

MSVRC Star of the Week
One kid
One crime
One chance to
make things right.

MEDIA CENTER

Virginia Beach City Public Schools SUSTAINABILITY REPORT

2021



I consider myself a fortunate man to have grown up in Virginia Beach at the mouth of the Chesapeake Bay, the largest estuary in the U.S. and the third biggest in the world.

This watershed spans 165,759 square kilometers and connects six states – Delaware, Maryland, New York, Pennsylvania, Virginia, West Virginia, and the District of Columbia. The social, economic, and environmental benefits of a healthy Chesapeake Bay are the life blood of our coastal community.

I've witnessed changes in the health of the Bay during my lifetime, and that's why I'm so excited and gratified to see Virginia Beach City Public Schools (VBCPS) students embrace outdoor learning opportunities across their home city. These educational experiences are fortified by our partnerships with organizations like the Chesapeake Bay Foundation (CBF), Lynnhaven River Now and the Elizabeth River Project.



Our relationship with the CBF and the generous donation of Macon and Joan Brock have provided us with a world-class career pathway for our students in the form of the VBCPS Environmental Studies Program. This remarkable curriculum impacts young learners across the division while creating the next generation of leaders who are attuned to the unique, global challenges ahead.

While VBCPS is home to many exceptional educational opportunities, when it comes to our sustainability initiatives, we pride ourselves on leading by example within the division. This year we added four more Leadership in Energy and Environmental Design (LEED) buildings to our inventory. With the recently completed Plaza Annex, Princess Anne Middle School, Thoroughgood Elementary School and John B Dey Elementary School, we have over 2 million square feet of LEED building space. In addition, we've added photovoltaic panels to four schools through a solar power purchase agreement (Solar PPA). The solar installations will lower our emissions and reduce our energy cost. As a result of this effort, Ocean Lakes Elementary School is now our first net-zero energy school.



What follows in these pages serves a snapshot into our sustainability work, ranging from the built environment, to transportation, to scratch cooking and much more. Thank you for taking the time to read this report, and for your investment in Virginia Beach City Public Schools.

—Aaron C. Spence, Ed.D.

Our Mission

VBCPS is committed to educating students about the “Triple Bottom Line.” Understanding the interconnectedness and interdependency of social, economic and environmental systems is critical to a student’s education.

Concepts such as **equity**, **empathy** and **inclusion** are important to the development of all students. In this context, sustainability becomes another vehicle to engage students in issues that are larger than themselves.



Our Primary Goals

- Develop a sustainable building infrastructure.
- Integrate sustainable practices throughout the school division.
- Educate the public about sustainability.



“Sustainability is equity over time... think of it as the Golden Rule through time... Do unto future generations as you would have them do unto you.”

–Robert Gilman, PhD



LEED FOR SCHOOLS



Leadership in Energy and Environmental Design (LEED)

The decisions that teams make during the design and construction of new or renovated school projects set the stage for the performance of those facilities for many decades. LEED for Schools is a whole project rating system that provides a framework for decision making when designing and constructing K-12 projects.

While there is a clear emphasis on energy efficiency within LEED for Schools, the rating system also addresses site-related considerations, water conservation, selection and procurement of environmentally preferable building materials, indoor environmental quality, and stormwater issues related to resiliency in our region.

With over 2 million square feet of LEED building space, Virginia Beach City Public Schools establishes itself as a global leader in sustainable building while saving money and improving student performance over the life of its building portfolio.

LEED Schools

The average energy usage intensity* is 6.75% kBtu/sf/yr lower than non-LEED academic buildings.

