



School Nominee Presentation Form

ELIGIBILITY CERTIFICATIONS

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 grades early learning to 12.
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. The Department of Defense Education Activity (DoDEA) is not subject to the jurisdiction of OCR. The nominated DoDEA schools, however, are subject to and in compliance with statutory and regulatory requirements to comply with Federal civil rights laws.
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

X Public Charter Title I Magnet Private Independent X Rural

Name of Principal: Dr. John Crabtree

Official School Name: Herculaneum High School

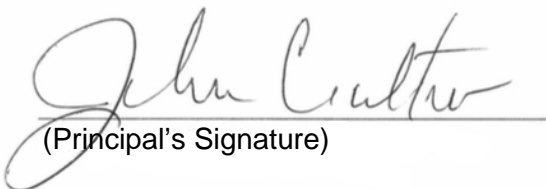
Official School Name Mailing Address: #1 Blackcat Drive, Herculaneum, MO 63048

County: Jefferson State School Code Number: 1050 (district code 50005)

Telephone: 636-479-5200 Fax: 636-479-2050

Web site/URL: <https://www.dunklin.k12.mo.us/Domain/144> E-mail: jcrabtree@dunklin.k12.mo.us

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



(Principal's Signature)

Date: January 4th 2019

Name of Superintendent: Mr. Stan Stratton

District Name: Dunklin R-5 School District

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



(Superintendent's Signature)

Date: January 4th 2019

Nominating Authority's Certifications

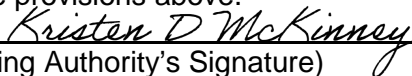
The signature by the Nominating Authority on this page certifies that each of the statements below concerning the school's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The school has some configuration that includes grades Pre-K-12.
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: Department of Elementary and Secondary Education

Name of Nominating Authority: Mrs. Kristen McKinney
(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.



(Nominating Authority's Signature)

Date: February 13, 2019

SUBMISSION

The nomination package, including the signed certifications, narrative summary, documentation of evaluation in the three Pillars, and photos should be submitted online according to the instructions in the Nominee Submission Procedure.

OMB Control Number: 1860-0509
Expiration Date: March 31, 2021

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 and reference the OMB Control Number 1860-0509. Note: Please do not return the completed ED-Green Ribbon Schools application to this address.

Herculaneum High School – Herculaneum, Missouri



Missouri Green Ribbon Schools Nomination Form

School Contact Information

School Name: Herculaneum High School	Street Address: #1 Blackcat Drive	
City: Herculaneum	State: Missouri	Zip: 63048
Website: https://www.dunklin.k12.mo.us/	Facebook: https://www.facebook.com/DunklinR5/	
Principal: Dr. John Crabtree	District: Dunklin R5	
Principal Email: jcrabtree@dunklin.k12.mo.us	Principal Phone: 636-479-5200	
Lead Applicant and Position (if different): Erin Graves		
Lead Applicant Email: egraves@dunklin.k12.mo.us	Lead Applicant Phone: 636-479-4108	

School Characteristics

Level <input type="checkbox"/> Early Learning Center <input type="checkbox"/> Elementary (PK - 5 or 6) <input type="checkbox"/> K - 8 <input type="checkbox"/> Middle (6 - 8 or 9) <input checked="" type="checkbox"/> High (9 or 10 - 12)	School Type <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private/Independent <input type="checkbox"/> Charter <input type="checkbox"/> Magnet	Geographic Area <input type="checkbox"/> Urban <input type="checkbox"/> Suburban <input checked="" type="checkbox"/> Rural	Total Enrolled: 420 Graduation rate: 87% Attendance rate: 85.2%
Does your school serve 40% or more students from disadvantaged households? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
% receiving FRPL: 45.6%	% limited English proficient: 4.57%	% total disadvantaged students*: 47.2%	

* **Without double counting**, provide the total percentage of students that are receiving FRPL and/or have limited English proficiency, and/or have learning disabilities

Summary Statement

At Herculaneum High School, we believe that all students deserve the opportunity to be educated in healthy environments that are conducive to learning, and that support their dreams for a brighter future. That's why we are initiating a movement to improve the health, safety and efficiency of our schools. Our school is seeking to demonstrate progress toward three goals: a reduced environmental footprint (including energy, water, waste and carbon), a positive impact on occupant health and performance, and 100% of graduates demonstrating environmental literacy. It is our goal to make sure all of our students experience a school that is healthy and safe, green, and that inspires deep learning about sustainability.

