

CITY OF RICHMOND
DEPARTMENT OF PUBLIC UTILITIES

wastewater clean water
premier employer stormwater

ANNUAL
REPORT 2016-17

natural gas
streetlighting employee pride
service 700 strong




CITY OF RICHMOND
DEPARTMENT OF PUBLIC UTILITIES



City of Richmond Department of Public Utilities
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Richmond, VA 23219

 804-646-4646 Customer Care

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City of Richmond Department of Public Utilities

DPU's Mission

To provide safe and reliable utility service while creating exceptional value.

Vision to Our Customers

To proactively serve the utility needs of regional customers through environmental stewardship and resource conservation while providing cost effective, safe service.

700 Strong Vision

To be a premier employer that nurtures employee pride, success and development through honesty, integrity, respectfulness and service toward others.

Values COFE

Customer Satisfaction

Operational Excellence

Financial Growth and Stability

Employee Pride and Ownership



*Robert Steidel
Director, Department of
Public Utilities
City of Richmond*

Leadership

Robert Steidel was appointed director of the Department of Public Utilities in March 2011, after serving as interim director since July 2010. He had been a deputy director of DPU's Wastewater and Water treatment plants since 2003. Previously he served as the environmental manager for the City of Hopewell's wastewater treatment facility, an industrial surveillance supervisor and an environmental health sanitarian in Illinois and a biologist for Winona State University in Minnesota. He has a BA degree from Winona State and an MA in public administration from Virginia Commonwealth University. He has served as the chair of the National Association of Clean Water Agencies' committee for Clean Water Agencies, Security, and Emergency Preparedness and is a board member of the Wet Weather Partnership and the James River Basin Association, president of the Virginia Association of Municipal Wastewater Agencies, and treasurer of the Virginia Water Environment Association.

Statement from the Director:

The work accomplished this past fiscal year should make all DPU employees proud. We transitioned to a new administration with new leadership and progressive ideas for "Building One Richmond." One of its key goals is to provide high-quality services to all residents while planning for continued growth. We have made great progress providing both. I am particularly proud of our culture change initiative "DPU 700 Strong," the rebranding of Richmond Gas Works, the robust, integrated water plan of RVA H2O, the major upgrades at the plants, accreditation of the floodwall by the Federal Emergency Management Agency, and the numerous awards the department has received for biosolids environmental management, and operational excellence and safety at the plants. Let us never forget how far we've come, or how far we can go if we continue to work together for the betterment of our customers.

A handwritten signature in black ink, appearing to read "Robert Steidel". The signature is stylized and written in cursive.

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View of downtown Richmond from the Wastewater Treatment Plant

DPU Executive Team



*Rosemary Green
Deputy Director II
Water, Technical Services*



*Wayne Lassiter
Deputy Director II
Finance*



*Alfred Scott
Deputy Director II
Natural Gas and Streetlights*



*Jonathan Snyder
Richmond Gas Works Manager*



*Mark McClain
Customer Service Administrator*



*Johnell Liggins
Operations Manager
Organizational Support*



*Pat Bradley
Senior Policy Advisor
Water Resources*



*Jennifer Hatchett, PE, CFM
Stormwater Utility and Wastewater
Collections Administrator*



*Angela Fountain
Public Information Manager II*



*Johnetta Taylor
Executive Assistant III*

2016-2017 By the Numbers

Natural Gas

Renewed **68,925** feet of natural gas main; Completed **398** natural gas service renewals, **205** natural gas service transfers, and **1,232** natural gas service installs; Installed **832** new meters, and processed **1,168** new residential applications and **212** new commercial applications

Streetlights

Installed **18** new lights as part of riverfront development, **20** new lights and extensive underground infrastructure work in Carver, and **50** lights along Mulberry in the Fan District

Technical Services

Processed **163** planning and development issued plans; Performed **352** backflow inspections; Added **6,150** natural gas utilities services to database; Updated stormwater drainage outfalls in **14** watersheds; Designed **20** miles of new gas distribution mains and a natural gas gate station in Goochland County; and Issued **4,273** permits

