

April 22, 2013

The Washington County Board of Commissioners met in a recessed session on Monday, April 22, 2013 at 7:00 PM in the County Commissioners' room, 116 Adams Street, Plymouth, NC. Commissioners Johnson, Manning, McCray, Phelps and Sexton were present. Also present were County Manager Jerry Rhodes, Clerk to the Board Julie J. Bennett, Finance Officer Frank Milazi and County Attorney/Assistant County Manager Cheryl Young.

ADDITIONS/DELETIONS: Chair Manning stated that an addition was needed to the agenda: add attorney-client privilege to Closed Session—143-318.11(a)(3).

Commissioner Sexton made a motion to approve the addition to the agenda as presented above. Commissioner Phelps seconded, motion passed unanimously.

AUTOMATED METER READER LOAN: Mr. Lou Manring, Public Utilities Director made a presentation to the Board on the Automated Meter Reader (AMR) loan. Mr. Manning stated that the County has received a 20 year loan with 0% interest for the purchase of automated water meters. He gave the following presentation.

Washington County Water

Automated Meter Reading (AMR)

Green Project Reserve Grant

Why Meter?

- To Obtain a Water Use History
- A Means of Analyzing System Growth
- Tracking System Water Loss or Leaks
- Trends in water usage
- View of Seasonal Changes in Demand
- Resource Management
- Resource Conservation
- Asset Management

System Overview

- 2600 **metered** customers ±
- 140 miles of distribution mains
- 155 hydrants
- 6 automated blow-offs
- 124 dead ends requiring monthly manual flushing
- 3 booster pumps
- 5 elevated tanks – 1 ground storage tank
- 3 deep wells- Castle Hayne Aquifer
- 1 treatment plant

Distribution Personnel Responsibilities

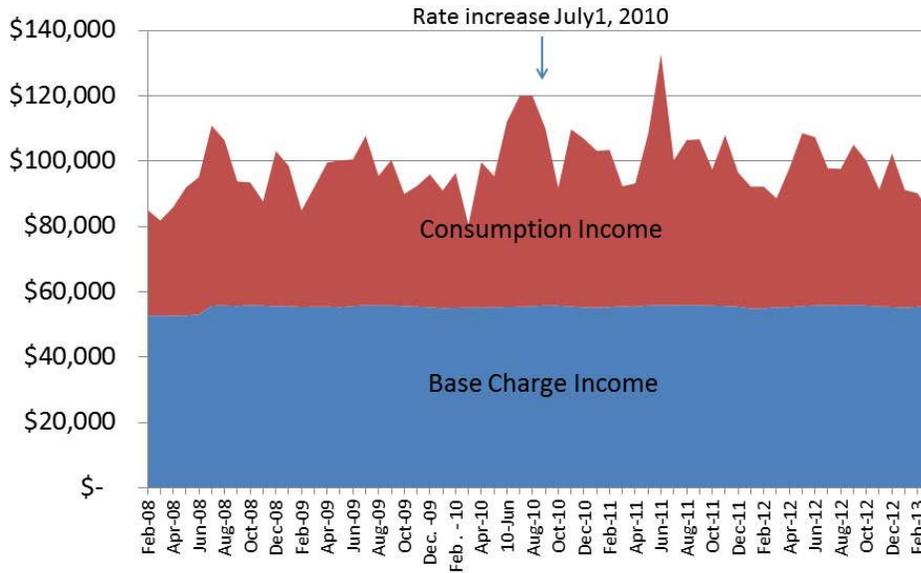
Each distribution employee supports over 860 customers and:

- Responds to customer complaints
- Reads meters
- Investigates line leaks
- Investigates unexplained water use/leaks at customer's site
- Installs water taps (including road bores)
- Repairs main distribution lines
- Repairs water service lines & meter setters
- Hands out shut off notices
- Shuts off delinquent accounts/remove meters
- Turns on new accounts/ installs new meters
- Services & repairs hydrants and valves as necessary

