



## 2012-2013 School Nominee Presentation Form

### **PART I - ELIGIBILITY CERTIFICATION**

#### **School and District's Certifications**

The signatures of the school principal and district superintendent (or equivalents) on the next page certify that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of their knowledge. *In no case is a private school required to make any certification with regard to the public school district in which it is located.*

1. The school has some configuration that includes one or more of grades Pre-K-12. (Schools on the same campus with one principal, even a Pre-K-12 school, must apply as an entire school.)
2. The school has been evaluated and selected from among schools within the Nominating Authority's jurisdiction, based on high achievement in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. Neither the nominated public school nor its public school district is refusing the U.S. Department of Education Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district wide compliance review.
4. OCR has not issued a violation letter of findings to the public school district concluding that the nominated public school or the public school district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan to remedy the violation.
5. The U.S. Department of Justice does not have a pending suit alleging that the public school or the public school district as a whole has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
6. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the public school or public school district in question; or if there are such findings, the state or public school district has corrected, or agreed to correct, the findings.
7. The school meets all applicable federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site

verification.

U.S. Department of Education Green Ribbon Schools 2013

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Charter  Title I  Magnet  Private  Independent

Name of Principal Mr. Jack Cain  
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name Cameron Middle – High School  
(As it should appear on an award)

School Mailing Address 2012 Blue and Gold Drive  
(If address is P.O. Box, also include street address.)

Cameron West Virginia 26033  
City State Zip

County Marshall County State School Code Number\* 48501

Telephone (304) 686-3336 Fax (304) 686-3510

Web site/URL http://www.edline.net/pages/CameronHS E-mail jccain@access.k12.wv.us

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate.



Date January 29, 2014

(Principal's Signature)

Name of Superintendent\* Mr. Michael Hince  
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name\* Marshall County Schools Tel. (304)843-4400

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate. This is one of the highest performing green schools in my jurisdiction.



Date January 29, 2014

(Superintendent's Signature)

*\*Private Schools: If the information requested is not applicable, write N/A in the space.*

## **PART II – SUMMARY OF ACHIEVEMENTS**

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### **Instructions to School Principal**

Provide a concise and coherent "snapshot" that describes how your school is representative of your jurisdiction's highest achieving green school efforts in approximately 800 words. Summarize your strengths and accomplishments. Focus on what makes your school worthy of the title U.S. Department of Education Green Ribbon School.

*Begins on 4.*

## **PART III – DOCUMENTATION OF STATE EVALUATION OF NOMINEE**

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### **Instructions to Nominating Authority**

The Nominating Authority must document schools' high achievement in each of the three ED-GRS Pillars and nine Elements. For each school nominated, please attach documentation in each Pillar and Element. This may be the Authority's application based on the Framework and sample application or a committee's written evaluation of a school in each Pillar and Element.

### **Nominating Authority's Certifications**

The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The school has some configuration that includes one or more of grades Pre-K-12. (Schools on the same campus with one principal, even a Pre-K-12 school, must apply as an entire school.)
2. The school is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and sustainability education.
3. The school meets all applicable federal civil rights and federal, state, local and tribal health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency      WV Department of Education

Name of Nominating Authority Mrs. Robin Anglin-Sizemore  
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application and certify to the best of my knowledge that the school meets the provisions above.

*Ms. Robin Anglin Sigmore*

Date January 30, 2014

(Nominating Authority's Signature)

The nomination package, including the signed certifications and documentation of evaluation in the three Pillars should be converted to a PDF file and emailed to [green.ribbon.schools@ed.gov](mailto:green.ribbon.schools@ed.gov) according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509  
Expiration Date: February 28, 2015

### **Public Burden Statement**

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control number for this information collection is 1860-0509. Public reporting burden for this collection of information is estimated to average 37 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. The obligation to respond to this collection is required to obtain or retain benefit P.L. 107-110, Sec. 501, Innovative Programs and Parental Choice Provisions. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-4536 or email [ICDocketMgr@ed.gov](mailto:ICDocketMgr@ed.gov) and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

### **Part II. Summary of Achievements**

Schools are unique in their social, cultural, geographical, economic, and academic challenges. Even within districts like Marshall County Schools, demographic and geographic challenges faced by individual community schools are clearly evident. Cameron Middle-High School is a rural 7-12 middle and high school inland within the 312 square mile Marshall County School District.

Building on the accomplishments of our school district in regard to sustainability and our state's first Black Bear Award, Hilltop Elementary, an inaugural National Green Ribbon designee two years ago, and the Marshall County School District, one of the first U.S. Department of Education National District Sustainability Award winners, Cameron Middle-High School has been named West Virginia's Black Bear Award winner as the state's most sustainable school this year. In January 2013, Cameron High School won The Building Conference "Placemaker Award for Innovation and Design". For the past five years, the district has been committed to Leadership in Energy and Environmental Design (LEED) building principles in construction of Hilltop and Cameron Middle/High School as well as sustainability curriculum development.

Cameron Middle-High School epitomizes the Green Ribbon School program through its emphasis on all three pillars of the program through:

- Facilities and energy efficiency and commitment to LEED;
- Health, wellness and nutrition of students through the Farms to School programming, breakfast and lunch programs, fitness activities, and outdoor education; and
- Sustainability and environmental literacy and curriculum development.

Under the Science, Technology, Engineering, and Mathematics (STEM) umbrella, CHS has this year started a Project Lead the Way class. Four staff members have been trained for this program. In addition, our art teacher will be working on STEAM extensions with this staff. Project Lead the Way emphasizes awareness of STEM careers for CHS students through integrating these content areas into careers.

