



## School Nominee Presentation Form

### ELIGIBILITY CERTIFICATIONS

---

#### School and District's Certifications

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

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

### U.S. Department of Education Green Ribbon Schools

---

Name of Principal: Tina Nilsen-Hodges

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

Official School Name: New Roots Charter School

(As it should appear on an award)

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

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

Date: 2/23/21

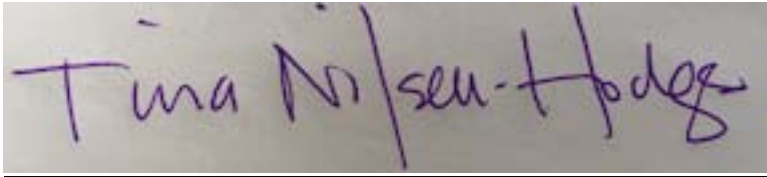
(Principal's Signature)

Name of Superintendent: Tina Nilsen-Hodges

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

District Name: New Roots Charter School

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



Date: 2/23/21

(Superintendent's Signature)

### Nominating Authority's Certifications

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

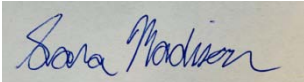
1. The school has some configuration that includes grades Pre-K-12.
2. The school is one of those overseen by the Nominating Authority which is highest achieving in the three ED-GRS Pillars: 1) reduced environmental impact and costs; 2) improved health and wellness; and 3) effective environmental and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

Name of Nominating Agency: New York State Education Department

Name of Nominating Authority: Mrs. Sara Madison

(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

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



Date: 2/23/21

(Nominating Authority's Signature)

### SUBMISSION

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

OMB Control Number: 1860-0509

Expiration Date: December 31, 2023

### Public Burden Statement

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

## New Roots Charter School , Ithaca, NY

---

### Part II - Summary Narrative:

New Roots Charter School is a public charter high school authorized by the State University of New York in 2008 to create a new model of education for tomorrow's solutionaries, a learning environment that empowers young people as citizens and entrepreneurs inspired to create just, democratic communities and thriving green economies that restore the natural world that sustains us. Designed as a whole school model integrating best practices for sustainability education, New Roots attracts a regionally diverse population of students in grades 9-12, bringing together young people from rural, urban, and suburban backgrounds.

In 2017, the Green Schools National Network recognized New Roots as an Catalyst Network Accelerator School, a national leader among schools leveraging the triple bottom line to prepare students to co-create a sustainable future while increasing student achievement; improving the health and well-being of students and staff; and decreasing operational costs and the school's/district's ecological footprint. New Roots was also recognized by the New York Department of Education as Top Green High School in 2012, and with a Green Schools National Network's Best of Green Schools Award in 2019. In 2016, New Roots was the first school in the nation to receive recognition as a Human Rights Friendly School by the Dorothy Cotton Institute and Human Rights Educators USA.

New Roots culture and practices are closely aligned with the three Green Ribbon pillars of reduced environmental impacts, increased wellness, and a focus on the environment and sustainability as the context for STEM learning. The school integrates core environmental, sustainability, green technology, and civics studies into a four-year college preparatory curriculum. Students engage in interdisciplinary exploration of core academic subjects within a framework of sustainability and environmental stewardship, focusing on college, career, and life readiness. STEM courses such as Earth Systems Science, Contemporary Science and Technology (applied physics and chemistry), Global Environmental Science, Biomimicry, and Mathematical Modeling for Sustainability provide conceptual understanding and skills that are applied in fieldwork and community-based projects.

Inspired by the Cloud Institute's Education for a Sustainable Future (EFS) Standards, the New Roots curriculum prepares students with the full spectrum of thinking skills, content, and big ideas necessary to envision and create a more just and sustainable future, firmly grounded in a "sense of place" through direct experience of the natural places and community spaces that they call home. Students examine the complex relationship between human and natural systems and how they can serve as ecological stewards and agents of ecosystems restoration, developing their capacity as "solutionaries." Culminating portfolios and capstone projects require that students demonstrate school-wide Outcomes as Healthy Persons, Lifelong Learners, Communicators, Community Members, Citizens, Members of Ecosystems, and Visionaries committed to a just and sustainable future for people and planet. Students earn college credit for upper-level coursework through Tompkins Cortland Community College's College Now program.