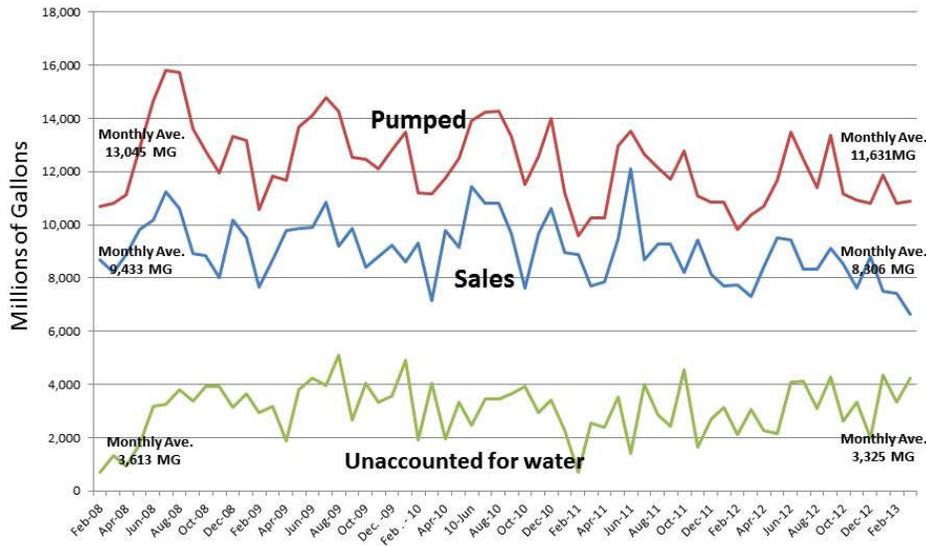
Distribution Personnel Responsibilities

- Flushes all hydrants 2X / year
- Operate all gate valves yearly
- Monitors and maintains booster pump stations
- Monitors & maintains water tank sites
- Mows and/or sprays grass around tanks, hydrants, valves & valve markers
- Flushes dead end water lines monthly
- Takes water samples as needed
- Locates water lines for other utilities
- Maintains backhoe, ditchwitch, 5 trucks and other misc. equipment
- Assists with repairs at plant as needed

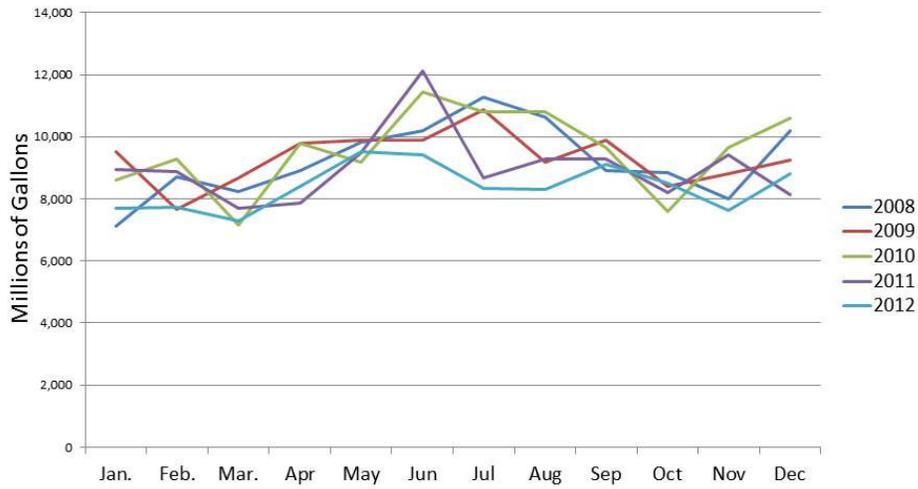
Monthly Income



Water Sales - Pumped



Water Sales - Yearly Trend



Why do we really meter?

\$\$\$\$\$

To generate revenue

\$\$\$\$

Measure & Manage Water Resources & Revenue



THE METER IS THE CASH REGISTER OR "POINT-OF-SALE" DEVICE
YOU CAN'T MANAGE WHAT YOU DON'T MEASURE!
LONG-TERM MEASUREMENT ACCURACY/EFFICIENCY ARE EXTREMELY IMPORTANT

Residential Usage

**Average residential water flow through a meter
is 0.89 GPM**

- Low Flow - 0 to .25 GPM 12% of flow
- Intermediate Flow - 0.25 to 2 GPM 86% of flow
- High Flow - Above 2 GPM 2% of flow