In regard to the school's efforts to use sustainability pathways to green technologies and careers, Cameron Middle-High School works with Sustainable Learning™ Systems (SLS) to collaborate with schools within the district and with districts around the nation through "Green Schools for Teachers". Students learn how to infuse STEAM into traditional careers and into ones with a rural focus. For instance, per LEED principles, no plants needing irrigation have been planted. Perennial plants, shrubs, and landscaping have been initiated on the school grounds—students in the Agriculture Education program, Forestry Program, and horticulture classes will manage these plants.

In the final year of the Sustainable Learning™ Systems learning materials grant, kits are designed to implement standards-based instruction based on Green Ribbon School criteria. Each activity poses a PBL module and a real world task based on LEED criteria:

- Sustainable Sites-Our Footprint on Society;
- Water Efficiency-Go Green, Conserve Water, and Keep it Clean;
- Energy and Atmosphere, Energy is Everything;
- Materials and Resources-The Four R's of the 21st Century: Reduce, Reuse, Recycle (Rethink);
- Indoor Environmental Quality-A Healthy Place to Work, Learn, and Play;
- Innovation and Design-Time to Build Design Thinking.

Cameron Middle-High School recycles. The entire school recycles all paper in collaboration with Hilltop Elementary, Marshall County's other LEED school. Other products being recycled or reused include:

- Newspaper and catalogs – art room
- Clothes – Home Economics room
- Planting trays – Agriculture Education room
- Recycle bins in cafeteria
- Each classroom collects paper in individual bins
- Egg cartons recycled
- Community service by students and faculty to recycle and improve school environment

Through this program, Cameron Middle-High School involves itself in service learning projects in the following curricular and co-curricular programming:

- School/community wide recycling and clean up;
- Oglebay Institute's Schrader Environmental Center with science students throughout the county;
- Composting workshop with school staff and students;
- A county-wide Sustainability PLC;
- Continuation of learning kit development with Sustainable Learning Systems;

- FFA and other CTE projects for the community;
- National Honor Society (NHS) paper collaborative recycling project with Hilltop Elementary.
- The FBLA and FCCLA recycle plastic and aluminum;
- The FCCLA Clothes Closet, recycling good quality used clothing to donate to students and community members who need clothing;
- CHS chapter of HSTA adopts highways around Cameron for clean-up;
- HSTA also sponsors and runs an annual Health Fair at the Cameron Elementary School; and
- CHS participates in a \$54,000.00 Sustainable Schools Curriculum Project;
- Students attend Soil Conservation Camp and Forestry Camp each year;
- Agriculture Education teacher wins \$1,800.00 grant for walking trails/identify shrubs;
- \$5,000 grant sponsoring gift cards for student incentives and rewards for student achievement;
- The Challenge Program – a total of \$3,000 in cash prizes designed to improve achievement;
- Business classes participate in “Adopt-a-Business” program; and
- CHS community volunteers for the City of Cameron to restore the old school, which is now city property, and restoring the historical Cameron Pool.

### **Part III. Documentation of State Evaluation of Nominee**

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#### WV Sustainable Schools Advisory Committee Review

Scoring Format: The WV Sustainable Schools Advisory Committee review team is comprised of two professionals per objective (WVSS refers to the pillars as objectives and we have rearranged the order to reflect the state goals). Below this review and school information are highlights of Cameron Middle High School’s application. The actual application is made available online to schools via the WV Department of Education’s website. Cameron Middle High School’s scores are below.

Objective 1. Environmental and sustainability education: 32 out of 40 points

Objective 2. Healthy school environments: 13 out of 25 points

Objective 3. Environmental impact and energy efficiency: 31 out of 35 points

Total Score: 76 out of 100

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#### **Application Highlights**

School Name: Cameron Middle High School

Lead Applicant Name (if different from principal): Linda Shalloway

Lead Applicant Email: lshalawa@access.k12.wv.us

Lead Applicant Phone Number: 304-312-2494

#### **Level**

Elementary (PK - 5 or 6)

K - 8

Middle (6 - 8 or 9)

High (9 or 10 - 12)

Other \_\_\_\_\_

**School Type**

Public

Private/Independent

**Does your school have at least 40 percent of your students receiving free or reduced meals?**

Yes

No

**Total enrollment:** 347

**Graduation rate:** 95.08

**Attendance rate:** 94.12

**Has your school, staff or student body received any awards for environmental or sustainability stewardship/action?**

Yes

No

**Please list the awards you have received and the years you received them.**

The district was named a U.S. Department of Education District Sustainability Award recipient in 2013. Cameron High School is a flagship school within the district, having applied for LEED certification this year. Marshall County Schools was awarded a \$54,000 Sustainable Schools grant in 2010 using Cameron High School and Hilltop Elementary LEED points as key contributors to the entire county-wide sustainability mission and kit development process. Cameron Middle/High School is Marshall County's 2nd LEED school project having opened in January 2013.

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**Objective 1 – Effective sustainability literacy and learning**

**Element 1A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems.**

With our first year in our new LEED building, it is the hope of the school to provide as many environmental education offerings as possible, as well as infuse environmental education throughout the curriculum. Marshall County Schools is encouraging collaboration between schools in this regard, including a kit development projects that is nearing completion. CHS will be a leader in developing LEED principles for other existing buildings in the district, the state, and the nation, including being a strong partner with middle schools and high schools encouraging environmental education integration elsewhere. In regard to the multi-disciplinary approach to environmental and sustainability literacy, through our work with formal and informal education entities, taxpayers, parent groups, local businesses, public-private partnering, and the generous anonymous contributions to these efforts through a \$54,000 kit development grant the district has acquired valuable support in our effort to be a model district for the nation in the area of sustainable schools. Through this work, Cameron High School has been given learning materials tied to both Environmental Science and Sustainability Literacy standards that can be implemented across the curriculum. These curriculum materials are multidisciplinary in nature and address all three pillars of the Green Ribbon Schools Program through Problem-Based Learning challenges. All new learning materials are tied to Common Core and the state's Next Generation standards, emphasizing reading, writing and media literacy connected to sustainability education.