In 2016 we began a journey towards whole school sustainability informed by the three pillars of the USED Green Ribbon Schools Program. We expected it to be a challenging process, but we discovered pockets of achievement in our school that have become a catalyst for even greater progress.

To meet the criteria for Pillar I, the school has taken steps in several areas. To reduce energy use and green house gas emissions, we installed solar panels that reduce emissions by a total of 1700 to 2000 lbs. of CO₂ each month. A new high efficiency HVAC unit was installed in the gym. Instead of running constantly, it only turns on when certain conditions are met. To conserve water, the school now has low-flow, auto flush toilets. The Ecology Club wrote a grant to fund the creation of a 325 sq. ft. space to plant wildflowers and plants attractive to butterflies. The club has also worked with community volunteers to restore a trail originally established in the 1970s and to remove invasive plants on school grounds. To conserve material resources the school installed a water bottle fountain filler and provides an option for students to purchase refillable bottles at school. To reduce paper use, all students have a computer so students can complete and turn in assignments online.

To meet the criteria for Pillar II the school took aims to reach the entire community. Herculaneum has a high poverty rate and many kids and their families often go to the local gas station or fast food restaurants for their daily food. In Grades 9-12 Home Economics, the teacher designs lessons to teach students how to purchase healthy foods on a minimal budget and create healthy weekly menus and how to reuse leftovers. She also teaches the students how to cook these foods. For example this fall they made healthy soups and casseroles. The school recently received a grant to have a dentist and psychologist in our district that students and their families can go to anytime during school hours. Families are encouraged to both donate and take any clothing items from our school's Blackcat closet. Our school has a Bright Futures program that families are encouraged to volunteer at or use to get things they need, for example, an oven, a washing machine, a prom dress, shoes for sports, or food.

Finally, examples of how our school is striving to work toward Pillar III include a new research based course, an outdoor learning space, and a community fair. The research course includes and expands upon the protocols from MODirt – **M**issourians **D**oing **I**mpact **R**esearch **T**ogether, a statewide curriculum on soil health. The Ecology Department has created and maintains a butterfly garden to educate about nature and to provide a peaceful study area. In March, several departments will come together along with members of the community and organizations to hold the second annual Green Fair at the school. Over 50% of the students at the school will be involved in composting efforts, recycling, repurposing projects, a recycled art fair, grant writing for green projects, environmental poetry writing, environmental statistics presentations about our school, and environmental student videos. The fair is open to the community and will focus on sustainability practices and environmental education.

Engagement, Benchmarking, Recognition and Goals

List the members of the team that helped prepare documentation and their role in the school

- Erin Graves (teacher)
- John Purvis (teacher)
- Russell Waugh (Maint/Custodian Manager)
- Katie Thone / Nancy Evans (Financial/Admin)
- Danette Dwyer (Kitchen)
- Joyce Gonzalez-Meyer (Social Svc)
- Joyce Pyle/Kim Black (Admin/Counselor's office)

List any programs you are currently using to benchmark your progress in sustainability

- Enphase (Enlighten) Energy (solar energy usage)
- Copy machine / paper usage program

List any recognition, awards or grants you have received in the last five years related to your efforts in any of the pillars

- \$500,000 in 2013 from Doe Run to add solar panels, install batteries for storing power, and to replace the HVAC systems with more energy efficient models
- A \$250 grant from the Wild Ones St. Louis to install a wildflower-butterfly garden

Future Goals

- Reducing storm water run off is an emerging project for the 2019-2020 school year
- An Anti Idling Policy for cars and buses has been recommended to the administration

The Pillars

Pillar I: Sustainability - Reduced Environmental Impact and Costs

Energy and Greenhouse Gases

In 2013 Herculaneum received a grant from Doe Run to install a 75 kW solar array from Microgrid Solar. The grant also included remodeling the gym by installing a high efficiency HVAC system. Cost savings are over \$40,000 per year and these changes are expected to reduce CO2 emissions by 4 million pounds over their lifetime

- All the restrooms have motion sensor lights
- All T12 fluorescent lamps were replaced with new, energy-efficient T8 lamps, including new fixtures where feasible, and incandescent exit signs were replaced with LED fixtures
- Teachers are encouraged to keep classroom temperatures at 67°F during the winter and 76°F in the warmer months, and to turn off lights when not in the room.

