

U.S. Department of Education
Green Ribbon Schools 2012

For Public Schools only: (Check all that apply) [] Charter Title I [] Magnet [] Choice

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

Official School Name Midtown Community Elementary School
(As it should appear in the official records)

School Mailing Address 1155 Corlies Avenue
(If address is P.O. Box, also include street address.)

Neptune New Jersey 07753
City State Zip

County Monmouth State School Code Number* 25 3510 080

Telephone (732)776-2200 ext 3602 Fax (732)897-9703

Web site/URL www.neptune.k12.nj.us E-mail amrogo@neptune.k12.nj.us

I have reviewed the information in this application, including the award and eligibility requirements on page 2-4, and certify that to the best of my knowledge all information is accurate.

Arlene M. Rogo Date 3/19/12
(Principal's Signature)

Name of Superintendent* Mr. David A. Mooij
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name* Neptune Township Tel. (732)776-2200 ext 7866

I have reviewed the information in this application, including the award and eligibility requirements on page 2-4, and certify that to the best of my knowledge all information is accurate. I concur that this is one of the highest performing green school applicants in our state.

David A. Mooij Date 3/19/12
(Superintendent's Signature)

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

Midtown Community Elementary School

Midtown Community Elementary School is a 152,240 square foot school servicing over 430 students in Pre-K through Grade 5 (ages 3-11). Our diverse student population is comprised of 50% African American, 28% Hispanic, 13% White, 7% Multiracial and 2% Asian. Classes include regular education, special education (autistic, multiply handicapped, learning disabled), ESL and bilingual. Eighty-one percent of our students receive free/reduced meal benefits. The building also houses the K. Hovnanian Children's Hospital Wellness Center and the Neptune Township Police Department Command Center, making this a true community school.

Midtown Community Elementary School was completed in 2008 and in October 2011, was awarded Platinum LEED (Leadership in Energy and Environmental Design) by the United States Green Building Council. This is the highest level LEED designation and Midtown is the largest public school in North America to be given this honor. LEED features are incorporated into the curriculum as well as the building structure. Midtown is part of an urban redevelopment as Neptune is an urban district, designated as one of the former Abbott school districts in New Jersey. The building was constructed as a sustainable site. It allows for a reduction in light pollution and heat island effect while managing storm water. The school's bio-swaes capture and filter the rainwater runoff from the parking area and other locations and that water is kept on site. Aqueducts on the roof top garden also capture and reuse rainwater on site. Waterless urinals in the building assist with water efficiency as well. Geothermal wells, which make heat by using the Earth's natural temperature to heat the school, are located in the front of the building and are examples of the energy efficiency we teach our students. These features along with the light shelves, which allow the sun's rays to go under the sun shades and the solar panels mounted on the roof of the cafeteria, work to maintain a 60% reduction in energy usage. The students can measure how the shades block the sun in the summer keeping the rooms cooler and allow the sun in during the winter keeping the rooms warmer.

Our students are being educated in a beautiful site which allows for "Live-Event Learning," using the building as a "Living Textbook" and educational resource. Local regional materials were used in the construction (within 500 miles) and this information is used in Social Studies, Science, and Language Arts instruction. Recycled materials were used in the construction and the staff and students participate in a myriad of activities promoting recycling in school and at home. Ninety percent of the school space has daylight and open views. Students use solar cells, which work by turning the sun's rays into electricity and helps keep the cost of heating our school very economical, to measure energy usage and determine the relationships between wattage and voltage in the science lab and math and science classes. Under floor air dispersement provides all occupants with improved comfort. Clear Plexiglas panels installed in the intergenerational room offer the students and staff a "bird's eye view" of the pathways of air and water through pipes and ductwork.

The Roof Top Garden is a popular educational outdoor classroom for staff and students. This is the favorite part of the school according to Nayeli Rojas, a former ESL student, currently in Grade 5. She likes it because it reduces run-off which helps keep pollution out of the lakes and oceans and it helps the building stay cool since the plants absorb some of the sun's rays. Another beautiful area of the school which serves as an educational space is the Native Plant Arboretum Natural Area in the front of the site. This area exposes the students to flowers and plants which are indicative to Central New Jersey in a natural setting. Classes walk through the pathways and study the flora and fauna.

In this era of accountability, it is important to note that Midtown has made adequate yearly progress, an indicator of academic success. As our children are gaining the skills to be successful and productive citizens, they are doing so in a state of the art 21st Century facility. Every classroom is

equipped with Smart technology in the form of a Smart board, Smart response units, and computers. A shared lab allows teachers to have all of their students work independently or collectively. Our students can communicate with peers all over the world as they prepare to be citizens of the world. On a daily basis our children learn by doing, and learn how to live in harmony with our natural environment, a benefit of a sustainable building. We are surrounded by the beauty of nature and learn to appreciate that beauty. Midtown Community Elementary School is a phenomenal building, and it is our students who make it a phenomenal school.

Dr. Arlene M. Rogo, Principal



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.

1. The school has some configuration that includes one or more of grades K-12. (Schools on the same campus with one principal, even a K-12 school, must apply as an entire school.)
2. The school achieves or is one of those overseen by the Nominating Authority which comes the closest to achieving the goals of all three green Ribbon Pillars:
1) environmental impact and energy efficiency; 2) healthy school environments; and
3) environmental and sustainability education.
3. The Nominating Authority has evaluated the school and selected it for submission to the U.S. Department of Education from among those schools overseen by the Nominating Authority which have applied for a Green Ribbon, based on *documented achievement* toward the three Green School Pillars and Elements.
4. The school meets all applicable federal civil rights and federal, state, tribal and local health, environmental and safety requirements in law, regulations and policy and is willing to undergo EPA on-site verification.

Name of Nominating Agency _____ New Jersey Department of Education

Name of Nominating Authority _____ Deputy Commissioner Andrew Smarick
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application, including the award and eligibility requirements on pages 2-4, and certify, to the best of my knowledge through a documentary verification assessment, that the school meets the provisions in this Part of the Nominee Presentation Form.

(Nominating Authority's Signature) Date 3/21/12

Midtown Community ES - 05		New Jersey 2012 Green Ribbon Schools Scoring Matrix			Total >	73.93
School Profile:		Green School Programs and Awards 10%			Score	Comments
Cross Cutting Descriptors	1 pt.	2 to 3 pts.	4 to 5 pts.			
Participation in green school programs and/or progress toward a BOE approved green strategic plan (current) Maximum score = 5 points	School participates in one program that benchmarks progress. i.e. Eco-Schools, GSLI, PLT Green School, NJPALS, Cloud Institute	School participates in a few programs that benchmarks progress. i.e. Eco-Schools, GSLI, PLT Green School, NJPALS, Cloud Institute	School participates in a number of programs that benchmarks progress. i.e. Eco-Schools, GSLI, PLT Green School, NJPALS, Cloud Institute, and a BOE approved green strategic plan	3.25		
Awards for environmental and sustainability efforts previously received Maximum score = 5 points	School has received one award for environmental and sustainability efforts. i.e. NJ DEP Recycling Award, Eco-Schools, PLT Green School!	School has received a few awards for environmental and sustainability efforts. NJ DEP Recycling Award, Eco-Schools, PLT Green School!	School has received numerous awards for environmental and sustainability efforts. i.e. NJ DEP Recycling Award, Eco-Schools, PLT Green School!	1.75		
Pillar I:		Environmental impact and energy efficiency 30%			Goal: Net zero energy, carbon, water, waste, and hazardous waste impacts	
Element Descriptors	1 to 5 pts.	6 to 10 pts.	11 to 15 pts.			
Element IA: Zero greenhouse gas (GHG) emissions - Improved energy conservation/energy-efficient building Maximum score = 15 points	School demonstrates some reduced energy use	School has an Energy Star rating and an Energy Master Plan; demonstrates substantial reductions in electricity, heating, energy use and carbon footprint; generates or purchases some renewable energy; has green building recognition for some new, renovated and/or existing buildings at minimum Silver level or equivalent; measures and offsets some of its remaining carbon footprint.	School has an Energy Master Plan; is Energy Star rated above 90; demonstrates reductions from baseline in electricity, heating and carbon footprint of 35% or more; >50% of energy use comes from renewable sources; offsets a <i>substantial</i> amount of its remaining footprint; has received green building recognition at the Gold or higher for all new, renovated, and existing buildings.	14.60		
Element Descriptors	1 pt.	2 to 3 pts.	4 to 5 pts.			
Element IB: Improved water quality, efficiency, and conservation i.e.. Water, Grounds Maximum score = 5 points	The school protects its water from contaminants; cleans its drinking water fountains and controls lead in drinking water.	In addition, the school has smart irrigation and landscaping that is water-efficient; conducts annual water audits and controls leaks; installs <i>some</i> water-conserving fixtures and/or appliances (e.g. waterless urinals, dual-flush toilets, appliances); and can demonstrate a <i>modest</i> amount of reduction in water-use compared to baseline.	In addition, the school demonstrates a <i>substantial</i> amount of reduction in water-use compared to baseline; uses <i>only</i> alternative water sources for irrigation (e.g. gray water; rainwater harvesting); provides <i>only</i> water-efficient fixtures; and uses other creative measures for protecting and conserving water at the school site (e.g. bioswales for controlling runoff).	5.00		