All learning materials will emphasize career development that allow students to do the same work that STEM professionals do, using a LEED Framework tied to state, national, and Common Core standards. Specific extensions to careers in forestry, agriculture and wildlife management are unique programs at our school where these LEED principles can be cutting edge. Working with our energy director, based on a recent study of the Comprehensive Facilities data by Energy Efficient West Virginia, our district is the second most energy efficient school district in West Virginia. Students will be engaged in environmental auditing through countywide programming. The LEED Framework focuses on stimulating STEM and STEAM approaches to using the building as a teaching tool. Cameron High School has recently hired a STEM coordinator to work school wide on STEM and STEAM development.

Sustainable Learning™ Systems (SLS) is partnering with the district to develop unique learning kits and greening districts through teambuilding and curriculum development strategically with all teachers in all disciplines throughout the county. Cameron High School has been involved with this project from its beginning. Alignment activities include performing a complete crosswalk of standards and Common Core alignment. The district is also collaborating with school districts throughout the nation through SLS using a "Connectivist"; Constructivism (Problem-Based Learning) tied to technologies such as Web 2.0 extension, online instruction and systemic sustainability approach to curriculum collaborations. The schools in this network emphasize how high performance buildings can assist in creating high performing schools and encourage STEM and STEAM integration tied to sustainability knowledge, as well as tied to Career and Technical Education, student entrepreneurship, and higher education preparation.

Student rubrics are being developed around implementation of a Green School Unit that focuses on using the building as a learning tool. Since this is the first full year of the new LEED building being occupied, these assessments are being developed presently. Students will be utilizing these activities as well as the Green Ribbon Pillars PBLs this year. So many of these activities/modules are yearlong projects tied to the relevancy of our school in our lives.

Sustainable Learning™ Systems has established with Marshall County Schools what we believe to be the first district wide Sustainability Professional Learning Community™ (SPLC). This group of teachers are assisting each other in the implementation of the three pillars of the Green Ribbon Schools program, as well as using the LEED Curriculum Frameworks developed by SLS in order to make our existing buildings more sustainable. Marshall County participated in at least a dozen district-wide programs on the U.S. Green

Building Council's (USGBC™) Center for Green Schools™ Green Apple Day of Service, county-wide “intentional power outage” events, student driven energy audits, the greening of an 1850s Farmstead, as well as specific programs that are being driven by this team across the district. The SPLC will brainstorm solutions to create what SLS dubs a “healthier schools at lower cost: who can argue with that?” approach to building community sustainability and building capacity for sustainable practices in the school and into the community at-large.

Over the past five years, all the schools in Marshall County have been provided sustainable schools training showcasing many organizations, such as Oglebay Schrader Center. Individual teachers have attended numerous workshops that use environmental education as a focus. Last June, some of our science teachers, for instance, attended a weeklong workshop at Moundsville Junior High that included presentations by:

- Project WET
- Project NEED
- Sustainable Learning™ Systems (at John Marshall High School focused on Kit Learning).

Through Sustainable Learning™ Systems, it is our hope to expand our network to teacher professional organizations and green industry professionals into the future. Marshall County Schools has successfully accessed guest speakers for teachers from:

- Sustainable Learning Systems staff,
- the School Building Authority,
- Schrader Environmental Center,
- Marshall County Schools Energy Manager,
- Marshall County Historical Society's Cockayne Farmstead Project,
- Leadership in Energy and Environmental Design (LEED) Professionals,
- Mark Swiger, USGBC Center for Green Schools Committees National Chair,
- John Henry, USGBC New Jersey Green School Advocate, NJ School Boards Association Sustainable Schools Director,
- any other interested private or non-profit organization with a story to tell or that can share technical assistance with our teachers and students.

**Element 1B: Use of the environment and sustainability to develop Science, Technology, Engineering, Arts, and Math (STEAM) content knowledge and thinking skills to prepare graduates for the 21st century technology-driven economy.**

Cameron High School utilizes sustainability literacy to develop Science, Technology, Engineering, Arts, and Mathematics (STEAM) content knowledge and skills to prepare them to be college and career ready. Marshall County Schools' investment in LEED construction has given students learning laboratories in the form of buildings, like Cameron High School. Students learn about everything from STEM careers to opportunities to infuse learning into traditional careers and ones with a rural focus, like Agriculture Education, Wildlife Management, and Forestry. With the opening of CHS as Marshall County's second LEED Project students at our school and the community at-large will benefit from LEED learning kits that emphasize STEM education, green collar careers, the arts, and civic engagement.

Sustainability PLC teachers represent all areas of the curriculum and all levels. Art students, broadcasting students, Agricultural Education students, and other career based students are contributing time and effort into showcasing how a small rural school can emphasize sustainable practices focused on STEAM content. Many of our students blend AP classes with Career and Technical programs.

Under the STEM umbrella, CHS has this year started a Project Lead the Way class. Four staff members

have been trained for this program. In addition, our art teacher will be working on STEAM extensions with this staff. Project Lead the Way emphasizes awareness of STEM to CHS students through integrating Science, Technology, Engineering, and Mathematics content areas to careers. CHS is excited about Project Lead the Way, and will be utilizing all aforementioned curriculum, both county and school based, to enhance this new program.

