U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

School Nominee Presentation Form

ELIGIBILITY CERTIFICATIONS

School and District's Certifications

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

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

U.S. Department of Education Green Ribbon Schools

☒ Public ☐ Charter ☐ Title I ☒ Magnet ☐ Private ☐ Independent ☐ Rural

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

Official School Name: Coyote Willow Family School
(As it should appear on an award)

Official School Name Mailing Address: 7125 Irving Boulevard, NW, Albuquerque, NM, 87114
(If address is P.O. Box, also include street address.)

County: Bernalillo State School Code Number *: 001952

Telephone: 505-253-0050 Fax: n/a

Web site/URL: cwfs.aps.edu E-mail: Adrianne.hopper@aps.edu

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

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

Date: 02/11/2020

(Principal's Signature)

Name of Superintendent: Mr. Kizito Wijenje, Dir. APS CMP
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in official records)

U.S. DEPARTMENT OF EDUCATION

GreenRibbonSchools

District Name: Albuquerque Public Schools

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

Ex. Dir APS CMP ___ Date: 02/11/2020

(Superintendent's Signature)

Nominating Authority's Certifications

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

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

Name of Nominating Agency: Public School Facilities Authority (PSFA)

Name of Nominating Authority: Mr. Jonathan Chamblin, Executive Director, PSFA

(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:02/10/2020

(Nominating Authority's Signature)

SUBMISSION

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

OMB Control Number: 1860-0509

Expiration Date: March 31, 2021

Public Burden Statement

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

COYOTE WILLOW FAMILY SCHOOL

GREEN RIBBON SCHOOLS AWARD NOMINATION

SUMMARY OF ACHIEVEMENTS

Coyote Willow Family School (CWFS) is an alternative K-8 program offered by Albuquerque Public Schools (APS). Students attend a public school program that combines a half-day or 80% of classroom instruction with a half-day or 20% of home-based instruction. The magnet school, opened in 2017, has design features, curriculum and student projects that touch all three pillars of the Green Ribbon Schools initiative.

The school has a strong emphasis on problem-based learning, with parent collaboration an integral part of the learning process. In this structure, not only are students led to discuss issues such as conservation, but they are encouraged to develop their own lines of inquiry, and end up asking pertinent questions such as, “Is the environment for polar bears changing?” With this basis for learning, exploration of issues relating to energy, the environment, and health are inevitable. These problem-based or inquiry-based explorations are practical and often hands-on.

Specifically, and relating to Pillar III environmental education, there is an ongoing 7th grade, student-created project that involves the exploration of conservation in the Albuquerque riverside “Bosque” alongside professional researchers. This project involves learning first about the ecology of the area near the river, then studying the importance of cottonwood trees in the riverside ecology on site.

The same learning approaches have an impact on Pillar II health achievements. As an example, in a project designed by the school's 8th graders, a peer mediation program has been established to address communication and other social issues. Learning in health issues is a continuing focus of the school. A health fair last year covered learning as diverse as dental health to hands-on CPR training. The school environment is also designed (and continues to be designed, in Phase 2 of construction) as a healthy learning environment: there are safe, outdoor classroom environments for use in the New Mexico environment, which features sunshine for over 350 days of the year.

