

WS
1-28-14

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Joint Work Session with Alexandria Renew Enterprises

January 28, 2014

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Review Items

- Alexandria Renew's Water Role in City
- South Carlyle Strategy Update
- AlexRenew's Reclaimed Water Strategy
- Four Mile Run Pump Station Upgrade Update
- Wet Weather Management Program

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How does water work in our City?

Alexandria's water system: It takes three!

- 1.** Water is captured from the Potomac River, then treated at the Virginia Assembly Water Treatment Plant, which provides water to your home or business.
- 2.** After you take a shower, wash your car, or water your lawn, the water goes down the drain and enters the sewer system managed by the City of Alexandria.
- 3.** The effluent then goes to Alexandria Renew Enterprises, which treats it before releasing it back into the Potomac.

Water community of one.

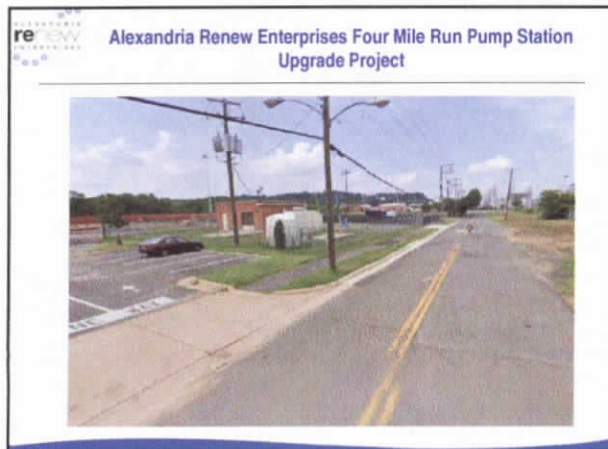
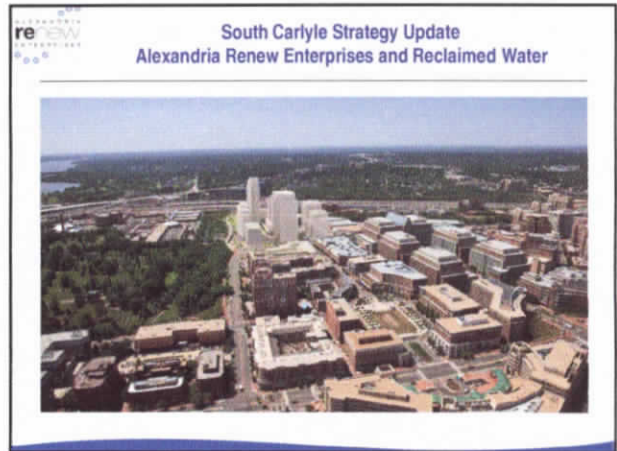
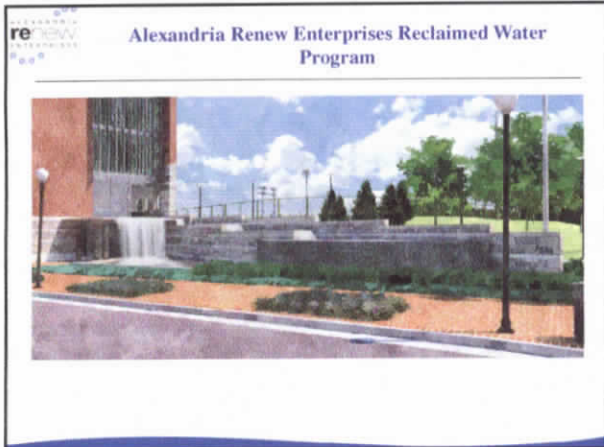
VIRGINIA
AMERICAN WATER