Element Descriptors	1 pt.	2 to 3 pts.	4 to 5 pts.		
Element IC: Reduced waste production and improved recycling and composting programs i.e. Waste, Hazardous waste Maximum score = 5 points	School monitors its hazardous waste and disposes of it as required by state law; has a recycling program that diverts 20% of its solid waste (but no organics/ compost); purchases some paper with <i>some</i> recycled content; uses <i>some</i> “third-party certified” cleaning products; and describes a few creative ways the school community practices the 4Rs.	In addition, school also has a pollution prevention approach to hazardous chemicals; recycles computer and electronics responsibly; purchases some electronics with E-PEAT certification; uses <i>substantial</i> amount of “third-party certified” cleaning products; has a recycling program that diverts 35% of its solid waste (some organics/ compost, such as yard waste); purchases <i>substantial</i> amounts of paper with recycled and chlorine-free content.	School also has made <i>substantial</i> , measured progress towards a “zero waste” goal; has a recycling program that diverts 50% or more of its solid waste (including organics like yard waste and food waste); purchases <i>substantial</i> amounts of paper with > 30% recycled content, and chlorine-free; has an environmentally-preferable purchasing policy and a hazardous waste management policy that reduces and prevents solid and hazardous wastes; uses 100% “third-party certified” cleaning products (not including disinfectants); has a custodial program that meets “green” institutional services standards; and describes several creative ways the school community practices the 4Rs.	4.00	
Element ID: Use of alternative transportation to, during, and from school Maximum score = 5 points	School has programs in place to promote more efficient and healthier transportation, including designated carpool stalls, anti-idling policy, no loading/unloading near air intakes; has some percentage of students that do not drive in a single vehicle to school, and has some means of connecting students to the schoolyard.	In addition, school has a high percentage of students that do not drive in a single vehicle to school; participates in Safe Routes to Schools and identifies safe pedestrian routes; adopts a policy to promote active transportation; and has several means of connecting students to the schoolyard.	In addition, school has alternative-fuel buses and other creative means of promoting alternative transportation.	3.80	
Pillar II: Healthy School Environments – 30% Goal: The school improves the health and performance of students and staff					
Element Descriptors	1 to 5 pts.	6 to 10 pts.	11 to 15 pts.		
Element 2A: An integrated school environmental health program i.e. Integrated Pest Management, Ventilation, Contaminant controls, Asthma control, Indoor air quality, Moisture control, Chemical management Maximum = 15 points	School complies with all relevant state laws related to pesticides, mercury, tobacco and other hazardous materials; ensures good ventilation; keeps relative humidity below 60%;contains no mold; has CO alarms and inventory of appliances; complies with radon laws.	In addition, school tests classrooms for radon within last 24 months; implements an Integrated Pest Management plan that eliminates pesticides; implements an Indoor Air Quality Program equivalent to Tools for Schools; uses “third-party certified” cleaning products; actively manages chemicals; and describes other measures of student and staff health and safety.	School has completed everything in this section and uses an aggressive approach to eliminating environmental health and safety hazards (physical, biological, chemical, natural).	12.40	

Element Descriptors	1 to 5 pts.	6 to 10 pts.	11 to 15 pts.		
Element 2B: High standards of nutrition, fitness, and quantity of quality outdoor time i.e. Fitness and outdoor time, Food and Nutrition , Ultra Violet (UV) safety, Health Services, School Climate and Safety Maximum = 15 points	School conducts at least an average of 120 minutes per week per student of physical education with a reasonable amount conducted outdoors; has an on-site food garden; and participates in some nutrition program.	School also participates in a farm-to-school program; participates in USDA or other nutrition program at a high level; students participate in Sunwise-type program; <i>some</i> food purchased is certified organic; food from school garden is eaten by students.	School also purchases a <i>substantial amount</i> of food certified organic; reduced UV and heat exposure; more than 50% of physical education annually takes place outdoors; and undertakes other measures to promote healthy nutrition, and high quality outdoor time.	7.80	

Pillar III: Environmental and Sustainability Education – 30%

Goal: 100% of the school's graduates are environmentally and sustainability literate

Element Descriptors	1 to 3 pts.	4 to 6 pts.	7 to 10 pts.		
Element 3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems Maximum = 10 points	School integrates E/S concepts into many subjects; integrates E/S into some class and school assessments; >50% of teachers participate in occasional E/S professional development opportunities; enrolls at least 5% of the school's eligible graduates in AP environmental science during their high school career.	School focuses E/S literacy efforts on understanding the key relationships between dynamic environmental, social, and economic systems; incorporates <i>E/S</i> themes and topics in many grades, subjects, classroom and school assessments; >75% of teachers participate in one or more E/S professional development opportunities annually.	School has an E/S graduation/ matriculation requirement which is focused on understanding the key relationships between dynamic environmental, social, and economic systems; fully integrated E/S into the curricula scope and sequence of learning and matriculation standards for <i>all</i> grades; enrolls >5% of the school's eligible graduates in AP environmental science during their high school career.	7.00	

Element Descriptors	1 to 3 pts.	4 to 6 pts.	7 to 10 pts.		
Element 3B: Use of the environment and sustainability (E/S) to develop Science, Technology, Engineering, and Mathematics (STEM) content, knowledge, and thinking skills to prepare graduates for 21st century technology-driven economy Maximum = 10 points	School <i>rarely</i> integrates E/S into science courses; makes <i>few</i> connections to E/S careers; and provides <i>little</i> evidence about links to STEM.	School <i>sometimes</i> integrates E/S into science courses; makes <i>some</i> connections to E/S careers; and provides <i>some</i> additional evidence about links to STEM.	School <i>frequently</i> integrates E/S concepts into STEM courses; curricula makes <i>many</i> connections throughout to E/S careers, career tech/green jobs; offers E/S related CTE courses; and provides a substantial amount of additional evidence about links to STEM education.	7.33	

Element Descriptors	1 to 3 pts.	4 to 6 pts.	7 to 10 pts.		
Element IIIC: Development and application of civic engagement knowledge and skills Maximum = 10 points	School has civic projects related to environment and sustainability in <i>some</i> grades; occasional meaningful outdoor learning experiences in a <i>few</i> grades; and a <i>few</i> community partnerships, perhaps only involving donations of funds/supplies.	In addition, school employs best practices for inquiry-based, hands-on, experiential learning in both their civic and outdoor experiences; projects are not "one-off" but instead are in-depth service learning and civic projects fully integrated with school's academic coursework.	School receives full credit when <i>all</i> grades have civic projects; when <i>all</i> grades have meaningful outdoor learning experiences; and when the <i>quality</i> and <i>quantity</i> of community partnerships <i>results</i> in sustainability advances at the <i>school, other schools and the wider community</i> . Higher points for inspiring and creative projects and partnerships.	7.00	

New Jersey Green Ribbon Schools Application – Code: GRS12-05

School Contact Information

School Name: Midtown Community Elementary School (MCES)

Street Address: 1155 Corlies Avenue

City: Neptune

State: New Jersey

Zip: 07753

School Website: <http://www.neptune.k12.nj.us/mces/site/default.asp>

Principal

First Name: Arlene Last Name: Rogo

Email Address: amrogo@neptune.k12.nj.us

Phone Number: 732-776-2200

Lead Applicant (if different from principal)

First Name: Matthew Last Name: Gristina

Title: Assistant Superintendent for Curriculum, Instruction and Assessment

Email: mgristina@neptune.k12.nj.us

Phone Number: 732-776-2000

Level

Elementary (PK - 5 or 6)

K - 8

Middle (6 - 8 or 9)

High (9 or 10 - 12)

Other (state)

School Type

Public

Private/Independent

District and Code - (i.e. Aberdeen School District – 14005)

District Name: Neptune Township School District Code: 253510

Instructions for completing this form: Please answer all of the questions below to the best of your ability. A more complete application will increase your chances of success. You may supplement the information in these questions by describing alternative benchmarks or indicators of progress (see final question in each section). **Please note that, should your school become a finalist, you may be asked to provide documentation to verify your answers.**

SCHOOL PROFILE: GREEN SCHOOL PROGRAM AND AWARDS

Is your school participating in a local, state, or nationally recognized green school program? If yes, please explain what program and what level you are currently at (for example, local Green Strategic Plan, Eco Schools USA, PLT Green Schools, NJPALS, Green Schools Leadership Institute, Cloud Institute, NJ Sustainable Schools Project).

The Midtown Community Elementary School has partnered with Project Learning Tree, Project WET, the New Jersey Audubon Society's Bridges to the Natural World, National Green Week, the New Jersey Department of Environmental Protection, Clean Ocean Action, the New Jersey Invasive Species Strike Team, the Green Schools Leadership Institute, and the New Jersey Sustainable Schools Project. Midtown also participates in the AVEDA Cap Collection Recycling Program.

Has your school has received any green school, environmental, healthy school, environmental education, or sustainability education awards? If yes, please describe them, and state the year in which they were received:

The Midtown Community Elementary School was awarded the LEED Platinum Certification in October 2011. This is the highest classification possible within LEED and MCES is the largest public school in North America to achieve such distinction.

Has your School Board adopted a Green Strategic Plan? Yes * No

***The Board of Education has adopted a resolution for Gables Elementary School to participate in the NJ Sustainable School project where a Green Strategic Plan will be developed. The Township Council has also adopted a revised Neptune Township Master Plan that includes a Green component having taken the lead from the school district's focus on Green initiatives.**

Has your school created a Green Team? Yes No If yes, describe its composition.