Stormwater

Completed **5** new storm drain art installations; Identified, updated and mapped more than **1,600** outfalls within **14** watersheds; Approved and issued **200** land disturbing permits; Reviewed and approved more than **380** land development plan applications; Completed and closed **428** backlogged tickets; Performed **23** illicit discharge detection and elimination inspections; Removed **23** unidentified drums from the street; Maintained **15.4** miles of ditches; Cleaned **4.2** miles of pipes; Cleaned **3,145** basin inlets; Removed **794,960** pounds of debris and sediment; Treated **4,034** drains for mosquitoes

Wastewater

Responded to **1,679** unstop calls; Cleaned **14.15** miles of pipe

Water

Replaced **27,232** feet of cast iron and transite water mains and **130** fire hydrants; Repaired **126** fire hydrants, **148** water main leaks, and **2,000** water meter leaks; Replaced **828** lead water services

Customer Service

Responded to **520,300** calls and **248,000** non-DPU calls; Assisted **24,209** walk-up customers; Answered **22,783** customer emails; Completed more than **120,00** customer service order requests; Read more than **2.2** million natural gas and water meters, and issued **2.3** million utility bills with **97** percent actual meter readings

Finance

Assisted **366** families through MetroCare Heat Program and conducted **6** public meetings to explain the Cost of Service study process

Most Viewed Web Pages

- Payment Plans
- Home Page
- Services

Most Viewed YouTube Videos

- Mosquito Control
- Unclogging Storm Drains
- Combined Sewer Management Animation

Most Read Blog Posts

- Why Your Water Bill May Be Higher Than Usual
- Richmond Public Schools Rain Barrel Contest
- Explaining High Customer Bills



The video of unclogging storm drains on YouTube has been viewed more than 45,500 times

DPU Ongoing Programs

MetroCare Heat Program

The MetroCare Heat Program provides bill pay heating assistance for eligible families and individuals who are experiencing hardships in the Richmond Department of Public Utilities service area. MetroCare Heat is funded by tax-deductible contributions and administered by the United Way of Greater Richmond and Petersburg.

The program began in 1999, started by a group of DPU employees. They organized the flagship event, the MetroCare Golf Tournament, to provide an additional source of funding for the program. Since its inception, and through March 2016, MetroCare has raised more than \$795,000 and assisted more than 2,500 families.



MetroCare Water Assistance Program

The MetroCare Water Assistance Program was established in 2016 to assist eligible DPU residential customers with paying their water utility bills. Approved applicants receive a credit adjustment toward billed water and wastewater charges.

Lead Service Water Line Testing Program

DPU has been monitoring and addressing the potential for lead contamination of drinking water since 1992. In addition to controls performed at the Water Treatment Plant, water that leaves the plant is monitored and tested for lead content by the Virginia Department of Consolidated Laboratories once a year. Every three years, DPU collects water samples from customers at 50 different locations throughout the service area and tests them for lead and copper concentrations. Ten specific locations are monitored every six months to confirm our corrosion control measures.

As needed, based on information or requests, DPU conducts samplings at specific customer locations and provides the customer with the results. Property owners decide how and when to replace their pipes, in compliance with current codes and lead-free fixture standards. A Lead Service Hotline was established for property owners to coordinate their lead line replacements with the City's lead service line replacements.

Fire Hydrant Inspection Program

The City maintains more than 6,000 fire hydrants and inspects them under a manual system on a bi-annual basis. The inspection program, providing preventive maintenance and flushing, ensures that the City's hydrants and associated valves are in proper working order, minimizing replacement costs and reducing risks.

Fire hydrants are an important part of the water distribution system's infrastructure and serve a critical role in public safety by providing water for fire emergencies. This inspection program ensures hydrants are kept in proper working order and geographic information system (GIS) records are current. Hydrants found to be non-operational get a visible "Out of Service" ring placed on the nozzle, saving valuable time for firefighters to access the next closest hydrant. DPU Operations immediately notifies the Fire Department of the out of service hydrant and repair or replacement is scheduled as quickly as possible.



