

## DoDEA Green Ribbon Schools Program Application

### Submission:

- The nomination package, including the signed certifications and documentation of evaluation in the three Pillars, will be sent as a Word document and a PDF file and e-mailed by DoDEA HQ at [green.ribbon.schools@ed.gov](mailto:green.ribbon.schools@ed.gov) according to the instructions in the Nominee Submission Procedure.

### Part 1: Eligibility Certification and School Application Information

#### School, District and DoDEA Region Certifications

The signatures of the school principal, district superintendent and regional director of student excellence 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. After submission, the finalists' application will be signed by the Chief Academic Officer.

1. The school has some configuration that includes one or more of grades pre-K–12. (Schools on the same campus with one principal, even a pre-K–12 school, must apply as an entire school.)
2. The school has been evaluated and selected from among schools on the installation, 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. As a unique Federal entity, DoDEA and its schools are not under the auspices of ED. However, DoDEA processes and procedures comply with all Federal laws, including those concerning the investigation of civil rights complaints and complaint reviews and the administration of the Special Education Program.
4. Office of Civil Rights (OCR) has not issued a violation letter of findings to the school.

### **DoDEA School Nominee Presentation Form**

Name of Principal: Shenae Wiley

Official School Name: Humphreys Central Elementary School

School Mailing Address: Unit 15798 Bldg 5120  
(If address is P.O. Box, also include street address.)

City: APO

State: AP

Zip: 96271-5008

Installation: U.S. Army Garrison Humphreys, South Korea

DoDEA Area: Pacific West

Telephone: 050-3356-9308 DSN: 756-9308 Fax: NA

Web site/URL: <https://humphreyscentrales.dodea.edu/>

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E-mail: [Shenae.Wiley@dodea.edu](mailto:Shenae.Wiley@dodea.edu)

Percent of Student Population with Disadvantaged Background: 30.24% (Free and Reduced Lunch)

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

WILEY.SHENAE.M.1010800940 Digitally signed by WILEY.SHENAE.M.1010800940 Date: 2024.01.04 15:50:30 +09'00'

Date: \_\_\_\_\_

(Principal's Signature)

Name of Superintendent: **Dr. Jacob Sherwood**

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

District Name: **Pacific West District**

Telephone: **755-1331**

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate. This school is high-achieving in the three Pillars.

SHERWOOD.JAC OB.S.1548246217 Digitally signed by SHERWOOD.JACOB.S.1548246217 Date: 2024.01.05 09:12:55 +09'00'

Date: **1/5/23**

(Superintendent's Signature)

Name of Area Director: **Ms. Lois Rapp**

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

Region Name: **Pacific Region**

Telephone: **652-56450**

I have reviewed the information in this application and certify that to the best of my knowledge all information is accurate. This school is high achieving in the three Pillars.

RAPP.LOIS.J.1400896050 Digitally signed by RAPP.LOIS.J.1400896050 Date: 2024.01.05 13:39:50 +09'00'

Date: **1/5/2023**

(Regional Director's Signature)

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 nominating 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 if applicable and required by law*

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*or other authority.*

Name of Nominating Agency: Department of Defense Education Activity (DoDEA)

Name of Nominating Authority: \_\_\_\_\_  
(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: \_\_\_\_\_

(Nominating Authority's Signature)

## **DoDEA School Green Ribbon Application**

### **Summary of Nominee's Achievements**

*Provide below a coherent summary that describes how your school is representative of your jurisdiction's highest achieving green school efforts. Summarize your strengths and accomplishments in all three Pillars. Only schools that document progress in every Pillar and Element can be considered for this award. What makes your school worthy of the title: Department of Education Green Ribbon School?*

Humphreys Central Elementary School (HCES) opened its doors in SY 2013-2014 as the first new Department of Defense Education Activity (DoDEA) school at U.S. Army Garrison (USAG) Humphreys in South Korea to begin operation as part of a relocation project from US Army Garrison Yongsan in Seoul to USAG Humphreys in Pyeongtaek. Through that relocation process, our school and our army base experienced tremendous amounts of growth. Since our school opened, HCES has increased our commitment to sustainability and has many accomplishments we are proud of in all three Green Ribbon Schools pillars. Through partnerships with the garrison and our stakeholders, we have increased the sustainability capacity of our facilities, the health and wellness of our students and staff, and established environment and sustainability education programs that are second to none in DoDEA.

As one of the newer DoDEA schools in Korea, we had many environmentally-friendly features included in our building and our community plan in comparison with the older buildings we moved from, including timed sensor lights throughout the building, sensor-flush toilets, housing towers adjacent to the campus for students easily walk or bike to school, and an energy saving climate system. Through our School Advisory Committee (SAC), partnership with the garrison Department of Public Works (DPW), our administration, and grassroots efforts of staff and stakeholders, we have made many improvements to our facilities and our commitment to the elements of Pillar 1 that we are happy to share in detail in this application, including, but not limited to, establishment of a green lighting system along the entire front of the building initiated from a SAC request, new installation of hazardous materials lockers our school was missing, placement of used battery collection receptacles that we requested from DPW, a school-wide composting program, community garden beds available to all grade levels and our families with soil donated from DPW, a Double Door Policy for energy efficiency and safety, extended recess

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and activity time outside in an Outdoor Makerspace, monitoring the air quality index (AQI) by our school nurse for student health and safety outdoors, acquiring a drip irrigation system and rain barrels for our garden beds and a Greenpower electric car for educational purposes through the Green STEAM Ahead grant awarded to HCES, and many other improvements and initiatives are some strengths and accomplishments in Pillar 1.

