ILLINOIS GREEN RIBBON SCHOOLS APPLICATION

Background

Thank you for your interest in completing the Illinois State Board of Education's application for nomination to U.S. Department of Education Green Ribbon Schools (ED-GRS) or District Sustainability Award. ED-GRS recognizes schools, districts, and postsecondary institutions taking a comprehensive approach to sustainability, incorporating environmental learning with improving environmental and health impacts.

Becoming a U.S. Department of Education Green Ribbon School, District Sustainability Awardee, or Postsecondary Sustainability Awardee is a multi-step process. The first step is to complete and submit this form to be selected as a nominee by your state education agency or equivalent.

Once selected as a nominee by your state education authorities, the second step of the process requires signatures certifying compliance with all applicable civil rights, Federal Student Aid, health, safety, and environmental statutory and regulatory requirements. You may view the certifications that you will be asked to make in the Nominee Presentation Forms here.

Finally, your nomination materials, including the signed Nominee Presentation Form, documentation of progress in all areas of the award, and several photographs, will be sent to the U.S. Department of Education (ED). ED notifies national selectees in the spring, inviting them to send representatives to attend a ceremony in Washington, D.C. in the fall. Selection is based on documentation of the nominee's progress in the three ED-GRS Pillars:

Pillar I: Reducing environmental impact and costs;
Pillar II: Improving the health and wellness of students and staff; and
Pillar III: Offering effective environmental and sustainability education.

Schools, districts, and postsecondary institutions demonstrating progress in every area will receive highest scores. It may help to assemble a team with expertise across these areas to complete the application. You may also wish to consult Green Strides for programs related to each Pillar.

Please reach out to greenribbon@isbe.net if you have any questions or need an accommodation to complete this application. ***Applications should be no longer than 18 pages.***

ILLINOIS GREEN RIBBON SCHOOLS APPLICATION

School Applicant Information

1. School Name: Huntley Community School District 158

   District Name: Huntley Community School District 158
   Street Address: 650 Dr. John Burkey Drive
   City: Algonquin County: McHenry
   Zip: 60102
   Website: https://huntley158.org/
   Facebook page: @District158
   YouTube: Huntley Community School District 158 (@district158)
   Instagram: @huntley_158
   Twitter: @Dist158

2. Principal Name: Dr. Scott Rowe, Superintendent
   Principal Email Address: SRowe@District158.org
   Phone Number: 847-659-6158

3. Lead Applicant Name (if different): Mark Altmayer, CFO
   Lead Applicant Email: Maltmayer@District158.org
   Phone Number: 847-659-6111

<table>
<tr>
<td rowspan="2">Level
■ Early Learning Center
■ Elementary (PK - 5 or 6)
■ K - 8
■ Middle (6 - 8 or 9)
■ High (9 or 10 - 12)</td>
<td rowspan="2">School Type
■ Public
☐ Private/Independent
☐ Charter
☐ Magnet</td>
<td rowspan="2">How would you describe your school?
☐ Urban
■ Suburban
☐ Rural</td>
<td>Is your school in one of the largest 50 districts in the nation?
☐ Yes
■ No</td>
</tr>
<tr>
<td>Total Enrolled: 8,548</td>
</tr>
<tr>
<td>Does your school serve 40% or more students from disadvantaged households?
☐ Yes
■ No</td>
<td colspan="2">% receiving FRPL: 13.4%
% limited English proficient: 6.9%
Other measures:</td>
<td>Graduation rate: 96%
Attendance rate: 93%</td>
</tr>
</table>

ILLINOIS GREEN RIBBON SCHOOLS APPLICATION

School Summary and Highlights:

Use 2-3 pages to provide a summary narrative describing your school's efforts to reduce environmental impact and costs; improve student and staff health and wellness; and provide effective environmental and sustainability education. This overarching summary should highlight the best of your work in every ED-GRS Pillar and Element.

The vision of sustainability and environmental awareness that has come to define Huntley Community School District 158 began nearly 14 years ago with a need to enhance the district's financial position and find room for savings wherever possible, most notably through energy cost saving practices. As a PreK-12 district with nine buildings, over 1,200 employees and approximately 8,600 students to serve across Huntley, Lake in the Hills and Algonquin, this work took time, dedicated staff, a supportive community and invaluable partnerships. Today, the District maintains a low operational spending per pupil at 20 percent below the state average. In 2006, Huntley 158 was one of the fastest growing districts in Illinois with limited funding. This reality, combined with a largely residential tax base left limited funds to drive the district's educational innovations forward. As a result, the District began to prioritize energy efficiency, operational improvements and explored ways to cut costs and energy consumption in tandem.

Since 2009, the District has seen a reduction in annual energy costs from $2.5 million to $1.1 million in energy costs, which equates to over $1.5 million in annual savings. These energy savings came largely from strategic operational changes in both equipment and the equipment's behavior. In order to begin making an impact, Huntley 158 prioritized physical changes to the energy consumption components of our facilities, including lighting retrofits in school buildings and district facilities, HVAC and lighting equipment driven by occupancy sensors, and high efficiency equipment upgrades.

Next, the District sought to ensure a long-lasting and impactful change by incorporating demand control ventilation, managing temperature and air pressure across buildings and modulating energy consumption in relation to occupancy load. Over time, the District also worked with strategic management energy groups sponsored by Nicor and ComEd to continue to expand on these practices and learn how to be more energy efficient. These changes led to Energy Star® ratings and an enormous savings for the District. Before Huntley 158 even began its journey into solar and renewable energy, it had amassed over $1 million in yearly savings. Over the last ten years, these operational efficiencies have become integral to the organizational culture of Huntley 158 and its emphasis on these practices.

In addition to a commitment to operational efficiency, one of the largest factors in cementing Huntley 158's status as one of the greenest districts in the state of Illinois has been its use of solar energy. In fall 2020, Huntley 158 "flipped the switch" on the largest solar energy installation on school district property in Illinois. With three large solar installations totaling 15,100 solar panels across our three campuses, the project now produces clean, renewable energy to fuel our buildings. Through the District's agreement and partnership with ForeFront Power, the District pays a low, flat kilowatt-per-hour rate well below market rates for energy, enabling the District to save an estimated minimum of $4.2 million over the life of the contract. In addition to cost savings, the project also helps reduce the District's carbon footprint, offsetting some 12.3 million pounds of carbon emissions annually. Most recently, in December 2022, Huntley 158's Board of Education approved the installation of 2.75 megawatts of community solar to be installed with Forefront Power. This project will continue to benefit the district's energy savings while also affording our community the opportunity to see savings on their residential energy bills.

Huntley 158's transportation services have also evolved to reflect our commitment to greener practices and prioritize the health of our students and staff. Today, approximately 30% of the District's 110 bus fleet are fueled by propane. Propane buses significantly reduce emissions, are healthier for our students, quieter, heat up more quickly during winter months, and are more operationally efficient than diesel buses. In January 2022, Huntley 158 was awarded $1,042,611 from the Illinois EPA in grant funding to purchase four all-electric buses, which are expected to arrive in early 2023. Huntley 158 is one of just two districts who have been awarded this funding in McHenry County and has received the highest award in a single district across the state. In addition, the District recently purchased five plug-in hybrid minivans, with fuel efficiency estimated at 82 mpg, that were delivered in early January 2023. As it relates to the electric buses and vehicles, the District has engaged and contracted with one of our energy partners to implement and construct a $1.4 million

electrical vehicle infrastructure that will support the charging of up to 12 electric buses; notably, this infrastructure will be entirely fueled by a ground mounted solar array within our transportation facility.

These endeavors and their impact on our community has allowed Huntley 158 to not only share our success with peers and neighboring districts across our county and state, but it has also afforded the District unique opportunities to provide our students and families with the chance to learn more about the importance of sustainability and also gain hands-on experiences within the solar energy industry.

As part of Huntley 158's agreement with Forefront Power, the District has installed interactive solar kiosks in each building, which allow every student, staff member or community member to digitally interact with the District's solar initiative and learn about its impact. The kiosks provide a metric of energy produced via solar, as well as how the energy generated translates to amounts of water, gas and methane. This learning opportunity, combined with the ground mounted solar arrays on each campus, provides a daily reminder to our stakeholders of the importance of sustainability.