Awards



2017 National Environmental Achievement Award from National Association of Clean Water Agencies for Storm Drain Art Contest

2017 National Association of Clean Water Agencies Award for Wastewater Plant's environmental performance upgrade project



Virginia Optimization Program Gold Award from the Virginia Department of Health for Excellence in Clarification, Filtration and Backwash at the Water Treatment Plant



Association of Metropolitan Water Agencies award for utility management

Community Events

DPU touches the lives of residents, visitors, and workers in the city and surrounding communities. In addition to the service calls we make, we engage with our customers throughout the year in other capacities. Whether it's speaking at a City Council, neighborhood or community meeting, speaking to students at local schools, hosting plant tours, or talking with customers at community events, we want to make sure our customers are well-informed about the services we provide and see the value in all that we do. Utility Buddy, our life-sized, friendly natural gas meter, frequently joins us.



Richmond Gas Works

Richmond Gas Works is the name of Richmond's natural gas utility. It is responsible for the sales and marketing of natural gas services to residential commercial and industrial customers in Richmond, Henrico, North Chesterfield, and a section of Hanover along Route 33. Currently Richmond Gas Works serves approximately 116,750 customers.

On June 21, 2017, DPU's Energy Services Division and Mayor Levar Stoney officially launched the Richmond Gas Works brand to the public with a new logo, a press conference, advertising campaign, new website, and its own social media platforms. Employees of the newly formed division began using an @richmondgasworks.com email address.

Richmond Gas Works is expanding its reach into Goochland with a new gate station containing 32,000 feet of high pressure main and an East End high pressure valve replacement project. Installation process improvements are also underway for faster, more efficient natural gas meter installations.

On September 29, 2017, the rules and regulations for a multi-family incentive rebate program were approved.

A Dominion Energy Power Plant Transportation Service Agreement provided \$500,000 in increased revenue over the previous contract.

Technical Services completed phase I and II of the Fulton Gas Works Environmental Site Assessment and submitted the report to the Department of Environmental Quality as part of the Voluntary Remediation Program. One building at Fulton Gas Works has been demolished. DPU proposes to restore Fulton Gas Works for reuse as the central location for the Natural Gas Utility Sales and Marketing, Construction, Maintenance and Engineering sections. The additional intent is also to attract economic development and jobs. As part of the 2016-2020 proposed Capital Improvement Program, this multi-phased project has an anticipated completion goal of December 2018.



Artist rendering of a Richmond Gas Works branded vehicle



Fulton Gas Works

Streetlighting

The Streetlight Utility is funded through the City of Richmond's General Fund. This utility operates and maintains approximately 37,000 City-owned streetlights, five electric distribution subsystems, more than 350 miles of overhead and underground conductors, and thousands of various pole types. The utility collaborates and coordinates with the Richmond Police Department (RPD) on various RPD initiatives to improve public safety.

This year the utility removed infrastructure to support development in Church Hill North and made upgrades to the Church Hill substation power facility.

The electric utility also installed new poles, transformers, and primary and secondary conductors for the 17th Street Market in Shockoe Bottom, developed designs for reconfiguring the Lundsford substation, installed ornamental lights in the Riverside Heights subdivision, and modified distribution infrastructure and lighting in support of the East Riverfront development project.

The electric utility assisted the Department of Public Works with ornamental lights for the Franklin Street streetscaping project, surveyed Patrick Henry Park for additional lighting services, and installed various poles for Virginia Commonwealth University's Linden Street project.

The utility provided support and aid in inspections for the Bus Rapid Transit project along Broad Street, and began its Light Emitting Diode (LED) pilot project on sections of Jefferson Davis Highway, Brook Road, Forest Hill Avenue, New Kent Avenue, Boston Avenue alley, and Wentbridge Road alley.



LED lighting test on Forest Hill Avenue at Westover Hills Boulevard

Stormwater

Richmond's Stormwater Utility was established in 2009 by a unanimous vote of members of Richmond's City Council. The Stormwater Division is tasked with controlling stormwater discharges into creeks, streams and rivers in the City of Richmond. Richmond is similar to many other heavily urbanized areas in the country. When it rains, the runoff flows into waterways very quickly and picks up pollution from the impervious surfaces. The large volume of water and its velocity also causes erosion of stream banks in localized areas where the flow is very high. Given the potential for significant adverse impact on creeks, rivers and streams, Congress enacted legislation requiring cities to reduce the impacts of stormwater on local waterways. These requirements are contained in a Municipal Separate Storm Sewer (MS4) permit issued to the City by the Virginia Department of Environmental Quality in compliance with state and federal laws.



