



Public Works, Utilities and Utility Surplus Discussion

January 27, 2020

Agenda for this evening

- Quick review of budget process;
- Electric Utility Goals, Objectives & Capital Needs (Jim Mattina);
- Water Utility & Public Works Goals, Objectives & Capital Needs (Ken O'Brien);
- Electric Utility Financial Performance;
- Water Utility Financial Performance

Administration is not making recommendations nor are we asking for decisions this evening. The draft municipal budget will be presented on February 10 and Administration will have recommendations at that time.



BOROUGH OF MADISON
2019 BUDGET SUMMARY

This document was created to better inform Madison residents about the 2019 Municipal Budget. Earlier in the year, the Mayor and Council voted and/or deliberated on the 2019 budget at nine Council meetings. The Council unanimously approved the budget on April 22. Detailed information can be found on the "Annual Budget Process" page on www.rosenet.org.

ELECTRIC DIVIDEND INCREASED TO \$2 MILLION

During the 2019 budget process, Council approved a \$2 million electric dividend to be distributed to all customers. This dividend will automatically appear on your utility bill through December 2019. For residential customers, the credit is approximately a 10% reduction in your bill.

0% TAX INCREASE IN BUDGET

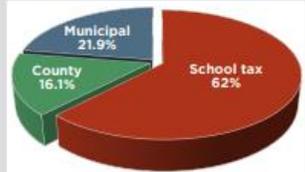
The Council passed a budget that includes a 0% municipal tax increase on existing properties. This was done by keeping expenses down & utilizing new revenues including payments from the development at the former Green Village Road School site.

THE BUDGET ALSO INCLUDES

- An increase in the targeted electric rebate for income-eligible residents from \$150 to \$200.
- No change in the level of services to residents.
- Extra funds for athletic field maintenance.
- \$\$ reserved for MRC turf reskinning & a commitment to pursue an additional turf field at the MRC complex.
- Buildout and support for the Madison Community Arts Center

MADISON TAX BILL BREAKDOWN

This chart illustrates the breakdown of taxes for each component of your property tax bill.



	2013	2019	5 Year \$ Inc.	5 Year % Inc.
County	\$1,781.42	\$2,121.70	\$340.28	19.7%
School	\$7,719.02	\$8,153.18	\$1,034.16	14.5%
Borough	\$2,802.24	\$2,888.98	\$86.74	3.1%
Total	\$11,702.68	\$13,163.86	\$1,461.18	

This table shows all of the parts of a tax bill for a property assessed at \$667,200.



WHAT DO YOU GET?

An average home valued at \$667,200, received a property tax bill of \$13,163.86. The municipal portion of this tax bill is \$2,888.98. For this amount, the residents of that home will receive the following services & programs:

MUNICIPAL SERVICES

- Garbage & Recycling Pickup
- Yard Waste & Fall Leaf Pickup
- Road Plowing & Maintenance
- Recreation & Parks Maintenance
- Senior Citizen Services
- Library
- Police Department & Crossing Guards
- Fire Department & Fire Safety
- Sewage Treatment
- Health Department
- Administration/Elections/Records
- Construction/Planning/Zoning

CAPITAL

- Road Maintenance & Reconstruction
- Electric & Water Utility Infrastructure
- Sewage & Storm Water Systems
- Hartley Dodge, Library & other Buildings
- Parks & Recreation Fields
- Fire Trucks & Large Apparatus
- Public Works Equipment & Vehicles

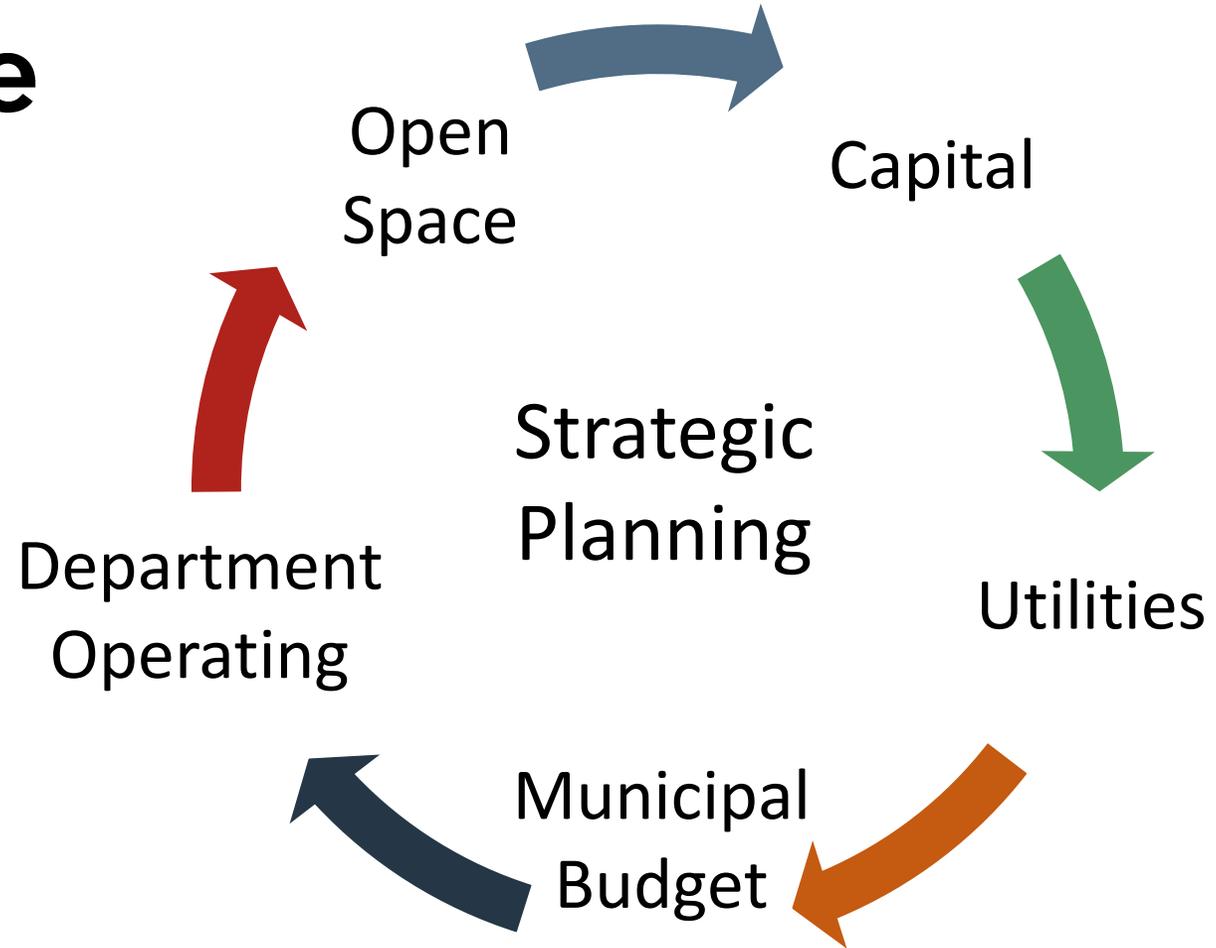
HOW PROPERTY TAXES AND SERVICES COMPARE TO OUR NEIGHBORS

Town	2018 Per Person Municipal Tax	Garbage Included in taxes?	Curbside Yard Waste?	Sewer Included in taxes?	Fall Curbside Leaf Pickup?	Paid, Professional Fire Dept.?	Senior Center & Van?
Madison	\$845	Yes	Yes	Yes	Yes	Yes	Yes & Yes
Chatham Twp	\$845	No	No	No	No	No	Yes & Yes
Chatham Boro	\$882	No	Yes	No	Yes	No	Yes & Yes
Morris Twp	\$993	Yes	Yes	No	Yes	Yes	Yes, but no van
Florham Park	\$1,104	No	Yes	No	Yes	No	Yes, but no van
Harding	\$1,479	No	No	No	No	No	No

Proposed Hearing Schedule

- January 13: Budget schedule review, Open Space Trust Fund, Five Year Capital;
- **January 27: Utilities Budget & Surplus Review, and Electric Utility, Water Utility and Public Works Department Head Presentation;**
- February 10: **Police Department Operating Budget**, Initial Budget Discussion & Municipal Surplus Discussion;
- February 24: Department Head Presentations;
- March 2: Revised Budget Presentation. Strategic Planning Guidelines and Alternate Budget Format presented;
- March 30: Official State Budget Introduction;
- April 27: Budget Adoption

The budget cycle



Three entities

When Council votes to adopt the budget, they are approving the year's **OPERATING** budgets for three entities:

- **Current Fund:** This is the “main budget” and includes police, fire, public works, buildings & grounds, library, sewage, garbage, recycling, yard waste, clerk, court, construction, seniors, finance, administration, etc.;
- **Electric Utility:** Field operations, back office and billing;
- **Water Utility:** Field operations, back office and billing

Three Capital Accounts

When Council votes on the budget, you are voting on the OPERATING budgets for the current fund, water utility and electric utility. Capital items are voted on via separate capital ordinances throughout the year.

