



2014-2015 District Nominee Presentation Form

CERTIFICATIONS

District's Certifications

The signatures of the district superintendent on the next page certify 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 superintendent's knowledge.

1. The district has been evaluated and selected from among districts 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 education.
2. The district is providing 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.
3. OCR has not issued a violation letter of findings to the school district concluding that the nominated school district 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.
4. The U.S. Department of Justice does not have a pending suit alleging that the school district has violated one or more of the civil rights statutes or the Constitution's equal protection clause.
5. 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 school district in question; or if there are such findings, the state or school district has corrected, or agreed to correct, the findings.
6. The district 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 2014-2015 District Sustainability Award

Name of Superintendent: Dr. Thomas A. Forcella

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

District Name: Chapel Hill-Carrboro City Schools

(As it should appear on an award)

Address: 750 S. Merritt Mill Road, Chapel Hill, NC 27516

Telephone: (919) 967-8211 x 28226 Fax: (919) 869-4813

Web site/URL: www.chccs.k12.nc.us E-mail: tforcella@chccs.k12.nc.us

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

Handwritten signature of Thomas A. Forcella in black ink.

(Superintendent's Signature)

Date: January 15, 2015



Nominating Authority's Certifications

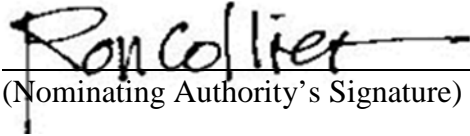
The signature by the Nominating Authority on this page certifies that each of the statements below concerning the district's eligibility and compliance with the following requirements is true and correct to the best of the Authority's knowledge.

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 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: NC Department of Public Instruction

Name of Nominating Authority: Mr. Ronald L. Collier, Architect, School Planning
(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: January 15, 2015

SUMMARY AND DOCUMENTATION OF NOMINEE'S ACHIEVEMENTS

Provide a coherent "snapshot" that describes how your district is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars and nine Elements. Then, include documentation and concrete examples for work in every Pillar and Element.

SUBMISSION

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



North Carolina Department of Public Instruction
2015 Green Ribbon District Application

District Contact Information

District Name: **Chapel Hill-Carrboro City Schools**

Street Address: **750 S. Merritt Mill Rd**

City: **Chapel Hill** State: **NC** Zip: **27516**

Website: Chapel Hill-Carrboro City Schools Facebook Page:
[Facebook - Chapel Hill-Carrboro City Schools](https://www.facebook.com/Chapel Hill-Carrboro City Schools)

Superintendent Name: Dr. Tom Forcella

Superintendent Email Address: Dr. Tom Forcella Phone Number: **919-967-8211 x 28226**

Lead Applicant Name (if different): **Dan Schnitzer**

Lead Applicant Email: Dan Schnitzer Phone Number: **919-869-4813**

School Information

Number of Schools at Each Level:

- | | |
|----------------------------------|---|
| Early Learning Center | <input checked="" type="checkbox"/> Public |
| 11 Elementary (PK-5 or 6) | <input type="checkbox"/> Private or Independent |
| K – 8 | <input type="checkbox"/> Charter |
| 4 Middle (6 -8 or 9) | <input type="checkbox"/> Magnet |
| 4 High (9 or 10 – 12) | |

How would you describe your district? Urban Suburban Rural

Does your school serve 40% or more students from disadvantaged households? Yes No

- % Receiving FRPL: **27%**
- % Limited English Proficient: **10.8%**
- Other Measures:
- Is your school in one of the largest 50 districts in the nation? Yes No
- Total Enrollment: **12,134** Graduation Rate: **93.5%** Attendance Rate: **95.8%**



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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.

The Board of Education recognizes sustainability as a guiding principle and believes that the district should be committed to developing and integrating sustainability practices in all aspects of our education system. Sustainability efforts will balance the interconnected areas of education, environment, society, and economy to contribute to a healthy future for our students, faculty, staff, and community. The Board believes that these actions are a natural extension of the district's core mission and values. – Chapel Hill-Carrboro Board Policy 1810 (6/2/11).