HCES exemplifies the principles of Pillar 2 through its unwavering dedication to prioritizing the well-being and safety of the school community. The implementation of integrated environmental health programs, in collaboration with a range of garrison and community partnerships, underscores recent initiatives that impact all stakeholders associated with the community. Within the school community, students actively participate in health awareness through The Great Body Shop updated health curriculum, fostering a holistic approach to well-being and reinforced home-school connections. The commitment to overall health extends comprehensively to nutrition, fitness, and outdoor time. Noteworthy efforts include extended recess periods influenced by valuable student and community feedback, as well as a variety of outdoor PE classes and activities promoting inclusive play, aimed at instilling healthy habits and fostering positive relationships, Mindful Mango on Monday Eagle News broadcasts, which promotes self-care, and the establishment of an Outdoor Makerspace for hands-on learning and extra activity time outdoors. The community garden actively encourages participation, fostering healthy eating habits and a sense of community connection. A range of events, including the Fall Activity Expo and Water Day, actively contributes to both fitness promotion and community engagement, reflecting the school's steadfast dedication to fostering a healthy and active lifestyle. Shared spaces hosting Cheer and Boy Scouts, coupled with multi-purpose fields offering diverse options for physical activities during free time, collectively contribute to the overarching goal of creating a supportive environment that nurtures health and wellness within the school community under Pillar 2.

The elements of Pillar 3, related to effective environmental and sustainability education linked to environmental and sustainable learning, civic skills, and green career pathways, are where HCES shines the brightest. Through community and global partnerships, grassroots efforts of our staff and stakeholders, and the support of our administration and district leaders, HCES has built a culture of innovation and sustainability that is at the highest level of DoDEA. Examples of this commitment are so vast that it is difficult to include all of them in this application. Some highlights include a STEAM program that is second to none and includes monthly STEAM challenges that always include the Engineering Design Process and use of recycled materials, establishment of a Makerspace with hands-on student-choice learning opportunities that extend lessons from the classroom with reusable and recyclable materials, establishment of an Outdoor Makerspace for outdoor learning opportunities, global collaborations with Denali National Park and other national parks for student-led project based learning opportunities that focus on sustainability and conservation, after-school events for the community such as Night Under the Stars, visits to our school during Computer and Technical Month spotlighted green and STEM career pathways, participation in projects and initiatives such as DoDEA Sunflower Project, Earth Day, gardening and composting, hydroponics, and Minecraft Sustainability Projects. These are just some of the incredible Pillar 3 environmental and sustainable educational opportunities for our students that we are so proud to share more about in this Green Ribbon Schools application.

**1. School Profile.**

School Name: Humphreys Central Elementary School

Installation: U.S. Army Garrison Humphreys, South Korea

Street Address: Unit 15798 Bldg 5120

City: APO

State: AP

Zip: 96271-5008

School Website: <https://humphreyscentrales.dodea.edu/>

Principal Name: Shenae Wiley

Principal Email Address: Shenae.Wiley@dodea.edu

Principal Phone Number: 050-3356-9308 DSN 756-9308

DoDEA District: Pacific West

DoDEA Area: Pacific

School Type:

School Enrollment: 810

Percent Disadvantaged Background Population: 30.24% (Free and Reduced Lunch)

**2. Application Team Information**

Lead Applicant Name (who prepared the application): Richard Taylor

Lead Applicant Title (e.g., teacher, principal): Educational Technologist

Lead Applicant Email: [richard.taylor@dodea.edu](mailto:richard.taylor@dodea.edu)

Lead Applicant Phone Number: DSN 756-9315

**Application Team Members.** (Others who helped prepare this application)

	Name (First and Last)	Title/Department
1	Richard Taylor	Educational Technologist
2	Genevieve Camus	Teacher
3	Ciara Piñero	Teacher
4	Shenae Wiley	Principal
5	Shelley Wolfe-Odunuga	Assistant Principal

**Part 2: Achievement Area Evaluation**

**Cross Cutting Questions: Awards and Programs**

1. Does your school participate in a local, state, or National Green Schools Program?

(X) Yes ( ) No

If yes, which program(s) are you participating in, what level(s) are in progress and what level(s) have you achieved?

	<b>Program</b>	<b>Level in Progress</b>	<b>Level Achieved (include date achieved)</b>
<b>1</b>	Earth Day Initiatives	All grade levels participating in various activities in cooperation with the garrison, DPW Environmental Div., and DECA	Annual participation recurring in April established 2020 to present
<b>2</b>	DoDEA Sunflower Project	All grade levels participating	Annual participation from 2016 to present
<b>3</b>	Minecraft Sustainability Challenges	All grade levels participating	Program involvement established 2023 to present
<b>4</b>	Monthly STEAM Recycled Material Challenges	All students participating	Monthly participation since 2015

2. In the past five years, has your school, staff, students, or student groups received any awards for environmental stewardship, student and staff health/wellness, or environmental education/civic programs?

(X) Yes ( ) No

If yes, provide award details below.