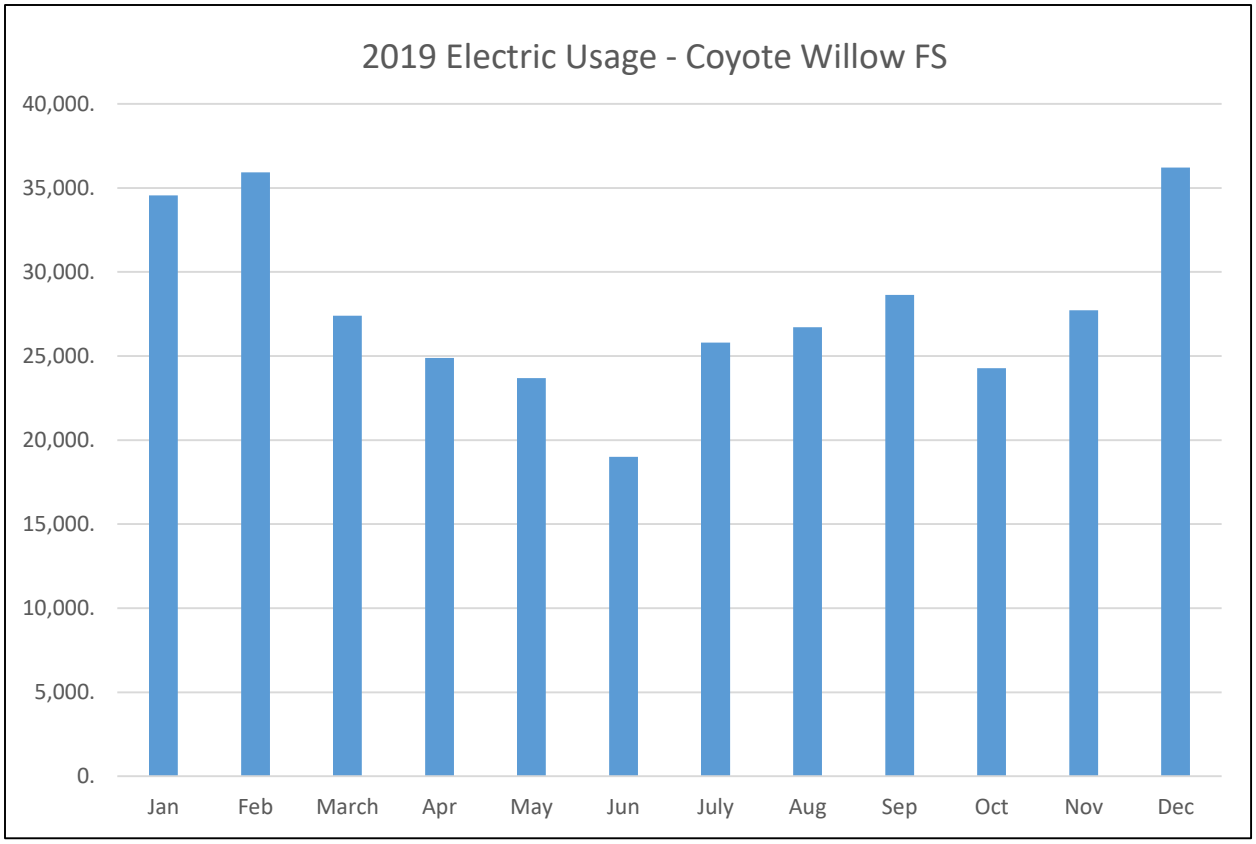
Responsible school design and operation is a strong part of the school's Pillar I elements. The school first phase has achieved LEED Silver certification, with a building that is energy efficient, safe, comfortable, and promotes alternative transportation. They have worked to improve energy efficiency, reducing electric use by 13% from the first to second year of operation. Phase 2 of the school construction, now underway and due to be complete this year, will incorporate a substantial solar PV array, targeted to generate 75% of the school's energy.

Figure 1 School Design Has Achieved LEED Silver Certification

PILLAR I: REDUCE ENVIRONMENTAL IMPACTS AND COSTS

Coyote Willow Family School addresses environmental impacts from both standpoints of original building and equipment design, and operating practices. Building design to LEED Silver standards assures fundamental building energy efficiency. The CWFS staff coordinates with the Albuquerque Public School (APS) district in operation and maintenance issues, as well as maintaining their own responsibility for energy savings. Specific characteristics include:

- Energy Use History: CWFS has no natural gas service. Heating is provided by a geothermal heat pump, which is electricity-based. As a result, utility bills show relatively high electric use in the winter, although bills are low during the summer. Electric use for 2019 was



334,804 kWh for the 25,607 square foot facility, or 13.1 kWh/ft2-year (with two data points estimated). However, CWFS and district staff have reduced usage about 13% over the previous year, a substantial decrease. The graph below shows electricity use for the year. Compared with the previous year, nearly all months are lower and June is significantly lower, illustrating the effort being made to only light and condition space when in use.