In regard to the school's efforts to use sustainability contexts for pathways to green technologies and career pathways, much is going on in the district. In the final year of the learning materials grant, kits developed in partnership with SLS will be awarded to each school in the district so that they may implement standards-based LEED and STEAM principles based on the three pillars of the Green Ribbon Schools program and 10 additional career pathway activities that use the building as a learning tool.

Each activity poses a PBL module and a full array of real world tasks based on the following criteria:

- Sustainable Sites-Our Footprint on Society;
- Water Efficiency-Go Green, Conserve Water, and Keep it Clean;
- Energy and Atmosphere, Energy is Everything;
- Materials and Resources-The Four Rs of the 21st Century: Reduce, Reuse, Recycle (Rethink);
- Indoor Environmental Quality-A Healthy Place to Work, Learn, and Play;
- Innovation and Design-Time to Build Design Thinking.

The Marshall County Schools' Sustainability PLC teachers are assisting each other in the implementation of the kit curriculum and a soon to be released PK-12 sustainability curriculum focused on college and career readiness, including CTE extensions. These principles are embedded into this countywide curriculum designed with Sustainable Learning™ Systems. The effects of sustainability pathways thinking has already resulted in nationally recognized student developed business plans in sustainability and social entrepreneurship, for example.

Cameron High School Career and Technical Education programs are innovative and provide obvious pathways to careers. With our new LEED building and Project Lead the Way added this year, the faculty and staff believes that these pathways will create new green collar opportunities tied to the new economy.

**Element 1C: Development of civic engagement knowledge and skills, and students' application of these to address sustainability and environmental issues in their community.**

In an effort to increase students' civic engagement in the community, in partnership with Oglebay Institute, Marshall County Schools has acquired the outdoor education REACH program for all middle school science students and composting across the curriculum opportunities for the district's teachers as part of our professional development for teachers.

Cameron High School is a community-based school that has a major focus on extending learning into the community and to serve as the center for the community in many areas. The student agriculture program processes meat for the community, provides ham, bacon, and egg sales and competitions, as well as providing leadership in many community projects.

Here, students become problem-solvers and new economy ambassadors focused on environmental, educational, and financial sustainability. Students are equal team members and are modeling sustainable practices for those not knowledgeable in the process of greening communities. In a shrinking community, students are creating reasons to stay and

work in Marshall County and in the Cameron community.

Further, our outdoor “classroom” environment allows for all kinds of curricular experiences that tie directly to community projects. For instance, beautification of community landscapes as described earlier is important to the community.

Our English and social studies classes, under the umbrella of the Core Curriculum, read a wide variety of “green” articles, and articles about environmental science/current events and apply them to community projects.

Organizations like the US Green Building Council (USGBC-WV Chapter), the Northeast Corridor Regional Council of the USGBC, Create West Virginia, a grassroots economic development group, the Council for Educational Facilities Planners International (CEFPI), the West Virginia Department of Education, Oglebay Institute, the West Virginia Science Teachers Association (WVSTA), and the West Virginia Environmental Educators (WVEEA) network have all been instrumental in allowing the Marshall County Sustainability story to be told at their conferences. Cameron High School specific projects and partnerships include:

- CHS participates in a \$54,000.00 Sustainable Schools Curriculum grant through an anonymous family trust in partnership with Marshall County Schools and Sustainable Learning™ Systems.
- WV garden clubs and soil conservation service send 17-20 CHS students every year to Soil Conservation Camp and 10 students to Forestry Camp.
- Science teacher Roger Cain is teaching a Chevron-sponsored Project Lead the Way STEM class (a four-year class, grades 9-12).
- Roger Cain also secured a grant from Noble Energy for science instruction.
- Agriculture Education teacher Hattie DeBolt earned an \$1,800.00 grant from Noble Energy to put in walking trails and identify shrubs on acreage surrounding the school.
- Blue Cross/Blue Shield provides turkeys for holiday food baskets for needy students and gift cards to various local businesses that serve as rewards and incentives for student accomplishments.
- Trans Energy sponsors \$5,000 worth of gift cards for student incentives and rewards for student achievement and attendance.
- Chevron is sponsoring a Science Fair.
- WVDE is sponsoring a Social Studies Fair.
- Consolidated Coal sponsors our Challenge Program – a total of \$3,000 in cash prizes designed to improve attendance and academic performance.
- CHS has a close relationship with Cameron Nursing and Rehabilitation Center. Students from the NHS, FCCLA, FBLA, Chorus, and Band regularly perform for the residents, prepare cards and treats, and visit and talk and interact. Residents share their stories and knowledge with the students.
- Business classes give back to local businesses through “Adopt-a-Business” program. They create business letterheads, pamphlets, etc.
- An anonymous local business donates school supplies every year.
- Many CHS students and faculty members spend many volunteer hours helping the City of Cameron clean up the old high school (which it now owns) and restore the historical Cameron Pool.
- Greg’s Super Market of Cameron does a lot of business with Cameron clubs and organizations. For example, the student council buys fruits and other nutritious snacks at Greg’s for the send-off bags it gives to CHS athletes competing at the state

level.

Through these public/private partnerships, Cameron High School is building capacity for student involvement in the new economy and service learning/volunteer opportunities for years to come.

In the 21st Century context, our modules, manuals, and kit plans utilize a constructivist approach that has evolved into connectivist practice. As constructivism has evolved into “connectivism”; these same strategies that utilize interactive, Web 2.0 technologies such as wikis, weblogs (blogs), online courses, etc. Connectivism and its outwardly spiraling impact can make LEED certified schools global laboratories for learning sustainability. This is truly a mission for Marshall County's sustainable schools program and is being channeling successfully through our LEED schools, like Cameron High Schools, and model existing buildings that are becoming greener as a result of schools like CHS.