The Chapel Hill-Carrboro City School District (CHCCS) is committed to the integration of environmental sustainability throughout our entire structure. In November of 2014, the district hired a full time Sustainability Coordinator (SC). The SC is within the facilities department and works closely with both the maintenance team and the district Academic Coordinators. The SC identifies opportunities within the district that are “net-positive,” that is to say projects that have some combination of positive environmental, financial and academic impact. The positioning of the role enables the SC to implement facilities based projects and link them to classroom experiences while showing the financial implications of such projects.

CHCCS has built in further infrastructure to prioritize sustainability throughout all levels of the system. The District Sustainability Committee consists of teachers, parents, students and administrators, representing each school as well as community partners. The committee prioritizes sustainability projects, shares best practices and plans implementation of sustainability programs in each school. All district employees are expected to support sustainability as guided by the Board of Education's [Policy 1810: Sustainability](#).

An example of this interplay can be seen in a lighting retrofit of two of our facilities in 2014. We replaced all metal-halide exterior lights with LED fixtures. With a payback of just over 2 years, the lights provide greater safety for the school, saves \$3,800 annually in operating costs, and reduces our CO2E emissions by 26 tons annually. As part of the project, the SC visited classes within the district using a pedal-power generator and 3-bulb lighting demonstration- incandescent, fluorescent and LED-, which enabled the students to physically feel the difference in energy needed to power each lamp. This is only one example of numerous projects that follow this model. On a larger scale, the district has committed to energy audits of each of our buildings to identify opportunities and is committed to efficiency in all of our new and retrofit projects.

The district has undergone a waste reduction program that has had significant impact. By analyzing our waste streams and acting on data, we have been able to reduce our expense on landfill waste by \$34,000 annually and have been able to invest in a district wide composting program. The compost program will divert approximately 113,000 pounds of waste from the landfill. Cafeteria landfill waste has

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been reduced by 88%. The signage was created by one of our high school art students as part of our commitment to integrate sustainable operations into the academic program.

Student and Staff health is a central focus of our district. The district's Coordinator of Healthful Living and Athletics oversees our PE staff and works closely with our food service provider and nurses to provide a holistic vision and implementation of student and staff health. School gardens, walk and bike to school programs, family-marathons (26.2 miles between all family members), staff work out rooms and nutrition education are hallmarks of the district's commitment to student and staff wellness. In addition to these direct-health programs, the district has transitioned all of our cleaning supplies to green-certified, and is diligent about maintaining facilities so that they provide healthy places for students and staff to learn.



Morris Grove Elementary School's student garden

Both the Sustainability Coordinator and the Coordinator of Healthful Living and Athletics work with our food service team to implement healthy eating options and nutrition education. This is formalized through the Healthy Schools Advisory Council that is made up of representatives from each of our schools' Wellness Team. These meetings are used to share best practices, introduce new initiatives and build on the strength of ongoing programs.



STEM night activity using a pedal-power generator to show the difference in energy use between incandescent, fluorescent and LED bulbs.

In addition to what we are doing on an operational level, we are ensuring that sustainability education is integrated into our curriculum. The SC works closely with the district's Science Coordinator to integrate sustainability concepts into curriculum based standards. We are developing curriculum that uses our buildings as learning tools. Our elementary students have explored green roofs, mechanical rooms, and gardens and how they impact the environment and learning space. They have investigated the technology in the lighting equipment and placement of windows throughout the building to understand efficiency and natural processes. We have done similar student-building investigations in our older facilities so students and staff can learn to identify opportunities, not just learn about solutions. This process has enabled our students to be critical thinkers and apply environmental logic to their surroundings.