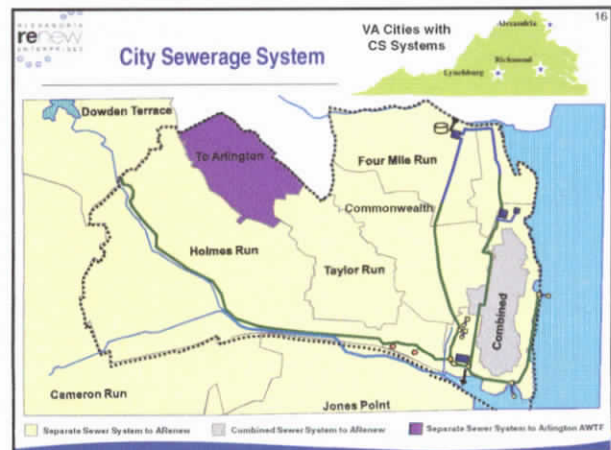
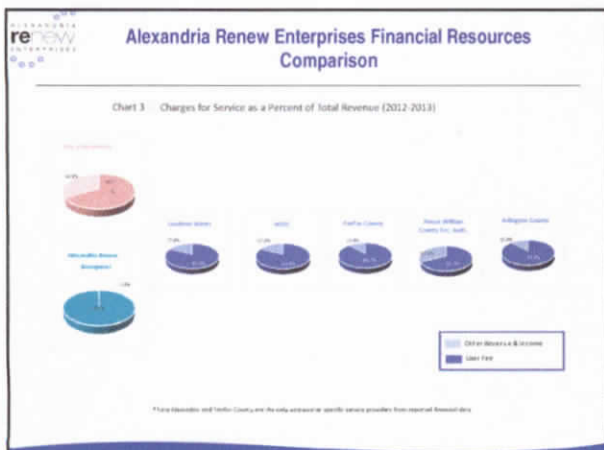
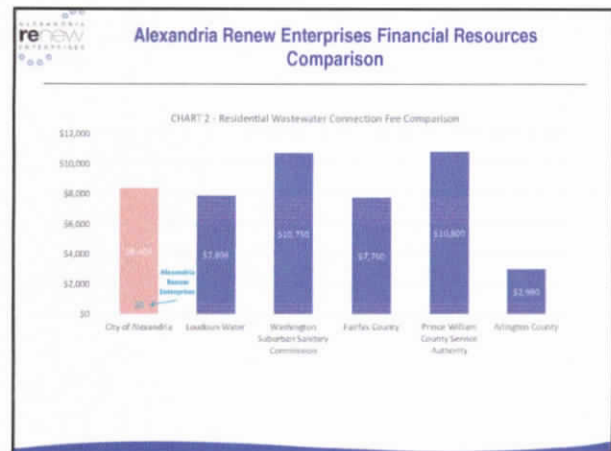
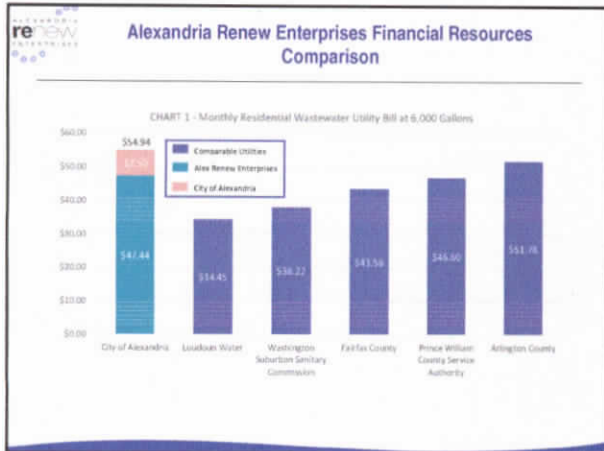
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South Carlyle Strategy Update City of Alexandria Circa 1996









Wet Weather Control Program

- Alexandria Service Area Focus –
 - Minimize basement backups in Commonwealth Avenue sewershed
 - Reduce extreme wet weather flows to Four Mile Run Pump Station
 - Relocate and reduce discharges from Combined Sewer Overflow (CSO) outfall #004
 - Construct tunnel from current CSO #004 along African American Park to AlexRenew
- Total Service Area Focus –
 - Construct Wet Weather Pump Station to move more flow to plant from Holmes Run Trunk Sewer and Commonwealth Interceptor
 - Eliminate Hooff Run Junction Chamber, a constructed overflow point built to protect basements and the plant from flooding