Stream restoration at Maury Cemetery

The City is required to provide education and outreach on stormwater impacts and include the public in activities designed to control stormwater pollution. The City is also required to inspect storm sewers to prevent illicit discharges of pollutants into the storm sewer system. One of the major responsibilities the City has is to ensure construction site stormwater runoff is controlled and post-construction stormwater management in new development and redevelopment does not cause water quality issues. The City must also institute pollution prevention and adhere to good housekeeping practices at municipal operation sites.

This year, the division received satisfactory ratings from the Army Corps of Engineers on floodwall and levee inspections. The award-winning Storm Drain Art contest continued to draw media attention to encourage residents and visitor to keep trash out of storm drains, as well as a host of community outreach initiatives focused on pet waste, fertilizer, and recycling.

A multi-year Stormwater Master Plan Study and stream restoration at Maury Cemetery were both completed by Technical Services.



Crews cleaning debris, bottles and trash out of neighborhood storm drain

Wastewater Collection and Treatment

Richmond's Wastewater Treatment Plant (WWTP) was built in 1958 and serves more than 200,000 people in the Richmond metropolitan area. Over the past eight years, the plant has planned and implemented \$130 million in upgrades to treatment capacity. This investment has resulted in reductions of more than 80 percent in nitrogen and 50 percent in phosphorus, resulting in millions of pounds of pollutants no longer going into the James River, and a much cleaner river and Chesapeake Bay.

The City of Richmond is a combined sewer community and the WWTP has a permitted dry weather treatment capacity of 45 million gallons per day (MGD) and a permitted wet weather treatment capacity of 75 MGD. Fifty to 70 wet tons of biosolids are produced each day.

The Wastewater Plant completed the design for upgrades of primary treatment up to 140 million gallons per day, and celebrated the completion of the Nutrient Reduction Program. The plant reached new lows in discharge levels for both total nitrogen and total phosphorus in 2017, exceeding its 2016 record performance. The total nitrogen released to the James River was reduced by 24,000 pounds and phosphorus by 6,000 pounds.

Water Treatment and Distribution

The Water Treatment Plant (WTP) was established in 1924 and provides safe drinking water to 62,000 city customers as well as wholesale customers of Henrico, Chesterfield and Hanover counties, totaling 500,000 people. The plant is one of the largest water producers in Virginia, with the capacity to treat up to 132 million gallons of water a day from the James River.

The three sedimentation basins were upgraded and a fourth one is scheduled to be completed by the end of April 2018. The Korah 3 upgrade consisted of overhauling two pumps, replacing one variable frequency drive (VFD) and adding one new VFD. The VFDs are used to speed up and slow down the pumps for the desired number of millions of gallons needed.

The replacement of the Church Hill water tank began in May 2016 and is now in service. The old tank has been demolished. Painting and landscaping is expected to be completed before the summer of 2018.

External audits were completed to attain recertification for drinking water analysis by the Division of Consolidated Laboratory Services. This agency provides high quality analytical testing services and support to local, state and federal agencies.

A training video was created for fire hydrant repair to assist employees of the Water Distribution section in the proper procedures.

The RVA Clean Water Plan was completed with five city streams — Broad Rock, Gillies, Pocosham, Rattlesnake, and Upham — and the James River were monitored for water quality data.



Church Hill water tank

Financial Operations

Financial Operations oversees general accounting, accounts payable, accounts receivables, cash and debt management, grants management, capital assets, budgeting, financial reporting, cost of service, financial and rate modeling, audit relations, wholesale contract administration, natural gas supply contracts, human resources, and information technology for the department.

This year, Finance completed DPU contributions to the 2017 Comprehensive Annual Financial Report on schedule, finished a \$500 million revenue bond issue, and completed the fiscal year within budget.