The principal, teachers, and members of the support staff meet to discuss ways of incorporating the Green School curriculum into all areas of school life through gardening, recycling and sustainable energy activities. Students will soon be introduced to electric energy as an energy source by using the "plug-in" electric car charging station which was recently installed outside the school entrance.

Has your school seen a cost savings from green initiatives? Yes No If yes, describe the savings.

The building is designed to operate 60% more efficiently than a building without green initiatives. We have witnessed evidence of this compared to other similar buildings in the district.

PILLAR 1: ENVIRONMENT IMPACT AND ENERGY EFFICIENCY

Buildings, ground and operations: The school has made significant progress toward net zero environmental impact (zero carbon, solid waste, and hazardous waste footprints.)

Element 1A: Zero greenhouse gas (GHG) emissions

ENERGY

1A1. Using the inventory module from Clean Air Cool Planet's Campus Carbon Calculator, or similar green house gas calculator, what is your school's GHG emissions per person?

2.15 (MT eCO₂/person ANNUALLY)

1A2. Has your school received EPA ENERGY STAR certification? Yes No If yes, in what year was the certification earned?

Has your school reduced its total non-transportation energy use from an initial baseline?

Yes No

Reduction is based on ASHRAE 90.1 baseline building standard; MCES design achieved 64.7% reduction evidenced by eQuest v 3.60 computer modeling software and verified via actual utility use calculations.

1A3. Has your school conducted an energy audit of its facilities? Yes___ No **X**

The school opened three years ago. At that time it was designed to use 60% less energy than conventional building design. Commissioning confirmed proper installation. No energy audit has been conducted since then; however we do monitor energy use monthly.

Percentage reduction: _____ %
Measurement unit used (kBTU/Square foot or kBTU/student): _____
Time period measured: from _____ to _____

1A4. What percentage of your energy consumption is derived from the following: (this includes BTU's/energy from Geothermal and bio-fuels or electricity from solar, wind and fuel cells).

On-site renewable energy generation: **3.1%**
Purchased renewable energy: **100%**
Natural Gas: **.1%**

Please indicate which energy saving practices have been implemented at your school

- School has automatic light sensors in all regularly occupied rooms or has a policy to turn off lights in all unoccupied rooms and use daylight when possible.
- School policy requires all computers and other electronic equipment to be turned off at the end of the day.
- School is inspected for potential energy waste on a regular basis (at least annually) and issues are addressed promptly by maintenance staff.
- School sets standard heating and cooling points of 68 - 70 degrees during the heating season and no higher than 75 degrees for air conditioning.
- School has a programmable system or weekend and vacation shutdown procedures for its HVAC system.
- Window blinds or curtains are shut at the end of the day to retain heat and opened in the morning to let in daylight.
- Windows and doors are closed when heating/cooling systems are on.
- School has developed and implemented a communication plan that includes print and electronic media for students, staff and parents regarding above practices.

Identify all additional energy efficiencies that are possible using potential energy reductions.

Holiday calendars for HVAC and parking lot lighting have been implemented to reduce operation of this equipment when building and site is not in use.

Of the efficiencies identified above, match those with any possible state and federal incentives to help defray the cost.

With each site being considered, identify possible renewable energy options and provide the potential reduction in energy usage.
We are currently executing a feasibility study to install additional photovoltaic systems.

Identify state and federal incentive programs available, and provide a cost payback analysis for each renewable being considered.

BUILDINGS

1A5. Has your school constructed and/or renovated buildings in the past 10 years? Yes **X** No___

What percentage of the building area meets Leadership in Energy and Environmental Design (LEED), Collaborative for High Performance Schools (CHPS), Green Globes or other standards?

100%

In what year was your school constructed and/or renovated? **2008**

What is the total constructed area? **149500 (SQ.FT.)**

What is the total renovated area? **0 (SQ.FT.)**

Which certification (if any) did you receive and at what level (e.g. Silver, Gold, Platinum) and in what year? **LEED Platinum**

1A6. Have the project plans been viewed from an Integrated Pest Management (IPM) point of view?

Yes **X** No___

NJ GRS Guide and Application (V.1)

Has IPM been considered before any new building project or renovation project (either buildings or grounds)? Yes **X**
No _____

1A7. What percentage of your school's total existing building area has achieved LEED Existing Buildings: Operation & Maintenance, CHPS Operations Report Card, Green Globes or other standards?

LEED O&M is currently being pursued. We expect to achieve Platinum.

What is the total building area? **149500 (SQ.FT.)**

Which certification (if any) did you receive and at what level (e.g. Silver, Gold, Platinum)?

We are currently pursuing LEED O&M Platinum level certification.

1A8. Does your school reduce or offset the GHG emissions from building energy use? Yes **X** No _____ If yes, please provide:

Current Total GHG Emissions (MtCO_{2e}): **See below**

Baseline Total GHG Emissions (MtCO_{2e}): **See below**

Change from Baseline: GHG Emissions (MtCO_{2e}): **2048 metric tons**

Time period: **from January 2009 to December 2010**

Explain any offsets used: **Since opening the building, we have been purchasing electricity from renewable sources to reduce GHG emissions for 100% of electric usage. This has had the effect of reducing GHG emissions by a total of 2048 metric tons.**

Please indicate which green building practices your school is using to ensure your building is energy efficient.

School has fully implemented the Facility Energy Assessment Matrix within EPA's Guidelines for Energy Management.

School Building has been assessed using the Federal Guiding Principles Checklist in Portfolio Manager.

School has an energy and water efficient product purchasing and procurement policy in place.

Other

1A9. What percentage (by cost) of all your school's furniture purchases are certified under the Business and Institutional Furniture Manufacturers Association's "level" ecolabel?

All of the casework in the building (100%) met the criteria for LEED Material and Resources requirements.

1A10. Does your school have an energy and water efficient product purchasing and procurement policy in place? Yes **X** No _____

If yes, describe the policy that is in place

If electrical or mechanical equipment is being replaced, the most efficient product available is purchased. Any landscaping purchased has to meet our "no irrigation required" criteria.

1A11.1 Does your school purchase energy through [ACES?](#) (Alliance for Competitive Energy Services) Yes _____ No **X**

We have purchased through ACES in the past, but currently we actively participate in cooperative programs for purchasing energy which produce greater financial gains.

1A11.2 Describe other indicators of your progress towards elimination of GHG emissions in detail and include metrics if available):

Element 1B: Improved water quality, efficiency, and conservation

1B1. Can you demonstrate a reduction in your school's total water consumption (measured in gal/square foot) from an initial baseline? Yes **X** No _____ Please provide:

Water use calculations were developed at the time of design and verified by actual metered use. Percentage reduction in domestic use: 33%. Percentage reduction in irrigation: N/A – There is no irrigation system on site

Which of the following practices does your school employ to increase water efficiency and ensure quality? (Please check all that apply)

[X] Our school conducts annual audits of the facility and irrigation systems to ensure they are free of significant water leaks and to identify opportunities for savings.

[N/A] Our school has a smart irrigation system that adjusts watering time based on weather conditions.

[X] Our school's landscaping is water-efficient and/or regionally appropriate.

[] Our school uses alternative water sources (i.e. grey water) for irrigation before potable water.

[X] Our school has not been sited within the past three years for failure to meet federal, state or local potable water quality standards.

[X] Taps, faucets, and fountains at our school are cleaned at least twice annually to reduce contamination and screens and aerators are cleaned at least annually to remove particulate lead deposits.

[X] Our school has a program to control lead in drinking water (including voluntary testing and implementation of measures to reduce lead exposure)

1B2. How often does your school conduct audits of facilities and irrigation systems to ensure they are free of significant water leaks and to identify opportunities for savings?

N/A – There is no irrigation system on site.

1B3. Describe how your school's site grading and irrigation system and schedule is appropriate for your climate, soil conditions, plant materials, and climate, with an emphasis on water conservation:

Site design emphasized the use of local and regional plant materials that would require minimal or no artificial irrigation. The Site was designed to capture rainwater runoff in bio-swales which help to sustain a series of landscaped microclimates that evoke a park setting and are used regularly for outdoor educational activities.

1B3.1 Has your school sought advice from Cooperative Extension for irrigation efforts. Yes **X** No _____

*Appropriate plantings can change from county to county within a given State and schools taking advantage of Cooperative Extension should be credited for asking for and following proper advice.

1B4. Do all your outdoor landscapes consist of water-efficient or regionally-appropriate (native species and /or adapted species) plant choices? Yes **X** No _____

If no, what percentage of the total consists of this type of plantings:

Describe the type and location of plantings:

All of the landscapes at MCES are planted with native New Jersey plants and adapted species. The school grounds are landscaped with a mixture of native trees, shrubs and perennial wildflowers. Canopy trees contain a diversity of ecologically important oaks, including White, Northern Red, Pin, and Chestnut, as well as flowering trees such as Serviceberry, Redbud and Sweetbay Magnolia. Shrubs and perennials include Arrowwood Viburnum, Black-eyed Susan, Blackjack Oak, Bayberry, Little Henry Sweetpire, and a mixture of native sedges among others. This native vegetation provides habitats and vital ecological functions that serve as the green foundation upon which Midtown's network of schoolyard gardens and sustainable sites are built.

