Charlotte County Utilities

Past, Present, and Future

Board Workshop - April 16, 2013
Past
CHARLOTTE COUNTY UTILITIES ESTABLISHED 1991
CCU Beginnings

- General Development Utilities (GDU)
  - A Florida Corporation
  - Provided Water, Wastewater and Liquefied Petroleum (LP) Gas Service to Developments Built by General Development Corporation (GDC) in Charlotte County
  - GDC Developed Port Charlotte, the Largest Unincorporated Community In the County
CCU Utility System Acquisition Timeline

• In June 1991, the County acquired the utilities system from GDU by means of a quick-take condemnation.
  
  – Financed through the issuance of the Charlotte County, Florida, Utility System Revenue Bonds.

• Charlotte County became the owner and operator of gas and wastewater facilities that served Charlotte County, and a water system that served Charlotte and De Soto counties.

• The Board of County Commissioners decided to sell the gas system in 1996 and the sale was completed on March 31, 1998.
Water Supply Authority Formation

• Inter-local Agreement Signed 1982
  – Charlotte, Desoto, Manatee, Hardee*, and Sarasota Counties formed the Water Supply Authority.
    *Hardee County opts out.

• 1991 Charlotte County acquires GDU Peace River Water Treatment Plant Facilities as directed by SWFWMD and Water Supply Authority and transfers plant to the Authority forming the PRMRWSA (Peace River Manasota Regional Water Supply Authority).
GDU Peace River Water Treatment Plant Facilities

1979: Plant Constructed
Capacity 6.0 MGD

1987: Plant Expanded
to 12.0 MGD

1991: Acquisitions completed forming PRMRWSA.
10 MGD dedicated to CCU
2001: PRMRWSA Capacity Upgrades “Peace River Option” (PRO)

- Capacity increased from 12 to 18 MGD.
- CCU Allocation from 10 to 12 MGD.
- Additional 24” secondary line to CCU.
- Additional 12 aquifer storage and recovery (ASR) wells for a total of 21 wells.
2009: PRMRWSA
“Regional Expansion Program” (REP)

- Plant Capacity increased from 18 to 32.7 MGD
- Six Billion Gallon Reservoir
- Three Water Storage Tanks
- CCU Allocation increased from 12 to 16.1 MGD

Three water storage tanks

A six billion gallon storage reservoir

Additional treatment facilities
1993 Separation from North Port Utilities

1991 Purchase GDU
15,000 Sewer Connections
28,454 Water Connections

1998 Fivelands Utilities
1,400 Water ONLY Connections

1999 Rampart Utilities
1,400 Water Connections
1,400 Sewer Connections

2000 Rotonda Utilities
3,700 Water Connections
3,400 Sewer Connections

2003 Deep Creek Service Area
3,700 Water Connections
3,400 Sewer Connections

2003 Burnt Store Utilities
1,484 Water Connections
1,273 Sewer Connections

1991 Purchase GDU
15,000 Sewer Connections
28,454 Water Connections

1998 Fivelands Utilities
1,400 Water ONLY Connections

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3,700 Water Connections
3,400 Sewer Connections

2003 Burnt Store Utilities
1,484 Water Connections
1,273 Sewer Connections

Gulf Of Mexico

Charlotte Harbor

Purchased Utility Service Area
Potable Water

CHARLOTTE COUNTY
“Open for Business”
Water Connections

Year | Water
--- | ---
94 | 30,782
95 | 31,370
96 | 31,749
97 | 32,150
98 | 32,540
99 | 35,210
00 | 40,086
01 | 41,634
02 | 42,052
03 | 49,358
04 | 51,000
05 | 53,374
06 | 54,100
07 | 55,575
08 | 55,753
09 | 55,957
10 | 56,172
11 | 56,348
12 | 56,348
Potable Water Infrastructure Inventory

<table>
<thead>
<tr>
<th>Year</th>
<th>Transmission</th>
<th>Distribution</th>
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<tr>
<td>94</td>
<td>70</td>
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<td>202</td>
<td>1,344</td>
</tr>
<tr>
<td>12</td>
<td>202</td>
<td>1,345</td>
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</table>

Boston
625,000 Pop.
1,007 miles of pipe
Burnt Store WTP
Existing 3.6 MGD
Build-out 6.7 MGD