Platinum

Pupil Transportation Facility, College Park Elementary School

Gold

Virginia Beach Renaissance Academy, Great Neck Middle School, Old Donation School

Silver

Windsor Oaks Elementary, Virginia Beach Middle School, Kellam High School

Certified

Hermitage Elementary School

Registered

Thoroughgood Elementary School, Princess Anne Middle School, Lynnhaven Middle School, Achievable Dreams Academy, Plaza Annex, John B Dey Elementary School

** Energy usage intensity is a measure of total energy from all sources used by a building relative to its size.*

Timeline of Achievements

2015

District of Distinction Award, District Administration magazine; Project of Distinction (one of the top 5 new schools in the world) Kellam High School (Council of Educational Facility Planners); Platinum Certified Green School Division (Virginia School Board Association)

LEED FOR SCHOOLS



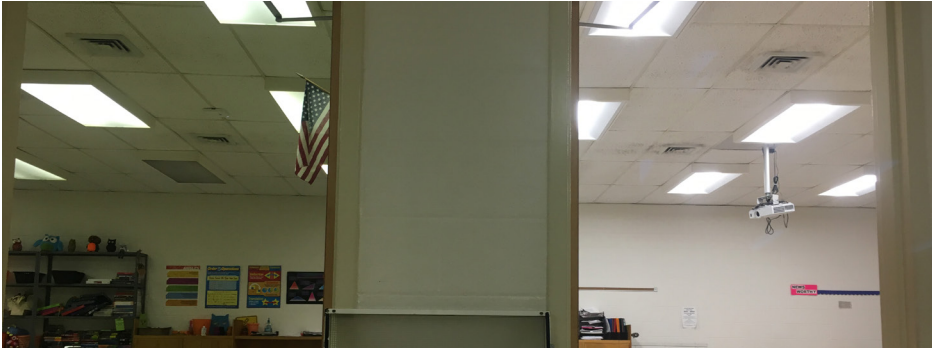
LEED Schools

School	Year Opened	Construction Cost	LEED Status
Hermitage Elementary	2005	\$102/SF	Certified
Windsor Oaks Elementary	2010	\$168/SF	Silver
Renaissance Academy	2010	\$187/SF	Gold
Virginia Beach Middle	2010	\$209/SF	Silver
Great Neck Middle	2011	\$166/SF	Gold
Pupil Transportation	2011	\$185/SF	Platinum
College Park Elementary	2011	\$195/SF	Platinum
Kellam High School	2014	\$214/SF	Gold (Projected)
Old Donation School	2017	\$201/SF	Gold
John B Dey Elementary	2020	\$200/SF	Silver (Projected)
Princess Anne Middle	2021	\$224/SF	Gold (Projected)
Thoroughgood Elementary	2021	\$250/SF	Gold (projected)

2016

Green Ribbon School District, USDOE

ENERGY CONSERVATION INITIATIVES



Performance Contracting

Performance contracting is a financing mechanism provided by an Energy Service Company (ESCO) whereby the cost of energy efficiency upgrades are paid through future energy savings. A key element of performance contracts is that the ESCO guarantees that the energy savings will cover the cost of the project financing for the life of the project. Since 2008, VBCPS has used performance contracting to provide energy saving solutions in over 7.5 million square feet of building space.

Typical energy conservation measures include the following:

- Lighting retrofits, replacements, and occupancy controls, including LED stage lighting and controls (89,177 fixtures over 11 phases)
- Domestic water conservation
- Building envelope improvements
- HVAC repair/replacement
- Boiler, chiller, and cooling tower repair/ replacement
- Energy management system up-grades
- Automatic temperature controls
- Retrocommissioning and testing, adjusting, and balancing (TAB)
- Bipolar ionization for improved air quality and filtration
- New ceiling
- New windows
- Installation of ground source (geothermal) heat pump systems (3 schools)
- Energy conservation training/curriculum enhancement
- Sustainability awareness-communication
- Utility bill audit and rate analysis

Solar Power Purchase Agreements

A Power Purchase Agreement (PPA) is a financing mechanism provided by a third party solar developer who owns, operates, and maintains the solar PV system for the term of the agreement. The building owner, who enters into this agreement with the solar developer, allows the installation of the solar PV on their property (generally their rooftop) and purchases the electricity generated from the system for a fixed price over the duration of the agreement.