Solar energy has also represented an important point of crossover between Huntley 158's goal, as outlined in the District's Strategic Plan, to remain sustainable to meet the needs of our students and community, and the District's overarching mission to provide an excellent educational environment for All Students Always. We have leveraged innovative and operationally efficient practices to foster environmental awareness and allocate more funding to our classrooms so that we are able to prioritize programming that best satisfies our student population's needs.

Students in grades K-12 participate in diverse curriculum offerings, which are based on ecological knowledge, socio-political knowledge, knowledge of environmental issues, problem solving skills, environmentally responsible behaviors and hands-on experiences. These topics are addressed through interdisciplinary units and the EXPLORE special at the elementary level, Project Lead the Way (PLTW) courses in middle school, a customized Engineering Academy at Huntley High School and the use of Tower Gardens for students in Huntley 158's 18-22 transition program, LIGHT, to grow fresh, nutrient-rich foods. The District has engaged students in an exploration of sustainability and solar energy through the 2021 STEM Scholars Program alongside Congresswoman Lauren Underwood, and also offers secondary students the opportunity to earn College and Career Endorsements through the Illinois State Board of Education (ISBE) in the areas of environmental service systems, engineering and technology, and more. Students across grade levels have also engaged in service projects which facilitate tree planting in the community, have fundraised for clean water in Uganda, establishing recycling and other environmentally friendly practices in schools through recycling and ecology clubs.

In the business of education, it is critical to both educate our students on the benefits of sustainability, and also use its benefits to enhance our students' educational experience and overall well being. In Huntley 158, we educate our students and establish focus on environmentally conscious practices through leading by example. While at school, students see and experience green efforts firsthand through healthy and fresh school meals, food sharing tables, reusable serving trays, recycled copy paper, online learning resources through the District's 1:1 program and blended learning pathway, solar energy, propane buses and more.

Huntley 158 has also increased its emphasis on the social, emotional and mental well-being of our students and staff through a comprehensive health and P.E. curriculum, as well as important tools to strengthen student's mental health in and outside of the classroom. Students and staff both receive lessons and professional development that focuses on tools to regulate behavioral and emotional wellness. In 2022, the District forged a key partnership with Care Solace, an organization committed to providing staff, students and families throughout the community with access to mental health resources and a trained healthcare professional. Care Solace is available to our Huntley 158 community as an additional resource 365 days a year.

The first step toward a greener future, where energy bills are smaller and tax dollars can be saved, is to simply start somewhere. Huntley 158 continuously strives to share what we have learned over the course of our own journey to help others down the path of operational efficiency and sustainability. Our commitment to not only our students, but the community in which they live and the environment that we will one day leave to them, drives our purpose. The impact of sustainability is one that translates to classrooms, across communities and, eventually, throughout an organization's culture. In 2023, Huntley 158 stands as testament to where small, effective changes can lead and why there is value in engaging today's learners and tomorrow's leaders, our students, in the practices of sustainability. The collection of initiatives displayed in this application can save tax dollars, prioritize our Earth's future, and ultimately, allow more of our

community's contributions to our schools to be dedicated to learning in the classroom, where it belongs. In Huntley 158, we choose learning over burning.

Pillar I: Reduced Environmental Impact and Costs

A. Energy

1. **Do you track energy use in ENERGY STAR Portfolio Manager®, or another way in your district?**

■ Yes ☐ No

2. **If so, how have you tracked your resource usage, for how long, and how has your usage dropped over that time?** *(Data or graphs can be submitted as a separate supportive document if desired.)*

Huntley 158's operations and maintenance department analyzes every electricity invoice in detail, starting with meter readings and utilizing spreadsheets to recalculate charges using tariff experience to highlight changes in tariffs and consumption over time. In addition, the District's facilities have all been entered into the U.S. EPA Energy Star program since 2010. Huntley 158 facilities have reduced net energy consumption in kBTU/sf (with gas and electric aggregated) by 36%, including solar power consumed. The impact of solar installations on-site has reduced the District's aggregated peak demand from over 3 MW to less than 2 MW, and in some peak demand periods, to just over 1 MW. This has also provided notable financial savings to the District. Attached to this application is a chart outlining Energy Star data over the last four to five years, broken down by school building. These efforts, combined with improved market energy prices, have resulted in the District lowering its annual energy cost from approximately $2.4 million in 2008-2009 to approximately $900,000 today.

3. **Please describe the strategies you have implemented or planned to reduce your energy consumption.**

For the last 13 to 14 years, the District has focused significantly on operational efficiency and the reduction of energy costs, which began with an initial goal of receiving an Energy Star rating. Over this period of time, the District performed several projects working with our energy partners to reduce energy usage and overall costs. These initiatives included:

- 2007 to 2009- replacement of all interior metal halide lighting with fluorescent lighting retrofits and exterior perimeter security lighting
- 2010-2011- major HVAC controls upgrade with enhanced sequence of operations including demand control ventilation, air-handler demand reset of discharge temperature and airflow and installing occupancy sensors on all interior occupied spaces controlling lighting and local HVAC control modulating interior temperatures during unoccupied periods, controlling all non-security related exterior lighting to only being ON during occupied hours and fluorescent lighting retrofits to a higher efficiency design on one half the District interior spaces
- 2012 upgrade of two chillers to premium efficiency
- 2014 fluorescent lighting retrofits to a higher efficiency design on the other half of the District interior spaces
- 2015-2016 - modifications to existing infrastructure with building additions at Huntley High to generated added efficiencies to existing HVAC systems and the addition beyond traditional adding of HVAC system support the newly constructed spaces including moved beyond energy code upgrades with LED lighting, upgraded boilers, chillers, windows, walls, roofs and a chiller replacement in 20175 and 2016 with the assistance of SEDAC.
- 2020 -retrofit three of the District's nine buildings with LED lighting, retrofit all 8 kitchens with demand control ventilation, and installation of demand load shedding control of all nine facilities in conjunction with a District-wide HVAC controls update.

- 2021- premium chiller upgrade

Perhaps most notably, in fall 2020, Huntley 158 flipped the switch on the largest solar energy installation on school district property in Illinois with 5.67 megawatts of ground mounted solar arrays across each of the district's three campuses. With three large solar installations totaling 15,100 solar panels across our three campuses, the project began producing clean, renewable energy to fuel our buildings and the community. Under the Power Purchase Agreement the District entered with our partner, ForeFront Power, the District pays a low, flat kilowatt-per-hour rate well below market rates for energy. Approximately 75% of the District's energy usage comes from on-site solar, and during less active times, the excess energy produced from the panels will go back to the grid. In addition to cost savings, the project will help reduce the District's carbon footprint, offsetting some 12.3 million pounds of carbon emissions annually.

In the past five years, the District has also purchased 33 propane buses and has also received grant dollars from the state to purchase four electric buses to add to the existing bus fleet. Huntley 158 has also purchased five plug-in hybrid minivans to be delivered in early 2023. Most recently, in December 2022, Huntley 158's Board of Education approved the installation of 2.75 megawatts of community solar to be installed with our partner in solar energy, Forefront Power. This project will continue to benefit the district's energy savings while also affording our community the opportunity to see savings on their residential energy bills.

4. What percentage of your school's energy is obtained from:

a. **On-site renewable energy generation:** Approximately 75% of the energy used by the district is derived from 5.67 megawatts of ground mounted solar arrays. In addition, the District is currently working with our solar partners, Forefront Power, to install additional solar panels on 15 acres of district property generating 2.75 megawatts of community solar benefitting our community. Lastly, the District is working on an additional 194 kW of solar to offset EV bus consumption.

b. **Purchased renewable energy:** The 5.67 megawatts of solar arrays noted above are located on district property, but owned by Forefront Power. The district entered into a 20-year power purchase agreement with Forefront whereby the District is paying 2.6 cents per kilowatt, fixed, over the 20-year agreement. It is estimated that this will save the district over $210,000 per year or a minimum of $4.2 million over the 20 year agreement period. In addition, the district has 33 propane buses for which we are purchasing propane via an onsite tank that is fueled by AmeriGas.

c. **Participation in an energy cooperative, DOE Wind for Schools or other school energy program:** Due to Huntley 158's use of onsite renewable energy via solar, the District has not participated in an energy cooperative.