The Cayuga Lake watershed is a focus of study each year, beginning with a foundational two-year study of Earth Systems Science. Students conduct scientific field studies, learn directly from community environmental organizations and local agencies, and share their research with their wider community through symposium presentations. They build on this foundation by participating in on-going ecological restoration work through the Cayuga Wetlands Project in courses such as Contemporary Science and

Technology (an applied Physics and Chemistry class), and Global Environmental Studies. The Cayuga Wetlands Project is a student-initiated project inspired by the ecological knowledge of the people of the Cayuga Nation and watershed explorations in upper level science classes. Students petitioned the Ithaca City Common Council, Department of Public Works, and the Ithaca City Mayor's office to establish wetlands restoration plots to test the hypothesis that native wetlands species would improve water quality and bird habitat on Cayuga Lake. In 2018, the project was awarded a four-year grant from the New York Department of Environmental Conservation to establish a summer Youth Ecological Restoration Corps employing ten youth each summer.

In their senior year, students address a sustainability issue in our community through research and action in self-designed Capstone Projects. In addition to the Cayuga Wetlands Restoration Project, projects have included studies of how urban gardening and farming can increase access to fresh produce, research on the impacts of local agriculture on improving the lives of low-income people living in food deserts, an investigation of the causes of toxic algae bloom on Cayuga Lake, development of rainwater catchment systems, establishing eco-friendly "upcycling" businesses, raising funds for a local artist to create a sustainability mural on the school building, and community projects to raise awareness about the impacts of global climate change.

All students participate in the New Roots crew advisory curriculum, designed to cultivate a powerful school culture through engaging students in school governance, community development, and service learning. Restorative justice practices turn disciplinary infractions into learning experiences that strengthen individual wellbeing and our community bonds. The crew curriculum also includes exploration of college and career paths, with an emphasis on green careers and technology. In 2020-21, New Roots will expand on this programming with the addition of a pilot Career and Technical (CTE) program emphasizing green careers and entrepreneurship.

New Roots teachers engage in professional development to learn the content and skills necessary to design and teach curriculum and assessments aligned with the EfS standards, and to develop meaningful community-based projects in collaboration with community partners. Since the school's inception in 2009, teachers have engaged in professional development offered by organizations such as the Cloud Institute for Sustainability Education, the State Environmental Education Roundtable, the Green Schools National Network, and an EPA-funded project called Teaching Our Cities, a consortium of schools with a place-based, environmental focus.

Located in the heart of downtown Ithaca, New Roots maximizes opportunities for outdoor fieldwork and community engagement, facilitated by the proximity of urban spaces, natural places, and our public transportation system. Students engage in a wide range of meaningful outdoor activities at each grade level, including hiking, gardening, stewardship of local parks, outdoor recreation and sports, fieldwork for science topics (such as water quality monitoring), growing food in containers and in an urban farm demonstration plot, supervised tree climbing, ski club, and urban history walks. The school takes full advantage of opportunities for collaboration with community partners from institutions of higher education to small nonprofits and our local library, including Ithaca College, Cornell University, Cornell Cooperative Extension, and EcoVillage at Ithaca. The Ithaca City Commons is the site for New Roots programs such as the Youth Entrepreneurship Market (YEM) and Rootstock, a youth music festival the school produces in collaboration with GrassRoots Festival, programs that invite wider community participation.

The New Roots school facility, a repurposed historic hotel over 200 years old, is an example of adaptive

use of existing infrastructure by making minimal upgrades. Every aspect of school facility operations is managed to reduce impact and enhance student and staff wellbeing. All operations vendors are evaluated for green options using the NYS OGS Green Preferred Products Listing. The school limits purchases to essential items, and purchases used or reconditioned items when possible. The school reduces waste through a comprehensive recycling and composting program, and through conservation of water and paper. Student transportation arrangements include carpooling, use of public buses, and walking or cycling. One hundred percent of the available school grounds are dedicated to an urban farm demonstration plot, a sustainably managed demonstration of small-scale diversified vegetable production that also serves as habitat for wildlife and native plant species and as an outdoor educational space.