- Energy-Efficient Building Design: LEED documents and discussions with involved architects illustrate that the foundation for low energy use is good building design practice.
  The building envelope design includes consideration of thermal insulation above code minimums and sun control, admitting winter sun as useful while providing needed shade in the summer. LEED documents indicate a resulting energy cost savings of 34%.
  The HVAC system is based on a ground source heat pump. This has the advantages of:
    - Low energy use on an annual basis for an electric HVAC technology, as energy is drawn from liquids heated or cooled through the soil, a more efficient process than heat transfer through air
    - More even energy use across seasons, reducing demand charges
    - Ability to control space conditioning by small zones, making it possible to use energy only for those occupied classrooms
    - Low carbon footprint, avoiding the burning of natural gas

Figure 2 Variable Frequency Drives on HVAC Pumps Dramatically Reduce Pumping Energy Use

Lighting systems are all LED, including overhead classroom and administration lighting, high bay lights, exterior lights and exit lights. Additionally, each classroom has daylighting from either clerestories or skylights, optimized by appropriate building orientation. This eliminates the need for artificial lighting nearing every day. Dual technology occupancy sensors (integrating both passive infrared and ultrasonic technologies) are used to optimize energy savings and meet occupant needs more precisely.

Figure 3 Most Lights Remain Off During the Day While LED Lights Provide Low Energy Use Accents

- Water-Efficient Facility Design: The landscaping includes a 50% reduction in water use through effective landscaping, baselined against typical landscapes in the region. The building, through use of low-flow fixtures, achieves a 30% reduction in water use. The design is geared toward collecting as much storm water runoff as possible and diverting it to the landscape to augment irrigation. The design received LEED points for storm water design. Plants are used that are native or adapted to local (high desert) conditions.

Figure 4 Ambient Light from Light Tubes Frequently Supplants LED Lighting in Virtually All Spaces

- Energy-Efficient Operating Practices: In practice, the great majority of light fixtures are kept off even during occupied hours, as there is adequate ambient light for most learning environments. Even during a rare cloudy day, spaces were found unlit by artificial lighting during a walk-through. The HVAC system is operated and maintained by the district through a BACnet digital control system. This assures monitoring of the facility by maintenance staff, appropriate temperature set points (including setback and setup temperatures) and comfortable spaces.
- Renewable Energy Production: A solar photovoltaic (PV) array, designed to meet the great majority of facility electricity needs, is scheduled for installation in July, 2020, during Phase 2 of the facility's construction. The array will consist of solar PV panels covering 80 parking spaces and targeting energy production to displace 75% of the school's electricity use. Not only will it generate most of the school's energy use, it will also serve to reduce the heat island effect in the parking lot and make staff and family cars more comfortable in summer.

