U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

U.S. Department of Education Green Ribbon Schools 2013

For Public Schools only: [ ] Charter [ ] Title I [ ] Magnet [ ] Choice

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

Official School Name N/A
(As it should appear in the official records)

School Mailing Address N/A
(If address is P.O. Box, also include street address.)

City State Zip

County _____ State School Code Number* _____

Telephone ( ) _____ Fax ( ) _____

Web site/URL www.lmsd.org E-mail N/A

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

N/A Date N/A
(Principal's Signature)

Name of Superintendent* Dr. Christopher McGinley
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name* Lower Merion School District Tel. (610) 645-1800

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.

[signature] Date 2/13/13
(Superintendent's Signature)

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

U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

2012-2013 District Nominee Presentation Form

PART III – DOCUMENTATION OF STATE EVALUATION OF DISTRICT NOMINEE

Instructions to Nominating Authority

The Nominating Authority must document the district's high achievement in each of the three ED-GRS Pillars and nine Elements. 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 district's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

1. The district 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.

2. The district 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 **Pennsylvania Department of Education**

Name of Nominating Authority **Ronald J. Tomalis, Secretary of Education**

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

Ronald J Tomalis Date 2/14/13

(Nominating Authority's Signature)

Pennsylvania Department of Education
Nomination for Green Ribbon Schools District Sustainability Award
Lower Merion School District

Lower Merion School District (LMSD) is fully committed to environmental stewardship as a core value of the school community--both in day-to-day operations and educational programming. LMSD was among the first districts in Pennsylvania to incorporate a comprehensive strategic energy plan as part of its overall strategic plan, with the long-term goal of meeting complete criteria established in "LEED for Existing Buildings" by 2013.

Since 1995, LMSD has been a leader in the use of alternative fuels. As the first school district in Pennsylvania to add compressed natural gas (CNG) to the fleet, LMSD today boasts the largest fleet of CNG school buses on the East Coast. The District has won numerous national awards, and was recognized by the U.S. Department of Energy as "Pennsylvania's primary success story for alternative fuels."

LMSD believes effective green, sustainable practice begins with its greatest resource – its students, staff and administrators. District administrators, in collaboration with the Green Council of LMSD – a cadre of concerned staff, students, parents and community members – developed a Comprehensive Environmental Impact Reduction Plan (CEIRP) to provide ongoing use of best practices in areas of Energy, Solid Waste, Water, Soil and Conservation Management, Air Quality Management, Purchasing Policies, and Integrated Pest Management.

Reducing environmental impact and costs also includes the buildings. The District recently completed a capital improvement program, fully-modernizing all ten of its schools—with its two high schools built to LEED-Silver certified standards. Because of these efforts to build energy efficient buildings with energy management systems, LMSD recently received a $141,000 rebate from PECO for participation in the Smart Ideas/Smart Construction Initiative.

LMSD begins efforts to improve student and staff health through a comprehensive, nationally-recognized Green Cleaning Program, selected by American Schools & University as one of only four districts nationwide for its extensive efforts to maintain safe and healthy learning and working environments. More than 80% of the annual cleaning budget is earmarked for the most environmentally friendly or preferable alternatives, applied using innovative best-practices to improve overall indoor air quality; reduce exposure to harmful contaminants; reduce particle, chemical and moisture residue from cleaning; and to minimize waste and impact on the environment. Furthering these efforts, LMSD's health services team is responsible for year round first aid and health counseling to all students and staff as well as managing the District's School Health Advisory Council (SHAC), a team of individuals who meet regularly to address health issues in the community. The SHAC collaborates across sectors to produce a variety health and wellness initiatives from school nutrition programs to a District-wide community garden project. Launched in partnership with the American Cancer Society, SHAC is viewed as Pennsylvania's model for school/community health partnerships.

From the time students enter LMSD as kindergartners until the time they graduate, every effort is made in every class to build a deep appreciation and understanding of the natural world along with heavy integration of STEM-related topics. Students at the elementary level experience nature first-hand and build a deep appreciation of the natural world during community-based learning projects. Middle school students participate in stimulating interdisciplinary programs that incorporate sustainability through design challenges like "It's Not Easy Being Green" where they develop innovative solutions to relevant, real-world environmental problems. Environmental education and STEM-initiatives are second-to-none at the high school level where students choose from a wide array of AP, honors, and college prep "green" courses, and take advantage of our state-of-the-art learning facilities – from the greenhouses and solar panels to the Harriton Meadows and Watershed - furthering students' knowledge and appreciation of sustainability concepts.