	<b>Award</b>	<b>Awarded to</b>	<b>Awarded by</b>	<b>Year Received</b>
<b>1</b>	Green STEAM Ahead Creativity and Innovation Grant	R. Taylor G. Camus	DoDEA Pacific West District	2022
<b>2</b>	Outdoor Makerspace DoDEA Pacific West STEM Grant	J. Hall R. Taylor	DoDEA Pacific West District	2018 and 2019
<b>3</b>	Mars Initiative Micro Grant for Hydroponic Sustainable Food System	R. Taylor	Mars Initiative	2020
<b>4</b>	Earth Day Poster Contest	Various student winners from all grade levels	DPW and DeCA	2021- present

**Pillar 1: Reduce environmental impact and costs.**

**Element 1A: Reduced/eliminated greenhouse gas emissions, energy audits/emissions inventory/reduction plan, energy efficiency/conservation and improvements.**

1. What programs or practices has your school implemented to conserve energy and to protect our environment from the negative effects of buildings and transportation? Examples are listed below.

Our school has an energy management plan in place that describes the steps we are taking, the key participants, our goals, and a schedule for conserving energy and reducing energy costs.

Our school participated in an energy efficiency program that resulted in a comprehensive energy audit and cost-effective energy efficiency improvements.

Our school has set and met an energy conservation target every year since we started our program.

Our school has a greenhouse gas emission reduction plan in place that targets energy use.

We measure our annual progress against our reduction goal.

2. Describe how your school programs, policies, and actions have reduced the amount of energy used in your building(s). Include available data to support this. Also include information about your efforts to protect our environment from greenhouse gas emissions, how you set your goals for reduction, and how you measure your progress. Work as needed with your installation energy program management team to get information about your energy use.

In regard to the programs and practices that are implemented here at HCES to conserve energy and protect the environment, we have many concrete examples of how we are aiming to reduce our environmental impact and costs. Within our building we have the USAG Humphreys Environmental Management System (EMS) in place. Our specific environmental focal aspects include reduced energy and fuel consumption, water conservation, responsible purchasing and use of materials, along with community and regional planning. In our school building we use a heating and air conditioning system designed to optimize energy usage and maintain a comfortable indoor climate, thus reducing unnecessary energy consumption. In addition, we have an energy system that monitors and manages energy usage throughout the school premises that is effectively used by all staff and supported by the Garrison's IMCOM (Installation Management Command) division. This system allows us to identify areas where energy efficiency can be improved, leading to a more sustainable and eco-friendly operation. As a specific example, our entire building is equipped with light sensors. In an effort to minimize electricity consumption, our school has integrated light sensors in various areas. These sensors automatically turn off the lights when there is no activity detected in the room, ensuring that lights are only used when necessary. Also, to address energy losses caused by doors being left open, we have launched a Double Door Policy awareness initiative. This program educates students, staff, and visitors about the impact of open doors on energy efficiency and encourages everyone to be mindful of closing doors promptly.

Our school believes in the power of collaboration, and we have actively engaged with the local

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community to enhance our energy conservation initiatives. This collaborative approach has fostered a sense of shared responsibility for environmental stewardship. This past year, we formed a strong partnership to address environmental challenges collectively with our Garrison, school, and SAC (Student Advisory Council) partners. Through regular meetings and joint initiatives, we have been able to implement innovative solutions and raise awareness about the importance of energy conservation. As part of our commitment to renewable energy, we have installed low-energy LED lights along the entire front facade of the building. These lights are powered by solar panels, contributing to a reduction in our carbon footprint and reliance on traditional energy sources, while providing the safety and security needed for our community. In addition, HCES installed low energy bulbs to reduce energy use in our cafeteria and gyms, areas that require a lot of light and are in constant use throughout the school day.

In conclusion, our school is dedicated to fostering a sustainable and environmentally conscious learning environment. The Garrison energy conservation targets set forth by the DOD's Plan to Reduce Greenhouse Emissions, smart energy systems, collaborative partnerships, and Double Door policy awareness initiative highlight our commitment to conserving energy and protecting our environment.

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

1. Which practices contribute to the protection and conservation of the school domestic (drinking) water? Examples are listed below.

- We are served by an installation/privatized utility water provider that is required to report annually on the quality of our water.
- Our school has its own well and we do water sampling in accordance with our local and state health authorities.
- Our building maintenance department cleans all water taps and drinking fountains on a regular basis to prevent bacterial contamination.
- We have a water reduction plan in place that includes (check one that applies):

<input checked="" type="checkbox"/>	Low-flow water fixtures
<input type="checkbox"/>	Native drought-tolerant plants
<input checked="" type="checkbox"/>	Minimal or no landscape irrigation

- Our school water use is tracked and benchmarked using EPA ENERGY STAR Portfolio Manager or an equivalent installation program.
- We use only non-potable water (such as water collected from a rain barrel or rain cistern) for irrigation.
- Our school has a greenhouse gas emission reduction plan in place that targets water use. We measure our annual progress against our reduction goal.

2. Describe below how your school implemented and is maintaining your water conservation program including your baseline, your goal, and your reduction rate to date. Explain how you will continue to reduce water use to meet your goal. Include who in the school participates in the water conservation program. Work as needed



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with your installation energy program management team to get information about your energy use and give concrete examples.