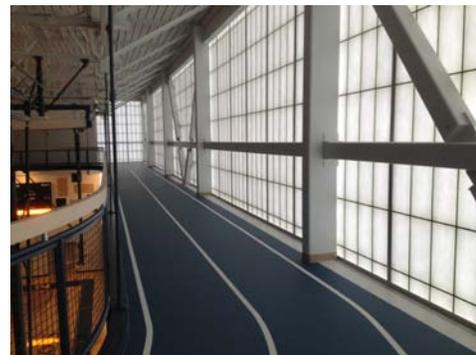
Cameron High School wants to be a national leader in the green schools movement. At the core of constructivist teaching and learning is inquiry, the curiosity component of engagement that can be developed through strong instructional design strategies that are vertically articulated, such as Inquiry Based Learning for early grades, Project Based Learning in the middle grades, and Problem Based Learning and Experiential Connections in the upper grades into adulthood.

In Marshall County's Schools, sustainability education, using the building as a learning tool, and process learning are not anomalies. Cameron is one of our flagship schools. Using green themes within a Green School is imperative; becoming green is easier through our thematic approach. By utilizing this process, students retain knowledge by solving real problems and can make places that weren't green, greener and ensure that most students will create for themselves and their families a more sustainable lifestyle. Seven CHS staff members piloted a new West Liberty University entrepreneurship certification program of study. The net result was the instilling of the entrepreneurial spirit in our school, teachers focusing on creating saleable products with recycled items that enhanced student creativity, innovation and sustainability. The intent was to have these trained teachers model for students how this can be accomplished in their own lives.

Some examples of how entrepreneurship is being utilized at CHS include:

- Classes have designed fashion items from recycled goods/materials.
- Future Farmers of America (FFA) student entrepreneurs produce eggs, produce, and other agricultural products to sell to faculty, students, and community.
- Agriculture Education students have a meat processing plant within the school building, a greenhouse for growing seasonal produce for sale, and have an open invitation to the community to show how these processes can be replicated on farms.
- FFA students sell their hams, bacons, and eggs to feed the faculty at an annual breakfast.

Cameron High School is a Green School, focused on sustainability, education, and entrepreneurship in the new economy.



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**Objective 2: Improve the health and wellness of students and staff**

**Element 2A. An integrated school environmental health program based on an operations and facility-wide environmental management system that considers student, visitor, and staff health and safety in all practices related to design, construction, renovation, operations, and maintenance of schools and grounds.**

Marshall County Schools uses state guidelines for pesticide usage when needed. We use virtually no pesticides, except when a need is reported. When used, students and staff are not present and are given 48 hour notice where and when pesticides are used. Again, virtually no pesticides are used at all in an effort to keep these materials use to a minimum. At Cameron High School, because of its LEED construction and operation and maintenance principles, only certified products that are safe for the environment may be used and the general policy is to not use pesticides at all.

Cameron High School has not used pesticides at all in the 2013-14 school year.

In regard to chemicals used in schools and in cleaning chemicals used by staff, Generally speaking, chemicals in schools are housed in chemistry classrooms. Chemistry teachers and students have a process (by chemical) for minimizing negative events in the classroom. Staff follows stringent OSHA standards and store chemicals in proper locations. Evacuation and first aid procedures are made clear to students in science classes.

CHS does not generate hazardous waste in its classes. When moving to the new school, proper removal of all highly toxic chemicals and all mercury containing chemicals were purged from our supplies.

In our use of chemicals, our staff has been trained and certified in the GHS protocols.

In the use of chemicals, we:

- Use microscale experiments to use less chemicals and lower any possible exposure to harmful, toxic chemicals.
- We follow all SDS procedures to properly dispose of chemicals to neutralize and dilute to safe levels as per protocol.
- We have designated storage areas that have the proper OSHA standard of care for chemical storage.
- We choose to use only those experiments that both functional and are the safest means for instruction for each science course.

In apply cleaning chemicals, staff has met with the national green cleaning programs on this topic and has followed up with our maintenance director, buildings director, energy manager and superintendents and they are committed as well to apply the idea of using only green cleaning chemicals in our schools. Elsewhere in this document our maintenance director listed that we're purchase 100% green certified products including post consumer paper towels and other paper products (chemical free) for Cameron High School. The district never uses acidic materials for cleaning and if chemicals are used in our schools for pesticides, or other reasons, all parents and students are notified that these materials have been used and are given a 48 hour notice of such action. The district is moving towards integrating a complete green

cleaning /chemical program that will ensure healthier schools and better indoor environmental quality. All of our LEED projects and renovation are commissioned to use green cleaning products as a mandatory requirement.

Marshall County Schools' investment in LEED certified schools also limits airborne contaminants through commissioning indoor environmental quality (IEQ) criteria to prevent asthma as well. As new construction of LEED certified facilities like Cameron High, the district is making every effort to utilize principles outlined in LEED Materials and Resource standards when possible. Indoor environmental quality includes ventilation, day lighting, non off-gassing materials, and acoustics and has an impact on the health, well-being and learning of our students. It is important to the district and research supports IEQ and non-toxic materials tied to proper levels of CO2 regulated with proper ventilation affects student achievement, limits absenteeism, and raises morale. At Cameron High School low emitting materials are utilized, mold-resistant materials are standard and allergens kept to a minimum in all buildings. Operations and maintenance challenges are addressed thoroughly as the challenges present themselves.

CHS utilizes "wet-dusting" procedures when cleaning our school to limit airborne dust. They also use special filtration vacuum bags that have "99% microfiltration." And finally, they use no toxic chemicals anywhere in the building.