5. **In what year was your school originally built?**

The District has nine buildings, including eight schools and one administrative and transportation building. These original buildings were built between 1996 through 2005, with various additions made along the way and since. Even though these facilities are relatively new, District 158 was able to improve the systems and continue to find ways to improve sustainability through significant energy savings over the years.

6. **What is the total building area of your school?**

The District has nine buildings with a total approximate footprint of 1,528,000 square feet.

ILLINOIS GREEN RIBBON SCHOOLS APPLICATION

7. **Please describe any new construction or major renovations at your school in the past ten years, including the date, and the percentage of area renovated. Describe how you achieved green building or similar standards and any certifications earned.**

From 2014 to 2016, the district performed a large-scale renovation and addition at Huntley High School, adding approximately 102,300 square feet of space. This addition added several new classrooms, as well as a renovated common area to accommodate approximately 3,300 high school students. As part of this renovation and addition, every aspect of the project included upgrades beyond energy code minimum requirements including upgrades to premium high efficiency boilers and chillers, windows, walls and roofs.

8. **Please describe your sustainability policy and practice for new or renovated construction materials and building maintenance.**

The District follows two policies that pertain to the environment and sustainability. These policies are listed below. Furthermore, with every renovation project, as well as every purchase of replacement equipment, the District thoroughly reviews all opportunities for improvement with regard to energy savings and sustainability, as these are important factors of the return on investment analysis that helps us drive our decision making process.

4:160 Environmental Quality of Buildings and Grounds:
The Superintendent shall take all reasonable measures to protect: (1) the safety of District personnel, students, and visitors on District premises from risks associated with hazardous materials and (2) the environmental quality of the District's buildings and grounds. The district follows State policy with regard to this, pesticides and coal tar sealant.

Enhanced sustainable renovation considerations during life cycle replacement planning:
The District has been restoring portions of its asphalt pavement areas with full-depth reclamation of gravel subgrades in-place in lieu of removal and replacement with new gravel subgrade which avoids carbon emissions from hauling in and out large quantities of bulk materials. In addition, the District has been restoring flat roof systems with a liquid applied roofing material which will not require removal and placement on the next life cycle but clean and recoating with a new layer of liquid applied roofing material to limit waste and consumption of new roofing materials.

4:150 Facility Management and Building Programs:
The Superintendent shall manage the District's facilities and grounds as well as facility construction and building programs in accordance with the law, the standards set forth in this policy, and other applicable Board policies. The Superintendent or designee shall facilitate: (1) inspections of schools by the Regional Superintendent and State Fire Marshal or designee, (2) review of plans and specifications for future construction or alterations of a school if requested by the relevant municipality, county (if applicable), or fire protection district, and (3) compliance with the 10-year safety survey process required by the School Code.

Standards for Managing Buildings and Grounds:
All District buildings and grounds shall be adequately maintained in order to provide an appropriate, safe, and energy efficient physical environment for learning and teaching. The Superintendent shall develop procedures for managing buildings and grounds.

Standards for Green Cleaning:
For each District school with 50 or more students, the Superintendent or designee shall establish and supervise a green cleaning program that complies with the guidelines established by the Illinois Green Government Coordinating Council.

ILLINOIS GREEN RIBBON SCHOOLS APPLICATION

B. Water and Grounds

9. **Can you demonstrate a reduction in your school's total water consumption from an initial baseline or describe your best practices to limit water usage? For example, calculate your change in water usage (in gallons per occupant) over a specified period of time, or a reduction in water used for irrigation.**

The District 158 O&M staff retrofitted all automatic flush valves on toilets and urinals and turned off irrigation on the stadium fields which generated a 65% reduction in water consumption or a savings of over 4,000,000 gallons of water in 2022 versus 2018's meter readings.

10. **What percentage of your landscaping is considered water-efficient and/or dedicated to ecological or instructional use? Describe the kinds of plants used and locations:**

Huntley 158 is a campus based district, having 2-3 schools per campus. Within each campus there are approximately 10-12 acres of solar arrays that have been turned into prairie restoration projects and act as educational opportunities for our students to see and experience sustainability.

In 2020, as Huntley 158's solar energy project began, the District partnered with the Environmental Defenders of McHenry County to further the planned sustainable efforts in renewable energy and contribute positively to the health of our environment. In order to protect all living things, the Environmental Defenders are dedicated to the preservation and improvement of the natural environment in McHenry County. The district has worked with the Defenders on prairie restoration and the use of native plantings within and around our solar arrays on all three campuses. Today, the district has approximately 36 acres of property, utilized for solar, that have native plantings that have not only enhanced the environment, it has increased the ecological diversity and has created habitats for native animals and insects. In addition, these native plantings have deep root structures that will help to reduce erosion and runoff.

11. **Describe the water sources used for irrigation, including any cisterns or rain barrels.**

The District uses well water for irrigation at Huntley High School and has rain barrels at several elementary buildings, such as Conley, Mackeben and Chesak Elementary Schools, which are used to water plants and trees on the building's grounds. In addition, the District monitors water usage on a monthly basis. Recently, the District returned to the use of manual flush valves in all buildings on its Square Barn Road Campus (4 buildings) in response to water waste being caused by faulty automatic flush valves.

12. **Describe any efforts to reduce stormwater runoff (e.g., rain gardens) and/or reduce impermeable surfaces.**

The District works very closely with all three villages that encompass its boundaries (Huntley, Lake in the Hills and Algonquin) to ensure we are complying with all three villages' stormwater management practices. District 158 has received commendations from the Village of Algonquin in the annexation review process with its use of native plantings on the banks of its network of stormwater detention ponds.

C. Waste and Chemicals Management

13. **Describe the strategies you use to divert solid waste (e.g., trash, cafeteria waste, paper, or landscape waste) from landfills due to reduction, recycling and/or composting. Complete the calculations below or provide reduction rates:**

Within our Food Services Department, sustainability efforts have created numerous educational opportunities for our students and staff. Over the last few years, the District has implemented the following:

Creating Food Sharing Tables within our School Buildings: A school Food Sharing Table (FST), where students can place uneaten food for other students to consume, helps reduce food waste and food insecurity among children and adolescents. In this effort the district focuses on the following;

- Controlling the amount of uneaten reusable food from going to our local landfills by approximately 150 pounds daily from all eight schools combined.
- Ensuring hungry children have multiple chances during the lunch period to select extra food items left by fellow students.

Creation of Dump and Recycling Stations at our Upper Elementary Buildings: A Dump and Recycle Station is a process to reduce liquid waste as well as to recycle items by having students dump out their liquid containers and separating items that are recyclable. In this effort, the district has partnered with Seven Generations Ahead "Zero Waste Schools Program" and the Environmental Defenders of McHenry County to create this process and program. In this effort the district focuses on controlling the amount of liquid wastes going into the local landfills and recycling.

Elimination of Milk Straws at the Upper Elementary Level: The district has moved away from offering plastic milk straws in one of our 3-5 grad buildings as they wreak havoc in our environment. In addition, the district is taking an active role leading by example with regard to 'reduce, reuse, recycle'. We are planning to continue this effort in the remaining upper elementary and middle school buildings.

Implementing Bulk Condiment Stations: We currently save on average 2,400 used small packages of condiments from going in the garbage (1,300 Ketchup, 400 Mustard, 300 Mayo, 400 Ranch.)

Utilizing Reusable Serving Trays: We use washable serving trays in seven of our eight schools. By doing so we save hundreds to thousands of pounds of non-recyclable items (cardboard/Styrofoam food trays) from going into our local landfills.

In addition, the District utilizes recycling receptacles throughout the district with educational signs, as well as student clubs at the elementary level, educating students on the value of recycling. On January 31st, 2022 the District attended the Environmental Defenders Sustainability Summit as part of its continued efforts to collaborate with other districts and local organizations to find ways to reduce plastic and food waste and help our environment.

14. What percentage of your school's total office and classroom paper content is post-consumer material, fiber from forests certified as responsibly managed and/or chlorine-free?