Each of the three entities has a Capital Account...the General Capital Fund (for the current fund), Electric Capital Fund and Water Capital Fund. When you vote on a separate capital ordinance, the funds for that ordinance typically come from the capital fund.

Each operating budget includes a line for capital. That is the amount of \$\$ that is being taken from the operating account and transferred into the capital account to fund future projects.

Budget or spending plan?

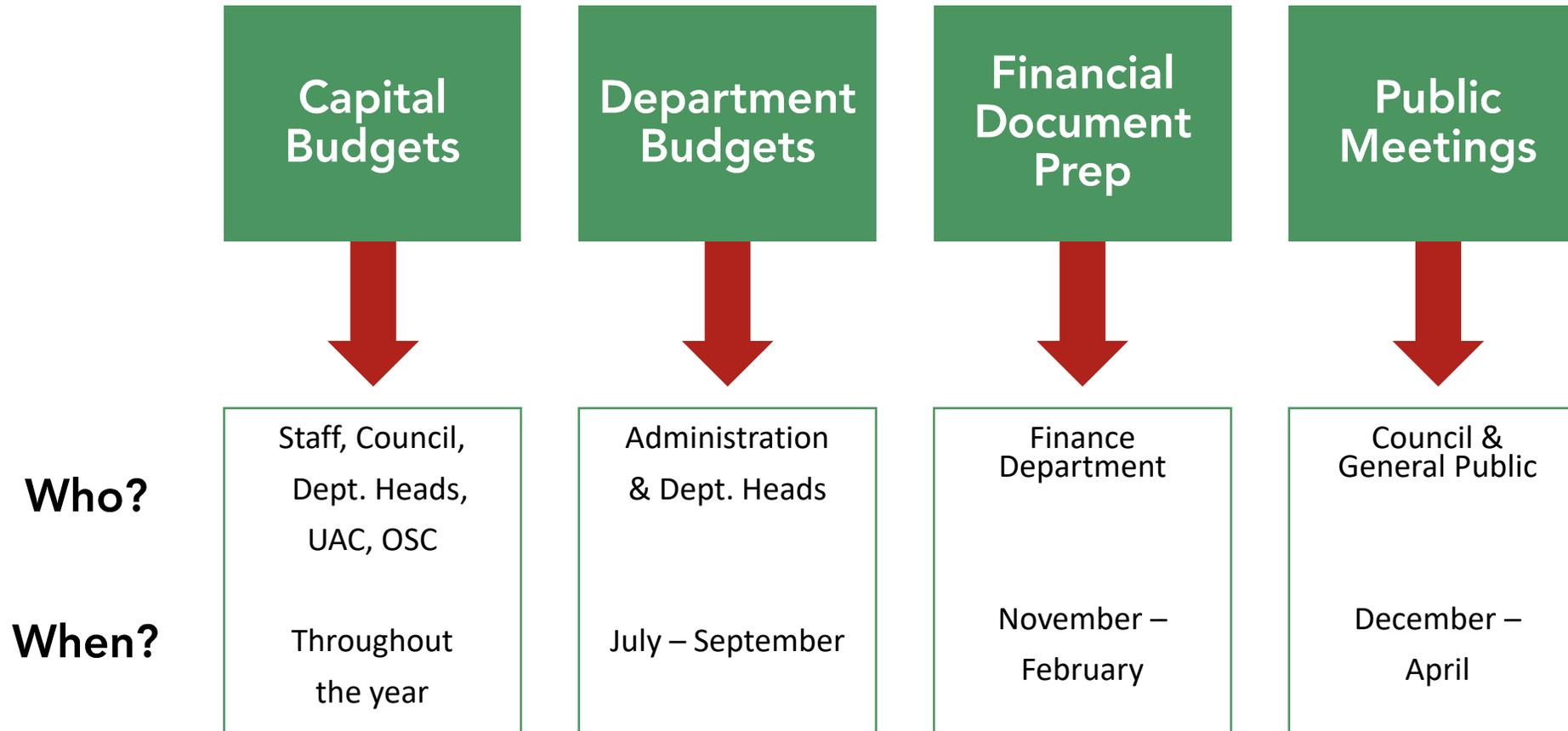
The word ‘budget’ is used, but ‘spending plan’ is a better term. When council approves the budget, they are approving the amount of money that will be spent for the entire year.

A business can typically change their budget during the year. Example.... They get a new contract so they decide to expand the business. The same holds true for a personal budget. If someone gets a promotion, they may go out and make additional purchases that year.

That is not the case for a municipal budget. The amount for snow removal or fuel is set at the beginning of the year and (unless an emergency is declared) can not change, no matter what happens with the weather or fuel prices.

If the budget includes \$200,000 for snow removal, and only \$120,000 is spent, then the remaining funds become “surplus”.

Budget Process

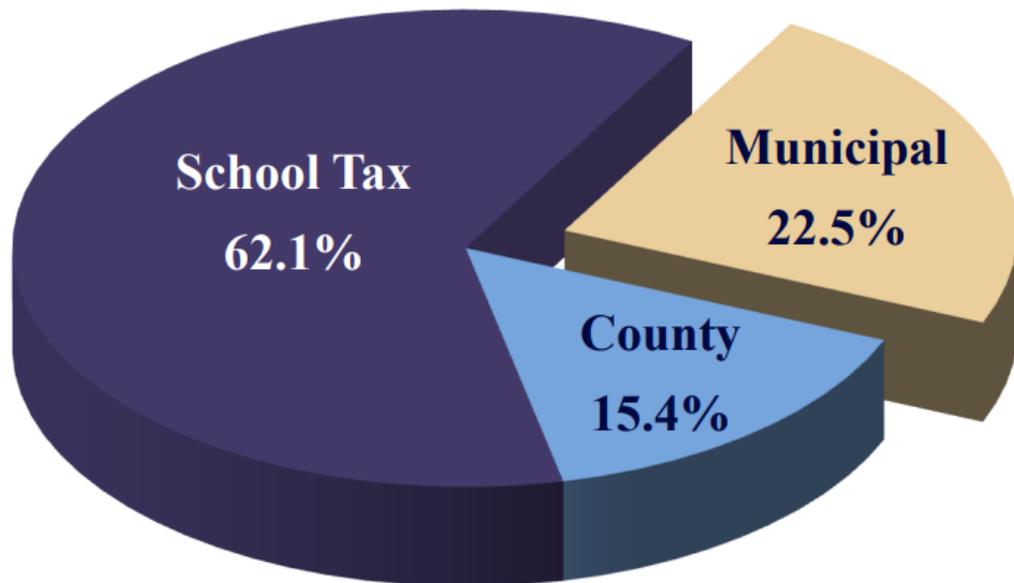


Breakdown of your tax bill

2018

MADISON TAX BILL BREAKDOWN

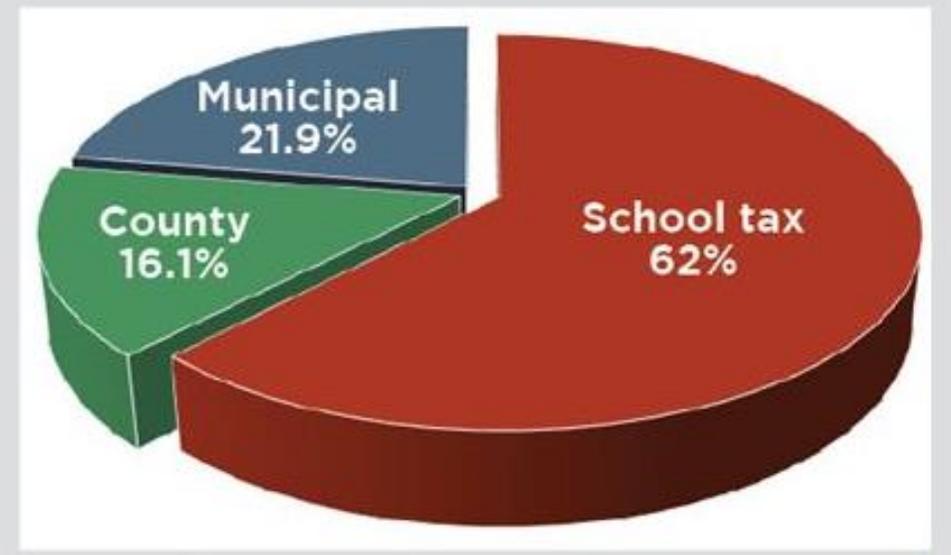
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2019