Marshall County Schools' investment in LEED certified schools also limits airborne contaminants through commissioning indoor environmental quality (IEQ) criteria to prevent asthma as well. As new construction of LEED certified facilities like Cameron High, the district is making every effort to utilize principles outlined in LEED Materials and Resource standards when possible. Indoor environmental quality includes ventilation, day lighting, non off-gassing materials, and acoustics and has an impact on the health, well-being and learning of our students. It is important to the district and research supports IEQ and non-toxic materials tied to proper levels of CO2 regulated with proper ventilation affects student achievement, limits absenteeism, and raises morale. At Cameron High School low emitting materials are utilized, mold-resistant materials are standard and allergens kept to a minimum in all buildings. Operations and maintenance challenges are addressed thoroughly as the challenges present themselves.

CHS utilizes "wet-dusting" procedures when cleaning our school to limit airborne dust. They also use special filtration vacuum bags that have "99% microfiltration." And finally, they use no toxic chemicals anywhere in the building.

Cameron High School by LEED design has humidity and indoor environmental quality controls, including CO2 monitoring. As part of the energy program, our energy manager and maintenance directors monitor humidity in the schools are repair immediately with outside contractors and county staff any and all humidity, water leakage and mold creating events before the results of high humidity can form. During construction completed in January of 2013, LEED principles were utilized in reference to Indoor Environmental Quality (IEQ) and Materials and Resource provisions. In an effort to be consistent throughout the district, all of our schools have humidity monitoring equipment that assures appropriate IEQ and that mold causing condensation is eliminated before problems arise. Again, staff is always responsive to humidity levels that need to be addressed. Newer technologies, like Chill Beam technologies has been integrated into our CHS' building system, which requires constant monitoring of humidity at CHS.

Our energy and water efficiency staff monitors issues such as these not only for cost effective practice, but also to monitor water loss and leaks. When we have leaks, private contractors with expertise in water removal are contracted to eliminate the chances of mold and other water related conditions from occurring by working with county staff. As mentioned above, CHS utilizes “wet-dusting” procedures when cleaning our school to limit airborne dust. They also use special filtration vacuum bags that have “99% microfiltration.” And finally, they use no toxic chemicals anywhere in the building.

In addition to humidity controls for IEQ, the district has secured contracts with local HVAC experts to inspect and be available for maintaining our ventilation systems in all our schools. HVAC contractors are trained in new systems / efficiency and healthy practice in ventilation, including the importance of removing indoor contaminants through monitoring of HVAC equipment.

Under contract, our HVAC experts constantly screen the effectiveness and the need for cleaning of the systems in all of our buildings. Because Cameron High School is a LEED building, commissioning of indoor environmental quality principles reinforce that construction making it a well integrated high performance building, as well as operation and maintenance of HVAC equipment meets the highest of LEED standards.

To assure adherence to ASHRAE 62.2 standards and verification, the district schools are inspected each year, including a sampling by the School Building Authority in order to meet national ventilation standards. Cameron, as our newest LEED project, ventilation is an advantage for learning as well as health. CO2 levels are monitored and fresh air pumped in based on critical mass of CO2 in relationship to air quality. The same HVAC contractors for our other buildings do their best to implement as close to these higher standards as they can. Cameron is setting the standard for others.

Not only does Cameron High School, as our newest LEED certified building, utilize IAQ standards for LEED that run somewhat parallel to the EPA Green Schools program, our existing buildings have EPA IAQ tools available for teachers and students in our Green Schools Learning Kits in order for them to be involved in learning about these same issues. When issues are brought to the district’s attention, they are quickly addressed both through inspection and then appropriately dealt with in a timely fashion by county maintenance personnel and outside expert contractors who deal with specific issues.

Cameron, as a new LEED project in the district, the district is learning from LEED Accredited Professionals and others about the standards with which these issues should be dealt. Our energy and water-monitoring official inspects buildings when they're not in use. Green cleaning products make up between 80-90% of our custodial products, consisting of low-emitting chemical output as well as low VOC materials in new schools and renovation projects. Further, all recent building materials utilized district-wide implement LEED principles for indoor environmental quality.

The district has invited EPA officials to come tour our facilities, including Cameron High School and wishes to partner in IEQ and Materials and Resources analysis tied to instruction. That visit will occur sometime in early 2014.

**Element 2B. High standards of nutrition, fitness, and quantity of quality outdoor time for both students and staff.**

In an effort to address overall school health, our district employs the following criteria for our students:

- Our schools participate in a Farm to School program to use local, fresh food.
- Our school has on-site food garden.
- Our school's garden supplies SOME food for our cafeteria (see below).
- Our students spent at least 120 minutes per week over the past year in school supervised physical education.
- At least 50% of our students' annual physical education takes place outside
- Health measures are integrated into assessments i.e. FITNESSGRAM, HEAP.

Presently, CHS as well as the rest of the district's sustainability team is working with the Marshall County Historical Society and the Cockayne Farmstead Committee to utilize a 1850s farmstead to study sustainability. Our students serve various roles in this project. The CHS broadcasting students are recording the story of the house as well as its sustainability upgrades. We've helped document the installation of a geo-thermal climate control systems that provides humidity controls for historic preservation principles and also provides a sustainable solution for the museum. This project will take years to complete, but CHS students will be deeply involved in both the discussions and the implementation sustainable practices during the renovation.

Cameron High School art students take their learning outside often painting landscapes that tie to sustainable site concepts. Our digital imaging classes perform an outdoor scavenger hunt each year. Our theater students perform outdoor productions and practice outdoors on a regular basis. Curricular alignment to outdoor opportunities for learning is evident to our middle and high school science classes regularly, particularly where earth science students and physical biology students utilize Cameron High Schools sustainable site principles such as storm water run off, investigating the geology of the site, and study watersheds. As a rural school, there is little risk in taking learning outside, but the rewards are limitless. Ninth grade honors science students at Cameron High School take an extended field trip around the entire state to learn about environmental issues and natural history topics. CHS' physical education classes routinely use the outdoors as a setting for their exercise and recreation activities. Students are encouraged to do as much as possible after school through this programming.