Our school understands the importance of water conservation and we are committed to using various techniques to reduce our water consumption. According to the most recent [water report](#) published in 2022, our community is served by a privatized utility water provider where we obtain 70% of our water from the local economy and the rest is obtained from well and ground water on-post. Our school benefits from the Suji Water Treatment Plant off-post water treatment facility that cleans and treats water sourced from the Garrison. This ensures the quality of the water supplied to our facilities, contributing to our overall water conservation efforts. In an effort to reduce consumption our school has installed low-flow water fixtures in various facilities, including automatic flush toilets. This measure significantly reduces water usage while maintaining the functionality and hygiene of our facilities. Also, our building maintenance department plays a crucial role in water quality improvement. Regular cleaning of water taps and drinking fountains prevents bacterial contamination. Additionally, the recent installation of water dispensers with filtration systems, coupled with regular filter maintenance, has further enhanced water quality. With our building conservation efforts, we also minimize water usage for landscaping, as we have implemented a water reduction plan that includes no automatic irrigation. This plan aligns with our commitment to sustainable landscaping practices.

Most recently, we were fortunate to be awarded the Green STEAM Ahead grant, which has allowed us to implement water-saving measures such as rain barrels and drip irrigation systems for our garden. This initiative not only conserves water but also integrates STEM (Science, Technology, Engineering, and Mathematics) principles into all aspects of our educational programs.

Our water conservation program involves active participation from various stakeholders within the school community, including students, teachers, administrative staff, and the building maintenance department. We believe that a collective effort is essential for the success of our conservation initiatives. These current plans, partnerships, and goals have positioned us well for future success in reducing our water consumption, while protecting the quality of water.

### **Element 1C: Reduce solid/hazardous waste production (recycling/composting and reduced consumption of elimination of hazardous waste).**

1. What programs has the school initiated and maintained to reduce solid waste, eliminate hazardous waste, and procure environmentally preferable products? Examples are listed below.

[ X ] Our school has initiated and maintained a solid waste management plan that includes waste reduction practices, collection of recyclable and compostable materials, elimination of hazardous waste, and preferred-purchasing requirements.

[X ] Our recycling program collects every material that is collected on our installation.

[X ] Our school composts organic materials on site.

[X ] Our school only purchases office/classroom paper that is 50% or more post-consumer material.

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- Our school purchases office/classroom paper that is chlorine-free or processed chlorine free.
- Hazardous and dangerous products at our school have been reduced or eliminated.
- Hazardous, dangerous, and universal wastes at our school are managed and disposed of in accordance with Federal and state regulations.
- Our school has a greenhouse gas emission reduction plan in place that targets solid waste reduction and recycling. We measure our annual progress against our reduction goal.

2. Describe below your solid waste management plan, including goals, materials you collect to be recycled or composted, your current recycling rate, and how you calculated the recycling rate. Include who participates in the waste management program, any student learning objectives, and the educational and environmental benefits to date. Work as needed with your installation's hazardous waste program manager or recycling program manager to gather information about your efforts in this area.

Our school's solid waste management plan is centered around the goal of reducing landfill contributions through effective recycling and composting practices. Our school composting program includes three compost tumblers and open air compost bins, and all students participate in composting in the cafeteria with weekly announcements on our school Eagle News broadcasts. Some classrooms also participate, and the compost generated is used to sustain our community garden beds. Currently, we have an established culture that promotes and encourages garrison-wide recycling, therefore 100% of the solid waste material from our school and community is effectively recycled per the regulations here in Korea. Additionally, the usage of air dryers in restrooms further reduces paper usage, contributing to our overall waste reduction efforts.

Active participation in our waste management program extends across the entire school community, involving students, teachers, administrative staff, and the building maintenance department. Student learning objectives are integrated into the program, fostering environmental awareness and responsible waste disposal practices. A key initiative that was implemented in 2023, in collaboration with the Department of Public Works (DPW), involves strategically placed battery collection receptacles throughout the building, encouraging the recycling of batteries and responsible disposal of these items. Our school also has specific storage locations for those needed cleaning and hazardous materials, as we have bright yellow storage containers that were previously located on each floor of the school. As we have reduced our need for hazardous materials, we have reduced the number of these storage containers in the building. Meaning we are reducing our impact on the environment by lessening our use of these specific products, as well as effectively storing the materials that are still needed within the building.

Our commitment to sustainability is further exemplified by the use of recycled and reused materials in Makerspace, STEAM Challenges, and school decorations. This unique creative approach not only minimizes waste but also provides educational opportunities for students. These initiatives collectively showcase our dedication to environmental responsibility and resource conservation within the school community.

### **Element 1D: Alternative transportation.**

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1. Our school provides the following alternative transportation options to driving in single occupancy vehicles to and from school. Examples listed below of school wide initiatives.

Our school participates in a "Safe Routes to School" or similar program.

Our school has designated carpool parking stalls.

Our school offers yellow school bus service.

Our school is served by public transportation service.

All school buses that serve our students were built after 1994 when the first emission standards were adopted.

Our school has a well-publicized no idling policy that applies to all vehicles including school buses.

Our school has a vehicle loading/unloading area(s) at least 25 feet from building air intakes, doors, and windows.

Our school has a greenhouse gas emission reduction plan in place that targets transportation. We measure our annual progress against our reduction goal.