JOINT WORK SESSION
ARenew Board and City of Alexandria City Council

January 28, 2014
5:30PM – 7:00PM
CITY COUNCIL WORK ROOM
AGENDA

- Introductions and Opening Remarks – Mayor Euille and Chairman Hill

By ARenew

- Water Reuse and requested charter change
- Wet weather plan – TO11
- Four Mile Run PS upgrade
- South Carlyle Strategy update

By City

- I and I projects and Sewer Rehabilitation update
- EPA inspection and follow-up date
- Combined Sewer Permit update
 - Long Term Control Plan update

- Questions and Discussion

*Individuals with disabilities who require assistance or special arrangements to participate in the City Council meeting may call the City Clerk and Clerk of Council's Office at 703-746-4550 (TTY/TDD 838-5056). We request that you provide a 48-hour notice so that the proper arrangements may be made.
City Council meetings are closed-captioned for the hearing impaired.*

WE CALL THEM THE UNFLUSHABLES

Items you should never,
ever, ever flush (or put
down the sink):

1. "Flushable" wipes
2. Grease
3. Kitty litter
4. Q-tips
5. Hygiene products
6. Dental floss
7. Newspapers
8. Paper towels
9. Rags
10. Hypodermic needles



Questions? Call us.

703-549-3383

www.alexrenew.com

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From Toilet to Wastewater Treatment:

A breakdown of flushed products identified in three field studies of pump station inlet screens, carried out by INDA and Wastewater Agencies*

47%

Non-flushable Paper

(Paper hand towels, tissues/napkins, etc.)

18%

Non-flushable Baby wipes

13%

Non-flushable Feminine hygiene

(tampons, pads, wrappers, etc.)

14%

Non-flushable Household wipes

(Surface, cosmetic, & medicated wipes, etc.)

Flushable Wipes

8%

92%

Non-Flushable Materials

8%

Flushable wipes

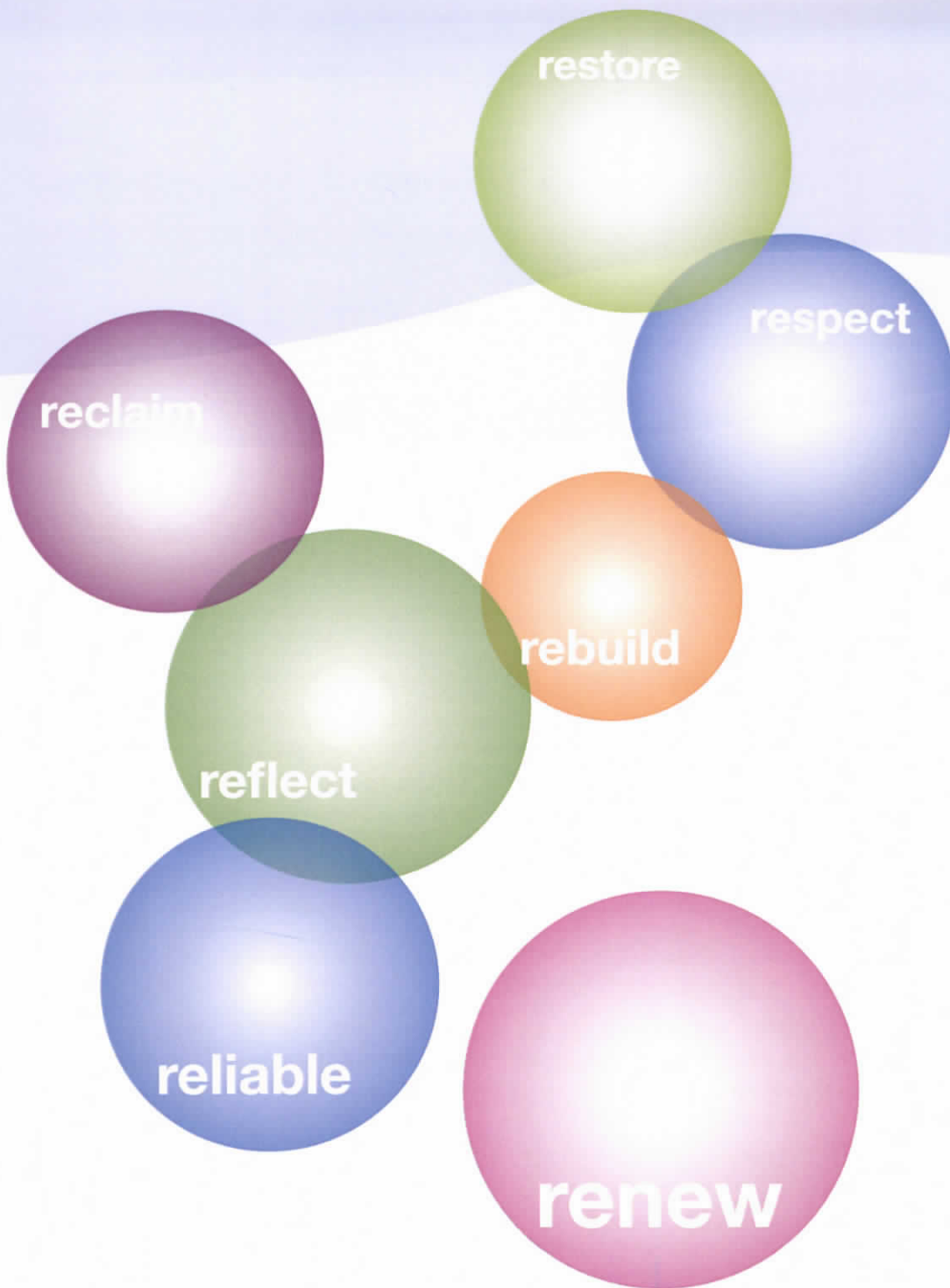
(wipes labeled as flushable)