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1. Is your district participating in a local, state or national school program, such as EPA ENERGY STAR Portfolio Manager, EcoSchools, Project Learning Tree, or others, which asks you to benchmark progress in some fashion in any or all of the Pillars? Yes No

Year	Award Received
2012-2015	Green Plus Certification (The Redwoods Group Foundation)
2014-2015	Portfolio Manager
2014-2015	Developing official district relationship with EcoSchools

2. Has your school, staff or student body received any awards for facilities, health or environment?

Yes No

Year	Award Received
2014	LEED Platinum – Northside Elementary
2014	Siemen’s “We Can Change the World”- first place. Phillips Middle School student group: Trash Terminators.
2014	Lexus Eco Challenge – first place. Phillips Middle School student group: Trash Terminators.
2012	Alliance for Healthier Generation Bronze Award- 15 of 18 schools
2011	USDA’s Healthier US Schools Challenge Bronze Award – all Elementary Schools
2011	Green Plus Certification. 2014- Renewal
2011	Champion of Change – Chapel Hill High’s Green Tigers “Green Your School Challenge”
2008	LEED Silver - Carrboro High School



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Pillar I: Reduced Environmental Impact and Costs

Describe how your district is reducing environmental impact and costs by reducing or eliminating greenhouse gas emissions; improving water quality, efficiency, and conservation; reducing waste production; and using alternative transportation. Identify your district's energy-efficient facilities and practices, ecologically beneficial uses of grounds, and methods of disposal for solid and hazardous wastes.

1A. All of our facilities, 2.1 million square feet, are entered into Portfolio Manager, where bill data is uploaded monthly. This enables us to monitor and track our environmental impact and GHG emissions. We are able to baseline our information, set goals, find anomalies and gauge the impact of our work. Using this high-level data, we are able to target our least efficient facilities and make changes. When a project is initiated, an energy use analysis is done to gather data on current energy use and emissions and projected with the new equipment. This information is side by side on a chart of costs, which is part of the decision making process. With this information, we can show that lighting upgrades in two of our facilities- exterior & interior light plus the addition of photocells, timers and motion sensors, will reduce our annual CO2E emissions by 52 tons annually. Our composting program will not only divert an estimated 113,000 pounds from the landfill, but will reduce our emissions by an additional 56 tons while providing the input for healthy compost to be used by local farms. These programs also enable us to reduce our utility and waste hauling costs by installing more efficient equipment and reducing our dumpster fees substantially.

To ensure that these programs are not limited to a few examples, we are constantly training our electricians, landscapers and HVAC teams in available technology and data so that they can take ownership of their areas of expertise to implement savings programs on the spot. This has lead to a significant increase in programmable thermostats in older facilities and motion and daylight sensors in bathrooms and common areas. In addition, all incandescent bulbs are being replaced with LEDs, lighting timers have been inventoried, fixed or replaced when needed and schedules adjusted for seasonal changes. All of these "minor" improvements have big environmental and financial implications over time as we eliminate wasted energy use throughout the district. The aggregate effect of these projects, from November 2013-July 2014 has been an estimated reduction of 208 tons of CO2E and a savings of \$128,430. These numbers are detailed and shared throughout the district so stakeholders can see the impact of these changes.

The district works closely with the NC Department of Energy and Natural Resources (DENR). With their help, we have partnered with Waste Reduction Partners to do an energy audit and recommendations for 2 of our older facilities. We also utilize their expertise with Portfolio Manager to ensure that our data is up to date and accurate. This partnership allows us to tap into statewide programs and goals for energy conservation.

Currently, 25% of our schools have solar thermal panels that pre-heat water for cafeteria use and 4 of our school have some solar PV. We are planning on expanding our dependence on alternative energy. Looking forward, new facilities or retrofit projects will all pass through the environmental lens as exhibited

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by our newest elementary school- Northside Elementary- a LEED Platinum School. We are currently analyzing lighting upgrades for 768,000 square feet that would greatly reduce our emissions through more efficient fixtures and smart lighting technologies. In addition to this concrete step, we are currently undertaking a full equipment audit that will identify every energy-consuming piece of equipment in the district, assess functionality, and create a prioritized plan to reduce current consumption and phase in more efficient equipment as current items fail.