Our greenhouse and horticulture classes utilize outdoor space at the school and the football stadium to practice hands-on skill development such as proper pruning techniques of perennial shrubs and proper weed removal from the site. Students also make wreaths and other decorations from these pruned materials, recycling them into useful products. Our Agriculture Education instructor received a \$1,800.00 grant from an energy company to develop trails and identify native and invasive shrubs on the school grounds.

Further, forestry students used the wooded areas for leaf and tree identification, as well as studying conservation methods in the forestry field. Wildlife management classes utilize our vast wooded sites to observe wildlife and their natural habitat as well as to study migration routes and trails for animals. CHS provides innovative classes that integrate environmental science, physical activity, and career and technical courses that assist students being college and career ready through studying in a place-based manner all that is in and around CHS.

All of the school's team sports such as football, baseball, soccer, kickball, track and

gymnastics utilize outdoor facilities/multiuse facilities during their seasons. Some of these team sports are PE or Intramural sports.

Recreational sports such as corn hole, badminton, kite flying, Frisbee, among many others utilize outdoor multiuse facilities.

In regard to innovative approaches to healthy schools, all of our schools are using Farms to Schools program and participate in the breakfast program for all students. Agriculture Education students at Cameron High School have outdoor gardens and greenhouses that produce food for the Prostart food preparation programs in our schools as well as some food for the school food program. Marshall County Schools and Cameron High School staffs understand the relationship between nutrition and human movement/exercise and quality of life in our communities and in our students' lives. Our schools have been involved in many programs, such as Let's Move, Farms to School, and FITNESSGRAM. Health measures are integrated into assessments as well, providing benchmarks for staff to help students set personal and community goals for healthy students, families, and communities. Further, Marshall County Schools and Cameron High School promote safety of students through programming and provide physical and emotional health programs that encourage the growth of complete people. Marshall County sees itself as an agent for community health and sustainability and Cameron High School epitomizes how schools should model for communities what is best for its citizens.

Cameron specific programming that models strong healthy and wellness principles for students includes:

- CHS partners with the "New You Wellness Committee" advocating for nutrition through the use of the "My Plate" Program.
- Promotion of fitness through the use of "Exergaming".
- A ballet bar has been purchased in conjunction with flexbands for gymnastics and dance.
- The Exergaming room also serves as a center or every fitness class with a certified instructor for both students, staff, and the community.
- Nautilus equipment is also being added to serve students, athletic teams, staff, and the community, providing a safe alternative to free weights.
- A new indoor elevated track facility was built into the gymnasium as multiuse principles as outlined with LEED principles. The track will provide walking/jogging opportunities for students, athletic teams, staff, and community.

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### **Objective 3: Reduced Environmental Impact and Costs**

#### **Element 3A. Reduced greenhouse gas emissions, using an energy audit or emissions inventory and reduction plan, cost-effective energy efficiency improvements and on-site renewable energy and/or purchase of green power.**

Because Cameron High School does not have a full year in the newly constructed school, a baseline for energy and water efficiency is not calculated. One should be reminded that a newly constructed LEED project ranks in the top 90% in energy efficiency; the purpose for building a clean, healthy school. Baseline efficiency numbers will be available in February. It should be noted that Marshall County Schools has focused on energy and water efficiency and has achieved over 30% efficiency over previous baseline calculations. Cameron High School, as the district's 2<sup>nd</sup> LEED project, should advance the energy efficiency program being instituted in the district. The district has saved nearly 6 million dollars in energy and water

alone in the last decade. Cameron stands to create more savings, including greenhouse gas reductions that are exemplary for West Virginia and the nation.

As a district, during the data collection period from December 1999 to September 2011 the entire district calculated a total of 30.4% greenhouse gas reductions. Because of fluctuation in student and staff population, per person calculations were not performed. Using E-Cap calculations, from the benchmark date to the final date, total energy and water efficiency savings equaled more than \$5,100,000. In a recent study of West Virginia's k-12 districts using the Comprehensive Education Facility Plans (CEFPs), Energy Efficient West Virginia lists Marshall County Schools as the second most energy efficient school district in the state, even before the recent opening of the districts 2<sup>nd</sup> LEED Project.

It is being planned by district leaders to convert E-Cap data into Energy Star Portfolio Manager and to move towards more automated systems for even more savings. The total reduction of carbon emissions equals 111,433 MT of carbon from earlier emission totals. It is our estimation that Energy Star certification will be realized by some of our schools, while providing new benchmarks will give the district an opportunity to set goals to certify all of our buildings. Based on calculations from E-Cap and our energy manager, our carbon reduction is equal to removing 7,733 automobiles and saved 1,101,966 trees over a ten year span.

When final baselines are calculated in January of 2014, Marshall County Schools will immediately apply for Energy Star Certification.

A small fraction of the energy used at our school is generated from a solar array used to operate the greenhouse in the agriculture education program.

The school has been built to LEED standards and has applied for LEED certification and that is pending. It opened in January of 2013. The entire facility (100%) of the construction is based on LEED certification.

**Element 3B. Improved water quality, efficiency, and conservation.**

Per LEED principles, no plants needing irrigation have been planted, utilizing the Sustainable Sites principles of LEED. Perennial plants, shrubs, and landscaping have been initiated on the school grounds—students in the Agriculture Education program, Forestry Program, and horticulture classes will manage these plants.