Read the label before flushing – It is important to follow package instructions!

*Combined average of INDA/Maine Waste Water Control Association/Water Environment Federation/Portland Water District Collection Study at Westbrook Pumping Station, Maine: Average from three collection times: Sept. 20 & 21, 2011; Jan. 10, 2012, and "Identification of Materials Entering the Moraga Pumping Station" by Ryan Casey, November 2010, Moraga CA.

More info at www.inda.org/issues-advocacy/flushability





Alexandria Renew Enterprises

Real World Sustainability 2013



water

12.8 billion gallons cleaned
100% of nitrogen removed
674,000 pounds of phosphorus removed
33.1 million pounds of sediment removed

1.4 billion gallons of reclaimed water used to run AlexRenew equipment, saving \$2.8 million



energy

133 million cubic feet of gas produced with
117 million cubic feet used by AlexRenew –
enough energy to heat 880 houses in a year

land

21,200 wet tons of biosolids applied to Virginia farms



Letter from the Chairman of the Board



Alexandria Renew Enterprises is on a sustainable path that will prepare it for future compliance and financial requirements while involving the community in its environmental mission.

In 2012, we saw Alexandria Sanitation Authority transform into Alexandria Renew Enterprises. The new name signifies an increased emphasis on the future. Alexandria Renew Enterprises is on a sustainable path that will prepare it for future compliance and financial requirements while involving the community in its environmental mission.

For the eighth straight year, Alexandria Renew has achieved the highest rating for environmental compliance. In fact, this year, it began selling "nutrient credits" to assist neighboring utilities to meet our watershed's higher environmental standards.

Alexandria Renew's financial outlook is equally bright. Our economic projections indicate that our customers will probably see rate increases that are below the rate of inflation for the next few years.

Our interactions with the neighboring community are growing stronger as well. This year, a greater number of local residents visited the Alexandria Renew facilities than ever before. And the groundbreaking of the new Environmental Center launches a new era of citizen involvement.

This annual report was designed to give you greater visibility into the finances of Alexandria Renew. As you read it, I hope that you see our financial path toward a future of wise investments in environmental quality and stable rates for our customers.

Sincerely,

John B. Hill
Chairman



A WORKING BOARD

Alexandria Renew Enterprises' Board of Directors is a five-member body of citizens who are appointed by the Alexandria City Council to four-year staggered terms. The board is a public body in all respects, but is independent of the City government administratively and financially. Alexandria Renew board members are responsible for general oversight of Alexandria Renew, ensuring compliance with the Virginia Water and Wastewater Authorities Act, and other laws governing the activities of local public bodies.