1B. Water is a big topic in our area as we have seen downpours and droughts within the past 3 years. 25% of our schools have grey water systems that collect rainwater, clean it on site and use it to flush toilets within the building. Every school has onsite storm water systems that include bio-swales and/or rain gardens. Beyond their practical use, these areas are used for education of native plants and storm water management. 33% of our schools have above ground rain barrels or cisterns where the water is used for landscaping or gardening.

With our local watershed running through some of our schools, we have a unique opportunity for education with real-life, hands-on experiences. Water is an academic unit in our 5th grade curriculum. Some schools, such as McDougle Middle School, host a Water Week, where all of their classes that week use water as the theme of their lessons. The students have a daily seminar at the end of the day where they discuss water issues. They walk a mile to a local stream and carry a gallon to school and back to the stream to get a sense of what it is like for so many people around the world. This is done in collaboration with our local water and sewer authority (OWASA) that runs sessions for the students on how our local water is treated and used. OWASA provides tips for home and school water conservation. The students then come up with a water conservation plan for their schools. At Chapel Hill High, the Blue Tigers- a student created and run club focuses on local and global water issues. Interested students helped solve storm water flooding problems on their campus last year by installing a rock garden and native-plant hedge garden to slow the storm water and keep it off the walking paths. Similar projects are planned district wide in coordination with the Town of Chapel Hill. They are especially supportive of these projects both for their educational value and because creeks run through many of our properties that lead directly into the town's drinking water supply. As part of this approach, we are reviewing options for real-time irrigation monitoring through WeatherTRAK.

On a district level, we are working with the Town to perform training for



Chapel Hill High Students plant native plants as part of our partnership with NC Botanical Gardens. The native plants helped absorb and slow storm water into the newly installed rock garden- work also completed by the students.

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our landscaping and custodial teams on how to limit water use and how to ensure that we are keeping the storm drains clear and uncontaminated with landscape waste. This district-wide mindset further imbeds a holistic understanding of sustainability within all tiers of our structure.

In line with our sustainability policy, as older equipment gets replaced, all toilets, sinks, sprayers and showers are replaced with low flow fixtures.

1C. Waste Reduction has proved to be a great opportunity for the district. In 2012, the district made the decision to replace Styrofoam cafeteria trays with compostable ones. This has had a major impact on our environmental impact and waste reduction efforts. We have shrunk our landfill hauling expenditure by 33% and diverted over 210 tons from the landfill through efficiency and sorting practices. This will increase this year as we implemented cafeteria composting in our elementary and middle schools. Each day, over 8,000 students sort their lunch waste into compost, recycling and landfill waste. This sorting process has enabled us to reduce our cafeteria waste within those schools by 88% (155 bags a day down to 18). Our next phase is to analyze what is going in to each waste stream and see where we can be more efficient in our purchasing and use of materials. As we increase efficiency in this program, we will save additional dollars by reducing the numbers of dumpsters in the district. This program is rolled out hand-in-hand with curricular materials on compost and waste. The success of this program has led to invitations from other districts to consult on starting composting programs as well as presentations at both Chapel Hill Town Hall and Carrboro City Council.



Cafeteria Landfill Waste before (14 bags) and after (2 bags) compost program implementation.



Student designed Recycle, Landfill and Compost signs in all of our elementary and middle schools.

We are taking an active stance to significantly reduce our paper use throughout the district. We have replaced over 400 stand-alone printers, which are wasteful, expensive and inefficient, with 250 high efficiency multi-function machines that are defaulted to double sided printing and copying and can scan to email. Many of the printers were in classrooms enabling a significant amount of waste. The multi-function machines have been placed in communal areas with the idea that the short travel distance to the



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machines will eliminate convenience prints & copies. We have run trainings at all of our schools on scanning, including the use of a software that allows a user to edit scans as document or spreadsheets. Through paper and energy reduction, attributable to double siding, scanning and awareness, we are targeting a 20% reduction in paper use this year with a savings of \$40,000.