None of the school grounds are in need of irrigation. Perennial plants that grown naturally in these latitudes and zones are utilized for gather rain/storm water without the need for irrigation. An adjacent football field is watered by the district, but there has been some discussion concerning converting that to graywater irrigation. In fact, teachers have talked about making that concept a student project.

All water for Cameron High School comes from municipal sources where testing for impurities, lead, mercury and other contaminants is done all the time. All water is testing per state regulations and all LEED construction installs lead free plumbing. Our buildings are tested periodically for multiple contaminants, including lead. Throughout the district, all LEED certified schools and at schools as they're renovated, ecological principles are utilized through commissioning of new construction and in projects where renovation takes place.

**Element 3C. Reduced solid waste production through increased recycling, reduced consumption, and improved management, reduction, or elimination of hazardous waste stream.**

Although Marshall County Schools does not measure in calculations the amounts of recycling waste, most

schools utilize either PTO organizations or student clubs, entrepreneurship programs, and construction using “cradle-to-cradle” principles in addressing materials and resource utilization across the district. Hilltop Elementary, for instance, earned over \$1000 in funds from recycling paper alone and Cameron High School is partnering with them in this project. They are also a national leader in a plastics recycling program. Scraps from cafeterias are collected by local chicken and pig farmers as food for their livestock. This issue will be addressed through the Sustainability Professional Learning Community.

The entire school recycles all paper in collaboration with Hilltop Elementary, Marshall County’s other LEED school. Other products being recycled or reused include:

- Newspaper and catalogs – art room
- Clothes – Home Economics room
- Planting trays – Agriculture Education room
- Recycle bins in cafeteria
- Each classroom collects paper in individual bins
- Egg cartons recycled
- Community service by students and faculty to recycle and improve school environment

100% of all paper products/office supplies are from post-consumer sources and are green certified and with implementation of a more focused recycling program in the future, the goal for the district and our young entrepreneurs to close the loop in regard to resources to reduce, reuse, and recycle (as well as rethink) the process of resource utilization.

100% of our cleaning supplies are Green Seal Certification.

**Element 3D. Expanded use of alternative transportation to, during and from school, through active promotion of locally-available options and implementation of enabling projects and policies.**

Cameron High school promotes alternative transportation as categories in LEED design. Cameron High school promotes alternative transportation as categories in LEED design. Calculations through parking permit sales, documentation on bus travel, and surveys have been taken to arrive at approximately 80% of all students who attend Marshall County Schools either walk, bike, bus or carpool to our schools. Cameron High School, because of its location, 100% of students either ride the bus, carpool, or take private transportation to school daily.

The entire bus fleet of the district utilizes bio fuel technologies in the buses. Cameron High School is require educational programming on transportation (walk, bikes, carpool, energy efficient vehicles.) These buildings give preferential parking to alternative energy vehicles and energy efficient vehicles. These same principles are being mirrored at existing buildings as well as our LEED schools district wide.

**Other efforts toward reducing environmental impact, focusing on innovative or unique practices and partnerships.**

Our district wide curriculum is tied to all pillars of the Green Ribbon program and emphasizes sustainability literacy components in new and existing buildings. Relevant contexts in sustainability where buildings are learning laboratories for sustainability are a part of all partnerships with outside groups. As part of a three-year grant acquired from a local family’s charitable trust for over \$50,000, Marshall County Schools has leveraged community involvement with learning through developing learning kits and school manuals where students become engaged in healthy, clean, and efficient schools. In the third year of the grant, all of the schools in the district have been able to send teachers to professional development sessions where project-based learning, sustainability, iPad training, and creating healthy communities have been the focus. Students will be able to use architecture, engineering, design thinking, and career development at k-12 levels for students in all subject areas.

Fortunately, the investment in LEED construction at schools like Cameron High School and Hilltop Elementary and renovation at existing buildings have given students learning laboratories in the form of school buildings to learn about everything from Science, Technology, Engineering, Art and Math (STEAM) careers to opportunities to infuse learning into traditional careers. With the second LEED Project at Cameron now completed, Marshall County students and the community at-large will benefit from more savings and healthier schools. Cameron High School sets a standard for rural green schools that we hope is a model for the country.

On September 29, over a dozen projects in our district were showcased during the US Green Building Council's (USGBC) Center for Green Schools Green Apple Day of Service, an international observance that ties conservation and environmental stewardship to community service. Cameron was prominent in those service projects. The district's involvement is unprecedented for a district. Some projects included:

- School and community wide recycling and clean up programs at numerous schools in the county;
- Partnerships with Oglebay Institute's Schrader Environmental Center with all 5<sup>th</sup> grade science students in the county;
- Composting workshop with Hilltop Elementary staff and students;
- Announcing of a \$14,000 partnership grant between the Marshall County Historical Society and John Marshall High School Career and Technical teachers to design and observe outdoor shed development at the Cockayne Farmstead;
- A county-wide Sustainability Professional Learning Community being offered to all district schools through Sustainable Learning™ Systems;
- A county-wide "Energy-Off" weekend to audit and measure energy savings for the entire district;
- Water efficiency audit by Career and Technical students at John Marshall High School;
- Announcement of a collaborative curriculum development project at the Preservation Alliance of West Virginia conference with John Marshall High School, the Marshall County Historical Society, the Cockayne Farmstead Committee and Sustainable Learning™ Systems focused on sustainability education tied to preservation science, historical analysis, and design thinking;
- Continuation of learning kit development with the Sustainable Professional Learning Community™ involvement and with Sustainable Learning™ Systems and a local charitable trust; and
- Numerous other activities that encourage schools to be the epicenter for sustainable lifestyles in their communities.