While LMSD features dynamic curricular programming, the passion for this subject extends beyond the classroom and school day. Last year, LMSD launched the Sustainability Expo/Go Green Challenge with local-green friendly organizations, vendors and companies (PECO, Air Quality Partnerships, Clean Air Council) to help educate students and community members on environmental resources available to improve air quality, as well as future careers in "green" industry. The competition tasked students to develop and execute an innovative idea to address an environmental concern in the community. A further measure of success is expressed in the breadth and popularity of co-curricular STEM opportunities. Nearly 20% of secondary students are actively involved in Technology Student Association (TSA), Science Olympiad and FIRST Robotics. Harriton's Science Olympiad – winner of fifteen consecutive state championships – furthers students' knowledge on sustainable concepts like forestry, meteorology and water quality. LM's robotics program is regarded as one of the nation's finest. District TSA teams have made their mark at the state and national level while working on various sustainability projects after school hours. The National TSA is also president is a senior at Harriton High School.

In all, LMSD has earned national recognition for its use of Compressed Natural Gas for fleet operations, and has one of the most advanced curriculum programs designed to incorporate energy efficiency programs and environmental awareness into the STEMP initiatives and courses. Their work across multiple buildings has reduced energy usage and related operational costs, and provides numerous best practices for district sustainability.

District Contact Information
District Name : Lower Merion School District
Street Address : 301 East Montgomery Avenue
City : Ardmore
State : PA
Zip : 19003
Website : www.lmsd.org
Superintendent Name : Dr. Christopher McGinley
Superintendent Email Address : mcginleyc@lmsd.org
Superintendent Phone Number : 610-645-1930
Lead Applicant Name (if different) : Dan Capkin
Lead Applicant Email : capkind@lmsd.org
Lead Applicant Phone Number : 610-896-2005

Number of Schools at each level and enrollment
Elementary (PK-5 or 6); # enrolled =: 6; 3,399
Middle (6-8 or 9); # enrolled =: 2; 1,808
High (9 or 10-12); # enrolled =: 2; 2,475

Total Enrollment 7,682

How would you describe your district? Suburban

Does your district serve 40% or more students from disadvantaged households? (students who are eligible for free and reduced-price school meals, students with disabilities, who are limited English proficient, migrant, or receiving services under Title I of the Elementary and Secondary Education Act) No

***Summary Narrative*: Provide an 800 word maximum narrative describing your district's efforts to reduce environmental impact and costs; improve student and staff health; and provide effective environmental and sustainability education. Focus on unique and innovative practices and partnerships.**
Lower Merion School District (LMSD) is fully committed to Environmental Stewardship as a core value of the school community in day-to-day operations and educational programming, so as to support the three pillars. We were among the first districts in Pennsylvania to incorporate a comprehensive strategic energy plan as part of our overall strategic plan with the long-term goal of meeting complete criteria established in "LEED for Existing Buildings" by 2013.

Since 1995, LMSD has been a leader in the use of alternative fuels as the first school district in PA to add compressed natural gas (CNG) to our fleet. Today, LMSD boasts the largest fleet of CNG school buses on the East Coast, won numerous national awards, and was recognized by the U.S. Department of Energy as "Pennsylvania's primary success story for alternative fuels."

We believe effective green, sustainable practice begins with our greatest resource – our people. District administrators, in collaboration with the Green Council of LMSD – a cadre of concerned staff, students, parents and community members – developed a Comprehensive Environmental Impact Reduction Plan (CEIRP) to provide ongoing use of best practices in areas of Energy, Solid Waste, Water, Soil and Conservation Management, Air Quality Management, Purchasing Policies, and Integrated Pest Management.

Reducing environmental impact and costs next moves to our buildings, having recently completed a District-wide capital improvement program fully-modernizing all ten of our schools built to LEED-Silver certified

standards. LMSD recently received a check for $141,000 from PECO for participation in their Smart Ideas/Smart Construction Initiative, representing a rebate based on energy conserved through both high schools' designs, built to conserve energy by more than 20% above code through features like high-efficiency lighting and improved energy management systems.

LMSD begins efforts to improve student and staff health through a comprehensive, nationally-recognized Green Cleaning Program, selected by American Schools & University as one of only four districts nationwide for its extensive efforts to maintain safe and healthy learning and working environments. More than 80% of our annual cleaning budget is earmarked for the most environmentally friendly or preferable alternatives, applied using innovative best-practices to improve overall indoor air quality; reduce exposure to harmful contaminants; reduce particle, chemical and moisture residue from cleaning; and to minimize waste and impact on the environment.