Meter Accuracy

New meters

99.5 % at flow rates above 1 GPM

98.5% at a flow rate of $\frac{1}{4}$ GPM

low flow accuracy 95% at a rate of $\frac{1}{8}$ GPM

(in fact low flow is much more accurate but only warranted for 95%)

Older meters typically only detect flow above $\frac{1}{4}$ GPM

New meters can register and record flow as low as $\frac{1}{16}$ GPM
($\frac{1}{16}$ GPM = 2700 gallons/ month)

Accuracy is affected by age, water quality, volume of flow and environmental conditions

Meter Testing Project

Over the last 12 months we tested 496 meters
267 or 53.8% tested 97% (or better) accurate and were
reissued

229 tested less than 97% accurate (or were damaged)
and replaced

9.9% were not operating at all (stopped)

86.6 % overall accuracy rate

or

13.4 % lost water (no income received)

On average we bill for 8,000,000 gallons per month

Based on an 86.6% accuracy we are giving away
approximately 1,200,000 gallons each month

at \$10.00/ thousand that equates to

\$12,000/ month lost revenue

It's also about

Efficiency

Washington County Current meter reading technology



Direct read meters then enter reading into handhelds. This is done 2600 times per month.

3 Meter readers work for 4 to 5* days each month to accomplish this.

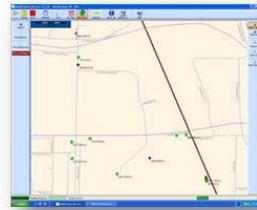
*Assuming good weather & no problems

Automated Meter Reading (AMR)

- AMR is a meter reading technology that provides the means to more efficiently read, collect, and compile water meter data for billing.
- Examples of AMR include
 - In/Outbound Telephone
 - Radio Frequency (RF) Walk-by
 - **Radio Frequency (RF) Drive by**
 - Fixed Network (AMI)
 - Power Line Carrier

Mobile Receiver/Collector

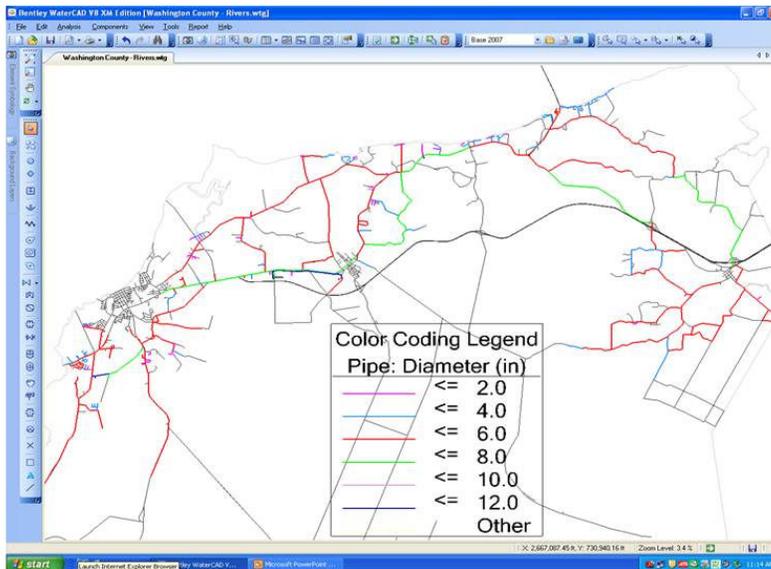
- User-friendly technology
- Provides mobile back-up capability
- 900 MHz Frequency Hopping Two-Way Receiver
- Two-way RF data profiling capability



Mobile Drive-By AMR



Utilizing built in GPS
Anyone can read by following the map



Handheld Collector

- Typical Handheld Unit
 - Rugged handheld with IP 67 rating
 - Water submersible
 - Operating temperature -5°F to 140°F
 - Withstands 5' drop to concrete
 - Easy to read color touch screen display
- Supports full day of usage with field replaceable battery
- Bluetooth and Wi-Fi capabilities are standard
- Integrated RF transceiver in handheld



Recent Improvements

- Bubble-up Data Technology
- Increased Transmitter Battery Life (20 years)
- GPS Route Mapping
- Reading Equipment is smaller and more economical
- Leak Detection
- Tamper Detection/Water theft
- Increased Reading Range
- Usage Data Profile Monitoring