Water and Grounds

To conserve water in the building, low flow auto flush toilets were installed. On the grounds, a 325 sq. foot impervious surface was converted to a Missouri wildflower – butterfly garden thanks to a grant written by the Ecology Club. Native trees have been planted to provide shade and to reduce runoff. The ecology club also does invasive honeysuckle removal from the wooded area on the back side of the football field. The Special Education students maintain a worm farm and raise worms to help improve the soil on school grounds.

Solid Waste

The school works with Jefferson County Recycling to recycle cardboard, paper, plastic-ware, plastic bottles and plastic bags. In November 2018, school began composting food waste from the lunchroom. Also this fall, the Ecology Club performed a trash audit and shared the information with the match club, who will perform a statistical analysis and present the information at the second annual Green Fair in March.

- The use of Styrofoam for the student breakfast program and in the teacher's lounge has been reduced.
- A water bottle filling station has reduced the number of plastic water bottles in the waste stream by 37%.
- A one to one computer to student ratio has reduced the use of paper for assignments. Art classes and woodshop both reuse scrap materials in their projects and woodshop mulches any remaining scraps for use on the school grounds.

Electronic Waste

Twice each year, the high school ecology club works with Jefferson County Recycling to host recycling events for the community where we collect and properly recycle of all kinds of waste including electronic waste

Transportation

One bike rack is available for students who bike to school

Sourcing

The Special Education students have a hydroponic garden where they grow herbs for the Home Economics classes to use for cooking lessons. They also grow various types of lettuce/spinach to learn how to make salads and other healthy dishes.

Pillar II: Health - Improve the Health and Wellness of Students and Staff

Environmental Health

- All the vacuum sweepers at Herculaneum High School use HEPA Filters that are 99% efficient at removing particles from the air. We have Neutral Air rooftop units that bring in fresh outside air, then send the air through filters then distribute it throughout the main building. This increases the fresh air and O₂ in the building air and decrease the CO₂ inside the building.
- Smoking is not allowed anywhere in or on the school grounds. All lab and building thermometers are digital/electronic.
- In 2018, each classroom had radon detectors installed. Average values are 1-2 pCi/L monthly. The school's maintenance department implements regular checks for mold as part of implementation indoor air quality checks.
- Natural / least toxic materials are used for pest management by the contractor when possible and spraying only occurs in the summer when students are not present.
- Bus and vehicle unloading and loading zones are approximately 20-25 feet from doors and windows and intakes

Nutrition and Fitness

The school food service program provides a free breakfast to all students regardless of FRPL status to ensure no student starts the day hungry. The program follows the guidelines of the 2010 Healthy, Hunger-Free Act of 2010 for all foods sold in school beyond the meals program. Snacks must be whole-grain rich, or have a fruit, vegetable, dairy food or protein food as the first ingredient, or be a combination with at least ¼ cup of a fruit or vegetable, or contain 10% of the DV of one of the following – calcium, potassium, vitamin D or dietary fiber.

Coordinated School Health Program

- **Health Education** - Health Education is incorporated into Home Economics, Special Education and in Science Classes. In Grades 9-12 Home Economics, the teacher designs lessons to teach students how to purchase healthy foods on a minimal budget and create healthy weekly menus and how to reuse leftovers. She also teaches the students how to cook these foods. For example this fall they made healthy soups and casseroles. Good nutrition and health, and good living habits are also discussed in health class. The special education class core curriculum involves helping students develop important life skills that focus on healthy eating and healthy living. In the science classes, we discuss nutrition as it applies to the various biochemical processes and needs of our body in regards to body development and maintenance.
- **Employee Wellness** - Working with our health insurance company, the school was able to expand the number of programs encouraging healthy behaviors offered to staff. There is an annual health fair, a 3000 steps a day challenge, and a weight loss challenge. The school tracks days without an injury and has a committee that addresses employee physical and mental health. Stop-smoking programs are offered through our health insurance. We have a workout room in the school.
- **Social and Emotional School Climate** - All school staff receive training from Comtrea and the St. Louis Mental Health Division to be able to recognize mental health issues and the problems they can cause a student in learning. There is a school committee on bullying, and there are assemblies to educate about bullying and teen depression.
- **Health Services** - The school has a full-time nurse who provides important information and education to staff and students on the effects of smoking, allergens, and air pollution as related to lung conditions, in addition to providing first aid services. We also have a dentist. The school contracts with other agencies that provide vision and healthcare services.
- **Counseling, Psychological and Social Services** - We have a full time social services staff person and a staff psychologist/counselor that a student can see anytime during school hours, Comtrea, the community treatment center, provides mental health services after school hours.
- **Community Involvement** - We partner with the Herculaneum police department to provide safety information to classrooms. The Jefferson County District Attorney speaks on crime and safety. Various businesses support sports and activity clubs, including the Renaissance Program, which recognized educational achievements and outstanding contributions of the students, staff and school patrons.