In an effort to keep the focus on sustainability and cost savings, the majority of all copy paper purchases is recycled multipurpose paper purchased from various paper manufacturing companies. Furthermore, the District has decentralized the purchasing and use of paper at the building level in an effort to reduce the amount of paper being used and to save on paper cost. If a building saves money on their paper budget, those dollars can be used for other instructional supplies. This alone has placed more emphasis on prioritizing responsible spending and reducing the amount of paper used within the buildings. In an effort to reduce the high cost of paper, the District significantly reduced the number of printers and copiers within each building and implemented paper printing procedures to significantly reduce the amount of paper being printed.

In 2012, Huntley 158 was the first K-12 District in the State of Illinois to begin the process of becoming fully 1:1, meaning every student district-wide was provided a digital device for learning. As a result of this, combined with the efforts above, the district has significantly reduced the amount of paper being used within our classrooms.

15. **List the types and estimated quantities of chemicals (e.g., laboratory materials, cleaning products, pesticides) managed at your school, and how they are stored, disposed of, and minimized:**

The District has taken advantage of opportunities to generate hand soap with refillable cartridges on-site from concentrate to limit waste from packaging and shipping. The District has purchased cleaning equipment that generates ionized water onboard which reduces to water leaving now trace of chemicals behind.

In addition, the District encourages its custodial contractor to use the on-site generation of ionized water technology for its day to day cleaning and sanitizing chemicals using on-site generation technology. The chemicals in district facilities are stored in accordance with State code in locked cabinets and/or the district's locked storage area. On an annual basis, we monitor the amount of chemicals on hand so that disposal of these products is very minimal. If disposal of a chemical is needed, the district follows all EPA and RCRA requirements while working with an appropriate environmental disposal company.

16. **Describe how your school purchases environmentally preferable products for use by students and staff:**

The School District choses to purchase microfiber towels and launder them for re-use in lieu of disposable products where practicable.

D. Alternative Transportation

17. **What percentages of your students walk, bike, bus, or carpool (2 or more students in the car) to and from school? Please explain how these numbers are obtained and calculated, and describe any improvement in this area over time.**

An estimated 90% of our students ride the bus in Huntley 158. As an Illinois Department of Transportation Hazardous Designation School District, it has been determined unsafe for students to walk to school and therefore, the option of transportation is provided to 100% of our students. Huntley 158's campus structure means that there are few sidewalks and limited access for our students who choose to walk. However, Reed Road Campus is adjacent to a residential neighborhood, and many elementary and middle school students do take advantage of the ability to walk or ride their bike to school. Based on various car rider lines at each building, we estimate that 10% or less of our students are driving or being driven to school. The District encourages car pooling and walking if and only where appropriate as an additional step toward sustainability.

18. **Describe the plans or strategies to increase the number of students walking and biking to school.**

Despite Huntley 158's status as a Hazardous Designation School District, the district has worked with the city of Lake in the Hills to install multiple pedestrian crosswalks and flashing lights near Marlowe Middle School on Reed Road Campus to accommodate both walkers and bike riders. Close partnerships with the Villages of Lake in the Hills, Algonquin and Huntley has allowed the district to be involved in conversations about traffic patterns, traffic light installations and other efforts to increase the safety of pedestrians on our campuses.

19. Has your school implemented any of the following? Check all that apply.

☐ Designated carpool parking stalls.

☐ A well-publicized no idling policy that applies to all vehicles (including school buses).

☐ Vehicle loading/unloading areas are at least 25 feet from building air intakes, doors, and windows.

■ Safe Pedestrian Routes to school or Safe Routes to School.

Describe activities in your safe routes program: The District continuously works with each Village within the District's boundaries to ensure that all students that do walk to school have safe routes. In addition, the District consistently performs traffic and pedestrian studies through a partnership with Kimley-Horn to ensure our students and parents have safe routes to school while also appointing crossing guards at appropriate intersections on or near campuses.

20. **Describe how your school transportation is efficient and has reduced its environmental impact:**

Over the past five years, there has been a significant focus on sustainability, fuel efficiency and student wellness within the district's transportation department. Since 2018, the District has purchased 33 propane buses, totaling approximately 30% of the district's current bus fleet. Unlike diesel exhaust systems that produce an unpleasant smell and particulate matter that aggravates asthma and other conditions, with propane there's no smell or particulate matter which is much better for our students. In another exciting stride forward for Huntley 158, the District has received $1.04 million in grant funding from the Illinois EPA for the purchase of four electric buses, expected in early 2023. Over the next five to seven years, the District has a plan in place to replace the remaining fleet of diesel buses with that of propane or electric. As a result of the current propane fleet, Huntley 158 estimates a 50% fuel cost reduction for these vehicles, as well as a significant reduction in harmful nitrogen oxide (NOx) emissions. In addition, the District recently purchased five plug-in hybrid minivans, with fuel efficiency estimated at 82 mpg, that were delivered in early January 2023.

21. **Describe any other efforts toward reducing environmental impact, focusing on innovative or unique practices and partnerships:**

Most recently, in October, 2022, the District engaged one of our energy partners to implement and construct a $1.4 million electrical vehicle infrastructure that will support up to 12 electric buses with future vehicle to grid and microgrid capabilities (with control wiring rough-in) and other hybrid vehicle plug-in vehicles, which will all be fueled by a ground mounted solar array within our Transportation Facility.

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

A. Environmental Health

1. **Describe your school's Integrated Pest Management (IPM) program, including any certifications earned, routine inspections, pest identification, monitoring, record-keeping, and pest prevention activities.**

Huntley 158 uses Anderson Pest Control throughout the district for monthly preventative service for insect and rodent control including roaches, ants, fruit flies, silverfish, wasps/bees, spiders, millipedes, centipedes, ground beetles, crickets, sow & pill bugs, mice and rats. Detailed service records are maintained and made available via Anderson Pest Control of products and amounts used. Anderson Pest Control is a Certified Green Pest Control company with the GreenPro designation, meaning they comply with the procedures and systems established by the NPMA's GreenPro Committee to ensure that all customers receive responsible, eco-effective service.

2. **Describe the efforts or practices you have in place to minimize or eliminate the use of pesticides, both indoors and outdoors.**

The District has numerous policies and procedures implemented to reduce the attraction of pests in an effort to eliminate the use of pesticides within our buildings. For example, the District minimizes and discourages eating in classrooms. In classroom or grade levels where eating outside of the cafeteria does occur, additional custodial services are provided specifically to those classrooms. The district also follows the State policy surrounding the use of pesticides.

3. Describe the actions taken or the practices your school employs to minimize or eliminate exposure to the following specific hazardous contaminants (if applicable):

a. **Elemental Mercury:** Huntley 158 does not handle elemental mercury. In the event that someone is exposed, appropriate first aid scenarios are in place to be followed.

b. **Carbon Monoxide from fuel burning equipment or appliances:** With regard to carbon monoxide, the District follows the Public Act 99-0470 that mandates local school boards require each school under its authority to be equipped with carbon monoxide alarms or carbon monoxide detectors. All alarms and detectors are checked and tested monthly and contain a 10-year lithium ion battery.

c. **Radon:** With regard to radon, the District follows the recommendations from the Illinois Emergency Management Agency (IEMA) that every occupied school building in a school district be tested every five years for radon.

d. **Chromated Copper Arsenate in wooden playground equipment:** The District does not have any pressure treated lumber playground equipment. All District 158 playground equipment is exclusively manufactured of steel, aluminum and plastic.

e. **Others (e.g., Lead, Asbestos or PCBs):** District 158 maintains an asbestos management plan which includes acknowledgement from the Il. Dept. of Public Health that District 58 facilities are "asbestos-free".

4. **Describe policies and practices in place to promote security and life safety.**

The District has created a culture of safety and security through its policies, procedures and commitment to review the overall safety and security plans for the district on an annual basis. Huntley 158's comprehensive safety and security plan includes, without limitation:

1. An emergency operations and crisis response plan(s) addressing prevention, preparation, response, and recovery for each school
2. Provisions for a coordinated effort with local law enforcement and fire officials, emergency medical services personnel, and the Board Attorney;
3. A school safety drill plan;
4. Instruction in safe bus riding practices; and
5. A clear, rapid, factual, and coordinated system of internal and external communication.
6. Training for O&M staff on safety concerns to look-out for is regularly provided.
7. Routine inspections of the facilities for Health and LIfe Safety code compliance are completed and documented.