MADISON TAX BILL BREAKDOWN

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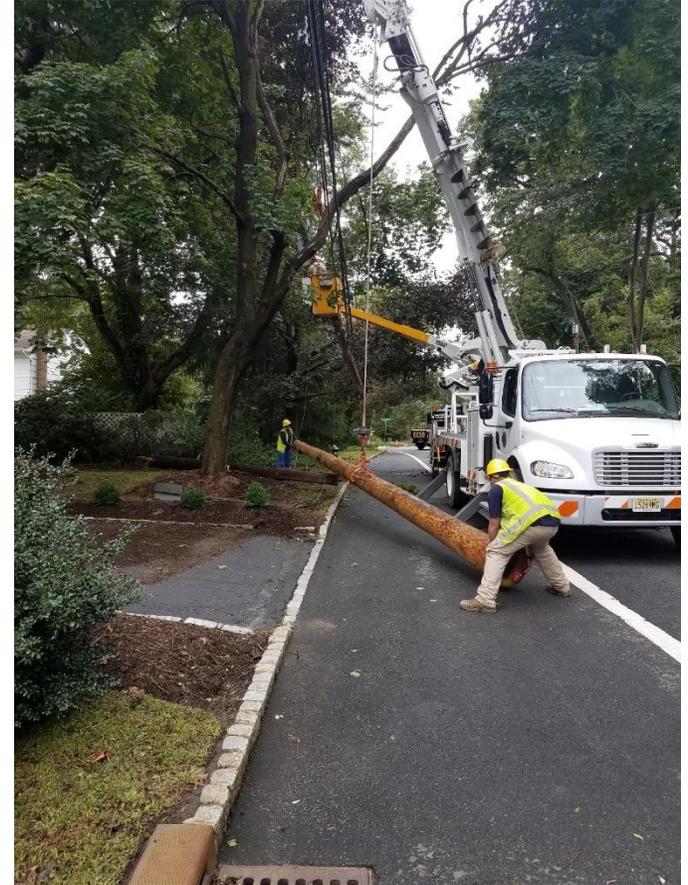


Electric Department

Jim Mattina, Superintendent

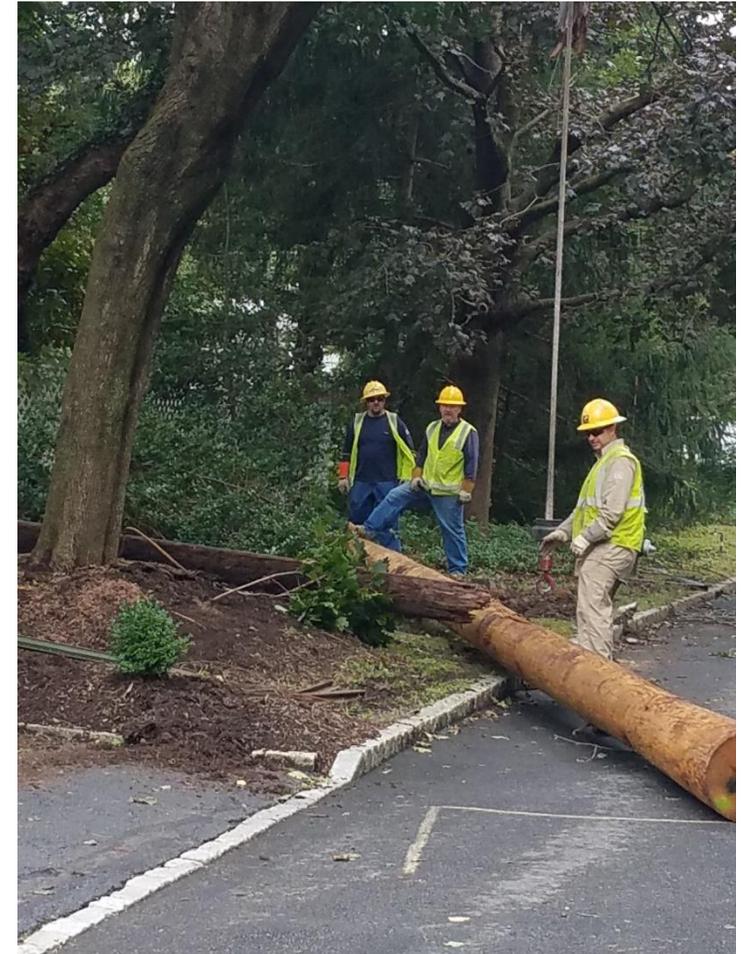
2019 Accomplishments

- Painted all historic downtown lampposts;
- Completed a new tie point circuit at Treadwell;
- Services/Connections;
 - 17 Greenwood Avenue;
 - Meadow Court;
 - Loantaka Terrace;
 - Atlantic Health Rehabilitation Center;
- New Butler Building completed;
- Confined space entry training;
- Installed 2,500 smart meters – 9 books



2020 Goals

- Madison Green Condos – reconstruct underground primary system;
- Kings Road – new tie feeder lines;
- James Park Substation – replace relays and gauges;
- Water Well B, Station Road – install new transformer and pole, underground primary wire;
- New fiber line between the Kings Road and James Park Substations;
- Replacing open wire, secondary wire;
- Training – Provide the following Lineman safety training;
 - Bucket Truck rescue;
 - Pole Top rescue;
 - Substation ARC Flash Equipment use;
 - CPR;
- Continue installation of smart meters;
- We will do the best we can, however repairs from tornado and storm damage take priority



The department continues to monitor all aspects of our electrical system to ensure the safety of our staff and the reliability of the electric service provided to our customers.

Ongoing Activities

- Substation testing & maintenance;
- Cable installation and removal;
- Approximately 85 new service installations anticipated;
- Approximately 60 pole transfers and installations anticipated;
- Approximately 50 anchors and down guy installations anticipated;
- Approximately 18 transformer replacements anticipated;
- Approximately 1,000 mark-outs anticipated;
- Approximately 90 street light and traffic light repairs anticipated;

Ongoing Activities Cont.



- Line clearance;
- Emergency work - downed wires, storm damage, car/pole accidents, equipment failure, no power, partial power, flickering lights, etc.;
- Bi-annual substation maintenance;
- Annual inventory of material to determine replenishment requirements;
- Installation of Borough Christmas Tree and lights and placement of wreaths on lampposts;
- Special assistance with Bottle Hill Day and with the requests of the other departments;
- Testing of rubber goods/safety equipment

DEPARTMENT: ELECTRIC / JAMES MATTINA

<u>Project Description</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
Automated Meters	200,000	200,000			
Digger Derrick Truck (Unit 131)		240,000			
Mason Dump Truck			70,000		
Single Bucket Truck w/Hoist		150,000			
Utility Truck 135	50,000				
Underground primary distribution					
Union Hill & Independence Court			125,000		
Underground primary distribution					
system at Madison Green	100,000				
Primary Voltage copper cable for					
Kings Rd	100,000				
Historic PennGlobe Fixtures at MTS		50,000			
Building Repairs	50,000	50,000			
Fork Lift for Storage Bldg.	40,000				
Transformers and LED Street Lights	50,000				
Traffic Signals - Camera Actuator Etc	50,000		50,000		50,000
Dodge Field Lighting Maintenance	10,000	10,000	10,000	10,000	10,000
Peak Leveling Sitework				50,000	
Parking Lot Lighting			50,000		
Boro Wide Radio System ****		TBD	TBD		
Reserve funding for Substation	300,000	300,000	300,000	300,000	300,000
Cook Parking Utility Relocation	150,000				
Yearly Totals	\$ 1,100,000	\$ 1,000,000	\$ 605,000	\$ 360,000	\$ 360,000

* Traffic Signals: Priorities Green-Garfield Radarsign, Ped Xing Enhancer, School Zone signage, DOT Main Ped Xings.