New Roots Charter School is a member of the Ithaca 2030 District, a public-private collaboration working to create a groundbreaking high-performance building district in Downtown Ithaca to reduce building emissions by 80% by 2030. As a member of the Ithaca 2030 District, New Roots reduces the environmental impacts of the building through transparent monitoring of resource conservation and efficiency using an Energy Star Performance Dashboard. The school reduced its energy use by 28% over a two-year period by being responsive to this data, and through green practices such as installing 100% compact fluorescent lighting.

Sustainable wellness practices enhance student and staff health and wellbeing, supporting school engagement and success while cultivating life-long habits of healthy movement, good nutrition, social and emotional learning, and practices for stress relief and focus. All students take Personal Wellness in their first two years, a course integrating health and physical education. The Farm to School Program provides a free and delicious, healthy breakfast and lunch for every student and staff member emphasizing regional and organic whole foods, including daily soups and a salad bar. The Farm to School program sources 100% of its food regionally, and uses real plates, silverware, and glasses instead of disposables. Cafeteria waste is composted and recycling is maximized. The cafeteria is a block away from the main facility, encouraging all students to get out into the fresh air for a daily walk. Physical education also often means a trip to local parks and sports facilities, or immersion into student-selected projects focusing on “fitness for life” interests. Students and staff experience the wellbeing cultivated by being part of a community that values and celebrates each individual, and provides support for mental, social, and physical health and wellbeing.

## New Roots Charter School , Ithaca, NY

---

### Part III - Documentation of State Evaluation of Nominee:

A sample of the reasons this candidate was selected by the New York State Green Ribbon Schools selection team is included below.

#### **Pillar I – Reduced Environmental Impact and Costs (Score 50.63 out of 90)**

##### **Q22: Can your school demonstrate a reduction in its facility-related Greenhouse Gas emissions?**

Yes - New Roots monitors resource conservation and efficiency using an Energy Star Energy Dashboard as a member of the 2030 District, an interdisciplinary public-private collaboration working to create a groundbreaking high-performance building district in Downtown Ithaca. The District provides a non-competitive collaborative environment where building owners, community organizations, and professionals come together to share best practices and accelerate market transformation in Ithaca's built environment.

Initial GHG emissions rate (MT eCO<sub>2</sub>/person): 5.8

Final GHG emissions rate (MT eCO<sub>2</sub>/person): 4.2

Percentage reduction: 28%

Time period measured (mm/yyyy - mm/yyyy): 01/2019 - 12/2020

##### **Q28: Has your school reduced its total nontransportation energy use from an initial baseline?**

Yes - Using Energy Star Energy Dashboard

Percentage reduction: 28%

Time period measured (mm/yyyy - mm/yyyy): 01/2019 - 12/2020

##### **Q49: Please indicate which green building practices your school is using to ensure your building is energy efficient.**

- We are a member of the Ithaca 2030 District, which monitors our building for energy efficiency in an effort to reduce building emissions by 80% by 2030.
- Our Green Team conducts regular energy audits and makes recommendations about how to increase energy efficiency. One primary way that we maximize energy efficiency through use of compact fluorescent bulbs in all fixtures. Our heating and cooling systems can be adjusted by zone or room, which increases our ability to minimize energy use.
- 100% of our school's lighting is compact fluorescents.

##### **Q58: Describe your school's efforts to conduct annual audits of the facility and irrigation systems to ensure they are free of significant water leaks and to identify opportunities for savings. Please describe audit procedures. (Maximum 50 words)**

Our landlord, Travis Hyde, is also a member of Ithaca's 2030 District and demonstrates their commitment to sustainability by conducting routine maintenance audits looking for opportunities to minimize our water usage.

**Q59: Describe your school's landscaping and irrigation systems as related to water efficiency. Does the irrigation system adjust to weather conditions and/or use alternative water sources (grey water, rainwater, etc.)? What percentage of your total landscaping is considered water-efficient or regionally appropriate? Describe the types of plants used and where they are located, and if any plants are listed as an invasive plant species. (Maximum 100 words)**

Our school is located in the heart of downtown Ithaca, and our landscaping is limited to an urban farm demonstration plot adjacent to the building. The urban farm demonstration plot is watered during the growing season as needed, usually 3 times per week between days of rain. Staff and students monitor water use and limit it to about three gallons per watering. 100% of the landscaping is regionally appropriate, and there are no invasive species. These factors also maximize water efficiency.