Huntley 158 is a campus based district with two to three school buildings per campus. Huntley 158 employs a resource officer at each of its three campuses. The District has partnered with Huntley Police Department to house a campus resource officer (CRO) at Huntley High School for more than 20 years. In fall 2019, two more CRO's were added at the Square Barn Road and Reed Road Campuses as part of the District's ongoing efforts to enhance school safety and student wellness.

The Campus Resource Officer (CRO) program is dedicated to making Huntley 158 schools and students safer by providing law enforcement support and the highest quality training to staff and students. Each of the resource officers is a full-time, fully equipped police officer with authority to enforce local laws as well as to provide first response in emergency situations. As CRO, these officers are specially focused on proactive school safety and

security, building positive relationships between students and the law enforcement community, and education on a variety of safety and wellness topics.

As additional safety precautions, all educational buildings have secured entrances having two doors with a vestibule in the middle. All doors are locked after the start of the school day and all visitors are required to buzz in and state their school purpose. During the 2022-23 school year, Huntley 158 instituted a closed and locked classroom door practice which aligns with best practices as outlined by the federal Secret Service offices. This practice is necessary in order to further secure our buildings and classrooms in the event of an intruder. On an annual basis, the District goes through an annual life safety review in collaboration with the Regional Office of Education.

5. **Describe actions your school takes to prevent exposure to asthma triggers in and around the school, such as animals in the classroom, sanitation, or other airborne contaminants.**

The District monitors the CO2 level in all occupied spaces as a part of its Demand Control Ventilation sequence of operation of its HVAC systems and maintains a limit of 1,000 ppm as recommended by the Illinois Department of Public Health. All building automation system installations on air-handling equipment uses a sensor in its return air chambers to monitor levels of Co2 to bring in fresh air. The District also maintains a minimum outside air damper position of 20 percent. Also, as noted within pillar I, the purchase of our propane buses also prevent asthma triggers.

6. **Describe actions your school takes to control and prevent leaks, moisture, condensation, and excess humidity; and to promptly clean up mold or remove moldy materials when it is found.**

Proactive measures are taken throughout the year, including thorough visual inspections of each building's envelope and attic space to ensure leaks, condensation and moisture are addressed promptly. The District has a formal process for reporting and documenting all leak reports. The District utilizes a company called ACR Restoration for all significant water infiltration events. ACR reports promptly on the scene to remove all water and or mold and ensure the safety of any impacted facilities. All major water infiltration events and any other IEQ complaints are followed up with an indoor environmental sampling by a Certified Industrial Hygienist who's report is put on-file.

7. **Our school has installed local exhaust systems for major airborne contaminant sources.**

■ Yes ☐No

If Yes, list the rooms with these features and their uses: All District 158 facilities have general exhaust in all art rooms, science rooms, kitchens and nurse's offices which are operational during occupied hours. In addition, the District has fume hoods installed with manual controls in all art rooms and science rooms at its middle school and high school which include a push-button on function, time-delay off function and manual override, if needed.

8. **Describe your school's preventive maintenance program for the building's ventilation system, including unit ventilators to ensure it is clean and operating properly:**

The preventative maintenance program for District's ventilation system, including the unit ventilator, VAV box and the fan power box, is conducted quarterly and includes the following steps:

1. Replace air filters 3 times per year (2 x with MERV 13 and 1x with MERV8)
2. Semi-annual inspection of all air-handlers and RTU's by a UL97 or RES certified HVAC technician or a factory service technician with reports documenting operation and condition of the equipment including coil cleanliness, motor, dampers and controls operation.
3. Annual inspection of all exhaust fan systems as a part of its regularly scheduled in-house preventative

maintenance program
4. Annual inspection of outside air-dampers by in-house staff prior to on-set of winter

9. **Describe actions your school takes to ensure that all classrooms and other spaces are adequately ventilated with outside air, consistent with state or local codes, or national ventilation standards, including any periodic measurements and record keeping:**

See references to the Demand Control Ventilation Sequence of Operations in another section of this report for details. The District tries to bring in as much fresh air as possible, while maintaining energy codes. The Building Automation System uses a sensor in its air handlers to monitor levels of Co2 to bring in fresh air. The District also maintains a minimum Outside Air Damper position of 20%.

10. **Describe other steps your school takes to protect indoor environmental quality such as implementing EPA IAQ Tools for Schools and/or conducting other periodic, comprehensive inspections of the school facility to identify environmental health and safety issues and take corrective action:**

The District 158 O&M staff regularly perform walking inspections and document and report any concerns which are promptly acted on by the O&M Office team. In addition, all IEQ complaints from staff are promptly investigated and acted on as necessary including commissioning services from out-sourced test and balance technicians and environmental consultants where warranted.

11. **Describe your green cleaning policies, equipment, products and practices, and green cleaning certifications or awards:**

The custodial service contractor working in the District is required to comply with the Illinois green Cleaning in Schools Law, Public Act 095-0084. In addition, the contractor is required to use HEPA vacuum bags on all equipment. As referenced earlier, the District strongly encourages on-site cleaning chemical generation. The District also owns and requires its contractor to use Advance Adfinity scrubbers which can strip wax off floors without the use of chemical strippers. Lastly, the District owns and requires its contractor to use its Tennant T16 scrubber with EC2 on board technology which only uses ionized water generated onboard to clean the floor. The School District also uses liquid brine pretreatment of all walks and pavement for ice and snow management to limit the amount of chlorides going into the ground water in our environment. In 2021 the district installed a 10,000 gallon liquid brine tank for this effort. Studies have shown these Best Management Practices reduce the amount of chlorides introduced into the environment by up to 75% on average while also saving money.

B. Nutrition and Fitness

12. Does your school employ the programs below to promote nutrition, physical activity, and overall school health?

☐ Participates in a Farm to School program or similar local food program.

■ Our school has an on-site garden.

■ Our cafeteria provides fresh meals daily with healthy choices for students.

■ At least 50% of our students' annual physical education takes place outdoors.

■ Health measures are integrated into assessments.

Give details about programs and successes: District 158 owns and operates its own Food Services Department and is part of the National School Lunch Program, ensuring that all meals follow the national guidelines for nutrition. Each and every day, meals are made fresh to ensure that a variety of healthy and customizable options are available for all students. In addition, allergen friendly options are available at all times. Also, at our high school, we have implemented the use of Tower Gardens (explained below). Furthermore, annual fitness tests are performed for all students in grades 3-11. The test results are used to set goals in P.E. classes throughout the year.

13. **Provide specific examples of actions taken which are innovative or unique practices and partnerships:**

In 2018, the District partnered with Tower Garden in an effort to bring organic produce to Huntley High School. A tower garden is a device that grows fresh, nutrient-rich plants and food using aeroponic technology, which has been shown to increase yields by as much as 30% and triple the speed of plant growth as compared to soil gardening. Tower gardens also use only 10% of the water and space required when soil gardening. In addition, the tower gardens use LED indoor grow lights, which allows our students to garden and learn indoors year round. These Tower Gardens have been used as an integral element of the district's special education LIGHT program and its curriculum. Students in Huntley 158's LIGHT (18-22 transition) program focus on independent life skills, employment experience and career readiness. The purpose of the LIGHT program is to help students meet their post-secondary goals related to education, employment and independent living.

14. **Describe how outdoor education, exercise and recreation are promoted within the curriculum and outside the classroom.**

In Huntley 158, students in grades K-5 receive P.E. education for 30 minutes a day five days a week, as well as daily recess. During these opportunities, students are encouraged to engage in physical activity, focus on assessing their own physical health, work with teams, and focus on a myriad of exercises. This element of a student's daily schedule promotes well-being and health through the use of effective communication and decision-making skills, understanding which systems and factors impact growth and development, and the prevention and treatment of illness and injury. Students also hone in on the importance of being healthy and staying safe. In middle and high school, students expand upon these themes in order to better understand the habits and decision making skills that keep one healthy and safe. These topics are covered during health and P.E. curriculum. Students also have access to a wide range of extracurricular clubs, activities and sports which emphasize the importance of physical fitness and offer opportunities to stay active through school-related organizations and teams.