2. Describe below the alternative transportation options to driving in a single occupancy vehicle to and from school. Include how the alternatives are promoted, any data you have about participation in school bus service, public transportation, carpools, ride sharing, and commuting to school by walking or biking.

Our school prioritizes alternative transportation options to reduce reliance on single-occupancy vehicles, promoting and fostering a sustainable commuting culture. One symbolic and educational initiative building and demonstrating a Greenpower electric car on campus, purchased through the Green STEAM Ahead grant awarded to HCES. This will serve as both a visual representation of sustainable transportation and an educational tool for students to learn about electric vehicles and their environmental impact. Additionally, the strategically located housing towers adjacent to the school promote alternate means of transportation such as walking, biking, and scooters. This community design encourages students to adopt more eco-friendly commuting options, contributing to reduced traffic congestion and environmental benefits. The proximity of housing to the school facilitates convenient and sustainable transportation choices for students. Our school operates a comprehensive transportation system, including school buses, post-run buses, and walking field trips. The school bus transportation system is efficient and convenient, providing a reliable mode of commuting. Post-run buses extend accessibility for students living farther away, offering practical solutions for families seeking alternative transportation. Walking field trips to local destinations, such as the commissary, bank, and static displays like aviation exhibits and Army Corps of Engineers machinery demonstrations, not only serve as real-world learning experiences but also promote walking as a viable means of transportation.

Our multifaceted approach aims to create a sustainable commuting culture, aligning with our commitment to overall environmental responsibility.

### **Pillar 2: Improve the health and wellness of students and staff.**

**Element 2A: An integrated school environmental health program.**

1. What programs or practices does your school implement to ensure the environmental health of the school community? Examples listed below of school wide initiatives.

- Our school implements an up-to-date integrated pest management program.
- Our school implements an up-to-date Indoor air quality management plan modeled after the EPA's Indoor Air Quality Tools for Schools or other nationally recognized model.
- Our school has identified and removed sources of elemental mercury and prohibits its purchase and use in the school.
- Our school does not have any wood playground equipment or other structures that contain chromate copper arsenate, or we have identified these structures and have taken steps to reduce exposure.
- Our school has a comprehensive green cleaning program.
- Our school has assessed all frequently occupied rooms at or below ground level for radon gas and has fixed and retested all rooms with levels that tested at or above 4 pCi/L or our school was built with radon resistant construction features and tested to confirm levels below 4 pCi/L.
- Our school has an asthma management program consistent with the National Asthma Education and Prevention Program.
- Our school has a chemical management program in place, with elements of purchasing, inventory, storage, training, spills, and hazards communication.

2. Describe how your school implements and measures the success of your integrated environmental health programs and practices to ensure the health and safety of the school community.

Our educational institution is dedicated to prioritizing the well-being and safety of our school community through a comprehensive array of integrated environmental health programs. This commitment is bolstered by collaborative efforts with the Department of Public Works (DPW) division of the Garrison, which oversees our pest management program. In reciprocation, we align our practices with their mission, ensuring strict adherence to established procedures by all stakeholders within our premises. In the interest of safeguarding our staff and students, our school recently underwent a thorough building-wide radon assessment in 2023. Additionally, we diligently comply with required Environmental Protection Agency (EPA) monitoring, further fortifying our commitment to creating a secure environment. Our school nurse plays a pivotal role in this initiative, providing regular updates on weather conditions and air quality to facilitate outdoor activities within safe limits, considering both pollutants and extreme weather conditions. Furthermore, our faculty and staff undergo annual training sessions covering a spectrum of topics, including safe storage, spill management, and various other safety protocols. To ensure the secure containment of hazardous materials and cleaning supplies, our school has designated yellow storage lockers, specifically designed for such items, which cannot be accommodated within classrooms. In tandem with these efforts, our students actively participate in cultivating awareness and practices that promote their own personal health. We have fully implemented The

Great Body Shop (GBS) curriculum, aligning with the latest health standards. This curriculum not only imparts knowledge but also fosters a holistic approach to physical and mental well-being, thereby contributing to an overall environmentally conscious and healthy culture within our school community.

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

1. Which programs or practices does your school implement to promote nutrition, physical activity, and overall school community health? Examples are listed below.
  - Our school participates in the Healthy Child Program.
  - Our school participates in the U.S. Department of Agriculture's Healthier School Challenge.
  - Our school participates in a farm-to-school or comparable program to use local, fresh food in our cafeteria.
  - Our school has a food garden either on-site or in close proximity to our building, which is utilized by the cafeteria or by teachers.
  - At least 50% of our students' annual physical education and physical activity (including recess) takes place outdoors.
  - Our school integrates health measures into student assessments.
  - Health, counseling, and psychological services are offered for both students and staff.
  - Families/communities are involved in an integrated school environmental health program.
2. Describe below how your school implements high standards of nutrition, fitness, quality outdoor time and overall health and wellness for both students and staff.

Our school is dedicated to promoting high standards of nutrition, fitness, and overall health for students and staff. Notably, we extended recess time based on constructive feedback from parents and our student council, facilitating this decision through the School Advisory Committee (SAC). This extension aligns with our commitment to increased physical activity and outdoor enjoyment. Our physical education classes are conducted outdoors when weather permits, encouraging fitness and appreciation for the outdoors. To support classroom activities, teachers have the flexibility to check out additional equipment for physical exercises. A ga-ga pit was funded and built by volunteers from our community to enhance inclusive and active play at recess, and 4th-grade students track fitness data on Chromebooks in line with DoDEA-required FitnessGram standards. Our school nurse tracks the Air Quality Index (AQI) and sends out a daily report with suggestions and requirements for students and staff to ensure safe and healthy outdoor activity.