In addition to these landscape elements and student gardening areas, there are two locations on the grounds that are intensely planted with native species: the Native Plant Arboretum Natural Area and the James L. Terrell Green Rooftop Garden.

Inspired by New Jersey's natural landscapes, the Native Plant Arboretum Natural Area is designed to minimize the facility's environmental impacts while enriching the educational and aesthetic experiences of the student body and the wider community. Modeled after Coastal Plain wetlands, the MCES rain garden/bio-swale's main purpose is to manage storm water runoff from adjacent parking lots and uplands, to reduce pollutants in the runoff, and to provide valuable habitat for wildlife.

Plant species native to New Jersey's Coastal Plain wetlands and uplands have been used in vegetating the bio-swale. They are organized into communities adapted to specific environments within the site. Those needing wet soils such as Cardinal Flower, Swamp Milkweed, Blue Flag Iris and Swamp Rose Mallow, are located in the bio-swale area itself. Plants requiring drier habitats, including Common Milkweed, Foxglove, New England Aster and Seaside Golden Rod, are planted at higher

elevations with more well drained soils. As a result the bio-swale is home to a rich diversity of plants and animals living interdependently in communities of great complexity.

The use of native plant species contributes to ecosystem health by preserving native flora and by providing food and shelter for the animals with which it has evolved. The bio-swale landscape is designed to become an integral part of the wider Coastal Plain ecosystem and to provide opportunities for study, exploration and enjoyment to students and the larger community.

The James L. Terrell Green Rooftop Garden is part of a growing movement to use rooftop space in environmentally beneficial ways. It represents a creative solution to environmental problems such as storm water management and the heat island effect. As part of students' daily surroundings, it offers a large array of "Live-Event Learning" on environmental issues.

Green Roof or "Living Roof" is the term used to describe a roof covered with a thin veneer of vegetation. A layer of growing medium (soil), root barrier fabric, a drainage layer, and a waterproofing membrane are installed beneath the planted surface to make the system function properly and to promote vigorous plant growth. Plants used for the Green Rooftop Garden were selected for their drought resistance as well as aesthetic and ecological value.

The Green Rooftop Garden plants not only require no irrigation once established, but also act as wonderful tools for teaching and learning. Young students can visit the garden, observe Monarch's visiting Goldenrod on their return trip to Mexico and collect Lady Beetle larva from the leaves of Milkweed. The white pop of Stonecrop in the spring, the orange blast of Butterfly Weed in the summer, and the yellow glow of Seaside Golden Rod in the fall remind our students that these ecologically important plants are part of a natural landscape that can also bring beauty into our lives. The James L. Terrell Green Rooftop Garden is a laboratory that gives students an exciting glimpse into the use of technology to meet environmental challenges. It is our hope that it will inspire and encourage them to become involved in making the world a more sustainable and livable place.

1B5. Are alternative water sources (e.g., grey water) used before potable water for irrigation?

Yes No If yes, describe these alternative water sources:

Rain water is used to irrigate the green roof.

1B6. If drinking water is acquired from the school's own well, are your drinking water sources protected from potential contaminants?

Yes No If yes, describe how they are protected:

1B7. Does your school have a program to control lead in drinking water (including voluntary testing and implementation of measures to reduce lead exposure in drinking water) in place?

Yes No If yes, describe this program:

Periodic testing and flushing

1B8. Has your school been cited within the past three years for failure to meet federal, state or local potable water quality standards?

Yes No

1B9. Are all taps, faucets and fountains used for drinking and cooking cleaned on a regular basis to reduce possible bacterial and other contamination; and are faucet screens and aerators regularly cleaned to remove particulate lead deposits? Yes

No

If yes, how often is such cleaning conducted?

Sinks and fountains are part of daily required cleaning by the custodial staff.

1B10. Describe any other ways, not addressed above, that the school is improving water quality, efficiency, and conservation:

We recently installed an aqueduct system to capture rain water from the roof to water the green roof garden. We installed an additional swale downhill of the rear field to capture water before it exits the site. If the water does runoff, the swale filters it first.

Describe any financial savings from water conservation methods or technologies that your school has installed:

We have no expense for irrigation. We also save 100% on all waterless urinal fixtures.

Describe any local resources or experts that you consulted that helped improve the overall water efficiency and quality of the water in your school.

We followed LEED guidelines for water use reduction achieving four out of five possible credits. The Seven Group was hired to review and make recommendations.

GROUNDS

1B11. What percentage of your school grounds (e.g., playgrounds, rain gardens, outdoor spaces designed and used regularly for social interaction, athletic or recreational areas, etc.) are devoted to ecologically or socially beneficial uses, including those that give consideration to native wildlife? **60%**

Describe:

All areas except for paving and parking are designed in consideration of the support of local species. The bio-swales in particular have developed to become sustained habitats for local avian and insect species.

1B12. Have you diverted rainwater that falls on impervious surfaces (roof, parking lot) from the city storm sewers to on-site management areas such as rain gardens, swales, or ponds? Yes No If yes, describe how:

Above referenced bio-swales provide 100% diversion of rainwater from municipal storm sewer system. Additionally, a roof garden over a 7,000 sf. wing of the facility diverts additional rainfall by providing natural irrigation to succulent species planted within it.

Element 1C: Reduced waste production

WASTE

1C1. What percentage of waste is diverted from the landfill or incinerator by reuse, composting, and/or recycling:

Monthly garbage volume (garbage dumpster size(s) X frequency of collection): **48 cubic yards**

Monthly recycling volume(s) (recycling dumpster sizes(s) X frequency of collection): **24 cubic yards**

Monthly compostable materials volume(s) (food scrap/food soiled paper dumpster size(s) X frequency of collection): **0 cubic yards**

Recycling rate calculation: Total monthly recycling quantity, plus total monthly compostable material quantity divided by total monthly recycling, composting, and garbage quantity x 100 =

50% or Recycling Rate = $((B + C) \div (A + B + C)) \times 100$

1C2. What percentage of total office/classroom paper content by cost is post-consumer material or fiber from forests certified as responsibly managed by the Forest Stewardship Council, Sustainable Forestry Initiative, American Tree Farm System or other certification standard: **70%** (If a paper is only 30% recycled, only 30% of the cost of that paper should be counted towards the recycled portion.) Which standard did you use? **Program for Endorsement of Forest Certification (PEFC)**

1C3. What percentage of total office/classroom paper content by cost is "totally chlorine-free" (TCF) or "processed-chlorine-free" (PCF)? **100%**

1C4. Describe the steps taken to replace paper instruction with paperless, (working and reviewing online, white boards, flash cards, etc).

The installation of Interactive boards and document cameras has reduced the need to copy handouts, allowing topics to be displayed electronically. The principal sends out electronic notifications or uses Black Board Connect messaging through the use phone lines in order to reduce the need for paper notifications.

Describe the amount of paper per student saved. **20%**

1C5. Does your school refill or recycle printer cartridges? Yes No

1C6. Does your school use durable plates, trays, and tableware? Yes No
If your school composts on site, do you use compostable tableware instead of plastic?
Yes No

Which of the following practices does your school employ to reduce waste?

- Our school has a program in place to promote waste reduction practices (for example, reduced paper use, use of durable products).
- Our school has implemented policies to reduce the amount of ink used in printing (for example, toner saver features, and preferred font selections).
- Our school does not sell bottled water.
- Our school has installed a hydration station and/or conducted a campaign to promote use of reusable water bottles.
- Our school has reduced or eliminated Styrofoam and other disposable trays and utensils in our lunch room.
- Our school actively involves students and staff in our waste reduction and recycling practices.

Hazardous Waste

1C7. How much hazardous waste does your school generate? (lbs/student/year) **.06 lbs/student/year**

How was this calculated? **We divided the total lbs for one year by the number of students.**

List each type of hazardous waste generated, and the amount of each present at the end of the year:

We generate two types of hazardous waste, medical sharps and light bulbs. Since the school is new, we have not had too many bulbs at this point.

1C8. How does your school monitor hazardous waste?

All hazardous waste is disposed of through the facilities office or the health office.

1C9. Is a Hazardous Waste Policy for storage, management and disposal of chemicals in laboratories and other areas with hazardous waste in place and actively enforced? Yes No

1C10. Has your school been cited within three years for improper management of hazardous waste according to Federal and State regulations? Yes No Don't Know

1C11. What percentage of total computer purchases by cost are Electronic Product Environmental Assessment Tool (EPEAT) certified products: **100% are either EPEAT gold or silver.**

How does your school dispose of unwanted computer and other electronic products?

We recycle all unwanted electronic equipment and computers.

1C11.1 Describe how your school manages spent fluorescent lamps (light bulbs).

We have a third party recycling company pick up the bulbs.

1C12. Our custodial program has been certified by the ISSA Cleaning Industry Management Standard - Green Building (or other equivalent standard). Yes No (**Currently pursuing LEED O&M**)

1C13. What percentage by cost, of all cleaning products in use, are "third party certified" green cleaning products? **98%.**

We occasionally use a stronger product to remove ink or marker. It is green seal select not green seal certified. Everything else is green seal certified.

Which standard(s) are you using? **ISSA**

Element 1D: Use of alternative transportation to, during and from school

1D1. What percentage of students walk, bike, bus, or carpool (2+ students in the car) to/from school?

