results exhibit the meter is not within five (5) percent of being accurate, the fee will be returned to owner. If the test was accurate, the fee shall be retained by the city. The city will be required to hold the meter for six (6) months only then the meter will be disposed of.**

If property owner further contests the results of the test, they may request an independent certified meter testing company perform the meter test at the property owner's expense. As a condition of the city reviewing any independent testing, an employee of the Utilities Division must be present at the time of the said independent testing. The City of Brockton will thereafter reserve its right to retest the meter at its own expense after the independent exam.
 7. **The property owner may thereafter request a meeting with the DPW Commissioner. Said meeting may include the Superintendent of Utilities.**

**APPENDIX 2-3.7: WORKING COPY OF BILLING REPORT ON BILLS
GREATER THAN \$5,000**

S-NX
2/24/10

5-7

DISTRICT 3 FEBRUARY 2011 GREATER THAN \$5000 WATER									
#	Name	Location	Misc	Read Code	Previous Read	Current Read	Billed Usage	Total Charge	Remarks
S	30224	BRIGGS LAWRENCE F	2 fam	A	219061	322870	103809	6190.98	Need Verify - D
S	30416	VEIERA CARLOS G	1 fam	A	159632	114000	954368	58160.14	Need Verify - D
	31189	EQUITY RESIDENTIAL PROPER	Resid	A	8119440	8327980	208540	12590.05	ok
	31497	VALLE RICARDO	Comm	A	169267	980792	811525	49432.43	Need Verify - D
	31933	GOMES OLIVIA	2 fam	A	229043	316990	87947	5221.82	Need Verify - D
	34371	BROCKTON HOUSING AUTHORIT	exempt	A	0	98536	98536	5868.80	Need Verify - D
	34544	QUINTON NEAL M	1 fam	A	5324	2325	997001	60765.02	Need Verify - D
	34708	EDWARDS ROY C	1 fam	A	57155	56409	999254	60902.67	Need Verify - Stopped - D
✓	35276	FRABETTI KENDRA M	1 fam	A	114547	104682	990135	60345.50	Need Verify - D
	35631	BROCKTON SCHOOL DEPT	exempt	E	80770	391467	310697	18831.85	ok
✓	36077	443400 TJX CO. MAIL STOP	Comm	A	1116700	1206500	89800	5335.05	Need Verify - D
	36312	UNO FOOD INC.	Comm	A	748900	893270	144370	8669.27	ok
	36624	WCB ASSOCIATES	Comm	A	1113888	1213610	99722	5941.27	ok
	37253	WCB ASSOCIATES	Comm	E	486390	617293	130903	7846.43	ok
	37480	WESTGATE DRIVE REALTY TRU	Comm	A	70455	214201	143746	8631.14	Need Verify - D
	37757	RAPD JOHN J TR OF 531 PLE	Comm	A	1064130	2458450	1394320	85041.21	Need Verify - D
	37884	PATEL CHAMPAK B TRUSTEE	Comm	A	5319100	5455900	136800	8206.75	ok
	37936	GOOD SAMARITAN MEDICAL CE	Comm	E	8656863	8815233	158370	9524.67	ok
	37937	CARDINAL CUSHING HOSPITAL	Comm	A	10120000	10278800	158800	9550.95	ok
	38283	TAYLOR CONSULTING & CONTR	comm	A	36144725	36347600	202875	12243.93	ok
S	38327	HALLIDAY JACQUELINE	1 fam	A	147300	144600	997300	60783.29	Need Verify - D
S	38527	SUNNY'S AUTO CARE INC	comm	A	1480	1282	9999802	610836.16	Need Verify - D 1012
	38563	HAMILTON OAKS ASSOCIATES	apt	A	6058330	6153310	94980	5651.54	ok
	38687	RAY MUCCI'S, INC	comm	E	5408618	5514763	106145	6333.72	ok
J	38733	IHAJJAR MGNT CO INC	apt	A	695567	993500	297933	18051.98	Need Verify - D
	38749	BROCKTON HOUSING AUTHORIT	hi-rise	E	21110500	21616813	506313	30783.99	ok
	38755	CANTERBURY ARMS ASSOCIATE	apt	A	4674600	4772700	98100	5842.18	ok
S	38855	FAIRWAY OAKS CONDOS	condo-12A	A	1136350	1539700	403350	22824.12	Need Verify - D
	39029	HAMILTON WADE HOUSE CO	exempt	A	5253220	5352560	99340	5917.93	ok
	39125	BROCKTON HOUSING AUTHORIT	exempt	A	1568610	1710500	141890	8517.74	ok
S	39308	QU JIN Q	comm	A	2339110	2442890	103780	6188.22	Need Verify - D
S	39639	WAL-MART STORES INC. #012	comm	A	1012330	2410000	1397670	85245.90	Need Verify - D
	39654	BAY POINT NURSING	comm	A	8803000	8922000	119000	7119.16	ok

Pull All Verifs
MJT 3/4/10