Benefits of AMR

- **Increased Efficiency** in Meter Reading Operations
- Reduced Cost per read
- Virtually Eliminates Re-Reads
- Reduced Human Error in Data Management
- **Reduced Costs** on Vehicles, Gas, Maintenance, Depreciation
- **Reduced employee accidents / injuries**
 - Thereby reducing workmen's compensation claims
- Eliminates Reading in Bad Weather
- Eliminates the need to estimate during severe weather

Additional Benefits

Revenue Protection

- Theft Detection / Deterrent
- Tamper Detection / Deterrent
- Reduced Unaccounted-for-Water

Improved Customer Service

- Timely & Accurate Billing
- Eliminate Estimated Reads
- Eliminate Home Intrusion
- Reduced Customer Complaints

Additional Benefits

Billing and Cash Flow

- Reduce Read-to-Bill Time
- Reduce Billing Adjustments
- Reduced Contested Bill Delays
- Fewer Re-Bills
- Improved Collections
- Better Receivables Management
- Environmental Impact
- Reduce Vehicle Emissions
- Water Conservation

Washington County Water Automated Meter Reading System (AMR)

- Funded by the Green Project Reserve Grant Program
– Through DENR
- Total project Cost **-\$573,811**
- Funded with a **0% interest** loan
- 20 year amortization schedule = \$28,700/ year

Automated Meter Reading System (AMR)

- 2300 New meters w/ radio read registers
- 300 Radio read registers for recently replaced meters
- Laptop, controller, antenna, recording & billing software including installation & 1 yr. maintenance agreement
- Installation and /or retrofit of all meters and registers
- Engineering design/ Bid package preparation

Revenue

- \$60,000 to \$100,000 / year additional revenue is expected to be generated from this project in water sales alone.

Commissioner Sexton asked about the life expectancy of the meters. Mr. Manring said Badger meters have a 20 year guarantee. They are of high quality and have been in continuous business for over 100 years. Commissioner Phelps asked when was the last time the County's meters were replaced. Mr. Manring replied "never" and that this loan will replace all of water meters. He also said that this loan covers all costs associated with this project. Mr. Manring stated that the County has to pay an \$11,000 loan service fee up front but it is reimbursable.

Commissioner Sexton asked Mr. Manring if he is confident that these new meters will help the County save water and increase County revenue. Mr. Manring stated yes he is confident these new meters will help. He also said that the recent newspaper article has helped to let people know that the County is actually checking on water usage. The meters need to accurately measure the water that is going out and some of ours are 10% off on average because they are old meters. Mr. Manring noted his staff has checked 100 meters and on average they are at 86.6%. One way or the other, all meters will need to eventually be replaced. Mr. Manring's staff has replaced 500 meters but it took over 1 year.

Commissioner Phelps made a motion to approve the Automated Meter Reader Loan. Commissioner Johnson seconded, motion passed unanimously.

REFINANCING OF WATER SERVICE DEBT: Mr. Milazi spoke to the Board about refinancing the water service debt. The County's original loan was at a high interest rate and rates have dropped so it would be beneficial to refinance now. The County could pay less interest and cut off seven (7) years from the original loan. This would have to be sent to LGCU for approval. Commissioner Phelps asked Mr. Milazi if he shopped around for lower interest rates. Mr. Milazi said that no one wants to talk to us because the County doesn't have any reserve balance in place. The Commissioners decided to table making a decision on the refinancing until the May 6 meeting.

FINANCE OFFICER'S REPORT: Mr. Milazi told the Board that the Juvenile Crime Prevention Council (JCPC) Plan has to be submitted to the State before it is put into our budget. The JCPC is funded by the State and the revenue is shown in our general fund.

Mr. Milazi also stated that the budget is on schedule.

Commissioner Sexton made a motion to approve the JCPC Plan. Commissioner McCray seconded, motion passed unanimously.

Commissioner Johnson made a motion to go into Closed Session according to NCGS §143-318.11 (a)(3) (attorney-client privilege) and §143-318.11(a)(4) (economic development). Commissioner Phelps seconded, motion carried unanimously.

Commissioner Johnson made a motion to adjourn the meeting. Commissioner Phelps seconded, motion carried unanimously.

Buster Manning
Chair

Julie J. Bennett, CMC, NCCCC
Clerk to the Board