Any hazardous materials, including waste, is handled according to OSHA standards and disposed of responsibly. Specifically, burned out fluorescent bulbs are collected and boxed by the schools and transported to the Orange County Hazardous Waste Collection facility. Batteries, paint and chemicals are also sent to the Hazardous Waste Collection facility. We work closely with Orange County Solid waste to identify and properly dispose of any hazardous items. Electronics are recycled through a partnership with a local company that recovers valuable materials and properly disposes of the hazardous components. We are working to eliminate as many hazardous chemicals as possible through a commitment to only purchase green-certified cleaning products and not allow more caustic chemicals, like bleach, in our facilities, unless medically necessary and supervised properly. Our district's safety officer acts as a resource for our schools when questions arise about possible hazardous materials.

1D. *Many of our schools are in walking/biking-friendly communities and we have an active walk or bike to school program. This year we partnered with Active Routes to School to promote National Walk to School Day and plan on encouraging more walkers and bikers. Often our bike racks are filled with student bikes as the location and weather allows for nearly year-round biking.*

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

Describe how your district improves the health and wellness of students and staff by integrating a school environmental health program and promoting sound nutritional and fitness practices. You should discuss integrated pest management, contaminant controls and ventilation, asthma controls, indoor air quality, moisture control, and chemical management. Address the amount and type of outdoor time that your students and staff have, as well as the types of fresh, local, and organic food that they eat. Other components you may want to include are: health education, health services, counseling, psychological and social services, staff health promotion and family and community involvement.

2A. *Student health is vital to a successful educational experience. Our district pest management company is contractually obligated to follow Integrated Pest Management practices. We operate in compliance with North Carolina Statutes 115C-45 and 115C-12(34) with regard to IPM and pesticide use and notification procedures. All of our school gardens are grown using organic methods. Our contaminant controls and ventilation are built to code and inspected annually. All science classrooms and areas with possible chemical exposure have the proper wash and containment mechanisms in place and functioning.*

Asthma is monitored by school nurses, who alert the head nurse and district safety officer if there is an increase in incidents. HVAC filters are changed on schedule and school doors have mats to reduce the amount of dirt and dust brought into the facilities.

The SC subscribes to the EPA IAQ Tools for Schools newsletter and sends out information on opportunities to implement IAQ programs at the schools. The districts custodial and maintenance staff are trained in IAQ issues and asked to identify opportunities within their schools. As part of this program, we have high standards for paints, adhesives and other substances that could negatively impact the air quality within a school, including the exclusive use of latex based paints.

Moisture control is a top-level concern as we experience humid summers. Our HVAC equipment is programmed to go into “dehumidification mode” should humidity levels approach 60% within the facilities. Additional room dehumidifiers are available should extreme cases exist. Our newer facilities have humidistats directly tied into the HVAC controls and our older facilities are either being retrofitted or have stand-alone humidistats to alert the facilities department of high humidity.

The district has a full time safety officer that oversees chemical management within the district. Each school has a chemical inventory, chemical hygiene plan and a chemical hygiene officer who is responsible for the maintenance of the safety equipment, safety lab, inventory and



Student stacking reusable trays as part our waste reduction plan.

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disposal of chemicals.

CHCCS does not perform radon testing in our schools. The district is located in a Low Potential Zone 3 with a predicted average indoor screening level less than 2 pCi/L (yellow zones) as indicated on the EPA's Map of Radon Zones.

For general health and safety, the use of tobacco products is prohibited on school grounds. Asbestos is located and abated in compliance with the Asbestos Hazard Emergency Response Act.