** Certain low cost activities can be funded via operating.

**** Cost Split between Police, Fire, DPW, Electric, Water

Questions for Jim?

Public Works and Water Utility Operations

Kenneth L. O'Brien, CPWM, CRP - Director

2019 Accomplishments

- More efficient sewer pumps installed at Candlewood Station;
- North Street Pump Station Capital project completed;
- Continuation of new road pre-treatment technology for inclement weather;
- Energy efficiency projects (windows) at the Public Works garage



Goals for 2020

- Continue to operate in a safe manner - overall injuries down;
- Research radio system upgrade;
- Examine the benefits of combining the Water Utility and Sewer Utility to create a more unified department and moving all utilities under one roof;
- Examine the benefits of combining the Road Department and the Parks Department;
- Complete the Recycling Center Project



Public Works Capital Plan

DEPARTMENT: PUBLIC WORKS / KEN OBRIEN

<u>Project Description</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
DPW Building					
Paint Shed Replace			120,000		
Materials Handling Bins		100,000			
Dome/Storage Access Paving			100,000		
Vehicles/Equipment					
Replace small truck (103, 110)	60,000	60,000			
Replace 20 ton dump truck(s)		180,000			
Replace 2 ton dump truck(s)		70,000	70,000	70,000	
Roll Off & Equipment Jeep (s)			60,000	200,000	
Trackless Multi Skid Steer		140,000			
Front End Loader			200,000		
Street Sweeper	300,000				
Leaf Vac System					
Zero Turn Mower					130,000
Sidewalk Sweeper					
Projects					
Waverly Place Shade trees					
Wide Radio System ****		TBD	TBD		
Subtotal	\$ 360,000	\$ 550,000	\$ 550,000	\$ 270,000	\$ 130,000

**** Cost Split between Police, Fire, DPW, Electric, Water

Water Utility Capital Plan

DEPARTMENT: WATER / TOM DEBIASSE

Project Description	2020	2021	2022	2023	2024
WELLS & TANKS					
Well A Improvements		150,000			
Well A Redev/Genset		50,000			
Well B Improvements	350,000				
Well B Redevelopment	50,000				
A/B Treatment Improvement (in-progress)					
Well C Redevelopment		50,000			
Well D Motor/Casing Repl					50,000
Well D Redevelopment/Casing					100,000
Well E Redevelopment			40,000		
Well E Motor 150HP					60,000
Well Electric Arc Study		65,000			
Well Inspections Annual	5,000	5,000	5,000	5,000	5,000
Tank Inspections 5yr	10,000				
Repaint Midwood Tank		200,000	200,000		
CL Room Improvement			30,000		30,000
Well Roof/Leak Repairs				25,000	
Upgrade SCADA Security/Video		25,000		25,000	
MAINS, VALVES & HYDRANTS					
Water Valve Replacements	20,000	20,000	20,000	20,000	20,000
Water Main Replacements (var)		350,000	400,000	400,000	400,000
Giralda Loop Main	80,000				
Highland Water Main *	165,000				
Shunpike (Green to GVR) Water Main			120,000		125,000
Green Village (Garfield-MGC)		125,000		160,000	
Shadylawn 8in Main	400,000				
Leak Detection Studies	10,000	10,000	10,000	10,000	10,000
OPERATIONS & EQUIPMENT					
Water Garage Storage				100,000	100,000
Well Upgrades (Misc)		10,000		10,000	
AM/FM & GIS		15,000		15,000	
Boro Wide Radio System ****		TBD	TBD		
Third water tank design evaluation				30,000	
Plumber / Mechanical Truck				80,000	
Subtotal	\$ 1,090,000	\$ 1,075,000	\$ 825,000	\$ 880,000	\$ 900,000

* 2020 MC CDBG \$80,000 grant Highland Ave

** Certain low cost activities can be funded via operating.

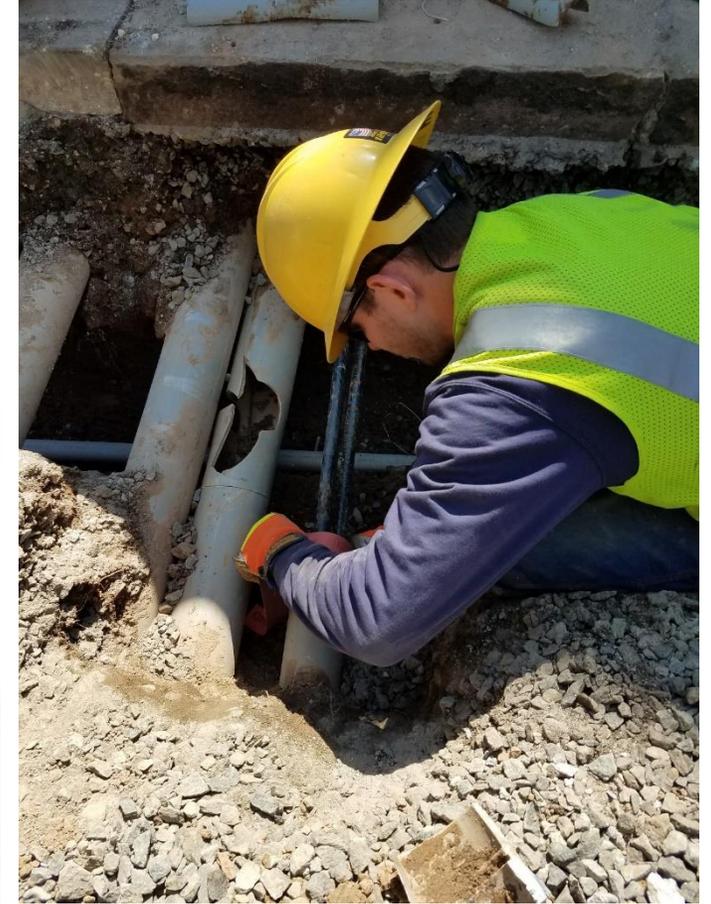
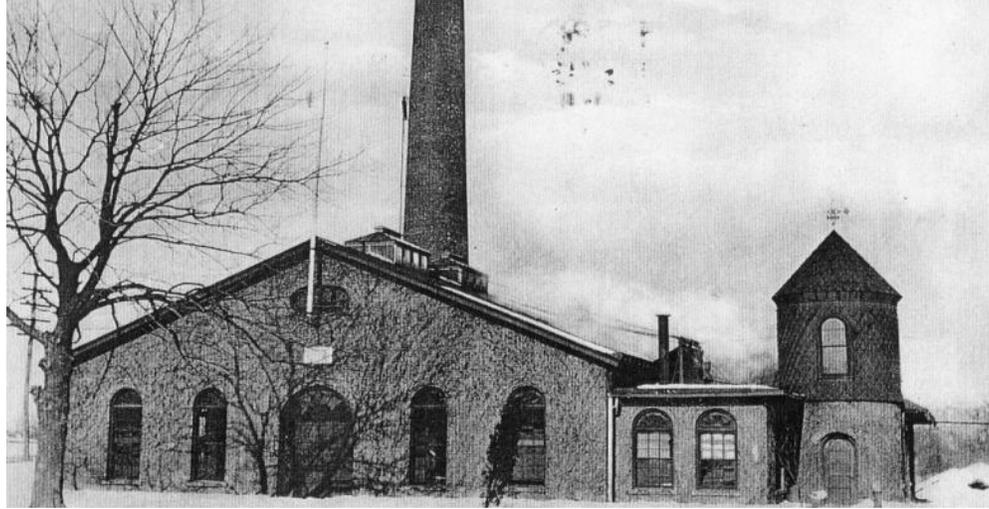
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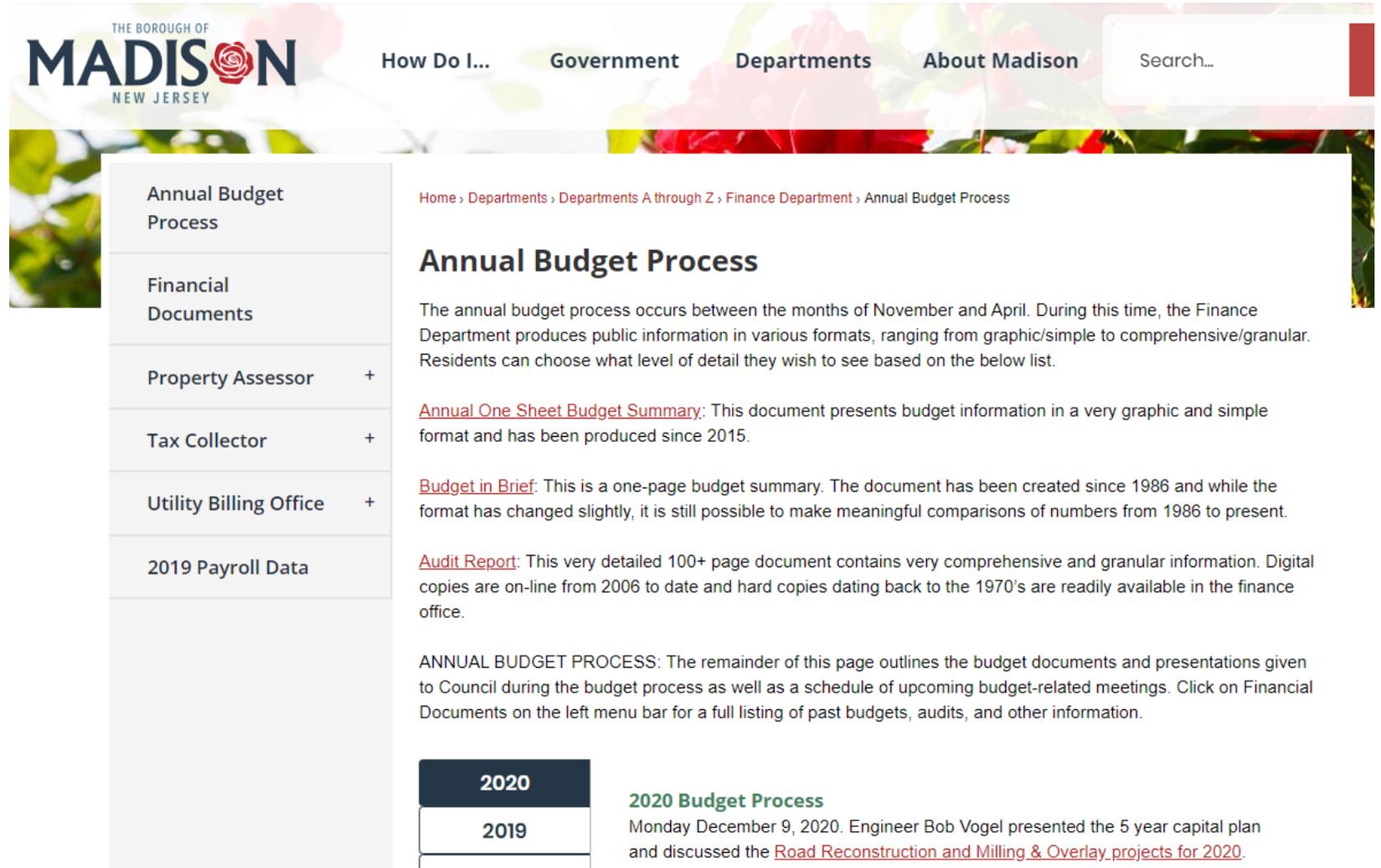
Questions for Ken?