33 % walk, 27% are bussed, 38% drive, 2% car pool

Describe how this information been collected and calculated:

The Transportation Department conducted a survey. Midtown Community Elementary School is a sending school for programs not offered in other schools, this increases the number of students driven or bused.

1D2. Does your school have a no-idling policy on file and signs posted stating that all vehicles, including school buses and other vehicles dropping off and picking up students, are prohibited from idling on school premises? Yes No

Describe how you are complying with the NJ no idling law.

We have signs posted at the entrance to our parking lot. We require busses to shut down while waiting for students.

1D3. Are all vehicles loading & unloading areas at least 25 feet away from all buildings air intakes (including doors and windows)?
Yes No

1D4. Describe how your school transportation use is efficient and environmentally benign (e.g. the percentage of school-owned electric/hybrid/alternative fuel vehicles in your fleet, or other indicators of significant reductions in emissions):

Student transportation is 100% contracted out. We have a small fleet of maintenance vehicles that use traditional fuel sources, however we recently installed a few electric vehicle charging stations and we plan to purchase an alternative fuel vehicle, as well as encourage staff to do the same. We also have reserved spaces for Low Emissions Vehicles. Staff members who own an electric vehicle will be able to charge their vehicle at our charging stations gratis. This serves as an incentive to purchase an alternate fuel vehicle.

*NJ adopted the California Low Emission Vehicle (LEV) program effective model year 2009. This impacts all light duty (under 8,501 lbs GVWR) gasoline vehicles. All cars and light trucks sold in NJ are, by default, now LEV or 50-state certified. The regulations are at N.J.A.C. 7:27-29.

1D5. Have "Safe Pedestrian Routes" to school or "Safe Routes to School" been designated, distributed to parents and posted in the main office? Yes No

1E1. Describe any other accomplishments your school has made under Pillar 1 towards eliminating its negative environmental impact or improving your environmental footprint which you feel should be considered:

- **Geothermal heating/cooling for reduced overall load required to condition indoor air**
- **Heat recovery system reutilizes heat from exhausted air, thereby lowering equipment heating demand**
- **Under floor air delivery system requires lower equipment power to move air from plenum space into occupied spaces**
- **Day lighting and controls for combined reduction in overall load required for lighting and reduced heat generation contributed to air conditioning requirements.**
- **Building Automation System for precise scheduling and setpoint accuracy.**
- **Using only Green Seal Certified cleaning products.**
- **Light shelves and sun shields**
- **Installation of a roof garden**
- **Installation of bio-swales**
- **Installation of electric car charging**
- **Installation of rooftop photovoltaics**
- **Using diamond pads to polish concrete floors instead of using chemicals**

1E2. Describe what leadership decisions have been made and what partnerships have been established related to Pillar 1:

The Neptune Township Board of Education gathered input from various stakeholder groups from within the Township of Neptune including the Township of Neptune Mayor and Committee, the Neptune Township Senior Center, Housing Authority, Recreation Committee, Police Department, Economic Development Authority, Jersey Shore University Medical Center and Liberty Science Center. Additionally, the district was awarded a Smart Growth grant that led to studies of the surrounding community that considered public transit access, proximity to transit center type-small business and open/outdoor recreational opportunities. Information gathered was incorporated into the planning elements of the site and building such that community redevelopment needs that could be accommodated on campus or within the facility became design considerations and ultimate build-out.

PILLAR 2 : HEALTHY SCHOOL ENVIRONMENTS

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

Integrated Pest Management

2A1. Does your school provide notification of your pest control policies, methods of application and requirements for posting and pre-notification to parents and school employees? Yes **X** No ___

2A2. Does your school maintain annual summaries of pesticide applications, copies of pesticide labels, copies of notices and MSDS's in an accessible location? Yes **X** No ___

2A3. Does your school prohibit children from entering the pesticide area for at least 8 hours following the application or longer, if feasible, or if required by the pesticide label? Yes **X** No ___

*New Jersey has a requirement for Integrated Pest Management (IPM) to be implemented in all schools below college grade, N.J.A.C. 7:30-13.

Ventilation

2A4. Does your school meet the stricter standard of: ASHRAE Standard 62.1-2010 (Ventilation for Acceptable Indoor Air Quality) OR your state or local code? Yes **X** No ___ If yes, which standard is your school using? **ASHRAE 62.1-2010**

2A5. Are local exhaust systems (including dust collection systems, paint booths, and/or fume hoods) installed at all major airborne contaminant sources, including science labs, copy/printing facilities, chemical storage rooms? Yes ___ No ___ **N/A – No contaminant source locations are sized to require exhaust systems**

2A6. Has your school installed energy recovery ventilation systems where feasible to bring in fresh air while recovering the heating or cooling from the conditioned air? Yes **X** No ___

Contaminant Controls

2A7. Radon: Have all ground-contact classrooms been tested for radon within the past 24 months? Yes **X** No ___

What percentage of all classrooms with levels greater than or equal to 4 pCi/L have been mitigated in conformance with ASTM E2121? ___% **N/A – no classrooms with this level**

2A8. Carbon Monoxide (CO): If your school has combustion appliances, does your school have an inventory of all combustion appliances and does your school annually inspect these appliances to ensure no release of Carbon Monoxide (CO)?? Yes **X** No ___ (No combustion appliances)

Are CO alarms installed which meet the requirements of the National Fire Protection Association code 720? Yes **X** No ___

2A9. Mercury: Have all unnecessary mercury-containing devices been replaced with non-mercury devices, including florescent light bulbs? Yes ___ No **X N/A – School's construction date of 2008 subsequent to use of mercury in devices and bulbs.**

Does your school recycle or dispose of unwanted mercury laboratory chemicals, mercury thermometers, gauges and other devices in accordance with federal, state and local environmental regulations: Yes ___ No **X N/A – School's construction date of 2008 subsequent to use of mercury in devices and bulbs.**

2A10. Chromated Copper Arsenate (CCA): Have all wooden decks, stairs, playground equipment or other structures treated with Chromated Copper Arsenate been either removed or sealed within the past 12 months? Yes ___ No **X N/A – School's construction date of 2008 subsequent to CCA ban.**

2A11. Secondhand Tobacco Smoke: Is smoking prohibited on campus and school buses? Yes **X** No ___

2A12. Asthma Control: Does your school have an asthma management program in place consistent with the National Asthma Education and Prevention Program's (NAEPP) Asthma Friendly Schools Guidelines? Yes **X** No ___

2A13. Indoor Air quality: Have you developed and implemented a comprehensive indoor air quality management program consistent with IAQ Tools for Schools? Yes **X** No ___

2A14. Moisture Control: Are all structures visually inspected on a regular basis and free of mold, moisture & water leakage? Yes **X** No ___

Is indoor relative humidity maintained below 60% (cold climates during freezing temperatures should target 20-30%)? Yes **X** No ___

Are moisture resistant materials/protective systems installed (e.g., flooring, tub/shower, backing, and piping)? Yes **X** No ___

- 2A15. Chemical Management: Does your school have a chemical management program in place that includes the following elements:
- Routine removal of materials no longer needed for the curriculum, by disposal or donation
 - Chemical purchasing policy, including low- or no-VOC products
 - Chemical inventory
 - Storage and labeling
 - Training and handling
 - Hazard communication
 - Spills, clean-up and disposal
 - Select EPA's Design for the Environment - approved cleaning products **Green seal select**
 - Pesticides

Yes No Explain: **The only chemicals used are for cleaning purposes. They are green seal certified.**

Air Quality - Boilers, Heaters, Emergency Generators, Dust Collectors, Spray Booths, and Parts Washers

- 2A16. Boilers, Heaters, Emergency Generators, Dust Collectors, Spray Booths, and Parts Washers are sources of air pollution that may require a NJDEP air permit.

Check here <http://www.state.nj.us/dep/aqm/Sub8.pdf> (section 8.2) to determine if you are required to obtain a NJDEP air permit for equipment at your school.

Does your school(s) have any equipment described above that requires an air permit?

Yes No

If yes, have you obtained the required NJDEP air permit(s)?

Yes No N/A

For older permits (> 10 years), NJDEP recommends obtaining a new air permit. See *3 below.

Fuel burning equipment (Boilers and Heaters): See *1 below

Does your school(s) have any Boilers and/or heaters? Yes No

If yes then: Are they permitted with NJDEP? Yes No N/A

For older permits (> 10 years), NJDEP recommends obtaining a new air permit See *3 below.

Are any of these boilers/heaters certified to be energy efficient (energy star, etc.)?

Yes No

If yes, then describe: **N/A, no boilers on site**

Are any of these boilers/heaters equipped with air pollution controls (low NOx burners, particulate filters, etc.) to reduce air emissions? Yes No

If yes, then describe: **N/A, no boilers on site**

Do any of these boilers/heaters require annual combustion adjustments to reduce air emissions? See *4 Yes No If yes, are you performing these adjustments and submitting the results to the NJDEP? Yes No If No, then follow advisory. See *4.

N/A, no boilers on site

- 2A17. Fuel burning equipment (Emergency Generators): See *1 below.

Does your school(s) have any Emergency Generators? Yes No

If yes then: Are they permitted with NJDEP? Yes No N/A

For older permits (> 10 years), NJDEP recommends obtaining a new air permit. See *3 below.