CITY OF RICHMOND, VIRGINIA
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN THE FUND NET ASSETS
 Fiscal Year Ended June 30, 2017

	Gas	Water	Wastewater	Stormwater	Electric	Stores	Total DPU
Operating Revenues							
Charges for Goods and Services	135,236,520	67,872,630	83,251,003	11,208,255	9,727,334	764,833	308,060,574
Operating Expenses							
Purchased Gas	61,835,258	0	0	0	0	0	61,835,258
Salaries and Wages & Benefits	17,202,761	12,767,297	14,146,114	4,289,196	1,977,709	445,968	50,829,045
Materials and Supplies	1,581,056	1,448,343	1,232,447	198,680	314,674	1,756	4,776,956
Rents and Utilities	326,576	4,073,228	3,852,607	48,710	2,997,826	19,040	11,317,987
Maintenance and Repairs	8,866,337	5,637,598	4,968,578	2,325,718	614,893	0	22,413,124
Depreciation and Amortization	20,497,483	15,428,296	22,494,549	719,810	2,052,676	113,225	61,306,040
Uncollectible Expense	981,263	515,981	545,354	321,248	395	0	2,364,241
Miscellaneous Operating Expenses	12,383,078	14,605,867	20,360,352	98,940	985,608	304,533	48,738,380
Total Operating Expenses	123,673,812	54,476,611	67,600,001	8,002,303	8,943,781	884,522	263,581,029
Operating Income (Loss)	11,562,708	13,396,019	15,651,002	3,205,952	783,553	(119,689)	44,479,544
Non-Operating Revenues (Expenses)							
Intergovernmental Grants and Contributions	332,481	12,565,749	4,334,199	632,505	64,925	0	17,929,859
Interest on Long-Term Debt and Fiscal Costs	(10,038,104)	(7,632,492)	(8,526,008)	0	(4,036)	0	(26,200,641)
Interest Income	685,107	470,788	758,351	23,726	0	0	1,937,971
Interest Expense	(40,731)	(11,343)	0	0	0	0	(52,074)
Miscellaneous Revenues (Expense)	27,779	595,588	345,843	(54)	(9)	50,166	1,019,313
Total Non-Operating Revenues (Expenses), Net	(9,033,467)	5,988,289	(3,087,616)	656,177	60,879	50,166	(5,365,571)
Net Income (Loss) Before Transfers	2,529,241	19,384,309	12,563,386	3,862,129	844,432	(69,523)	39,113,973
Capital Contributions	0	0	0	0	0	0	0
Transfers Out-Other Funds	(2,804,512)	(1,351,739)	(1,905,313)	0	(8,998)	0	(6,070,562)
Change in Net Assets	(275,271)	18,032,570	10,658,073	3,862,129	835,434	(69,523)	33,043,411

CITY OF RICHMOND, VIRGINIA
STATEMENT OF NET ASSETS
Fiscal Year Ended June 30, 2017