SOLAR PPA Sites

- Renaissance Academy (proposed 900 kW DC)
Actual 891.6 kW
- Princess Anne Middle School (proposed 700 kW DC)
Planned (still under construction) is 739.64 kW DC
- Thoroughgood ES (proposed 144 kW DC)
Actual 166.4 kW
- Ocean Lakes ES (402 kW DC) (Net 0)
Actual 412 kW

Both Performance Contracting and Solar PPAs provide VBCPS with two strong mechanisms to reduce energy use and Greenhouse Gas Emissions. Combined these with our LEED building portfolio, maintenance and operation procedures, and the result is a division wide cost avoidance between 2006 – 2020 of \$69 million.

2017

Energy Star Partner of the Year, EPA; VEEP Sustainability Partner, DEQ; Excellence in Development Design, (Hampton Roads Association for Commercial Real Estate); Best Design Award, Old Donation School (VA Chapter of the Association for Learning Environments); Platinum Certified Green School Division (Virginia School Board Association)

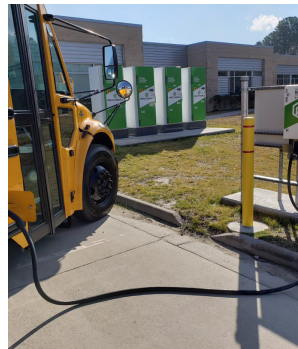
DIVISION SERVICES



Building Managers allow building administrators to focus on education vs facility issues. The Building Manager can also act as an educational resource while ensuring that our building assets receive the attention they need to operate as great learning environments for many years to come.



Custodial Services continues to use Green Seal certified cleaning products and an integrated pest management plan to maintain a healthy indoor air quality environment.



In addition to over 70 propane buses, VBCPS currently has eight electric school buses. These buses were purchased through a cost sharing program with Dominion Energy.

The Office of Food Services continues to expand scratch cooking across the division. Even while most of 2021 consisted of offsite learning, Food Services served over 8 million meals.



As we expand our electric and propane bus fleet, Vehicle to Grid technology will allow more flexibility in our utility grid.



COMMUNITY PARTNERS



Community partners like the Chesapeake Bay Foundation, Lynnhaven River Now, Yellow and our local A&E community, to name a few, play an important role in VBCPS sustainability efforts. As subject matter experts, facilitators, and community leaders, their participation enriches the educational experience.

"The garden is a community, a life inside of a fence and when you enter it becomes a new start to be a new you."

—Zoe Mason, Fifth Grader, Seatack Elementary School

2020

Architecture Medal for Virginia Service (AIA Virginia); Platinum Certified Green School Division (Virginia School Board Association)

STUDENT ENGAGEMENT



2021

People's Choice Award, Princess Anne Middle School (VSBA); Community Leader Award, Old Donation School (USGBC); Virginia Environmental Excellence Partner (DEQ)

STUDENT ENGAGEMENT



"The Environmental Studies Program (ESP) at the CBF Brock Environmental Center, really gives me hope and motivation when I'm surrounded by so many other incredible people (students, teachers, and guests alike) that share the same passions. Having daily interactions with real professionals from all different fields really helps me broaden my perspective and has given me so many unique opportunities that I would not have gotten anywhere else."

—Natalia de los Rios, Junior, ESP



Virginia Beach City Public Schools

Office of Facilities Services
1568 Corporate Landing Parkway
Virginia Beach, Virginia 23454
(757) 263-1090
www.VBSchools.com

Tim Cole

Sustainability Officer

Tony Arnold

Executive Director of Facilities Services

Jack Freeman

Chief Operations Officer for Division Services

Aaron Spence, Ed.D.

Superintendent



Tony and Krista Arnold. Combined, they have over 70 years in public education with VBCPS. Recently retired, the positive impact on the lives of all those they have come in contact with will not be fully realized for many years to come.

All the best!