Do you have any Emergency Generators equipped with air pollution control equipment (catalytic converters, particulate filters, etc.) to reduce air emissions? Yes No N/A

If yes then describe: **Emergency generators are equipped with air pollution control**

Are you aware of the recordkeeping requirements required by NJDEP? Yes No

If no, then follow advisory. See *5 below

Are you aware that you can NOT operate Emergency Generators for testing and maintenance on days when the Department has forecasted a "bad air" day? Yes **X** No ____ If No, then follow advisory. See *5 below.

2A18. Storage Tanks:

Does your school(s) have any storage tanks containing VOCs (gasoline, etc.)? Yes ____ No **X**
If yes then: Are they permitted with NJDEP? See *2 below. Yes ____ No ____ N/A **X**
For older permits (> 10 years), NJDEP recommends obtaining a new air permit. See *3 below.

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

Food and Nutrition

2B1. Has your school earned USDA's Healthier US School Challenge award for school food?
Yes ____ No **X**

2B2. What percentage (by cost) of food purchased is certified as "environmentally preferable" (e.g. Organic, Fair Trade, Food Alliance, Rainforest Alliance, etc.)? **10%**

2B3. What percentage (by cost) of food purchased is grown and processed within 200 miles of the school or what percentage is grown and processed with "geographic preference" in mind?

Depending on the season, we try to order food grown locally to the extent possible.

What percentage of food is grown on school grounds? **0%**

What percentage of food is grown organically? **0%**

2B4. Does the school have an "onsite school garden" that students participate? Yes **X** No ____
If yes, does the school garden supply food for the school cafeteria? Yes ____ No **X**

2B4.1 Describe how the onsite school garden is used as a teaching and learning tool. Describe the types of classroom applications and in what content areas.

Midtown Community Elementary School began its onsite gardening program in September of 2009. This program includes native wildflower gardens planted and maintained by kindergarten, first, second, and third graders to increase habitat for native songbirds, Monarch Butterflies, and the Ruby-throated Hummingbird. Fourth grade students plan and plant a fall and spring salad garden. Fifth graders are given the opportunity to choose an experimental garden topic dealing with any of the student gardens, green rooftop garden or native plant arboretum on the school grounds.

It is our belief that the entire science curriculum, and most of the elementary curriculum, can be taught in the garden. From the age of five our students are learning about the basics of botany and the needs of organisms through their work in our habitat gardens. Not only are they planting and caring for native wildflowers, they are learning about the interaction between the sun's energy, seasonal change, and the mutual dependence of plants and animals.

Beginning in kindergarten students are tracking the emergence and blooming of tulips across the county, via the Journey North program, and on their school grounds. When they reach the first grade they are investigating the relationship between wildflowers such as Tickseed, New England Aster, and Purple Coneflower and native birds such as the Goldfinch.

In the second grade students plant common milkweed as the host plant for Monarch Butterflies as well as a number of nectar plants. In September students collect Monarch chrysalises, observe their emergence, and release them. Students then track their migration to Mexico and predict their return to New Jersey. Third grade students follow a similar curriculum but plant native species, such as Wild Columbine and Foxglove, to provide habitat for the Ruby-throated Hummingbird.

Fourth and fifth grade garden activities focus more on food production and experimental design. In the fall of their fourth grade year, students are introduced to the idea of growing cold hardy greens, radishes and pansies. Students are afforded the

opportunity to plant these seeds in early September with very little teacher guidance. Throughout the fall, students are allowed to care for their garden as they see fit. This open inquiry approach leads to mixed results come harvest time in November. During the winter months students evaluate the success of their fall gardening and produce a “lessons learned” document for the spring. Their fall experience is used as a guide to ensure they measure and plan their gardening plots, test the soil for nutrients, weed, and water. As a result their spring salad gardens are an overwhelming success and are celebrated with a fourth grade salad party in June.

After 5 years of gardening, our MCES fifth graders are given the choice to investigate any aspect of gardening at Midtown Community Elementary School. Topics they can choose from include comparing the growth of wildflowers in the student gardens with those on the rooftop garden and bio-swale on the school grounds and comparing the outputs from the fourth grade salad garden with those from seeds planted on the green rooftop garden or grown in the hydroponics grow lab. Through these investigations students further develop their understanding of the interactions between natural and human systems as it relates to sustainably and environmental stewardship.

2B4.2 Describe how your school offers alternative healthy choices for fundraising events that involve food.

The school only sponsors healthy fundraising initiatives such as Hoops for Heart, and Jump Rope for Heart through the American heart Association and the American Cancer Society Relays for Life.

2B4.3 Describe how your cafeteria provides healthy food and beverage choices.

The district has adopted all of the federal healthy choice mandates ahead of the required deadline dates. Midtown has been awarded participation in the NJDOA Fresh Fruit and Vegetable Grant program for the second year in a row. Three days per week, each child receives an individually packaged fruit or vegetable for them to sample. This introduces the children to healthy choices and different and new vegetables and fruits which they may not be familiar with. All students have participated in an assembly program by Dr. Bernard from the K. Hovnanian Children’s Hospital. Dr. Bernard and his friend Hop Scotch are life-size costumed personalities who review healthy lifestyle choices including healthy eating and physical activity.

Physical Education, Outdoor Opportunities, and UV Safety

2B5. Describe how school-supervised physical education activities take advantage of outdoor spaces.

Several hop scotch and four square courts were painted on the macadam area of the play ground to be used during daily recess time as well as during Physical Education classes. Two tether ball stations are set up on a grassy area near the rear fence. Two age appropriate playground areas were set up for all students PreK-5. The grassy area next to the playground allows students to participate in other team sport activities during recess and Physical Education classes. The school also received a mini-grant through the NJ State School Nurses’ Association for the purchase of Pickle Ball equipment. Since the school is located in an urban setting, it is important to provide some open area for physical activity.

2B6. Describe a unique or innovative health and physical education practice that uses outdoor spaces as a learning lab.

The Native Plant Arboretum Natural Area in the front of the school is used as a walking path for teachers and students. The Physical Education teacher has provided pedometers to track steps taken. This provides some cross curricular activities between Physical Education, Math, Science and Language Arts. Hop Scotch, the Four Square Game, and Jump Rope are lost arts which we have resurrected to encourage individual and group activities as well as social skills and better physical health. These are also activities which students can participate in at home as well.

2B7. To what extent do school homework policies influence students’ ability to engage in unstructured outdoor play?

Appropriate homework is assigned based on the grade level of the child. Every student is encouraged to be physically active in and out of school. Since this is an urban school, many children do not have the access to safe outdoor play areas once they leave school. Each day, every class has 30 minutes of outdoor physical activity allotted in their schedule. The gymnasium is available during inclement weather.

2B8. What percentage of your current student body has participated in EPA's Sunwise Program or an equivalent program regarding UV protect and skin health? **100%***

***By June 1, 2012 100% of our K-5 children will have participated in the EPA's Sunwise Program. All of our grades 1-5 students will have participated in a Water Safety program as well.**

2B9. Describe any other measures regarding the school's built and natural environment that your school takes to promote student and staff health and which you feel should be considered.

The school houses the K. Hovnanian Children's Hospital Wellness Center. This is a school/community partnership which focuses on keeping children healthy and out of the hospital. The National Assembly on School-Based Health Care (SBHC), cites a recent study by John's Hopkins University which states that SBHC reduces inappropriate emergency room use among regular users. This results in students spending more time in school, which increases learning and achievement, and disease prevention. The school also houses the Mobile Dentist which visits the school annually to provide dental health screening and minor dental procedures. The school is also slated to be a site for a local community outreach vision project. The SBHC also works with the Monmouth County Health Department in providing free vaccines to the uninsured children of our community. Lastly, the school has fulfilled all of the requirements for the Asthma Friendly School Award sponsored by the Pediatric Asthma Coalition of NJ.

2B10. Describe any partnerships your school has made with community groups or private businesses to support student health and/or safety.

The Neptune Township School District has a partnership with the Jersey Shore University Medical Center and the K. Hovnanian Children's Hospital to provide preventative services to district children. The Neptune Township Board of Education has a partnership with the Neptune Township Police Department, with an onsite substation within the Midtown Community Elementary School facility.

2B11. Describe any other measures regarding the school's built and natural environment that your school takes to protect student and staff health and which you feel should be considered:

In addition to housing the K. Hovnanian Children's Hospital Wellness Center, Midtown Community Elementary School hosts the local chapter of the Juvenile Diabetes Research Foundation Support Group. This group serves and supports local parents and students who suffer from diabetes. Midtown Community Elementary School will also offer an asthma follow-up clinic. We are working to keep all of our children and staff healthy, safe, and academically successful.

PILLAR THREE: ENVIRONMENTAL AND SUSTAINABLE EDUCATION

Element 3A: Interdisciplinary learning about the key relationships between dynamic environmental, energy and human systems

3A1. Briefly describe how you quantitatively measure student environmental science literacy:

We measure student environmental science literacy through NJASK Science scores, Collins Writing assignments done with the classroom teachers, and Pre and Post Activities for each of our SummerWood and Green Schools curricular units.