Additionally, throughout many of our interdisciplinary units and through classes at the secondary level, students have the opportunity to participate in outdoor education regarding learning about our local ecosystems, life sciences, physical sciences, and other applications of science.

15. **Describe efforts to improve nutrition, health, fitness of students and staff, highlighting innovative practices and partnerships:**

In addition to the efforts listed above, Huntley 158 believes that student and staff wellness is rooted in a positive mindset while at school and at work. In service of this goal, the District began its work with renowned Harvard researcher and social scientist, Shawn Achor, and his theory of positivity through *The Orange Frog Training* in 2021. The training, which is based on the principles outlined in Shawn Achor's book, *The Happiness Advantage*, includes a professional development program and organizational resources to pass on to our students and community members which promote a mindset of positivity, gratitude and a desire to "scan for the good". This work, while just beginning in Huntley 158, has made an apparent and positive difference in the well-being of our school community, both in students' and staff's relationships with one another and their overall satisfaction while teaching and learning in our buildings. This instinct to "Choose Happy" in our daily life can have a positive effect on the mental and physical health of students and staff.

ILLINOIS GREEN RIBBON SCHOOLS APPLICATION

C. Coordinated School Health, Mental Health, School Climate, and Safety

16. **Does your school use a Coordinated School Health approach or other health-related initiatives to address overall school health issues?**

■ Yes ☐ No

If yes, describe the health-related initiatives or approaches used by the school: Huntley 158 understands that both the social-emotional and physical health of the students and staff play a large role in the academic success of the students we serve. The District views school wellness through a concerted effort to understand, develop and align the following areas: health education, physical education, health services, nutrition, SEL (student and staff social emotional learning/well-being), positive school climate and staff wellness. Huntley 158 has a wellness committee with representatives from each of these areas to review, on an ongoing basis, the District's "school wellness". Goals and action plans are reviewed, along with various data sources, and adapted on an annual basis.

17. **Does your school partner with any outside institutions, businesses, clubs, nonprofit organizations, or community groups to support student health and safety?**

■ Yes ☐ No

If yes, describe these partnerships: In September 2022, the District partnered with Care Solace, a confidential tool that allows students, staff or their family members to quickly look for mental health resources and get matched with an appropriate mental health professional 365/24/7. This resource is accessible online to Huntley 158 staff and families and is available in any language.

18. **Describe your school's curriculum content for student health and fitness as well as its applied learning:**

The current K-5 P.E. and health curriculum follows a spiraled approach where students learn about psychomotor skills, cognitive, affective and health domains numerous times throughout the year. This ensures that students connect their learning and monitor their progress consistently over the course of the year. In addition to this, there is intentional care taken to ensure that standards connect across curricular content areas to ensure that social emotional standards are prioritized and emphasized. Students also are assessed in grades 3-12 for their fitness levels to set a baseline and monitor growth. Some schools have begun to pilot the use of heart rate monitors to help support student mastery of PE goals, as well.

Pillar 3: Effective Environmental Literacy

A. School Culture of Sustainability

1. **Describe what *sustainability* means to your school or district in particular. How is sustainability included in your mission to educate students?**

As part of Huntley 158's mission and vision for the future of an excellent educational environment for *All Students Always*, one of the district's long-term goals under our strategic plan is to remain sustainable to meet the needs of both our students and community. As such, we have a significant focus on sustainability and leading by example. In service of our educational goals, and as noted throughout this application, Huntley 158 has numerous curriculum offerings that highlight sustainability. With that said, we also feel that we as educators need to lead the next generation of students and adults by doing what is right for the environment while focusing on overall operational efficiency, leading by example versus simply discussing these things in a classroom setting. From the time a student gets on a propane bus, to the time they enter our campuses and see our solar arrays, tower gardens in the cafeteria, shared food tables and recycling programs, our students are seeing sustainability at work firsthand.

2. **What role has the administration played in the culture of sustainability at your school?**

As evidenced by the District's accomplishments over the past 13-14 years, administration has played a significant role in this success, dating all the way back to 2008-2009. Sustainability within Huntley Community School District 158 has become an element of organizational culture, from the Board of Education to the superintendent, all the way to the principals at the building level, all staff members and district leaders play a critical role continuing to advance, educate and lead by example.

3. **What practices, working groups, or committees does your school employ to help ensure effective environmental and sustainability education? Provide specific examples of actions taken.**

The District has partnered with several organizations and groups to help us meet our goals and achieve greater results over the past 13-14 years. **Our partners as it relates to sustainability are as follows:**

CTS/Veregy - Veregy is an industry leader in energy efficiency solutions, solar energy and smart building technology. The District has utilized Veregy over the years to improve systems and equipment, driving energy savings for the District. Most recently, the District has engaged Veregy to implement and construct a $1.4 million electrical vehicle infrastructure that will support the charging of up to 12 electric buses; notably, this infrastructure will be entirely fueled by a ground mounted solar array within our transportation facility.

Forefront Power - Forefront Power is a leading North American developer of solar and energy storage solutions for commercial, industrial, public sector, and community solar customers. The District utilized Forefront Power for the installation of the 5.67 megawatts of ground mounted solar arrays, providing approximately 75% of the energy used by the district. The District is currently working with Forefront to install additional solar arrays on 15 acres of district property, to be used for 2.75 megawatts of community solar, benefitting the District and community at large. In addition, Forefront Power has provided solar curriculum to the district, donated time and materials to students at Huntley High School for the installation of solar panels on a storage shed built by students in Huntley High School's Career Technical Education (CTE) department, and has partnered with the District on several energy savings presentations.

Environmental Defenders of McHenry County - The Environmental Defenders are dedicated to the preservation and improvement of the natural environment in McHenry County. The district has worked with the Defenders on many fronts such as clean energy, recycling, plastic and food waste reduction and prairie restoration. In addition, the Environmental Defenders has a McHenry County Schools Environmental Education Program. This program offers an environmental curriculum for every grade level with in-class learning and demos as well as virtual options throughout the county. The District is currently working with the Defenders to utilize these resources.

Seven Generations Ahead "Zero Waste Schools Program" - Seven Generations Ahead (SGA)works with local government, community and private sector leaders to help communities make the changes they need to build a healthy and sustainable future. The District has worked with SGA within our Food Services Department, most recently with our Dump and Recycling Stations at the upper elementary level, as noted earlier.

The Strategic Energy Management (SEM) Program - SEM is offered to electricity and natural gas consuming customers served by ComEd and Nicor Gas. The program focuses on low and no cost solutions to reduce energy consumption. SEM motivates employees to consider behavioral and operational changes through a series of workshops and coaching sessions. The District has been a participant in the SEM program for the last four years, and as a result, implemented numerous strategies and changes.

4. **Does your school have a green team, garden club, or a community green committee on sustainability? Who participates? What kinds of projects or activities do they undertake? What roles do they play in the school?**

The District has several clubs that focus on the environment and sustainability. At the elementary level, a recycling club exists for each elementary building. As part of these clubs, students are exposed to the concept of *Reduce, Reuse and Recycle*, and encounter fun opportunities to explore ways to improve the environment. At the middle school level, the District has an Ecology Club. This club is made up of a group of environmentally-minded students working together to make the middle school community a better place to be. In this club they also focus on exploring ways to improve the environment as well as the school. In addition, the District has a partnership with the Environmental Defenders of McHenry County where we have participated significantly with the Defenders hosting seminars and sharing our ideas with the county and community.

5. **Describe other ways your school integrates sustainability into daily habits and culture of the school's staff, volunteers, students and community (e.g., recycling days, no bottled water, murals, themed events, virtual backpacks, etc):**

In addition to virtual backpacks, a targeted focus on recycling, and the curriculum provided, each and every building houses an interactive educational solar display kiosk where our students, staff and community can see and monitor the daily, monthly and annual solar energy being produced for their building by the District's solar arrays. In addition, students, staff and community members have access to charts and graphs outlining the total energy generated during the month and life to date equaling so many trees, gallons of water, gallons of gas and/or methane produced via the touch screen display. The interactive display also teaches our students, staff and community about how solar works, from the relationship between sun and solar, to the panels and inverters, to the meter and the grid. There are often groups of students interacting with these displays on a daily basis.