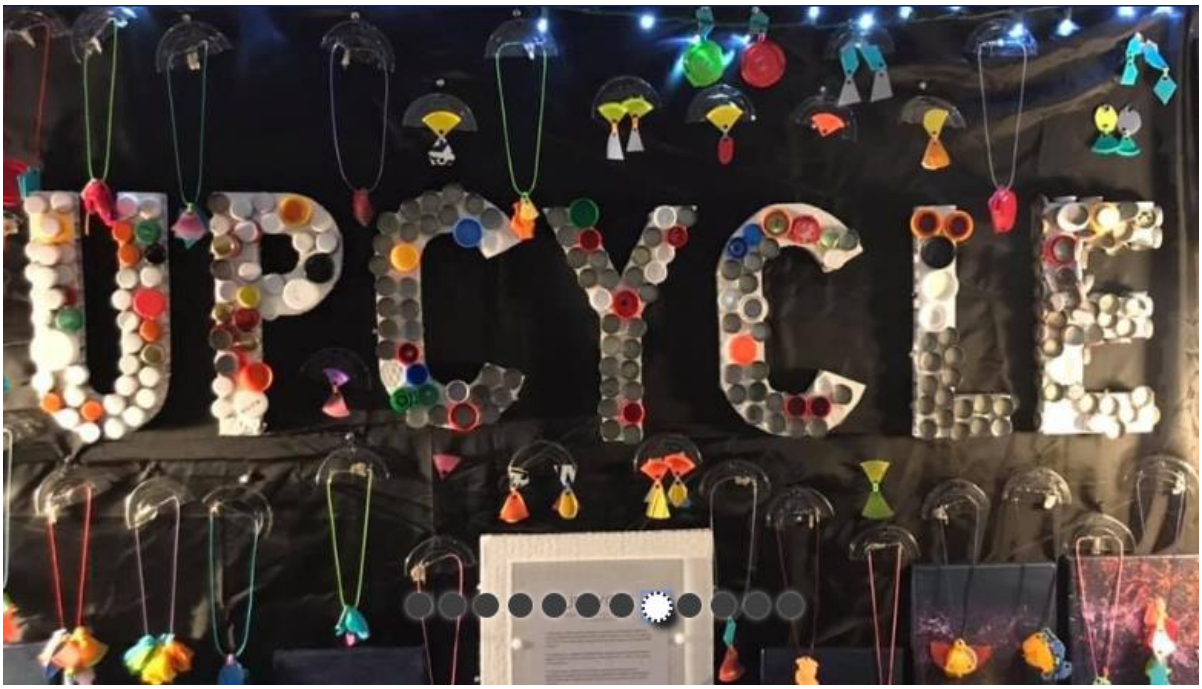


Figure 5 Student Projects Demonstrate Upcycling

- Waste Reduction: School staff is focused on high use of any paper that is used in the course of learning – i.e., using both sides of sheets, reusing – and on recycling essentially everything that is used. Students are aware of, and live out, the concept of upcycling, using, for instance, found objects in the creation of jewelry. The school building design itself was awarded LEED points for having 24% of the building materials by value being manufactured from recycled materials. Additionally, waste separation during construction was (and is, during Phase 2 work) an important method of reducing waste, and is recognized in the LEED certification process.

Figure 6 Recycling Construction Materials Substantially Reduces Waste

- Alternative Transportation: Alternative transportation is an important focus at CWFS. Well over 20% of students get to school in carpools or on foot. Approximately a dozen families, an estimated 30 students, carpool, using the dedicated carpool lane and carpool spaces. Another 15-18 students walk to school. This adds to 45 to 50 students of the 212 school total who regularly use student transportation.

Figure 5 Courtyard View of CWFS Shows Outdoor Learning Environment and Low Water Use

PILLAR II: IMPROVE THE HEALTH AND WELLNESS OF STUDENTS AND STAFF

Several important health initiatives, led by students in some instances, improves health and wellness of the student body, staff and parents through ongoing programs, special projects, policies and intelligent facility design and construction. Specifically:

- Healthy Facility Design: Building design and construction incorporated low-emitting materials in all paints, adhesives and sealants. The flooring system is low-emitting, consisting of polished concrete flooring and hypo-allergenic carpet floor tiles. Air circulation is continuous when spaces are occupied, ensuring appropriate class ventilation. HEPA air filters are used, which remove at least 99.7% of airborne particles. This is the same level of filtration used in hospitals to prevent the spread of disease-causing organisms. All classrooms face the courtyard, allowing a view beyond the walls and increasing the sense of a community.
- Safe Facility Design: Design around a central courtyard with limited, secured access points assures a safe and yet open area for teaching and recreation.
- Indoor Air Quality: Air circulation is continuous when spaces are occupied, according to ASHRAE 62.1 ventilation standards. The school design received LEED recognition for having ventilation rates at least 30% above ASHRAE standards. HEPA air filters are used,

which remove at least 99.7% of airborne particles. This is the same level of filtration used in hospitals to prevent the spread of disease-causing organisms. The school will soon be taking part in an APS district and New Mexico state CO2 survey to sample air quality in classrooms and other areas, assuring above-adequate ventilation. APS Indoor Air Quality (IAQ) staff are very active in working to assure proper indoor environments. Recent studies have shown dramatic increases in cognitive ability in correlation with increased oxygen levels. There are currently two areas outside intended for use as classrooms, with ideal ventilation: one, an area designed with seating, another grass only. In Phase 2 of construction, another two outdoor classrooms are planned.

Figure 6 Engineered Acoustic Treatments Reduce Classroom Noise

- Classroom Acoustic Environment: Provision of an optimum learning environment included acoustic engineering consulting in the design phase of school construction. The design was awarded LEED points for low background noise and optimal sound reverberation time.
- Nutrition Focus: CWFS has instituted a “no junk food policy” and a “water-only” policy that helps direct students to snacks and lunches that are nutritious and helps them avoid empty calories. Additionally, APS has a nutrition and wellness policy that guides its schools regarding vending machines, snack bars, and other food sales.
- Gardens: The school has started a gardening program, which will expand in Phase 2 of construction in box gardens to include a pollinator garden and an herb garden to provide natural flavorings for drinking water for students and staff.