Furthering these efforts, LMSD's health services team is responsible for year round first aid and health counseling to all students and staff as well as managing the District's School Health Advisory Council (SHAC), a team of individuals who meet regularly to address health issues of our community. SHAC collaborates across sectors to produce a variety health and wellness initiatives from school nutrition programs to a District-wide community garden project. Launched in partnership with the American Cancer Society, SHAC is viewed as Pennsylvania's model for school/community health partnerships.

From the time students enter our schools as kindergartners until the time they graduate, every effort is made in every class to build a deep appreciation and understanding of the natural world along with heavy integration of STEM-related topics.

Students at the elementary level experience nature first-hand and build a deep appreciation of the natural world during community-based learning projects. Middle school students participate in stimulating interdisciplinary programs that incorporate sustainability through design challenges like "It's Not Easy Being Green" where they develop innovative solutions to relevant, real-world environmental problems. Environmental education and STEM-initiatives are second-to-none at the high school level where students choose from a wide array of AP, honors and college prep "green" courses, and take advantage of our state-of-the-art learning facilities – from the greenhouses and solar panels to the Harriton Meadows and Watershed - furthering students' knowledge and appreciation of sustainability concepts.

While LMSD features dynamic curricular programming, the passion for this subject extends beyond the classroom and school day. Last year, LMSD launched the Sustainability Expo/Go Green Challenge with local-green friendly organizations, vendors and companies (PECO, Air Quality Partnerships, Clean Air Council) to help educate students and community members on environmental resources available to improve air quality, as well as future careers in "green" industry. The competition tasked students to develop and execute an innovative idea to address an environmental concern in our community.

A further measure of success beyond the norm in LMSD is expressed in the breadth and popularity of co-curricular STEM opportunities. Nearly 20% of secondary students are actively involved in Technology Student Association (TSA), Science Olympiad and FIRST Robotics. Harriton's Science Olympiad – winner of fifteen consecutive state championships – furthers students' knowledge on sustainable concepts like forestry, meteorology and water quality. LM's robotics program is regarded as one of the nation's finest. District TSA teams have made their mark at the state and national level while working on various sustainability projects after school hours. The National TSA is also president is a senior at Harriton High School.

Is your district participating in a local, state or national program which asks you to benchmark progress in some fashion in any or all of the Pillars? Yes
Program(s) and level(s) achieved:
U.S. EPA Energy Star Benchmarking (6 out of 10 schools have score of 75 or higher; 4 others are within 1 point of 75; Harriton High School energy star score is 92)

Has your district received any awards for facilities, health or environment? Yes
Award(s) and year(s):
American Schools & University "Green Cleaning Award for Schools & Universities" sponsored by AS&U, The Green Cleaning Network and Healthy Schools Campaign (2012), Lower Merion Township Environmental Advisory Council's "Go for the Green" Educational Award (2012), LMSD bus fleet selected as North America's top school district "green fleet" and third best government "green fleet" at 5th annual Government Green Fleet Awards & Expo (2012), LMSD bus fleet named one of the top green fleets in North America by the "100 Best Fleets in North America" (2012)

Pillar 1: Reduced Environmental Impact and Costs

Provide a 600 word summary describing how your district is reducing environmental impacts and cost associated with energy use, greenhouse gas emissions, water use, water quality, stormwater run-off, ecologically beneficial uses of the grounds, solid waste, paper use, hazardous waste, and transportation.
All aspects of LMSD operations utilize the principle of using the least amount of energy possible. Energy Star certified equipment is deployed wherever feasible and is managed by a District appointed Energy Coordinator who oversees all aspects of the program ensuring systems at each building maintain efficient levels on a daily basis.

The District invested in buildings built to LEED silver certified standard that by design are 20% more efficient than what is required by code. LMSD benchmarks energy using EPA Energy Star – six of our ten schools qualify for Energy Star including Harriton High's impressive score of 92 while three others are within two points. These scores translate in to less energy usage and ultimately less greenhouse gas emissions.

To reduce solid waste the District follows the principles of refuse, reduce, reuse, recycle. During the last fiscal year District-wide recycling programs logged upwards of 120 tons of materials (cardboard, glass, plastic, glass, aluminum, paper). LMSD also recycles the tons of leaves from our trees each fall which are converted into compost; waste engine oil, batteries and tires from vehicles; scrap metals; technology equipment; florescent bulbs and light ballasts. Pilot programs are also in place for composting with tumbler style and larger ground bins. Compost generated from materials collected from the schools is reused in gardens.

LMSD transportation, North America's #1 school district and third best government green fleet, transports more than 6,500 students each day on 58 school buses powered by CNG. One of our buses consumes the equivalent of 2,000 gallons of diesel fuel per year, reducing greenhouse gas emissions by 23%, nitrogen oxide emissions by 17% and overall fuel costs. We further minimize environmental impact by using bio-diesel in remaining vehicles and GPS to ensure efficient routing.