2B. *Working closely with our Food Service Provider, CHCCS values nutrition, nutrition education and physical fitness. We work closely on the implementation of healthy food standards in our cafeterias including creative ways to encourage students to try new foods, such as fresh fruit smoothies, local produce days, taste the rainbow promotions- a different colored fruit or vegetable each day- and the implementation of the USDA Farm to School Program, which is currently active in 100% of our schools. We work with local farmers and distributors to identify fresh, local and nutritious produce and then to educate the students on it with farmer school visits and school gardens. 95% of our schools have active school gardens that include vegetable gardens, butterfly gardens and rain gardens.*

Our food service provider was awarded a Farm To School grant last year that enabled us to increase our



Rashkis Elementary School's Student Garden, utilizing repurposed pallets.

local produce purchasing while training our district staff and other districts' staff in fresh produce preparation. We highlight local produce with special programs and promotions such as Sweet Potato Day. We are transitioning to fresh baked goods throughout the district (whole wheat breads, rolls and crusts) utilizing our state of the art kitchen at the new Northside elementary.

Creative walking and biking challenges are organized throughout the year that involve inter-school competitions, family challenges and community outings, such as the 7,000+ person Walk for Education. Each of our schools has an onsite nurse who works with administrators, teachers, parents and students to address a variety of health issues, with a proactive approach to wellness. The school nurses are coordinated through a district head Nurse who organizes social services and psychological offerings for students and their families.

Each elementary school has a minimum of 30 minutes of PE and 30 minutes of recess each day. In addition, schools organize activities throughout the year, such as walking clubs, bike rodeos and teacher workshops on classroom energizers. The classroom teachers teach health education. Middle schools have PE every

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day for 42 minutes in addition to a dedicated health unit. High schools have one year of Healthful Living that is half a year of health education and half a year of PE.

15 of our 18 schools have been awarded the Alliance for a Healthier Generation Bronze award (our 19th school, Northside Elementary, opened last year and has not yet applied). All of the district's elementary schools have achieved the USDA's Healthier US Schools Challenge Bronze award. These schools are also registered as Let's Move! Active Schools.

Community involvement is essential to our success as a district and we have developed close relationships with parents and community partners. During the roll out of our cafeteria-composting program, we had over 250 parent and community volunteers spend time in our schools helping students sort and learn about composting. Their efforts resulted in over 500 volunteer hours. In addition to parents and volunteers, we have a strong relationship with University of North Carolina's Center for Health Promotion and Disease Prevention. With their support, research and partnership, we utilize best practices of encouraging students to eat healthy and proactively take care of their health.



A parent volunteer assists a Kindergarten student with compost separation.

Pillar 3: Effective Environmental and Sustainability Education

Describe how your district provides effective environmental and sustainability education by incorporating STEM, civic skills, and green career pathways. Provide examples of interdisciplinary learning about the key relationships between dynamic environmental, energy, and human systems. Demonstrate how your district uses the environment and sustainability to develop STEM content, knowledge, and thinking skills. You should also discuss how your district develops and applies civic knowledge and skills to environmental and sustainability education.

3A. *CHCSS commitment to Sustainability is founded on the concept that while current efforts can positively impact the environment and our financial position, it is the long-term education of students that will have the greatest and most sustainable positive effect. To this end, operational sustainability efforts are tied directly to student learning and sustainability is integrated into curriculum. A monthly [Sustainability Newsletter](#) goes out to the district staff highlighting sustainability initiatives, offering academic resources and opportunities and data on current projects. The newsletter is a tool that enables us to educate our staff in coordination with our expectations of student sustainability and wellness education.*

All elementary schools maintain an environmental focus as tailored to meet curricular components that span all grade levels. Topical examples include: 1st grade "Needs of Living Organisms", 3rd grade "Plant Growth and Development", and 5th grade "Ecosystems/Living Systems." All middle school students are exposed to meaningful, real-world connections to instructional standards that focus on: Human impact on atmosphere/climate (grade 7) and hydrology (grade 8). High School Environmental Science and Health



Students making worm-compost bins.

classes explore real world issues such as the world water crisis, resource utilization, watersheds, sustainable building design, sustainable city planning and alternative energy.