- Physical, Emotional and Social Health Resources: The school has established a standing Health and Wellness Team to address strategies for helping students with social, physical and emotional issues. Additionally, in a project designed by the CWFS 8th graders, a peer mediation program has been established to address communication and other social issues. For immediate medical issues, there is an onsite Nursing Health Assistant and rotating access to a full-time Nurse. Additionally, there is a school counselor, whose assistance included discussion of social, emotional and behavioral concerns.
- Health and Wellness Fair: The 2019 Spring Fair, an annual event, had as its theme last year, Health and Wellness. Activities and displays were set up in each classroom, addresses aspects of wellness such as mental health, dental health and exercise.

Figure 7 Students Learn CPR from First Responder and Parent at Health Fair

- Health-Related Co-curricular Activities: The school encourages co-curricular activities that promote health, such as the Running Club and Peer Mediation work.

Figure 8 CWFS Running Club Promotes Health

PILLAR III: EFFECTIVE ENVIRONMENTAL AND SUSTAINABILITY EDUCATION

Education at CWFS naturally incorporates many elements of learning related to the environment and sustainability, from day-to-day classroom activities to major, student-led projects. Specifically:

- Local Bosque Conservation Project: Seventh-graders are involved in a project exploring the restoration and conservation efforts in the Bosque (forested riverside) areas of Albuquerque. For their project, they are partnering with the Bosque Ecosystem Monitoring Project (BEMP) which focuses on the stewardship of the Bosque and the Rio Grande River. They participated in a seminar on the Bosque and the BEMP ideals this past fall. They learned that beavers chewing on cottonwood trees that are an integral part of the bosque is problem. So, the students developed a process for wrapping trees and saplings in chicken wire for their protection. They solicited donations via calls and letters for chicken wire, wire cutters, gloves, and goggles. Then, they spent a day working in the bosque, covering trees and tracking the progress of growth on the cottonwoods – some trees needed to have their wire expanded to account for tree

growth. The students reported their work to their classes, documenting how many trees they were able to cover. They documented the amount of money they collected and the value of their "in-kind" donations of supplies. They also followed up with the organizations that gave them donations, thanking them and reporting progress. This semester continues and deepens the project. All students that participate in the BEMP programs are then invited to present their work in a colloquium setting in Bernalillo in late April.

Figure 9 Students Engaged in Albuquerque Bosque Project

- Environment Science Curricula: CWFS maintains a high emphasis on environmental science. CWS's principal, Adrianne Lytle, says that, "Every classroom, every year at least, students are studying, from a problem-based or inquiry-based perspective, some facet of environmental science." These studies cover such topics as recycling, energy conservation measures, littering, nature conservation and the like. Inquiry-based initiatives, for instance, have started studies on improving the environment, started recycling and litter management programs and stimulated discussion relating to the effectiveness of different energy resources. This study is supported by the APS emphasis on Next Generation Science Standards.
- Alternative Energy Studies: The pending installation of a major solar photovoltaic array in Phase 2 of construction is an obvious opportunity for discussion of alternative energy.

The architect from Albuquerque Public School District who has been involved in both phases of the school design and construction will do lessons with students about the how the PV panels affect the school, including looking at quantifying the impact on school overall energy use.

- Garden Studies: The school will be using new garden boxes this year (as Phase 2 of construction is finished) for student-led herb growing that can be added to water to naturally flavor the water. This will lead to presentations from classes about why they should be drinking water, and efforts to reduce our plastic water bottle consumption – so, a "flavor your water in a reusable water bottle" kind of campaign. The school will offer CWFS stickers for students to put on their reusable water bottles as incentive. The pollinator garden will be used for inquiry projects about the health of pollinators in our area. That is, what flowers draw in the most pollinators? How might those pollinators be useful in our mesa? And, what evidence can we find of other pollinators in our region? (e.g., bats) The school will report bee findings to Bumble Bee Watch (bumblebeewatch.org), a citizen science project.
- Parent-Led Environmental Discussions: Parent involvement is integral to the learning process at CWFS. Parents who work in alternative energy have made presentations to classes about the importance of the energy source and the basic science involved. An
- State Partnerships: The New Mexico Public School Facilities Authority (PSFA), a funding authority for the construction and renovation of schools across the state, is actively engaged in encouraging energy conservation, health schools, and responsible stewardship of the capital facilities constructed and the greater environment. PSFA participated substantially in the development of this nomination of Coyote Willow Family School.