The District makes every effort to implement best practices for water and soil conservation management through effective storm water management and collection, reuse of gray water, water erosion control, native landscaping and building-based mechanical systems that reduce fresh water consumption.

Rain water at Harriton is captured from 64% of the rooftop, is directed into two 25,000 gallon tanks and then used throughout the building to flush nearly every toilet. Several other school sites feature rain barrel

collection systems used for watering lawns and community gardens, helping to conserve water and reduce storm water run-off.

The Harriton Meadow, bio-filters and rain garden have been installed for collection of rain water once again developing and promoting sound and responsible stewardship of our landscape and ecosystems, both natural and cultivated. These features demonstrate how LMSD takes an active role in preventing human-induced environmental degradations. Benefits from these installations include: filtering storm water runoff pollution; recharging local groundwater; conservation of water; improvement of water quality; protection for rivers and streams; removes standing water to reduce mosquito breeding; increases beneficial insects that eliminate pests; reduces potential for flooding; creates habitat for birds and butterflies; survives drought seasons; reduces maintenance costs; and provides for a wealth of educational opportunities about the environment.

Penn Valley Elementary's solar panel installation is another energy and cost cutting feature, growing out of students' studies of environmental issues related to energy production and climate change. The lifetime energy generated, CO2 emission offsets, and current system AC power is monitored and tracked via a website.

Other countless efforts are being orchestrated throughout LMSD including: elimination of the use of plastic water bottles with water filling stations; reduction of paper use through new copiers and policies; installation of hand dryers in heavy use restrooms, and Green Council student campaigns like "These Come From Trees" stickers on paper towel dispensers.

Pillar 2: Improve the health and wellness of students and staff

Provide a 600 word summary describing how your district is improving the health and wellness of students and staff with a focus on the areas of pesticide use, hazardous contaminants, chemical management, asthma, building moisture control, airborne contaminants, ventilation systems, indoor environmental quality, nutrition, physical activity, overall school health, and outdoor education.

LMSD's CEIRP encompasses all environmental operational initiatives. Following the EPA's Tools for Schools Indoor Air Quality Programs, OSHA guidelines, and other related regulations, the Air Quality Management portion details the storage of cleaning/treatment products, Green Cleaning program, Preventative Maintenance Program (PMP), Integrated Pest Management (IPM) and Idling Policy.

Our IPM focuses on making the school building and grounds an unfavorable habitat for pests by removing food and water sources and eliminating hiding/breeding places by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health and environment risks.

The PMP emphasizes cleanliness and filter effectiveness for our state-of-the-art HVAC systems. The District's dedicated HVAC technician and Indoor Air Quality Specialist monitor and adjust ventilation rates in occupied spaces to ensure optimal air quality and change filters on a regular basis.

LMSD implements several other key strategies to reduce hazardous and airborne contaminants and improve IAQ. We use LEED-certifiable, 100% post-recycled matting systems to trap dirt and moisture outside the building, in the foyer and inside facilities since a majority of contaminants are tracked in on foot.

Another strategy is through aggressive chemical management. All facilities use a Green Seal certified chemical management 3M "Twist-n-Fill" system ensuring proper dilution rates of super-concentrates reducing exposure, consumption, cost, packaging and total environmental impact. Cleaning products and grounds treatment products are stored in areas isolated from cross-ventilation with occupied spaces. Custodians, groundskeepers, and other appropriate employees are trained in the proper dilution and use of cleaning, pest control, and water treatment products.

To further improve IAQ and cleaning effectiveness LMSD has implemented microfiber technology used in conjunction with ergonomically designed, innovative cleaning tools engineered to trap soil loads with minimal water and chemicals greatly reducing the amount of dirt and dust in the air. We use innovative carpet care maintenance equipment resulting in minimal moisture and chemical usage. All vacuums are CRI-approved and HEPA-filtered.

LMSD shares the science-based goals of "Healthy Person 2020," a government health initiative through the Centers of Disease Control, and is a member of the Healthy Person 2020 Consortium, a group of diverse agencies committed to specific health objectives.

Health Services employs 25 registered nurses, uniquely capable of assisting students with accessing health care and reducing health care disparities through high levels of education and professional associations. Recent studies show the link between education of the nurse and patient outcome. Health Services staff use evidence-based practice when addressing health needs and planning health promotion and education. LMSD is recognized as the public health model for school-based immunization programs. 100% of students were compliant with Pennsylvania Immunization law in May 2012.