A specific example of this can be found in our composting program. We not only instituted cafeteria composting, we used the opportunity to educate students about the science behind composting, running composting workshops, reading books about composting, digging through worm bins, and sharing our landfill diversion data. We are arranging field trips to the compost facility so that students can see first hand the process. In our contract, we have stipulated that the compost company donates finished compost back to the district so students can plant their spring gardens with compost from their scraps. Some schools are taking extra steps such as Culbreth Middle School, where they are dedicating 2 "seminar periods" to learning about where garbage goes, how much is produced, the problems of pollution and the options to reduce and compost waste,

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Northside Elementary is taking leadership role in the district by using their LEED Platinum facility as a learning tool. A committee of teaching staff, technology staff, the district Sustainability Coordinator and one of the buildings architects has been working since the school opened to integrate the facility into every standard within the curriculum. From material use, to site selection, water flow, electricity, human's role in the world, habitats and ecosystems, each element of their curriculum can be discovered within the entirety of the building- design, community engagement, material choice, construction and operation. The committee meets monthly to further the integration and build lesson plans that are then rolled out to the teachers within the school. Northside hosted 3rd graders from Carrboro elementary- one of the districts oldest buildings- to learn about green construction and how their building is similar and different. Those students then went back to their school, looked at it from a sustainability perspective and came up with recommendations. This was all part of the 3rd grade entrepreneur unit where the students had to critically analyze if business positively or negatively impacts the community and the environment.



Educational sign about the grey water system at Morris Grove Elementary

3B. *STEM programs throughout all grade levels often include a specialty STEM night where sustainability is a focus of the stations and activities. Several elementary schools have established a STEM focus. Ephesus and Estes Hills are great examples of sustainability-driven, problem-solving programs, where their curriculum is designed around problem solving sustainability issues. District-wide, we are in the active process of outlining goals for our STEM program and how sustainability will be the underlying connector for the program.*

3C. *Civic knowledge and engagement is a great opportunity for our students to apply their learning and positively impact their community. Multidisciplinary instruction means collaborative efforts between our Language Arts and Science departments. Prime examples include advocacy letters (argument-based essays) that students have drafted to elected officials. Topics include, but are not limited to: climate change, sustainability, and legislative impact on urban and rural development. Additional cross-curricular opportunities include a focused study of the historical factors impacting the aforementioned topics.*

Our students are encouraged to take civil action within their communities. Last year alone, students from McDougale Middle School were invited to present to the Carrboro Town Council after they wrote persuasive letters about the importance of green roofs in their community. Students from Phillips Middle School (the "Trash Terminators") were invited to present to the Chapel Hill Town Council after they won a national award (Siemen's Be the Change) for their work in composting at their school, prior to the district wide roll out. Their work was essential for the district to have the confidence to expand the program. When asked by the Chapel Hill Mayor what the council could do to support their work, the Trash



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Terminators responded that they could investigate developing a community-wide compost program for homes and businesses.

Our district works closely with city and town officials, which enables students to have direct access to government. Students engage in projects with the Chapel Hill Storm Water Management Division, Orange County Solid Waste, Chapel Hill Alderman and Carrboro Alderman. All of these exposures give students an understanding of and a say in their government. Broadly, our partnerships give our students an understanding of their roll within the community. When combined with the classroom education and special projects, students understand the ramifications of littering on their campus—that storm water can pull that liter into their watershed which affects the community and government in addition to wildlife and their environment. This approach to education is unique and truly works to teach responsibility, stewardship and positive action.

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Phillips Middle Schools' Trash Terminators meet Chapel Hill Mayor and present to Town Council about their work with composting. They urged the town to look into town-wide compost collection programs.



McDougle Middle School celebrates the ribbon cutting of the crowd-sourced solar learning installation. The students immediately began to learn about how it works. They now monitor its power generation, environmental benefits and are integrating it into their science curriculum.