3A2. Describe your school's environmental or sustainability literacy graduation requirements:

Midtown Community Elementary School (MCES) teaches environmental literacy across many disciplines and a variety of programs. The Green Schools program includes LEED Green Schools Units, our Gardening and SummerWood initiatives, and our fifth grade Marine Science program. Upon graduation, Midtown Community Elementary School students will have completed 10 hours of the LEED Energy curriculum. This curriculum is designed to teach about the relationship between human systems, energy consumption, and ecosystems. The students examine the school's solar panels, make use of the rooftop garden, use the Weather Bug station to create models of the urban heat island effect, conduct indoor experiments, such as designing efficient windmills, and explore the properties of light and wind as they relate to power generation. MCES's photovoltaic array and geothermal heat pump system enables our school building to become a "Living Textbook" for our students. Throughout the year our teachers cover Green Schools units relating to sustainable sites, water, energy, materials and resources, and indoor environmental quality. These lessons take place in the school's science classroom located next to the Green Rooftop Garden. It is our hope that this "Live-Event Learning" will help our students to develop skills and lifestyle commitments that will benefit our global environment.

The K-5 students of Midtown also participate in the district's SummerWood program. This includes a fall and spring field trip to the SummerWood nature preserve that consists of two local rivers, riparian wetlands and upland forest. This forty-three acre preserve was protected as an outdoor classroom through cooperation between the Neptune School District, Neptune Township and the NJDEP Green Acres Program. The program is designed to provide students with experiences that match

their needs as developing learners. The kindergarten through first grade lessons are exploratory in nature, encouraging our young students to feel comfortable in an outdoor environment, develop observation skills, and begin asking scientific questions. As they move into the second and third grade, the focus of the trips turns more to key ecological concepts such as energy flow, the cycling of materials, interconnection, and changes in ecosystems. These concepts are built on in the fourth and fifth grade, but as students begin to broaden their perspective to the world beyond their home and school, the program focuses them on service learning projects that address environmental problems in their community. It is our hope that the SummerWood program produces citizens that are at home in natural environments, understand fundamental ecological concepts, and have a desire and ability to work toward positive change in their local ecosystem.

Upon graduation, Midtown's students will also have been gardening for six years. Starting in kindergarten, students plant and monitor tulip bulb growth as it relates to the sun's energy and the change of seasons. Additionally, first through third graders plant native wildflower gardens that attract the State's Goldfinch, Monarch Butterflies, and Ruby-Throated Hummingbirds. All four of these garden units are linked to the NJ Core Curriculum Content Standards (NJCCCS) and the Journey North curriculum. The fourth graders plant a fall and spring salad garden of cold hardy greens, radishes and pansy. This project culminates in a grade level salad party. Fifth graders design a variety of experiments around the salad garden, Green Rooftop Garden and Native Plant Arboretum Natural Area on the school grounds. The Neptune Township School District has expanded this MCES initiative to a district wide Elementary Gardening Program. We believe that these "Live-Event Learning" opportunities are cross curricular by nature, inspiring students to think, measure, calculate, pull weeds, dig soil, write, draw, dance, sing, talk, and question everything from where their food at home comes from to the agricultural history of New Jersey.

Finally, each fifth grader will have participated in the long-standing Marine Science program. In this program every fifth grader at Midtown will take a half day field trip to Sandy Hook. The students compare the environmentally protected beaches of Sandy Hook to the developed beachfronts they are familiar with in Monmouth County. They also collect and identify different marine species they find in Sandy Hook Bay. Once the students are in seventh grade, the Marine Science teacher will bring them on a second field trip. The students board the district's A.N.S.W.E.R. Water Rescue boat in groups of five to seven. They ride the boat from the Shark River Hills Marina through the Shark River Inlet and out into the Atlantic Ocean. During the trip the Marine Science teacher asks them to make predictions about the amounts of dissolved oxygen in the different layers of the ocean. Once they are about half a mile offshore, they collect water samples from 3m deep and 10m deep. They also use a Secchi disk to test the visibility in the ocean. While returning to the marina, the students titrate the two samples to discover the levels of dissolved oxygen at each of the depths.

3A3. Describe how environmental science and concepts in sustainability are integrated throughout the curriculum:

A detailed series of Green School Curricular Units are in place in grades one through five, which utilize the five main areas of LEED as the basis for instruction. Unit #1: Sustainable Sites, focuses on schoolyard habitats; Unit #2: Water Conservation, focuses on conservation activities; Unit #3: Energy, focuses on photovoltaic experiments applicable to the different grade levels; Unit#4: Materials and Resources, focuses on school wide recycling and composting; Unit #5: Indoor Environmental Quality, focuses on understanding light, sound, temperature and indoor air pollution/quality.

Midtown Community Elementary School integrates concepts of sustainability, ecology, and environmental literacy through its Green Building, SummerWood, Gardening and Marine Science curricula. The fourth grade salad gardening unit, within the Gardening Program, is one example of the how sustainability is integrated in the elementary curriculum.

The fourth grade Salad Garden Unit integrates Social Studies, Math, Language Arts Literacy, and Physical Education. As students are learning about the rich agricultural history of the Garden State, they are also planning and planting a fall and spring salad garden. When planning their garden plots, students determine the perimeter and area of polygons, create a scale drawing on a grid, and break it into fractional parts for their lettuce, radishes and pansies. Before planting the students measure the pH of the soil and find the percentages of nitrogen, phosphorous, and potassium using a soil test kit.

Throughout the year students are given the responsibility of following simple multiple-step written instructions such as following the directions on the seed packets and the soil test kits. Reading and Collins Writing prompts are related to their yearlong gardening activities. In the spring and fall students are actively engaged in the physical activities that come with gardening; tilling, planting, watering, weeding, and harvesting.

3A4. What percentage of last year's graduates last year completed Advanced Placement Environmental Science? **Elementary students do not enroll in AP courses.**

What percentage of these students scored 3 or better on the Advanced Placement Environmental Science assessment?
Elementary students do not enroll in AP courses.

3A5.1 To what extent are your students successful on the New Jersey Department of Education's science assessments?

74.3% of the MCES 4th grade students scored Proficient or better on the NJASK Science test.

NJASK4 74.3 % of all students were proficient or better

**NJASK8 ___ % of all students were proficient or better
the school)**

(N/A, no 8th graders in

**New Jersey Biology Competency Test ___ % of all students scored proficient or better (N/A, no Biology
students in the school)**

3A5.2 Describe any honors or awards that your students have received in the past two years as a result of their academic or extracurricular activities with environmental issues or sustainability.

3A6. Describe the professional development opportunities in environmental and sustainability education made available to all teachers in your school. What is the estimated percentage of teachers who have attended those opportunities?

The entire staff has been invited to attend professional development through Project Learning Tree, Project WET, and the New Jersey Audubon Society's Bridges to the Natural World. At least 90% of our elementary staff has attended one or more of these workshops. Teachers have also turn-keyed what they have learned after attending the annual ANJEE Conference and the Green Schools Leadership Institute.

3A7. Describe how your school's environmental education program emphasizes student active engagement in scientific practices, such as asking questions, developing and using models, planning and carrying out investigations, analyzing and interpreting data, using mathematics and computational thinking, constructing explanations, and engaging in argument and applications based on evidence:

Scientific practice is one of the common threads that run through all aspects of our K-12 Science Curriculum. We believe that the best way for students to learn science is by doing science, hence our focus on student-centered teaching strategies.

The fifth grade experimental gardening unit is one example of how MCES employs the scientific process in a yearlong study. Teachers facilitate a student-led inquiry experiment where students select a variable to isolate and test related to gardening at MCES. Past experiments addressed the growth rate of different types of lettuce in hydroponics growth labs and traditional soil. In this particular experiment students evaluated the pros and cons of hydroponics as an alternative to land-based agricultural options. As a LEED certified Green School a major focus of the curriculum is an evaluation of the impact that buildings have on habitats and an exploration of how to mitigate those impacts. Impacts investigated include habitat destruction, energy use, water consumption, erosion impacts, nutrient runoff pollution problems, and estimated carbon footprint as well as other greenhouse gases. In order to evaluate these impacts there was a quantitative comparison of inputs (energy, water, fertilizer, labor) and outputs (kilograms of desired vegetable product, nutritional value, pollution) between the fourth grade outdoor salad garden and the fifth grade hydroponics garden. Armed with this data students were able to engage in a meaningful discussion of hydroponics and traditional gardening.

3A8. Describe the extent to which students are engaged in meaningful outdoor experiences (an investigative or experiential project that engages students in critical thinking, problem solving and decision making).

The Neptune Township School district places an emphasis on outdoor, "Live-Event Learning" experiences. As discussed in prior sections, our K-5 Midtown Community Elementary School students participate in three distinct outdoor environmental programs: SummerWood, Marine Science, and Gardening. Two specific examples of meaningful outdoor experiences that engage our students in critical thinking and problem solving are the Nature Detectives kindergarten program and the third grade Characteristics of Life unit.

The Nature Detectives program involves a fall and spring trip to the SummerWood nature preserve. Considering the fall trip is the first time many of these students have been in the woods, the trip includes a guided sensory walk followed by an open period of discovery along the Knoll and Hollow Path. During this trip our Nature Detectives taste maple syrup and wild raspberries, smell Sassafras and Spicebush leaves, find harvestmen, spider's webs, salamanders, earthworms, owl pellets, and many other natural wonders. As they explore, questions about the interactions between plants, animals, and the non-living environment are raised.