Electric Utility Financial Report



Transparency



The screenshot shows the website header with navigation links: "How Do I...", "Government", "Departments", and "About Madison". A search bar is located on the right. The main content area is titled "Annual Budget Process" and includes a breadcrumb trail: "Home > Departments > Departments A through Z > Finance Department > Annual Budget Process".

The page features a left-hand navigation menu with the following items:

- Annual Budget Process
- Financial Documents
- Property Assessor +
- Tax Collector +
- Utility Billing Office +
- 2019 Payroll Data

The main content area contains the following text:

Annual Budget Process

The annual budget process occurs between the months of November and April. During this time, the Finance Department produces public information in various formats, ranging from graphic/simple to comprehensive/granular. Residents can choose what level of detail they wish to see based on the below list.

Annual One Sheet Budget Summary: This document presents budget information in a very graphic and simple format and has been produced since 2015.

Budget in Brief: This is a one-page budget summary. The document has been created since 1986 and while the format has changed slightly, it is still possible to make meaningful comparisons of numbers from 1986 to present.

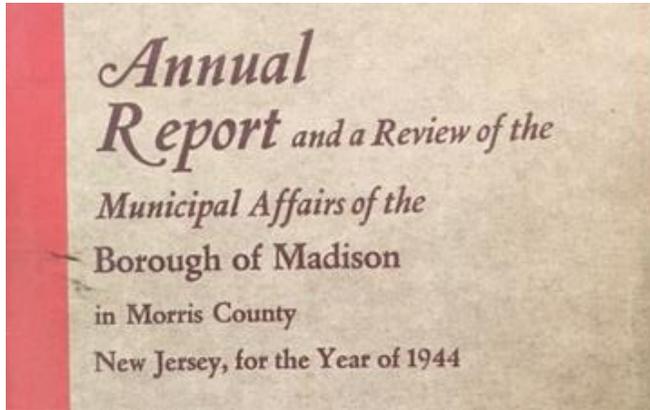
Audit Report: This very detailed 100+ page document contains very comprehensive and granular information. Digital copies are on-line from 2006 to date and hard copies dating back to the 1970's are readily available in the finance office.

ANNUAL BUDGET PROCESS: The remainder of this page outlines the budget documents and presentations given to Council during the budget process as well as a schedule of upcoming budget-related meetings. Click on Financial Documents on the left menu bar for a full listing of past budgets, audits, and other information.

At the bottom, there is a year selector with "2020" selected and "2019" as an option. Below this, the "2020 Budget Process" section states: "Monday December 9, 2020. Engineer Bob Vogel presented the 5 year capital plan and discussed the [Road Reconstruction and Milling & Overlay projects for 2020](#)."

Those interested in learning more about the budget process are encouraged to visit the “Annual Budget Process” page on rosenet.org, which can be found under the Finance Department.

Transparency Cont.



The Borough has been transferring utility surplus to the municipal budget for tax relief since at least 1944. The topic is discussed every year during the budget hearings.

In 1944 the Electric Utility Transfer was very large, 31x the size of the property taxes. Last year, the transfer was about 1/4 the size of property taxes.

Anticipated Revenues:	
Surplus revenue (from savings realized from local purpose budgets of prior years)-----	\$115,000.00
Collections of delinquent taxes-----	35,000.00
Water and Light Department operating surplus (from balance accumulated to December 31, 1943) -----	127,000.00
Trust surplus (from accumulations of prior years)	14,000.00
Other miscellaneous revenues-----	16,450.00
Total anticipated revenues-----	\$307,450.00
Excess of Appropriations over Anticipated Revenues	\$ 4,075.00

← **Utility Transfer**

← **Property Taxes**

Residents interested in learning more should contact the CFO at cfo@rosenet.org or visit the Finance Department section of [Rosenet.org](http://rosenet.org)

Residential Rate Comparison

Monthly residential bill based on 855kWh consumption, as of June 2019											
Municipalities that use surplus for tax relief				Municipalities that do not use surplus for tax relief				Investor Owned Utilities			
	2016	2019	% change		2016	2019	% change		2016	2019	% change
Madison	\$ 172.59	\$ 154.55	-10.5%	Butler	\$ 106.04	\$ 112.78	+6.4%	Atl City Elec	\$ 159.24	\$ 154.85	-2.8%
Milltown	\$ 169.03	\$ 169.03		Lavallette	\$ 121.20	\$ 124.81	+3.0%	JCPL	\$ 118.27	\$ 128.45	+8.6%
Pemberton	\$ 186.90	\$ 186.90		Park Ridge	\$ 126.68	\$ 131.81	+4.0%	PSEG	\$ 151.39	\$ 152.38	+0.7%
Seaside	\$ 157.10	\$ 158.30	+0.8%	Sussex	\$ 117.26	\$ 117.31		Rockland	\$ 162.15	\$ 154.88	-4.5%
South River	\$ 185.74	\$ 185.74		Vineland	\$ 120.12	\$ 137.38	+14.4%	IOU Average			
								Exlcuding JCPL	\$ 157.59	\$ 154.04	-2.3%