John Hill, Chairman; Matthew Ries, Ed Semonian, Tom Van Wagner, Vice-Chair; William Dickinson, Secretary-Treasurer.



reflect



Alexandria Renew is proving every day that clean, safe water and sustainable practices are not just good for the environment, they're good for the lives and livelihoods of our City's residents and businesses.



Letter from the Chief Executive Officer

When the original Alexandria Sanitation Authority—now Alexandria Renew Enterprises—began operations in 1956, there were two immediate goals: protecting the public's health from waterborne diseases, and getting rid of a public nuisance that was fouling and choking the Potomac River.

We have certainly made enormous progress in the intervening years. Today, we clean water to the highest standards and take a holistic, watershed approach to restoring the environmental integrity of the Chesapeake Bay.

But one of the most noteworthy changes to take place over almost 60 years is how we view the business and economics of cleaning water. And like a well-run business that gives back to the community it serves, Alexandria Renew contributes to the economy.

Water infrastructure is a great taproot that helps nourish and power the economic engine above. It helps create good, middle-class jobs in our and other industries. It helps the City to grow and flourish. And it produces a great return on investment.

And when it comes to fields that advance science, technology, engineering and mathematics, where better to plant that seed than in our schools. We work with local schools through tours and internships to get students interested in green careers. Our new environmental education center, which will open in 2015, could spark such an interest and lead to a rewarding career in cleaning water.

Looking at the horizon, Alexandria Renew can make an even greater contribution to the City's physical and fiscal health.

Alexandria Renew is proving every day that clean, safe water and sustainable practices are not just good for the environment, they're good for the lives and livelihoods of our City's residents and businesses. And we believe that the best is yet to come as we move forward together to reach our common goals.

Karen Pallansch
Chief Executive Officer



AlexRenew partnered with George Mason University to assess the conditions of Hunting Creek into which our final effluent flows.

AlexRenew performed 28,000 tests on water quality.

An Extraordinary Environmental Enterprise

Alexandria Renew Enterprises continued its proud role as an environmental steward of the Chesapeake Bay Watershed. Progress continues to be made in restoring the health of the Potomac River and its tributaries.

In addition to removing nitrogen and phosphorous from untreated water, Alexandria Renew met all of the Commonwealth's environmental requirements in the cleaned water it released back into the watershed.

The Virginia Department of Environmental Quality (VDEQ) recognized Alexandria Renew as an "Extraordinary Environmental Enterprise"—also known as an E4.

NACWA
A Clear Commitment to America's Waters

The National Association of Clean Water Agencies awarded Alexandria Renew Enterprises its highly prestigious Platinum Peak Performance Award for the 8th consecutive year for 100 percent compliance with national requirements.

rebuild

Under Construction: The State-of-the-Art Nitrogen Upgrade Program



After intensive planning and design, construction of the State-of-the-Art Nitrogen Upgrade Program (SANUP) was in full swing in 2013. One of the key projects underway is building the massive 18 million gallon Nutrient Management Facility (NMF) which will allow Alexandria Renew to better manage the biological treatment process that helps remove nitrogen and phosphorous from untreated water and solids. This year, almost 200,000 tons of dirt were excavated, and more than 1,700 piles were installed to support the new structure.

Work this year also included progress on the new Centrate Pretreatment Facility. When completed, this facility will lower the nitrogen load to the Biological Reactor Basins. The new system will be able to measure accurately how much clean water is returned to the watershed.

Meanwhile, construction of a sixth Biological Reactor Basin continues. The basin will hold almost four million gallons of wastewater and the microorganisms that help clean the water.

SUSTAINABLE CONSTRUCTION

850 tons—90% construction
waste—recycled or salvaged

2,300 miles carpooled by
construction workers



To keep neighbors informed of construction, AlexRenew held a public meeting, met with neighborhood groups, distributed posters, flooded social media networks, and created a web site at www.alexrenewnmf.com.