**Q61: Please describe any other measures employed to increase water efficiency and ensure water quality. (Maximum 50 words):**

- No lead concerns have been detected during voluntary lead testing. The exterior of taps and faucets are cleaned daily. The entire water system is flushed yearly, including the sprinkler system. The source of drinking water is an ezH2O water bottle filling station from Elkay, which filters water for drinking.
- Our staff bathrooms have low-flow toilets, and the kitchen uses a low flow dish machine.

**Q64: Describe what percentage of your school's grounds are devoted to ecologically beneficial uses (ex: school vegetable garden; wildlife or native plant habitats; outdoor classroom; environmental restoration projects; rain garden; etc). (Maximum 50 words)**

100% of our available grounds are dedicated to our urban farm demonstration plot. This is a sustainably managed demonstration of small-scale diversified vegetable production that also serves as habitat for wildlife and native plant species and as an outdoor educational space.

**Q6: What percentage of solid waste is diverted from landfilling or incinerating due to reduction, recycling and/or composting (i.e. Recycling Rate)? Complete all the calculations below .**

A - Monthly garbage service in cubic yards (garbage dumpster size(s) x number of collections per month x percentage full when emptied or collected):

*We use a 1.5 yard dumpster shared between all renters in the building. It is picked up weekly and is usually ½ full when collected. NRCS is responsible for about ½ cubic yard of trash weekly, or two cubic yards monthly.*

B - Monthly recycling volume in cubic yards (recycling dumpster sizes(s) x number of collections per month x percentage full when emptied or collected):

*We recycle 5 times a week transporting recycling directly to the transfer station. We recycle eight 32-gallon bags of recycling weekly. This is about 1.5 cubic yards weekly, or six cubic yards monthly.*

C - Monthly compostable materials volume(s) in cubic yards (food scrap/food soiled paper dumpster size(s) x number of collections per month x percentage full when emptied or collected):

*All food scraps are collected weekly. We generate about .2 cubic yards weekly or .8 per month.*

Recycling Rate =  $(B + C) \div (A + B + C) \times 100$ : = 77.3%

Monthly waste generated per person =  $(A/\text{number of students and staff})$ : .015

**Q73: Describe any other efforts made by your school to reduce solid waste and eliminate hazardous waste? (Maximum 50 words)**

- All operations vendors are evaluated for green options using NYS OGS Green Preferred Product Listing. The school limits purchases to essential items, and purchases used or reconditioned items when possible.
- In the offices and classrooms we encourage digital materials whenever possible. In our Farm 2 School meal program we offer china and metal cutlery for meals as well as using all recyclable materials for take-out and delivery meals. We compost all food scraps and napkins.
- 30% of our school's 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.

**Q77: Describe how your school transportation use is efficient and has reduced environmental impacts.**

Our school transportation system utilizes existing transportation routes, carpooling, and walking or biking to school. The school does not operate its own bus system. Our school participates in a "Safe Routes to School" program.

**Pillar II – Improved the Health and Wellness of Schools, Students, and Staff (Score 52.25 out of 90)**

**Q79: Describe the essential elements of your school's environmental health program, focusing on the following: (Maximum 400 words)**

Our IAQ Coordinator is Allyn Rosenbaum, our Operations Manager. Our Health & Safety Team facilitates the process of our Environmental Health program. We share environmental health information with the public through use of ParentSquare, which sends notification texts, and our website. The committee meets once a year during August, and periodically as needed to address emerging issues. We have written health protocols for issues regarding pandemic and building safety. Some of the topics included in our Health & Safety committee meetings are air quality and safe, environmentally-friendly surface disinfectant.



**Q80: Describe your school's practices for inspecting and maintaining the building ventilation systems to ensure they are operating so that all classrooms and other spaces have adequate outside air supply (Maximum 400 words)**

Our landlord conducts regular maintenance checks to address any issues that might impact air quality or molds, including those involving heating, cooling, and ventilation systems. A local exhaust system was installed in restrooms this past year to provide greater ventilation. Our janitorial service cleans daily, addressing any issues of concern identified by the Operations Manager. We recently introduced HEPA grade air filters in every classroom to clean the air of toxins, viruses, and other harmful contaminants. The Doctor's Choice certified HEPA filter captures up to 99.97% of microscopic allergens including viruses, bacteria, mold spores, pollen, dust, and more. They are designed for large rooms (465 sq ft), and filter up to 5 times per hour. Filters are changed on a regular schedule.