6. **Any other school practices, visions, projects, plans or information you want to include to showcase the environmental work your school has achieved?**

The District continues to drive sustainability efforts forward to not only benefit the district, but also to benefit families in our community. As noted above, the District has signed agreements with some of our sustainability and energy partners to further advance sustainability in 2023 and beyond.

B. Curriculum and Pedagogy

7. **Does your school have a written definition and requirement for environmental literacy? Is there an assessment required?**

While we do not currently have a district-wide definition of environmental literacy that is shared across our schools, we do embed many of the common elements of this term and its meaning within our curriculum and design philosophies. These elements include affect, ecological knowledge, socio-political knowledge, knowledge of environmental issues, cognitive skills, and environmentally responsible behaviors. Specifically, at the K-5 level, the interdisciplinary units that students participate in throughout the school year incorporate a specific, hands-on, research and inquiry project for students to complete. In 4th grade, during a unit that investigates the negative impacts of natural disasters and how those natural processes impact our lives, students research the different jobs that exist throughout the world and seek to understand Earth's natural processes while preparing for catastrophic events in nature. In 5th grade, during a unit on *Interactions of Systems in Nature*, students research how communities work together to be good stewards of Earth's natural resources, specifically water.

8. **How does your school use sustainability and the environment as a context for learning STEM? How is sustainability and the environment incorporated into the curriculum in all areas?**

At the K-5 level, all students participate in a Project Lead the Way based special called Explore. Explore focuses on empowering students to be problem solvers, critical thinkers, collaborators, and adaptable when taking on any

challenge. The purpose of this course focuses on how students utilize their innate drive to observe and discover as it engages students in science, technology, engineering and math (STEM) educational opportunities. The math curriculum that Huntley 158 is implementing at the K-5 level utilizes a problem based approach that intentionally provides a coherent progression of standards and academic language as students progress through the content and acquire skills.

Heineman Middle School, Marlowe Middle School and Huntley High School all offer Project Lead the Way courses. PLTW Engineering teaches students that real-world problems often have multiple solutions with many pathways to achieve success. With engaging courses like environmental sustainability, civil engineering and architecture, digital electronics, and aerospace engineering, you can empower your students to explore possibilities, experiment, learn from failure, and turn ideas into reality. PLTW Engineering encourages students to adopt a problem-solving mindset, engaging them in compelling, real-world challenges that help them become better collaborators and thinkers. Students in a 6th grade social studies unit read the book, *A Long Walk to Water,* where they learning about water conversation through refugees in Uganda. Students then participate in a service project where they raise money for people to have access to clean drinking water in third world countries. Furthermore, students can take AP Human Geography at the high school level where students will study the patterns and processes that have shaped human understanding, use, and alteration of the Earth's surface.

Huntley High School is proud to offer an Engineering Academy and Global Academy. The Engineering Academy provides opportunities to help prepare students for admission to collegiate engineering programs and careers in the engineering field. By combining the foundation of engineering principles through rigorous coursework with real world experiences, our students leave Huntley High School with an understanding of careers in the engineering field and hands-on experience few high school students have. After taking course work in globally focused content areas, Global Academy students participate in a capstone made up of a six week rotation of relevant topics, including human rights, water resources, environmental concerns, or a subject of their choice that ties to global issues.

In June 2021, the District had the opportunity to work with high school STEM students from across the State. While working alongside Congresswoman Lauren Underwood, who was participating in the 2021 STEM Scholars Program, the District had the opportunity to present on the basic tenets of solar energy works and also provided students a hands-on tour of Huntley 158's solar arrays. The STEM Scholars Program aims to connect highly-motivated students interested in science, technology, engineering, and mathematics with hands-on learning experiences throughout our district. The District will continue to offer this experience as part of the State's STEM Scholars Program.

9. **How does your school use sustainability as a context for learning green technologies and/or career pathways?**

Huntley High School currently has eight approved College and Career Pathway endorsements through the Illinois State Board of Education (ISBE). Two of the pathway endorsements that relate to green technologies or environmentally conscious industries include Environmental Service Systems and Engineering and Technology. Over the course of these two pathways, students learn about solar energy, green technologies, plant science and ecology, environmental systems and global sustainability. In December 2022, students at HHS pursuing the Engineering and Technology pathway endorsement were able to install solar panels donated by Forefront Power onto a shed built entirely by students in Huntley High School's Geometry in Construction class. These solar panels were installed by students alongside the local chapter of the International Brotherhood of Electrical Workers.

Elementary students focus on sustainability efforts through the interdisciplinary units of instruction. This approach creates opportunities for students to research, think critically and design ways to rethink how they can help support a sustainable future. As an example of this process, one unit in 3rd grade asks students to design ways that innovative technology can make an impact on people's lives in the areas of health and medicine, science, sustainability, transportation or communication.

10. **Describe students' outdoor learning experiences at multiple grade levels. How do they support curriculum content?**

Courses within the science department at the middle school and high school, as well as units in all elementary schools, are aligned to the Next Generation Science Standards. The Next Generation Science Standards (NGSS) are K–12 science content standards. These standards set the expectations for what students should know and be able to do. Whenever possible, these standards are connected to opportunities to learn outdoors and make tangible connections between what a student sees in their classroom and what they encounter in the environment that surrounds them. A specific example of this type of learning in action occurs in 4th grade ; students learn about how the concept of making electricity from sunshine occurs through the use of solar power. Huntley 158 is fortunate to have solar panels on each of our campuses, allowing students to connect their learning to the real world impact in our buildings. Students are able to use the interactive kiosks in each building to see exactly how these panels positively impact the energy generated in our schools. Beyond this, there are a number of courses offered in Huntley 158 that are connected to or associated with units of study regarding green energy and the health of our environment.

11. If applicable, describe how the school grounds are devoted to environmental education uses:

On each of Huntley 158's campuses, all students have access to learning via the interactive solar kiosks we have at each building; this element of our schools, combined with the ground mounted solar arrays on each campus, provides a daily reminder to every student, parent and community member of the importance of sustainability.

C. Community Involvement

12. **Describe how your school promotes student and teacher engagement with the community and civic involvement outside the school? Have there been green themes to their work?**

An important tenant of nearly every sustainable practice implemented or taught throughout the district is to ensure that our community is able to reap the benefits of green efforts. Huntley 158 is keenly aware that the environment we are caring for each day is the environment that our students and their families will inherit. In order to ensure this positive impact is felt across the community, our schools have developed opportunities for the community to become involved in the innovations and work taking place. Specifically, teachers Mrs. Crowe and Mr. Byrne at Conley Elementary School and their students have partnered with the Square Barn Road Campus PTA to encourage support and donations in service of the project "Operation: 160-Acre Wood", which seeks to plant 460 additional trees on the 160-acre Square Barn Road campus in Algonquin, IL. The first trees donated by community members were planted at the start of the 2022-23 school year near the playgrounds at both Conley and Mackeben Elementary Schools.

At the secondary level, students enrolled in the Global Academy are tasked with completing a capstone project which incorporates civic engagement at the community, state and global level. This past year, students graduating from the Global Academy pursued environmentally beneficial projects, one of which included an in-school recycling receptacle to encourage district-wide recycling. Marlowe and Heineman Middle School, students in Amy Ehmen, Ryan Starnes and Melissa Kasischkes' social studies classes worked with the charitable organization, WaterStep, to fundraise in order to provide clean water to people in Uganda. Students and staff across the department ran a used shoe drive and raised enough money to have a new water pump installed in the Atiri village, giving thousands of people on the other side of the world access to clean drinking water. These efforts and many civic engagement exercises in Huntley 158 are characterized by their impact on communities and the environment.