	Gas	Water	Wastewater	Stormwater	Electric	Stores	Total DPU
Assets							
Current Assets:							
Cash and Cash Equivalents	20,360,605	62,755,568	96,695,929	7,777,856	12,772,122	11,006	200,373,086
Restricted Assets - Cash and Investments	-	-	-	-	-	-	-
Accounts Receivables (Net of Allowance for Doubtful Accounts)	11,069,731	16,430,968	13,606,800	4,094,521	4,284,626	-	49,486,645
Due From Other Funds	257,574	175,453	818	552	-	-	434,396
Due From Other Governments	-	5,324,790	-	28,048	-	-	5,352,838
Inventories of Materials and Supplies	6,629,325	-	-	-	-	4,349,715	10,979,040
Prepaid Expenses and Other Current Assets	2,034,976	1,985,682	2,337,529	-	137,121	98,874	6,594,181
Total Current Assets	40,352,211	86,672,460	112,641,074	11,900,977	17,193,870	4,459,595	273,220,187
Noncurrent Assets:							
Restricted Assets - Cash and Investments	56,246,040	56,924,950	70,145,222	-	-	-	183,316,212
Land	219,200	878,307	1,101,261	-	265,389	1,686,532	4,150,689
Buildings and Structures	5,170,823	92,929,346	160,354,438	54,636	585,056	2,873,190	261,967,489
Equipment	14,208,183	43,725,667	76,061,723	2,049,836	1,265,009	31,693,578	169,003,996
Infrastructure	573,900,616	365,928,985	396,631,640	8,266,777	45,487,214	605,240	1,390,820,473
Completed Construction	48,042,775	38,513,217	93,451,361	14,802,898	10,983,768	38,083	205,832,102
Less: Accumulated Depreciation	(245,473,928)	(199,240,499)	(295,907,299)	(3,504,774)	(40,754,143)	(34,149,872)	(819,030,515)
Construction in Progress	8,405,643	35,343,881	28,922,321	1,673,493	469,747	-	74,815,085
Total Capital Assets, Net Accumulated Depreciation	404,473,313	378,078,904	460,615,446	23,342,866	18,302,039	2,746,750	1,287,559,319
Total Noncurrent Assets	460,719,354	435,003,854	530,760,668	23,342,866	18,302,039	2,746,750	1,470,875,531
Total Assets	501,071,564	521,676,314	643,401,742	35,243,843	35,495,909	7,206,345	1,744,095,718
Deferred Outflow of Resources:							
Refunding of Debt	9,308,169	6,801,782	7,296,087	-	6,422	-	23,412,459
Pension Experience Gain	4,981,517	3,217,166	3,890,751	1,232,390	621,077	126,986	14,069,887
Total Deferred Outflows	14,289,686	10,018,948	11,186,837	1,232,390	627,499	126,986	37,482,346
Liabilities:							
Current Liabilities:							
Accounts Payable	11,033,922	5,593,882	8,961,882	1,440,895	2,385,536	521,574	29,937,692
Accrued Liabilities	88,616	81,680	102,296	-	-	-	272,593
Due To Other Funds	-	-	-	-	-	434,396	434,396
Accrued Interest on Bonds Payable	6,179,152	4,788,635	5,370,365	-	2,204	-	16,340,356
General Obligation Bonds, Capital Leases, and Notes Payable	8,760,424	7,086,699	4,950,514	44,007	82,096	-	20,923,739
Revenue Bonds Payable	4,776,783	3,489,787	9,066,631	-	-	-	17,333,200
Compensated Absences	679,581	485,415	524,248	155,333	77,666	19,417	1,941,661
Total Current Liabilities	31,518,478	21,526,098	28,975,937	1,640,235	2,547,503	975,387	87,183,637
Noncurrent Liabilities:							
Liabilities to be Repaid from Restricted Assets:							
Customers' Deposits	6,554,961	1,950,595	-	-	-	-	8,505,556
General Obligation Bonds, Capital Lease Liabilities	24,332,383	18,014,095	2,217,415	794,774	574,844	-	45,933,512
Revenue Bonds Payable	291,146,381	227,961,419	312,117,624	-	-	-	831,225,424
Compensated Absences	177,893	127,066	137,231	40,661	20,331	5,083	508,264
OPEB	1,461,683	970,989	1,160,431	355,038	176,736	38,971	4,163,847
Net Pension Liability	15,702,358	9,875,399	12,028,390	3,907,131	1,921,886	392,443	43,827,607
Other Liabilities and Claims Payable	-	-	-	333,888	-	-	333,888
Total Noncurrent Liabilities	339,375,658	258,899,564	327,661,091	5,431,493	2,693,797	436,496	934,498,098
Total Liabilities	370,894,135	280,425,661	356,637,028	7,071,728	5,241,299	1,411,884	1,021,681,735
Deferred Inflow of Resources:							
Rate Stabilization	-	-	6,500,000	3,500,000	-	-	10,000,000
Deferred Changes in Net Pension Liability	1,589,523	1,055,913	1,261,923	386,090	190,869	42,379	4,526,696
Total Deferred Inflows	1,589,523	1,055,913	7,761,923	3,886,090	190,869	42,379	14,526,696
Net Assets:							
Invested in Capital Assets, Net of Related Debt	130,859,792	177,050,045	198,124,482	22,504,085	17,651,521	2,746,750	548,936,675
Restricted - Debt Service	8,654,793	6,728,439	10,218,788	-	-	-	25,602,020
Unrestricted	3,363,007	66,435,204	81,846,359	3,014,331	13,039,718	3,132,319	170,830,938
Total Net Assets	142,877,592	250,213,688	290,189,628	25,518,416	30,691,239	5,879,069	745,369,633