Mindful Mango on Mondays, a recurring weekly feature on Eagle News, promotes self-care and mindfulness, contributing to the holistic well-being of students and staff. Social and emotional learning (SEL) is evident through daily check-ins and calm-down corners, fostering a positive and supportive atmosphere, and health, counseling and psychological services are available to all students and staff. Our school has established a unique Outdoor Makerspace, with one goal of extending student activity time outdoors. A community garden allows active participation and

harvesting, promoting healthy eating habits and a sense of community. The school's updated health curriculum aligns with current standards, encouraging home-school connections and equipping students with knowledge for a healthy lifestyle.

Teachers incorporate tools like Go Noodle and active recess time within classrooms, emphasizing our dedication to physical well-being on days when AQI or weather force indoor recess. Various events, such as the Fall Activity Expo and Water Day, provide opportunities for fitness and community engagement. Shared spaces host activities like Cheer and Boy Scouts, integrating the community into our wellness initiatives. Multi-purpose fields and playgrounds offer diverse options for physical activities during free time, contributing to the overall health and wellness of our school community.

### **Pillar 3: Effective environmental and sustainability education linked to environmental and sustainable learning, civic skills, and green career pathways.**

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

1. Describe below how your school integrates and assesses/measures students' environmental or sustainability literacy at each grade level, including curriculum, courses, outdoor learning, and assessments.

HCES is committed to integrating and assessing students' environmental and sustainability literacy at each grade level. Our DoDEA curriculum is the starting point for this integration, and we extend beyond the curriculum with a variety of meaningful, engaging, and real-world educational opportunities. Our DoDEA-adopted Foss science curriculum embeds hands-on investigations and cross-cutting concepts, with integrated learning opportunities in other subject areas. Foss also includes outdoor learning components that HCES is uniquely able to take advantage of with our Outdoor Makerspace learning area. Our Benchmark literacy curriculum embeds science concepts, including multiple units on environment and sustainability, with integrative lesson opportunities that our educators use in engaging hands-on centers and student-led project based learning. Similarly our TCI social studies and Great Body Shop health curriculums include units on community resources and environments and health. All DoDEA curricular resources include multiple assessment types to measure student achievement.

In addition to the curriculum, HCES has a wide range of additional resources to enhance student learning in environmental and sustainability literacy. One example is our Outdoor Makerspace, which includes the community garden, compost tumblers and open-air bins, community-built benches for outdoor lessons, and resources for hands-on, student choice Outdoor Makerspace stations that extend classroom lessons outside. HCES has monthly STEAM challenges that always include the engineering design process, and often include recycled materials and sustainability themes, such as building a birdhouse or creating new useful creations out of recycled materials. For one of these challenges, our students have built bridges using popsicle sticks and tested their strength. Our Korea District Army Corps of Engineers participated in this project, by providing advice and ideas at the beginning of the project, then meeting with students virtually to provide feedback on student designs. Our kindergarten students each year have an

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Adopt-A-Tree Project outside, and last year when Minecraft was approved for use in DoDEA, we did our first Minecraft sustainability challenge, in which students created Eco-Friendly Villages and did a screencast describing all of the sustainability features that met the project criteria. Our 4th grade students each year do a PBL related to the Iditarod Sled Dog Race in Alaska that is part of a standards-based social studies unit, in which students learn about the west region directly from rangers at Denali National Park through live virtual meetings and create their own project idea based on the standards-based driving question.

All of the projects described require a high level of interdisciplinary learning, integrating skills in math, reading, and science in particular, but also college and career ready skills such as communication, collaboration, critical thinking, and creativity. Students need to do research and work together to find solutions to real world problems. And at each school-wide STEAM event, we always include a reading station, such as books and stories about space at Night Under the Stars, with selections curated by our librarian. By engaging our students in relevant and meaningful interdisciplinary environmental and sustainability lessons and activities, we are building the leaders that will solve tomorrow's problems.

2. Describe below the professional development opportunities available to your teachers in environmental and sustainability concepts and the number and percentage of teachers who participated in these opportunities during the past 12 months.

In order to maximize teacher participation and buy-in to the many environmental and sustainability projects happening at HCES, professional development opportunities are vital. Each year, new staff members are provided with a Makerspace orientation before their first visit with their classroom so that they understand the purpose and expectations of teachers when they visit Makerspace with their classroom. Examples of sustainability concepts and expectations in Makerspace include how to use the Makedo reusable screws to build with cardboard instead of tape, or how we reuse materials in creative arts instead of throwing them away. All classroom teachers have had a Makerspace orientation. Each year during staff development days, a STEAM Walk is done by the entire staff. This highlights many of the ongoing STEAM projects that are ongoing and/or offered yearly to generate teacher interest and provide information about how to be involved in environmental and sustainability initiatives such as gardening, composting, hydroponics, DoDEA Sunflower Project, weather station, fish tanks, beetle and isopod habitats, and worm farms, to name a few. Teachers who are interested in getting more involved in any of the above projects receive additional hands-on professional development and/or tutorials and websites, and are offered materials to help participate, many of which have been donated by our community. Participation in these projects varies by the type of project and time commitment, but always at least one representative for each grade level. Last year we had nine classrooms participate in the DoDEA Sunflower Project, and this past fall, fifteen classes participated in gardening and hydroponics activities, meaning those teachers received additional professional development. One other professional development opportunity is our monthly STEAM challenges. Before each challenge, the STEAM coordinator meets with each grade level to review expectations and answer any questions, and often provides lesson plans and additional support online. We always have 100% participation in Makerspace and STEAM Challenges, which are both optional, due to teacher professional development for these programs and the value of the programs to our students and the whole community.