Babcock Well Field
Permitted Capacity
3 MGD
Build-out 25 MGD

Punta Gorda WTP
Punta Gorda WWTP

Legend
- Proposed Babcock Ranch Raw Water Main
- Proposed Punta Gorda & Burnt Store Raw Water Interconnect

Charlotte County Utilities
- Proposed Punta Gorda WTP & Burnt Store WTP Interconnect
- Babcock Ranch Raw Water Pipeline Route Alternatives
Wastewater
CCU Sewer Connections

Thousands

Sewer 10,993 11,262 11,474 11,800 11,980 13,663 14,230 18,353 19,941 21,249 28,133 29,300 31,066 32,529 33,204 33,455 33,670 34,094
Wastewater Infrastructure Inventory

The chart shows the miles of pipe for gravity, LPS, and forcemains infrastructure from 1994 to 2012. The data is presented in a bar graph, with years on the x-axis and miles of pipe on the y-axis. Each year has three bars representing gravity (red), LPS (green), and forcemains (blue) infrastructure.

- **Gravity (Red)**: The red bars represent the miles of gravity infrastructure. The years show a general increase in miles of pipe from 140 miles in 1994 to 378 miles in 2012.
- **LPS (Green)**: The green bars represent the miles of LPS infrastructure. The years show a general increase in miles of pipe from 62 miles in 1994 to 378 miles in 2012.
- **Forcemains (Blue)**: The blue bars represent the miles of forcemains infrastructure. The years show a general increase in miles of pipe from 61 miles in 1994 to 257 miles in 2012.

The chart indicates a steady increase in the miles of pipe for all three types of infrastructure over the period from 1994 to 2012.
West Port Water Reclamation Facility (1.2 MGD)

Rotonda Water Reclamation Facility (2.0 MGD)

East Port Water Reclamation Facility (6.0 MGD)

Burnt Store Water Reclamation Facility (0.5 MGD)

900+ miles Sewer Mains
300+ Lift Stations

Charlotte County Utilities
Existing Wastewater Infrastructure
Area 1
Total Accounts: 8620
Occupied Accounts: 5170
Vacant Accounts: 3450
Percentage Developed: 60%

Area 3
Total Accounts: 343
Occupied Accounts: 289
Vacant Accounts: 54
Percentage Developed: 84%

Area 3 Commercial Corridor

East Port WRF
Plant Capacity 6.0 MGD
Existing Flows 4.1 MGD
Can Serve Additional 10,000 Connections

East & West Spring Lake Pilot Study
Total Properties: 2455
Occupied Properties: 1844
Vacant Properties: 611
Percentage Developed: 75%

Charlotte County Utilities
Stage 1: Proposed Wastewater Expansion Plan
Existing East Port WRF
Area 2
Total Accounts: 13438
Occupied Accounts: 7547
Vacant Accounts: 5891
Percentage Developed: 56%

East Port Expansion from 6 to 9 MGD can serve additional 20,000 connections.
Charlotte County Utilities
Stage 2: Mid County Master Wastewater Plan
Vacant Accounts (Existing Sewer): 6,200
Vacant Accounts (Proposed Sewer Expansion): 10,800

East Port Expansion from 9 to 12 MGD. Can Serve Additional 20,000 Connections
East Port Expansion to 24 MGD
Can Serve all of Mid-County
Can Serve an Additional 80,000 Connections

Charlotte County Utilities
Mid County Full Build Out Wastewater Plan
Rotonda Water Reclamation Facility
Capacity 2 MGD
Existing Flows 0.85 MGD
Can Serve Additional 7,100 Connections

West Port Water Reclamation Facility
Capacity 1.2 MGD
Existing Flows 0.6 MGD
Can Serve Additional 3,750 Connections

Area 4
Total Accounts: 5473
Occupied Accounts: 2881
Vacant Accounts: 2592
Percentage Developed: 53%

Charlotte County Utilities
2013 Proposed Wastewater Expansion Plan
50% Greater Developed Residential Land
Rotonda Water Reclamation Facility
Capacity 2.0 MGD
Rotonda Expansion to 3.0 MGD
Can Serve an Additional 6,750 Connections

West Port Water Reclamation Facility
Capacity 1.2 MGD
West Port Expansion to 9.2 MGD
Can Serve an Additional 53,500 Connections

Charlotte County Utilities
West County Proposed Wastewater Expansion Plan Full Build Out

Legend
- Existing Sewer Mains
Burnt Store Water Reclamation Facility
Capacity 0.5 MGD - Existing Flows 0.3 MGD
Can Serve Additional 1,250 Connections
Full Build-out 5.6 MGD
Can Serve Additional 35,000 Connections

Charlotte County Utilities
South County Full Build Out Master Wastewater Plan
Reclaimed Water
Why Use Reclaimed Water?