13. **Describe your partnerships to help your school and other schools achieve in the 3 Pillars. Include both the scope and impact of these partnerships:**

With the implementation of solar and the use of native plantings in and around all of the solar arrays, the District established a partnership with the Environmental Defenders of McHenry County. The Environmental Defenders are dedicated to the preservation and improvement of the natural environment in McHenry County. As a grassroots organization, they are committed to building sound ecological relationships between people and the natural world that supports all life. As a partner, Huntley 158 has hosted and presented sessions on sustainability and relevant practices in Huntley 158, so that other organizations and school districts can benefit and leverage many of the things we have done. A few of the day-to-day practices which Huntley 158 has shared with area school districts include lighting and HVAC equipment driven by occupancy controls, sensible salting practices in winter weather, non-coal tar asphalt sealcoating, strategic remediation and capital replacement.

Describe how your school shares environmental education or sustainability events with other schools or organizations?

Since the installation of solar in 2020, the District has presented at several State association conferences, sharing and highlighting the importance of sustainability. Both Huntley 158's director of operations and maintenance, Doug Renkosik, and chief financial officer, Mark Altmayer have shared the District's success as part of the North Central Illinois Facility Professionals group and the Illinois Association of School Business Officials (IASBO). In the fall of 2022, at the Tri-Conference in Chicago (an annual conference for board members, superintendents and school business officials), the District presented a session titled *Choose Learning over Burning: Harnessing Sustainability to Generate Financial Savings*, which outlined Huntley 158's journey of energy savings and green practices over the past 10 years. As educators, we feel we need to not only educate our students, but have a responsibility to lead by example and chart a path of sustainability.

D. Professional Development

14. In your required staff professional development for all teachers, is sustainability education or environmental education training included? If so, please describe what this entails.

Staff members at the secondary level have daily instructional planning periods, as well as time to devote to professional learning communities (PLCs). During this time, a teacher may determine what the students will learn, investigate the relevant instructional pedagogy, and consult associated assessments and interventions based on student data. Specifically, science teachers within the District use PLC time to focus on using phenomenon-based instructional models. During these lessons, students are presented with a phenomenon in nature to engage with their learning throughout all the NGSS standards and skills, but more specifically, the Environmental and Earth Science Standards. During PLC time teachers have been focusing on modeling and student discourse as two of the primary instructional strategies to support environmental education.

K-5 teachers receive professional learning on how to support students in building background knowledge on a variety of topics, including instructional strategies for sustainability and environmental education. In addition to this, teachers have received professional learning on incorporating an inquiry mindset approach to teaching which allows students to explore their natural curiosity to engage in learning and connections. Explore teachers at the K-12 level are certified trainers on Project Lead the Way (PLTW) curriculum which taps into students' exploratory nature, engages them in learning that feels like play, and encourages them to keep discovering through hands-on topics and activities.

15. What workshops or professional development events have your teachers attended themed around environmental topics?

During the Summer of 2022, an AP® environmental science teacher at Huntley High School, Alana Ferguson, attended training prior to taking over as the new AP environmental science teacher. The main focus of AP environmental science is for students to cultivate their understanding of the interrelationships of the natural world

through inquiry-based lab investigations and field work as they explore concepts including energy transfer, interactions between earth systems, interactions between different species and the environment, and sustainability.

Another teacher at Huntley High School, Brandy Swanson, completed an action research project on Prairie Restoration that took place at FermiLab. Brandy also spent 5 weeks in Eastern Europe (Estonia) collecting data research on climate change in the field. Brandy and her research team were asked by the U.S. Embassy in Estonia to present their findings, as well as her experience as a science teacher and researcher. Brandy will begin her graduate work this coming year to become certified to teach dual credit environmental and earth science courses in the future. During the Fall of 2022, the Huntley High School science department attended the Illinois Science Teachers Association Conference. This professional development opportunities for teachers included sessions on utilization of the Next Generation Science Standards (NGSS) to create lessons that address regional sustainability and resilience issues, environmental justice in the science classroom, as well as biodiversity and conservation.

16. Have your teachers or staff earned any certifications in environmental education? What kind have they earned?

Alana Ferguson, who teaches AP® environmental science at HHS, completed training during a summer institute hosted by the College Board, which specifically certifies and trains teachers to teach AP® environmental science. Additionally, two science teachers in Huntley 158 have earned their Environmental Science Certification through the Illinois State Board of Education.

17. Have any of your teachers or staff received any awards related to environmental education?

One of our high school science teachers, Brandy Swanson was selected to be involved in a grant project through Bradley University, ISBE and NSTA. The grant allowed for completion of a Masters program involving continuing education on science practices in the classroom through environmental education. While Brandy pursued her Masters degree in Environment Science Education, the grant followed how our knowledge and teaching practices changed.

18. Do any of your teachers or staff hold environmental education related volunteer positions or memberships?

- ☐ Environmental Education Association of Illinois
- ☐ North American Association of Environmental Education
- ☐ Children and Nature Network
- ☐ Northern Illinois Nature Preschool Association
- ☐ Chicago Wilderness
- ■ Local environmental related clubs

Supporting Materials

Attach a <u>minimum of three photos</u> and a <u>maximum of five photos</u> with your application (photo size limit 5 MB). Please save your photos using descriptive language. For example, “Students conduct water quality tests in outdoor classrooms with science majors from nearby university x” would be more helpful than “Photo 1.” **Photos should be action shots, not posed.** By sending these photos, you are giving Illinois Green Alliance, the Illinois State Board of Education, and the U.S. Department of Education permission to use them.

ILLINOIS GREEN RIBBON SCHOOLS APPLICATION

Please provide a brief description (300 characters) for each:

Image 1: Pillar I and Pillar III - High school STEM students learning about the district's 5.67 megawatts of solar. In June 2021, the District had the opportunity to work with high school STEM students from across the State. Working with Congresswoman Lauren Underwood, who was participating in the 2021 STEM Scholars Program, the District had the opportunity to present to the students how solar works, and provide them hands-on experience as we toured the Huntley 158 solar arrays (discussed in question Pillar III B8).

Image 2: Pillar I - Students utilizing our propane buses. Since 2018, the District has purchased 33 propane buses, totaling approximately 30% of the district's current bus fleet. As a result of the current propane fleet, Huntley 158 estimates a 50% fuel cost reduction for these vehicles, as well as a significant reduction in harmful nitrogen oxide (NOx) emissions. In addition, unlike diesel exhaust systems that produce an unpleasant smell and particulate matter that aggravates asthma and other conditions, with propane there's no smell or particulate matter which is much better for our students (discussed in Pillar 1 D20).

Image 3: Pillar II - Special education students installing a Tower Garden. In 2018, the District partnered with Tower Garden in an effort to bring organic produce to Huntley High School. A tower garden is a device that grows fresh, nutrient-rich plants and food using aeroponic technology, which has been shown to increase yields by as much as 30% and triple the speed of plant growth as compared to soil gardening. Tower gardens also use only 10% of the water and space required when soil gardening (discussed in Pillar II B13).

Image 4: Pillar I - Creation of Dump and Recycling Stations at our Upper Elementary Buildings: A Dump and Recycle Station is a process to reduce liquid waste as well as to recycle items by having students dump out their liquid containers and separating items that are recyclable. In this effort, the district has partnered with Seven Generations Ahead "Zero Waste Schools Program" and the Environmental Defenders of McHenry County to create this process and program. In this effort the district focuses on controlling the amount of liquid wastes going into the local landfills and recycling items (plastics, plastic bottles, milk cartons, cardboard, aluminum cans). Discussed in Pillar I C13.

Image 5: Pillar III -Students learning about solar. At the district, each and every building has an interactive educational Solar Display Wall, where our students, staff and community can see and monitor the daily, monthly and annual solar energy being produced for their building by the district's solar arrays. In addition, students, staff and community members, via the touch screen display have access to charts and graphs outlining the total energy generated during the month and life to date equaling so many trees, gallons of water, gallons of gas and/or methane produced. The interactive display also teaches our students, staff and community on how solar works, from the sun and solar, to the panels and inverters, to the meter and the grid. There are often groups of students interacting with these displays (discussed in Pillar III A5).

Submit Your Application

Applications must be received by 5:00 PM on Monday, January 9, 2023. Applications are being collected by the Illinois Green Alliance on behalf of the Illinois State Board of Education (ISBE). *Applications should be no longer than 18 pages.*

For an application to be considered, it must be **submitted via email** to greenribbon@isbe.net. Submittals via other methods will not be accepted.

Questions? Contact greenribbon@isbe.net.