**Element 3B: Use of the environment and sustainability to develop sustainability content knowledge and civic thinking skills to prepare graduates for the 21<sup>st</sup> century technology-driven economy.**

1. Describe below how environmental and sustainability education at your school is embedded in teaching science and engineering practices (e.g., 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) and supports robust general science education that includes a deep understanding of life, physical, and earth sciences. Besides the DoDEA adopted science curriculum, what application opportunities are encouraged for all students?

All HCES students are encouraged to apply science and engineering practices to environmental and sustainability education through a wide variety of additional application activities, including monthly STEAM challenges, indoor and outdoor Makerspace themes and stations, project based learning opportunities, and student voice and choice activities in our DREAM Studio. Most of our monthly STEAM challenges require students to use the engineering design process, which is also part of our science standards, to build a solution to a problem. These challenges are available to the entire school, and can be classroom or home challenges, and usually require students to use recycled materials for their projects. Some recent monthly STEAM challenge examples include a sustainability challenge in which students repurposed recycled materials into new and useful things, building a pumpkin lander, building a bridge using popsicle sticks, creating a musical instrument using recycled materials, and building a birdhouse out of recycled materials.

In both of our Makerspaces, students make choices about what they want to build and create based on monthly themes that are connected to what students are learning in the classroom, and we have 100% participation of our students. Our Makerspaces were established with sustainability in mind through Pacific District STEM and Creativity and Innovation Grant Awards, and use recycled materials and rechargeable batteries whenever possible. In our groundbreaking Outdoor Makerspace, the goals were to provide more activity time outside and to be able to take advantage of space and nature, and the stations often include nature components, such as creating a bug hotel, building insect habitats, constructing a water bottle greenhouse, or creating nature representations using chalk or digital resources, to name just a few examples. Our Outdoor Makerspace often includes stations that are aligned with exploration of green energy sources, such as solar science stations and mini wind turbines that were purchased through the Green STEAM Ahead grant awarded our school. The themes and stations in both Makerspaces often align with the life, physical, and earth science units students are working on concurrently in the classroom, with examples this fall including the themes It's Alive for life science exploration stations and Supercharged for electricity exploration stations. At each station, students are provided a task card in which they assume a professional career role and are asked to create or design a solution to a real world problem using materials provided.

One of our Pacific West District Goal Objectives is inquiry-based learning opportunities. Our students at all grade levels have had interdisciplinary project based learning (PBL) opportunities



in a variety of subject areas with environmental and sustainability components. Some examples include a 4th grade Iditarod PBL, a kindergarten and 4th grade collaborative playground development PBL, and 3rd grade habitat projects. For all of these projects, students were developing their own collaborative project ideas and using additional technology resources in the HCES DREAM Studio, a creative technology space for project ideas for students and staff that was the first of its kind in DoDEA. Students have also had additional learning opportunities in science and STEM through use of our telescopes and Star Lab that support earth science standards. HCES is one of the only schools in DoDEA with four large Dobsonian telescopes purchased through grants to support outdoor learning opportunities. Finally, students can volunteer to be a part of a Green STEAM Team, a group of students that help to support and maintain all of the sustainability initiatives throughout the school, such as composting, hydroponics, worm farms, and gardening.

2. Describe below how the school connects classroom content to college and career readiness, particularly postsecondary options that focus on environmental and sustainability field studies and/or careers.

Our HCES Purpose Statement is “To empower students to learn and lead in our global society”, and an important component of that future global society is environmental and sustainability challenges we will face. Although we are an elementary school, the importance of focusing on college and career readiness in the areas of environmental and sustainability are a high priority at HCES. During Career and Technical Education (CTE) Month in February of 2023, we invited outside experts to visit our school and discuss what they do in their careers to inspire our young students to think about career paths they might take based on their interests. This was unique to HCES, as we do not have a CTE program for elementary in DoDEA but we still wanted to spotlight career opportunities in STEM during CTE Month with guest speakers from the Army Corps of Engineers, Department of Public Works Environmental Division, and 607th Weather Squadron. This fall students in three grade levels participated in the Space Force STEMtoSpace program in which Space Force volunteers from Osan Air Base traveled to our installation to do hands-on science investigations and discuss the role and importance of the Space Force for our nation. Additionally, most of our Makerspace stations assign a career role to the challenge presented on the task card to make the stations more real-world and relevant to students.