UPDATE FOR FOUR MILE RUN PUMP STATION

In 2013, Alexandria Renew also received approval of a Development Special Use Permit (DSUP) to begin work upgrading the decades-old Four Mile Run Pump Station. The existing pump station was built in the early 1950s and has exceeded its useful life. It must be brought up to 21st century standards and needs, including minimizing wet weather impact from the City's sewage collection system and improving odor control.

Innovation for Clean Water

reclaim

ALEXANDRIA

blurennew®

RECLAIMED WATER

Last year also saw the completion of the designs of AlexRenew's Reclaimed Water System. When fully realized, the system will allow AlexRenew's drinking-water quality effluent to be distributed throughout the City for non-potable uses like irrigation, commercial air conditioning, and commercial toilet flushing. Reclaimed water use will not only conserve fresh water, but also reduce the amount of nutrients returned to the Chesapeake Bay.



RED BUGS FOR A GREENER ENVIRONMENT

This year, Alexandria Renew hosted a workshop with international utility experts from VCS Denmark, CH2M HILL and DC Water to share information on an innovative and efficient process known as deammonification, or "red bugs." The process removes nitrogen from dirty water, while at the same time slashing energy costs, reducing the need for chemicals, and cutting down on greenhouse gas emissions. The anammox process is now being used in approximately 40 wastewater treatment plants worldwide. Along with DC Water and the Hampton Roads Sanitation District, Alexandria Renew is moving forward to use anammox in its systems.



ENVIRONMENTAL CENTER IN 2015

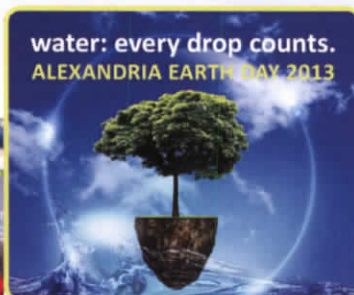
There are a lot of exciting projects in the wings for 2014. Ground will be broken on Alexandria Renew's Environmental Center that is slated to open the following year. This structure will house offices and meeting rooms that can be used by the public, and interactive displays to enhance the educational experience for visitors. This LEED Platinum building will showcase many sustainable practices and overlook an athletic field topping the 18 million gallon Nutrient Management Facility.

recognize

Good Neighbor: Alexandria Renew Reaches Out



Alexandria Renew's Adrienne Fancher, award winner Danielle Fidler, and Josh Sawislak of the Alexandria Environmental Policy Commission.



EARTH DAY 2013

Alexandria Renew Enterprises took part in the 20th anniversary of Alexandria Earth Day with an exhibit and educational display highlighting this year's theme: "Water: Every Drop Counts."

Danielle Fidler won the 2013 Ellen Pickering Environmental Excellence Award for her work advancing the landmark Eco-City Alexandria Charter and Environmental Action Plan. The award is given by Alexandria Renew and the Alexandria Environmental Policy Commission and is named to honor the late Ms. Pickering and her lifelong dedication to City preservation and conservation.

ECO-CITY ALEXANDRIA



Alexandria Renew Enterprises provided educational material to the Boy Scouts Jamboree. AlexRenew also participated in the 2013 U.S. Patent Office Green Fair, showing off innovative wastewater treatment approaches.



Our Future: A Place for Learning

rewarding

ADVANCING SCIENCE, TECHNOLOGY, ENGINEERING AND MATH

Alexandria Renew sees enormous opportunities to get our nation's students excited about careers in science, technology, engineering and mathematics (STEM). AlexRenew works closely with City schools to get students interested and involved in these fields by providing hands-on learning experiences in cleaning water.

In 2013, Alexandria Renew provided tours of our award-winning facility for hundreds of students from Alexandria public and private schools. AlexRenew also hosted a group of environmental engineers and microbiologists from the George Washington University School of Engineering and Applied Science. Faculty and students from the Biology/Environmental Science Department at Northern Virginia Community College were some of the many other water professionals to visit.