**Q83: Describe how your school supports students with asthma to keep their asthma under control and keep the students fully active.**

Our school nurse is available throughout the school day to give guidance on asthma and to help community members with their asthma management plans and the administration of medication to students experiencing symptoms. We have an emergency action plan developed by our nurse and Dean of Students. The nurse provides orientation and training to teachers about students' individual emergency plans. We recently introduced HEPA grade air filters in every classroom to clean the air of toxins, viruses, and other harmful air contaminants, which supports students with asthma and allergies. The Doctor's Choice certified HEPA filter captures up to 99.97% of microscopic allergens including viruses, bacteria, mold spores, pollen, dust, and more. Designed for large rooms (465 sq ft), filtering up to 5 times per hour.

**Q84: Describe your school's practices for chemical management in classrooms, laboratories, art rooms, maintenance and cleaning, garages, cooking and other areas of your school.**

We have a chemical management process for our science and art classes, which only use non-dangerous chemicals. For chemicals that are toxic we have MSDS sheets. Chemical purchasing is approved by the Operations Manager and approved for appropriate use for our school.

**Q85: Describe your school's Integrated Pest Management (IPM) program.**

No pesticides are used in the school facilities. Pest control is accomplished through routine housekeeping

**Q86: Describe your school's Coordinated School Health approach or other health-related initiatives to promote overall school health.**

Our Personal Wellness program encompasses the eight critical inter-related components of school health into all aspects of the school experience, promoting health through physical and mental education as well as a healthy school environment. All freshmen and sophomores take a foundational Personal Wellness course that integrates traditional health education featuring guest speakers from local health organizations with nutrition education and mind-body practices for focus and stress reduction. As a master social worker (MSW), our Dean of Students leads student support services and

guides the development of our school wide crew advisory curriculum, a support for the development of a healthy and positive school culture. Our crew curriculum emphasizes social and emotional learning, which is key to deeper understanding of good health, strong relationships, and sustaining engagement in education. Our Farm to School nutrition program and emphasis on developing life-long physical activity practices establish healthy habits that support wellbeing both now and into the future.

**Q87: Describe practices your school employs to promote nutrition.**

As a Community Eligibility Program school, we offer all students and staff a delicious, healthy lunch and breakfast at no cost. Our Farm to School Program (F2S), purchases 100% of our food from local or regional suppliers. Our dairy is reliably sourced locally as well as some seasonal produce. We use whole foods, no added sugar, avoid additives, make all our own sauces and dressings, use only pure meat (no fillers or breading), and serve an abundance of fruits and vegetables. We serve vegan, vegetarian, nut-free, and gluten free options daily. Our students enjoy healthy meals made from scratch. We have a new and growing organic urban farm demonstration plot in which we grow key ingredients for our lunch program, education and donation. We purchase fresh fruits and vegetables from the Ithaca Youth Farm, a local non profit that hires youth, including a few New Roots students, as summer farm hands. In the Spring, our students take leadership in plotting out what gets planted and grown in our urban farm plot. Staff also receive a free lunch as part of their benefit program.

The New Roots Urban Farm Project was created by students who participate with our Green Team and Students of Color Unity Elective in Spring 2020. Building on prior year projects including urban porch container and urban permaculture gardening, the project provided students an opportunity to maintain social connections with their peers while practicing safe physical distancing and learning about sustainable agriculture. The project was largely conceptualized as a way to support our own Farm to School program by introducing produce grown directly by our students to be consumed by our students in our lunch program. Students are also empowering the community by giving organic produce to the food pantry at the church, building garden beds at people's homes, and sharing knowledge of best practices to take care of soil, food and ourselves. In this way, they are connecting personal wellness and being to the health of our community and ecosystem as a whole.