Environmental:

- Protects environment by helping to prevent salt water intrusion inland caused by excessive ground water withdrawals for irrigation
- Saves utility customers money by reducing the need to develop new potable water supplies

Regulation:

- Compliance with State’s long term goal to conserve water by utilizing 75% of all wastewater flows for potable water offsets
- Compliance with existing permits allows future expansion of treatment and storage facilities to meet future growth

Financial Consequences:

- New Desalination Plant: $10 to $12 / 1,000gal
- New Reverse Osmosis Water Treatment Plant and Babcock Ranch Wellfield: $4.00 to $4.50 / 1,000gal
## Cost of Reclaimed Water Distribution

<table>
<thead>
<tr>
<th>Line No.</th>
<th>Description</th>
<th>Existing System Capital Costs</th>
<th>Existing System Equiv Annual Cost</th>
<th>Phase 1-3 Expansion Capital Costs</th>
<th>Phase 1-3 Equiv Annual Cost</th>
<th>Total System Capital Costs</th>
<th>Total System Equiv Annual Cost</th>
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<tbody>
<tr>
<td>1</td>
<td>On-Site Facilities [1]</td>
<td>$1,610,595.00</td>
<td>$89,004.00</td>
<td>$3,133,198.00</td>
<td>$173,145.00</td>
<td>$4,743,793.00</td>
<td>$262,148.00</td>
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<td>Transmission Mains [1]</td>
<td>$10,124,463.00</td>
<td>$559,491.00</td>
<td>$9,952,540.00</td>
<td>$549,991.00</td>
<td>$20,077,003.00</td>
<td>$1,109,482.00</td>
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<tr>
<td>3</td>
<td>Storage [1]</td>
<td>$1,219,912.00</td>
<td>$72,050.00</td>
<td>$1,909,240.00</td>
<td>$112,762.00</td>
<td>$3,129,152.00</td>
<td>$184,812.00</td>
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<td>4</td>
<td>Pump Stations [1]</td>
<td>$2,064,917.00</td>
<td>$153,938.00</td>
<td>$4,425,500.00</td>
<td>$329,918.00</td>
<td>$6,490,417.00</td>
<td>$483,856.00</td>
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<td>5</td>
<td>Total Capital Cost</td>
<td>$15,019,887.00</td>
<td>$874,483.00</td>
<td>$19,420,478.00</td>
<td>$1,165,816.00</td>
<td>$34,440,365.00</td>
<td>$2,040,299.00</td>
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<td>6</td>
<td>Less Grants Received/Applied For</td>
<td>$4,165,005.00</td>
<td>$335,538.00</td>
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<td></td>
<td>$13,875,244.00</td>
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<td>7</td>
<td>Total CCU Capital Investment</td>
<td>$10,854,882.00</td>
<td>$538,945.00</td>
<td>$19,420,478.00</td>
<td>$1,165,816.00</td>
<td>$20,565,121.00</td>
<td>$538,945.00</td>
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<td>Amortized Capital Cost [2]</td>
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<td>$538,945.00</td>
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<td>$663,713.00</td>
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<td>Renewal &amp; Replacement [3]</td>
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<td>$42,839.00</td>
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<td>$162,000.00</td>
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<td>Operating Expenses:</td>
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<td>$597,000.00</td>
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<td>Electric Pumping Cost [4]</td>
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<td>$106,000.00</td>
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<td>$78,000.00</td>
<td>$1,058,000.00</td>
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<td>Other Operating Cost [5]</td>
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<td>$2,659.00</td>
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<td>13</td>
<td>Total Operating Expenses</td>
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<td>$106,000.00</td>
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<td>$597,000.00</td>
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<td>14</td>
<td>Total Revenue Requirements</td>
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<td>$687,784.00</td>
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<td>$970,130.00</td>
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<td>15</td>
<td>Daily Revenue Requirement</td>
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<td>$1,884.00</td>
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<td>$2,659.00</td>
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<tr>
<td>16</td>
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<td></td>
<td></td>
<td></td>
<td>8.5 MGD</td>
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<td>17</td>
<td>Reclaimed Production @ Plants</td>
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<td></td>
<td></td>
<td></td>
<td>$0.32</td>
<td></td>
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<td>18</td>
<td>Cost to produce 1000 gals if all production is sold</td>
<td>$5.9 MGD</td>
<td>$0.32</td>
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<tr>
<td>19</td>
<td>Reclaimed Sent to Customers @ present time</td>
<td>$3.003 MGD</td>
<td>$0.63</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Notes:
- [1] Cost to Produce per 1000 gallons based on sales/demand
- [2] Amortization based on the average service life of the facilities and an annual capital cost of 5.5%
- [3] Based on renewal and replacement funding level equal to 5.0% of revenue
- [4] Per CCU staff based on actual operating expense.
- [5] Based on one additional line technician.