Portfolio of block contracts

Earlier this year, the Borough purchased long term block contracts for delivery of electricity from January 1, 2025 to December 31, 2029 at excellent prices

Borough of Madison											
2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	
Jan 26, 2017 \$31.55 PSEG	Feb 14, 2018, \$29.60, Exelon	Jan 16, 2019, \$30.69, NextEra	May 15, 2019, \$28.59, BP								
Aug 3, 2016, \$33.14, Exelon	Jan 11, 2017, \$30.70, Exelon	Feb 14, 2018, \$29.65, NextEra	Jan 16, 2019, \$29.69, NextEra	Sept 25, 2019 \$25.10 PSEG							
Feb 29, 2016 \$31.25 PSEG	Dec 15, 2016, \$31.10, Exelon	Aug 29, 2017, \$28.96, NextEra	July 11, 2018 \$28.40 PSEG	Sept 18, 2019 \$25.22 PSEG		September 25, 2019, \$27.76, BP					
						September 18, 2019, \$27.51, BP					
						May 15, 2019, \$30.67, BP					
100.00%	100.00%	100.00%	100.00%	33%	33%	30%	30%	30%	30%	30%	30%

Administration's Utility Goals & Objectives

SECURITY & SYSTEM HARDENING

- Staff have been working on hardening our reliability with security enhancements, cameras and access controls;
- Administration has finalized new interconnection agreements with neighboring water providers

Administration's Utility Goals & Objectives

AUTOMATED METERS

- Over 2000 AMI capable electric meters and over 500 water modules have been installed;
- We have over 2000 electric meters in stock that will be installed in the coming months;
- A demo AMI 'collector' was installed this past summer and we 'proved' the technology. We anticipate having four permanent AMI 'collectors' installed in the next 3 weeks. Once they are installed, we will be able to automatically read the electric meter information for 10 of the 28 books;
- Discussion point - Location of water modules

Dividend and Rebate

- Council can continue to offer a \$2 million dollar dividend and a \$200 targeted rebate for income eligible residents

Schedule of Electric Utility Sales and Performance (in 000's) as of Dec 31st									
		2015	2016	2017	2018	2019	2019	2020	2021
Line		Actual	Actual	Actual	Actual	Orig Est	Rev Est	Estimate	Estimate
REVENUES									
E 1	Cash Collections	\$22,840	\$22,993	\$22,056	\$23,251	\$22,700	\$22,579	\$22,700	\$22,700
E 2	Electric Utility Dividend			(\$1,003)	(\$1,545)	(\$2,000)	(\$1,990)	(\$2,000)	(\$2,000)
E 3	Misc Revenue + Fund Balance Realized	\$42	\$70	\$81	\$210	\$175	\$287	\$175	\$175
E 4	Cancellation of Appropriations	\$826	\$1,051	\$842	\$1,501	\$985	\$1,448	\$985	\$985
EXPENSES									
E 5	Block Contracts	(\$11,713)	(\$6,750)	(\$6,340)	(\$5,635)	(\$5,042)	(\$5,042)	(\$4,933)	(\$4,808)
E 6	Capacity		(\$2,265)	(\$2,305)	(\$2,954)	(\$2,322)	(\$2,322)	(\$2,370)	(\$2,609)
E 7	Transmission		(\$529)	(\$742)	(\$1,351)	(\$2,042)	(\$2,042)	(\$1,918)	(\$2,051)
E 8	Spot, Admin, Ancillaries, etc		(\$797)	(\$999)	(\$816)	(\$984)	(\$984)	(\$925)	(\$925)
E 9	Admin & Operating	(\$3,507)	(\$3,630)	(\$3,981)	(\$4,094)	(\$4,165)	(\$4,184)	(\$4,355)	(\$4,486)
E 9.5	NYPA Hydro Energy	(\$195)	(\$192)	(\$200)	(\$188)	(\$200)	(\$181)	(\$350)	(\$350)
E 10	Elec Utility Capital*	(\$400)	(\$895)	(\$895)	(\$895)	(\$795)	(\$795)	(\$795)	(\$795)
E 11	Total Surplus Generated (end of year)	\$7,893	\$9,056	\$6,514	\$7,484	\$6,310	\$6,774	\$6,214	\$5,836

Schedule of Electric Utility Surplus Balances (in 000's)									
		2015	2016	2017	2018	2019	2019	2020	2021
Line		Actual	Actual	Actual	Rev Est	Orig Est	Rev Est	Estimate	Estimate
E 12	Balance at Beginning of Year	\$6,496	\$8,156	\$10,013	\$9,393	\$9,832	\$9,832	\$9,933	\$9,547
E 13	Less: Utilized in Municipal Budget	(\$6,233)	(\$7,199)	(\$7,134)	(\$7,045)	(\$6,673)	(\$6,673)	(\$6,600)	???
E 14	Sub Total (Free Balance)	\$263	\$957	\$2,879	\$2,348	\$3,159	\$3,159	\$3,333	
E 15	Add: Generated in Current Year	\$7,893	\$9,056	\$6,514	\$7,484	\$6,310	\$6,774	\$6,214	
E 16	Surplus Balance at Year End	\$8,156	\$10,013	\$9,393	\$9,832	\$9,469	\$9,933	\$9,547	

E2 Electric Utility Dividend came in very close to the \$2 million projection.

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		2015	2016	2017	2018	2019	2019	2020	2021
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E 7	Transmission		(\$529)	(\$742)	(\$1,351)	(\$2,042)	(\$2,042)	(\$1,918)	(\$2,051)
E 8	Spot, Admin, Ancillaries, etc		(\$797)	(\$999)	(\$816)	(\$984)	(\$984)	(\$925)	(\$925)
E 9	Admin & Operating	(\$3,507)	(\$3,630)	(\$3,981)	(\$4,094)	(\$4,165)	(\$4,184)	(\$4,355)	(\$4,486)
E 9.5	NYPA Hydro Energy	(\$195)	(\$192)	(\$200)	(\$188)	(\$200)	(\$181)	(\$350)	(\$350)
E 10	Elec Utility Capital*	(\$400)	(\$895)	(\$895)	(\$895)	(\$795)	(\$795)	(\$795)	(\$795)
E 11	Total Surplus Generated (end of year)	\$7,893	\$9,056	\$6,514	\$7,484	\$6,310	\$6,774	\$6,214	\$5,836

Schedule of Electric Utility Surplus Balances (in 000's)									
		2015	2016	2017	2018	2019	2019	2020	2021
Line		Actual	Actual	Actual	Rev Est	Orig Est	Rev Est	Estimate	Estimate
E 12	Balance at Beginning of Year	\$6,496	\$8,156	\$10,013	\$9,393	\$9,832	\$9,832	\$9,933	\$9,547
E 13	Less: Utilized in Municipal Budget	(\$6,233)	(\$7,199)	(\$7,134)	(\$7,045)	(\$6,673)	(\$6,673)	(\$6,600)	???
E 14	Sub Total (Free Balance)	\$263	\$957	\$2,879	\$2,348	\$3,159	\$3,159	\$3,333	
E 15	Add: Generated in Current Year	\$7,893	\$9,056	\$6,514	\$7,484	\$6,310	\$6,774	\$6,214	
E 16	Surplus Balance at Year End	\$8,156	\$10,013	\$9,393	\$9,832	\$9,469	\$9,933	\$9,547	

E 11 Surplus Generated was slightly better than projected.