ALEXRENEW INTERNSHIP & APPRENTICESHIP PROGRAMS

Internships figure largely in Alexandria Renew's efforts to provide meaningful STEM learning experiences. Our internship program brings in students to learn what it's like to work full-time in a major infrastructure facility. The comprehensive, hands-on experience is designed to encourage students to learn more about technical fields. Alexandria Renew also partners with the Urban Alliance Foundation's internship program, whose goal is to empower young people in need to aspire, work and succeed through paid internships, formal training and mentoring. 2013 interns included Aaron McKinney II, Jenny Melara, and IT interns Brandon Samuel, Sandtango Toyer, and Omar Pendarvis.

AlexRenew is also working with its skilled workforce to develop employees of the future through its internally-developed, Department of Labor approved, Apprentice Program. This year, eight employees participated in the program which sharpened and updated their electrical and mechanical skills in preparation for certifications.



T.C. Williams High School students and AlexRenew interns Aaron McKinney II and Jenny Melara



responsible

Alexandria Renew Finances

Stable Rates and Dependable Service

WHERE DOES THE MONEY COME FROM?

Alexandria Renew has two major sources of revenue: sewage treatment charges paid by Alexandria customers, and reimbursement of a proportion of expenses from Fairfax County. The County reimburses Alexandria Renew under a service agreement. Under this agreement, Fairfax County pays a percentage of expenses based upon their actual use. Fairfax County also contributes 60% of costs to our Capital Improvement Program (CIP) Project Fund to allow for the replacement and rejuvenation of major equipment and buildings.

Revenues	
Sewage treatment charges	\$36,848,976
Fairfax County	
Operating	10,993,596
Improvement, Renewal & Replacement	2,073,000
Other	438,004
Total	\$50,353,576
Non-operating Revenues	
Investment income	180,961
Proceeds from debt	2,837,992
Grant	3,278,596
Fairfax County Capital Improvements Program Contribution	14,475,509
Proceeds from land disposal	14,996,403
Total	\$35,769,461
Total	\$86,123,037

In 2013, Alexandria Renew was awarded the Certificate of Achievement for Excellence in Financial Reporting by the Government Finance Officers Association of the United States and Canada. The award is the highest form of recognition in the field of governmental accounting and financial reporting. This marked the second year in a row that Alexandria Renew received the award.

RATE RESTRUCTURING

In 2013, Alexandria Renew's Board of Directors approved the elimination of the Virginia American Water Company Account Service Charge as part of its restructuring of residential and commercial wastewater treatment and disposal charges. Billing and customer service functions are now provided by Alexandria Renew, resulting in savings for customers. There was an accompanying modest increase in the gallonage fee for the next three years that began on October 1, 2013. Alexandria Renew's rates remain stable and competitive with other wastewater treatment facilities in the region.



Good news is on the way.

Our approved rate restructuring plan will save money for most residential customers.



What does the revenue pay for?

reliable

\$28,979,628 JOINT CAPITAL IMPROVEMENTS

Constructing facilities that support major programs.

\$11,105,426 DEBT PRINCIPAL AND INTEREST PAYMENTS

Paying back loans taken in previous years to upgrade and maintain AlexRenew.

\$2,881,389 ALEXANDRIA ONLY PROJECTS

Overhauling and maintaining facilities that provide service only to City customers.

\$2,693,442 OPERATIONS & MAINTENANCE

Maintaining the facilities' material and equipment.

\$2,492,463 JOINT IR&R

Overhauling and maintaining critical equipment, energy efficiency, alternative energy generation and information technology projects, and sustainable infrastructure replacements.

\$11,643,814 PERSONNEL SERVICES

Providing best-in-class water professionals for effective and safe operations.

\$2,909,351 UTILITIES

Covering costs for the natural gas, electricity and water needed to operate the plant.

\$1,361,174 PROFESSIONAL SERVICES

Providing outsourced services to help AlexRenew run efficiently.

\$1,697,440 CHEMICALS

Paying for chemicals needed to support water cleaning processes.

\$1,319,583 BUSINESS SUPPORT

Providing back-office support and community education and outreach.

\$1,455,427 ARLINGTON SEWAGE DISPOSAL

Supporting the operations and maintenance associated with the City's allocated capacity at the Arlington County Water Pollution Control Plant.

Unaudited. Bubbles are not to scale.



FORMERLY ALEXANDRIA SANITATION AUTHORITY

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