### CCU Life Estimate for Assets:
- On-site facilities & Transmission Mains: 100 years
- Storage Facilities: 50 years
- Pumping Facilities: 25 years

### Equivalent Annual Cost (EAC) = Net Present Value/Annuity Factor
Charlotte County Utilities
Phase 3 - Stage 1: Proposed Reclaimed Water Users

Legend
- Existing Reclaim Facilities
- Existing Reclaim Water Mains
- Stage 1
- Phase 1 Sites

- Duffy Golf Course
- Pinemoor West Golf Course
- Pinemoor East Golf Course
- Rotonda Hills Golf Course
- Pine Valley Golf Course
- Burnt Store Marina Golf Course
- Port Charlotte High School
- North Charlotte Regional Park
- Charlotte County Administration Building
- Franz Ross Park
- Deep Creek Golf Course
- Kings Gate Golf Course
# Reclaimed Water Dry Season Production and Usage

<table>
<thead>
<tr>
<th>Plant</th>
<th>Production*</th>
<th>Sent to Users*</th>
<th>Total Available*</th>
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<tbody>
<tr>
<td>East Port WRF (current)</td>
<td>4.1</td>
<td>1.5</td>
<td>2.6</td>
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<tr>
<td>Rotonda WRF (current)</td>
<td>0.9</td>
<td>0.9</td>
<td>0.0</td>
</tr>
<tr>
<td>West Port WRF (current)</td>
<td>0.6</td>
<td>0.6</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>TOTAL (current)</strong></td>
<td><strong>5.6</strong></td>
<td><strong>3.0</strong></td>
<td><strong>2.6</strong></td>
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<tr>
<td>WASTEWATER EXPANSION</td>
<td>2.6</td>
<td></td>
<td>5.2</td>
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<tr>
<td>(Additional 17,000 Connections)</td>
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<tr>
<td><strong>TOTAL DEMAND PHASE 3 STAGES 1-3</strong></td>
<td></td>
<td>3.5</td>
<td>1.7</td>
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<tr>
<td>Burnt Store WRF (current)</td>
<td>0.3</td>
<td>0.003</td>
<td>0.297</td>
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<tr>
<td>Burnt Store (future demand)</td>
<td>0.297</td>
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<td>0</td>
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* Flow in Million Gallons per Day (MGD)
Finance
FY 12/13 Net Budget $93,818,051

O & M Fund 42.7%
Sewer CF Fund 10.6%
Water CF Fund 4.8%
Debt Service Fund 25.2%
R & R Fund 16.4%
MSBU 0.3%

O & M Fund

Debt Service Fund

Water CF Fund

R & R Fund

MSBU

Sewer CF Fund

R & R Fund 16.4%
Debt Service Fund 25.2%
Water CF Fund 4.8%
Sewer CF Fund 10.6%
MSBU 0.3%
O & M Fund 42.7%
Municipal Service Benefit Unit (MSBU) Funds

Percent of Budget: 0.3%

Amount: $319,093

Definition: Pays for expansion projects through equitable assessments adopted by resolution.

Source: Assessments (Can be augmented with grants or other funding sources)

Note: Assessments are used as pledged revenues for borrowings
Operations & Maintenance (O&M) Fund

Percent of Budget: 42.7%

Amount: $40,069,921

Definition: Cost of providing services and maintaining system and capacity.