- **Family Engagement** - One of the school's top priorities is to increase family engagement. The school has numerous extracurricular activities parents are encouraged to attend and volunteer at. In addition to those, parents also helped the Ecology Club with trail maintenance. The school recently received a grant to have a dentist and psychologist in our district that students and their families can go to anytime during school hours. Families are encouraged to both donate and take any clothing items from our schools Blackcat closet. Our school has a Bright Futures program that families are encouraged to volunteer at or use to get things they need, for example, an oven, a washing machine, a prom dress, shoes for sports, or food

Pillar III: Learning – Effective Environmental and Sustainability Education

Curriculum and Assessment

- **Physical Sciences** - In 9th Grade students study how contaminants are filtered naturally by the earth, how run-off and sewage affect filtration and how filtration can be improved to provide clean water (Missouri Learning Standard – MLS- 6-8 ETS1.A.1). In 10th Grade Chemistry students evaluate the pros and cons of nuclear energy and waste compared to other sources and then prepare a report comparing the options (MLS 9-12 ETS1.A.1). The Applied Chemistry Class visits the school's solar array, conducts interviews to find out where the energy for the school and their homes comes from, and reaches out to energy organizations to find out what is being done about clean/alternative energy in Missouri.
- **Biology** - In 11th Grade, students learn how to calculate the amounts of CO₂ and O₂ produced in photosynthesis and then design a system to remove CO₂ from the air. (MLS 9-12 ETS1.A.2). They also spend two months exploring the natural world using curricula from the Missouri Department of Conservation, Projects WET and WILD, and resources from the Missouri Environmental Education Association. They investigate environmental issues of their local area, the state, the country and globally, problem solving at each level to develop the characteristics of good environmental citizenship. One lesson requires students to research an invasive species in Missouri, analyze its distribution and evaluate methods to deal with it.
- **Math** - In 9th Grade Algebra 1, students grow their own plants in the classroom and measure and calculate various attributes based on water and light availability. The class also uses data on school waste from an audit conducted by biology students and from carbon emissions to learn statistics and statistical analysis.
- **Social Studies** - In 11th Grade, Government one lesson covers environmental laws and the federal and state agencies that deal with environmental regulation. As part of the assessment students write letter to representatives about their concerns. They are also writing a grant to get outdoor seating so students can sit outdoors for lunch or during breaks.
- **Art** - In 12th Grade Advanced Art, students create art from waste items and write artists' statements about their piece and the issue with which it connects. The art is displayed at a local art fair. In addition the students are very active in preparation and hosting the Green Fair in March. Student Proficiency on the art and statement averaged 96% across five classes. It meets the National Core Arts Standard for a solution to an original problem.
- **Home Economics** - Herculaneum has a high poverty rate and many kids and their families often go to the local gas station or fast food restaurants for their daily food. In Grades 9-12 Home Economics, the teacher designs lessons to teach students how to purchase healthy foods on a minimal budget and create healthy weekly menus and how to reuse leftovers. She also teaches the students how to cook these foods. For example this fall they made healthy soups and casseroles.

Green Technologies and Career Paths

This past year a hydrologist from the Army Corps of Engineers spoke about their work on the Mississippi River.