Health Services manages SHAC, launched in partnership with the American Cancer Society and viewed as Pennsylvania's model for school/community health partnerships, is responsible for a variety of initiatives promoting health/wellness of students and staff. In collaboration with District Nutritional Services, SHAC implements classroom lessons in schools like the "Whole Grain Truth," "Apple Crunch Day," "There's a Rainbow On Your Plate," and "Go for the Greens" designed to encourage healthy eating habits. In collaboration with Green Council, SHAC has established community vegetable gardens at three school sites where students and staff participate in planting, caring for and harvesting the vegetables with plans to expand to all ten of our schools. Community volunteerism and deep connection with the larger school community are essential elements of our health services team through partnerships with American Red Cross, Ronald McDonald House, Living beyond Breast Cancer, and more.

Aside from the physical education and recess students participate in dozens of athletic extracurricular activities, youth sports leagues, and SHAC's "Evening of Fitness" community events.

Pillar 3: Effective Environmental and Sustainability Education

Provide a 600 word summary describing how your district ensures effective environmental and sustainability education including: an environmental or sustainability literacy requirement; integration of environmental and sustainability concepts throughout the curriculum and assessments; teacher professional development in environmental and sustainability education; AP Environmental Science course offerings; use of sustainability and the environment as a context for learning science, technology, engineering, and mathematics; use of sustainability and the environment as a context for learning about green technologies and career pathways; civic/community engagement projects integrating environment and sustainability topics; and students' meaningful outdoor learning experiences.

Kindergartners step out of classrooms and into the natural world in a yearlong, community-based learning program – Project Change (Children Helping and Nurturing Growth in the Environment) – developed in partnership with Barrack Academy Arboretum. Students experience nature first-hand during seasonal visits that include nature walks, garden lessons and art projects. Community-based learning continues throughout

elementary years as first through fifth graders visit the Riverbend Environmental Education Center where students explore trails, ponds and streams are introduced to Pennsylvania wildlife, habitats, and ecosystems.

In the classroom sustainability concepts are integrated through FOSS K-5 Science Kits – a dynamic, hands-on, inquiry-based learning tool that engages students in learning life sciences, environment and ecology; physical science; and earth and space concepts.

At Bala Cynwyd Middle School, winner of the Technology & Engineering Education Association of Pennsylvania's (TEEAP) 2012 Program of Excellence Award – students explore careers in STEM fields and engage in interdisciplinary initiatives like "It's Not Easy Being Green Team Design Challenge" where students develop solutions to relevant, real-world environmental problems. Students design and construct geodesic domes and wind turbines to understand energy- and cost-efficient alternatives to traditional engineering.

In Welsh Valley Middle School's interdisciplinary program, Waterbound students receive an intensive dose of sciences through topics including ecology, symbiosis, ecosystems and biomes, impacts of environmental changes on living organisms, and the influence of human activity on the environment. Students regularly visit Rolling Hill Park where they learn to identify more than 75 species of flora and fauna and develop an appreciation for the natural world.

Middle school co-curriculars like TSA further sustainability learning in a variety of ways. In partnership with local non-profits, students hold annual E-Waste drives where community members drop off old technology to schools to be responsibly disposed of or donated to those in need. Students also take civic action, having met with Congressman Jim Gerlach to discuss his past environmental voting history with the intent to improve his voting record in ways that do not negatively impact the environment.

At the high school level our AP Environmental Science teachers attend the APES Summer Institute, a 40-hour intensive training with hands-on and field experiences to help teachers maximize students' experience during the year. Both high schools feature an array of environmentally related courses built in to the curriculum including APES, Meteorology, Geology, Oceanography, and Landscape Architecture & Horticulture.

The architectural plans and LEED certifiable green campus for our high schools are utilized as an instructional tool to help students learn an array of green and sustainability concepts. As a part of our pioneering Landscape Architecture/Horticulture class students grow vegetables in our greenhouses and transplant them to community gardens. Students learn the art of planning appropriate land use and design of the built-environment based on an understanding of natural and cultural site characteristics while also concentrating on identification of trees, shrubs, evergreens and groundcovers, propagation, diagnosis and treatment of pests and diseases affecting landscape plants.

The aforementioned Harriton Meadow is an outstanding educational resource leading students to a greater appreciation of naturalized areas and native plants and an understanding of their importance to all life including commitment to a healthy and diverse natural world. The incredible aspects of the HHS watershed are utilized as an instructional tool allowing students to design and build their own watershed model. They are required to use buffers that reduce the water runoff on their own models. The multiple run off buffers utilized on the HHS watershed are key in illustrating how effective a properly designed watershed can be at reducing and eliminating runoff – a key in preventing pollution of our global ocean.