Source: User fees including Base Facility Charge, Consumption or Usage Charge, a Customer Charge and payment of Accrued Guaranteed Revenue Fee by new users requesting service
Sewer Connection Fee and Water Connection Fee (CF) Funds

Percent of Budget:
Sewer 10.6%; Water 4.8%

Amount:
Sewer $9,935,397
Water $4,489,291

Definition: Used to pay for growth related capital costs. Also known as System Development Charges.

Source: New customers requesting utility services.
## Connection Fee per ERC*

<table>
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<tr>
<th></th>
<th>Water</th>
<th></th>
<th>Sewer</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>Plant Capacity</td>
<td>$910</td>
<td>Plant Capacity</td>
<td>$1,100</td>
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<td></td>
<td>Transmission</td>
<td>$380</td>
<td>Transmission</td>
<td>$500</td>
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<tr>
<td></td>
<td>Distribution</td>
<td>$490</td>
<td>Collection</td>
<td>$740</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,780</strong></td>
<td></td>
<td><strong>Total</strong></td>
<td><strong>$2,350</strong></td>
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</tbody>
</table>

* Equivalent Residential Connection (ERC) Based on rate resolution 4/1/2012
Debt Service Fund

Percent of Budget: 25.2%

Amount: $23,640,081

Definition: Fund pays all Utility bonds and debt.

Source: Transfer of Operations and Maintenance funds and MSBU Funds as needed to pay the annual debt and maintain debt reserves as required.

Final Bonds Maturity - 2024
Debt Retirement Fund

Principal Amount remaining as of 9/30/2012

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
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<tr>
<td>Bond Total*</td>
<td>$151,315,000</td>
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<tr>
<td>SRF Funding, Loans Total**</td>
<td>23,070,693</td>
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<tr>
<td><strong>Total Debt</strong></td>
<td>$174,385,693</td>
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</table>


** MSBU water and sewer expansions, 1996 upgrade of East Port Facility, and Peace River REP internal loan payment.
Repair & Replacement (R&R) Fund

AKA - Refurbishment and Rehabilitation of Assets

Percent of Budget: 16.4%

Amount: $15,364,268

Definition: For renewal and replacement of infrastructure to maintain services and meet regulatory treatment standards

Source: Operations and Maintenance Funds
How an Average Payment of $83.59 is used by the Utility

- Utility Operations: $33.67
- Debt Service: $23.54
- Capital Outlay: $2.37
- Purchase Water: $16.17
- R & R Transfer: $7.84

*Based on 4,000 gallons usage @ Rates Effective 10/1/2013
All utility bill payments are deposited initially into the O&M Fund.
1997 – 2005 Rate Decrease For Water and Sewer Customers

- BOCC decreased water rates by 12% and sewer rates by 5%.
- No increases for inflation during this period.
Comparison of Monthly Charges for Combined Water and Wastewater Service For Single-Family Residential Customers Using 4,000 Monthly Gallons

Other Neighboring Utilities' Average: $74.17

CCU - 8th

City of Naples
Manatee County
City of Clearwater
Hillsborough County
Englewood Water District
City of Punta Gorda
Lee County
Collier County
Sarasota County
Charlotte County - Existing
DeSoto County
St. Lucie County
City of Marco Island
City of Cape Coral
City of Fort Myers
FGUA - Golden Gate (Collier County)

Water Charges
Wastewater Charges
Other Neighboring Utility's Average
Plans

- Rate study 2013
- Vacant Lot Program
- Adjust R&R Budget to bring in line with Asset Management Program
Awards and Accomplishments

- Plant Operations Excellence Award CCU Burnt Store Water Treatment Plant by FDEP 2008 and 2012
- FWEA Medium Collection Size Wastewater Collection System Award 2013
- FWPCOA Safety Award at West Port WRF 2011
- Water Distribution employees were recognized with a proclamation by Charlotte Board of County Commissioners 2011
- 2nd - Top Ops Competition 81st Annual FWRC 2006
- AWWA Water Distribution Service Award 2010
- Best Tasting Drinking Water Taste Test, AWWA, Florida Region X 2006 and 2009
- Excellence in Marketing & Communications MarCom Award for 2007 Annual Report, produced by CCU and PB Americas 2008
- Received QualServe Self-Assessment and Peer Review plaque in April by the Florida Section of AWWA and WEF 2010
This is Only the Beginning....