Professional Development

School PD training is required six times per year for all district teachers, preK-12, every year, and covers topics in physical and mental health issues affecting students and teachers, STEM, student engagement lessons, outside speakers on topics like student depression, poverty and stress predictors, reading techniques, sharing teaching techniques, student intervention, and improvements in grades/attendance/teaching. The professional development relevant to health and environmental education is listed below

- **Health and Safety Training** - (both physical and mental) is presented ~5 times per year each year) for all preK - 12 teachers in district
- **Sexual Harassment and Bullying** - Online and in-school training regarding sexual harassment, bullying, and other social topics affecting students - all pre-K-12 district teachers attended each year (twice a year) for 2016, 2017, 2018
- **Forest Park Voyagers Nature Training** - one grade 11 teacher in 2016, 2017 and 2018
- **National Geographic Explorer Speaker Series** - one grades 9-12 teacher in 2018
- **MODIRT training** – one grades 9-12 teacher in 2018
- **MO Department of Conservation “Nature Works Program”** - one grades 9-12 grade teacher in 2016
- **Project WET, Project WILD** - one grade 9-12 grade teacher in 2017

Outdoor Learning Experiences - Outdoor learning is used to teach an array of subjects in context, and is also used to engage the broader community and to develop civic skills

- **In Earth Sciences**, students investigate erosion in and around the schools to see how it interacts with the geology of the Mississippi River channel and its alluvial soils. (MLS 9-12 ESS2.A.2)
- **In Language Arts**, students practice experiential poetry writing about what they see, hear, feel and smell in nature. Their poetry has been submitted to the school and local paper for families and members of the community to read.
- **In Advanced Literature**, students go outside to read “Sand County Almanac” during Earth Week as part of Herculaneum’s outdoor Earth Day Celebration.
- **MODIRT** - Students will be participating in MODIRT, a citizen science project where they take soil samples and perform testing according to a specialized protocol. Their results will be compiled and compared with results from other citizen scientists across the state to gain an accurate picture of soil health. (MLS 9-12 LS2.A.1.)
- **Invasive Species** - In their invasive species investigation, students don’t just read about the species, they find and study them in their community and in their neighborhoods and yards. Then their information posters share information on identifying and removing them.
- **Algebra** - For Grade 9 Algebra, students go outside to learn how to estimate tree height and measure circumference. Then they chart and graph the data to make comparisons. (MLS A1.DS.A.1)
- **Spanish** - For Grade 12 Spanish, students went outside to demonstrate their foreign language competency by acting out roles in Spanish. This improved their creativity and participation in the acting lesson. (Spanish 1.1a to 1.1e)
- **Ecology Club** - The ecology club and any other students that wish visit Missouri state parks throughout the year on weekends. The Ecology club and other students have also spent several weekends in the spring and fall and summer the past 2 years redoing a nature trail that was originally built by the class of 1978 behind the district’s middle school. The trail is ~2 miles through the woods and was very over grown. Students and parents and people from the community have been working on it the past two years to remake the original trail and benches and animal habitats along the trail. Students help out maintaining the wildflower garden on school property during the fall and spring. Students collect persimmons and wild grapes from the trees on the school grounds and in Ecology club, we make jam or cookies from the persimmons and natural dye from the grapes to use to dye homemade paper we made (from recycled paper) to make Xmas cards for staff.

Community Engagement

- **Jefferson County Recycling** - Besides coordinating school recycling, JCR has partnered with Herculaneum HS on a community electronics recycling event that pulled in over 100 people. They are also providing buckets for recycling compost and working with the school on a grant to get better recycling bins for the cafeteria.
- **City of Herculaneum** - The school has worked with city government and the Mayor of Herculaneum. Hundreds of people attended the solar eclipse event where the school assisted in educating the community about the eclipse. The ecology club worked with the Mayor of Herculaneum to coordinate a speaker from Milkweeds for Monarch to come to the school in the evening to learn about this program.

MEDIA



One of the many repurposed items made for our Eco-art fair This student took a muffler and with the help of her dad, cut it up and made this can. (Her dad makes metallic stickers and made this recycle sticker for her repurposed muffler trash can)



Students preparing ground for Missouri Wildflower butterfly garden using grant money we received from Wild Ones.



Students and parents working on remaking trail behind Middle school (that was originally made by class of 1978)



Biology students collected wild grapes another berries (around school property) to make natural dyes. Students dyed coffee filters and made this Fall table decoration for parent night at school. Students also collected persimmons (around school property) and made jam and cookies. They printed out the recipes and made them available for parent night.