Schedule of Electric Utility Sales and Performance (in 000's) as of Dec 31st									
		2015	2016	2017	2018	2019	2019	2020	2021
Line		Actual	Actual	Actual	Actual	Orig Est	Rev Est	Estimate	Estimate
REVENUES									
E 1	Cash Collections	\$22,840	\$22,993	\$22,056	\$23,251	\$22,700	\$22,579	\$22,700	\$22,700
E 2	Electric Utility Dividend			(\$1,003)	(\$1,545)	(\$2,000)	(\$1,990)	(\$2,000)	(\$2,000)
E 3	Misc Revenue + Fund Balance Realized	\$42	\$70	\$81	\$210	\$175	\$287	\$175	\$175
E 4	Cancellation of Appropriations	\$826	\$1,051	\$842	\$1,501	\$985	\$1,448	\$985	\$985
EXPENSES									
E 5	Block Contracts	(\$11,713)	(\$6,750)	(\$6,340)	(\$5,635)	(\$5,042)	(\$5,042)	(\$4,933)	(\$4,808)
E 6	Capacity		(\$2,265)	(\$2,305)	(\$2,954)	(\$2,322)	(\$2,322)	(\$2,370)	(\$2,609)
E 7	Transmission		(\$529)	(\$742)	(\$1,351)	(\$2,042)	(\$2,042)	(\$1,918)	(\$2,051)
E 8	Spot, Admin, Ancillaries, etc		(\$797)	(\$999)	(\$816)	(\$984)	(\$984)	(\$925)	(\$925)
E 9	Admin & Operating	(\$3,507)	(\$3,630)	(\$3,981)	(\$4,094)	(\$4,165)	(\$4,184)	(\$4,355)	(\$4,486)
E 9.5	NYPA Hydro Energy	(\$195)	(\$192)	(\$200)	(\$188)	(\$200)	(\$181)	(\$350)	(\$350)
E 10	Elec Utility Capital*	(\$400)	(\$895)	(\$895)	(\$895)	(\$795)	(\$795)	(\$795)	(\$795)
E 11	Total Surplus Generated (end of year)	\$7,893	\$9,056	\$6,514	\$7,484	\$6,310	\$6,774	\$6,214	\$5,836

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E 15	Add: Generated in Current Year	\$7,893	\$9,056	\$6,514	\$7,484	\$6,310	\$6,774	\$6,214	
E 16	Surplus Balance at Year End	\$8,156	\$10,013	\$9,393	\$9,832	\$9,469	\$9,933	\$9,547	

We utilized \$6,673,000 in electric utility surplus in the municipal budget (E13).

We generated almost the same amount of surplus in 2019 (E11).

As such, surplus balances increased slightly (E12 vs E16).

This is an indicator that the utility is in good financial shape.

Schedule of Electric Utility Sales and Performance (in 000's) as of Dec 31st									
		2015	2016	2017	2018	2019	2019	2020	2021
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EXPENSES									
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E 16	Surplus Balance at Year End	\$8,156	\$10,013	\$9,393	\$9,832	\$9,469	\$9,933	\$9,547	

Other interesting notes:

The cost of block contracts has fallen significantly due to good purchasing by Council and Administration (E5).

Transmission prices are market driven and are continuing to rise (E7).

The Borough's capacity and transmission costs are over \$4.3 million annually.

Electric Markets

Three entities have jurisdiction over NJ electric markets

- NJ Board of Public Utility - The BPU is a state agency that sets based regulations and policy for New Jersey including renewable energy goals and how solar renewable energy credits work;
- Federal Energy Regulatory Commission - FERC is a United States federal agency that regulates energy. Their mission is to ensure economically, efficient, safe, reliable and secure energy for customers by establishing regulations and policies on a federal level;
- PJM is a multi-state regional transmission organization (RTO) that coordinates the movement of wholesale electricity in our region. PJM was established, and is regulated by, FERC. PJM has more than 1,000 members including companies that own generators, companies that own transmission lines and companies that distribute energy to customers (load serving entity). Madison Electric Utility is a load serving entity and a member of PJM. The members work collaboratively thru a stakeholder process

Electric Markets

Two entities that support the Madison Electric Utility

- Public Power Association of New Jersey - The PPANJ is a not for profit organization that represents Madison and the other municipal members. Among other things, the Executive Director monitors legislation, attends PJM meetings and advocates for regulations and policy that benefit the members. There is one rural electric co-op (Sussex Rural) and nine municipal members (Madison, Park Ridge, Butler, South River, Pemberton, Milltown, Lavallette, Seaside Heights and Vineland);
- New Jersey Public Power Authority - The NJPPA is a state recognized authority established by the members of the PPANJ. It was recently created to take actions on behalf of the municipalities that the PPANJ could not do under state law such as building generation, creating a purchasing co-operative etc;
- The member organizations fund the operations of the PPANJ and the NJPPA

Electric Utility Concerns

Tremendous uncertainty in Transmission and Capacity Costs

- Future transmission costs are nearly impossible to estimate for two reasons. First, PJM has a case before FERC regarding ROE for Transmission Developers and how costs would be allocated. Second, Trenton and the BPU have aggressively advanced off-shore wind projects which require very expensive underwater transmission lines and Madison will most likely have to pay a share of that expense;
- Future capacity prices will also be impacted by renewable goals and how FERC and PJM determine the pricing rules. As new renewable generation is built, the costs will get spread out across the entire system and Madison will pay it's share of that as well. There is significant debate going on right now between FERC and the BPU

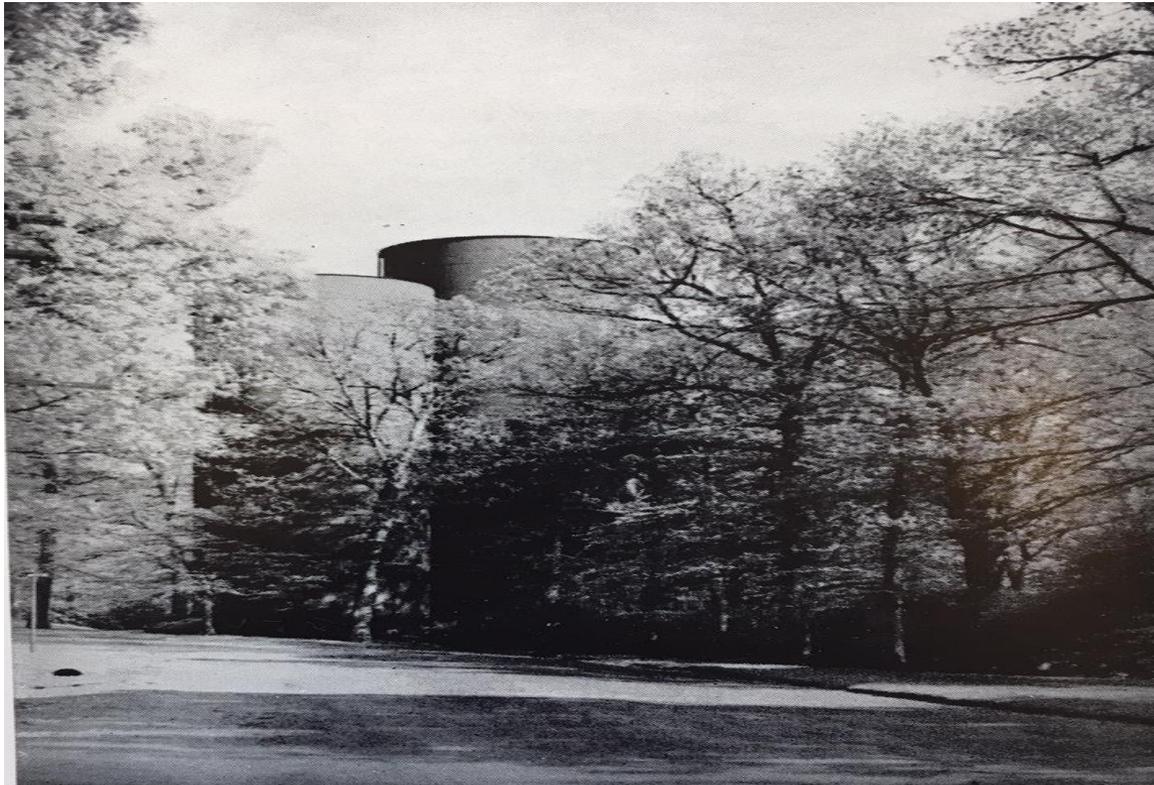
([FERC order](#) & [Dissent from FERC Commissioner Glick](#))

Calculating our \$2.3+ million capacity bill

- The calculation is....(365 days) x (the RPM rate) x (Madison's Peak Load Factor);
- The RPM rate is determined via auction by PJM and it represents the per megawatt rate paid to power plants that contractually agree to be available on the highest peak days. This number changes every year but has recently fluctuated in the \$150 to \$200 range. The auction is for capacity three years ahead, so pricing is confirmed only until 2023. We can't control the RPM number and we can't control the number of days in a year (365);
- Madison's peak load factor is calculated by averaging the amount of electricity consumed by Madison on the 5 hottest non-coincident hours of the year. It represents our 'peak load';
- A real calculation $\$365 \times \$158.36 \times 41.97 = \$2,425,717.44$;
- **Transmission is calculated using a similar 'peak load' methodology. As such, reducing our consumption on the few hottest HOURS of the year can save the Madison Electric Utility significant dollars. This is the motivation to have battery storage and/or peaking generation**