**Q88: Describe practices your school employs to promote physical activity.**

New Roots emphasizes a "fitness-for-life" and education for physical activities that people can participate in throughout their lifetimes. This includes meeting physical education standards through activities such as urban hiking, yoga and calisthenics, dance, team sports such as ultimate frisbee, soccer and basketball, use of fitness facilities, and seasonal sports such as skiing. Our students are expected to exceed the recommended 90 minute per week physical education requirement, and at least 50% of our students' annual physical education happens outdoors in public parks and other recreation spaces. Activities such as gardening are also part of the outdoor physical activity options regularly available to students. All students learn mind-body techniques to improve focus and reduce stress as part of their physical education coursework. Practices such as "Take 30," a 30-second quiet pause, are integrated into the beginning of every class meeting.

During lunch and free periods, students are encouraged to spend time outdoors. Our lunch facility is a block away from the Clinton House, so a walk outdoors is a part of their daily experience. Students enjoy spending time on our porch, in our urban farm demonstration plot, and for older students with off campus privileges, walking downtown and visiting nearby creeks and gorges. Teachers are also encouraged to engage in fieldwork and outdoor learning throughout the school day. Many take advantage of a spectacular hike in a nearby gorge featuring beautiful waterfalls, just minutes away from our downtown location.

During the fall season, New Roots has a co-ed Soccer Club, led by Dean of Students, Jhakeem Haltom. Jhakeem is one of the best adult soccer players in our region and he helps students learn and develop skills to be able to compete with other schools with co-ed programs in our region. Team sports help students to develop a sense of teamwork, which is core to education for sustainability. These skills translate to other group projects in the classroom and beyond.

During the winter season, New Roots has a Ski and Snowboard Club, where students travel 30 minutes to Greek Peak Mountain Resort. This provides students opportunities to get outside in the cold winter months, as well as some much-needed exercise when much of the community is hibernating indoors. Students, staff, and families all contribute to this popular club and all develop a sense of connection to the natural world as they engage with the snow, the cold, and the other adventurous humans on the mountain.

**Q93: Describe your school's efforts to support student mental health and school climate (e.g. anti-bullying programs, peer counseling, etc.): (Maximum 100 words)**

Our restorative justice practices and crew advisory curriculum are core elements of our curriculum for a positive school culture and development of the social and emotional intelligence that supports success in college and career. Students meet with their "crew" and a faculty mentor weekly for team building, service learning, and participation in school governance. Crew fosters connection across the lines of difference, weaving the fabric of our inclusive school culture that celebrates each individual's unique contribution to the whole. Our four-year crew curriculum also includes development of skills necessary for high school success, as well as career and college exploration.

**Pillar III – Provided Effective Environmental and Sustainability Education (Score 91.44 out of 105)**

**Q96: Please describe your school's environmental or sustainability literacy requirement. (Maximum 200 words)**

Our four-year high school curriculum is aligned with the Education for a Sustainable Future (EfS) Benchmarks curated by the Cloud Institute for Sustainability Education at each grade level in accordance with our curriculum framework. Students must demonstrate their proficiency in meeting EfS standards in every course to earn course credit. Students participate in a community-based interdisciplinary sustainability project each year that fulfills course requirements. Students in grades 9 and 10 focus on projects related to laws and principles governing the natural world, cultural traditions, and systems

dynamics and change. Students in grades 11 and 12 focus on projects related to responsible local and global citizenship, a healthy commons, and sustainable economics. Standards woven throughout all four years include a strong sense of place, multiple perspectives, and inventing the future. Throughout their four years, students apply their learning to understanding the complex relationship between human and natural systems and how they can serve as ecological stewards and agents of ecosystems restoration.

**Q97: Please describe professional development opportunities available in environmental and sustainability education. Include the percentage of teachers who participated in these opportunities over the past 2 years. (Maximum 200 words)**

All New Roots teachers engage in professional development to learn the content and skills necessary to design and teach curriculum and assessments aligned with the EfS Benchmarks, and to develop meaningful community-based projects in collaboration with community partners. Since our inception in 2009, teachers have engaged in professional development offered by the Cloud Institute for Sustainability Education, the State Environmental Education Roundtable, Expeditionary Learning Schools, Community Works, the Green Schools National Network, and an EPA-funded project called Teaching Our Cities, a consortium of schools with a place-based, environmental focus. Additionally, our Education for Sustainability Coordinator and Principal, who jointly lead professional development in curriculum and instruction, plan and implement yearly in-depth workshops in August and periodically throughout the school year. 100% of our teachers participated in one or more of these opportunities in the past two years.