During the winter students are introduced to the "Who's Been Here?" series. This allows them to transition from exploring and questioning to thinking critically about what they see on their SummerWood trip. The spring trips builds on this more

critical approach to observing by encouraging students to explore the Jumping Brook Trail with the question of “Who’s Been Here?” in mind. After a period of discovery and discussion students create a map of the area’s nature treasures to formalize their first year’s outdoor experience.

The third grade Characteristics of Life unit addresses form and function of natural structures. During their SummerWood visit students collect leaf litter invertebrates (earthworms, millipedes, centipedes, spiders, wood louse, and a variety of insects) to compare the variety of structures they use to move, eat, and defend themselves.

In addition to invertebrates, students collect a variety of seeds to investigate how and why seeds move. Students explore the unique structure of each seed and ask questions about how it moves. This outdoor learning experience turns into an interdisciplinary winter lesson focused on seed design and wind travel. The students examine seeds under a stereoscope and draw each seed focusing on the unique structures associated with each (Milkweed, Maple, Sweet Gum, and New England Aster). In addition to drawing each seed, students complete a Collins writing assignment describing key characteristics of each seed. Based on those observations, they predict which seed will travel the farthest in the wind and design an experiment to test their hypothesis. The class records the distance traveled by each seed. Using the mathematical tools of maximum, median, and minimum they analyze and interpret their results and discuss explanations in their conclusions.

3A9. Describe innovative or creative approaches that your teachers have embraced to integrate learning about the key relationships between dynamic environmental, energy and human systems.

The teachers of MCES have integrated teaching about the interaction between dynamic human, energy, and ecological systems in a variety of ways. The LEED Green Schools Unit and the gardening program are two school-wide, and now district-wide, initiatives that engage our student in these crucial issues.

Another excellent example of a school-wide effort to integrate these topics is the school’s participation in National Green Week. Beginning in 2008 first through fifth grade students participated in specific grade-level activities that decrease our school’s energy and material consumption. Students in the first grade bring in what would be trash and create art projects with the reused waste. Second graders take paper from the recycling bins to make their own paper. Third graders learn about ways to reduce and reuse paper products. They then educate the other grade levels and quantify the amount of paper used by each class in the school prior to, and during Green Week. The fourth grade students address plastic pollution by educating the other classes about alternatives to plastic and help facilitate increased plastic recycling in the school. Additionally, they have been enrolled in the Clean Ocean Action in Aveda’s Plastic Cap Recycling Program for the past four years. Fifth grade students expand the lunchroom composting program to include all lunch periods.

Grade level teachers have used the school as a “Living Textbook” by designing experiments around the Green Rooftop Garden and the schools energy savings. Mrs. Abromaitis’s third grade class designed an experiment to test the efficiency of incandescent and florescent light bulbs. This study investigated light bulb cost, light levels measured in foot candles, and energy use measured in kilowatt hours. Mrs. Jegou’s fourth grade class studied the heat island effect through an investigation of the school’s Green Rooftop Garden. The students took temperature measurements in the different areas of the Green Rooftop Garden and then created and compared models of buildings with a variety of different roof materials and colors including black, white, tinfoil, and green plants.

In these lessons the connection between our actions and the impact on ecological systems becomes very clear. The creativity our teachers have shown in designing and teaching these lessons has been inspiring to our students and administration.

What percentage of students take more than the minimum science requirement? **100 % (K-5)**

How many hours per week on average do students spend in science classes at the elementary: **3**, middle grades: **4.5** and high school: **3.25**

3B2. Describe how your curriculum prepares and inspires students to pursue post-secondary options that focus explicitly on environmental and sustainability fields, studies, and/or careers?

At the elementary level, Neptune’s Science curriculum focuses on career awareness and career exploration. The entire Green Initiative exposes students to current and future green collar jobs. The SummerWood trips are imbedded with discussions about environmental and sustainability careers. Specifically, the second and third grade classes learn the role of a naturalist as they explore changes in ecosystems, the students work with the DEP while completing the fourth grade Invertebrate Study, and in fifth grade they work to control invasive species while also learning to protect endangered species.

The LEED Green Schools Units expose students to green collar jobs related to renewable energy. The fourth grade students explore the most effective designs for wind turbines. They also conduct a yearlong wind log using the Weather Bug information from Midtown Community Elementary School. This data is then used to determine if Neptune is a reliable source

for renewable wind energy. The fifth graders experiment with solar power. They make connections between the angle of the sun and the energy output of a solar cell. They also maintain a class log to determine the relationship between the angle of the sun and the effect that it has on the temperature in their neighborhood.

The Marine Science program also introduces green collar career options. Students actively participate in the work done by Marine Biologists. As described earlier, the fifth graders go to Sandy Hook and seine in the bay to collect and identify marine life. Once the students are in seventh grade they are able to take a boat trip out into the ocean to study water clarity and dissolved oxygen levels.

Community and Civic Engagement

Element 3C: Development of civic engagement knowledge and skills, and students' application of these to address sustainability and environmental issues in their community

3C1. Are all students required to conduct an age-appropriate, self-selected civic/community engagement project at every grade level? Yes No If not in all grades, please specify which grades: **4th and 5th**

Kindergarten through third grade learners are focused on their immediate surroundings and are not yet developmentally ready to engage in issues at the community level. Through the programs described above, we have provided them with the experiences of observing and questioning in outdoor environments that will ready their schema for engagement in community projects at the appropriate developmental stage.

What percentage of these projects focused on environmental or sustainability topics? **100%**

What percentage of students satisfactorily completed such a project last year?

100% of 4th and 5th graders

3C2. What percentage of last year's graduates scored proficient or better on a community or civic engagement skills assessment? **N/A (no assessment offered at elementary level)**

3C3. Does your school partner with local academic, businesses, government, nonprofits, informal science institutions and/or other schools to help advance your school, other schools (particularly schools with lesser capacity in these areas), and community toward the 3 Pillars? Yes No

Briefly describe the scope and impact of these partnerships:

Ongoing partnerships are in place with Jersey Shore Medical Center, the local Neptune Township Police Department and the Liberty Science Center. In house spaces utilized for local community engagement include the Intergenerational Tutoring Center, Senior Center, and Parent Resource Center and a Police Sub-Station. The facility also includes a standalone health clinic that services community members through a partnership with the K Hovnanian Children's Hospital.

Midtown Community Elementary School partners with Project Learning Tree, Project WET, NJ Audubon Society, NJDEP Green Acres Program, National Green Week, and Clean Ocean Action among other groups on a variety of projects. Teacher trainings with Project Learning Tree, Project Wet, and NJ Audubon are ongoing throughout the district. MCES students have participated in walking field trips to Ocean Grove beach to explore the marine environment and take part in Clean Ocean Actions annual beach sweeps. MCES students also participate in National Green Week which encourages waste and energy reduction through sustainable practices. One such practice that MCES participates in all year long is plastic bottle cap recycling in cooperation with Clean Ocean Action and Aveda. The district is also in the process of developing school specific service learning projects related to science. We plan to partner the fifth grade students of MCES with the American Littoral Society and the Ocean Grove Campground Association to reestablish dune grass in Ocean Grove and the neighboring beach towns.

3C4. Does your school provide outdoor learning opportunities for students (e.g. outdoor classrooms)? Yes No
If yes, describe how outdoor learning is used to teach an array of subjects in context, engage the broader community, and develop civic skills:

As older elementary learners begin to focus on the world around them and their community we have developed outdoor activities that connect student learning to community issues relating to sustainability.

In the fourth grade students visit SummerWood and participate in the NJDEP Biological Water Monitoring Program. Students collect and identify the different benthic macroinvertebrates present in Jumping Brook. They then calculate the water quality index of the stream using the State's water quality rating system. The water quality and macroinvertebrate data is entered into an online data form for comparison with past results.

The fifth graders have been focusing on erosion problems as they relate to farming and the SummerWood nature preserve. Due to the rapid expansion of Japanese Knotweed (*Polygonum Cuspidatum*) the service learning project for the fifth graders is transitioning to the eradication of this invasive species from SummerWood. The NJ Invasive Species Strike Team has helped coordinate our fifth grade SummerWood trip which will include the mapping, removal and monitoring of Knotweed stands.

It is our hope that these service learning projects will empower our students to use their outdoor learning experiences and knowledge of ecological systems to engage in projects that enhance their community and provide a sense of connection with the environment in which they live.

3C5. What other indicators or benchmarks (quantified whenever possible) of your progress towards the goal of 100% of your graduates being environmental and sustainability literate does your school feel should be considered by the review committee?

The Neptune Township School District believes that it is our responsibility to produce citizens with a sustainable world view. We have constructed the country's largest LEED Platinum building with that end in mind. Our Elementary Green Schools Curriculum places an emphasis on outdoor classrooms and "Live-Event Learning." When a student attends Midtown Community Elementary School from kindergarten to fifth grade they will have attended twelve field trips to SummerWood to conduct ecology based experiments. They will have completed the LEED Green Schools Curriculum during the minimum of two and a half hours each week with their classroom teacher and the school's Environmental Science teacher. They will have six years of gardening experience. They will have also attended other environmental field trips such as the fifth grade trips to Sandy Hook and Allaire State Park. All of these classroom activities and "Live-Event Learning" experiences include measurable student outcomes and learning objectives that help the district accomplish its mission.