Water Utility Finances

Water Utility



1944 photo of Midwood Water Tanks



DEPARTMENT: WATER / TOM DEBIASSE

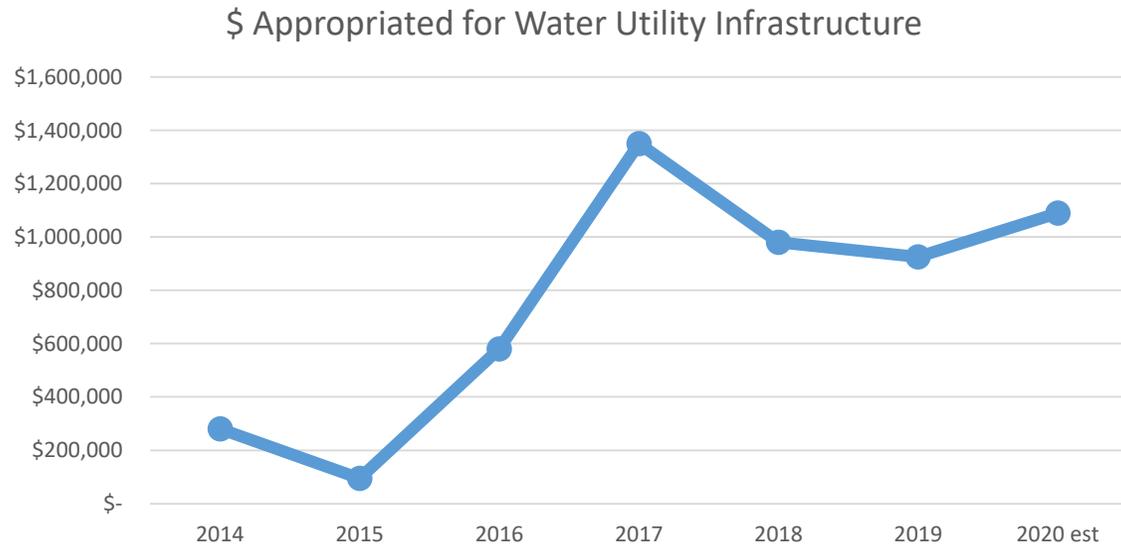
Project Description	2020	2021	2022	2023	2024
WELLS & TANKS					
Well A Improvements		150,000			
Well A Redew/Genset		50,000			
Well B Improvements	350,000				
Well B Redevelopment	50,000				
A/B Treatment Improvement (in-progress)					
Well C Redevelopment		50,000			
Well D Motor/Casing Repl					50,000
Well D Redevelopment/Casing					100,000
Well E Redevelopment			40,000		
Well E Motor 150HP					60,000
Well Electric Arc Study		65,000			
Well Inspections Annual	5,000	5,000	5,000	5,000	5,000
Tank Inspections 5yr	10,000				
Repaint Midwood Tank		200,000	200,000		
CL Room Improvement			30,000		30,000
Well Roof/Leak Repairs				25,000	
Upgrade SCADA		25,000		25,000	
Security/Video					
MAINS, VALVES & HYDRANTS					
Water Valve Replacements	20,000	20,000	20,000	20,000	20,000
Water Main Replacements (var)		350,000	400,000	400,000	400,000
Giralda Loop Main	80,000				
Highland Water Main *	165,000				
Shunpike (Green to GVR) Water Main			120,000		125,000
Green Village (Garfield-MGC)		125,000		160,000	
Shadyawn 8in Main	400,000				
Leak Detection Studies	10,000	10,000	10,000	10,000	10,000
OPERATIONS & EQUIPMENT					
Water Garage Storage				100,000	100,000
Well Upgrades (Misc)		10,000		10,000	
AM/FM & GIS		15,000		15,000	
Boro Wide Radio System ****	TBD		TBD		
Third water tank design evaluation				30,000	
Plumber / Mechanical Truck				80,000	
Subtotal	\$ 1,090,000	\$ 1,075,000	\$ 825,000	\$ 880,000	\$ 900,000

* 2020 MC CDBG \$80,000 grant Highland Ave

** Certain low cost activities can be funded via operating.

**** Cost Split between Police, Fire, DPW, Electric, Water

Significant investment in water utility infrastructure since 2017



2014	2015	2016	2017	2018	2019	2020 est
\$ 280,000	\$ 95,000	\$ 580,000	\$ 1,350,000	\$ 980,000	\$ 925,000	\$ 1,090,000

Water Utility Financial Performance

Schedule of Estimated Water Utility Sales and Performance (in 000's)								
		2016	2017	2018	2019	2019	2020	2021
Line		Actual	Actual	Actual	Orig Est	Rev Est	Estimate	Estimate
	<u>REVENUES</u>							
w 1	Tariff Collections	\$2,666	\$2,522	\$2,495	\$2,550	\$2,476	\$2,550	\$2,550
w 2	Miscellaneous Revenue	\$176	\$63	\$215	\$150	\$479	\$200	\$200
w 3	Cancellation of PY Appropriations	\$297	\$500	\$398	\$325	\$428	\$325	\$325
	<u>EXPENSES</u>							
w 4	Operations	(\$2,069)	(\$1,816)	(\$1,804)	(\$1,851)	(\$1,851)	(\$1,736)	(\$1,771)
w 5	Capital Improvement	(\$540)	(\$1,500)	(\$900)	(\$900)	(\$900)	(\$900)	(\$900)
w 6	Estimated Surplus	\$530	(\$231)	\$404	\$274	\$632	\$439	\$404

Schedule of Water Utility Surplus Balances (in 000's)								
		2016	2017	2018	2019	2019	2020	
Line		Actual	Estimate	Actual	Rev Est	Rev Est	Estimate	
w 7	Balance at Beginning of Year	\$1,899	\$1,929	\$1,298	\$1,502	\$1,502	\$1,934	
w 8	Less: Utilized in Municipal Budget	(\$500)	(\$400)	(\$200)	(\$200)	(\$200)	???	
w 9	Sub Total (Free Balance)	\$1,399	\$1,529	\$1,098	\$1,302	\$1,302		
w 10	Add: Generated in Current Year	\$530	(\$231)	\$404	\$274	\$632		
w 11	Balance at Year End	\$1,929	\$1,298	\$1,502	\$1,576	\$1,934		
w 12	Increase (Decrease)	\$30	(\$631)	\$204	\$74	\$432		

Schedule of Estimated Water Utility Sales and Performance (in 000's)								
		2016	2017	2018	2019	2019	2020	2021
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We have been able to manage and reduce certain expenses (W4).

We will continue to raise funds for Capital Improvement (W5) to continue the investment in water infrastructure.

W7 Surplus at the beginning of the year was declining in 2018.

Council took actions to limit this which strengthened the utility's financial position.

Surplus Balances increased this year (W7 vs W12) which is a good indicator that the utility is on strong financial footing.

Schedule of Estimated Water Utility Sales and Performance (in 000's)								
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w 12	Increase (Decrease)	\$30	(\$631)	\$204	\$74	\$432		

Water Utility Rate Comparison

Bill for a customer with a ¾” line that consumes 2,000 cubic feet of water per quarter. This is a typical amount for a family of four in a home that does not have lawn sprinklers.

Town / Company	ANNUAL bill based on 2000cf consumed quarterly
Madison	\$248.76
American Water: Serving Chatham Township, Summit, Bernardsville, New Providence, Milburn, Mendham, Maplewood etc	\$668.66
Suez Water: Bergen, Hudson Counties	\$550.78
AQUA: Sussex, Warren and Hunterdon Counties	\$683.12
Southeast Morris County MUA: Morristown, Morris Township, Morris Plains, Hanover.	\$387.44
Denville Municipal Water	\$333.30
Chatham Borough	\$352.80
Florham Park	\$466.64

LAST WATER RATE INCREASE: Florham Park January 1, 2020. SMCMUA January 1, 2020. Denville 2011. Chatham Borough September 22, 2008. Madison January 2011. 2,000 cubic feet per quarter = \$14,961 gallons per quarter or about 166 gallons per day.* Special Thanks to Intern Tyler Peterson for his help in gathering this information.