During STEAM Month in May, HCES also has a wide variety of STEM professionals from our USAG Humphreys community volunteer to visit our school throughout the month and at our annual STEAM Night to work with all HCES students on STEM activities and share what they do in their careers. Some of the organizations and units that have participated over the past few years include the Army Corps of Engineers, DPW Environmental Division, 607th Weather Squadron, Community Bank, 3rd MI and 2CAB static display aircrafts, CID Forensics, 95th Medical Detachment, MP K9 working dog units, portable air traffic control static displays, and more. These interactions with our community professionals are invaluable opportunities for our students to make connections between what they are learning in the classroom and to what is possible in college and career readiness for their futures.

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

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Describe below your students' civic and/or community engagement experiences integrating environmental and sustainability topics/concepts, field studies, community service, etc. Address if and how students conduct an age-appropriate community engagement projects around a self-selected environmental or sustainability topic at every grade level and partnering with local academic, business, informal science institutions and/or other schools to help advance the school toward the three Pillars and/or assist the progress of other schools, particularly a school with lesser capacity in these areas.

Civic and community engagement projects related to sustainability and environmental issues are an area where HCES shines brightest. Through community partnerships and global collaborations, every HCES student has opportunities to engage in projects related to self-selected environmental or sustainability topics. All students participate in Earth Day activities in coordination with the DPW Environmental Protection Specialist, in cooperation with the garrison and DECA. These activities in 2023 included a poster contest for all students with prizes offered for winners from DECA, a sustainability STEAM challenge in which students repurposed recycled materials into new and useful things, a Minecraft sustainability challenge in which students created an Eco-Friendly Village, and a visit to 3rd grade classrooms by an author who published a sustainability awareness book in cooperation UNESCO on fast fashion. HCES collaborated with the DPW Environmental Division and the River Bend Golf Course on a birdhouse project, in which HCES students built birdhouses for green zones on our army base including the golf course as part of an Audubon Society project the golf course was working on. Our 4th grade students every year since 2020 have participated in a project based learning based on the social studies standards in which students engage in live virtual meetings with rangers at Denali National Park to ask questions and get information for student project ideas, and many of the topics presented by the rangers are about protection of the species and habitats in the national park. Similarly, our 4th grade students were able to meet live with a ranger in the War in the Pacific National Historic Park, who took the students on a walking tour through a jungle in Guam and taught the students about an invasive snake species that has decimated the natural bird population in Guam. The 607th Weather Squadron helped to install an analog weather station in our Outdoor Makerspace that, in addition to our digital weather station, allows students of all grade levels to monitor and track weather data over time for use in student projects related to weather standards and the environmental effects of weather. HCES partnered with a local apiary called Bee and Honey Cafe to promote the importance of pollinators, and all students were able to participate in self-selected STEAM challenges related to pollination and gardening and students could volunteer to visit the Bee and Honey Cafe to participate in additional educational activities and a tour of the bee hives with their families. For global collaborations with other schools in DoDEA, HCES has participated in the DoDEA Worldwide Sunflower Project every year since 2016 and led the Walk Around the World Project in 2017. For the DoDEA Worldwide Sunflower Project, students in DoDEA around the world plant sunflowers and track their growth through data collection and compare growth of indoor and outdoor plants, and the growth of sunflowers in different environments around the world. Although this project worldwide was discontinued two years ago, HCES has continued to participate every year internally and we are leading an effort to reestablish this as a global DoDEA project. The Walk Around the World Project was led by HCES and students in Korea, Bahrain, Italy and Georgia, USA, used fitness trackers to enter step data and virtually track their steps around the world to schools in other countries on a Google Map to promote fitness goals. HCES has also worked with the local Boy Scouts and Girl Scouts organizations on a Gold

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Award Project for our Outdoor Makerspace by Zoe Smith that is a rock garden simulating the flow of a river, and Boy Scouts activities in robotics and space with our telescopes and Star Lab. As a final example, our community through a funds request to the Humphreys Spouses Club and volunteers who donated their time, built benches for our Outdoor Makerspace outdoor learning area because they could see the value and importance of outdoor learning and unlimited project opportunities for all students at HCES. These are just a few highlights of community engagement projects with our garrison, stakeholders, local businesses, and global collaborations with students and organizations around the world that all HCES students have been involved in.

### **Conclusion**

Humphreys Central Elementary School is proud to spotlight all of the environmental and sustainability initiatives embedded in our school programs, facilities management, and school culture through this Green Ribbon Schools Application. We hope that we have demonstrated our commitment to environmental and sustainability initiatives through all three of the Green Ribbon Schools pillars. Since our school opened in 2013-2014, we have initiated many improvements in energy efficiency, water and air quality, and waste management practices. HCES has many unique programs for health, fitness, and quality outdoor time, and through grassroots efforts we have built a STEAM program and innovative creative spaces for students both indoors and outdoors that are second to none in DoDEA. We have accomplished all of these goals as a community and with the input, talents, and efforts of an entire team. Giving sufficient attention and detail to all of our green initiatives in this application is difficult because there are so many and there is so much to share, and that is a good problem to have. We are always looking forward and have additional goals on our horizon, including expansion of our Green STEAM Student Team, a global Citizen Science collaboration reestablishing the DoDEA Worldwide Sunflower and Walk Around the World Projects and more, more systemic and targeted use of the U.N. Sustainability Goals in our activities, and a new rock climbing wall in PE for fitness. We hope you enjoyed learning about our amazing programs, and that we can be an inspiration to more schools around the world to follow our lead.