**Q98: Please describe how your school implements environmental and sustainability throughout the curriculum and assesses student achievement emphasizing the importance of net zero environmental impacts and the relationship between the environment and personal health. (Maximum 200 words)**

Our Curriculum Framework articulates how nine key Education for a Sustainable Future (EfS) Benchmarks are expressed throughout our four-year curriculum as expressed above. The school uses Atlas curriculum software to map how these learning standards are expressed and assessed over the course of four years. In 2020-21, the school is developing a comprehensive plan for collecting data on each of the benchmarks across the curriculum to illuminate student learning. Additionally, students develop a graduation portfolio that demonstrates their understanding of concepts such as net zero environmental impact and the relationship between personal and environmental health as they show evidence that they have met School Wide Outcomes such as Healthy Persons and Members of Ecosystems.

**Q99: Does your school frequently use the environment and sustainability as a context for developing science, technology, engineering and mathematics (STEM) content knowledge, and thinking skills (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 from evidence) when exploring environmental and sustainability issues?**

Sustainability is used as a context for developing core knowledge and thinking skills in all STEM courses. Students collect, analyze, and interpret data to answer questions such as, Is our watershed healthy?

using historical water quality data and mathematical thinking. They support claims from evidence by presenting findings to peers, professionals in science fields, and college students in STEM fields. They collect data to engage in informed argument on questions such as, Why are bird populations declining? Students collaborate with local partners to use their findings to restore ecosystems that support migratory and native birds.

In advanced STEM classes, students analyze and interpret data on oil use and availability to engage in arguments from evidence on questions like, When will the world reach peak oil? They investigate why cooking food is a challenge for people in the developing world, and consider engineering solutions like solar oven technology. Students analyze and interpret data to create a claim about solar oven design, then build an oven and analyze data from it to explain how it worked and what could improve. Students collect data to answer questions like, How can buildings be sustainable? then develop models and engage in debates using evidence.

**Q101: Please describe students' civic/community engagement projects integrating the environment and sustainability topics: (Maximum 200 words)**

Freshmen and sophomores study impacts to the Cayuga Lake watershed, conducting water testing through field studies and learning from local leaders in environmental protection agencies and organizations. They present their research and recommendations to the wider community. Juniors and seniors contribute to on-going ecological restoration work called the Cayuga Wetlands Project, which was initiated by students as a senior capstone project. Students gained permission from local governmental agencies to establish wetlands restoration plots to test the hypothesis that native wetlands species would improve water quality. The project was awarded a grant from the Department of Environmental Conservation to establish a summer Youth Ecological Restoration Corps.

All students engage in yearly projects of this type, and complete a Senior Capstone Project that addresses a sustainability issue in our community. Senior Capstone Projects include research as well as community engagement and action. Recent student projects have included how local agriculture impacts food security and food deserts, eco-friendly upcycling businesses, public awareness campaigns to reduce waste, use of rainwater containment systems, academic research papers about toxic algae blooms on Cayuga Lake, and community projects to raise awareness about global climate change. Students present their positive solutions in community forums and public symposiums.

**Q104: Please share how outdoor learning is used to teach an array of subjects in context, engage the broader community, and develop civic skills.**

Students engage in a wide range of meaningful outdoor activities at each grade level, including hiking, gardening, stewardship of local parks, outdoor recreation and sports, fieldwork for science topics (such as water quality monitoring), growing food in containers and in our urban farm demonstration plot, supervised tree climbing, ski club, and urban history walks. Activities like these are integrated into core courses as well as physical education and crew advisory classes.

One example is the Cayuga Wetlands Project, an initiative developed as a Senior Capstone project. Students proposed a research site at Stewart Park on Cayuga Lake, making presentations to the Ithaca

City Common Council and Department of Public Works and working directly with the Mayor to obtain necessary permissions. The project included promotion to raise community awareness about the connection between toxic algae blooms that impact community health and the importance of restoring the natural ecological balance of the lake to address root causes of environmental issues. This project engages knowledge and skills from all four core academic areas.